

# NSW HIV Strategy 2016 – 2020

## Quarter 1 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

### **NSW continues to make progress towards the virtual elimination of HIV transmission**

In the first quarter of 2019, the number of NSW residents newly diagnosed with HIV decreased by 22% compared to the quarter one average of the last five years. Only 32% (n=21) of these new diagnoses had evidence their infection occurred in the 12 months preceding diagnosis (early stage HIV infection), a reduction of 44% 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 is decreasing.

The relative increase in HIV notifications seen in quarter 4 2018 has not continued, as reflected by the reduction in new diagnoses this quarter. There were 17 new diagnoses in Australian born MSM in quarter 1 2019 compared with 28 in the preceding quarter. The number of Australian-born MSM diagnosed with early stage infection in quarter 1 2019 (n=11) dropped by 36% compared to the quarter 1 five year average (avg. n=17.2).

### **Differences in new diagnoses of Australian and overseas born men who have sex with men (MSM) continue to reflect a divergent epidemic**

There were 17 newly diagnosed Australian-born MSM, 48% less than the comparison period for the previous five years, which is the lowest in any quarter since 1985. However, there were 35 overseas-born-MSM, a 4% increase compared to the five year average for the same period.

Fifteen overseas-born MSM had late or advanced stage disease, compared to only two Australian-born MSM. The majority of these overseas-born MSM were younger (20-40 years old). This emphasises the need to ensure younger overseas-born MSM feel comfortable engaging with healthcare in Australia and are able to test regularly.

### **NSW continues to have great success in treatment uptake**

The decreasing linear trend of reduced time to treatment initiation continued amongst cases newly diagnosed in January to September 2018. The median number of days between diagnosis and treatment initiation has more than halved from 45 in 2013 to 19.5 in January to September 2018. The proportion of those on treatment within six weeks of diagnosis was 84% for this period. In January to September 2018 the proportion of new diagnoses on treatment within two weeks of diagnosis increased to 39%, up from 22% in 2017. Of those on ART by 6 months, 88% had an undetectable viral load, which means that it is no longer possible for them to transmit HIV.

Through the co-ordinated efforts of the HIV Support Program, the time between diagnosis and linkage to specialist HIV care continues to decrease. Once linked into care, the proportion receiving rapid access to treatment is also improving with 15% of new diagnoses starting treatment within one day of linkage to care during January to September 2018, compared to 5% in 2013.

### **NSW Health continues to strengthen efforts in targeted testing and HIV prevention**

Though testing rates have increased by 2% this quarter compared to quarter 1 2018, only 27% of MSM had an HIV test within one year of their diagnosis. MSM are encouraged to test at least once a year, and those with multiple partners up to four times a year. The 'Discreet life' campaign targeting men who travel overseas for sex and MSM who identify as heterosexual aims to increase testing frequency and awareness of effective prevention measures among these hard to reach groups.

## Key data

HIV INFECTIONS	Target group	Jan-Mar 2019	Compared with Jan-Mar 2014-2018 average
<b>Number of NSW residents newly diagnosed</b>	All new diagnoses	65	22% less (av. n=83.2)
	MSM	52	22% less (av. n=66.8)
	Australian-born MSM	17	48% less (av. n=33.0)
	Overseas-born MSM	35	4% more (av. n=33.8)
	Heterosexuals	10	24% less (av. n=13.2)
<b>Number of new diagnoses with evidence of early stage infection</b>	All new diagnoses	21	44% less (av. n=37.2)
	MSM	21	38% less (av. n=33.8)
	Australian-born MSM	11	36% less (av. n=17.2)
	Overseas-born MSM	10	40% less (av. n=16.6)
<b>Number all new diagnoses with evidence of late diagnosis</b>	All new diagnoses	28	3% less (av. n=29.0)
PREVENT	Target group	Apr 2018 –Dec 2018	
<b>Number of people receiving PrEP through PBS</b>	People in NSW at high risk of HIV infection	7,449	
TEST	Target group	Jan-Mar 2019	Compared with Jan-Mar 2018
<b>Number of HIV serology tests performed in NSW</b>	All	159,694	2% more (n=156,486)
<b>Number of HIV tests performed in NSW public sexual health clinics.</b>	All	14,740	5% less (n=15,453)
	Identifying as MSM	9,737	2% less (n=9,926)
<b>Number of DBS tests (Nov 2016 – Mar 2019)</b>		1,707 (7 HIV positive)	
TREAT	Target group	Jan-Mar 2019	Target
<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	98%	95%
<b>Proportion of NSW residents newly diagnosed with HIV who initiated ART within four and six weeks of diagnosis</b>	Newly diagnosed Jan-Sep 2018 (n=193)	68% < 4 weeks 84% < 6 weeks	>90%
	NSW residents Jan-Sep 2018 (n=193)	88%	100%
<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>			

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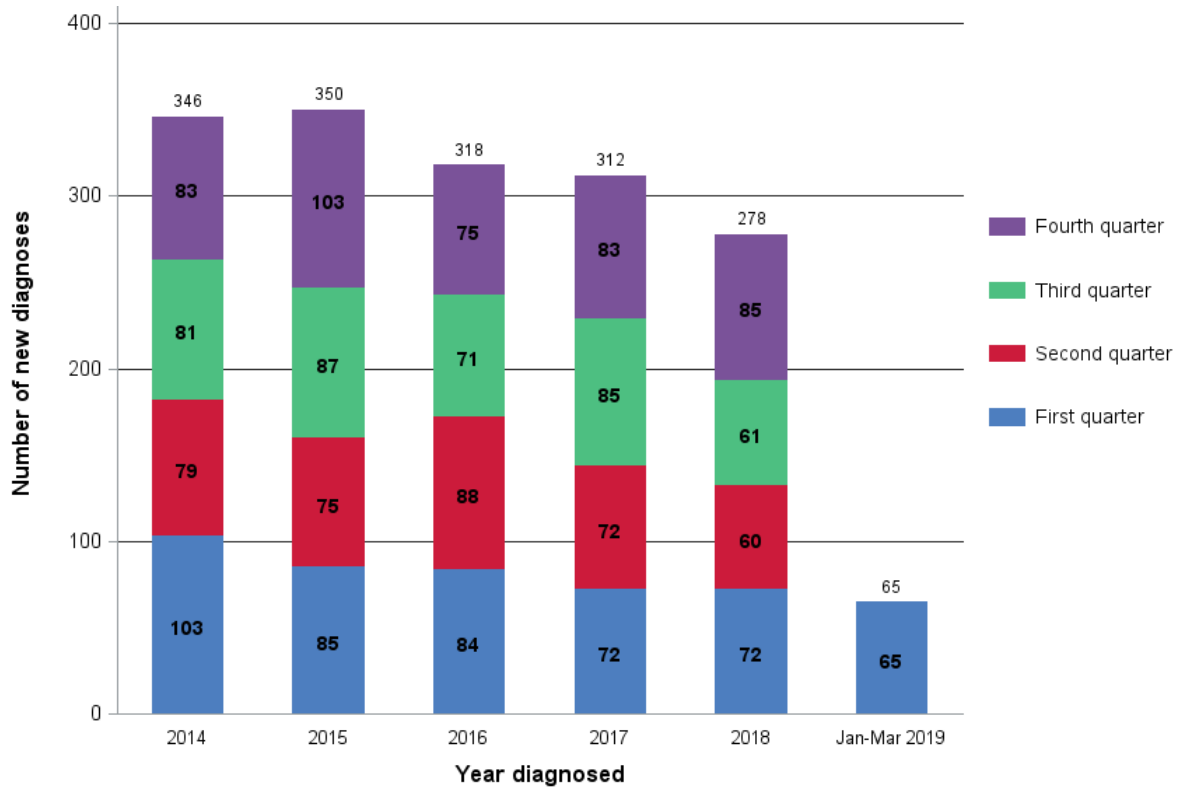
## Glossary of Terms

ART	Antiretroviral therapy
CAIC	Condomless anal intercourse with casual partners
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 in January 2014 to March 2019

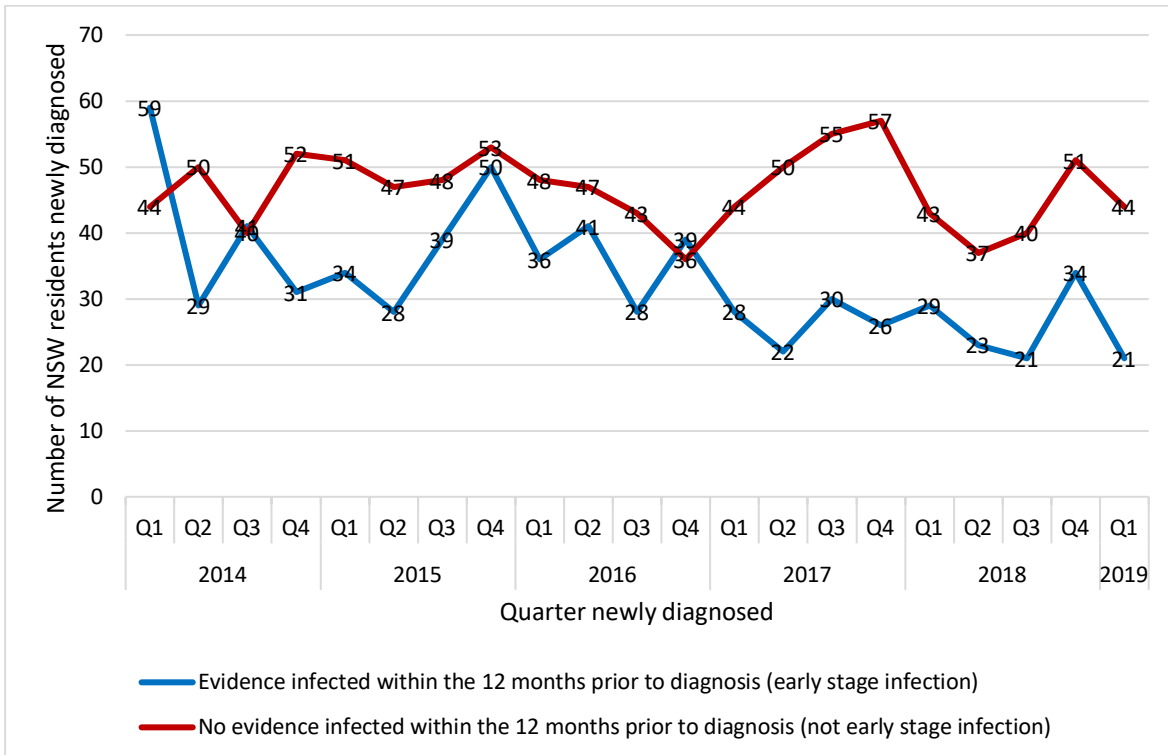


Source: Notifiable Conditions Information Management System, Health Protection NSW, out 8 May 2019

In January to March (Q1) 2019:

- Sixty-five NSW residents were notified to NSW Health with a newly diagnosed HIV infection, 22% fewer than the Q1 2014-2018 average of 83.2 (Figure 1).
- Of 65, 21 (32%) had evidence their infection was acquired within one year of diagnosis (early stage infection), 44% less than the Q1 2014-2018 average of 37.2 (Figure 2).
- Fifty-two (80%) were men who have sex with men (MSM) and ten (15%) acquired HIV via hetero-sex (Figure 3). This is 22% fewer MSM, and 24% fewer heterosexuals compared with the new diagnoses averages of Q1 2014-2018 (av. n MSM = 66.8; av. n heterosexuals = 13.2).

**Figure 2: New diagnoses January 2014 to March 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 January 2014 to March 2019 by reported HIV risk exposure**

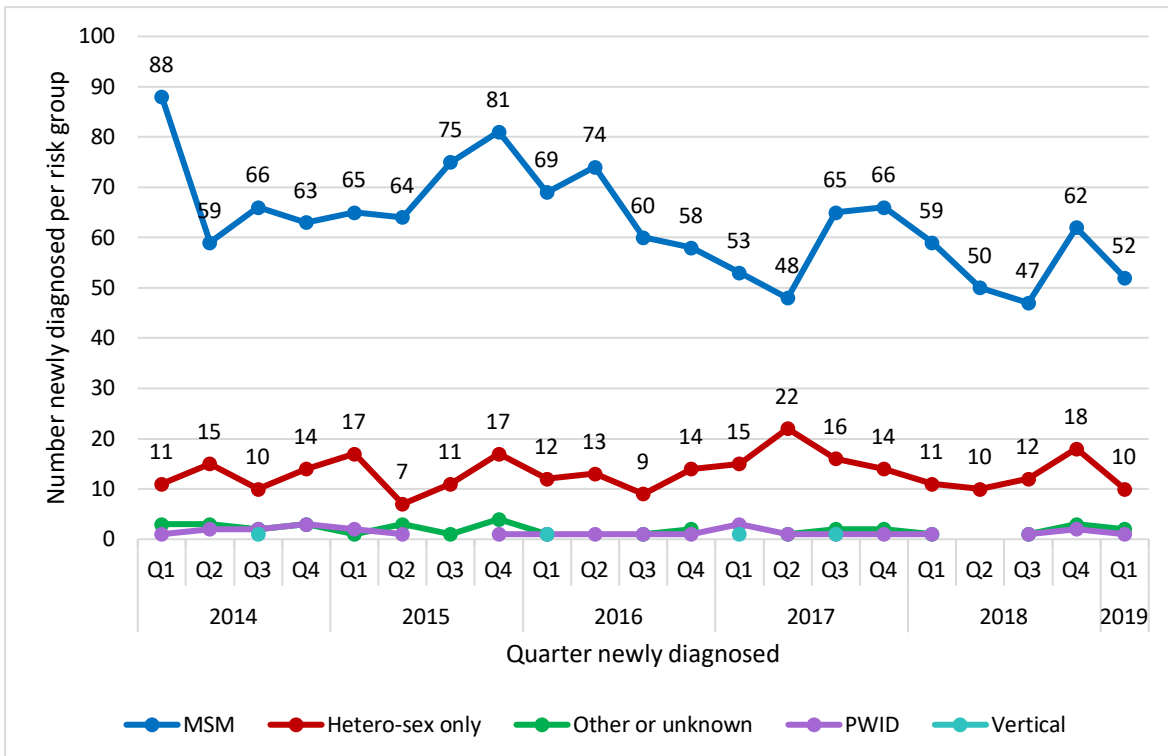
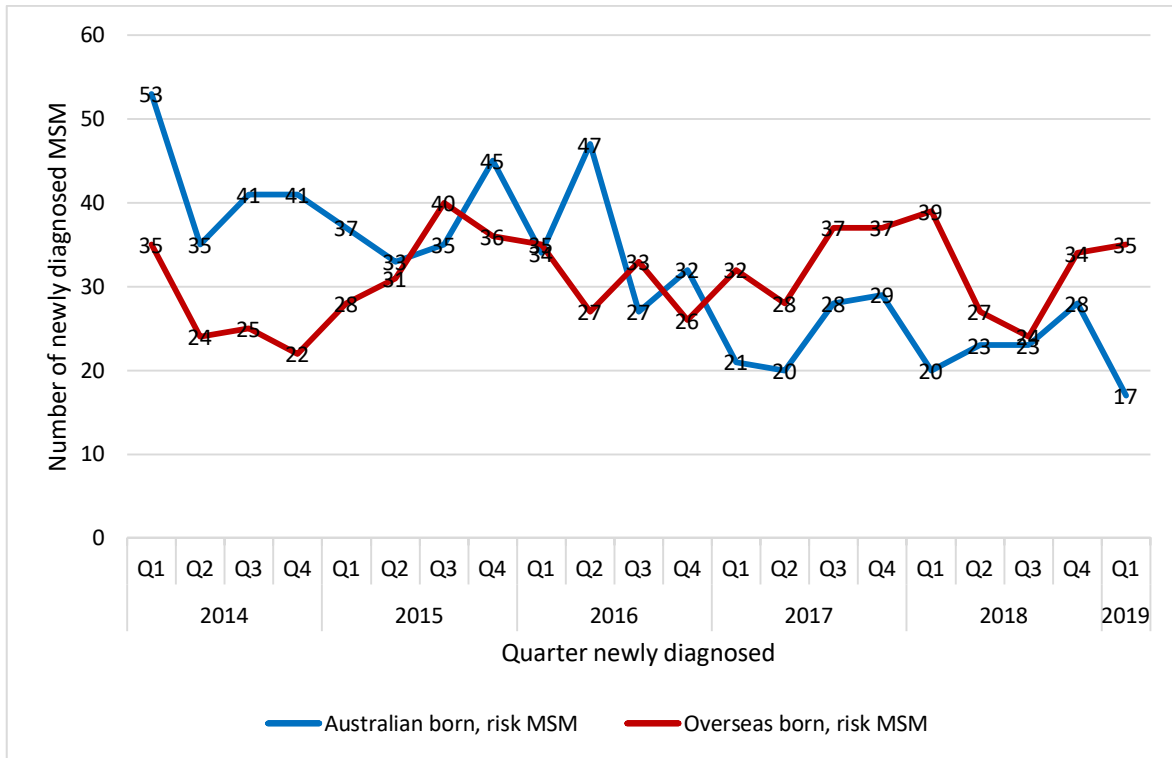




