

# NSW HIV Strategy 2016 – 2020

## Quarter 4 & Annual 2019

### Data Report



## The NSW HIV Strategy 2016-2020

The *NSW HIV Strategy 2016-2020* continues the NSW Government's commitment to achieving the virtual elimination of HIV transmission in NSW by 2020, and sustaining the virtual elimination of HIV transmission in people who inject drugs, sex workers and from mother to child. The Strategy refines our efforts across prevention, testing and treatment, building on the actions that have proven successful in implementing the *NSW HIV Strategy 2012-2015* and prioritising the additional activities needed to end HIV transmission in NSW, including expanding access to PrEP for people at a high risk of HIV and the rapid initiation of HIV treatment.

To achieve this goal the Strategy focuses on:

- Sustaining the central role of condoms in preventing the transmission of HIV
- Reducing sharing of injecting equipment among people who inject drugs by 25%
- Assessing all people attending public sexual health services and high caseload general practices for PrEP eligibility
- Facilitating testing of all recent sexual and injecting partners of people newly diagnosed with HIV
- Increasing the frequency of HIV testing in priority populations in accordance with risk
- Strengthening service integration and models of care to deliver HIV testing in our priority settings
- Strengthening systems and service integration for HIV prevention, diagnosis and management for Aboriginal people at risk
- Increasing the proportion of people with diagnosed HIV on ART to 95%
- Ensuring 90% of people newly diagnosed with HIV are on ART within 6 weeks of diagnosis in 2016 and to further reduce this timeframe over the life of the Strategy
- Further strengthening systems for timely collection and reporting of data to monitor progress, report outcomes and determine additional focus

The Strategy identifies the range of key settings needed for action including publicly funded sexual health services, general practice and primary care, Aboriginal Community Controlled Health Services, NSW needles and syringe program outlets, antenatal care services, drug and alcohol services, mental health services and emergency departments.

A range of data sources are monitored and reported against via this quarterly data report, to monitor progress against the Strategy goals and targets

## Key messages

### **New HIV diagnoses decreased in NSW during 2019**

During 2019, the number of NSW residents newly diagnosed with HIV (n=282) decreased by 12% compared to the average for the last five years. Only 33% (n=93) of these new diagnoses had evidence that their infection occurred in the 12 months preceding diagnosis (early stage HIV infection), a reduction of 30% relative to the same period over the last five years. This decline in early stage infections, in a setting of high testing, suggests that HIV transmission decreased in 2019.

### **Late diagnoses continue to drive the divergence of epidemics in Australian and overseas-born men who have sex with men (MSM)**

Overall, there was a 33% decrease in HIV notifications for Australian-born MSM and a 2% increase for those born overseas, compared with the five year average. There were reductions for MSM with early stage infection in both groups, with declines of 30% and 31% for Australian and overseas-born MSM, respectively.

However, while there was a 39% decrease in Australian-born MSM diagnosed late (n=18) there was a 33% increase for overseas-born MSM (n=53) being diagnosed late, compared to the five year average. Over half of these overseas-born men diagnosed late had lived in Australia for four years or less (n=36), a 70% increase compared with the five year average, and most had likely acquired their HIV infection overseas. Though this suggests increased testing amongst this group, it also highlights the need to improve access to healthcare services and HIV testing for those who have recently arrived in Australia.

### **NSW continues to focus on maintaining high levels of testing that is well targeted**

The number of HIV tests performed in NSW increased by 2% in 2019 (n=603,824) compared to 2018. Testing in publicly funded sexual health clinics remains well targeted, with 62% of tests completed for MSM. NSW will focus effort on increasing testing among overseas-born MSM whilst maintaining high levels of testing among Australian-born MSM.

[Dried Blood Spot](#) (DBS) testing is an important alternative for at-risk populations who experience barriers to testing through conventional services. A total of 945 HIV DBS tests were completed between October and December 2019. Of these 945 HIV DBS tests, 15% were completed by MSM (n=145). Of the 145 tests completed by MSM, 30% were overseas-born (n=43).

DBS continues to be successful in targeting hard to reach populations, with 51% of people who registered for a DBS test in Q4 never previously tested for HIV or tested more than two years ago (n=601). Of these, 24% were overseas-born (n=143). Continued access to, and scale-up of DBS is an important component of the NSW HIV response.

NSW data also shows that rapid HIV testing in community-based sites are an effective testing model for engaging MSM with high risk behaviour and infrequent testing history. Rapid HIV testing has been effectively embedded into the mix of the testing options in NSW and remains an important component of the NSW response.

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

Of 142 NSW residents diagnosed from January to June 2019 now followed up six months after diagnosis, the median time to treatment was 16 days. The proportion of those on treatment within six weeks of diagnosis was 91%, while the proportion of those on treatment within two weeks was 46%. Of the 138 on treatment at 6 months, 93% had an undetectable viral load at the time of six month follow-up.

## Key data

HIV INFECTIONS	Target group	Oct-Dec 2019	Compared with Oct-Dec 2014-2018 average
<b>Number of NSW residents newly diagnosed</b>	All new diagnoses	78	9% less (av. n=85.6)
	MSM	56	15% less (av. n=66.2)
	Australian-born MSM	29	17% less (av. n=35.0)
	Overseas-born MSM	27	13% less (av. n=31.2)
	Heterosexuals	18	17% more (av. n=15.4)
<b>Number of new diagnoses with evidence of early stage infection</b>	All new diagnoses	31	14% less (av. n=36.0)
	MSM	25	22% less (av. n=32.0)
	Australian-born MSM	16	16% less (av. n=19.0)
	Overseas-born MSM	9	31% less (av. n=13.0)
	Heterosexuals	6	58% more (av. n=3.8)
<b>Number all new diagnoses with evidence of late diagnosis</b>	All new diagnoses	21	22% less (av. n=26.8)
	MSM	12	36% less (av. n=18.8)
	Australian-born MSM	3	58% less (av. n=7.2)
	Overseas-born MSM	9	22% less (av. n=11.6)
	Heterosexuals	7	Similar (av. n=6.4)
<b>PREVENT</b>	<b>Target group</b>	<b>Jul 2018 – Sep 2019</b>	
<b>Number of people receiving PrEP through PBS</b>	People in NSW at high risk of HIV infection	12,120	
<b>TEST</b>	<b>Target group</b>	<b>Oct-Dec 2019</b>	<b>Compared with Oct-Dec 2018</b>
<b>Number of HIV serology tests performed in NSW</b>	All	139,580	3% less (n=144,460)
<b>Number of HIV tests performed in NSW public sexual health clinics.</b>	All	12,462	7% less (n=13,447)
	Identifying as MSM	7,709	11% less (n=8,696)
<b>Number of HIV DBS tests (Nov 2016 – Dec 2019)</b>		4,609 (9 HIV positive)	
<b>TREAT</b>	<b>Target group</b>	<b>Oct-Dec 2019</b>	<b>Target</b>
<b>Proportion of patients with diagnosed HIV infection in care, who were on treatment</b>	Sexual Health and HIV Clinic attendees	98%	95%
	Select high caseload general practices	95%	95%
<b>Proportion of NSW residents newly diagnosed with HIV who initiated ART within four and six weeks of diagnosis</b>	Newly diagnosed Jan-Jun 2019 (n=142)	77% < 4 weeks 91% < 6 weeks	>90%
<b>Proportion of NSW residents newly diagnosed who were reported to be virally suppressed (VL &lt; 200 copies/mL) at 6-month follow-up</b>	Newly diagnosed Jan-Jun 2019 (n=142)	91%	100%

## 1. Table of Contents

<b>1. Table of Contents</b> .....	<b>4</b>
<b>1. Reduce HIV transmission</b> .....	<b>6</b>
1.1 How many cases are notified? .....	6
1.2 What is the stage of infection at diagnosis? .....	14
1.3 What are some of the characteristics of people newly diagnosed? .....	20
<b>2. Expand HIV Prevention</b> .....	<b>27</b>
2.1 How many people were prescribed PrEP on the Pharmaceutical Benefits Scheme (PBS)? .....	27
2.2 How many men who have sex with men use condoms and other HIV risk reduction practices? .....	28
2.3 Community mobilisation “Ending HIV” .....	30
2.4 How accessible is the Needle and Syringe Program in NSW? .....	30
2.5 What proportion of people re-use other people’s needles and syringes (receptive syringe sharing) in NSW? .....	30
<b>3. Increase HIV testing frequency</b> .....	<b>31</b>
3.1 Is HIV testing increasing in NSW? .....	31
3.2 What are the HIV testing patterns in NSW? .....	36
3.3 How is testing being made more accessible? .....	43
<b>4. Increase HIV Treatment</b> .....	<b>44</b>
4.1 How many people in NSW are on antiretroviral therapy? .....	44
4.2 Is the proportion of people on antiretroviral treatment coverage increasing in NSW? .....	46
4.3 How quickly are people newly diagnosed with HIV commencing antiretroviral therapy and achieving undetectable viral load in NSW? .....	49
4.4 How is transmitted drug resistance and HIV transmission monitored in NSW? .....	52
<b>5. Appendix A: Data Sources</b> .....	<b>53</b>
<b>6. Appendix B: Characteristics of NSW residents notified with newly diagnosed HIV infection 1981 to 30 September 2019 (continues over page); data extracted from NCIMS, HPNSW, 6 November 2019.</b> .....	<b>56</b>
<b>7. Appendix C: Demographic profile of participants who participated in EPIC study</b> .....	<b>58</b>
<b>8. Appendix D: Ending HIV Seven Statements Evaluation, ACON 2013-2019</b> .....	<b>59</b>
<b>9. Appendix E: NSW HIV Data Advisory Group members</b> .....	<b>61</b>

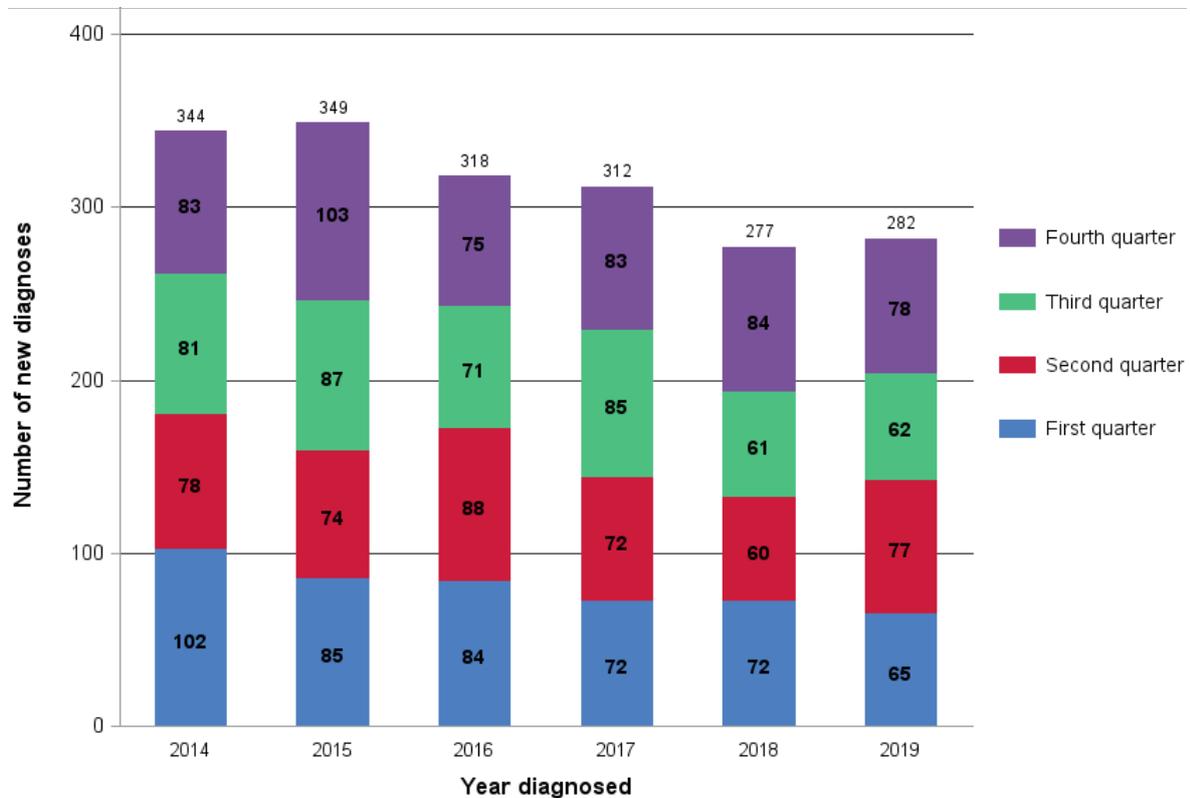
## Glossary of Terms

ART	Antiretroviral therapy
CAIC	Condomless anal intercourse with casual partners
CTG	Closing the Gap
GBM	Gay and bisexual men
HIV	Human Immunodeficiency Virus
LHD	Local Health District
MSM	Men who have sex with men
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
SGCPS	Sydney Gay Community Periodic Survey
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 from 2014 to 2019



Source: Notifiable Conditions Information Management System, Health Protection NSW, out 7 February 2020

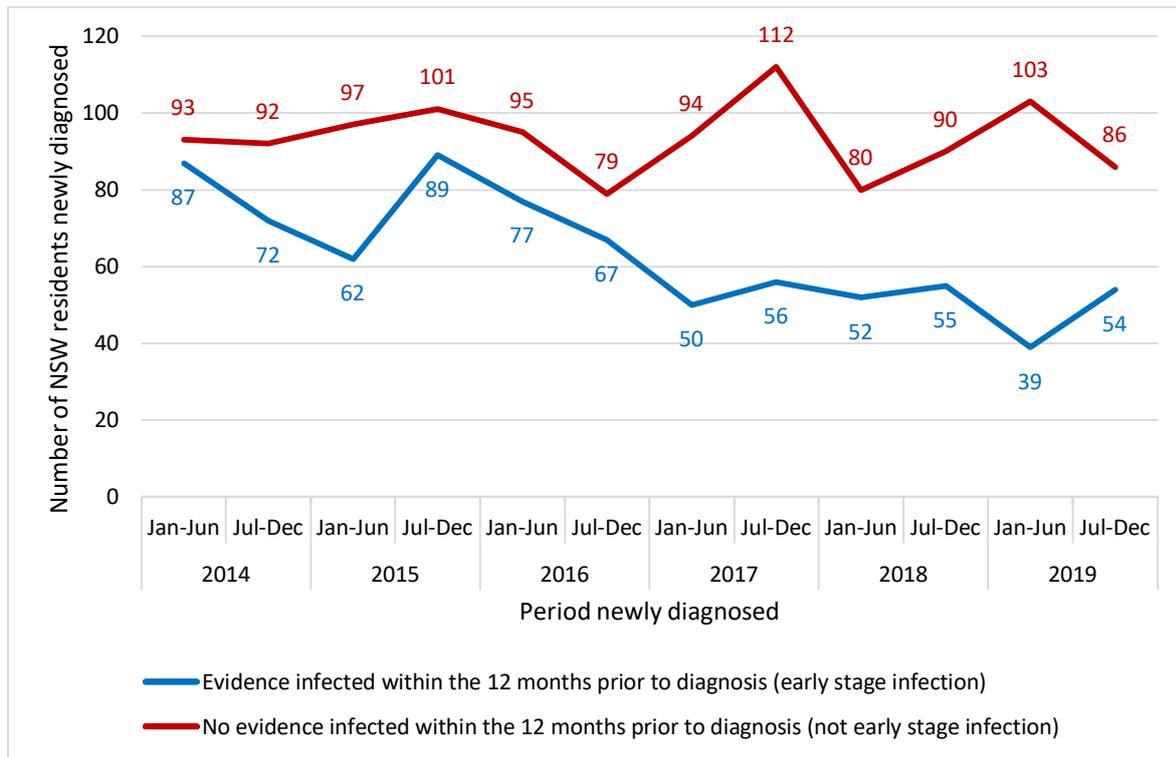
In October to December (Q4) 2019:

- Seventy-eight NSW residents were notified to NSW Health with a newly diagnosed HIV infection, 9% less than the Q4 2014-2018 average of 85.6 (Figure 1).
- Of 78, 31 (40%) had evidence their infection was acquired within one year of diagnosis (early stage infection), 14% less than the Q4 2014-2018 average of 36.0.
- Of 78 people newly diagnosed in Q4 2019, 21 (27%) had evidence of late diagnosis, a decrease of 22% compared with the 2014-2018 average count of 26.8.

In 2019:

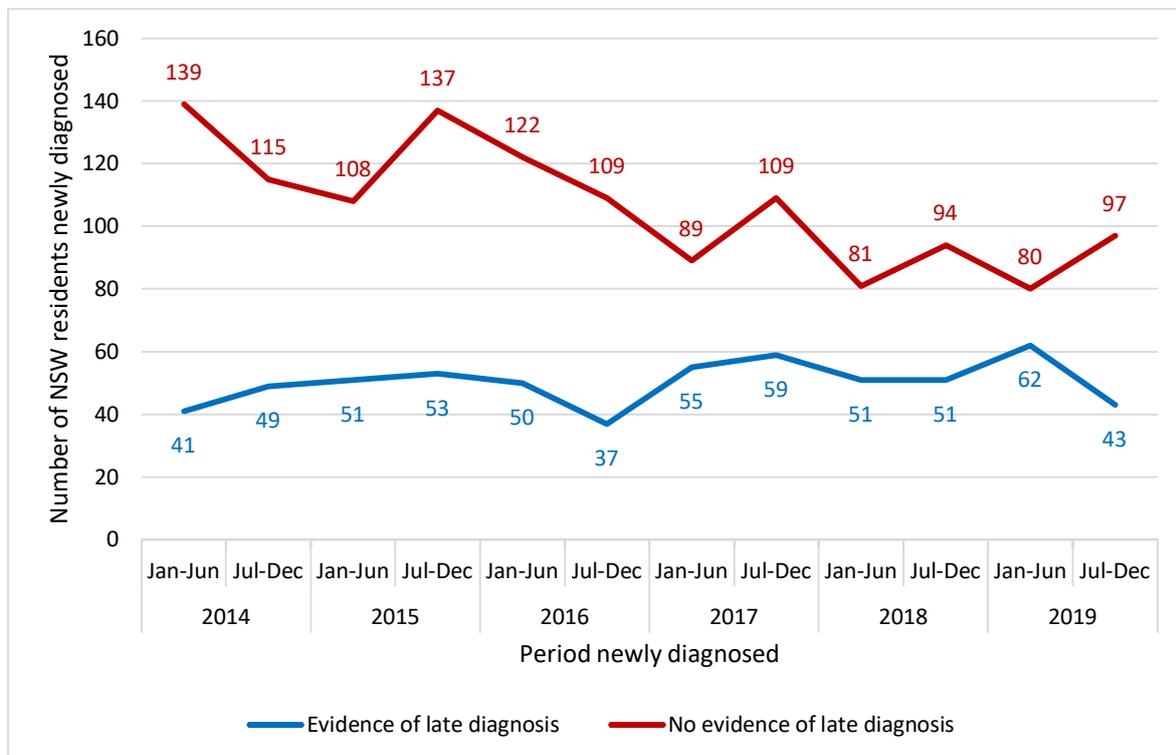
- Two hundred and eighty-two NSW residents were notified to NSW Health with newly diagnosed HIV infection, 12% fewer than the 2014-2018 average of 320.0 (Figure 1).
- Of 282, 93 (33%) had evidence of early stage infection, 30% less than the 2014-2018 average of 133.4 (Figure 2).
- Of 282 people newly diagnosed in 2019, 105 (37%) had evidence of late diagnosis, an increase of 6% compared with the 2014-2018 average count of 99.4 (Figure 3).

**Figure 2: New diagnoses 2014 to 2019 by evidence infected within 12 months of diagnosis**



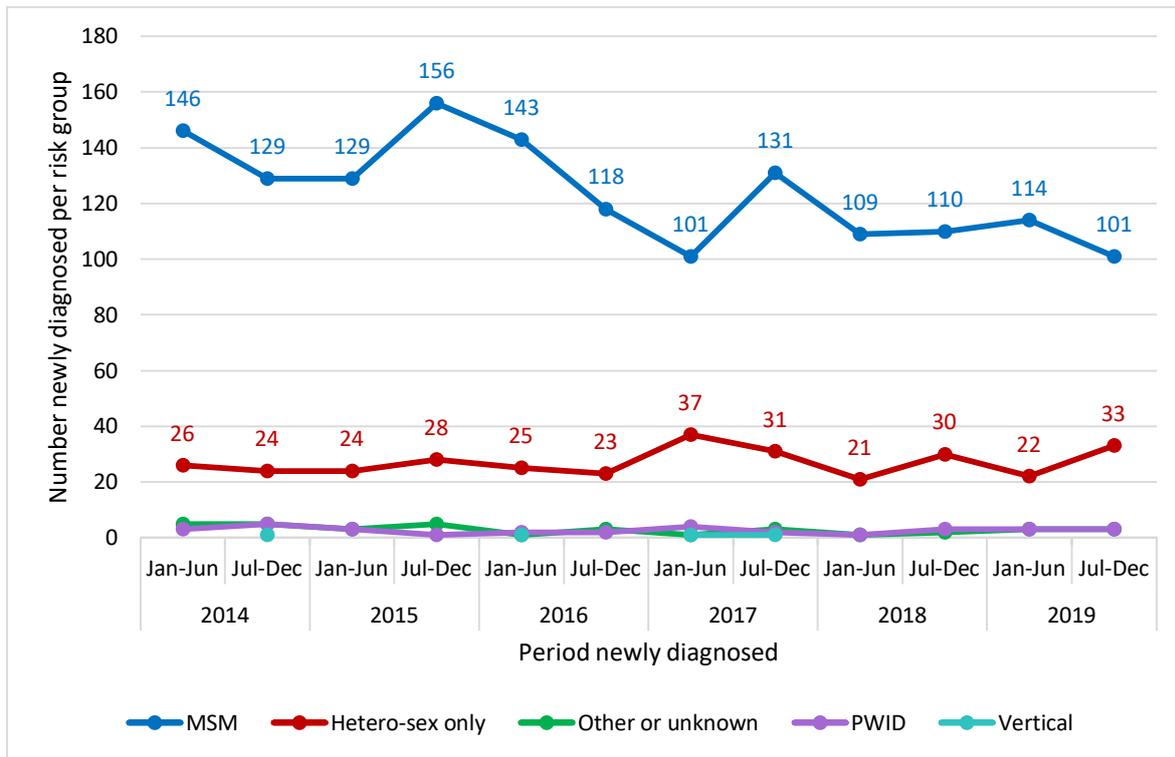
Early stage infection: a sero-conversion like illness or negative or indeterminate HIV test within 12 months of diagnosis, irrespective of CD4 or presentation with an AIDS defining illness at diagnosis

**Figure 3: New diagnoses 2014 to 2019 by evidence of late diagnosis**



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

Figure 4: New diagnoses 2014 to 2019 by reported HIV risk exposure



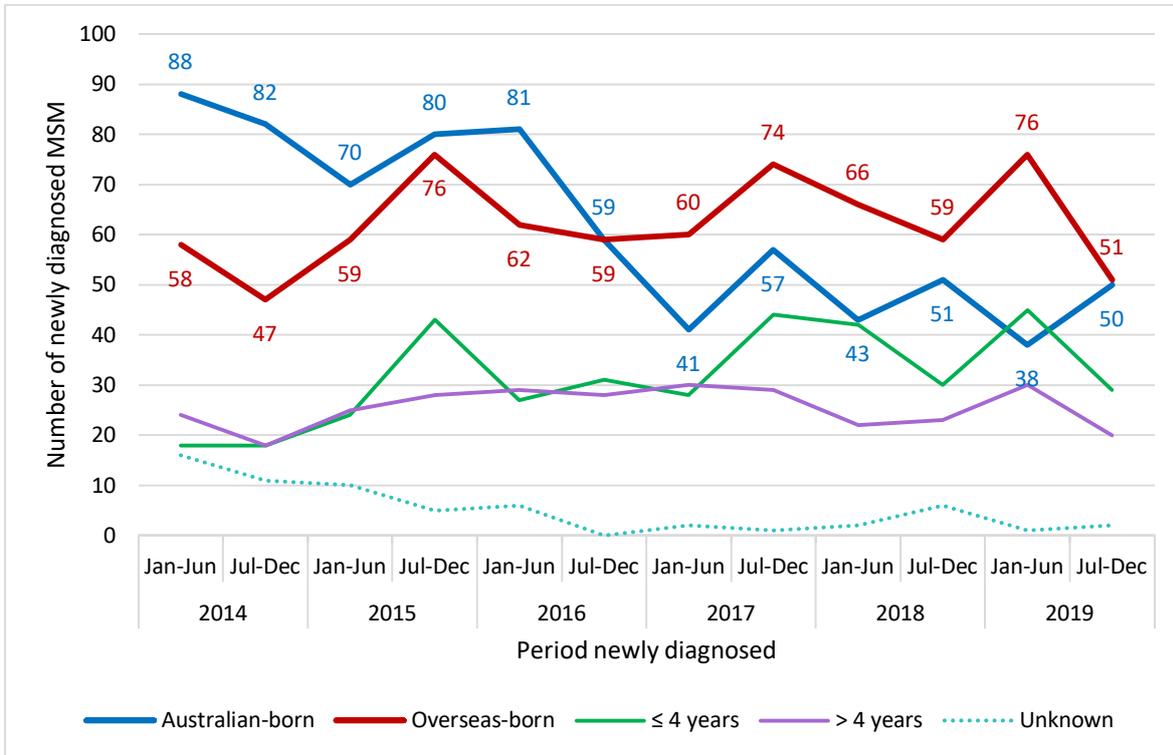
In October to December (Q4) 2019:

- Fifty-six (72%) were men who have sex with men (MSM) and eighteen (23%) acquired HIV via hetero-sex. This is 15% fewer MSM, and 17% more heterosexuals compared with the new diagnoses averages of Q4 2014-2018 (av. n MSM = 66.2; av. n heterosexuals = 15.4).

