

# NSW HIV Strategy 2012 – 2015

## Quarter 3 2014 Data Report



## Executive Summary

The *NSW HIV strategy 2012–2015: A New Era* was launched in December 2012 and includes major changes in the way that HIV is detected, treated and prevented in NSW, as well as improved support for people at the time of their HIV diagnosis and throughout their life.

Recent evidence suggests that combination antiretroviral (ART) treatment can offer improved health benefits for people living with HIV and the potential to dramatically reduce the risk of passing on HIV. This makes treatment a critical part of HIV prevention. Gaining the optimal benefit in NSW relies on early detection of HIV through increased HIV testing, early provision of ART treatment for people diagnosed with HIV, and support for treatment adherence to achieve undetectable viral load.

In brief, the 2015 targets of the NSW HIV Strategy are to:

- Reduce HIV transmission by 60% among men who have sex with men.
- Reduce heterosexual transmission of HIV and transmission of HIV among Aboriginal populations by 50%
- Sustain the virtual elimination of mother to child transmission of HIV
- Sustain the virtual elimination of HIV transmission in the sex industry
- Sustain the virtual elimination of HIV among people who inject drugs
- Reduce the average time between HIV infection and diagnosis
- Increase to 90% the proportion of people living with HIV on ART
- Sustain the virtual elimination of HIV related deaths

The range of activities NSW health is engaged in to meet these targets and current progress is summarised in the [NSW HIV Snapshot](#).

To monitor progress in meeting the targets set by the Strategy, a range of data sources have been identified and a strategy for data collection, analysis and reporting is in place.

Between January to September 2014:

- 263 people were newly diagnosed with HIV, a two per cent (%) decrease compared with the same period in 2013 (268), and a 15% decrease compared with the same period in 2012 (308).
- Of these 263, 126 (48%) presented with evidence of early stage infection. This is higher than that for the full year in 2013 (42%) and for the combined period of the previous five years, 2009 to 2013 (44%).
- There were 351,475 HIV serology tests performed, compared with 337,907 (4% increase) in the same period in 2013 and 318,534 (10% increase) in the same period in 2012.
- HIV testing continued to increase both overall in NSW, and among high risk populations.
- Data from public sexual health and HIV clinics indicate 89% of people living with HIV who attended these services in the year ending 30 September 2014 were on antiretroviral therapy.
- Of people newly diagnosed with HIV infection in 2013, 49% had commenced antiretroviral therapy within three months of diagnosis and 60% had commenced ART within six months of diagnosis.

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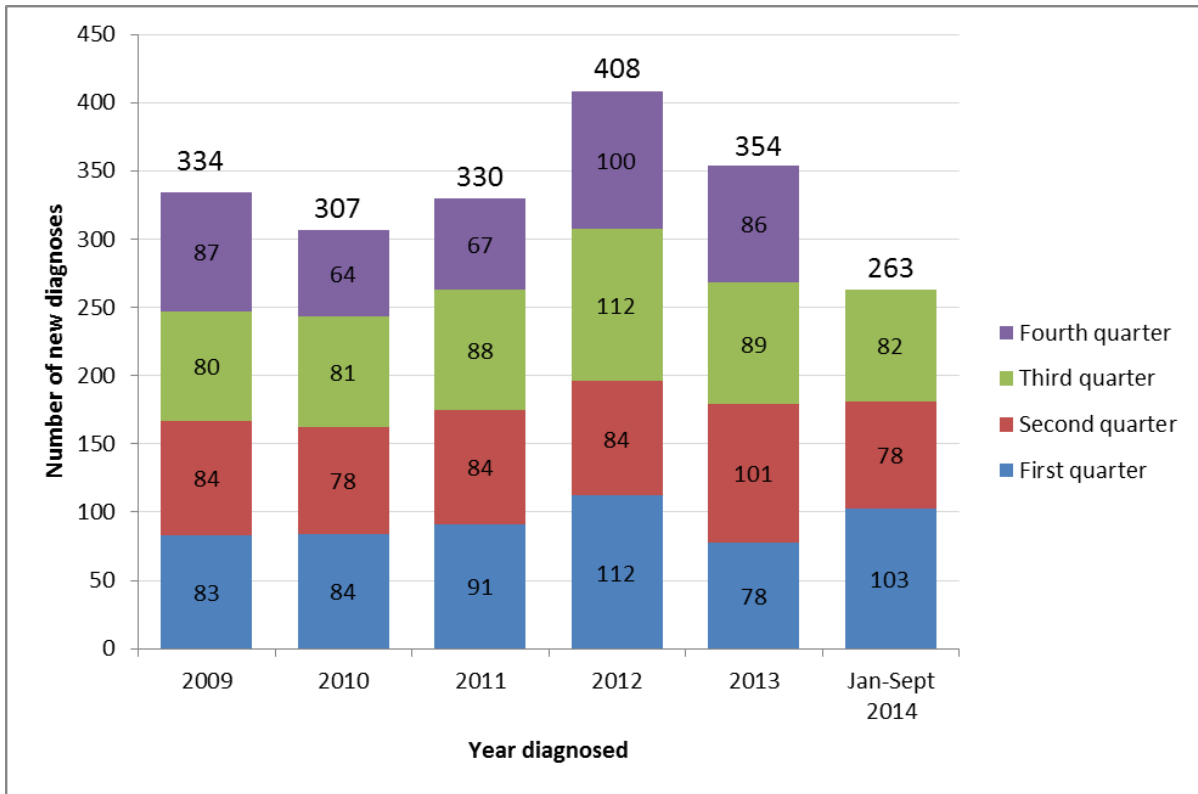
## Glossary of Terms