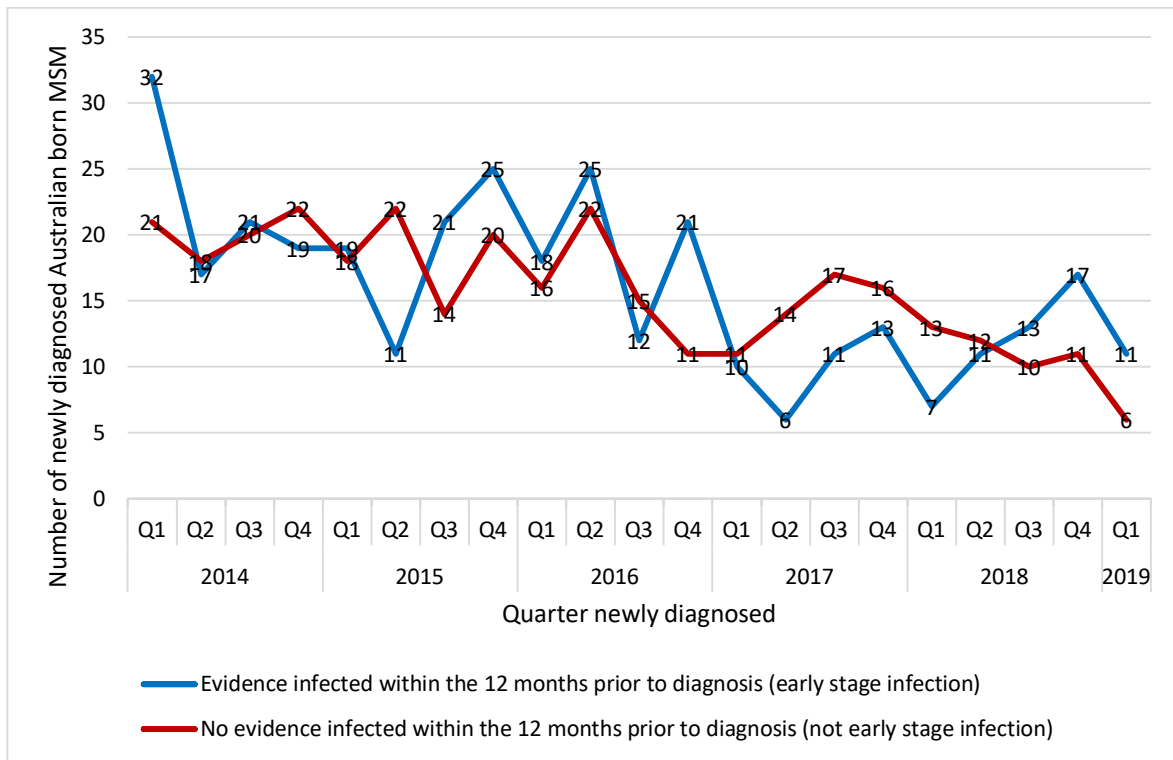
Figure 4: New diagnoses January 2014 to March 2019 in Australian versus overseas-born MSM



In January to March (Q1) 2019:

- Seventeen of the 52 (33%) newly diagnosed MSM were Australian-born, which was 48% less than the average for Q1 2014-2018 (av. n=33.0) (Figure 4). Eleven of 17 (65%) Australian-born newly diagnosed MSM had evidence their infection was acquired within one year of diagnosis (early stage infection), 36% less than the Q1 2014-2018 average of 17.2 (Figure 5).
- Thirty-five of the 52 (67%) newly diagnosed MSM were overseas-born, which was 4% more than the average for Q1 2014-2018 (av. n=33.8). Ten of 35 (29%) overseas-born newly diagnosed MSM had evidence of early stage infection, 40% less than the Q1 2014-2018 average of 16.6 (Figure 6). Of ten overseas-born MSM newly diagnosed with early stage infection, 9 (90%) most likely acquired their infection in Australia.

**Figure 5: New diagnoses January 2014 to March 2019 of Australian-born MSM by evidence infected within 12 months of diagnosis**



**Figure 6: New diagnoses January 2014 to March 2019 of overseas-born MSM by evidence infected within 12 months of diagnosis**

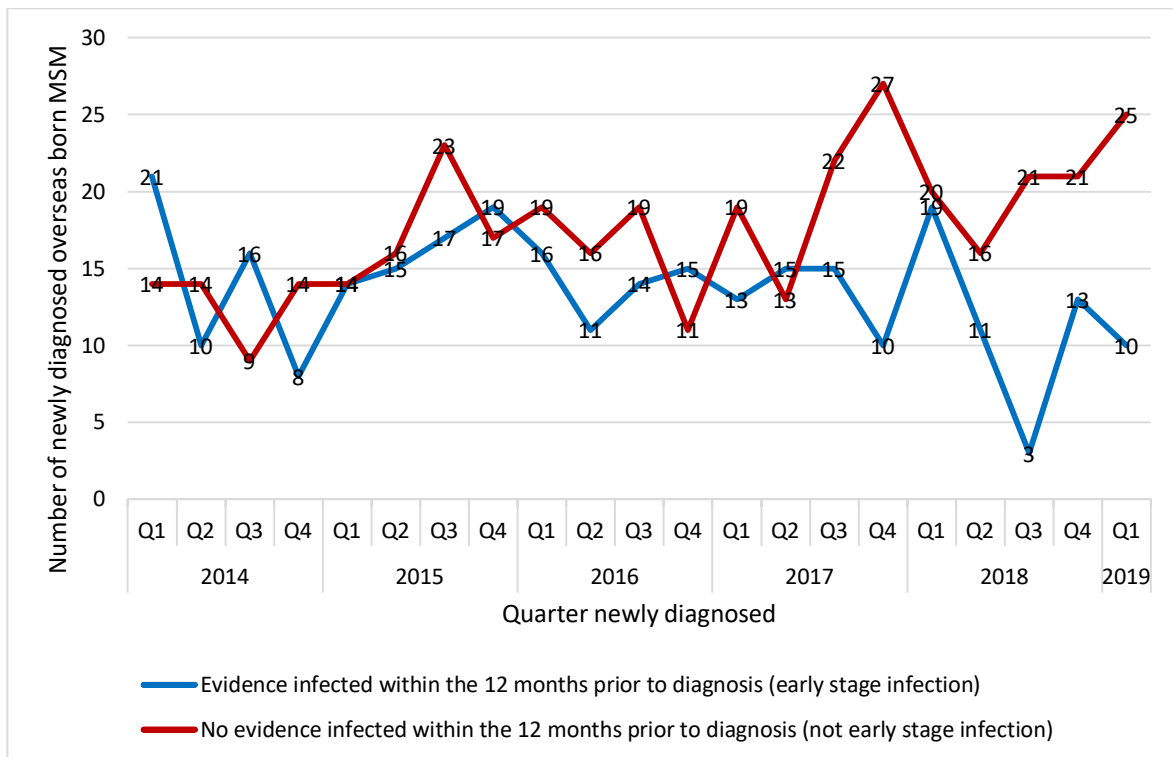
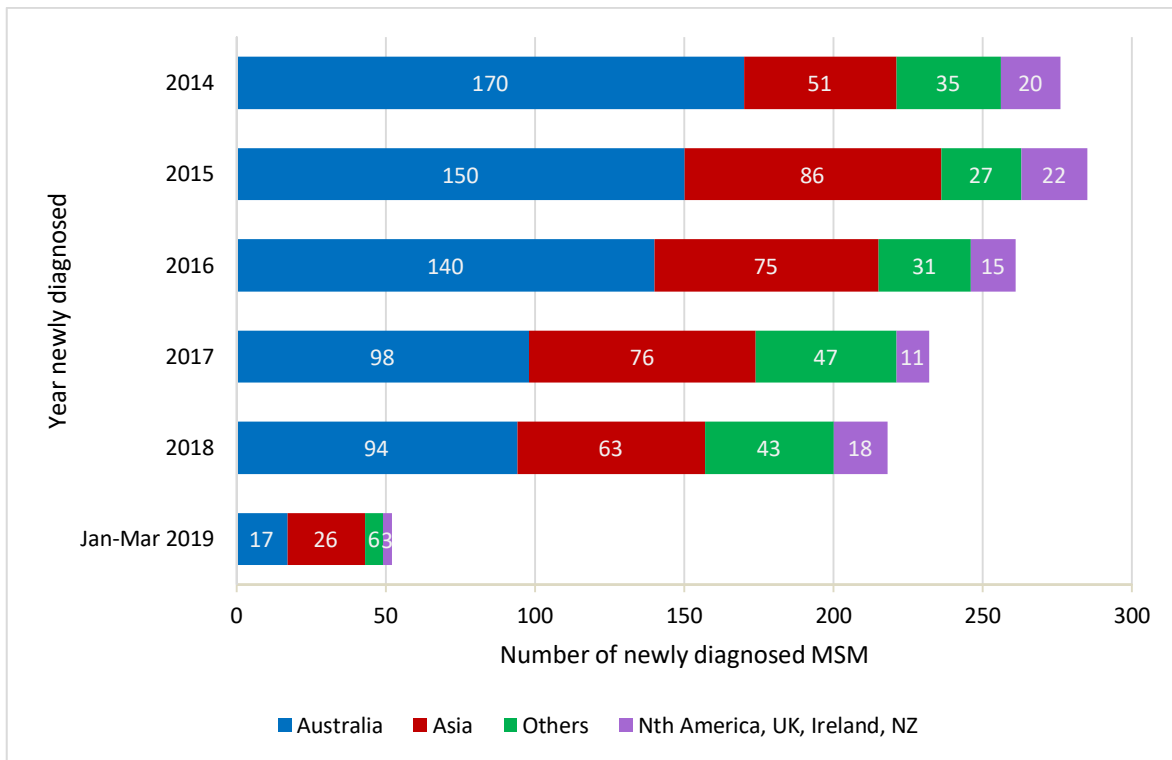


Figure 7: New diagnoses January 2014 to March 2019 of MSM by world area of birth



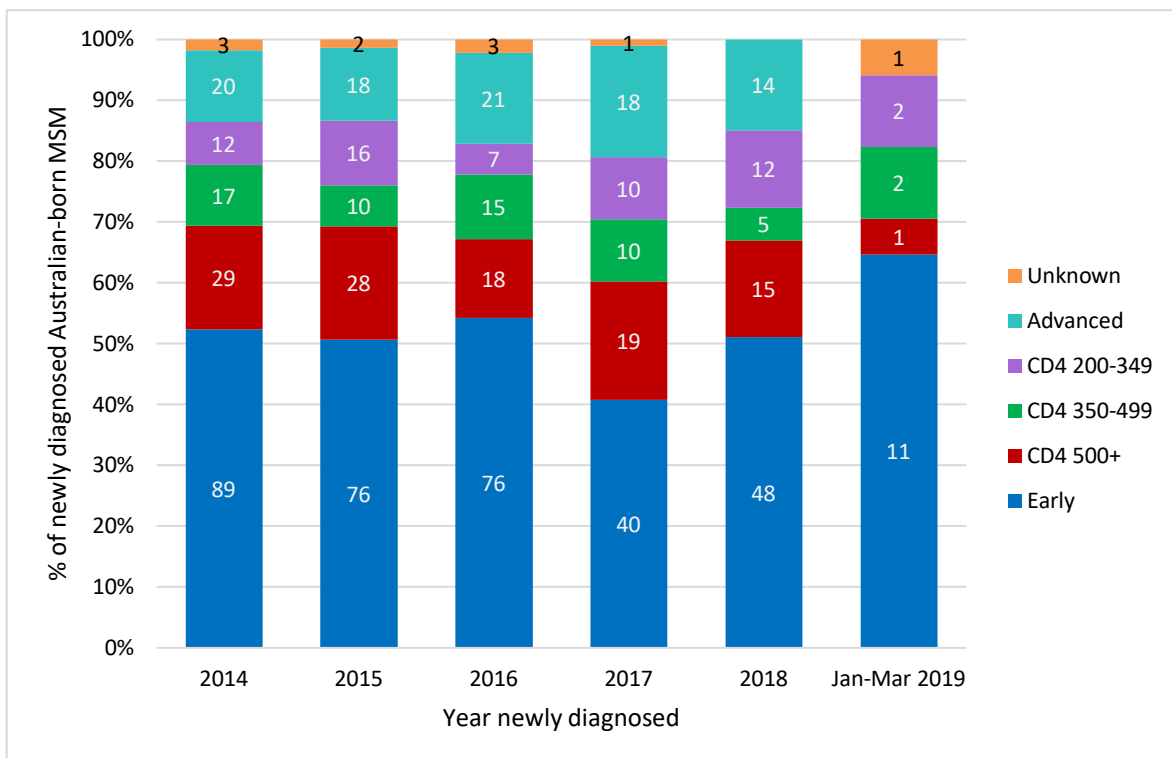
Comments on Figure 7

- Of 52 MSM newly diagnosed in NSW during Q1 2019, 33% were born in Australia, 33% in South-East Asia, 12% in North-East Asia, 8% each in North-West Europe and Southern & Central America, 6% in Southern & Central Asia and less than 5% in Sub-Saharan Africa (Figure 7).

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

Stage of infection is reported here among Australian-born MSM (8a), overseas-born MSM (8b), and among all other groups other than MSM (8c). **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. Categories **CD4 of 500+, 350-499, 200-349** exclude early and advanced stage categories. **Advanced stage** is a CD4 count less than 200 or an AIDS defining illness in absence of 'Early' criteria.

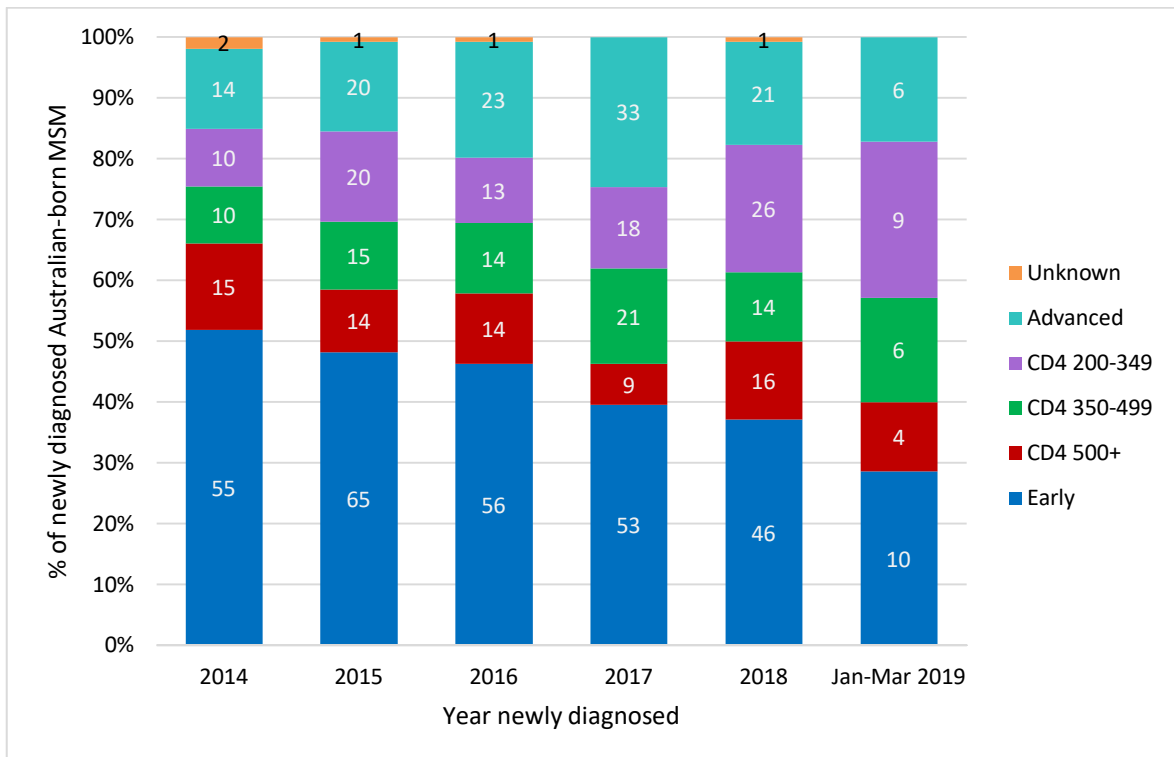
**Figure 8a: Stage of infection among Australian-born MSM newly diagnosed January 2014 to March 2019**



### Comment on Figures 8a-c

- Of 17 Australian-born newly diagnosed MSM in Q1 2019, 11 (65%) had evidence of early stage infection, 36% less compared to the Q1 2014-2018 average of 17.2 (Figure 8a). Two (12%) had late or advanced stage infection, 74% less than the comparison period (av. n=7.8) (Figure 8a).
- Of 35 overseas-born MSM newly diagnosed in Q1 2019, 10 (29%) had evidence of early stage infection, 40% less compared to the Q1 2014-2018 average of 16.6. Of these 10 early stage infections, one had been in NSW for less than 3 years, two for 3-4 years, three for 5-10 years and four for 11 or more years. Fifteen (43%) had late or advanced stage disease, 60% greater than the comparison period average of 9.4 (Figure 8b). Of these 15, six had been here for less than 3 years, four for 3-4 years, three for 5-10 years and two for 11 or more years.
- The number of new diagnoses in NSW residents who were not MSM was 21% lower in Q1 2019 (n=13) compared to the Q1 2014-2018 average (n=16.4). There were ten with late and advanced stage infection at diagnosis, 43% more than the Q1 2014-2018 average of 7.0 (Figure 8c).