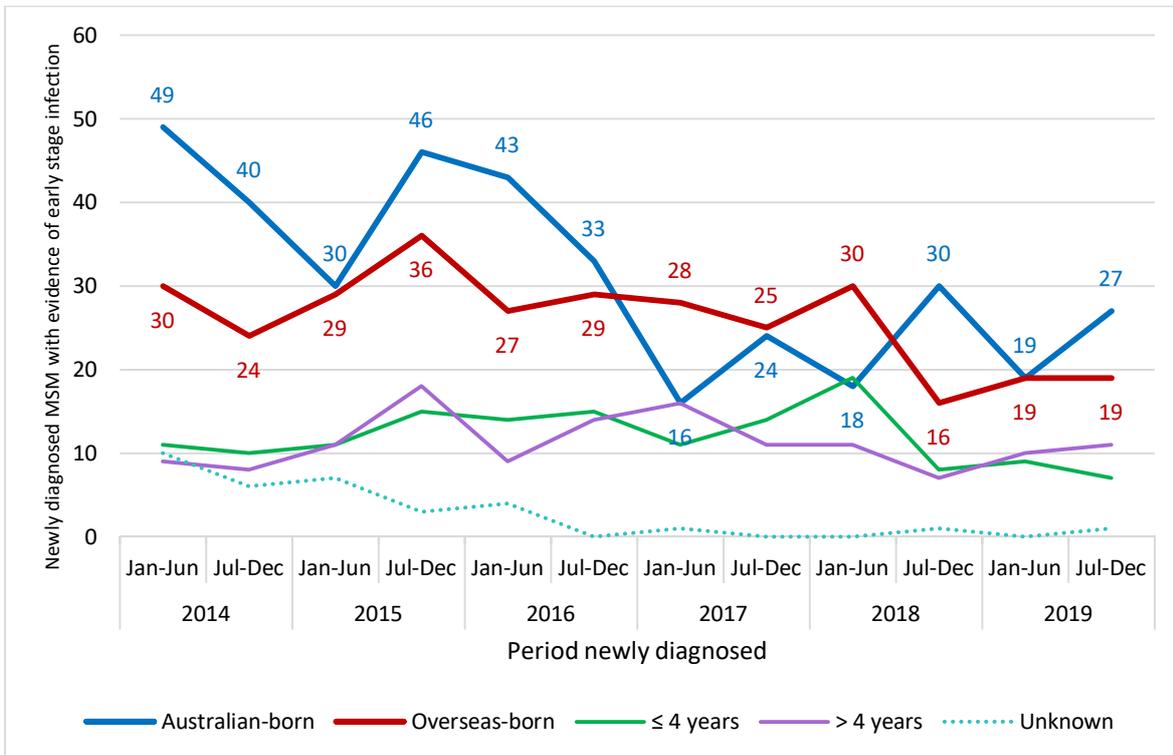
In 2019:

- Of 282, 215 (76%) were MSM, 55 (20%) acquired HIV via hetero-sex, six (2%) via injecting drugs and six (2%) via another exposure (Figure 4). This is 15% fewer MSM and 2% more heterosexuals compared with the new diagnoses averages of 2014-2018 (av. n MSM = 254.4; av. n heterosexuals = 53.8) (Figure 4).

**Figure 5: New diagnoses 2014 to 2019 in Australian and overseas-born MSM (overseas-born stratified by years living in Australia)**



**Figure 6: New diagnoses 2014 to 2019 with evidence of early stage infection in Australian and overseas born MSM (overseas-born stratified by years living in Australia)**



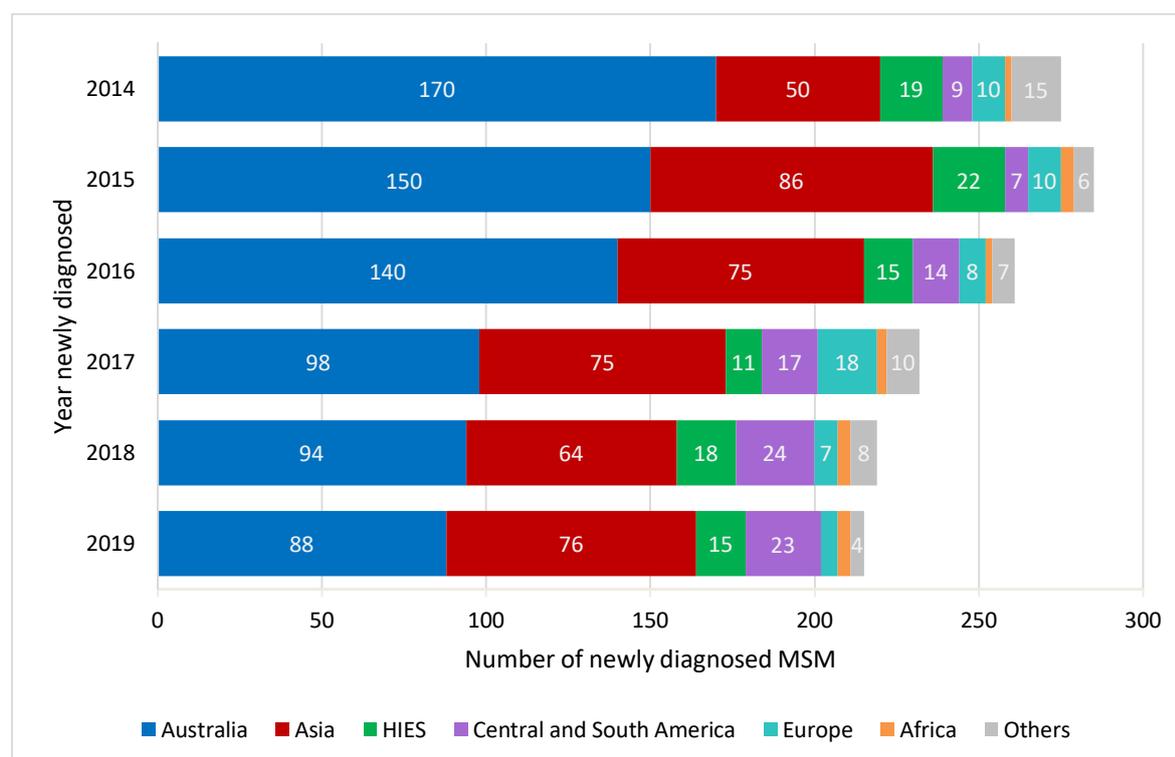
In October to December (Q4) 2019:

- Twenty-nine of the 56 (52%) newly diagnosed MSM were Australian-born, 17% less than the average for Q4 2014-2018 (av. n=35.0). Sixteen of 29 (55%) Australian-born newly diagnosed MSM had evidence their infection was acquired within one year of diagnosis (early stage infection), 16% less than the Q4 2014-2018 average of 19.0.
- Twenty-seven of the 56 (48%) newly diagnosed MSM were overseas-born, 13% less than the average for Q4 2014-2018 (av. n=31.2). Fourteen of these MSM had lived in Australia for four years or less at the time of HIV diagnosis, 11% less than the Q4 2014-2018 average of 15.8, while 11 lived in Australia for more than four years, 18% less than the comparison period average of 13.4 and two for an unknown length of time. Nine of 27 (33%) overseas-born newly diagnosed MSM had evidence of early stage infection, 31% less than the Q4 2014-2018 average of 13.0.

In 2019:

- Eighty-eight of 215 (41%) MSM newly diagnosed were Australian-born, 33% less than the average for 2014-2018 (av. n=130.4) (Figure 5). These people ranged from 17-85 years old with a median age of 37. Forty-six of 88 (52%) Australian-born newly diagnosed MSM had evidence of early stage infection, 30% fewer than the 2014-2018 average (av. n=65.8) (Figure 6).
- One hundred and twenty-seven of 215 (59%) MSM newly diagnosed were overseas-born, 2% more than the 2014-2018 average (av. n=124.0) (Figure 5). These people ranged from 18-64 years old with a median age of 31. Seventy-four of these MSM had lived in Australia for four years or less at the time of their HIV diagnosis, 21% more than the 2014-2018 average of 61.0, while 50 lived in Australia for more than four years, 2% less than the comparison period average of 51.2 and three for an unknown length of time. Thirty-eight of 127 (30%) overseas-born newly diagnosed MSM had evidence of early stage infection, a 31% reduction compared to the 2014-2018 average (av. n=54.8) (Figure 6). Of these 38 early stage infections, nine had been in NSW for less than 3 years, seven for 3-4 years, nine for 5-10 years, twelve for 11 or more years and one was unknown.
- Six overseas-born trans women were included in the broader MSM exposure category due to current limitations in data collection and overall exposure classification. However, work is progressing to update how gender is collected and recorded for new HIV diagnoses. A national review of exposure classification for HIV surveillance is also ongoing.

Figure 7: New diagnoses 2014 to 2019 of MSM by world area of birth



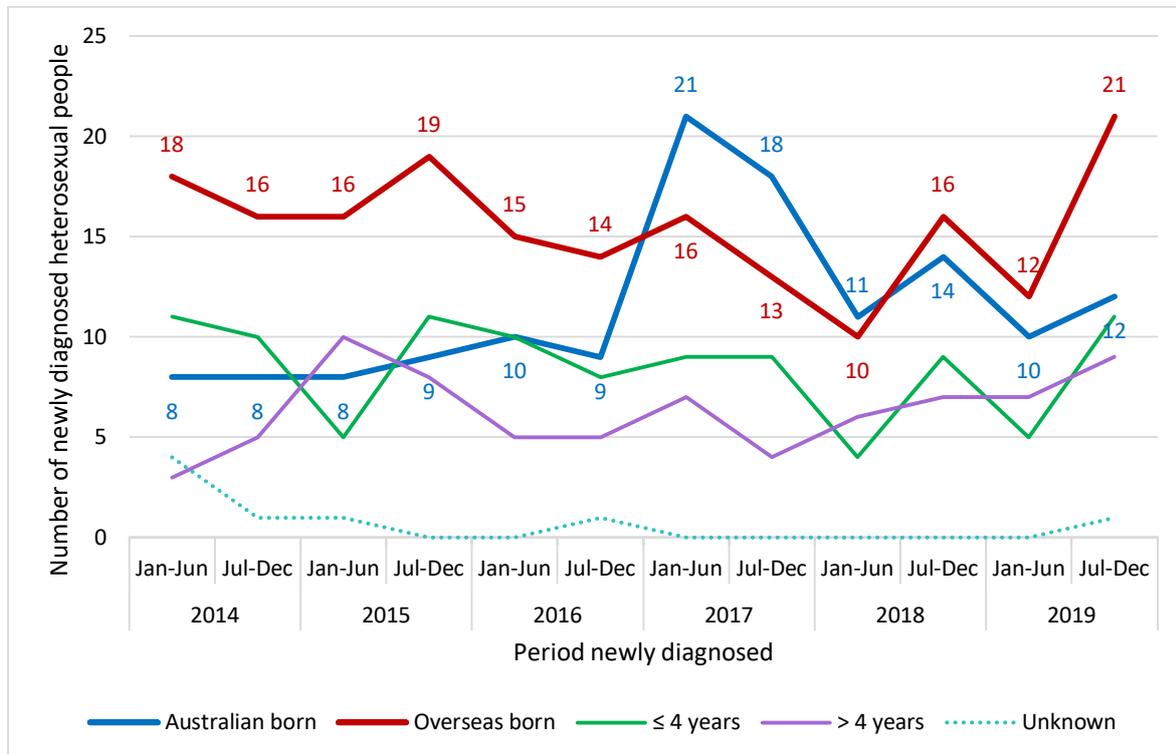
HIES – High Income English Speaking countries (Canada, USA, United Kingdom, Ireland and New Zealand)

Area	n	Compared with 2014-2018 average
Australia	88	33% less (av. n = 130.4)
Asia	76	9% more (av. n = 70.0)
HIES	15	12% less (av. n = 17.0)
Central and South America	23	62% more (av. n = 14.2)
Europe	5	53% less (av. n = 10.6)
Africa	4	33% more (av. n = 3.0)
Others	4	57% less (av. n = 9.2)

Comments on Figure 7

- Of 215 MSM newly diagnosed in NSW during 2019, 41% were born in Australia, 25% in South-East Asia, 11% in Southern & Central America, 8% in North-East Asia and less than 5% in North-West Europe, Southern & Eastern Europe, Southern & Central Asia, Northern America, Oceania, North Africa & Middle East and Sub-Saharan Africa (Figure 7).

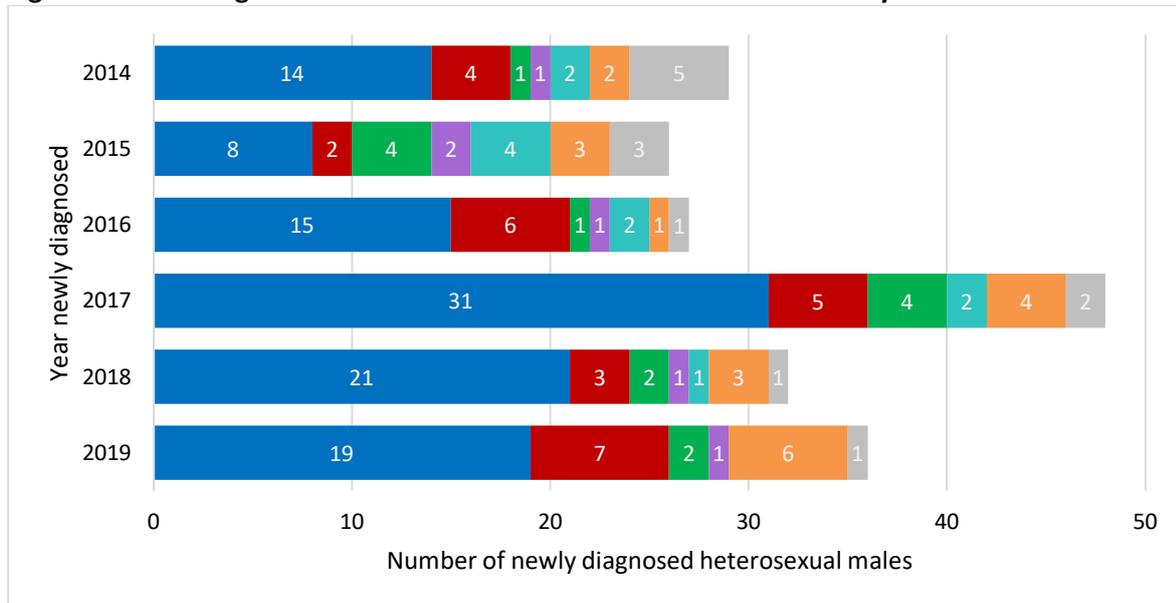
**Figure 8: New diagnoses 2014 to 2019 in Australian and overseas-born people with heterosexual risk (overseas-born stratified by years living in Australia)**



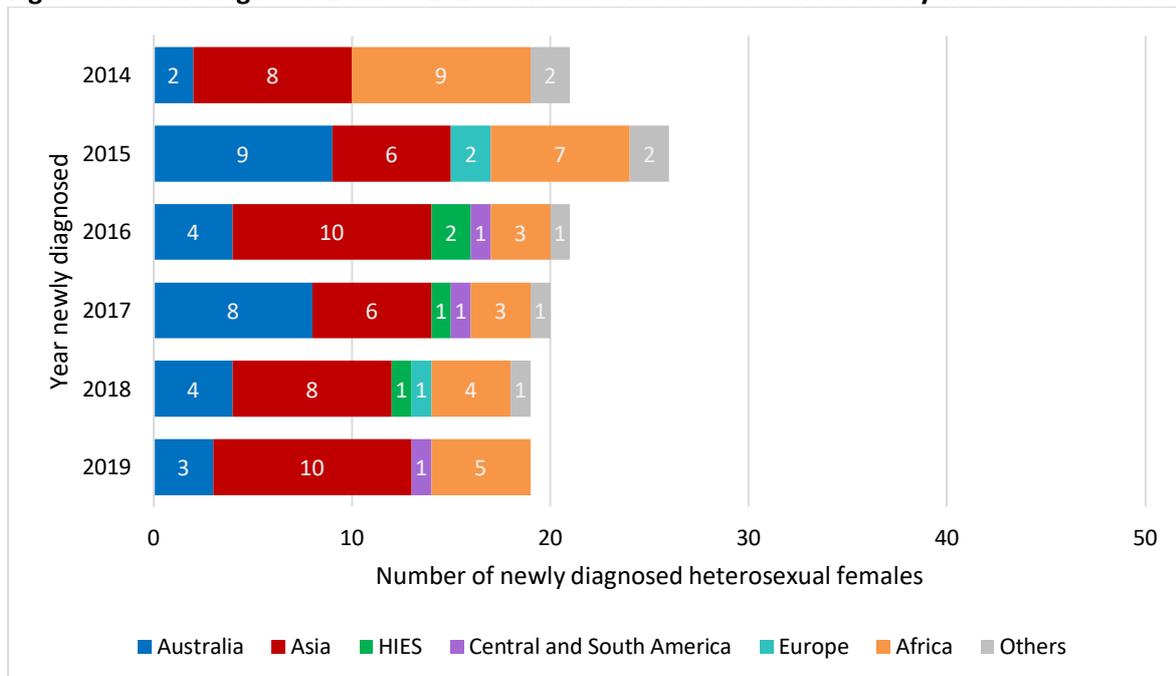
In 2019:

- Twenty-two of 55 (40%) heterosexual people newly diagnosed were Australian-born, 5% less than the average for 2014-2018 (av. n=23.2) (Figure 8). They ranged from 23-70 years old with a median age of 49. Four of 22 (18%) Australian-born newly diagnosed heterosexuals had evidence of early stage infection, 38% fewer than the 2014-2018 average (av. n=6.4).
- Thirty-three of 55 (60%) heterosexual people newly diagnosed were overseas-born, 8% more than the 2014-2018 average (av. n=30.6) (Figure 8). They ranged from 25-72 years old with a median age of 38. Sixteen of these heterosexual people had lived in Australia for four years or less at the time of their HIV diagnosis, 7% less than the 2014-2018 average of 17.2, and 16 lived in Australia for more than four years, 33% more than the comparison period average of 12.0 and one for an unknown length of time. Five of 33 (15%) overseas-born newly diagnosed heterosexuals had evidence of early stage infection, similar to the 2014-2018 average (av. n=4.6).

**Figure 9a: New diagnoses 2014 to 2019 of men with heterosexual risk by world area of birth**



**Figure 9b: New diagnoses 2014 to 2019 of women with heterosexual risk by world area of birth**



HIES – High Income English Speaking countries (Canada, USA, United Kingdom, Ireland and New Zealand)

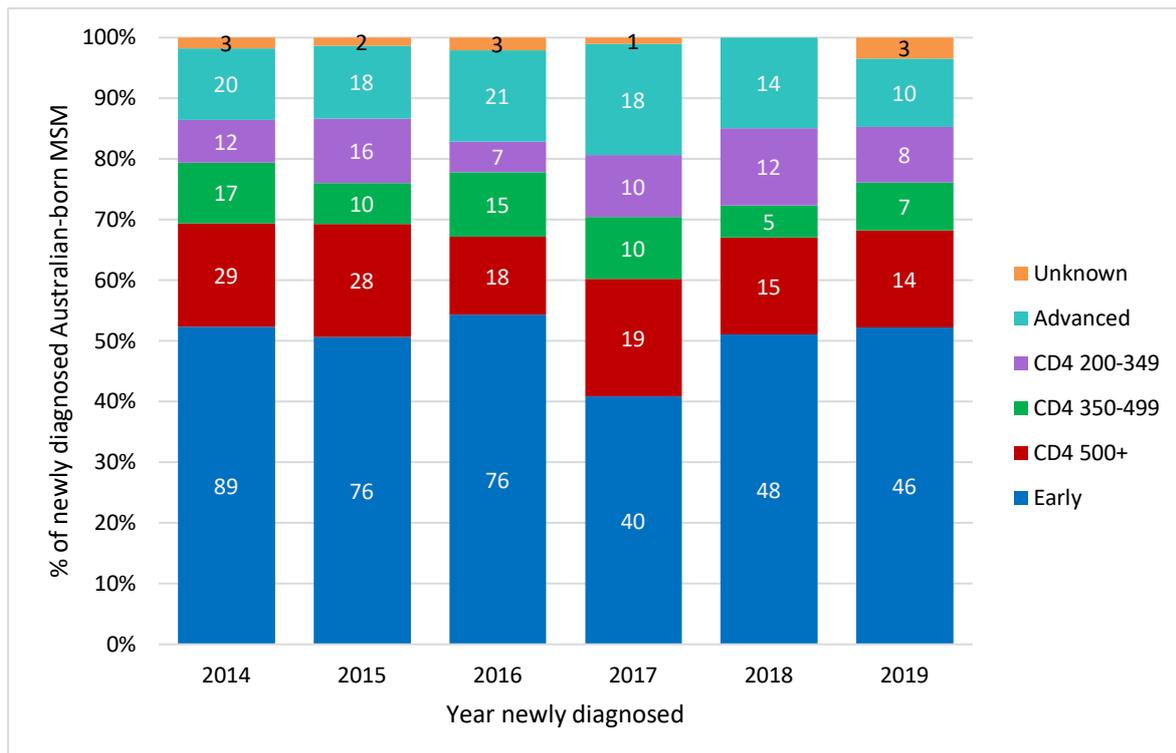
Of 55 people with heterosexual risk exposure diagnosed in 2019:

- Thirty-six (65%) were male and 19 (35%) were female
- Of 36 males, 53% were born in Australia, 17% in Sub-Saharan Africa, 11% in South-East Asia, 6% in both North-East Asia and North-West Europe, and less than 5% in Central & Southern America and Southern & Central Asia (Figure 9a).
- Of 19 females, 37% were born in South-East Asia, 26% in Sub-Saharan Africa, 16% in Australia, 11% in Southern & Central Asia, and less than 5% in Central & Southern America and North-East Asia (Figure 9b).

## 1.2 What is the stage of infection at diagnosis?

Stage of infection is reported here among Australian-born MSM (10a), overseas-born MSM (10b), and among all groups other than MSM (10c). **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 10a: Stage of infection among Australian-born MSM newly diagnosed 2014 to 2019**



### Comment on Figures 10a-c

- Of 88 Australian-born newly diagnosed MSM in 2019, 46 (52%) had evidence of early stage infection, 30% less compared to the 2014-2018 average of 65.8. Eighteen (20%) had evidence of late diagnosis, 39% less than the comparison period (av. n=29.6) (Figure 10a).
- Of 127 overseas-born MSM newly diagnosed in 2019, 38 (30%) had evidence of early stage infection, 31% less compared to the 2014-2018 average of 54.8. Fifty-three (42%) had evidence of late diagnosis, 33% more than the comparison period average of 39.8 (Figure 10b).
- The number of new diagnoses in NSW residents who were not MSM was 2% higher in 2019 (n=67) compared to the 2014-2018 average (n=65.6). There were 34 with evidence of late diagnosis, 13% more than the 2014-2018 average of 30.0 (Figure 10c).

Figure 10b: Stage of infection among overseas-born MSM newly diagnosed 2014 to 2019

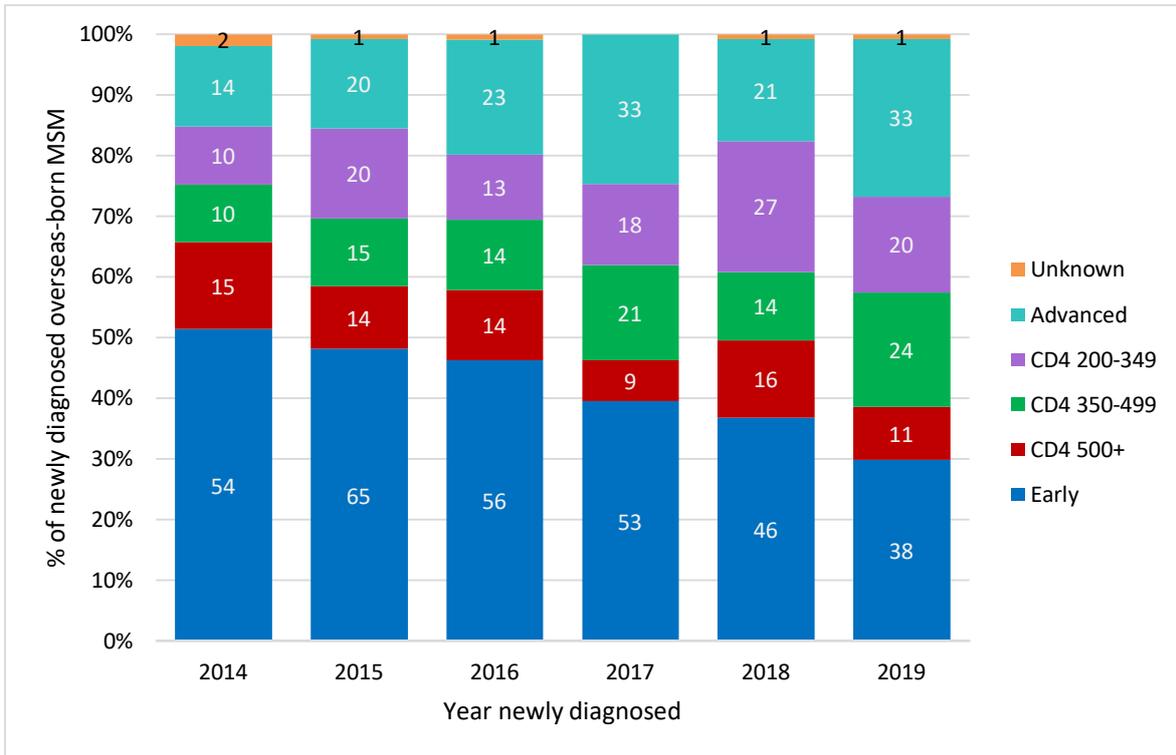


Figure 10c: Stage of infection among new diagnoses 2014 to 2019 with a risk other than MSM

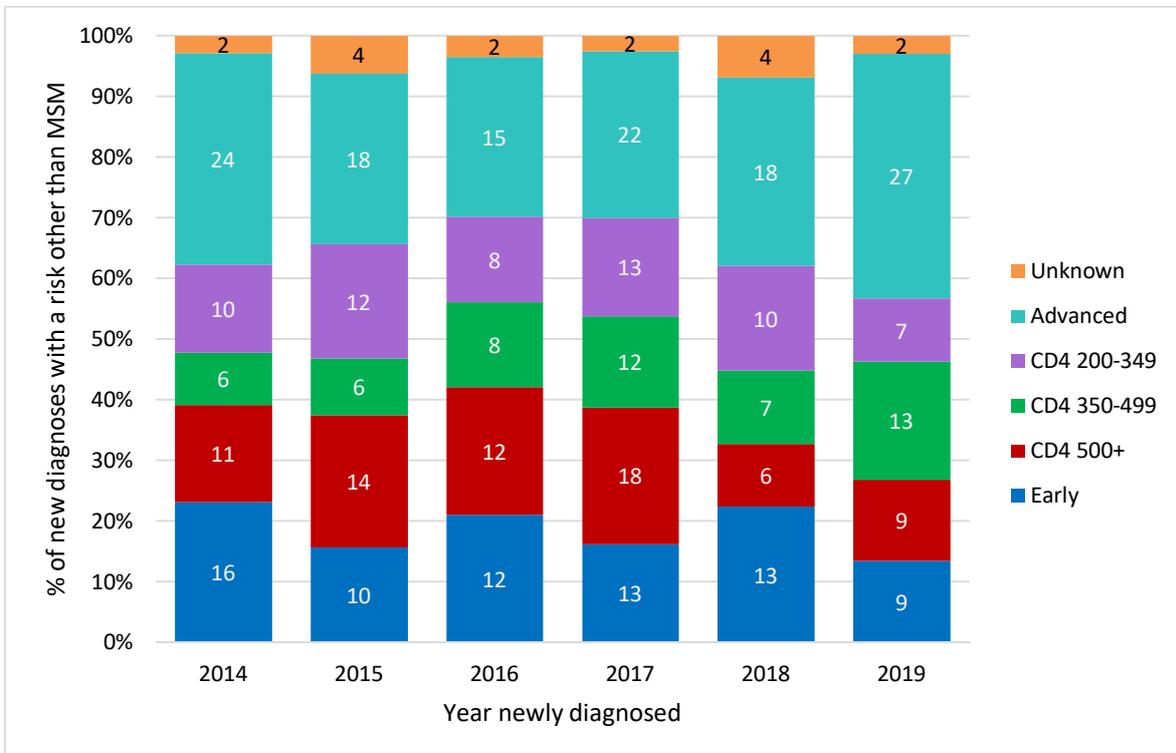
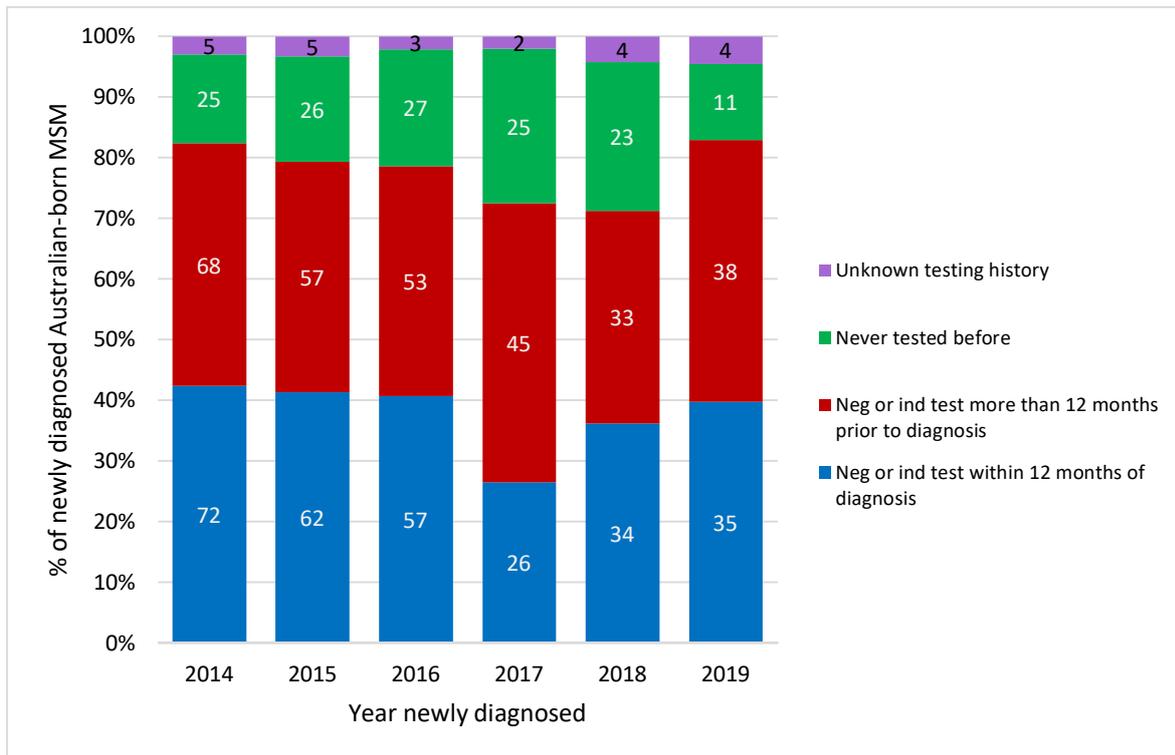


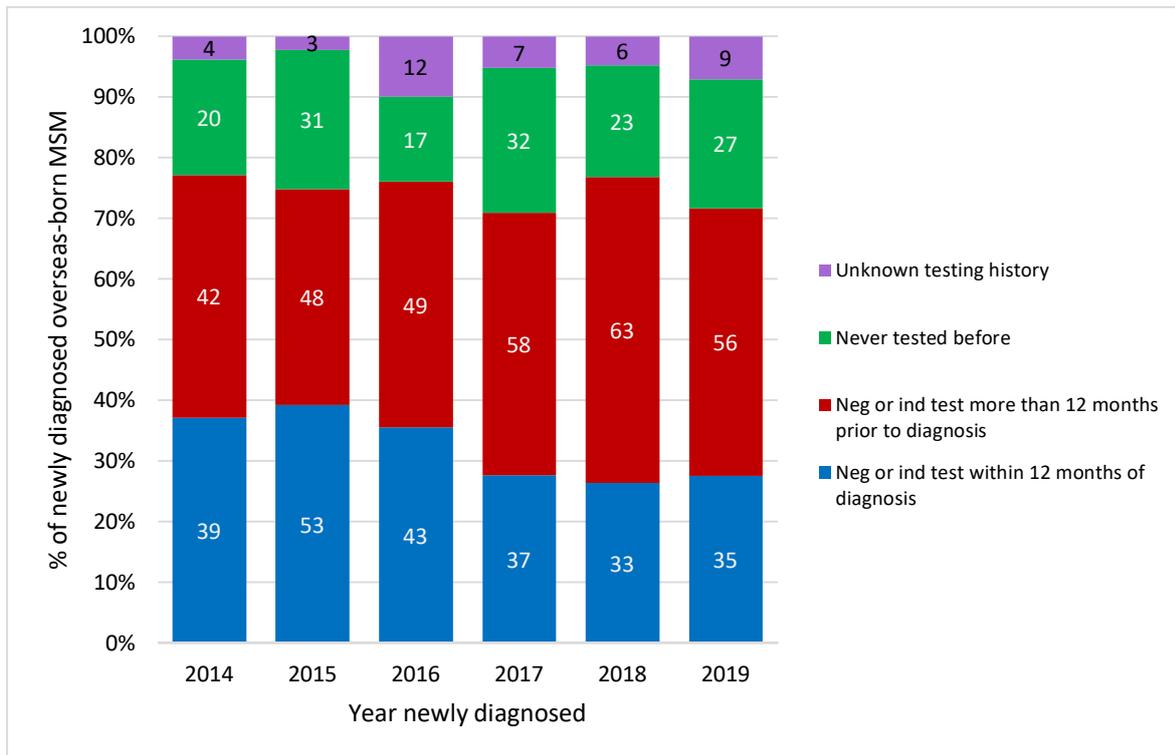
Figure 11a: Per cent of Australian-born MSM newly diagnosed 2014 to 2019, by HIV testing history



Of 88 Australian-born MSM newly diagnosed during 2019:

- Thirty-five (40%) were reported (by a laboratory, a doctor, or the patient) to have had a negative or indeterminate HIV test within 12 months of diagnosis.
- Thirty-eight (43%) were reported to have had a negative or indeterminate HIV test sometime in the past, but not within 12 months of diagnosis.
- Eleven (13%) reported not ever having had an HIV test prior to diagnosis.
- Over half had not been testing according to guidelines.
- Eighteen (20%) had evidence of late diagnosis.

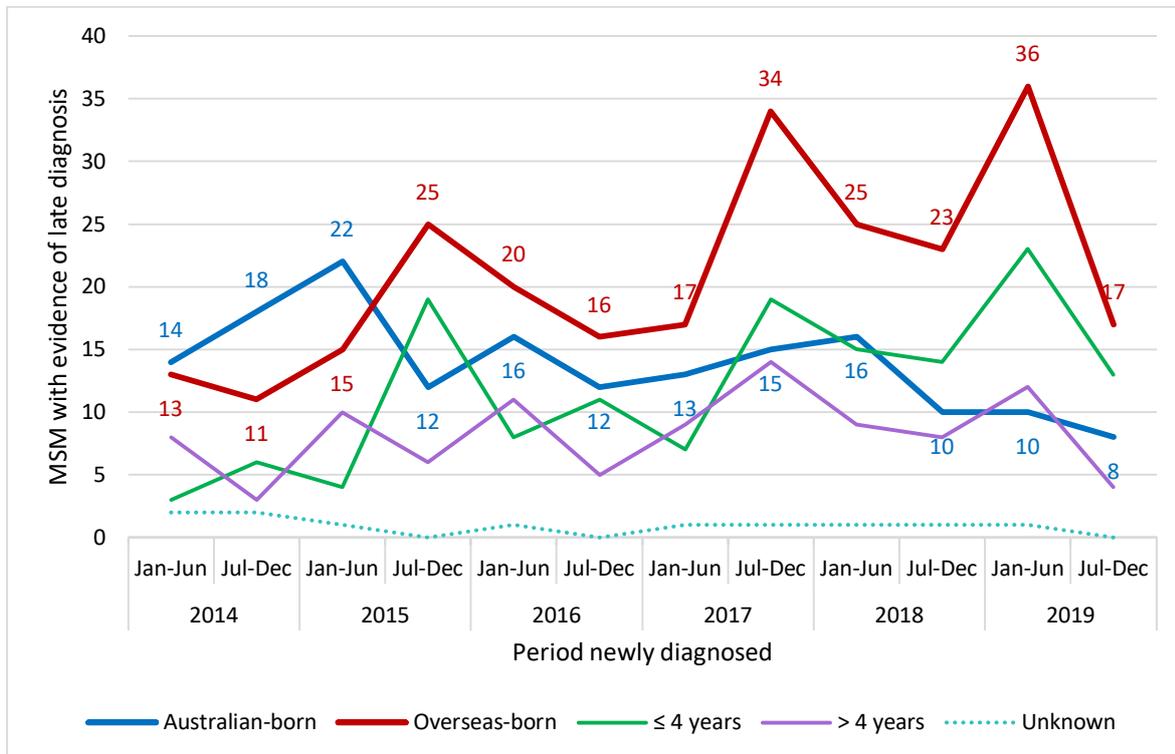
Figure 11b: Per cent of overseas-born MSM newly diagnosed 2014 to 2019, by HIV testing history



Of 127 overseas-born MSM newly diagnosed during 2019:

- Thirty-five (28%) were reported (by a laboratory, a doctor, or the patient) to have had a negative or indeterminate HIV test within 12 months of diagnosis.
- Fifty-six (44%) were reported to have had a negative or indeterminate HIV test sometime in the past, but not within 12 months of diagnosis.
- Twenty-seven (21%) reported not ever having had an HIV test prior to diagnosis.
- Around two thirds had not been testing according to guidelines.
- Fifty-three (42%) had evidence of late diagnosis.

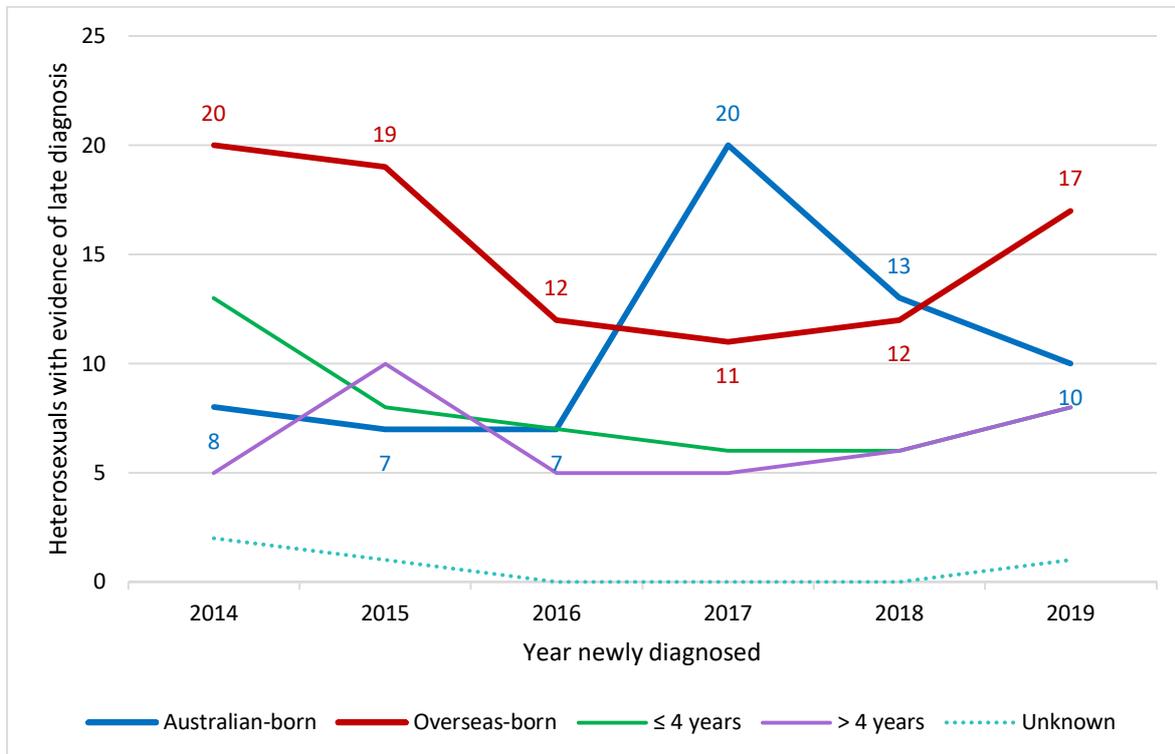
**Figure 12: New diagnoses 2014 to 2019 with evidence of late diagnosis, for Australian and overseas born MSM (overseas-born stratified by years living in Australia)**



In 2019:

- Of 105 NSW residents with evidence of late HIV diagnosis, 71 (68%) were MSM, 2% more than the 2014-2018 average count of 69.4.
- Eighteen (25%) of the 71 MSM with evidence of late diagnosis were Australian-born, a 39% decrease relative to the 2014-2018 average count of 29.6 (Figure 12).
- Fifty-three (75%) of the 71 MSM with evidence of late diagnosis were overseas-born, a 33% increase relative to the 2014-2018 average count of 39.8 (Figure 12). Thirty-six of these 53 MSM had lived in Australia for four years or less at the time of their HIV diagnosis, 70% more than the 2014-2018 average of 21.2, while 16 lived in Australia for more than four years, similar to the comparison period average of 16.6 and one was unknown. Of these 53, 24 had been here for less than 3 years, 12 for 3-4 years, eight for 5-10 years, eight for 11 or more years and one was unknown.

**Figure 13: New diagnoses 2014 to 2019 with evidence of late diagnosis, for Australian and overseas born people with heterosexual risk (overseas-born stratified by years living in Australia)**



In 2019:

- Of 105 NSW residents with evidence of late HIV diagnosis, 27 (26%) had heterosexual risk, 5% more than the 2014-2018 average count of 25.8.
- Ten (37%) of the 27 heterosexual people with evidence of late diagnosis were Australian-born, a 9% decrease relative to the 2014-2018 average count of 11.0 (Figure 13).
- Seventeen (63%) of the 27 heterosexual people with evidence of late diagnosis were overseas-born, a 15% increase relative to the 2014-2018 average count of 14.8 (Figure 13). Eight of these 17 heterosexual people had lived in Australia for four years or less at the time of their HIV diagnosis, equal to the 2014-2018 average of 8.0, and eight lived in Australia for more than four years, 29% more than the comparison period average of 6.2 and one was unknown.

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

**Table 1: Characteristics of Australian-born and overseas-born MSM newly diagnosed in 2019 vs the 2014-2018 average count, and the count difference**

Case characteristics	Australian-born MSM			Overseas-born MSM		
	2014-2018 average	2019	Count (%) diff.	2014-2018 average	2019	Count (%) diff.
<b>Number</b>	<b>130.4</b>	<b>88</b>	<b>-42.4 (-33%)</b>	<b>124</b>	<b>127</b>	<b>+3 (+2%)</b>
<b>Gender</b>						
<i>Male</i>	129.4	88	-41.4 (-32%)	122.2	121	-1.2 (-1%)
<i>Transgender<sup>1</sup></i>	1	0	-1 (-100%)	1.8	6	+4.2 (+233%)
<b>Age at diagnosis</b>						
<i>0 to 19</i>	1.2	2	+0.8 (+67%)	2.2	2	-0.2 (-9%)
<i>20 to 29</i>	38.2	19	-19.2 (-50%)	45.8	45	-0.8 (-2%)
<i>30 to 39</i>	35	28	-7 (-20%)	45.2	57	+11.8 (+26%)
<i>40 to 49</i>	28	18	-10 (-36%)	18.8	14	-4.8 (-26%)
<i>50 and over</i>	28	21	-7 (-25%)	12	9	-3 (-25%)
<b>Evidence of early stage infection<sup>2</sup></b>						
<i>Yes</i>	65.8	46	-19.8 (-30%)	54.8	38	-16.8 (-31%)
<i>No</i>	64.6	42	-22.6 (-35%)	69.2	89	+19.8 (+29%)
<b>Evidence of late diagnosis<sup>3</sup></b>						
<i>Yes</i>	29.6	18	-11.6 (-39%)	39.8	53	+13.2 (+33%)
<i>No</i>	99	67	-32 (-32%)	83.2	73	-10.2 (-12%)
<i>Unknown</i>	1.8	3	+1.2 (+67%)	1	1	0 (0%)
<b>Place most likely acquired HIV</b>						
<i>Australia</i>	105.6	69	-36.6 (-35%)	68.6	61	-7.6 (-11%)
<i>Overseas</i>	17.2	7	-10.2 (-59%)	46.8	49	+2.2 (+5%)
<i>Unknown</i>	7.6	12	+4.4 (+58%)	8.6	17	+8.4 (+98%)
<b>Reported HIV risks</b>						
<i>MSM</i>	114	72	-42 (-37%)	118.8	118	-0.8 (-1%)
<i>MSM and IDU</i>	16.4	16	-0.4 (-2%)	5.2	9	3.8 (+73%)

<sup>1</sup>All cases in 2019 are trans women who reported sex with cisgender men. This was confirmed by case review, as further detail is not yet routinely collected.