**Figure 8b: Stage of infection among overseas-born MSM newly diagnosed January 2014 to March 2019**



**Figure 8c: Stage of infection among new diagnoses January 2014 to March 2019 with a risk other than MSM**

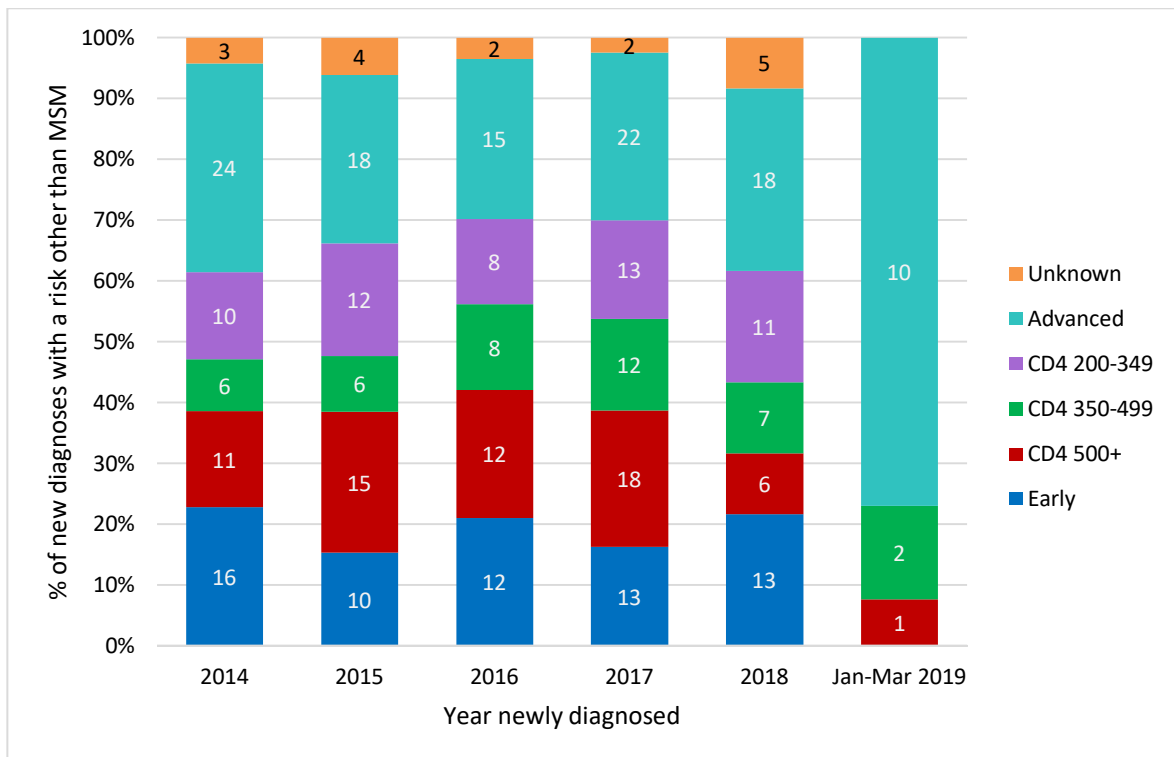
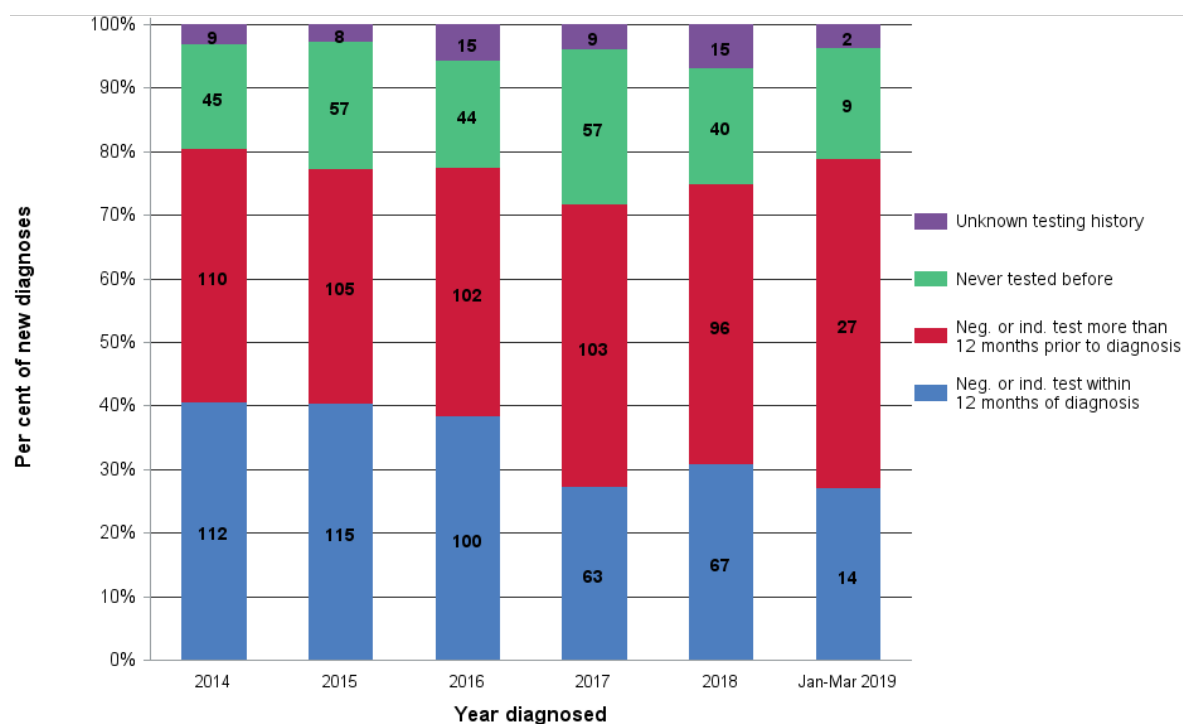


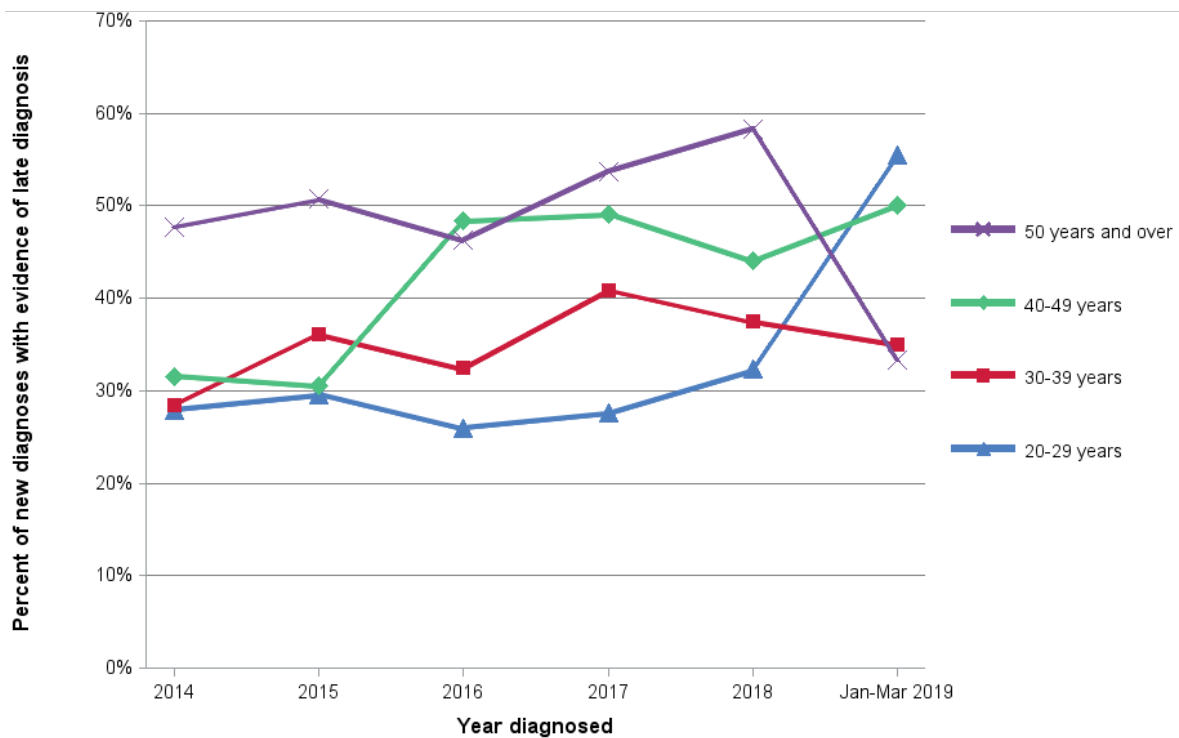
Figure 9: Per cent of MSM newly diagnosed January 2014 to March 2019, by HIV testing history



Of 52 MSM newly diagnosed during Q1 2019:

- Fourteen (27%) were reported (by a laboratory, a doctor, or the patient) to have had a negative or indeterminate HIV test within 12 months of diagnosis.
- Twenty-seven (52%) were reported to have had a negative or indeterminate HIV test sometime in the past, but not within 12 months of diagnosis.
- Nine (17%) reported not ever having had an HIV test prior to diagnosis.
- Over two-thirds had not been testing according to guidelines.
- Eighteen (35%) had evidence of late diagnosis.

**Figure 10: Per cent of new diagnoses from January 2014 to March 2019 in each age group category with evidence of late diagnosis**



- Evidence of late diagnosis was defined as a CD4 count less than 350 or an AIDS defining illness or AIDS death within three months of diagnosis, in the absence of a laboratory confirmed negative HIV test in the 12 months prior to diagnosis.
- Of 65 people newly diagnosed in Q1 2019, 28 (43%) had evidence of late diagnosis, similar to the 2014-2018 Q1 average count of 29.0. When separated into age groups:
  - None (0/1) of those aged 0-19 years (not shown in Figure 10)
  - 56% (10/18) of those aged 20 to 29 years
  - 35% (7/20) of those aged 30 to 39 years
  - 50% (7/14) of those aged 40 to 49 years
  - 33% (4/12) of those who were aged 50 years or over
- The elevated proportion of 20 to 29 year olds with late diagnosis is still present. In the 20 to 29 age group, eight people with evidence of late diagnosis were MSM, and seven of these eight MSM were born overseas.

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

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

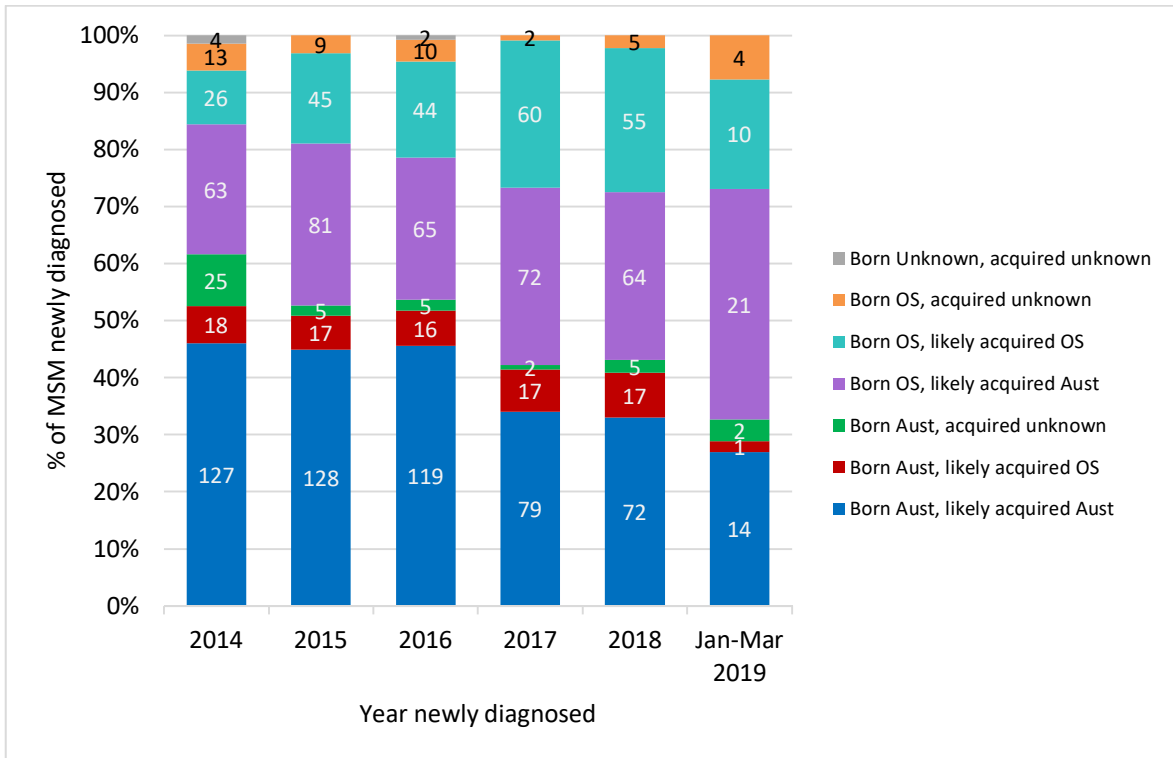
Case characteristics	Australian-born MSM			Overseas-born MSM		
	Jan-Mar 2014-2018 average	Jan-Mar 2019	Count (%) diff.	Jan-Mar 2014-2018 average	Jan-Mar 2019	Count (%) diff.
<b>Number</b>	<b>33</b>	<b>17</b>	<b>-16 (-48%)</b>	<b>33.8</b>	<b>35</b>	<b>+1.2 (+4%)</b>
<b>Gender</b>						
<i>Male</i>	32.8	17	-15.8 (-48%)	33.2	31	-2.2 (-7%)
<i>Transgender</i>	0.2	0	-0.2 (-100%)	0.6	4	+3.4 (+567%)
<b>Age at diagnosis</b>						
<i>0 to 19</i>	0	0	0 (0%)	0.4	1	+0.6 (+150%)
<i>20 to 29</i>	9.6	4	-5.6 (-58%)	13.4	11	-2.4 (-18%)
<i>30 to 39</i>	8.4	4	-4.4 (-52%)	11.4	14	+2.6 (+23%)
<i>40 to 49</i>	8.2	5	-3.2 (-39%)	5.8	4	-1.8 (-31%)
<i>50 and over</i>	6.8	4	-2.8 (-41%)	2.8	5	+2.2 (+79%)
<b>Evidence of early stage infection<sup>1</sup></b>						
<i>Yes</i>	17.2	11	-6.2 (-36%)	16.6	10	-6.6 (-40%)
<i>No</i>	15.8	6	-9.8 (-62%)	17.2	25	+7.8 (+45%)
<b>Evidence of late diagnosis<sup>2</sup></b>						
<i>Yes</i>	9.6	3	-6.6 (-69%)	11.6	15	+3.4 (+29%)
<i>No</i>	22.6	13	-9.6 (-42%)	21.4	20	-1.4 (-7%)
<i>Unknown</i>	0.8	1	+0.2 (+25%)	0.8	0	-0.8 (-100%)
<b>Place most likely acquired HIV</b>						
<i>Australia</i>	26.6	14	-12.6 (-47%)	19.2	21	+1.8 (+9%)
<i>Overseas</i>	4.6	1	-3.6 (-78%)	12	10	-2 (-17%)
<i>Unknown</i>	1.8	2	+0.2 (+11%)	2.6	4	+1.4 (+54%)
<b>Reported HIV risks</b>						
<i>MSM</i>	29.2	15	-14.2 (-49%)	32.2	31	-1.2 (-4%)
<i>MSM and IDU</i>	3.8	2	-1.8 (-47%)	1.6	4	+2.4 (+150%)

<sup>1</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.

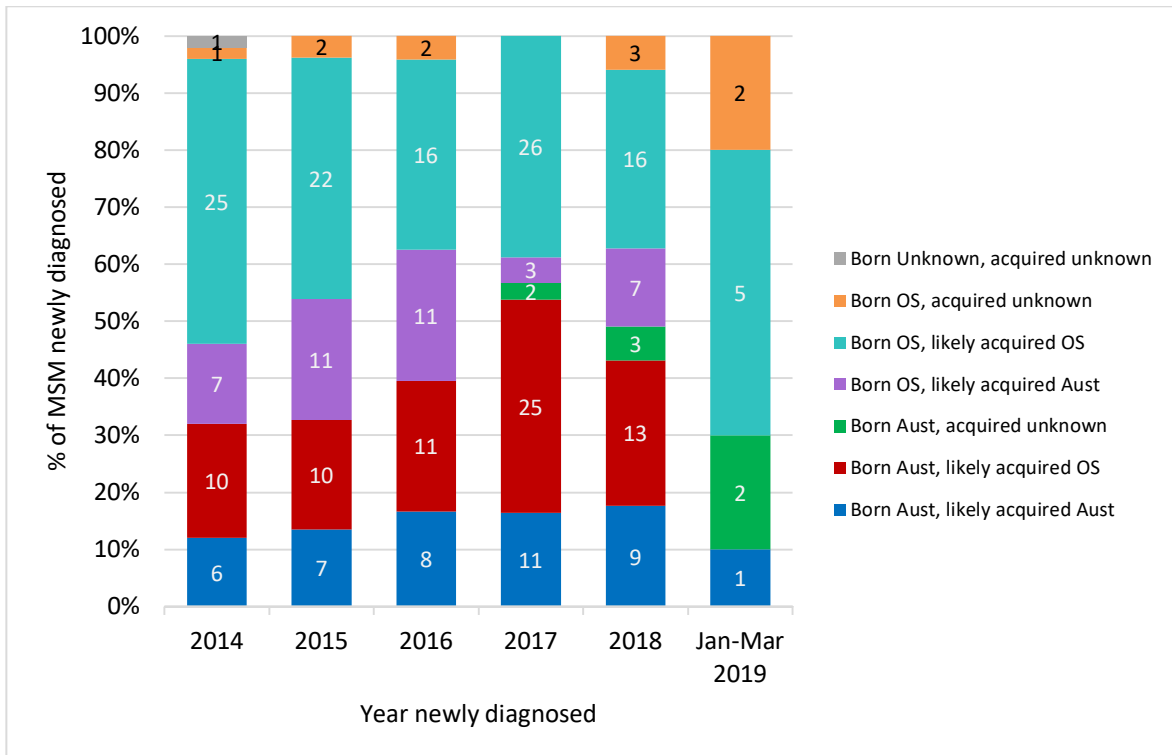
<sup>2</sup>Evidence of a late diagnosis: a CD4 count less than 350 or an AIDS defining illness or AIDS death within three months of diagnosis, in the absence of a laboratory confirmed negative HIV test in the 12 months prior to diagnosis.