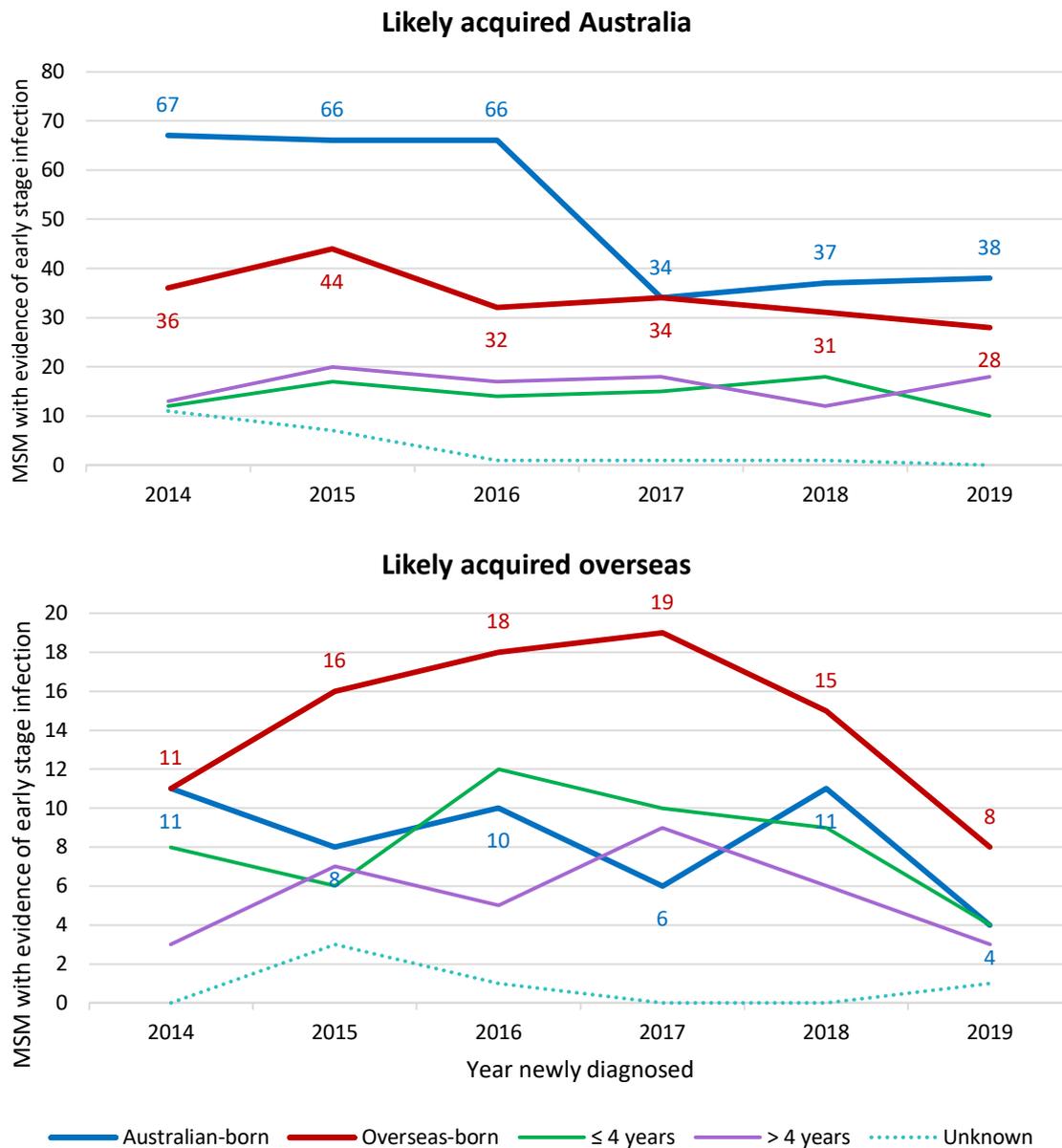
<sup>2</sup>Evidence of early stage infection/being infected in the 12 months prior to diagnosis: a sero-conversion illness or negative or indeterminate HIV test within 12 months of diagnosis, irrespective of CD4 or an AIDS defining illness at diagnosis.

<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.

**Table 2: Characteristics of Australian and overseas-born heterosexual people newly diagnosed 2019 vs the 2014-2018 average count, and the count difference**

Case characteristics	Australian-born			Overseas-born		
	2014-2018 average	2019	Count (%) diff.	2014-2018 average	2019	Count (%) diff.
<b>Number</b>	<b>23.2</b>	<b>22</b>	<b>-1.2 (-5%)</b>	<b>30.6</b>	<b>33</b>	<b>+2.4 (+8%)</b>
<b>Gender</b>						
<i>Female</i>	5.4	3	-2.4 (-44%)	16	16	0 (0%)
<i>Male</i>	17.8	19	+1.2 (+7%)	14.6	17	+2.4 (16%)
<b>Aboriginal or Torres Strait Islander person status</b>						
<i>Aboriginal or Torres Strait Islander person</i>	1.4	0	-1.4 (-100%)	-	-	-
<i>Non-Aboriginal person</i>	21.8	21	-0.8 (-4%)	-	-	-
<i>Not stated or unknown</i>	0	1	+1 (+100%)	-	-	-
<b>Age at diagnosis</b>						
<i>0 to 19</i>	0.2	0	-0.2 (-100%)	0.2	0	-0.2 (-100%)
<i>20 to 29</i>	3	2	-1 (-33%)	7	5	-2 (-29%)
<i>30 to 39</i>	4.6	6	+1.4 (+30%)	11.6	12	+0.4 (+3%)
<i>40 to 49</i>	5.6	5	-0.6 (-11%)	5.8	7	+1.2 (+21%)
<i>50 and over</i>	9.8	9	-0.8 (-8%)	6	9	+3 (+50%)
<b>Evidence of early stage infection</b>						
<i>Yes</i>	6.4	4	-2.4 (-38%)	4.6	5	+0.4 (+9%)
<i>No</i>	16.8	18	+1.2 (+7%)	26	28	+2 (+8%)
<b>Evidence of late diagnosis</b>						
<i>Yes</i>	11	10	-1 (-9%)	14.8	17	+2.2 (+15%)
<i>No</i>	11.8	12	+0.2 (+2%)	14.6	16	+1.4 (+10%)
<i>Unknown</i>	0.4	0	-0.4 (-100%)	1.2	0	-1.2 (-100%)
<b>Place most likely acquired HIV</b>						
<i>Australia</i>	8.4	11	+2.6 (+31%)	7.8	5	-2.8 (-36%)
<i>Overseas</i>	14	6	-8 (-57%)	21.2	19	-2.2 (-10%)
<i>Unknown</i>	0.8	5	+4.2 (+525%)	1.6	9	+7.4 (+463%)

Figure 14a: New diagnoses 2014 to 2019 of MSM with evidence of early stage infection by place born and place most likely acquired HIV (overseas-born stratified by years living in Australia)



Of 88 Australian-born MSM newly diagnosed in 2019:

- Sixty-nine (78%) of these Australian-born MSM likely acquired HIV in Australia, 35% less than the 2014-2018 average of 105.6, and seven (8%) likely acquired HIV overseas, 59% less than in the comparison period (av. n=17.2). Twelve were unknown.
- Of the 69 who acquired HIV in Australia, 38 (55%) had evidence of early stage infection, 30% less than the 2014-2018 average of 54.0 (Figure 14a). Fifteen (22%) had evidence of late diagnosis, 36% less than the 2014-2018 average of 23.4 (Figure 14b).
- Of 7 who likely acquired HIV overseas four (57%) had evidence of early stage infection (Figure 14b), 57% less than in the comparison period (av.n=9.2). One (14%) had evidence of late diagnosis, 75% less than the 2014-2018 average of 4.0 (Figure 14b).

Of 127 overseas-born MSM newly diagnosed in 2019:

- Sixty-one (48%) of these overseas-born MSM likely acquired HIV in Australia, 11% less than the average for 2014-2018 (av. n=68.6), and 49 (39%) likely acquired HIV overseas, 5% more than the comparison period (av. n=46.8). Seventeen were unknown
- Of the 61 who acquired HIV in Australia, 28 (46%) had evidence of early stage infection, 21% less than the 2014-2018 average of 35.4 (Figure 14a). Nineteen (31%) had evidence of late diagnosis 19% more than the 2014-2018 average of 16.0 (Figure 14b).
- Of 49 who likely acquired HIV overseas eight (16%) had evidence of early stage infection (Figure 14b), 49% less than in the comparison period (av.n=15.8). Twenty-eight (57%) had evidence of late diagnosis, 31% more than the 2014-2018 average of 21.4 (Figure 14b).
- For those diagnosed late, the majority (68%) who likely acquired HIV in Australia had lived here for more than four years, while 85% of those who likely acquired HIV overseas had lived here for four years or less (Figure 14b).

**Figure 14b: New diagnoses 2014 to 2019 of MSM with evidence of late diagnosis by place born and place most likely acquired HIV (overseas-born stratified by years living in Australia)**

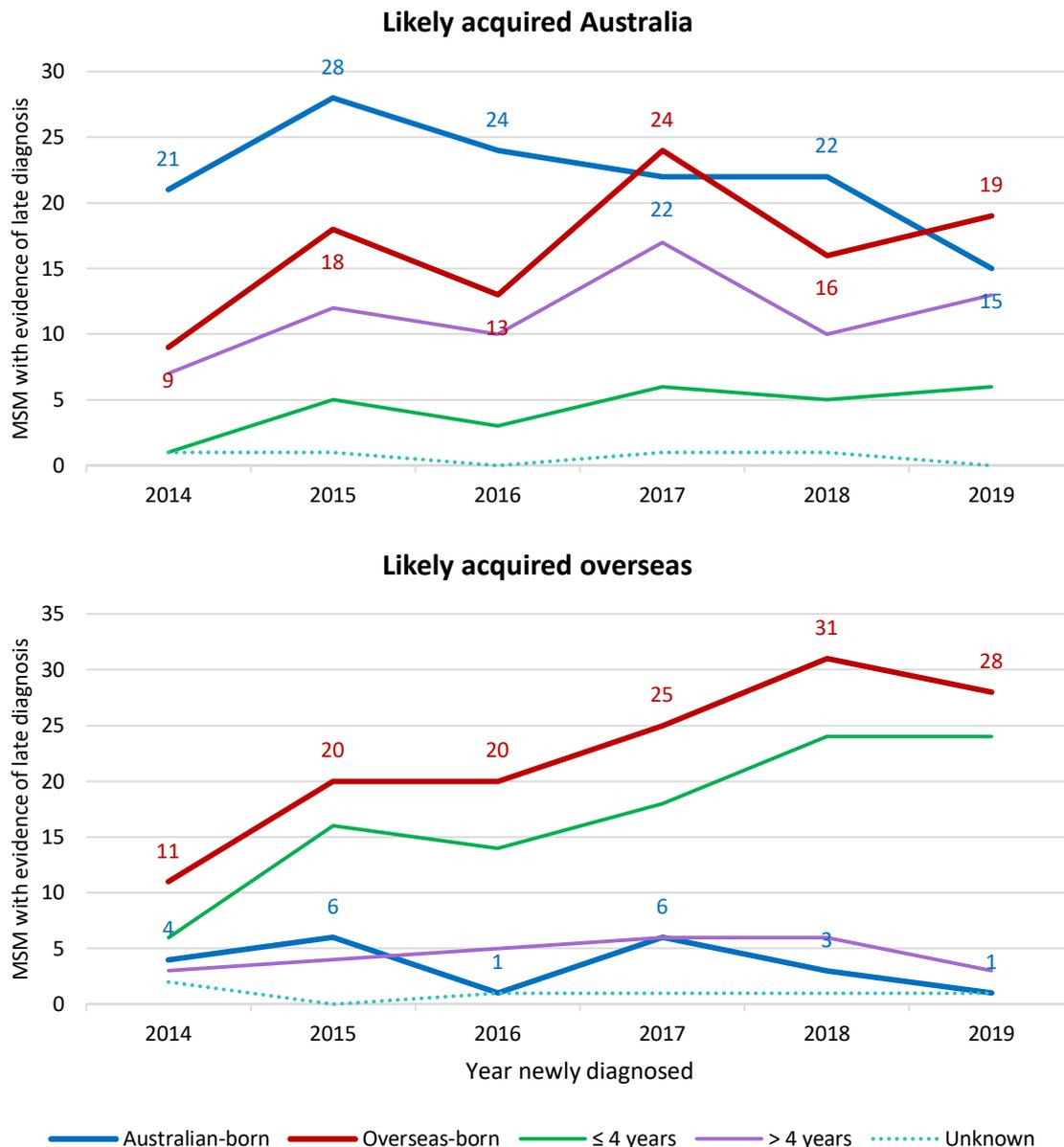
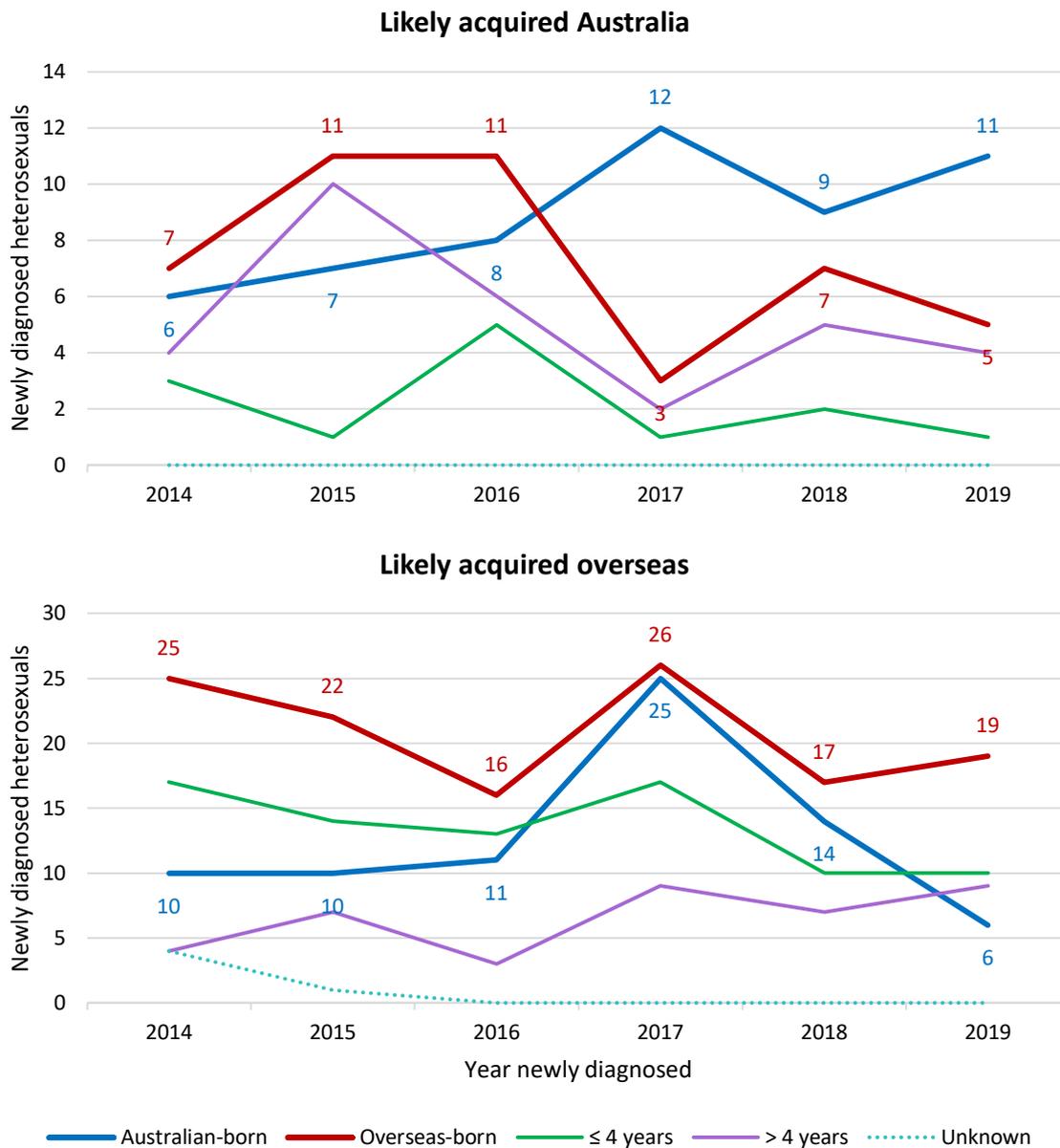


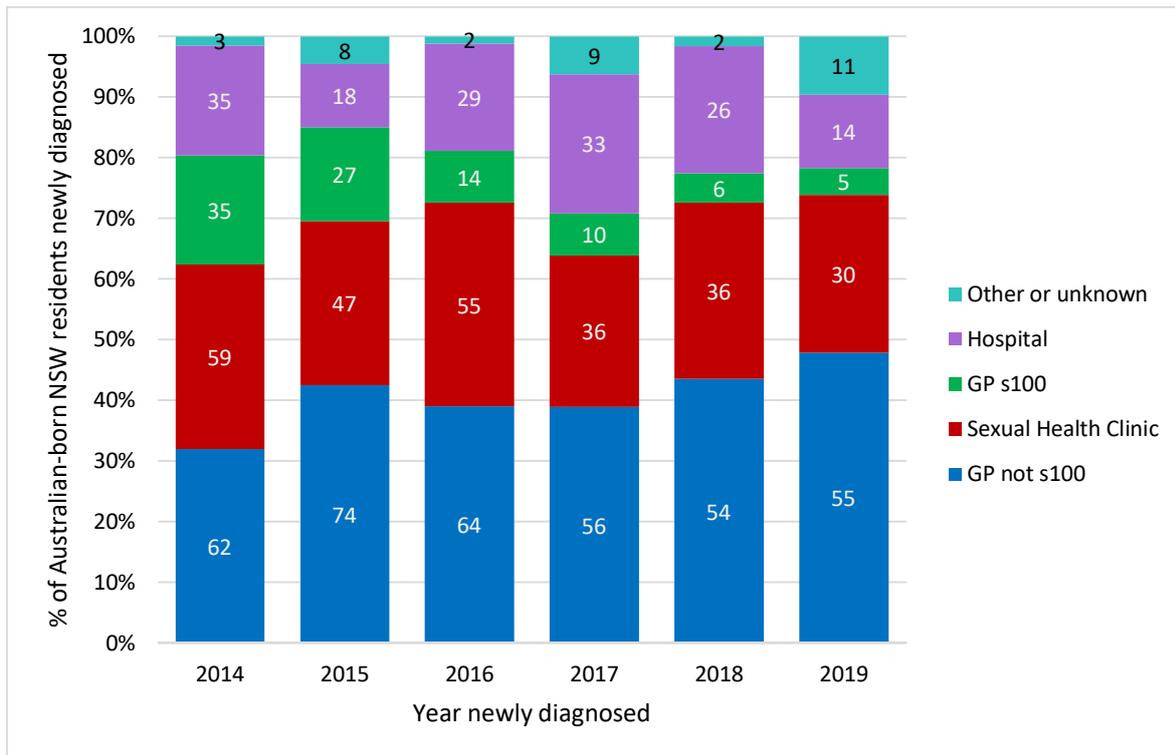
Figure 15: New diagnoses 2014 to 2019 of heterosexual people by place born and place most likely acquired HIV (overseas-born stratified by years living in Australia)



Of 55 heterosexual people newly diagnosed in 2019 (Figure 15):

- Twenty-two were Australian-born, a 5% decrease compared to the average of 23.2 for 2014-2018. Eleven likely acquired HIV in Australia, 31% more than the 2014-2018 average of 8.4, and six likely acquired HIV overseas, 57% less than in the comparison period (av. n=14.0). Five were unknown.
- Thirty-three were born overseas, 8% more than the average of 30.6 for 2014-2018. Five likely acquired HIV in Australia, 36% less than the 2014-2018 average of 7.8, and 19 likely acquired HIV overseas, 10% less than in the comparison period (av. n=21.2). Nine were unknown.

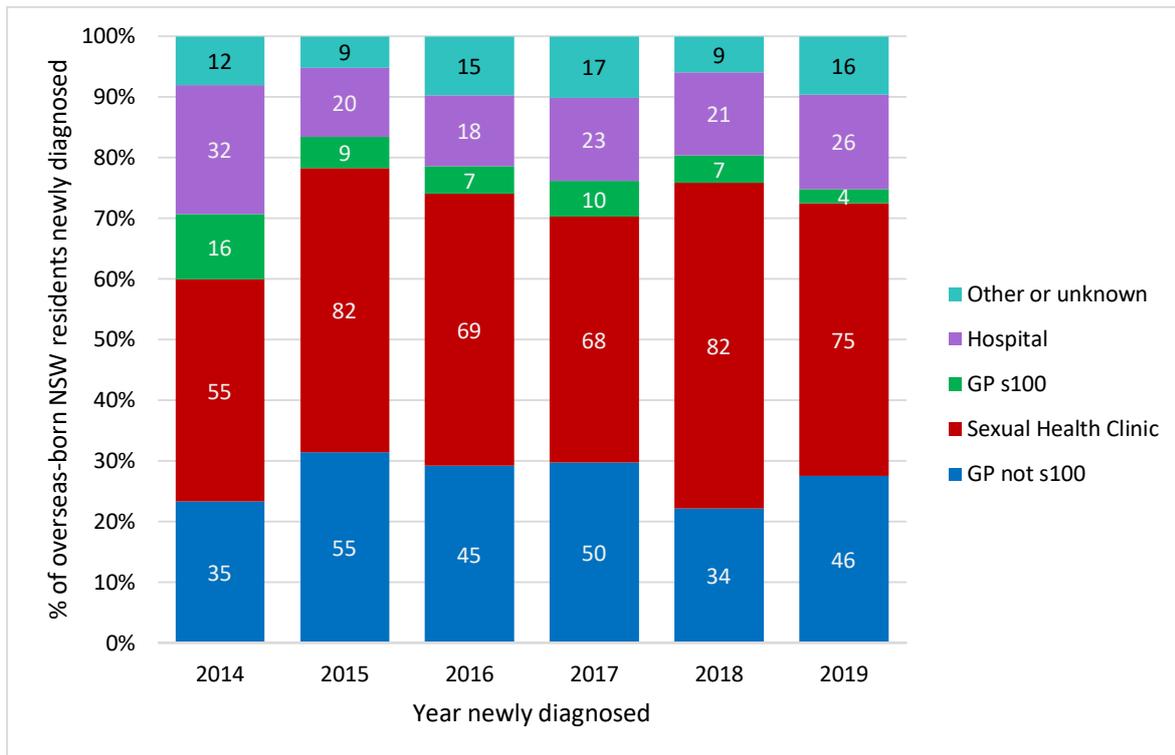
Figure 16a: Per cent of Australian-born new diagnoses 2014 to 2019 by type of diagnosing doctor



Of 115 Australian-born NSW residents with newly diagnosed HIV infection in 2019 (Figure 16a):

- Fifty-five (48%) were diagnosed by general practitioners (GPs) not accredited to prescribe antiretroviral therapy (GP not-s100), 11% less than the comparison period (av. n=62.0);
- Thirty (26%) were diagnosed by sexual health centres including community testing sites, 36% less than the 2014-2018 average (av. n=46.6);
- Fourteen (12%) were diagnosed by hospital doctors, 50% less than the comparison period (av. n=28.2);
- Five (4%) were diagnosed by GP s100 doctors (HIV specialised and accredited to prescribe ART), 73% less than 18.4, the average for 2014-2018, and;
- Eleven (10%) were diagnosed by another doctor type, 129% more than the average for 2014-2018 (av. n=4.8).