**Figure 11a: Per cent of men who have sex with men newly diagnosed January 2014 to March 2019 by place born and place most likely acquired HIV**



**Figure 11b: Per cent of heterosexual people newly diagnosed January 2014 to March 2019 by place born and place most likely acquired HIV**



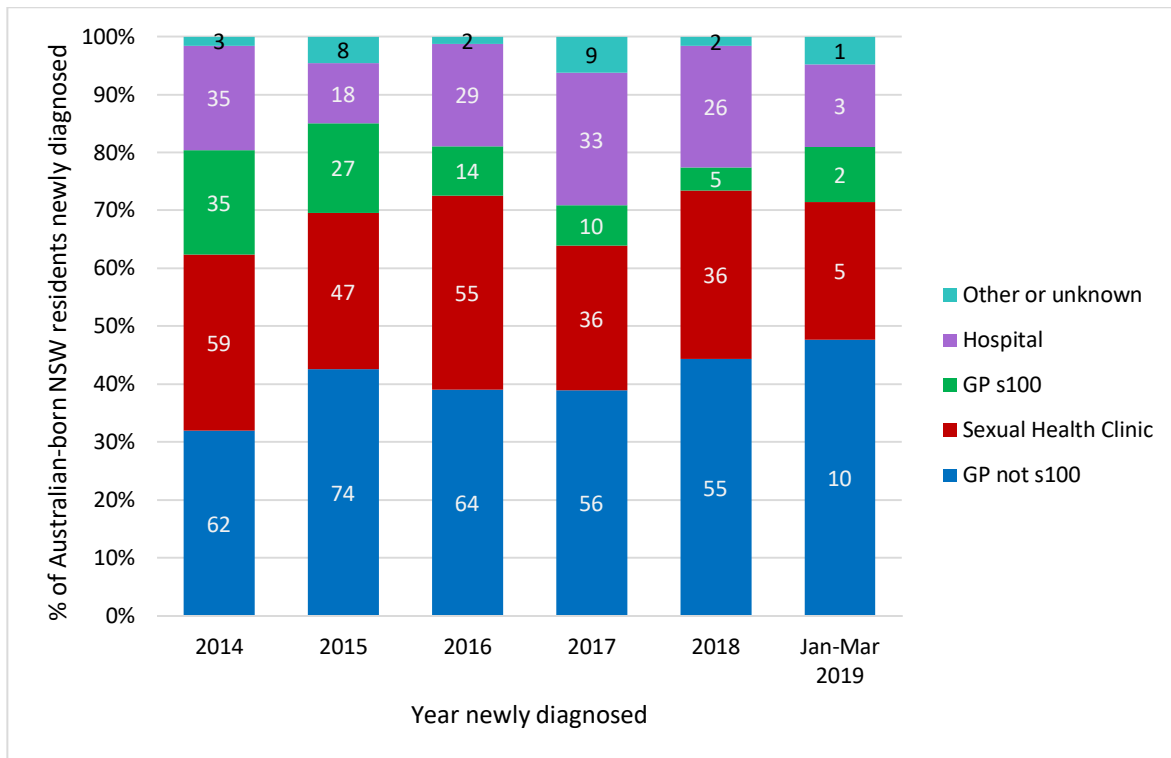
Of 52 MSM newly diagnosed in Q1 2019 (Figure 11a):

- Seventeen (33%) were Australian-born, 48% less than the average of 33.0 for Q1 2014-2018. Fourteen of these Australian-born MSM likely acquired HIV in Australia, 47% less than the Q1 2014-2018 average of 26.6, and one likely acquired HIV overseas, 78% less than in the comparison period (av. n=4.6).
- Thirty-five (67%) were born overseas, 4% more than the average of 33.8 for Q1 2014-2018. Twenty-one of these overseas-born MSM likely acquired HIV in Australia, 9% more than the average for Q1 2014-2018 (av. n=19.2), and ten likely acquired HIV overseas, 17% less than the comparison period (av. n=12.0).

Of ten heterosexual people newly diagnosed in Q1 2019 (Figure 11b):

- Three were Australian-born, a 52% decrease compared to the average of 6.2 for Q1 2014-2018.
- Seven were born overseas, identical to the average of Q1 2014-2018.

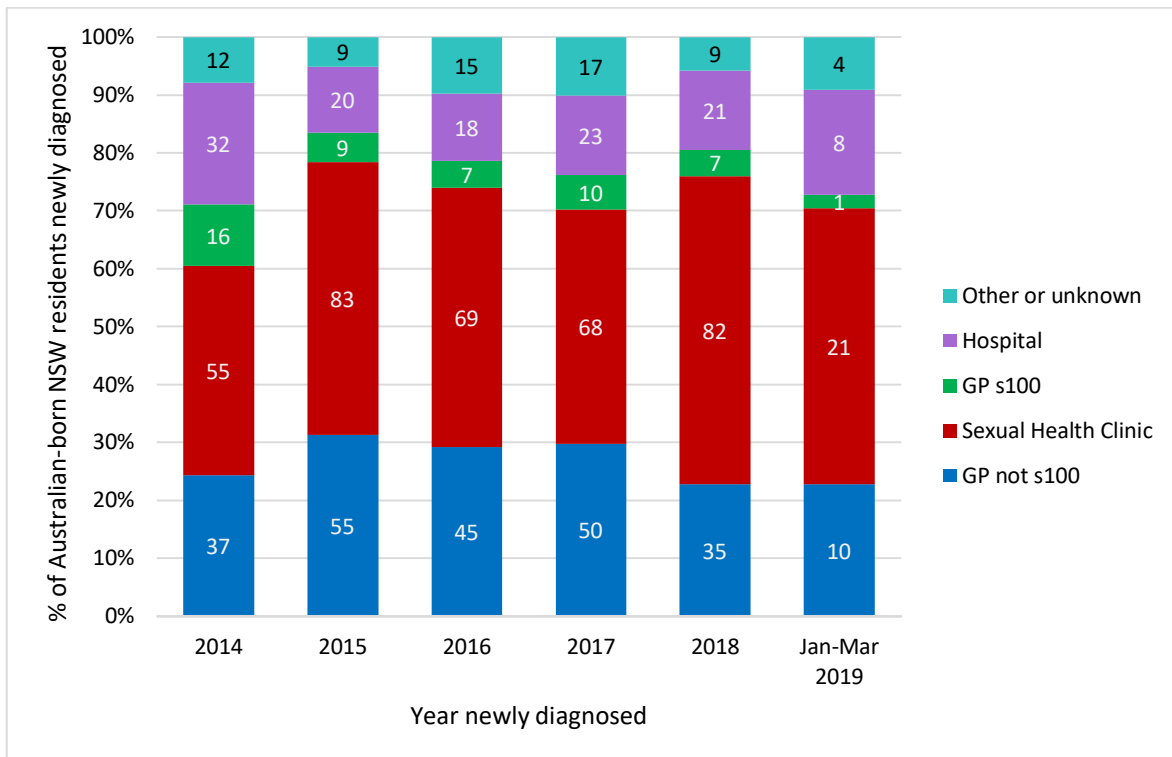
**Figure 12a: Per cent of Australian-born new diagnoses January 2014 to March 2019 by type of diagnosing doctor**



Of 21 Australian-born NSW residents with newly diagnosed HIV infection in Q1 2019 (Figure 12a):

- Ten (48%) were diagnosed by general practitioners (GPs) not accredited to prescribe antiretroviral therapy (GP not-s100), 43% less than the comparison period (av. n=17.4);
- Five (24%) were diagnosed by sexual health centres including community testing sites, 55% less than the Q1 2014-2018 average (av. n=11.2);
- Three (14%) were diagnosed by hospital doctors, 59% less than the comparison period (av. n=7.4);
- Two (10%) were diagnosed by GP s100 doctors (HIV specialised and accredited to prescribe ART), 50% less than four, the average for Q1 2014-2018, and;
- One (5%) was diagnosed by another doctor type, similar to the average in Q1 2014-2018 (av. n=1.2).

**Figure 12b: Per cent of overseas-born new diagnoses January 2014 to March 2019 by type of diagnosing doctor**



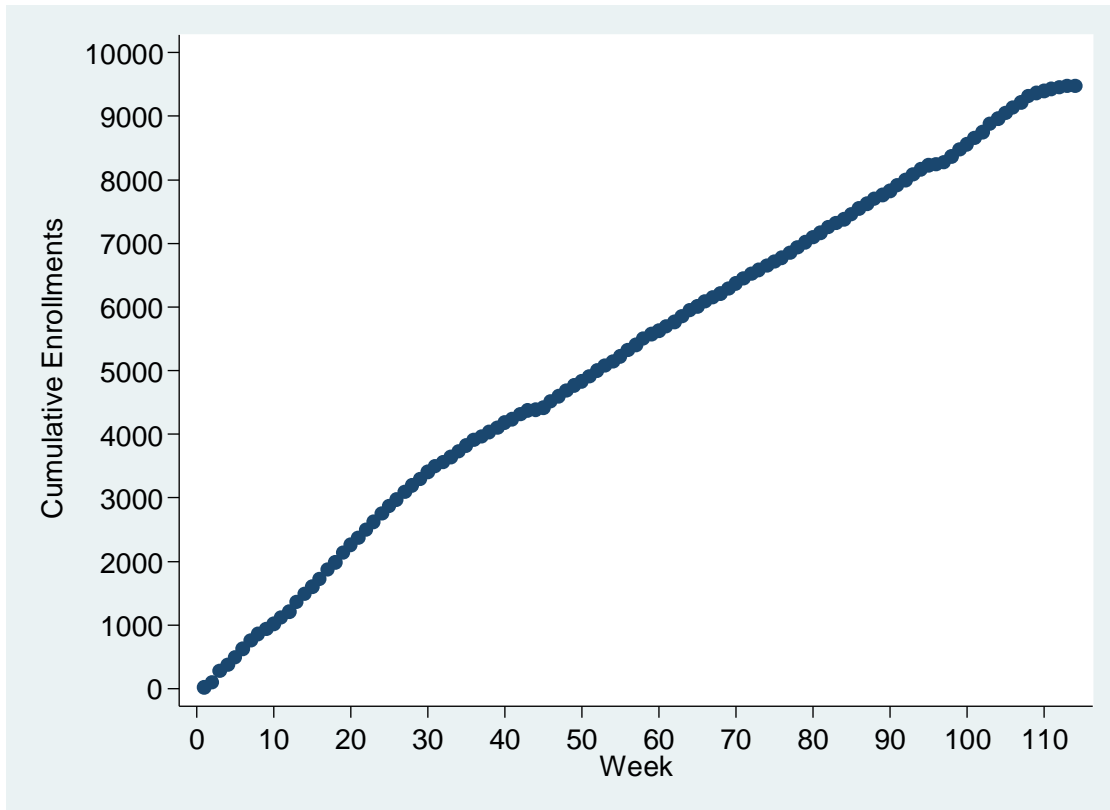
Of 44 overseas-born NSW residents with newly diagnosed HIV infection in Q1 2019 (Figure 12b):

- Ten (23%) were diagnosed by non s100 GPs, 14% less than the comparison period (av. n=11.6);
- Twenty-one (48%) were diagnosed by sexual health centres including community testing sites, 21% more than the Q1 2014-2018 average (av. n=17.4);
- Eight (18%) were diagnosed by hospital doctors, 29% more than the comparison period (av. n=6.2);
- One (2%) was diagnosed by a GP s100 doctor, 75% less than 4, the average for Q1 2014-2018;
- Four (9%) were diagnosed by other doctor types, 43% more than the average in Q1 2014-2018 (av. n=2.8).

## 2. Expand HIV Prevention

### 2.1 Who is accessing PrEP through EPIC-NSW?

Figure 13: Enrolment of participants in EPIC-NSW, by study week, from 1 March 2016 to 30 April 2018



#### Comments on Figure 13:

- A total of 9,477 participants enrolled in EPIC-NSW between 1 March 2016 and 30 April 2018.
- No new HIV diagnoses have been made in EPIC-NSW participants who continued to take PrEP as directed throughout the trial
- Participating clinics were: The Albion Centre (SESLHD), Albury Sexual Health (MLHD), Brookong Centre Wagga (MLHD), Clinic 16 (NSLHD), Coffs Harbour Sexual Health (MNCLHD), Dubbo Sexual Health (WNSW LHD), Dr Doong’s Surgery, East Sydney Doctors, Holdsworth House, Hunter New England Sexual Health (HNE LHD), Holden Street Clinic (CCLHD), Illawarra Shoalhaven Sexual Health (ISLHD), Kirketon Road Centre (SESLHD), Lismore Sexual Health Clinic (NNSW LHD), Liverpool Sexual Health (SWSLHD), MacCleay Street Medical Practice, Nepean Sexual Health and HIV Clinics (NBMLHD), Orange Sexual Health (WNSW LHD), RPA Sexual Health (SLHD), Short Street Clinic (SESLHD), St Vincent’s Hospital (SVHN), Sydney Sexual Health Centre (SESLHD), Taylor Square Private Clinic, Western Sydney Sexual Health (WSLHD).

**Table 2: Demographic data for EPIC-NSW participants enrolled between 1 March 2016 – 30 April 2018 (not including screen fails and duplicates. N=9,415)**

<b>Gender</b>	<b>N</b>	<b>%</b>
Male	9,281	98.8
Female	13	0.2
Transgender, male-to-female	78	0.8
Transgender, female-to-male	11	0.1
Other	12	0.1
<b>Total</b>	<b>9,395</b>	<b>100.0</b>
<b>Sexual identity</b>		
Gay/Homosexual	8,582	93.2
Bisexual	524	5.7
Heterosexual	47	0.5
Other*	54	0.6
<b>Total</b>	<b>9,207</b>	<b>100.0</b>
<b>Age at enrolment (years)</b>		
Median (Inter-quartile range)	34 (28 to 43)	
Age group		
< 20	100	1.1
20-29	2,817	30.6
30-39	3,204	34.8
40-49	1,887	20.5
≥50	1,208	13.1
<b>Total</b>	<b>9,216</b>	<b>100.0</b>
<b>Aboriginal and/or Torres Strait Islander status</b>		
Non-Indigenous	8,292	97.9
Aboriginal and/or Torres Strait Islander **	176	2.1
<b>Total</b>	<b>8,468</b>	<b>100.0</b>
<b>Country/Region of birth</b>		
Australia	4,704	59.5
Oceania	291	3.7
Asia	1,180	14.9
Northern America	208	2.6
South America, Central America & the Caribbean	355	4.5
Europe	895	11.3
Middle East	129	1.6
Africa	139	1.8
<b>Total</b>	<b>7,901</b>	<b>100.0</b>
<b>Area of residence</b>		
Major cities	8,727	94.1
Inner Regional	502	5.4
Outer Regional	38	0.4
Remote	8	0.1
Very Remote Australia	2	0.0
<b>Total</b>	<b>9,277</b>	<b>100.0</b>

Gender, age, Aboriginal and/or Torres Strait Islander status, country of birth, and area of residence (based on participant postcode) were obtained from enrolment, risk assessment, behavioural survey, and/or ACCESS databases, where available. Number of participants for whom data were available for is presented in **Appendix C**.

\* Other sexual identity as indicated by participants, including queer, pansexual, gender fluid, sapio, transgender, gender neutral, men who have sex with men, non-specified and not sure.

\*\* 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.

**Comments on Table 2**

- Almost 99% of participants were male. Around 93% identified as gay/homosexual
- More than 65% of the participants were between 20-39 years, and 21% were 40-49 years old
- Of the 7,901 participants who answered the question in the behavioural survey about place of birth, 60% were born in Australia, 15% were born in Asia and 11% were born in Europe
- A majority of participants (94%) resided in major cities. Only 5% of participants resided in an inner regional area and 0.5% resided in an outer regional or remote area
- Of 8,468 participants who answered the question in the behavioural survey about Aboriginality, 2.1% identified as Aboriginal or Torres Strait Islander

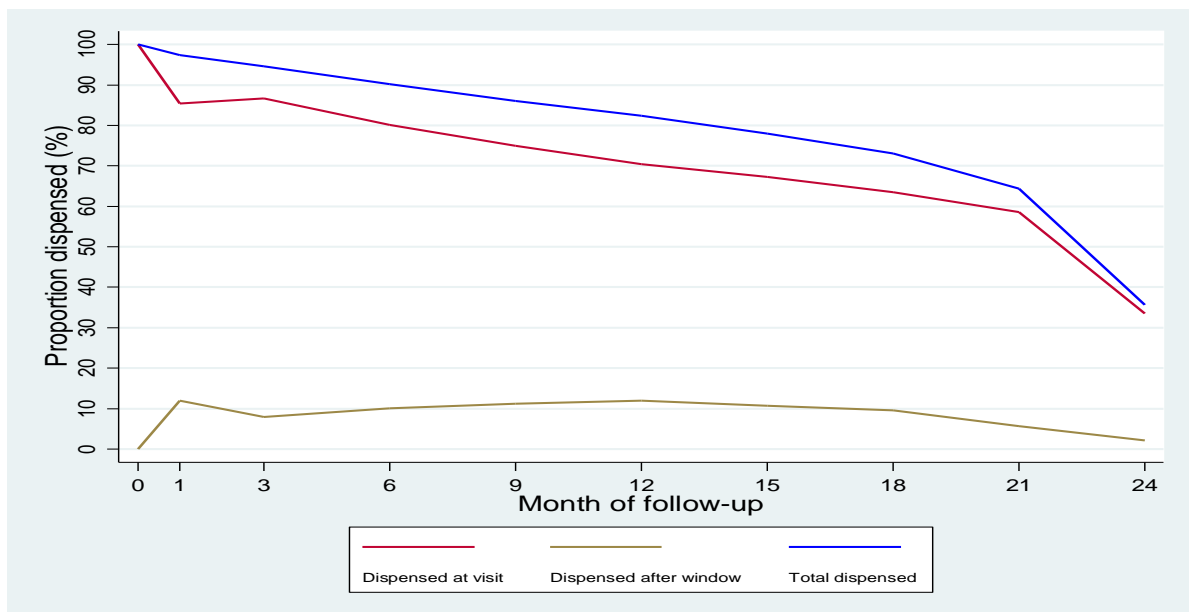
**PrEP use over time by EPIC-NSW participants**

Analysis of data is based on the dispensing logs collected for the 3700 EPIC-NSW participants who were enrolled and first dispensed prior to 31 October 2016. For these 3700 participants, this final report summarises information on PrEP use for up to 24-months of follow-up.

The following dispensing patterns were observed:

1. Dispensed drug at the current visit: defined as being dispensed drug at the relevant visit (within the pre-specified window period ( $\pm 45$  days)).
2. Dispensed drug after window: defined as NT being dispensed drug during the current visit window, but being dispensed drug at any of the following visits.