Figure 16b: Per cent of overseas-born new diagnoses 2014 to 2019 by type of diagnosing doctor



Of 167 overseas-born NSW residents with newly diagnosed HIV infection in 2019 (Figure 16b):

- Forty-six (28%) were diagnosed by non s100 GPs, 5% more than the comparison period (av. n=43.8);
- Seventy-five (45%) were diagnosed by sexual health centres including community testing sites, 5% more than the 2014-2018 average (av. n=71.2);
- Twenty-six (16%) were diagnosed by hospital doctors, 14% more than the comparison period (av. n=22.8);
- Four (2%) were diagnosed by a GP s100 doctor, 59% less than 9.8, the average for 2014-2018;
- Sixteen (10%) were diagnosed by other doctor types, 29% more than the average for 2014-2018 (av. n=12.4).

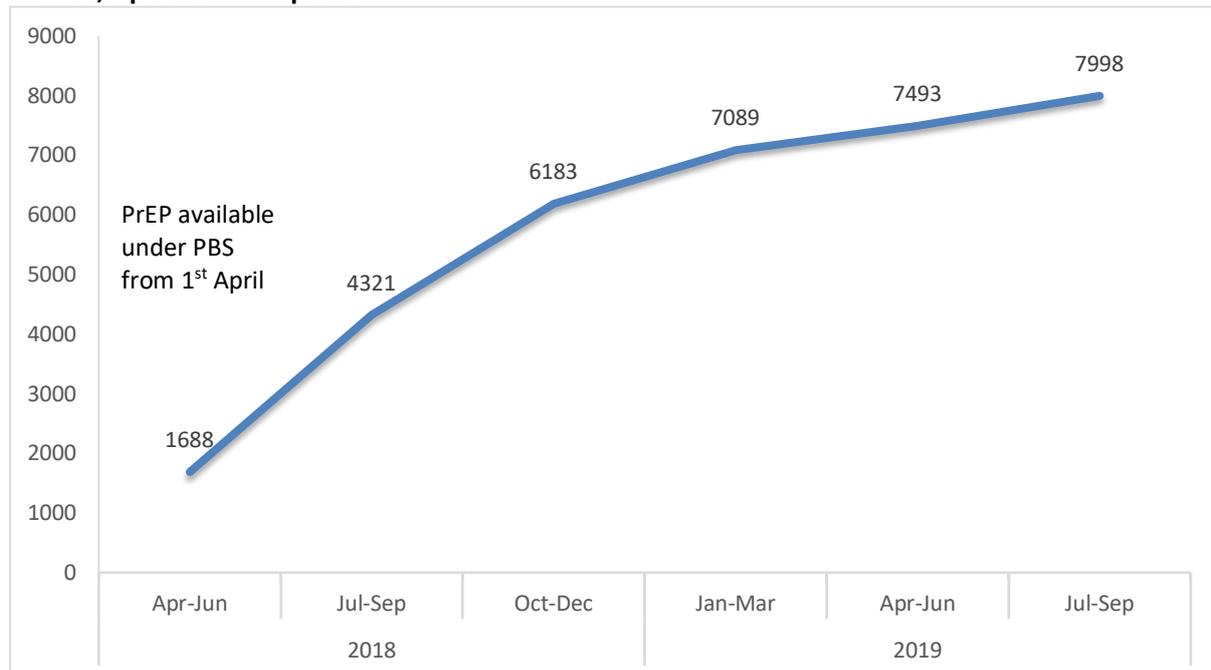
## 2. Expand HIV Prevention

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

Between 1 April 2018 and 30 September 2019:

- A total of 12,120 (unique number) NSW residents were dispensed PrEP at least once under the PBS for HIV prevention.
- Of the 12,120 residents on PrEP, 98.9% were male. The distribution among age groups included: 19 (0.2%) aged under 17 years old; 108 (0.9%) aged 18 and 19 years old; 3,067 (25.3 %) between 20 and 29; 4,114 (33.9%) between 30 and 39; 2,638 (21.8%) between 40 and 49; and 2,174 (17.9%) aged older than 50 years old.
- Among those who initiated PrEP, 76.4% were prescribed by GP; 99.5% were dispensed by a community pharmacy.
- A total of 133 (1.1%) NSW residents were eligible and prescribed under the Closing the Gap (CTG) program.

**Figure 17 Quarterly number of unique clients dispensed PrEP through the Pharmaceutical Benefits Service, Apr 2018 to Sep 2019**



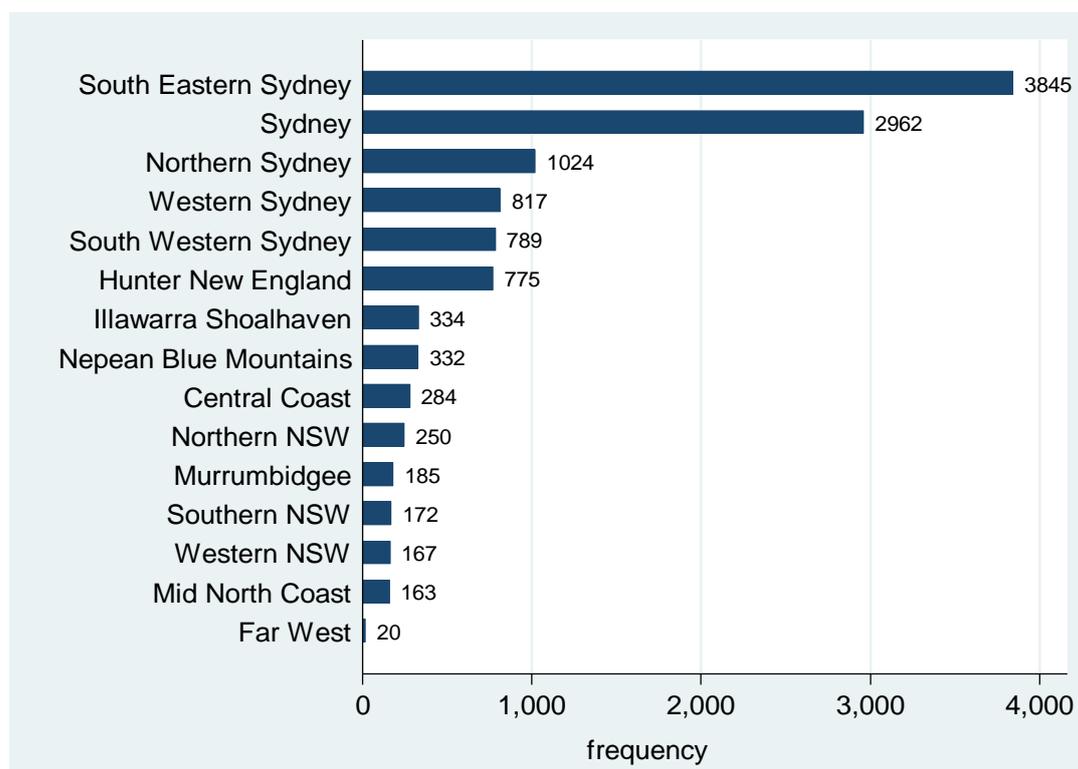
Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme (PBS) data from April 2018 to September 2019.

Note: The number of unique clients dispensed each quarter may add to a figure greater than the overall unique patients as some clients may come back in the next quarter for prescription to continue the treatment.

#### Comments on Figure 17

- From April 2018 to September 2019, the quarterly number of unique NSW residents prescribed PrEP under the PBS for HIV prevention increased steadily overtime.

**Figure 18: Number of NSW residents dispensed PrEP by LHDs of patient residence from 1 April 2018 to 30 September 2019<sup>1</sup>**



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme (PBS) data from April 2018 to September 2019.

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 18

In April 2018 to September 2019:

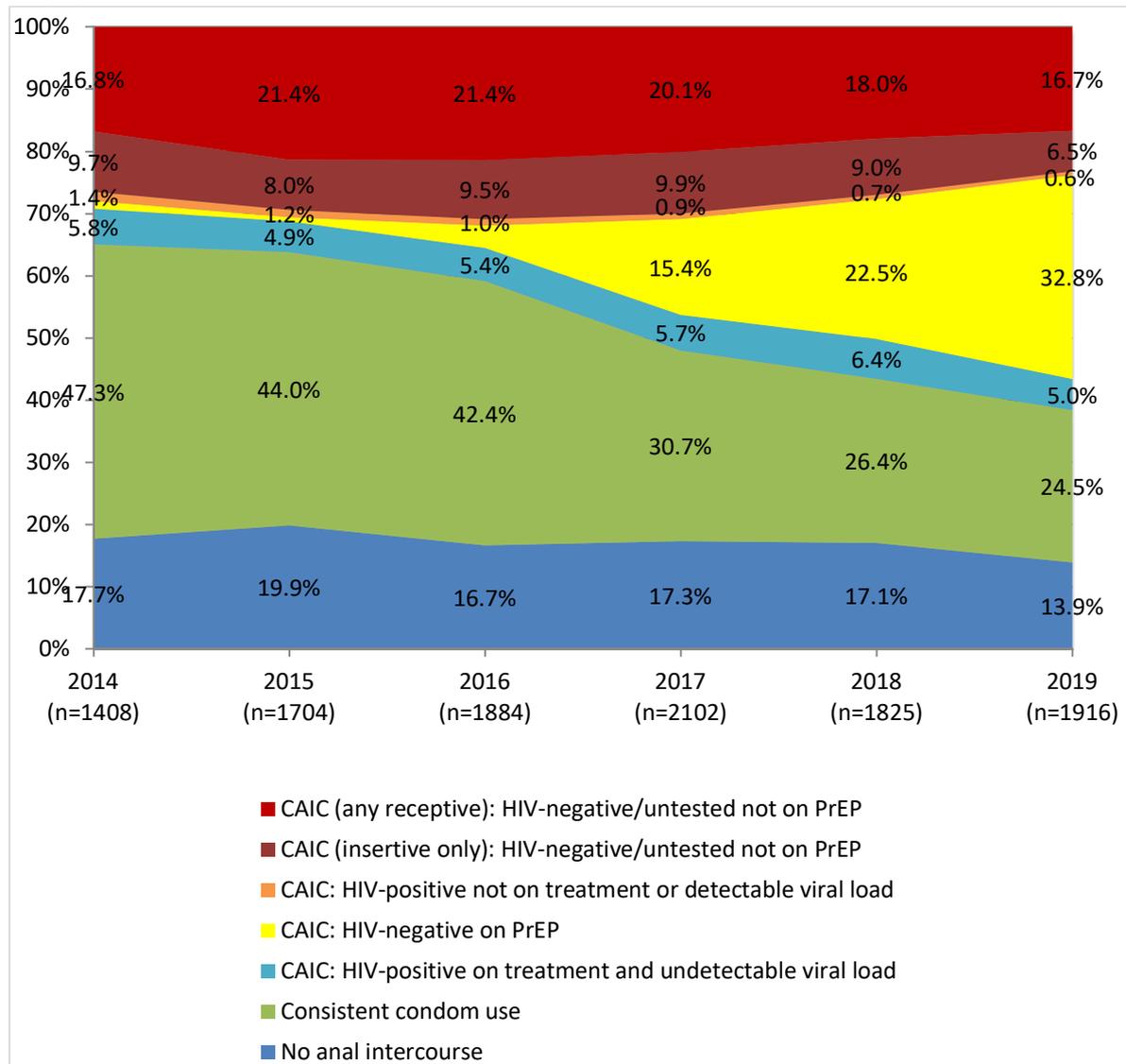
- Almost 85% of people dispensed PrEP under the PBS in NSW were residents of South Eastern Sydney (31.7%) and Sydney LHDs (24.4%), followed by Northern Sydney (8.5%), Western Sydney (6.7%), South Western Sydney (6.5%) and Hunter New England (6.4%).

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

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

<sup>1</sup> PrEP was available under the PBS from April 2018.

**Figure 19: Proportion of gay and bisexual men with casual partners reporting consistent condom use, biomedical prevention and any condomless anal intercourse in the previous six months, 2014 to 2019**



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

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

**Comment on Figure 19**

- The SGCPs data show a rapid increase in PrEP use, particularly from 2017 onwards. The proportion of gay men with casual male partners who reported PrEP use and condomless anal intercourse was 32.8% in 2019, compared to 15.4% in 2017.
- As PrEP use has increased, consistent condom use has fallen. In 2019, 24.5% of gay men with casual partners reported consistent condom use, compared to 47.3% in 2014.

- The proportion of gay men with casual partners who reported being HIV-positive, on treatment and having an undetectable viral load and who reported condomless anal intercourse has remained relatively stable between 2014 and 2019 at around 5-6%.
- The proportion of HIV-positive men who reported not being on treatment or having a detectable viral load and who reported CAIC decreased to 0.6% of men with casual partners in 2019, compared to 1.4% in 2014.
- In 2019, the proportion of gay men with casual partners who were HIV-negative or untested, not on PrEP and who reported any CAIC (insertive or receptive) decreased to 23.2%, compared to 26.5% in 2017. This suggests the proportion of gay men who are susceptible to HIV infection has decreased in Sydney as PrEP use has progressed.
- ‘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 over the last few years, from 68.1% in 2016 to 76.2% in 2019.

### 2.3 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.

### 2.4 How accessible is the Needle and Syringe Program in NSW?

From January to December 2019,

- 13,567,434 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 Eastern Sydney, South Western Sydney and Western Sydney.

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

- In 2019, 20% of respondents reported receptive syringe sharing in the previous month (NSW Needle and Syringe Program Enhanced Data Collection, 2019)<sup>2</sup>.

<sup>2</sup> Geddes, L, Iversen J, and Maher L. NSW Needle and Syringe Program Enhanced Data Collection Report 2019, The Kirby Institute, UNSW Australia, Sydney 2019.

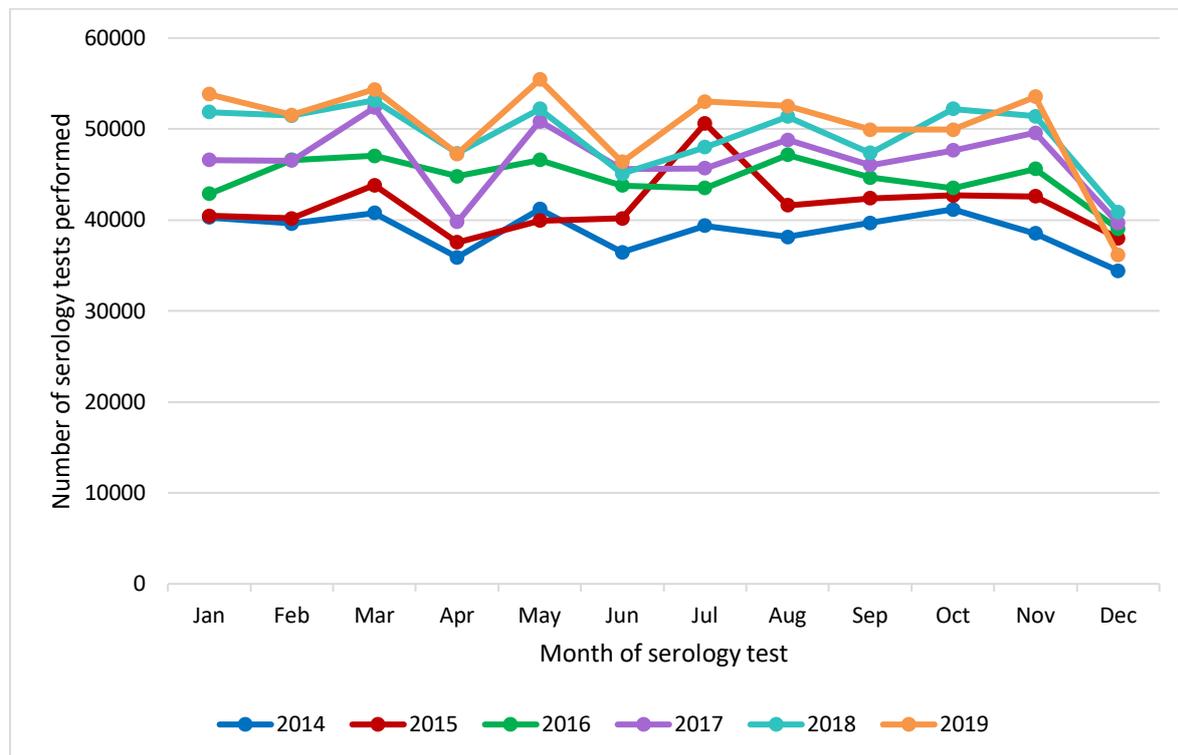
### 3. Increase HIV testing frequency

#### 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 20: Number of HIV serology tests performed in 15 NSW laboratories, 2014 to 2019**



Data source: NSW Health denominator data project, out 18 February 2020.

##### Comments on Figure 20

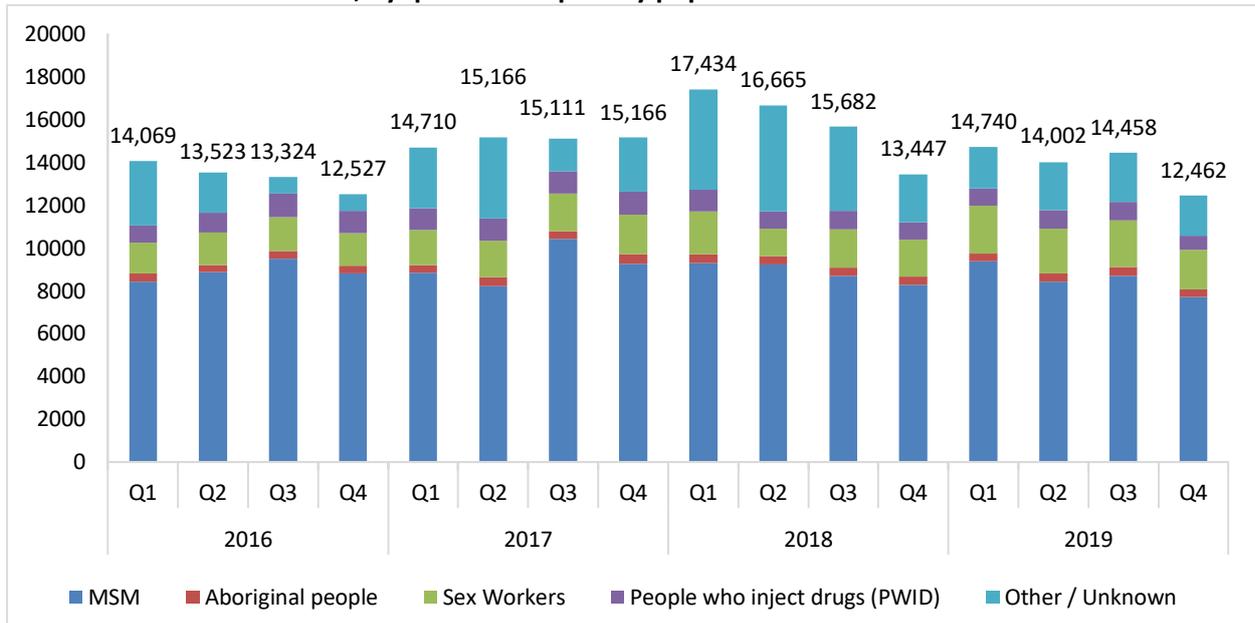
In October to December (Q4) 2019:

- 139,580 HIV serology tests were performed in 15 laboratories in NSW, which was 3% less than Q4 2018 (n=144,460), 2% more than Q4 2018 (n=136,848), 9% more than Q4 2016 (n=128,140), 13% more than Q4 2015 (n=123,295), and 22% more than Q4 2014 (n=114,100).

In 2019:

- 603,824 HIV serology tests were performed in 15 laboratories in NSW, which was 2% more than in 2018 (n=592,318), 8% more than 2017 (n=559,010), 13% more than 2016 (n=535,096), 21% more than 2015 (n=499,966), and 30% more than 2014 (n=465,475).

**Figure 21: Number of HIV tests performed in public sexual health clinics in NSW between 1 January 2016 and 31 December 2019, by quarter and priority population**



Data source: NSW Health HIV Strategy Monitoring Database

Notes: patients have been classified as other/unknown where priority population data is not available. Includes data from St Vincent’s Hospital.

Comments on Figure 21

In October to December 2019:

- 7,709 of 12,462 (62%) of HIV tests in PFSHCs were done by MSM.

**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 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 3: Recruitment data for the NSW DBS Self-Sampling HIV and HCV Testing Pilot, November 2016 to December 2019**

Recruitment indicators	Q4 2019 (Oct - Dec)	Total (Nov 2016 - Dec 2019)
Number of registrations for HIV DBS test	1,181	5,895
Number (%) of people who registered for a HIV DBS kit who had never tested before or had tested over 2 years ago	601/1181 (51%)	2687/5895 (46%)
Proportion of returned HIV DBS kits	-	4609/5895 (78%)
Number (%) of reactive HIV tests*	1	9/4609 (0.2%)

Data Source: NSW Dried Blood Spot Research database.

\*Participants with known HIV positive status when accessing DBS testing removed from total.

**Comments on Table 3**

In October to December 2019:

- 601 of 1,181 people who registered for an HIV DBS test had never previously tested for HIV or had tested more than 2 years ago (51%).
  - Of these, 458 (76%) were Australian born and 143 (24%) were overseas born.
- 945 HIV DBS tests were done.
- There was one positive HIV test, and this person is linked into care.

In November 2016 to December 2019:

- 2,687 of 5,895 (46 per cent) people who registered for an HIV DBS test had never previously tested for HIV or had tested more than 2 years ago.
  - Of these 1,937 (72 per cent) were Australian-born and 750 (28 per cent) were overseas-born
- 4,609 HIV tests were done (78 per cent return rate)
- The positivity rate of returned HIV test kits is 0.2 per cent (removing known positives)

**Table 4: Number of HIV tests done per eligibility criteria\* for the NSW DBS Self-Sampling HIV and HCV Testing Pilot, November 2016 to December 2019**

Target population	Q4 2019 (Oct - Dec)	Total (Nov 2016 – Dec 2019)
MSM	145 (15%)	1400 (30%)
From high prevalence country	44 (5%)	555 (12%)
Partners from Asia/Africa	146 (15%)	992 (22%)
Aboriginal people**	290 (31%)	1206 (26%)
Ever injected drugs**	544 (58%)	2695 (58%)

- 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.

**Comment on Table 4**

In October to December 2019:

- Of 945 HIV DBS tests, 145 (15%) were done by MSM.
  - Of these, 102 (70%) were Australian-born MSM and 43 (30%) were overseas-born MSM.
- 5% of HIV DBS tests were done by people from high prevalence countries.
- 15% of HIV DBS tests were done by people who had partners from Asia/Africa.
- 31% of HIV DBS tests were done by Aboriginal people and 58% of tests were done by people who had ever injected drugs.

In November 2016 to December 2019:

- Of 4,609 HIV DBS tests, 1,400 (30%) were done by MSM.
  - Of these, 991 (71%) were Australian-born MSM and 409 (29%) were overseas-born MSM.
- 12% of DBS tests were done by people from high prevalence countries.
- 22% of DBS tests were done by people who had partners from Asia/Africa.
- 26% of HIV DBS tests were done by Aboriginal people and 58% of tests were done by people who had ever injected drugs.

**Table 5: HIV Registrations for the NSW DBS Self-Sampling HIV and HCV Testing Pilot per LHD of participant from November 2016 to December 2019, and number of HIV tests done (kits returned) in Q4 2019**

LHD	Total number of HIV DBS registrations (Nov 2016 - Dec 2019)	Number of HIV DBS registrations in Q4 2019 (Oct - Dec)	Number of HIV DBS tests done in Q4 2019 (Oct - Dec)
Central Coast	91	7	3
Far West	49	7	4
Hunter New England	382	28	16
Illawarra Shoalhaven	201	34	28
Justice Health	2065	616	581
Mid North Coast	93	14	3
Murrumbidgee	127	13	5
Nepean Blue Mountains	129	39	29
Northern NSW	74	7	2
Northern Sydney	328	47	25
South Eastern Sydney*	931	112	85
Southern NSW	56	8	2
South Western Sydney	281	44	29
Sydney	673	119	80
Western NSW	112	25	19
Western Sydney	254	46	29

Data Source: NSW Dried Blood Spot Research database based on client postcode

\*South Eastern Sydney LHD reporting no longer includes Justice Health data. Some registrations and tests are received after the data collection period.

#### Comment on Table 5:

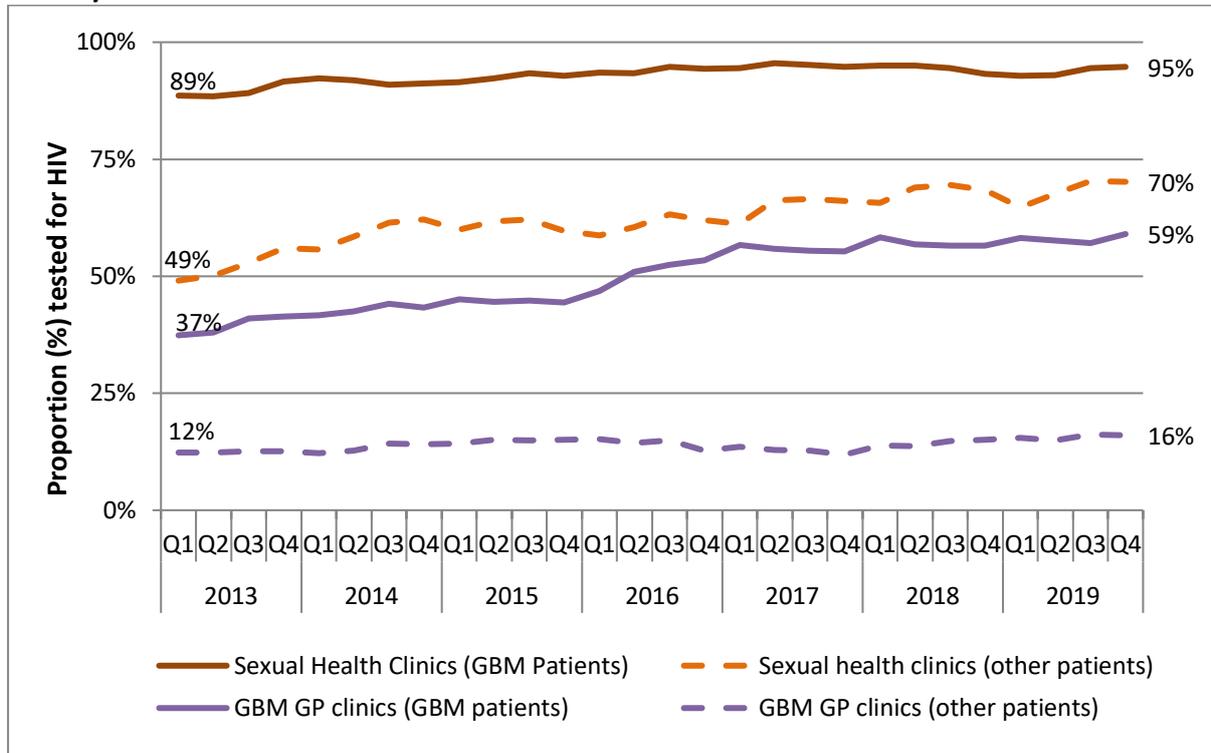
In October to December 2019:

- The highest number of HIV DBS tests were done by NSW residents in Justice Health, South Eastern Sydney, Sydney LHDs, followed by Western Sydney, South Western Sydney, Illawarra Shoalhaven and Northern Sydney LHDs.

### 3.2 What are the HIV testing patterns in NSW?

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

**Figure 22: Proportion of patients<sup>3</sup> attending PFSHCs and GBM GP clinics<sup>4</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 31 December 2019<sup>5</sup>**



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

#### Comments on Figure 22

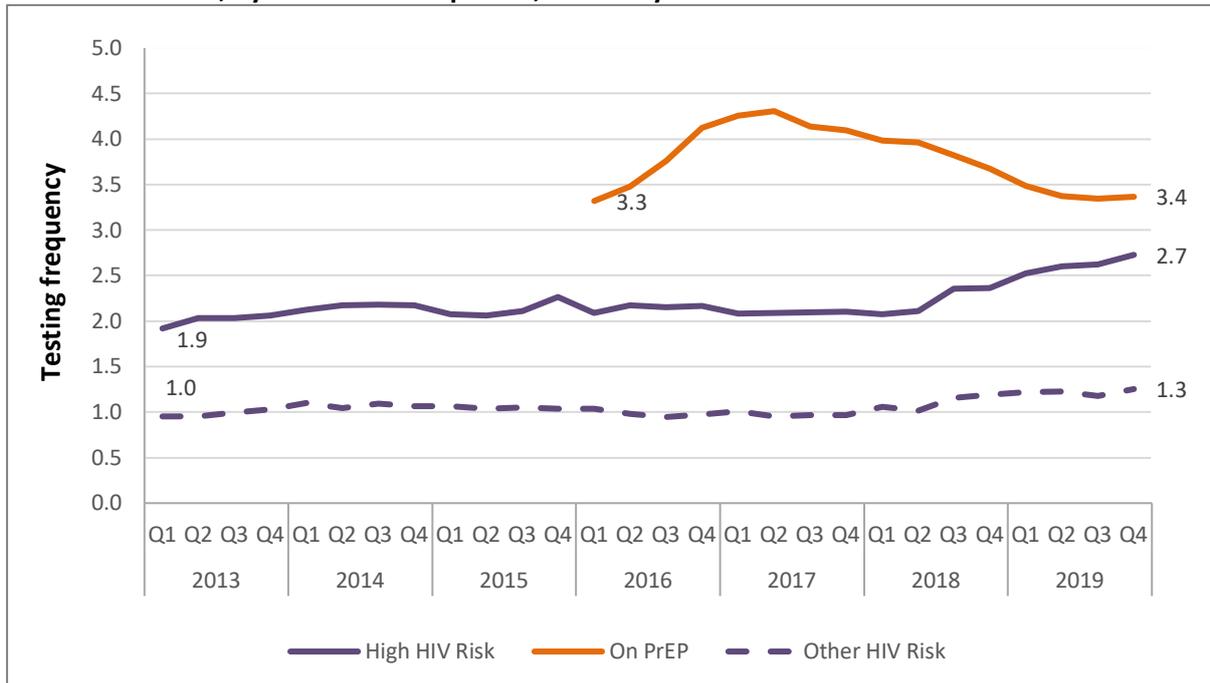
- HIV testing uptake among GBM attending PFSHCs remained consistently high in the fourth quarter of 2019 (95%).
- Testing uptake increased over time among other patients attending PFSHCs, rising from 49% in Q1 of 2013 to 70% in Q4 of 2019.
- Testing uptake also increased among GBM attending GBM GP clinics (from 37% in Q1 of 2013 to 59% in Q4 of 2019).
- Testing amongst other patients attending GBM GP clinics stayed relatively consistent from 2013 to Q4 2019.

<sup>3</sup> Excludes patients known to be HIV positive

<sup>4</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually;

<sup>5</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 23: Average number of annual HIV tests among GBM patients<sup>6</sup> attending any clinic in the ACCESS network<sup>7</sup>, by HIV risk<sup>8</sup> and quarter, 1 January 2013 to 31 December 2019**



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

**Comment on Figure 23**

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

- **High risk:** assigned to men not on PrEP who, on the basis of a hierarchical decision tree, had a history of a rectal STI in the 24 months prior, or over the past 12 months evidence of inconsistent condom use, 20 or more partners, or evidence of injecting drug use
- **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 2.7 tests on average at the end of Q4 2019. Testing increased from 1.0 to 1.3 among men of other risk profiles from Q1 2013 to Q4 2019.

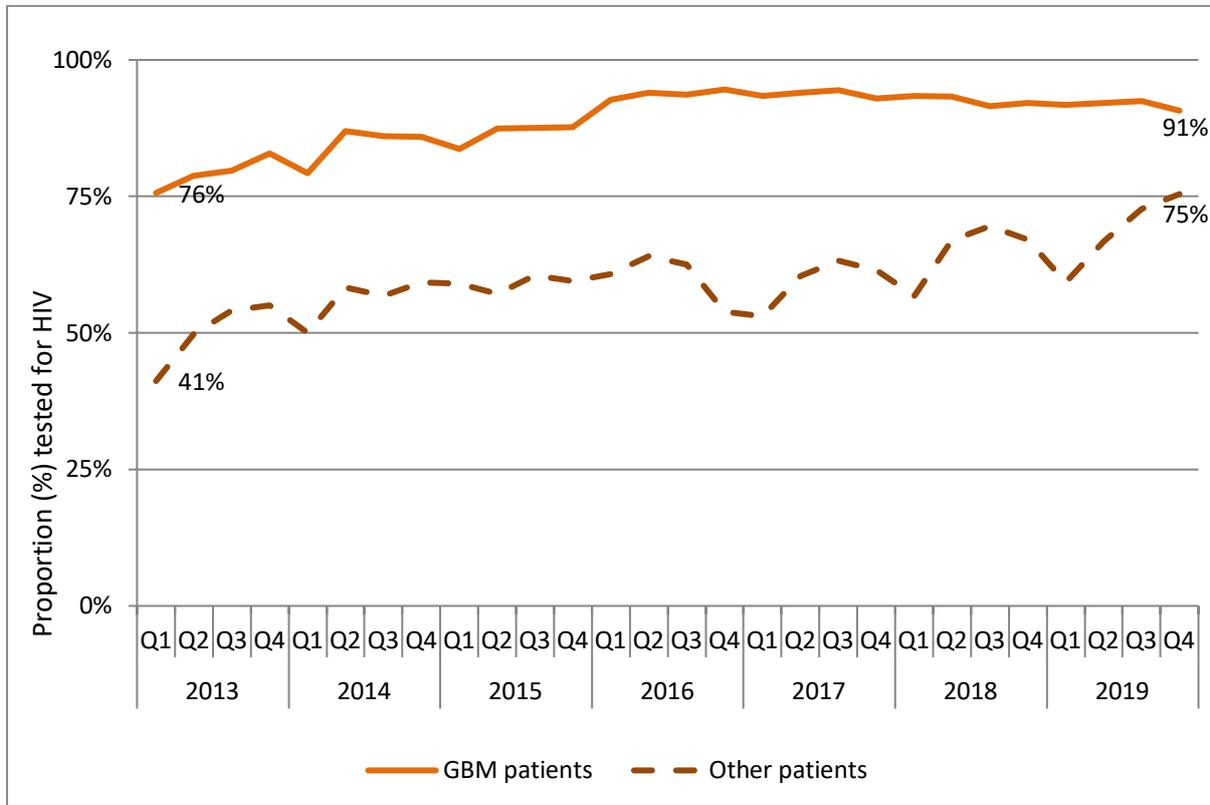
Men identified within ACCESS as having a reason for visit as “PrEP” and/or had evidence of a PrEP script were considered ‘low risk’ for HIV.

<sup>6</sup>Excludes patients known to be HIV positive

<sup>7</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually

<sup>8</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 24: Proportion of patients<sup>9</sup> attending PFSHCs and GBM GP clinics<sup>10</sup> combined who received an HIV test at any clinic in the ACCESS network in conjunction with an STI diagnosis<sup>11</sup>, by GBM status and quarter, 1 January 2013 to 31 December 2019**



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

**Comment on Figure 24**

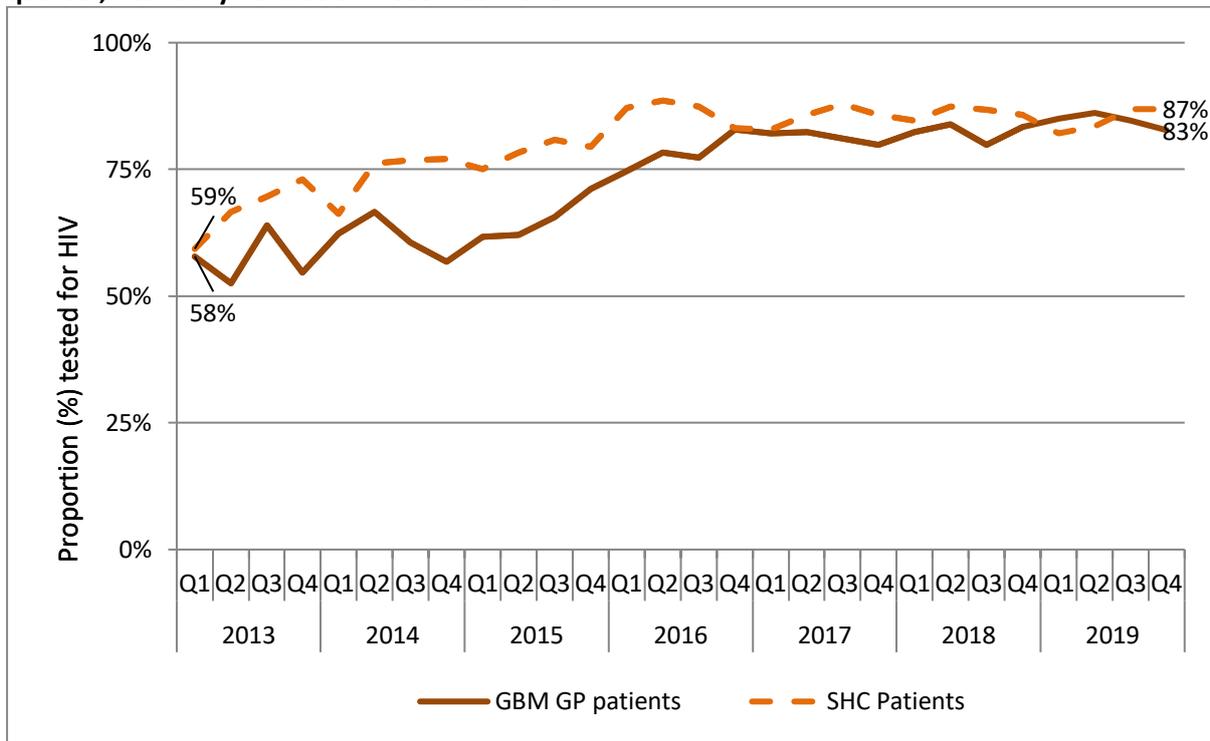
- The proportion of GBM who received an HIV test in conjunction with an STI diagnosis increased over time from 76% in early 2013 to 91% in Q4 of 2019.
- Testing in conjunction with STI diagnoses was less common overall among other patients but also increased during this period (41% to 75%).

<sup>9</sup> Excludes patients known to be HIV positive

<sup>10</sup> GBM GP clinics defined as general practice clinics serving at least 50 GBM patients annually

<sup>11</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

**Figure 25: Proportion of patients<sup>12</sup> attending PFSHCs and GBM GP clinics<sup>13</sup> who received an HIV test at any clinic in the ACCESS network in conjunction with an STI diagnosis<sup>14</sup>, by service type and quarter, 1 January 2013 to 31 December 2019**



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

Comment on Figure 25

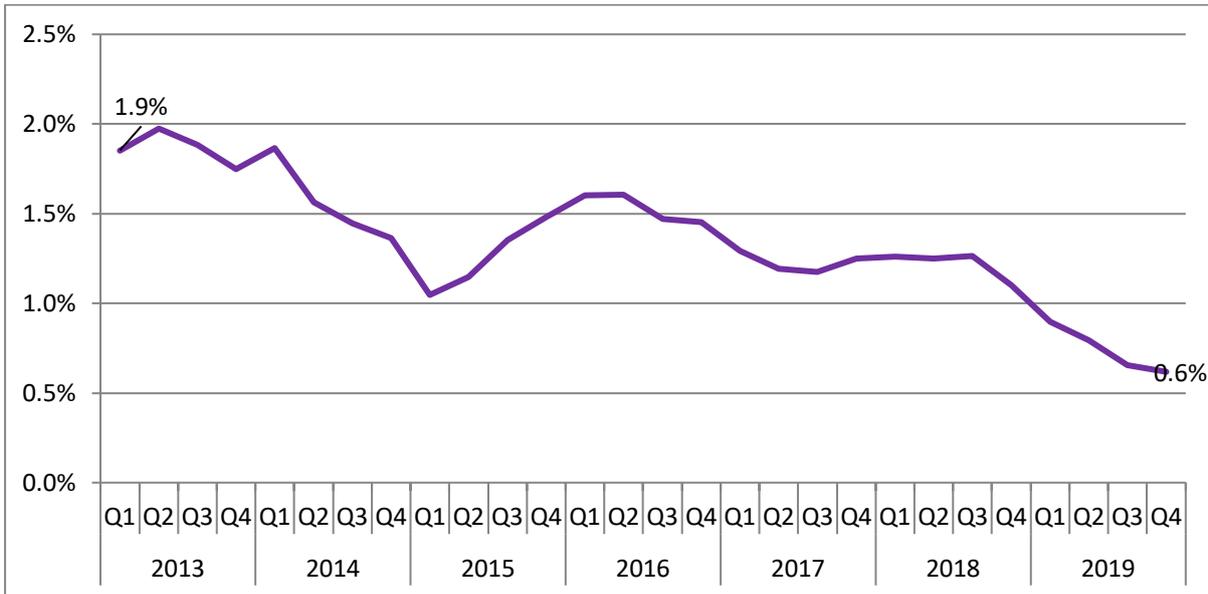
- Testing in conjunction with STI diagnosis was highest in PFSHCs, increasing from 59% in Q1 2013 to 87% at the end of Q4 2019.
- GBM GP clinics also saw an increase in the proportion of patients tested from 58% in Q1 of 2013 to 83% at the end of Q4 2019.

<sup>12</sup> Excludes patients known to be HIV positive

<sup>13</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually

<sup>14</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

**Figure 26: Proportion of individual GBM patients<sup>15</sup> tested for HIV with a positive result (HIV positivity) at any clinic in the ACCESS network, by quarter, 1 January 2013 to 30 June 2019**



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

Comment on Figure 26

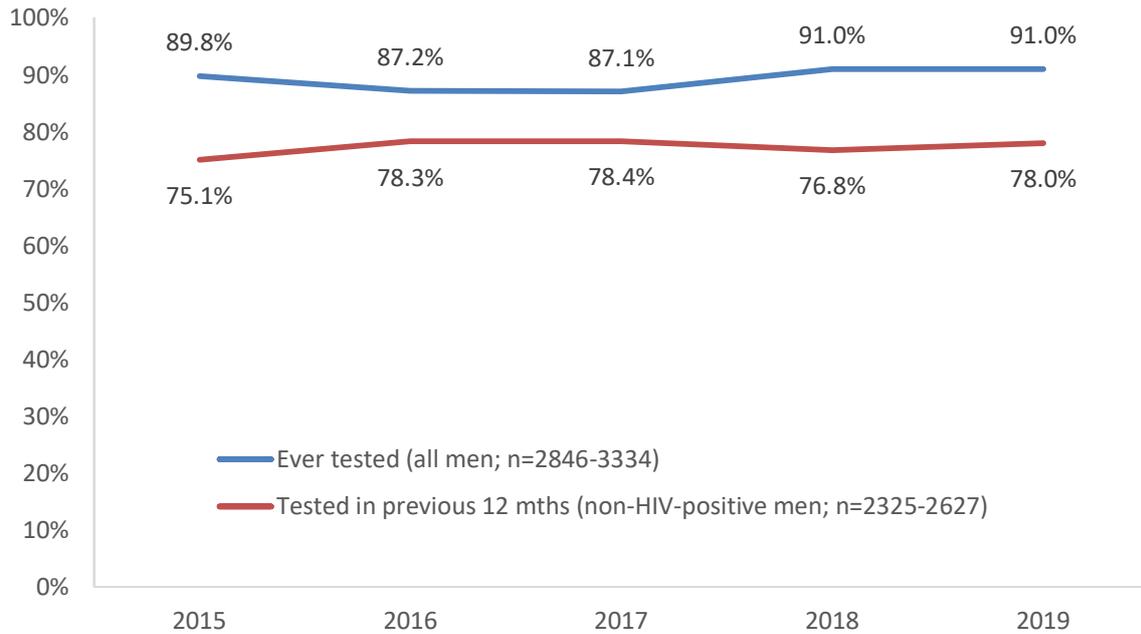
- Over time, HIV positivity among GBM attending PFSHCs and GBM GP clinics has decreased from 1.9% of Q1 2013 to 0.6% in Q4 2019.

<sup>15</sup> Excludes patients known to be HIV positive

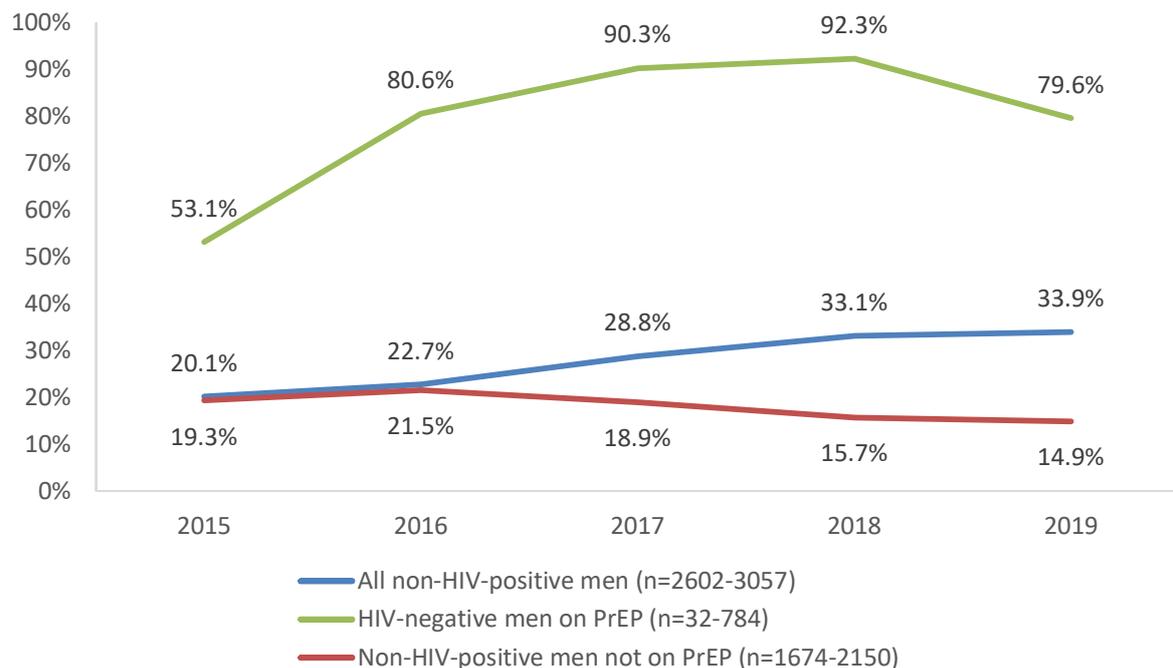
**Sydney Gay Community Periodic Survey - HIV testing**

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

**Figure 27: Lifetime HIV testing and testing in the previous 12 months; Sydney Gay Community Periodic Survey, 2015 to 2019**



**Figure 28: Non-HIV-positive gay and bisexual men reporting three or more HIV tests in the previous 12 months, stratified by PrEP use; Sydney Gay Community Periodic Survey, 2015 to 2019**



Comment on Figure 27 and Figure 28

- The SGCPs data show that lifetime testing (ever having been tested for HIV) and testing in the previous year are relatively stable, reported by ~90% and ~78% of gay men, respectively, during 2015-19.
- Higher frequency testing (three or more HIV tests per year) has increased among all non-HIV-positive men, from 20.1% in 2015 to 33.9% in 2019.
- Stratifying higher frequency testing by PrEP use shows that it has only increased among HIV-negative men on PrEP (from 53.1% in 2015 to 79.6% in 2019) and has decreased among non-HIV-positive men not using PrEP (from 19.3% in 2015 to 14.9% in 2019).