**Figure 14: PrEP dispensing in the first 24 months of follow-up, using dispensing log data**



Comments on Figure 14

- Overall, 73.1% of EPIC-NSW participants continue to take PrEP at 18 months after first dispensing of study drug. However, by 18 months of study follow-up, the proportion of these 3700 participants who were under active follow-up (total dispensed) gradually declined by approximately 3% every 3-month period from 100% at month-0 to 73.1% at month-18. A sharper decline after 18-month (64.4% total dispensed at 21 months) coincided with the availability of PrEP through the Pharmaceutical Benefits Scheme post April 2018. Study participants were rapidly transitioned to access PrEP through other means than study participation afterwards

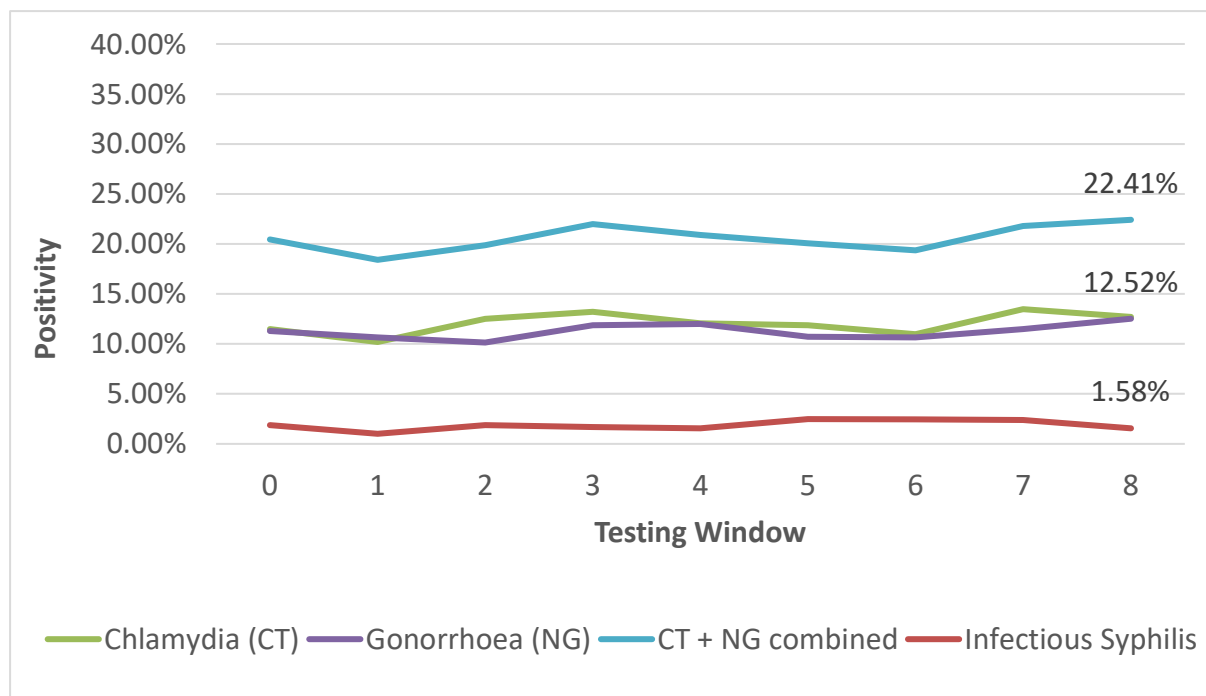
## 2.2 What is the prevalence of STIs among EPIC-NSW participants?

### EPIC-NSW Report to NSW Health: STI positivity over 24 months of follow-up, April 2019

EPIC-NSW collected STI longitudinal trends in chlamydia, gonorrhoea, and infectious syphilis positivity among the first 3700 participants enrolled in EPIC-NSW during their first 24 months of study follow-up. Enrolment was completed by 31 October 2016, and follow-up data was included up until 31 December 2018.

A total of 3326 (94.0%) of participants had a record of one or more STI tests and were included in this analysis. Not every participant had an STI test conducted at baseline, as this was not a study eligibility requirement.

**Figure 15: STI positivity over 24 months of follow-up**



Testing window 1 represents the first recommended STI test after enrolment, at 3 months after enrolment ±45 days, and each subsequent window covers a similar three-month period.

### Comments on Figure 15

Chlamydia and gonorrhoea positivity were calculated as a positive test at any anatomical site (ano-rectal, pharyngeal, or urethral). The number of chlamydia/gonorrhoea tests conducted in each testing window declined over time; from 3326 in testing window 0, to 1984 in testing window 8. Data on infectious syphilis were only available from public clinics, with 1562 tests conducted in window 0 and 759 in window 8.

- Chlamydia and gonorrhoea positivity ranged from 10-12.5% per window.
- Infectious syphilis positivity ranged from 1-2.5%, with fluctuations over time.
- In each 3-month testing window about 20% of participants who were tested were diagnosed with chlamydia and/or gonorrhoea, and over time the rate of detection remained fairly stable.

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

PrEP was listed on the PBS on 1 April 2018, making it accessible to people at high and medium risk of HIV infection through community pharmacies.

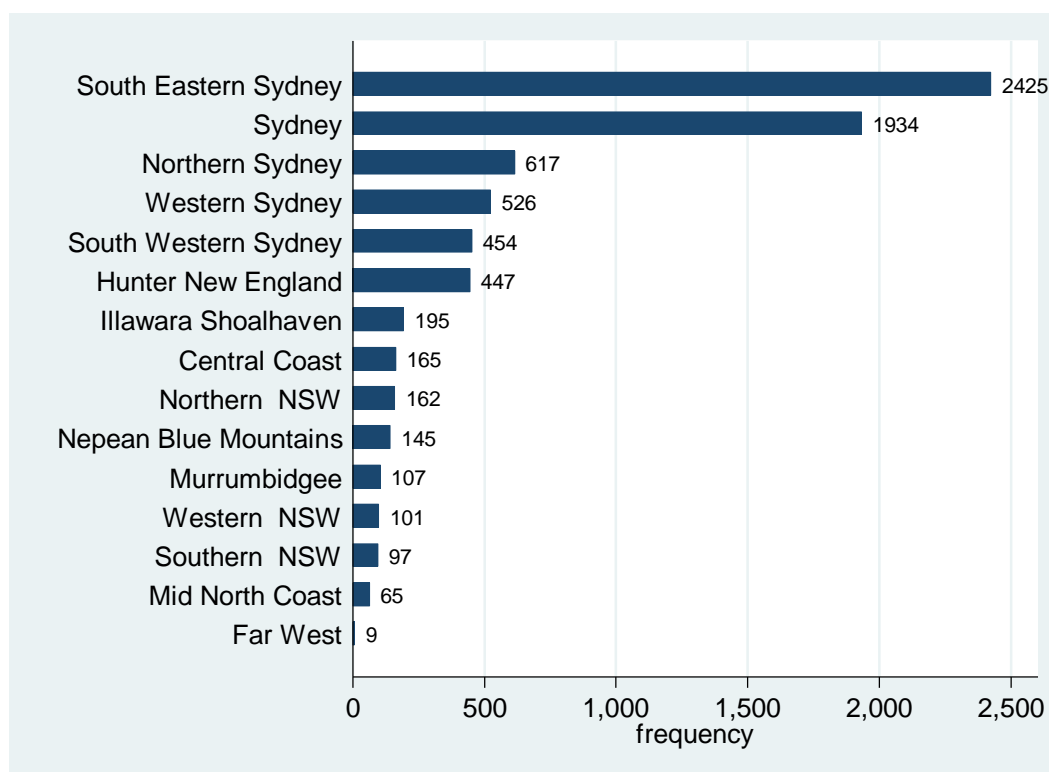
A PrEP transition plan has been implemented to support EPIC-NSW participant access to PBS PrEP, and to support expanded and ongoing access to PrEP throughout NSW.

Between 1 April and 31 December 2018:

- A total of 7,449 (unique number) NSW residents were dispensed PrEP for HIV prevention from April 2018.
- Of the 7,449 residents on PrEP, 99.2% were male. The distribution among age groups included: 70 (0.9%) between 0 and 19 years old; 1,765 (23.7 %) between 20 and 29; 2,526 (33.9%) between 30 and 39; 1,711 (23.0%) between 40 and 49; and 1,377 (18.5%) aged older than 50 years old.
- Between 1 April and 31 December 2018, among those who initiated PrEP treatment, 77.0% were prescribed by GP; 99.0% were dispensed by a community pharmacy.



**Figure 16: The Number of NSW residents dispensed PrEP by LHDs of patient residence from 1 April to 31 December 2018<sup>1</sup>**



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

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 16

- About 86% of people dispensed PrEP under the PBS in NSW between 1 April and 31 December 2018 were residents of South Eastern Sydney (33.0%) and Sydney LHDs (26.0%), followed by Northern Sydney (8.0%), Western Sydney (7.0%), South Western Sydney (6.0%) and Hunter New England (6.0%).

## 2.4 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 CAIC that is safe and unlikely to lead to HIV transmission (because of HIV treatment and viral

<sup>1</sup> PrEP data become available from PBS since April 2018.

suppression or PrEP use) or CAIC that is unprotected and poses a risk for transmission. The Survey will be completed in March 2019. Updates will be available in next quarter report.

## 2.5 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.

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

From April 2018 to March 2019,

- 14,678,945 injecting units were distributed in NSW.
- The LHDs with the highest number of units of injecting equipment distributed were Hunter New England, Sydney, South Western Sydney, Western Sydney and South Eastern Sydney.

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

- In 2018, 20% of respondents reported receptive syringe sharing in the previous month (NSW Needle and Syringe Program Enhanced Data Collection, 2018)<sup>2</sup>.

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<sup>2</sup> Geddes, L, Iversen J, and Maher L. NSW Needle and Syringe Program Enhanced Data Collection Report 2018, The Kirby Institute, UNSW Australia, Sydney 2018.

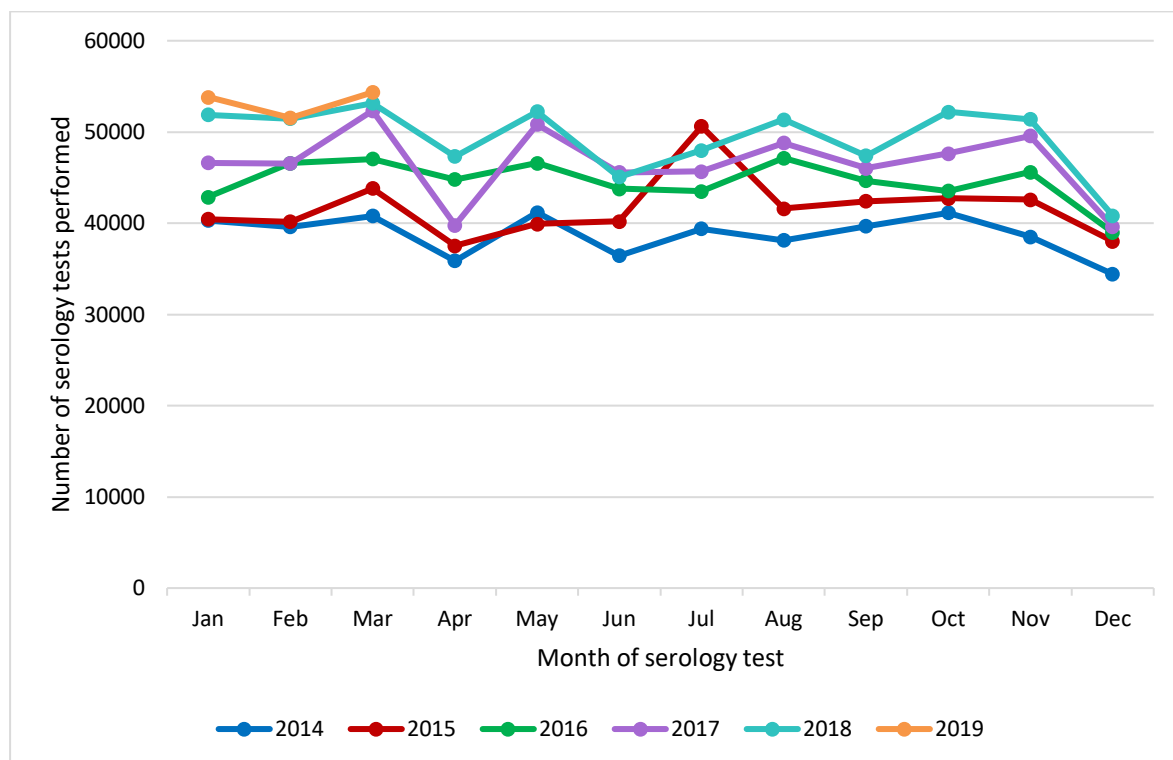
### 3. Increase HIV testing frequency

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



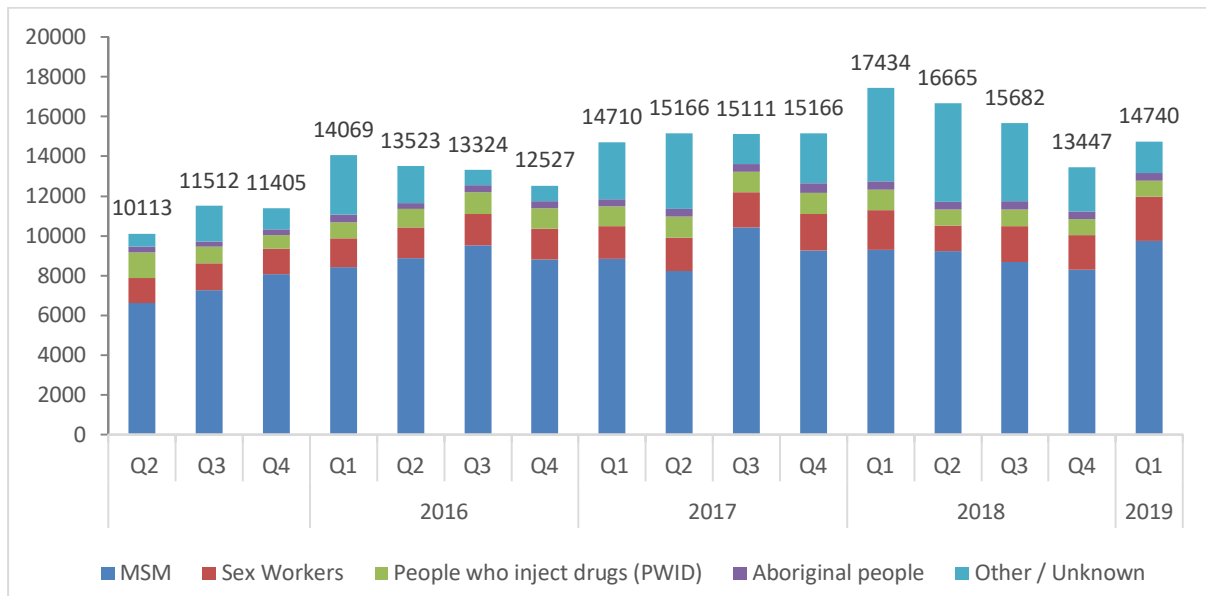
Data source: NSW Health denominator data project, out 7 May 2019.

##### Comments on Figure 17

In January to March (Q1) 2019:

- 159,694 HIV serology tests were performed in 15 laboratories in NSW, which was 2% more than Q1 2018 (n=156,486), 10% more than Q1 2017 (n=145,474), 17% more than Q1 2016 (n=136,503), 28% more than Q1 2015 (n=124,447), and 32% more than Q1 2014 (n=120,667).

**Figure 18: Number of HIV tests performed in public sexual health clinics in NSW between 1 April 2015 and 31 March 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 18**

- In 2019 (Jan-Mar, 2019), 9,737 HIV tests were conducted in MSM in PFSHCs.

## 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.

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

Recruitment indicators	Q1 2019 (Jan - Mar)	Total (Nov 2016 - Mar 2019)
Number of registrations for HIV DBS test	461	2432
Number (%) of people who registered for a HIV DBS kit who had never tested before or had tested over 2 years ago	193/461 (42%)	1093/2432 (45%)
Return rate of DBS kits	-	1707/2432 (70%)
Number (%) of reactive HIV tests*	1	7/1707 (0.4%)

Data Source: NSW Dried Blood Spot Research database

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

### Comments on Table3

- 45 per cent of people who registered for the test had never previously tested for HIV or had tested more than 2 years ago
- 2,432 test HIV test kits have been ordered, with a return rate of 70 per cent
- The positivity rate of returned HIV test kits is 0.4 per cent

**Table 4: Number per target population\* who registered for the NSW DBS Self-Sampling HIV and HCV Testing Pilot, November 2016 to March 2019\***

Target population	Q1 2019 (Jan - Mar)	Total (Nov 2016 - Mar 2019)
MSM	235 (51%)	1365 (56%)
Partners from Asia or Africa continents	115 (25%)	678 (28%)
From Asia or Africa continents	88 (19%)	496 (20%)
Ever injected drugs**	194 (42%)	792 (33%)
Aboriginal or Torres Strait Islander People**	83 (18%)	341 (14%)

Data Source: NSW Dried Blood Spot 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

**Table 5: Number of tests done per target population\* for the NSW DBS Self-Sampling HIV and HCV Testing Pilot, November 2016 to March 2019**

Target population	Number (%) of tests done	
	1 Nov 2016 – 31 March 2019	
Aboriginal people**	271	16%
MSM	862	50%
Ever injected drugs**	680	40%
From Asia/Africa	330	19%
Partners from Asia/Africa	441	26%

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

#### Comment on Table 5

- Half of the individuals who returned a DBS test were MSM. Nineteen percent of participants were from Asia/Africa and more than a quarter of participants had partners from Asia/Africa.