### 3.3 How is testing being made more accessible?

**Table 6: Number of rapid HIV tests in community based sites and proportion of clients with high risk behaviour and infrequent testing history in Oct-Dec 2019**

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*
<b>Community-based</b>						
aTEST Surry Hills	157	219	0.00%	12.99%	15.58%	16.02%
aTEST Oxford ST	830	1281	0.47%	4.41%	13.95%	21.06%
aTEST Kings Cross	92	92	0.00%	0.00%	0.00%	0.00%
aTEST Newtown	212	212	0.00%	40.57%	9.91%	23.30%

Data sources: NSW Health HIV Strategy Monitoring Database<sup>17</sup>

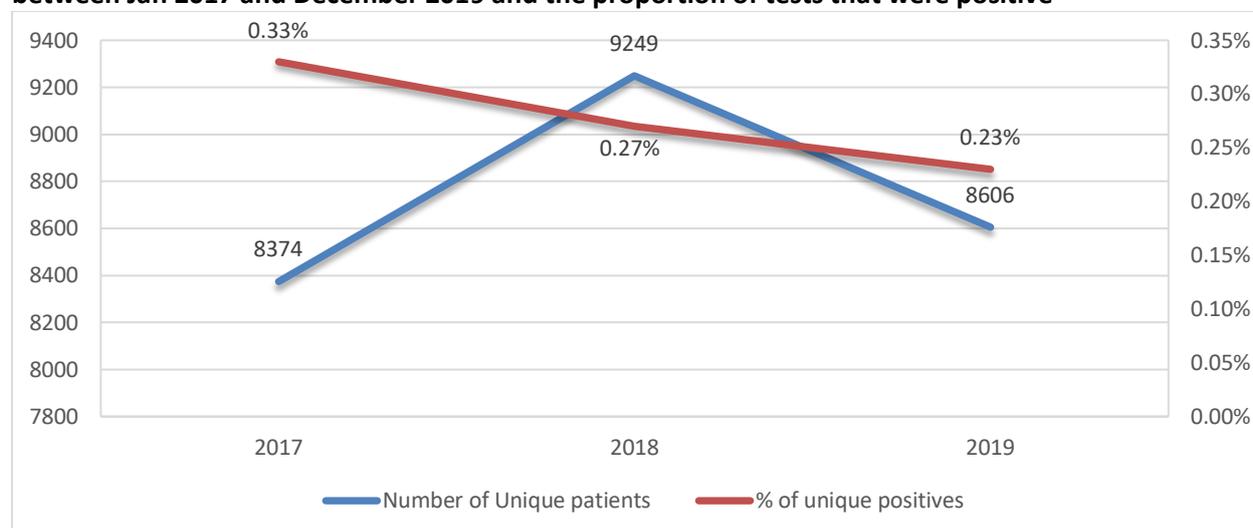
Note: In Oct-Dec 2019, the total number of unique patients at aTest Surry Hills is 227; and at aTest Oxford St is 1,545. Some patients at these sites have an HIV antibody test without a rapid test, which accounts for the additional HIV antibody tests above.

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

Note: Clients' risk behaviour and infrequent testing history is calculated by: total occasions of service at Surry Hills (n=231) and Oxford St (n=1,677); 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.

**Figure 29: The number of unique patients who had a rapid HIV test at a community based site between Jan 2017 and December 2019 and the proportion of tests that were positive**



Data sources: NSW Health HIV Strategy Monitoring Database<sup>16</sup>

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 Surry Hills and Oxford St aTest sites.

#### Comments on Table 6 and Figure 29

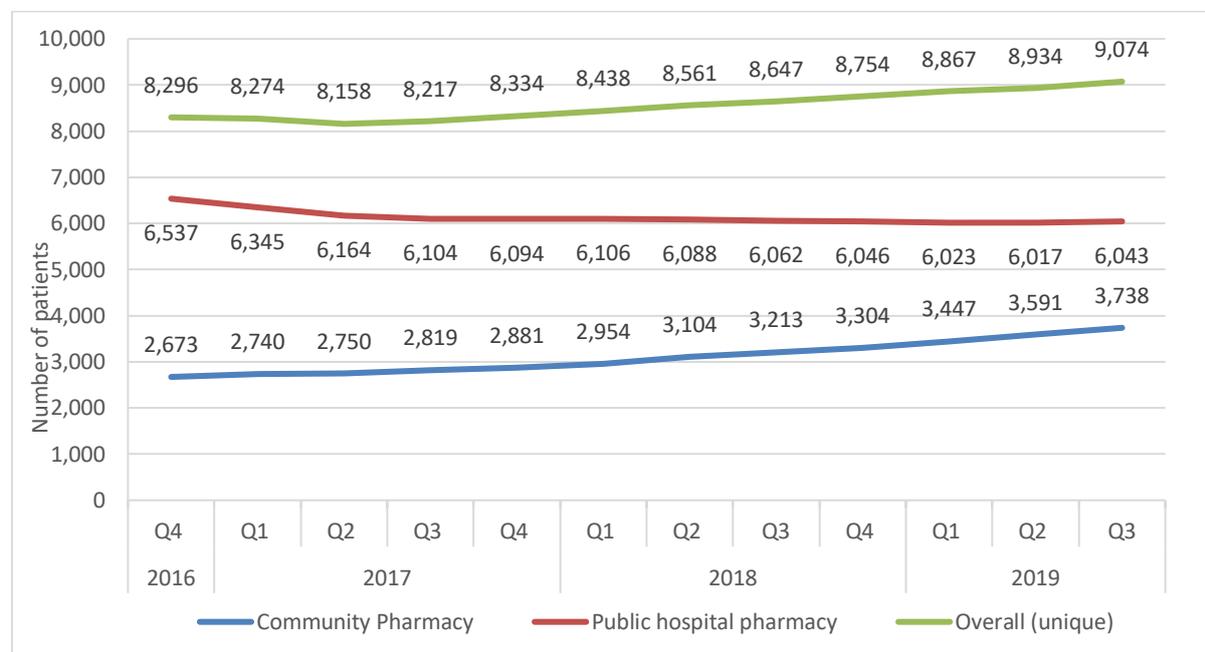
- NSW data suggests community-based testing sites are an effective testing model for engaging GBM with high risk behaviour and infrequent testing history. Rapid HIV testing has been effectively embedded into the mix of the testing options in NSW.

<sup>16</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.

## 4. Increase HIV Treatment

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

**Figure 30: The number of NSW residents who have been dispensed ART for HIV, by pharmacy type and by quarter, in the previous 12 months from 1 October 2016 to 30 September 2019**

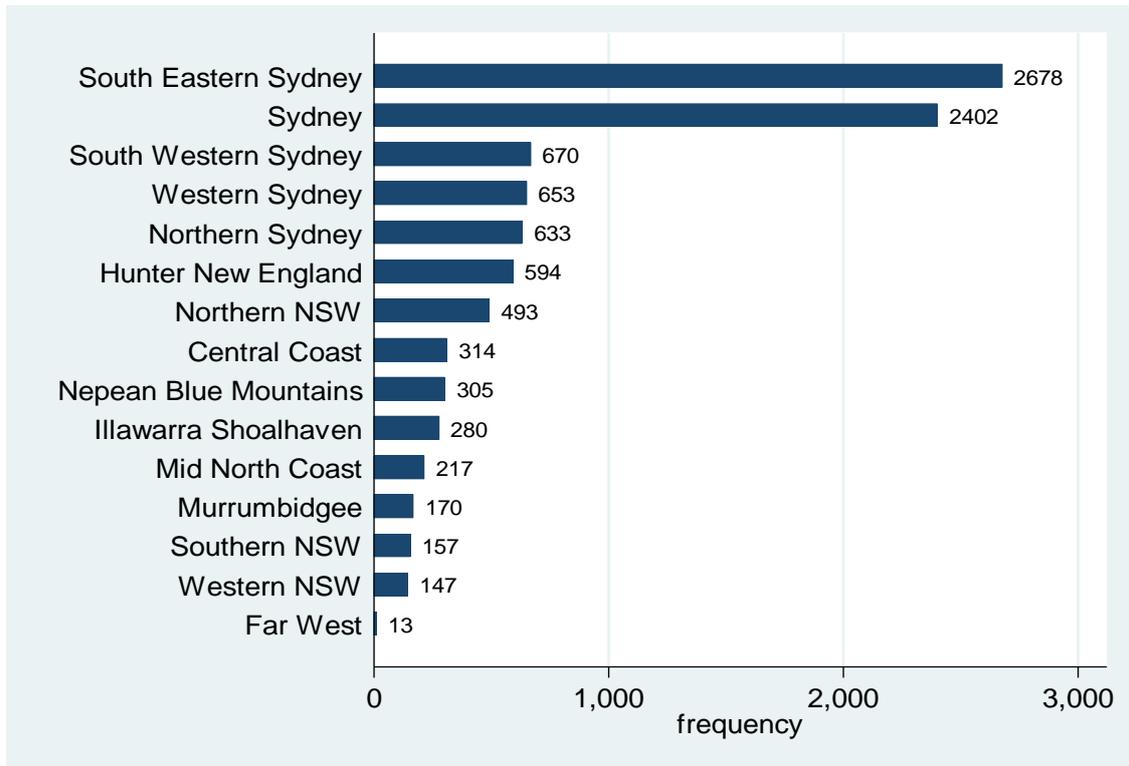


Data source: PBS Highly Specialised Drugs Programme data from 1 October 2016 to 30 September 2019 prepared for NSW Health. Note: The number of patients dispensed via community and public hospital pharmacies may add to a figure greater than the overall unique patients as some patients receive treatment from more than one pharmacy type within a year. Due to boundary changes or movements in and or out of NSW, the overall unique number of individuals presented in the above graph may differ slightly from previous reports.

#### Comments on Figure 30

- Between 1 October 2018 and 30 September 2019, a total of 9,074 (unique number) NSW residents were dispensed ART for HIV at least once within the previous 12 months. About half (51.6%) of ART treatment for HIV were dispensed by GP.
- Of the 9,074 residents dispensed ART, 92% were male. The majority (55%) were 50 years or older, 25% were aged 40-49 years, and about 19% aged 39 years or younger.

**Figure 31: The number of NSW residents dispensed ART for HIV, by the LHD of patient residence, from 1 Oct 2018 to 30 Sep 2019<sup>17</sup>**



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme data from 1 October 2018 to 30 September 2019

**Comments on Figure 31**

- More than three-quarters (78%) of the ART dispensed in the 12 months ending 30 September 2019 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>17</sup> The sum of the numbers displayed in the graph is higher than the total of 9,074 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 January and December 2019 is summarised at Table 7<sup>18</sup>.

**Table 7: Clients who received HIV care in NSW public sexual health and HIV services from 1 January and 31 December 2019**

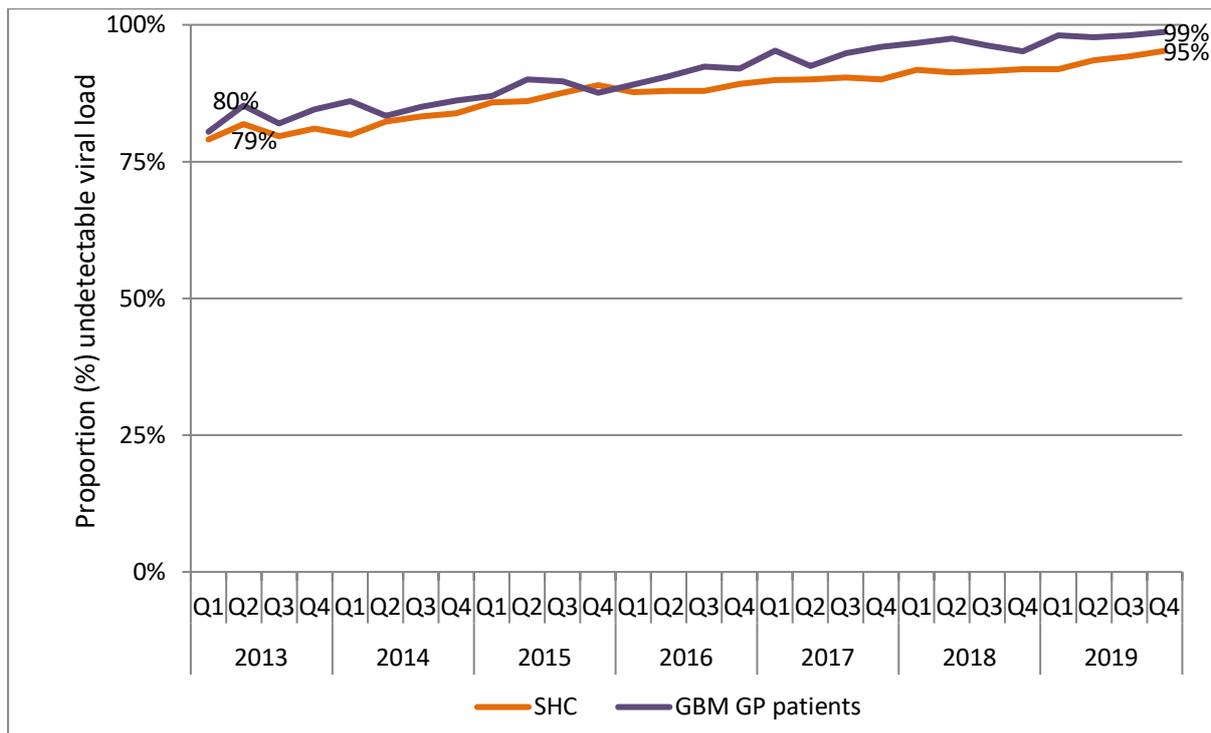
Number (%) of patients for whom treatment information was available	5,944
Number (%) on ART	5,932 (98%)

Data sources: NSW Health HIV Strategy Monitoring Database<sup>19</sup>

##### Comment on Table 7

- During period from January to December 2019, treatment information was available for 5,944 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 98%.

**Figure 32: Proportion of HIV positive patients<sup>20</sup> attending any clinic in the ACCESS network<sup>21</sup> who received treatment or were recorded as on treatment in the previous year at any clinic in the ACCESS network, by service type and quarter, 1 January 2013 to 31 December 2019**



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

<sup>18</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>19</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.

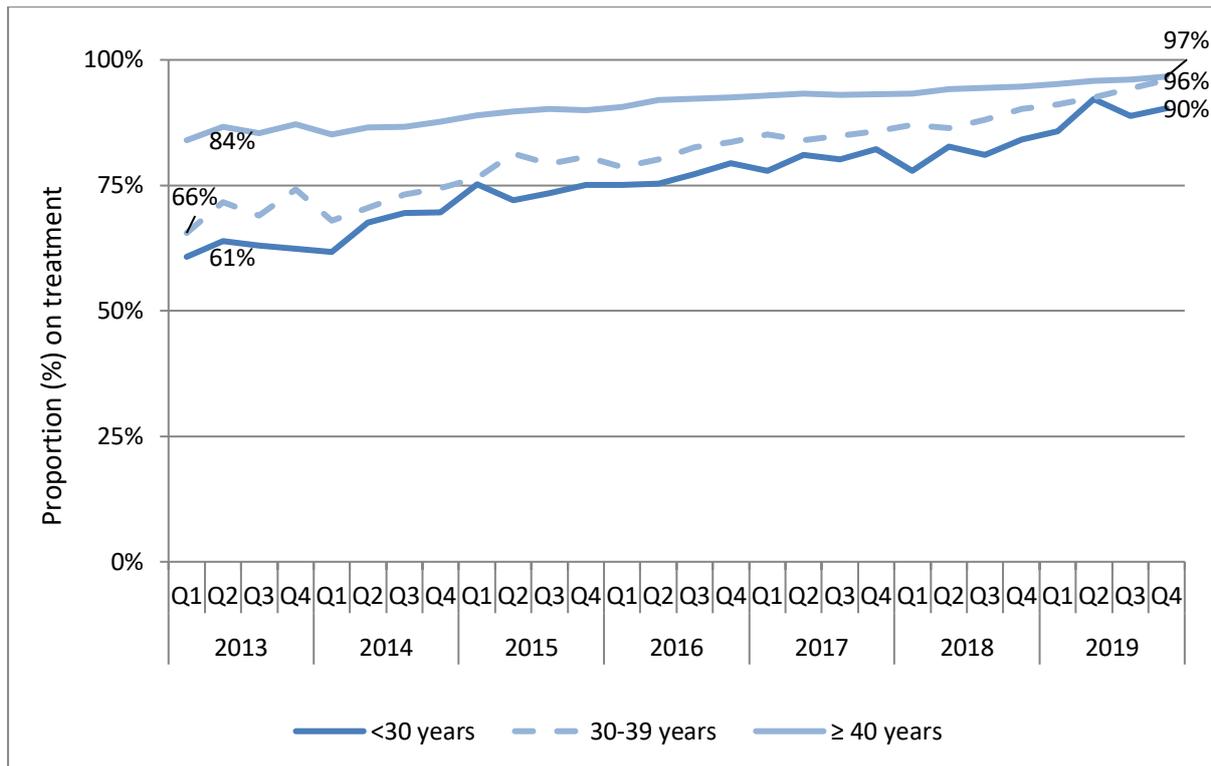
<sup>20</sup> Excludes patients for whom HIV care was recorded as managed elsewhere

<sup>21</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually; hospital data were not included in analysis.

Comment on Figure 32

- Over time, treatment uptake for people living with HIV increased across service types. Treatment uptake increased by 20% and 24% from Q1 2013 to Q4 2019 in PFSHCs and GBM GP clinics respectively.

**Figure 33: Proportion of HIV positive patients attending any clinic in the ACCESS network <sup>22</sup> who received treatment or were recorded as on treatment in the previous year at any clinic in the ACCESS network, by age group and quarter, 1 January 2013 to 31 December 2019**



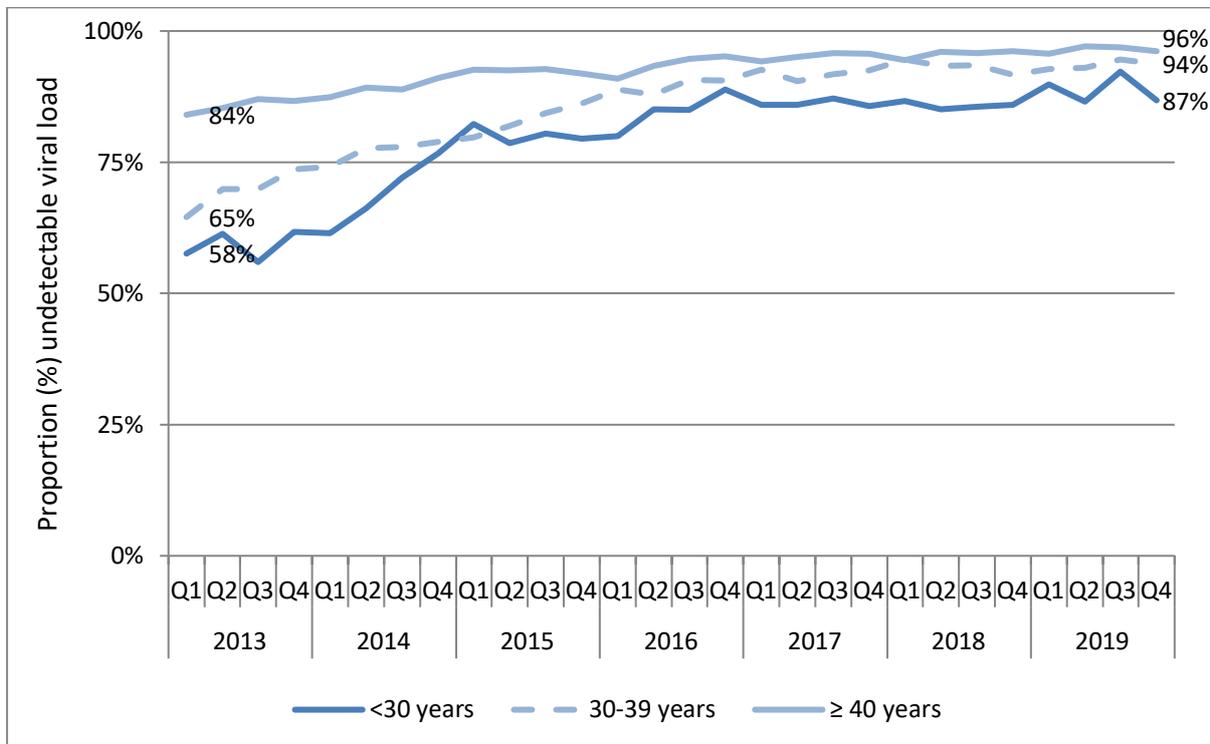
Data source: ACCESS Database, The Kirby Institute and the Burnet Institute

Comment on Figure 33

- Uptake of treatment for HIV was highest among patients aged 40 years and older and lowest among those 30 years and younger. Uptake increased amongst all age groups from 2013-Q4 2019.

<sup>22</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually; Hospital data were not included in analysis.

**Figure 34: Proportion of HIV positive patients on treatment at any clinic in the ACCESS network<sup>23</sup> with an 'undetectable'<sup>24</sup> viral load at their most recent test in the previous 12-month period at any clinic in the ACCESS network<sup>25</sup>, by age group and quarter, 1 January 2013 to 31 December 2019**



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

**Comment on Figure 34**

- The proportion of HIV positive patients with an undetectable viral load was consistently highest among older patients: 96% of patients 40 years and older had undetectable viral loads in Q4 of 2019.
- Overall, the proportion of patients with an undetectable viral load decreased from 2013-Q4 2019.

<sup>23</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually

<sup>24</sup> 'Undetectable' defined as <200 RNA copies/mm<sup>3</sup> of blood

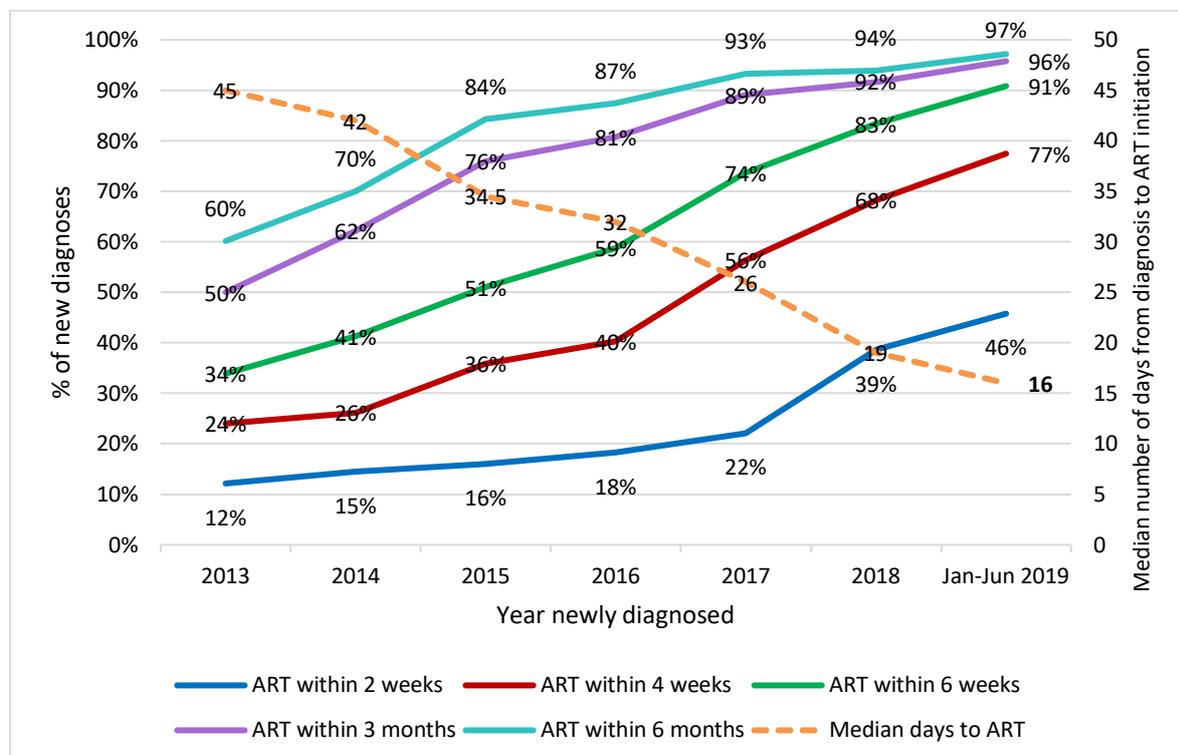
<sup>25</sup> Excludes patients for whom viral load test information was not available; Hospital data were not included in analysis.