**Table 6: Registrations for the NSW DBS Self-Sampling HIV and HCV Testing Pilot per LHD of participant from November 2016 to March 2019, and number of tests done (kits returned) in Q1 2019**

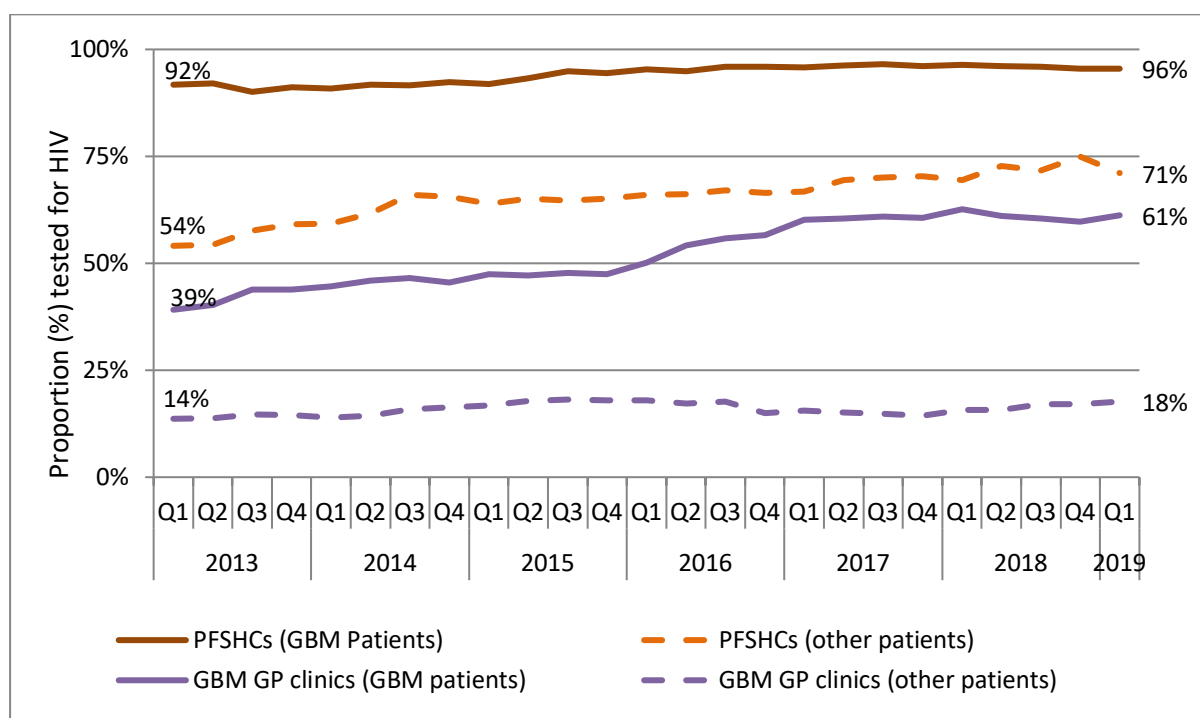
LHD	Total number of registrations in Nov 2016 - Mar 2019	Number of registrations in Q1 2019 (Jan - Mar)	Number of tests done (kits returned) in Q1 2019 (Jan - Mar)
Central Coast	63	11	7
Far West	29	1	1
Hunter New England	282	34	22
Illawarra Shoalhaven	109	13	10
Justice Health	339	97	80
Mid North Coast	62	13	4
Murrumbidgee	65	11	7
Nepean Blue Mountains	43	5	5
Northern NSW	39	7	7
Northern Sydney	180	37	23
South Eastern Sydney	819	212	168
Southern NSW	48	4	4
South Western Sydney	121	23	16
Sydney	381	55	41
Western NSW	52	10	6
Western Sydney	180	25	23

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

### 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 19: 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 March 2019<sup>5</sup>**



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

#### Comments on Figure 19

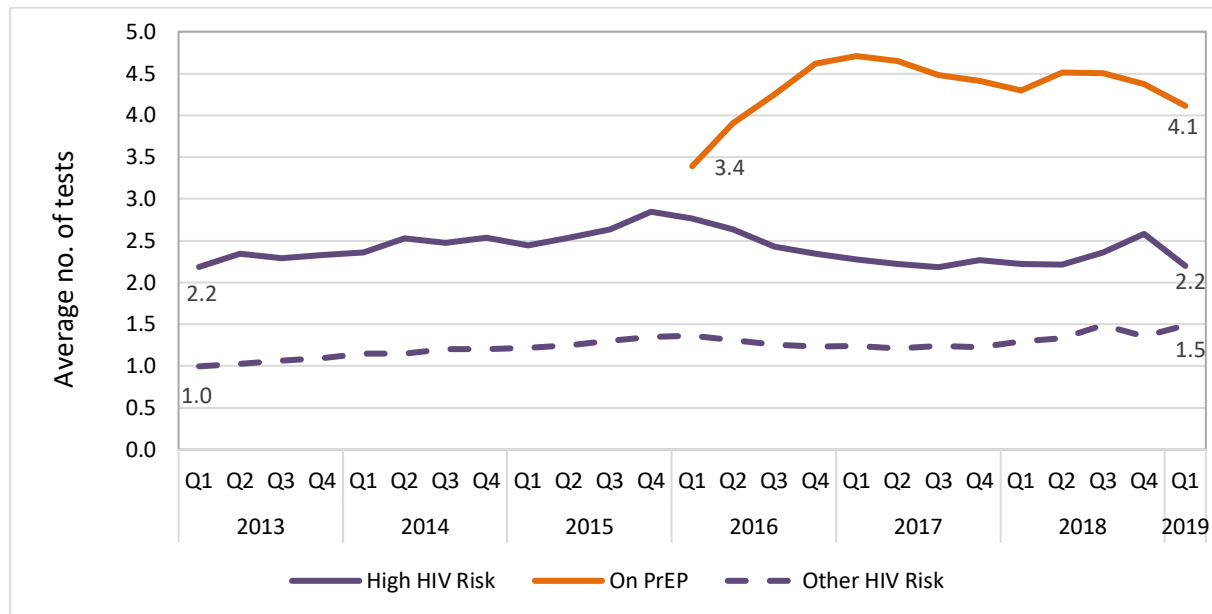
- HIV testing uptake among GBM attending PFSHCs remained consistently high in the first quarter of 2019 (96%).
- Testing uptake increased over time among other patients attending PFSHCs, rising from 54% in Q1 of 2013 to 71% in Q1 of 2019.
- Testing uptake also increased among GBM attending GBM GP clinics (from 39% in Q1 of 2013 to 61% in Q1 of 2019).
- Testing amongst other patients attending GBM GP clinics stayed relatively consistent from 2013 to Q1 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 20: 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 March 2019**



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

Comments on Figure 20

- The average number of HIV tests among high risk GBM stayed consistent from 2013-Q1 2019, during the same period, increased from 1.0 to 1.5 among men of other risk profiles.
- Men identified within ACCESS as accessing PrEP through the EPIC-NSW study were considered ‘low risk’ for HIV and, as per the protocol for that study, had consistently high rates of HIV testing.

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.

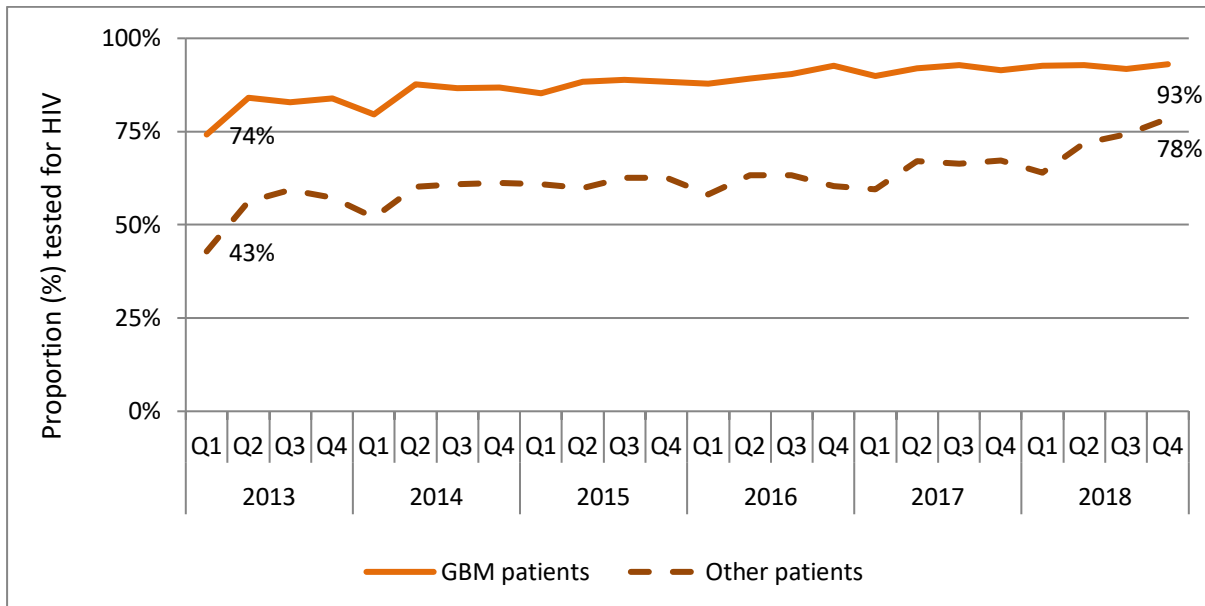
<sup>6</sup> Excludes patients known to be HIV positive

<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.



**Figure 21: 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 2018**



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

Note: Figure 22 has been updated to include any HIV test conducted 30 days after a diagnosis was recorded in Q4 2018. Data for Q1 2019 will be updated in the next HIV Data report.

Comment on Figure 21

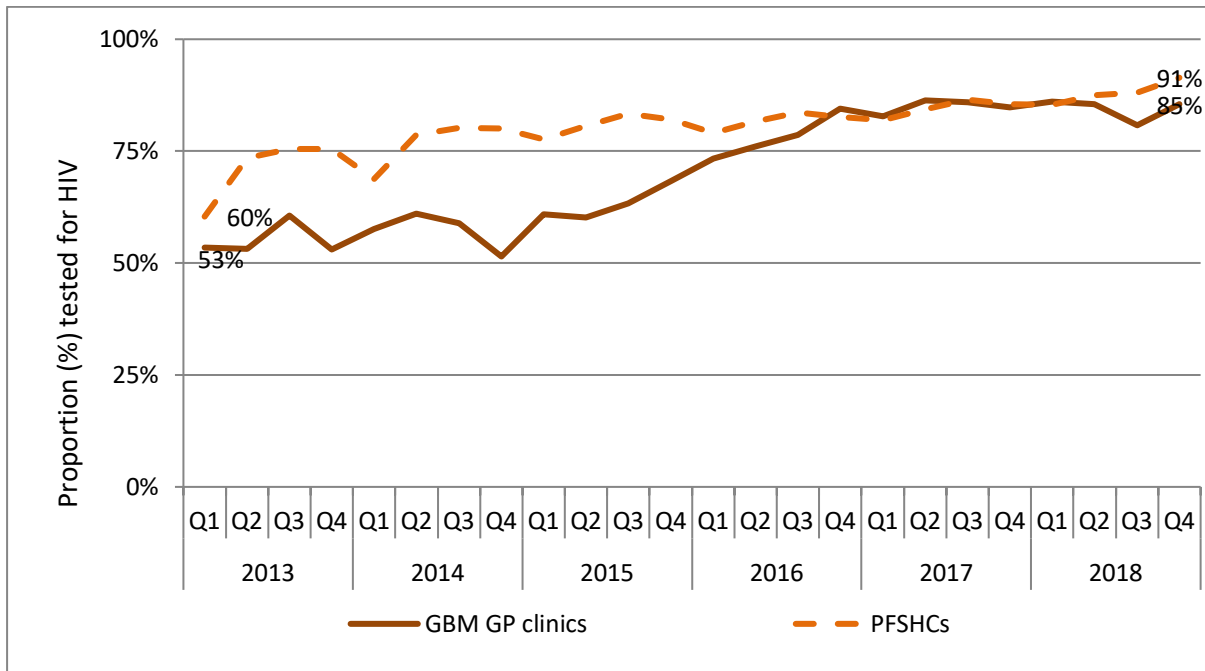
The proportion of GBM who received an HIV test in conjunction with an STI diagnosis increased over time from 74% in early 2013 to 93% in Q4 of 2018. Testing in conjunction with STI diagnoses was less common overall among other patients but also increased during this period (43% to 78%).

<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 22: 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 2018**



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

Note: Figure 23 has been updated to include any HIV test conducted 30 days after a diagnosis was recorded in Q4 2018. Data for Q1 2019 will be updated in the next HIV Data report.

Comment on Figure 22

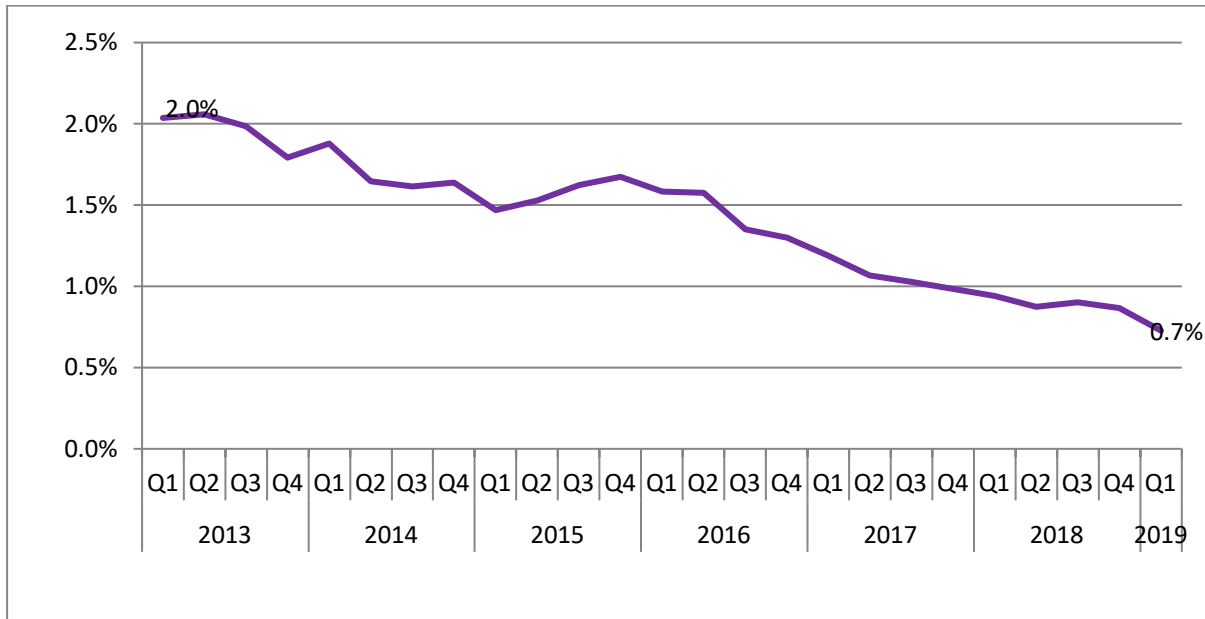
Testing in conjunction with STI diagnosis was highest in PFSHCs, increasing from 60% in Q1 2013 to 91% at the end of Q4 2018. GBM GP clinics also saw an increase in the proportion of patients tested from 53% in Q1 of 2013 to 85% at the end of Q4 2018.

<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 23: Proportion of individual GBM patients<sup>15</sup> tested for HIV with a positive result (*HIV positivity*<sup>16</sup>) at any clinic in the ACCESS network, by quarter, 1 January 2013 to 31 March 2019**



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

**Comment on Figure 23**

- Over time, HIV positivity among GBM attending PFSHCs and GBM GP clinics has decreased from 2.0% of Q1 2013 to 0.7% in Q1 2019.

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

<sup>16</sup> HIV positivity is calculated as the proportion of individuals tested in a retrospective year period (discounting repeat tests among individuals) with an HIV diagnosis or confirmed pathology (positive p24 antigen or western blot test)

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

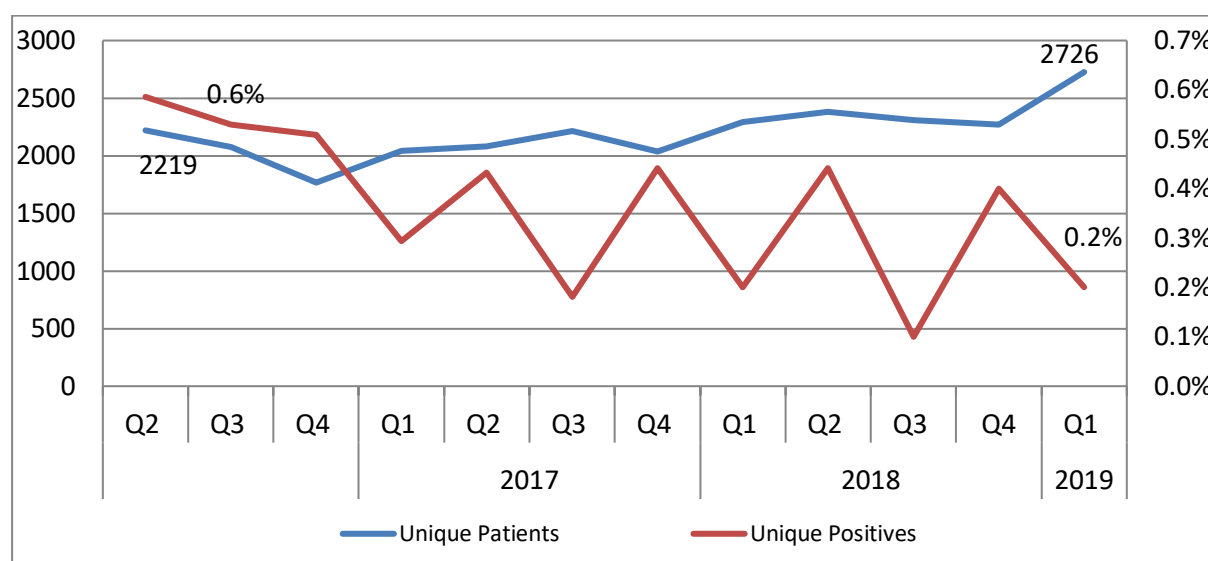
**Table 7: Number of rapid HIV tests in community based sites and proportion of clients with high risk behaviour and infrequent testing history in Jan-Mar 2019**

Non-traditional Settings	Number of RHT and (unique)	% 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>					
<i>aTEST Surry Hills</i>	219	0.0%	0.0%	21.0%	22.9%
<i>aTEST Oxford ST</i>	2,162	0.2%	6.8%	13.0%	32.2%
<i>aTEST Kings Cross</i>	116	0.9%	17.2%	25.0%	23.8%
<i>aTEST Newtown</i>	229	0.4%	45.9%	17.0%	21.5%

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

Note: <sup>#</sup>Does not include 'never tested'; \*Only patients who provided information on this characteristic have been included

**Figure 24: The number of unique patients who had a rapid HIV test at a community based site between April 2016 and January 2019 and the proportion of tests that were positive**



Data sources: NSW Health HIV Strategy Monitoring Database<sup>18</sup>

#### Comments on Figure 24

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

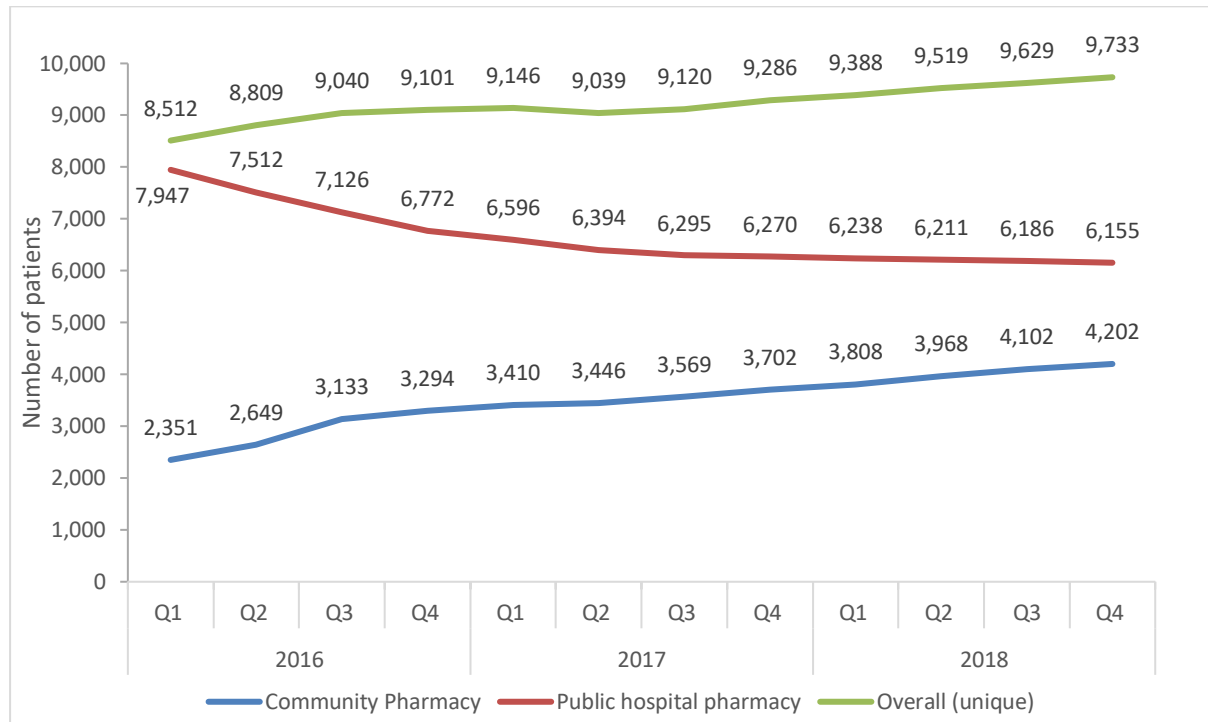
<sup>17</sup> Public sexual health and HIV services data provided by Local Health Districts for the purpose of monitoring the implementation of the NSW HIV Strategy.

<sup>18</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 25: 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 Jan 2016 to 31 Dec 2018**



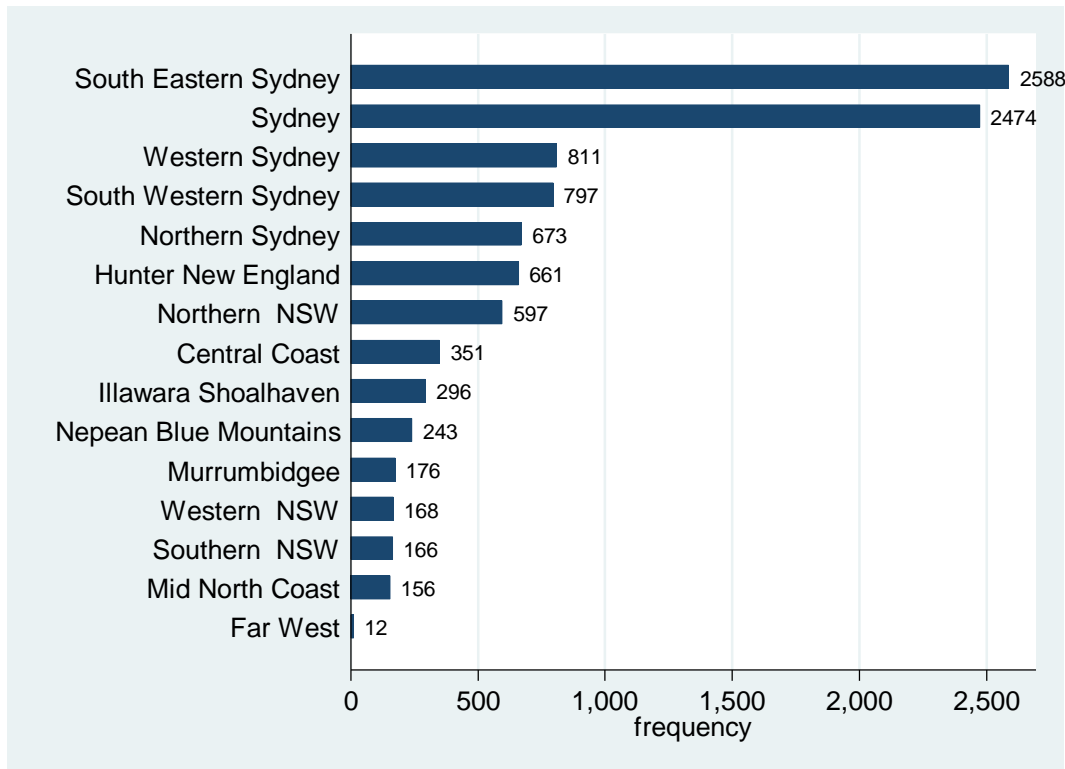
Data source: PBS Highly Specialised Drugs Programme data from 1 Jan 2016 to 31 Dec 2018 prepared for NSW Health.

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 25

- Between 1 Jan 2018 and 31 Dec 2018, a total of 9,733 NSW residents were dispensed ART for HIV at least once within the previous 12 months.
- Of the 9,733 residents dispensed ART, 87% were male. The majority (55%) were 50 years or older, 24% were aged 40-49 years, and about 21% aged 39 years or younger.

**Figure 26: The number of NSW residents dispensed ART for HIV, by the LHD of patient residence, from 1 Jan 2018 to 31 Oct 2018<sup>19</sup>**



Data source: Pharmaceutical Benefits Schedule Highly Specialised Drugs Programme data from Jan to Dec 2018

Comments on Figure 26

- More than three-quarters (79%) of the ART dispensed in the 12 months ending 31 December 2018 was to patients residing in the following five LHDs: South Eastern Sydney, Sydney, Western Sydney, South Western Sydney, Northern Sydney and Hunter New England LHDs.

<sup>19</sup> The sum of the numbers displayed in the graph is higher than the total of 8,677 patients as some patients resided in more than one LHD.

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

Data on the treatment status of clients who received HIV care in NSW public sexual health and HIV services between April 2018 and March 2019 is summarised at Table 8<sup>20</sup>.

**Table 8: Clients who received HIV care in NSW public sexual health and HIV services from 1 April 2018 and 31 March 2019**

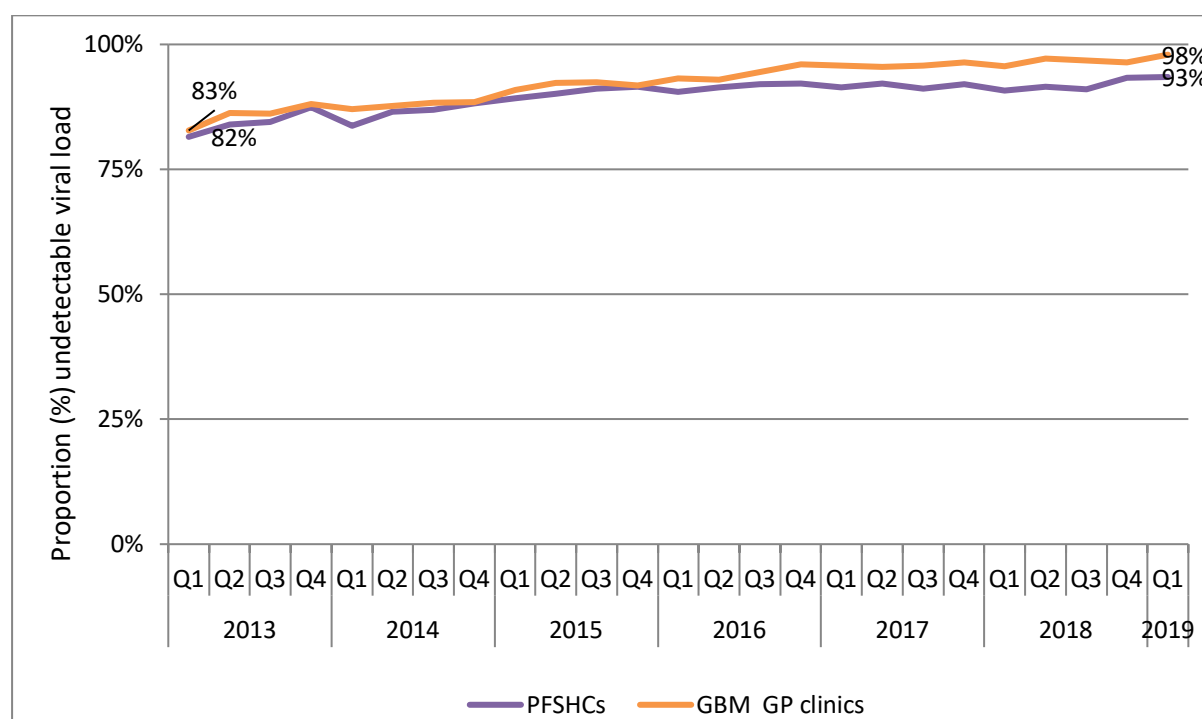
Number (%) of patients for whom treatment information was available	5,866
Number (%) on ART	5,729 (98%)

Data sources: NSW Health HIV Strategy Monitoring Database<sup>21</sup>

### Comment on Table 8

- During period from April 2018 to March 2019, treatment information was available for 5,866 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 27: Proportion of HIV positive patients<sup>22</sup> attending any clinic in the ACCESS network<sup>23</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 March 2019**



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

<sup>20</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>21</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.

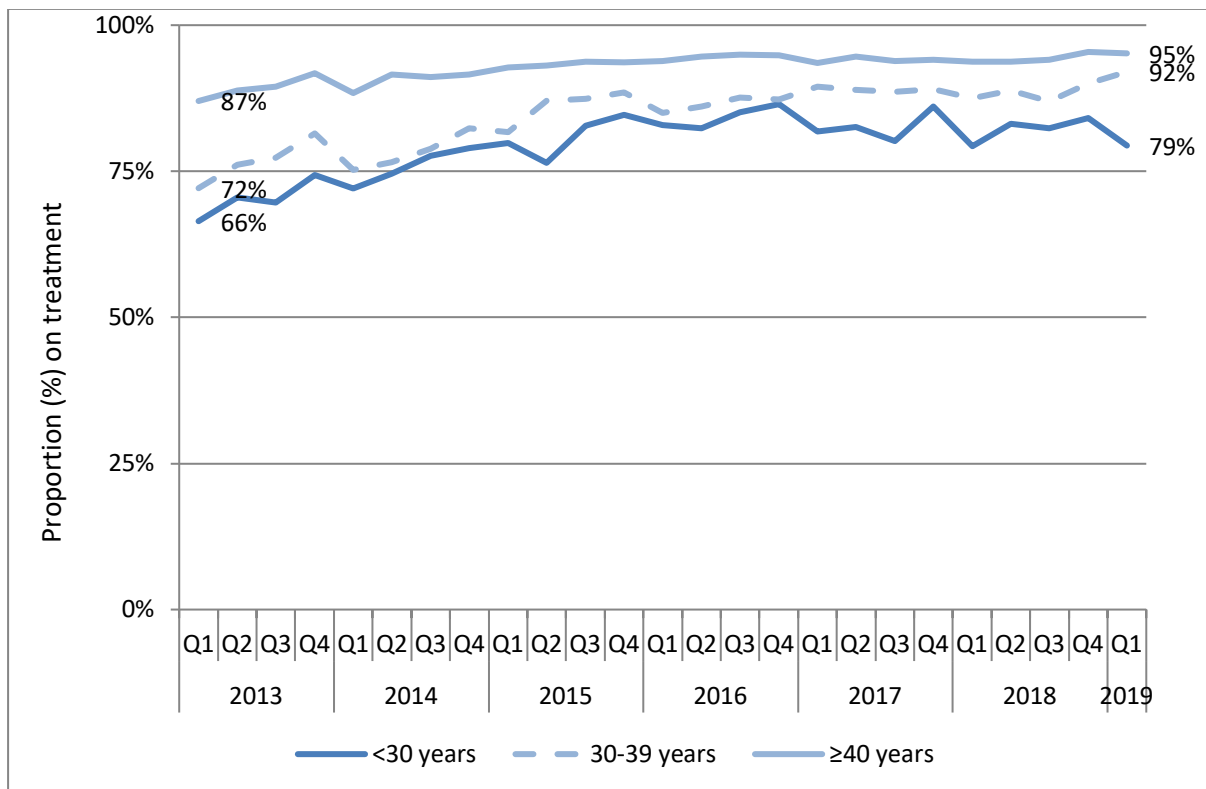
<sup>22</sup> Excludes patients for whom HIV care was recorded as managed elsewhere

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

Comment on Figure 27

- Over time, treatment uptake for people living with HIV increased across service types. The greatest increase was among patients attending GBM GP clinics, rising from 83% in early 2013 to 98% in the first quarter of 2019.

**Figure 28: Proportion of HIV positive patients attending any clinic in the ACCESS network<sup>24</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 March 2019**



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

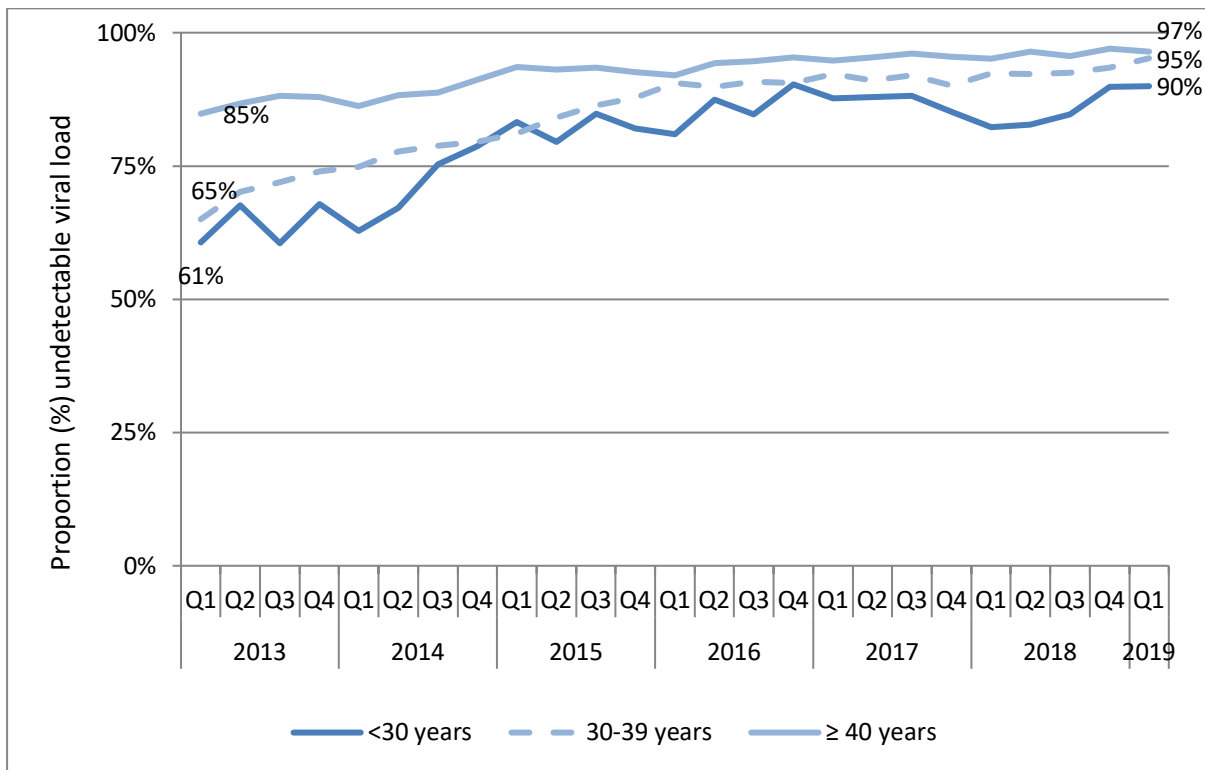
Comment on Figure 28

- 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-Q1 2019.

<sup>24</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually



**Figure 29: Proportion of HIV positive patients on treatment at any clinic in the ACCESS network<sup>25</sup> with an 'undetectable'<sup>26</sup> viral load at their most recent test in the previous 12-month period at any clinic in the ACCESS network<sup>27</sup>, by age group and quarter, 1 January 2013 to 31 March 2019**



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

Comment on Figure 29

- The proportion of HIV positive patients with an undetectable viral load was consistently highest among older patients: 97% of patients 40 years and older had undetectable viral loads in Q1 of 2019.
- The greatest change over time, however, was among 30-39 years old and younger patients (less than 30 years old), increasing from 61% to 90% from Q1 2013- Q1 2019.