### 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 is 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 over the life of the Strategy. In 2013 HIV surveillance in NSW was enhanced to collect at six months post diagnosis, via doctors, information on retention in care, ART commencement, pre-ART and latest HIV viral load and CD4 count.

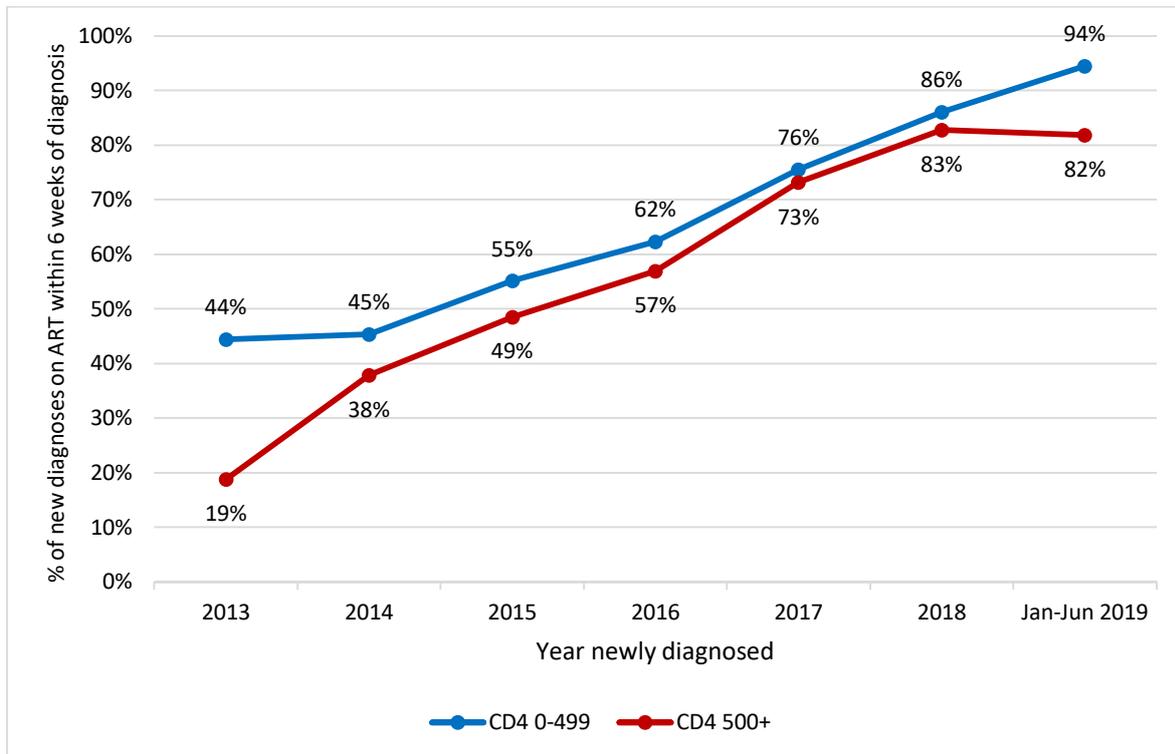
At the time of preparing this Q4 & Annual 2019 report, six months post diagnosis follow up had been done on NSW residents newly diagnosed from 1 January 2013 to 30 June 2019 (n=2096). Data on initiation of ART was drawn from six months post diagnosis follow up form (FUF) data and HIV notification form data and combined for analysis. All new diagnoses were included irrespective of whether eligible for follow up and of care outcome.

**Figure 35: Time to ART for NSW residents newly diagnosed in January 2013 to June 2019**



- Of the 142 people newly diagnosed during January to June 2019 now followed up six months post diagnosis, 46% initiated ART within two weeks, 77% within four weeks, 91% within six weeks, 96% within three months and 97% within six months of diagnosis. The median time to ART initiation was 16 days. Of the 138 on ART within six months of diagnosis, 129 (93%) were already virally suppressed at six months follow up.

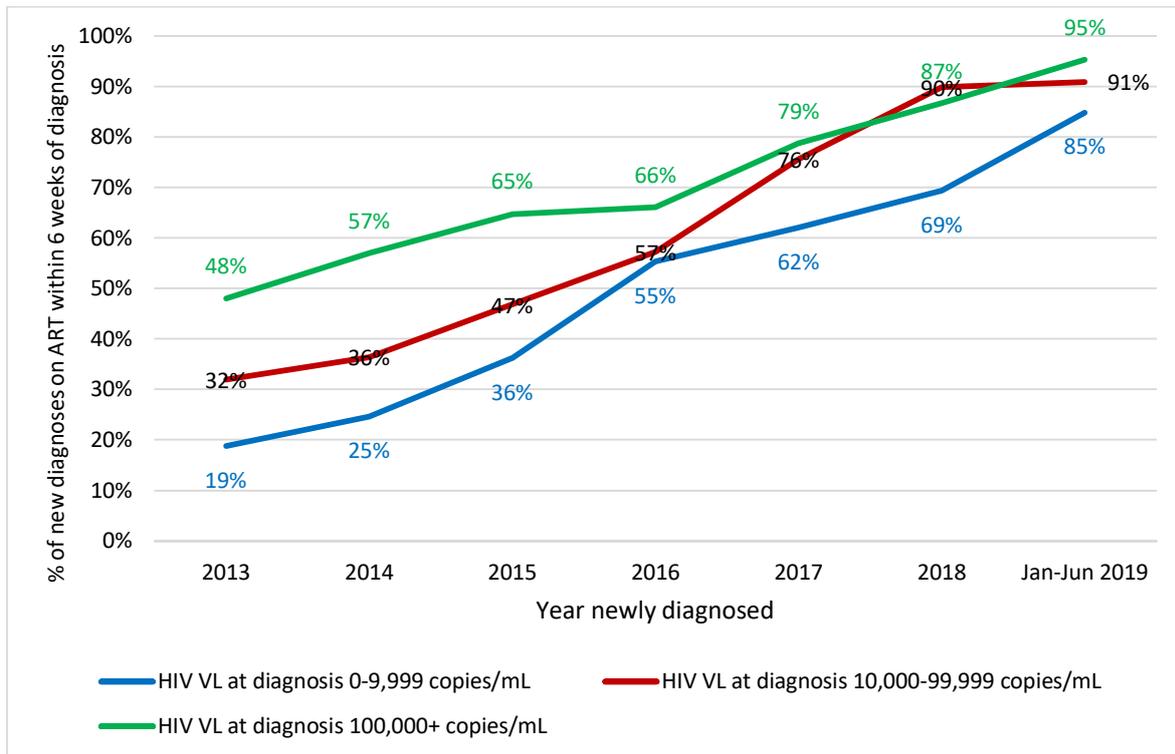
**Figure 36: CD4 count at diagnosis of NSW residents notified with newly diagnosed HIV infection from January 2013 to June 2019 and % on ART within six weeks of diagnosis**



Note: excludes 53 new diagnoses with missing CD4 at diagnosis, some of whom had commenced ART within 6 months.

- 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 and 94% of the Jan-Jun 2019 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, 38% of the 2014, 49% of the 2015, 57% of the 2016, 73% of the 2017, 83% of the 2018 and 82% of the Jan-Jun 2019 new diagnoses.

**Figure 37: HIV viral load at diagnosis of NSW residents notified with newly diagnosed HIV infection from January 2013 to June 2019 and % on ART within six weeks of diagnosis**



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

- Of people with a HIV VL of 0-9,999 copies/mL, 19% of the 2013, 25% of the 2014, 36% of the 2015, 55% of the 2016, 62% of the 2017, 69% of the 2018 and 85% of the Jan-Jun 2019 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 and 91% of the Jan-Jun 2019 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 and 95% of the Jan-Jun 2019 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 linked in a de-identified manner to new HIV diagnoses. This enables the level of drug resistance in HIV from newly diagnosed people to be estimated and 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 mutations to these drugs may result in PrEP failure.

Analysis of NSW HIV sequence data from 2004 to 2015 shows that transmitted drug resistance for all antiretroviral drugs has decreased during this time period from a peak of 21% in 2006 to 9% in 2015. No sequences were identified with high level resistance to TDF but 0.7% (n=11) of sequences from newly diagnosed people contained mutations conferring high level resistance to FTC.

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 2012 to 2015 shows that almost two thirds of viruses from newly diagnosed people were not part of a cluster. Where related viruses have been identified, the majority were sequence pairs or triplets with no evidence of additional onwards transmission. Clusters of more than three sequences were few.

## 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	Repeat cross-sectional survey of gay and homosexually active men recruited at a range of gay community sites in Sydney. Data fields include sexual, drug use and testing practices related to the transmission of HIV and other STIs among gay men in Sydney. Data is self-reported. Data is collected in February-March annually and published in the following quarter.
ACON Ending HIV online survey database	ACON	Ad-hoc	Survey respondents are self-selected gay identifying men, recruited mainly through advertisements undertaken by ACON on Facebook. Contains data knowledge and attitudes of respondents towards testing, prevention and treatment.

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

### Testing Data Sources

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

## Treatment Data Sources

Name	Custodian	Availability	Coverage
Pharmaceutical Benefits Schedule (PBS) Highly Specialised Drugs Programme data	Centre for Population Health, NSW Health	Quarterly Note: 4-6 month lag in data being provided to NSW Health.	PBS dispensing data for HIV treatments for all NSW residents from July 2014. This data is prepared by the Commonwealth Government for NSW Health and captures all HIV treatment dispensing in NSW through the PBS from a public hospital, private hospital or community pharmacies.
NSW Health HIV Strategy Monitoring Database	NSW Ministry of Health, NSW Health	Quarterly	Public sexual health and HIV services data provided by Local Health Districts for the purpose of monitoring the implementation of the NSW HIV Strategy, includes summarised data on treatment coverage among patients diagnosed with HIV who are 'in care'.
ACCESS Database	The Kirby Institute, UNSW Australia, and Burnet Institute	Quarterly	Deidentified clinical data patients attending sexual health clinics, high caseload general practice clinics and hospital outpatients clinics, which includes details on patient consultations, demographics, behaviour, testing, diagnoses and treatment/prescriptions. ACCESS is a live and real-time database, which means that data are not always available from every service and it is possible for services to be introduced and discontinued over time. These changes may introduce slight variations from one reporting period to the next.
Notifiable Conditions Information Management System (NCIMS)	Health Protection NSW, NSW Health	Quarterly	State wide coverage/representation of HIV notifications received by NSW Health under public health legislation and of their follow up six months post diagnosis. Quarterly report restricted to notifications on people who are NSW residents and who are newly diagnosed with HIV. NCIMS contains de-identified epidemiological information on people notified with HIV infection including on: basic demographic data, diagnosis date, reasons for testing, CD4 count, HIV viral load (HIV VL), past testing history, risk exposure, retention in care and ART status six months post diagnosis. HIV surveillance forms available at: <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 2019 (continues over page); data extracted from NCIMS, HPNSW, 7 February 2020.

Case characteristics	2010 N (%)	2011 N (%)	2012 N (%)	2013 N (%)	2014 N (%)	2015 N (%)	2016 N (%)	2017 N (%)	2018 N (%)	2019 N (%)	1981-2019 N (%)
<b>Total (ALL)</b>	<b>306</b>	<b>333</b>	<b>413</b>	<b>354</b>	<b>344</b>	<b>349</b>	<b>318</b>	<b>312</b>	<b>277</b>	<b>282</b>	<b>18832</b>
<b>Gender</b>											
Male	280 (91.5%)	312 (93.7%)	376 (91%)	324 (91.5%)	318 (92.4%)	320 (91.7%)	292 (91.8%)	282 (90.4%)	254 (91.7%)	253 (89.7%)	17306 (91.9%)
Female	24 (7.8%)	21 (6.3%)	36 (8.7%)	27 (7.6%)	25 (7.3%)	28 (8%)	22 (6.9%)	24 (7.7%)	20 (7.2%)	23 (8.2%)	1220 (6.5%)
Transgender	2 (0.7%)	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%)	58 (0.3%)
Unknown	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>											
Aboriginal person	7 (2.3%)	5 (1.5%)	13 (3.1%)	8 (2.3%)	7 (2%)	7 (2%)	9 (2.8%)	8 (2.6%)	11 (4%)	6 (2.1%)	214 (1.1%)
Torres Strait Islander	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.3%)	0 (0%)	0 (0%)	1 (0.4%)	2 (0%)
Non-Aboriginal person	294 (96.1%)	325 (97.6%)	394 (95.4%)	344 (97.2%)	331 (96.2%)	339 (97.1%)	308 (96.9%)	304 (97.4%)	266 (96%)	274 (97.2%)	11728 (62.3%)
Not stated	5 (1.6%)	3 (0.9%)	6 (1.5%)	2 (0.6%)	6 (1.7%)	3 (0.9%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)	6888 (36.6%)
<b>Age in years at diagnosis</b>											
0-4	2 (0.7%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	40 (0.2%)
5-9	0 (0%)	0 (0%)	0 (0%)	1 (0.3%)	0 (0%)	0 (0%)	1 (0.3%)	1 (0.3%)	0 (0%)	0 (0%)	25 (0.1%)
10-14	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	36 (0.2%)
15-19	5 (1.6%)	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%)	324 (1.7%)
20-24	29 (9.5%)	35 (10.5%)	44 (10.7%)	37 (10.5%)	41 (11.9%)	45 (12.9%)	39 (12.3%)	29 (9.3%)	36 (13%)	29 (10.3%)	2278 (12.1%)
25-29	56 (18.3%)	55 (16.5%)	78 (18.9%)	65 (18.4%)	51 (14.8%)	63 (18.1%)	61 (19.2%)	58 (18.6%)	60 (21.7%)	43 (15.2%)	3701 (19.7%)
30-34	49 (16%)	65 (19.5%)	71 (17.2%)	48 (13.6%)	64 (18.6%)	62 (17.8%)	63 (19.8%)	57 (18.3%)	50 (18.1%)	67 (23.8%)	3751 (19.9%)
35-39	43 (14.1%)	59 (17.7%)	64 (15.5%)	42 (11.9%)	45 (13.1%)	45 (12.9%)	48 (15.1%)	36 (11.5%)	29 (10.5%)	41 (14.5%)	3086 (16.4%)
40-44	51 (16.7%)	46 (13.8%)	47 (11.4%)	45 (12.7%)	46 (13.4%)	32 (9.2%)	30 (9.4%)	38 (12.2%)	27 (9.7%)	30 (10.6%)	2275 (12.1%)
45-49	30 (9.8%)	26 (7.8%)	38 (9.2%)	45 (12.7%)	30 (8.7%)	27 (7.7%)	32 (10.1%)	21 (6.7%)	23 (8.3%)	19 (6.7%)	1362 (7.2%)
50-54	7 (2.3%)	25 (7.5%)	28 (6.8%)	24 (6.8%)	25 (7.3%)	28 (8%)	18 (5.7%)	19 (6.1%)	18 (6.5%)	20 (7.1%)	850 (4.5%)
55-59	22 (7.2%)	10 (3%)	14 (3.4%)	22 (6.2%)	15 (4.4%)	13 (3.7%)	13 (4.1%)	16 (5.1%)	15 (5.4%)	13 (4.6%)	495 (2.6%)
60-64	5 (1.6%)	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%)	270 (1.4%)
65-69	6 (2%)	2 (0.6%)	4 (1%)	9 (2.5%)	7 (2%)	7 (2%)	4 (1.3%)	5 (1.6%)	4 (1.4%)	7 (2.5%)	151 (0.8%)
70 or over	1 (0.3%)	2 (0.6%)	3 (0.7%)	2 (0.6%)	3 (0.9%)	6 (1.7%)	0 (0%)	10 (3.2%)	4 (1.4%)	5 (1.8%)	100 (0.5%)
Unknown	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	2010 N (%)	2011 N (%)	2012 N (%)	2013 N (%)	2014 N (%)	2015 N (%)	2016 N (%)	2017 N (%)	2018 N (%)	2019 N (%)	1981-2019 N (%)
<b>Total (ALL)</b>	<b>306</b>	<b>333</b>	<b>413</b>	<b>354</b>	<b>344</b>	<b>349</b>	<b>318</b>	<b>312</b>	<b>277</b>	<b>282</b>	<b>18832</b>
<b>Reported HIV risk exposure</b>											
<i>MSM</i>	226 (73.9%)	270 (81.1%)	322 (78%)	265 (74.9%)	255 (74.1%)	264 (75.6%)	236 (74.2%)	215 (68.9%)	194 (70%)	190 (67.4%)	11948 (63.4%)
<i>MSM who injects drugs</i>	8 (2.6%)	11 (3.3%)	15 (3.6%)	16 (4.5%)	20 (5.8%)	21 (6%)	25 (7.9%)	17 (5.4%)	25 (9%)	25 (8.9%)	620 (3.3%)
<i>Hetero-sex only</i>	51 (16.7%)	41 (12.3%)	58 (14%)	61 (17.2%)	50 (14.5%)	52 (14.9%)	48 (15.1%)	68 (21.8%)	51 (18.4%)	55 (19.5%)	1825 (9.7%)
<i>PWID</i>	9 (2.9%)	8 (2.4%)	9 (2.2%)	7 (2%)	8 (2.3%)	4 (1.1%)	4 (1.3%)	6 (1.9%)	4 (1.4%)	6 (2.1%)	582 (3.1%)
<i>Blood disorder, blood or tissue recipient</i>	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	277 (1.5%)
<i>Vertical transmission</i>	2 (0.7%)	0 (0%)	0 (0%)	1 (0.3%)	1 (0.3%)	0 (0%)	1 (0.3%)	2 (0.6%)	0 (0%)	0 (0%)	54 (0.3%)
<i>Other</i>	1 (0.3%)	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%)	54 (0.3%)
<i>Unknown</i>	9 (2.9%)	2 (0.6%)	7 (1.7%)	3 (0.8%)	6 (1.7%)	4 (1.1%)	3 (0.9%)	3 (1%)	2 (0.7%)	3 (1.1%)	3472 (18.4%)
<b>LHD of residence</b>											
<i>South Eastern Sydney</i>	109 (35.6%)	124 (37.2%)	150 (36.3%)	126 (35.6%)	112 (32.6%)	129 (37%)	84 (26.4%)	92 (29.5%)	85 (30.7%)	73 (25.9%)	5846 (31%)
<i>Sydney</i>	78 (25.5%)	89 (26.7%)	113 (27.4%)	91 (25.7%)	84 (24.4%)	86 (24.6%)	95 (29.9%)	71 (22.8%)	63 (22.7%)	61 (21.6%)	3264 (17.3%)
<i>Northern Sydney</i>	19 (6.2%)	24 (7.2%)	23 (5.6%)	25 (7.1%)	17 (4.9%)	24 (6.9%)	20 (6.3%)	29 (9.3%)	23 (8.3%)	23 (8.2%)	1075 (5.7%)
<i>Western Sydney</i>	20 (6.5%)	31 (9.3%)	25 (6.1%)	27 (7.6%)	27 (7.8%)	20 (5.7%)	24 (7.5%)	29 (9.3%)	24 (8.7%)	30 (10.6%)	832 (4.4%)
<i>South Western Sydney</i>	23 (7.5%)	18 (5.4%)	30 (7.3%)	29 (8.2%)	30 (8.7%)	31 (8.9%)	31 (9.7%)	25 (8%)	21 (7.6%)	34 (12.1%)	767 (4.1%)
<i>Hunter New England</i>	16 (5.2%)	11 (3.3%)	14 (3.4%)	17 (4.8%)	27 (7.8%)	17 (4.9%)	15 (4.7%)	7 (2.2%)	17 (6.1%)	23 (8.2%)	547 (2.9%)
<i>Nepean Blue Mountains</i>	3 (1%)	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%)	277 (1.5%)
<i>Illawarra Shoalhaven</i>	8 (2.6%)	5 (1.5%)	9 (2.2%)	7 (2%)	6 (1.7%)	7 (2%)	8 (2.5%)	10 (3.2%)	7 (2.5%)	6 (2.1%)	254 (1.3%)
<i>Northern NSW</i>	8 (2.6%)	11 (3.3%)	5 (1.2%)	5 (1.4%)	7 (2%)	8 (2.3%)	5 (1.6%)	10 (3.2%)	9 (3.2%)	10 (3.5%)	235 (1.2%)
<i>Central Coast</i>	5 (1.6%)	4 (1.2%)	10 (2.4%)	5 (1.4%)	8 (2.3%)	5 (1.4%)	11 (3.5%)	12 (3.8%)	5 (1.8%)	2 (0.7%)	226 (1.2%)
<i>Mid North Coast</i>	3 (1%)	4 (1.2%)	3 (0.7%)	6 (1.7%)	7 (2%)	6 (1.7%)	2 (0.6%)	4 (1.3%)	3 (1.1%)	2 (0.7%)	157 (0.8%)
<i>Western NSW</i>	4 (1.3%)	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%)	137 (0.7%)
<i>Murrumbidgee-Albury</i>	8 (2.6%)	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%)	111 (0.6%)
<i>Southern NSW</i>	1 (0.3%)	2 (0.6%)	8 (1.9%)	4 (1.1%)	4 (1.2%)	2 (0.6%)	6 (1.9%)	3 (1%)	3 (1.1%)	2 (0.7%)	74 (0.4%)
<i>Far West</i>	0 (0%)	0 (0%)	2 (0.5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)	2 (0.7%)	11 (0.1%)
<i>Unknown or other</i>	1 (0.3%)	1 (0.3%)	4 (1%)	1 (0.3%)	4 (1.2%)	2 (0.6%)	1 (0.3%)	3 (1%)	4 (1.4%)	5 (1.8%)	5019 (26.7%)

## 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 2013-2019

Answer Options	FEB 2013	MAY 2013	NOV 2013	APRIL 2014	DEC 2014	APR 2015	MAR 2016	SEP 2016	APR 2017	MAR 2018	APR 2019
Everything has changed, we can now dramatically reduce HIV transmission	48%	59%	59%	67%	61%	71%	77%	86%	77%	87%	85%
Now more than ever, gay men need to know their HIV status	81%	85%	86%	90%	89%	91%	92%	92%	91%	92%	92%
Sexually active gay men should take an HIV test at least twice a year	88%	87%	92%	93%	89%	92%	93%	96%	94%	95%	94%
HIV treatments now offer increased health benefits and fewer side effects	65%	66%	67%	73%	69%	75%	77%	78%	71%	77%	74%
HIV treatments significantly reduce the risk of passing on HIV	33%	42%	50%	64%	59%	69%	73%	83%	78%	84%	83%
Early HIV treatment is better for your health and can help protect your sex partners	74%	80%	89%	91%	92%	93%	93%	95%	93%	95%	93%
Condoms continue to be the most effective way of preventing HIV transmission	95%	92%	92%	91%	91%	85%	94%	94%	94%	94%	90%

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

### Survey methodology:

Each of the five online evaluation surveys was developed and analysed by an independent consultant using the Survey Monkey online tool. Each survey was run over a one to three week period. In addition to 30 to 40 mainly multiple choice questions, with a few opportunities for respondents to provide

comments, respondents were provided with a set of seven statements and asked to indicate whether they agree or disagree with the statements (using a five point scale)

**Recruitment methodology:**

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

**Survey objectives:**

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

## 9. Appendix E: NSW HIV Data Advisory Group members

Kerry Chant	Advisory Group Chair, Chief Health Officer and Deputy Secretary, Population and Public Health, NSW Ministry of Health
Meredith Claremont	Centre for Population Health, NSW Ministry of Health
Carolyn Murray	Centre for Population Health, NSW Ministry of Health
Tove Fitzgerald	Centre for Population Health, NSW Ministry of Health
Cherie Power	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