<sup>25</sup> GBM clinics defined as general practice clinics serving at least 50 GBM patients annually

<sup>26</sup> 'Undetectable' defined as <200 RNA copies/mm<sup>3</sup> of blood

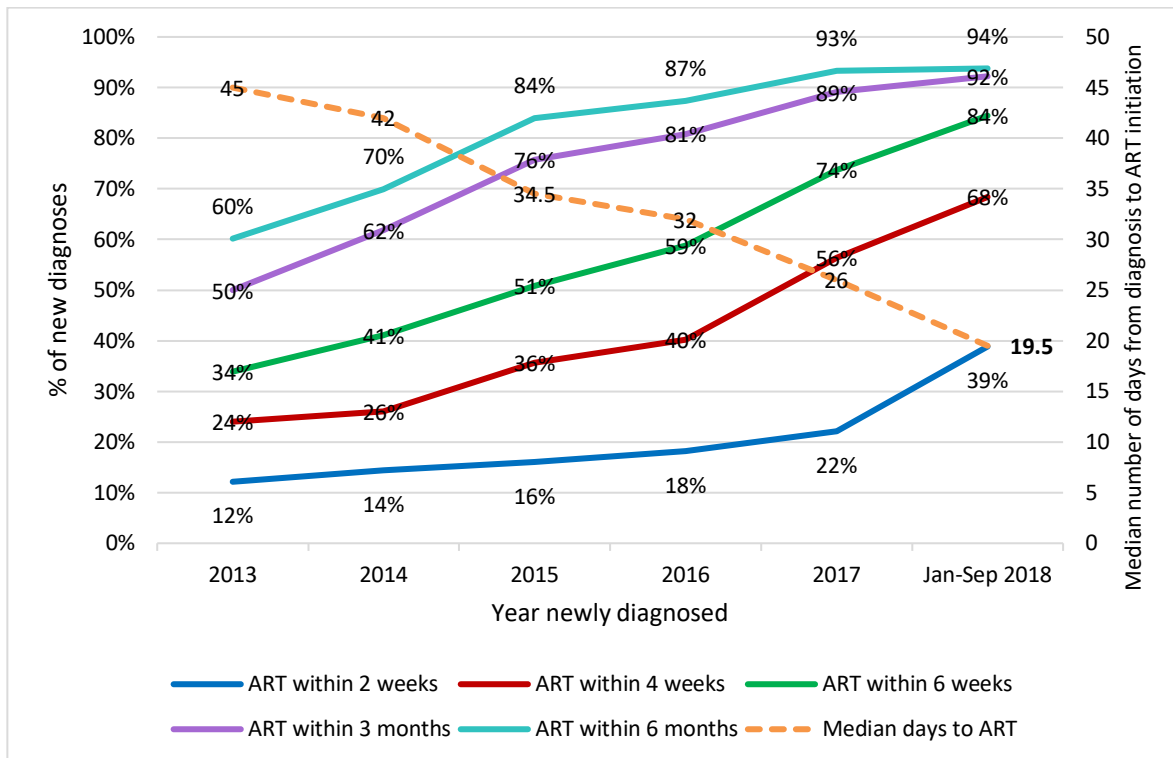
<sup>27</sup> Excludes patients for whom viral load test information was not available

### 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.

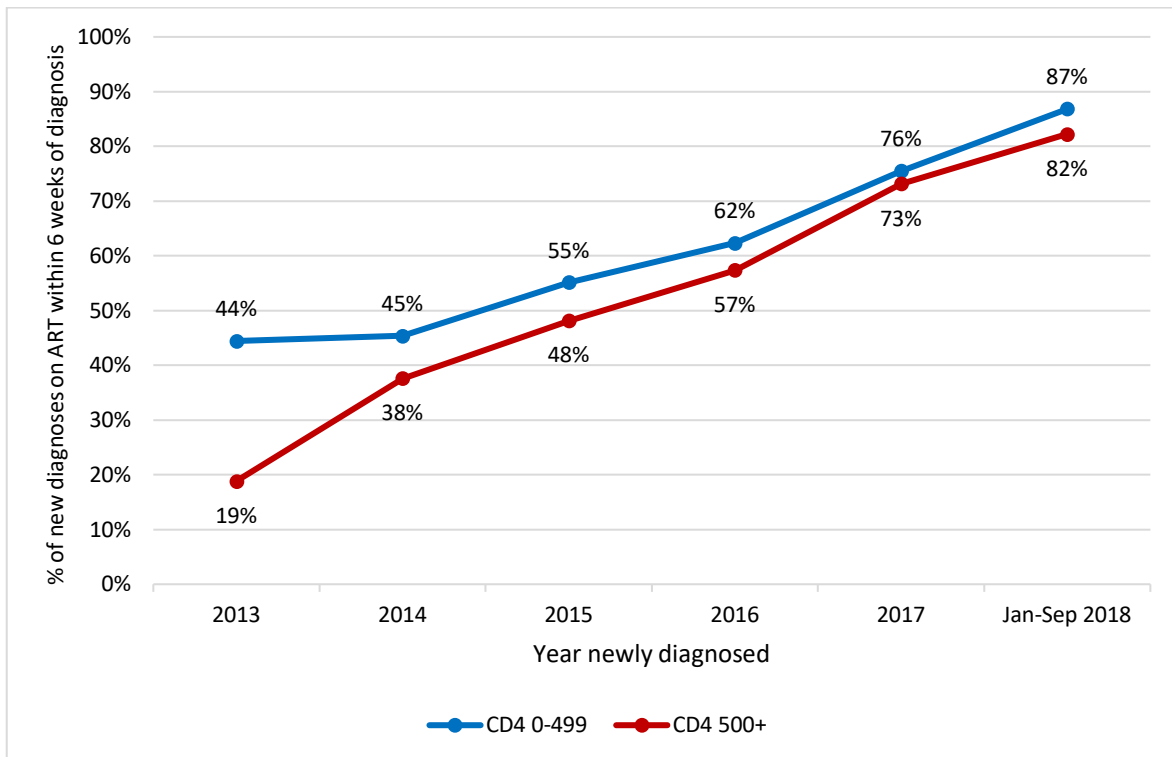
At the time of preparing this Q1 2019 report, six months post diagnosis follow up had been done on NSW residents newly diagnosed from 1 January 2013 to 30 September 2018 (n=1873). Data on initiation of ART was drawn from six months post diagnosis follow up form (FUF) data and HIV notification form data and combined for analysis. All new diagnoses were included irrespective of whether eligible for follow up and of care outcome.

**Figure 30: Time to ART for NSW residents newly diagnosed in January 2013 to September 2018**



- Of the 193 people newly diagnosed in January to September 2018 now followed up six months post diagnosis, 39% initiated ART within two weeks, 68% within four weeks, 84% within six weeks, 92% within three months and 94% within six months of diagnosis. The median time to ART initiation was 19.5 days. Of the 181 on ART within six months of diagnosis, 160 (88%) were already virally suppressed at six months follow up.

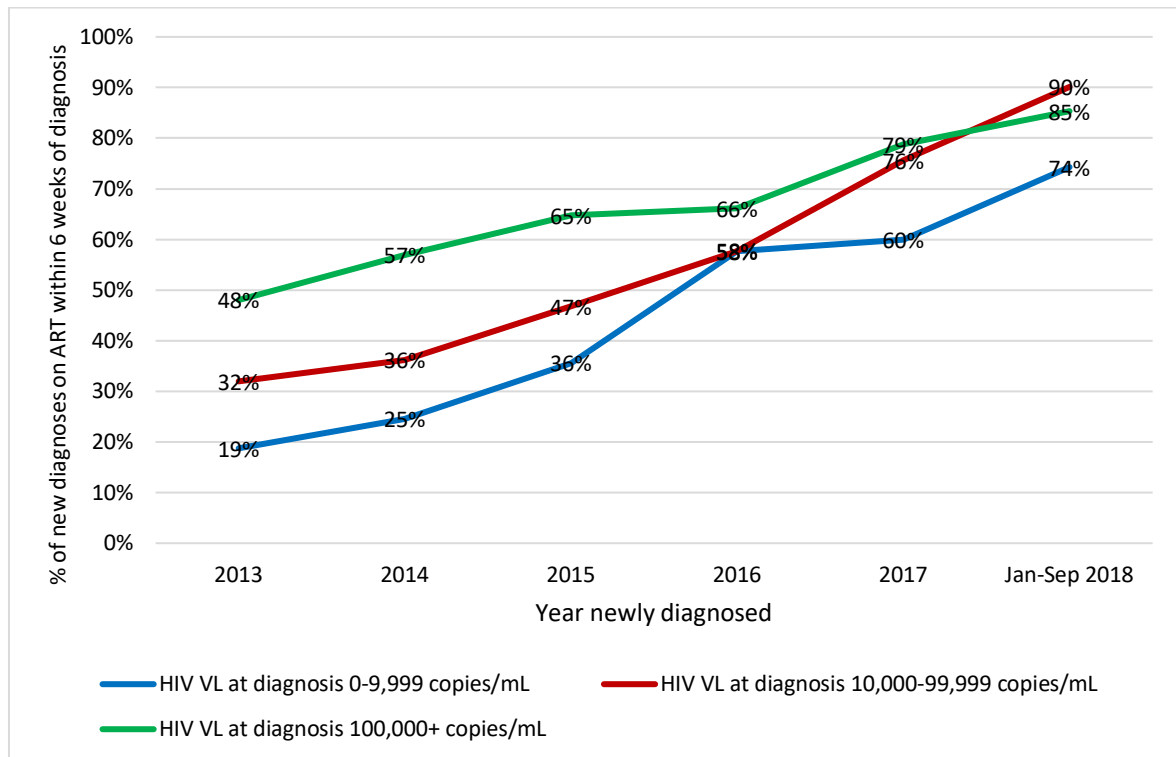
**Figure 31: CD4 count at diagnosis of NSW residents notified with newly diagnosed HIV infection from January 2013 to September 2018 and % on ART within six weeks of diagnosis**



Note: excludes 51 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/ $\mu$ L 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 new diagnoses and 87% of the January to September 2018 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, 48% of the 2015, 57% of the 2016, 73% of the 2017 new diagnoses and 82% of the January to September 2018 new diagnoses.

**Figure 32: HIV viral load at diagnosis of NSW residents notified with newly diagnosed HIV infection from January 2013 to September 2018 and % on ART within six weeks of diagnosis**



Note: excludes 65 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, 58% of the 2016, 60% of the 2017 and 74% of the January to September 2018 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, 58% of the 2016, 76% of the 2017 and 90% of the January to September 2018 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 and 85% of the January to September 2018 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.

Partner notification (contact tracing) is routine clinical practice which enables rapid testing, linkage to care and treatment of partners who are living with HIV thereby limiting ongoing transmission. A small group of linked new infections has recently been identified via partner notification, prompting a public health response. Targeted messages to the community, general practitioners and emergency departments in the region have been used to increase HIV testing of anyone who may be at risk of HIV.

## 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 31 March 2019 (continues over page); data extracted from NCIMS, HPNSW, 8 May 2019.

Case characteristics	2010 N (%)	2011 N (%)	2012 N (%)	2013 N (%)	2014 N (%)	2015 N (%)	2016 N (%)	2017 N (%)	2018 N (%)	Q1 2019 N (%)	1981-Q1 2019 N (%)
<b>Total (ALL)</b>	<b>305</b>	<b>332</b>	<b>412</b>	<b>354</b>	<b>346</b>	<b>350</b>	<b>318</b>	<b>312</b>	<b>278</b>	<b>65</b>	<b>18612</b>
<b>Gender</b>											
Male	280 (91.8%)	311 (93.7%)	375 (91%)	324 (91.5%)	320 (92.5%)	321 (91.7%)	292 (91.8%)	282 (90.4%)	255 (91.7%)	54 (83.1%)	17106 (91.9%)
Female	23 (7.5%)	21 (6.3%)	36 (8.7%)	27 (7.6%)	25 (7.2%)	28 (8%)	22 (6.9%)	24 (7.7%)	20 (7.2%)	7 (10.8%)	1202 (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%)	4 (6.2%)	56 (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 (3.2%)	8 (2.3%)	7 (2%)	7 (2%)	9 (2.8%)	8 (2.6%)	11 (4%)	0 (0%)	208 (1.1%)
Torres Strait Islander	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	1 (0%)
Non-Aboriginal person	293 (96.1%)	324 (97.6%)	393 (95.4%)	344 (97.2%)	331 (95.7%)	340 (97.1%)	307 (96.5%)	304 (97.4%)	267 (96%)	65 (100%)	11506 (61.8%)
Not stated	5 (1.6%)	3 (0.9%)	6 (1.5%)	2 (0.6%)	8 (2.3%)	3 (0.9%)	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	6897 (37.1%)
<b>Age in years at diagnosis</b>											
0-4	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	39 (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%)	1 (1.5%)	321 (1.7%)
20-24	29 (9.5%)	34 (10.2%)	44 (10.7%)	37 (10.5%)	42 (12.1%)	45 (12.9%)	39 (12.3%)	29 (9.3%)	36 (12.9%)	8 (12.3%)	2257 (12.1%)
25-29	56 (18.4%)	55 (16.6%)	77 (18.7%)	65 (18.4%)	51 (14.7%)	63 (18%)	61 (19.2%)	58 (18.6%)	60 (21.6%)	10 (15.4%)	3665 (19.7%)
30-34	49 (16.1%)	65 (19.6%)	71 (17.2%)	48 (13.6%)	64 (18.5%)	63 (18%)	63 (19.8%)	57 (18.3%)	51 (18.3%)	14 (21.5%)	3699 (19.9%)
35-39	43 (14.1%)	59 (17.8%)	64 (15.5%)	42 (11.9%)	45 (13%)	45 (12.9%)	48 (15.1%)	36 (11.5%)	29 (10.4%)	6 (9.2%)	3049 (16.4%)
40-44	51 (16.7%)	46 (13.9%)	47 (11.4%)	45 (12.7%)	46 (13.3%)	32 (9.1%)	30 (9.4%)	38 (12.2%)	27 (9.7%)	8 (12.3%)	2253 (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%)	6 (9.2%)	1349 (7.2%)
50-54	7 (2.3%)	25 (7.5%)	28 (6.8%)	24 (6.8%)	26 (7.5%)	28 (8%)	18 (5.7%)	19 (6.1%)	18 (6.5%)	6 (9.2%)	837 (4.5%)
55-59	22 (7.2%)	10 (3%)	14 (3.4%)	22 (6.2%)	15 (4.3%)	13 (3.7%)	13 (4.1%)	16 (5.1%)	15 (5.4%)	2 (3.1%)	484 (2.6%)
60-64	5 (1.6%)	2 (0.6%)	13 (3.2%)	6 (1.7%)	14 (4%)	15 (4.3%)	6 (1.9%)	17 (5.4%)	7 (2.5%)	2 (3.1%)	270 (1.5%)
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%)	1 (1.5%)	145 (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%)	1 (1.5%)	95 (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 (%)	Q1 2019 N (%)	1981-Q1 2019 N (%)
<b>Total (ALL)</b>	<b>305</b>	<b>332</b>	<b>412</b>	<b>354</b>	<b>346</b>	<b>350</b>	<b>318</b>	<b>312</b>	<b>278</b>	<b>65</b>	<b>18612</b>
<b>Reported HIV risk exposure</b>											
<i>MSM</i>	226 (74.1%)	269 (81%)	321 (77.9%)	265 (74.9%)	256 (74%)	264 (75.4%)	236 (74.2%)	215 (68.9%)	196 (70.5%)	46 (70.8%)	11800 (63.4%)
<i>MSM who injects drugs</i>	8 (2.6%)	11 (3.3%)	14 (3.4%)	16 (4.5%)	20 (5.8%)	21 (6%)	25 (7.9%)	17 (5.4%)	22 (7.9%)	6 (9.2%)	597 (3.2%)
<i>Hetero-sex only</i>	51 (16.7%)	41 (12.3%)	58 (14.1%)	61 (17.2%)	50 (14.5%)	52 (14.9%)	48 (15.1%)	67 (21.5%)	51 (18.3%)	10 (15.4%)	1778 (9.6%)
<i>PWID</i>	9 (3%)	8 (2.4%)	10 (2.4%)	7 (2%)	8 (2.3%)	4 (1.1%)	4 (1.3%)	6 (1.9%)	4 (1.4%)	1 (1.5%)	577 (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>	1 (0.3%)	0 (0%)	0 (0%)	1 (0.3%)	1 (0.3%)	0 (0%)	1 (0.3%)	2 (0.6%)	0 (0%)	0 (0%)	53 (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%)	1 (1.5%)	52 (0.3%)
<i>Unknown</i>	9 (3%)	2 (0.6%)	7 (1.7%)	3 (0.8%)	7 (2%)	5 (1.4%)	3 (0.9%)	4 (1.3%)	4 (1.4%)	1 (1.5%)	3478 (18.7%)
<b>LHD of residence</b>											
<i>South Eastern Sydney</i>	109 (35.7%)	124 (37.3%)	150 (36.4%)	126 (35.6%)	113 (32.7%)	129 (36.9%)	84 (26.4%)	92 (29.5%)	85 (30.6%)	18 (27.7%)	5794 (31.1%)
<i>Sydney</i>	78 (25.6%)	88 (26.5%)	113 (27.4%)	91 (25.7%)	84 (24.3%)	86 (24.6%)	95 (29.9%)	71 (22.8%)	64 (23%)	17 (26.2%)	3219 (17.3%)
<i>Northern Sydney</i>	19 (6.2%)	24 (7.2%)	23 (5.6%)	25 (7.1%)	18 (5.2%)	25 (7.1%)	20 (6.3%)	29 (9.3%)	23 (8.3%)	4 (6.2%)	1057 (5.7%)
<i>Western Sydney</i>	20 (6.6%)	31 (9.3%)	25 (6.1%)	27 (7.6%)	27 (7.8%)	20 (5.7%)	24 (7.5%)	29 (9.3%)	24 (8.6%)	5 (7.7%)	806 (4.3%)
<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%)	7 (10.8%)	740 (4%)
<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%)	5 (7.7%)	528 (2.8%)
<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%)	0 (0%)	273 (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%)	1 (1.5%)	249 (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%)	3 (4.6%)	228 (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%)	1 (1.5%)	225 (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%)	1 (1.5%)	156 (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%)	1 (1.5%)	135 (0.7%)
<i>Murrumbidgee-Albury</i>	7 (2.3%)	2 (0.6%)	5 (1.2%)	3 (0.8%)	3 (0.9%)	4 (1.1%)	9 (2.8%)	6 (1.9%)	4 (1.4%)	0 (0%)	108 (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%)	1 (1.5%)	73 (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%)	0 (0%)	9 (0%)
<i>Unknown or other</i>	1 (0.3%)	1 (0.3%)	3 (0.7%)	1 (0.3%)	4 (1.2%)	2 (0.6%)	1 (0.3%)	3 (1%)	4 (1.4%)	1 (1.5%)	5012 (26.9%)

## 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

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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.