ART	Antiretroviral treatment
HIV	Human Immunodeficiency Virus
LHD	Local Health District
MSM	Men who have sex with men
NSP	Needle and syringe program
NSW	New South Wales
NSWPHS	New South Wales Population Health Survey
PWID	People who inject drugs
PFSHC	Publicly Funded Sexual Health Clinic
SGCPS	Sydney Gay Community Periodic Survey

## 1. Reduce HIV transmission

### 1.1 How many cases are notified?

**Figure 1: Number of NSW residents newly diagnosed with HIV, 1 January 2009 to 30 September 2014**



Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

#### Comment

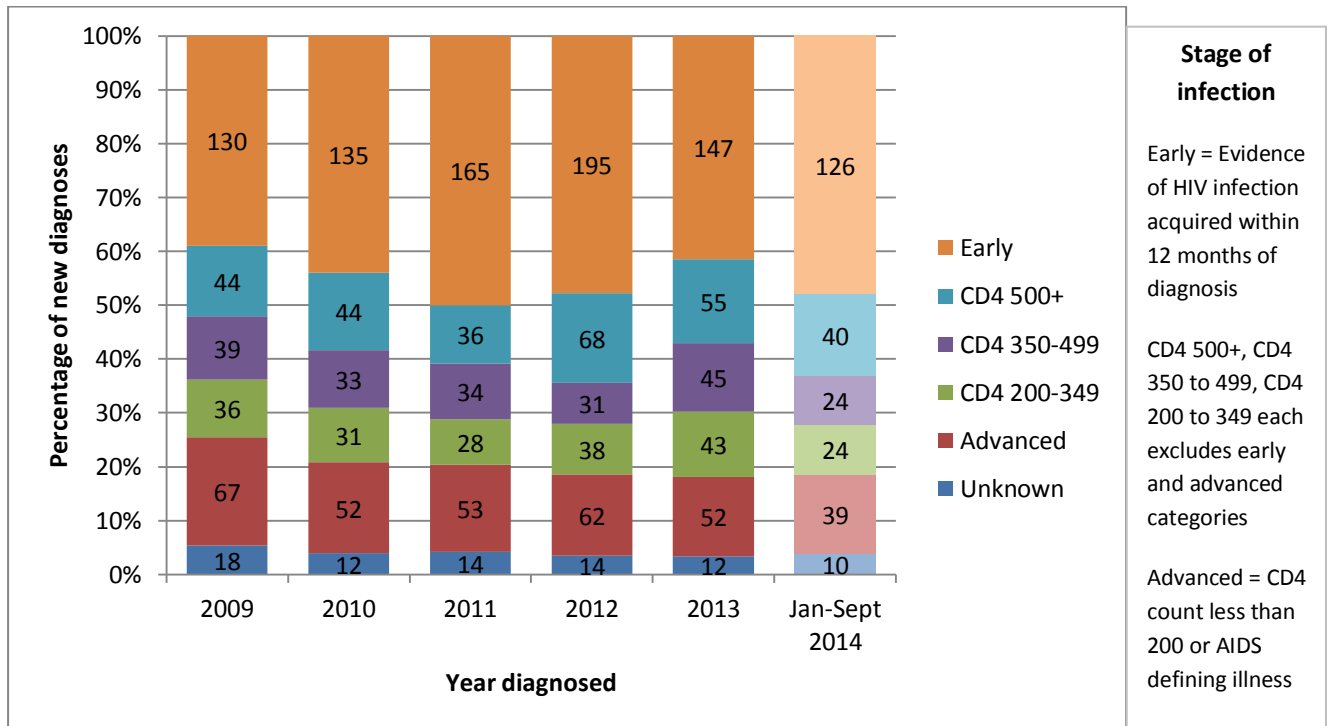
From 1 July to 30 September 2014 (third quarter), 82 NSW residents were newly diagnosed with HIV infection and notified to NSW Health (Figure 1).

In the first three quarters of 2014, there were a total of 263 new diagnoses notified; this is a two per cent decrease compared with the same period in 2013 (268 new diagnoses), and a 15% decrease compared with the same period in 2012 (308 new diagnoses).

## 1.2 What proportion of HIV notifications are newly acquired infections?

Trends in the stage of infection at which people present when newly diagnosed with HIV provide an indication as to the timeliness of diagnosis over time.

**Figure 2: Number and percentage of HIV notifications by stage of infection at diagnosis<sup>1</sup>, 1 January 2009 to 30 September 2014**



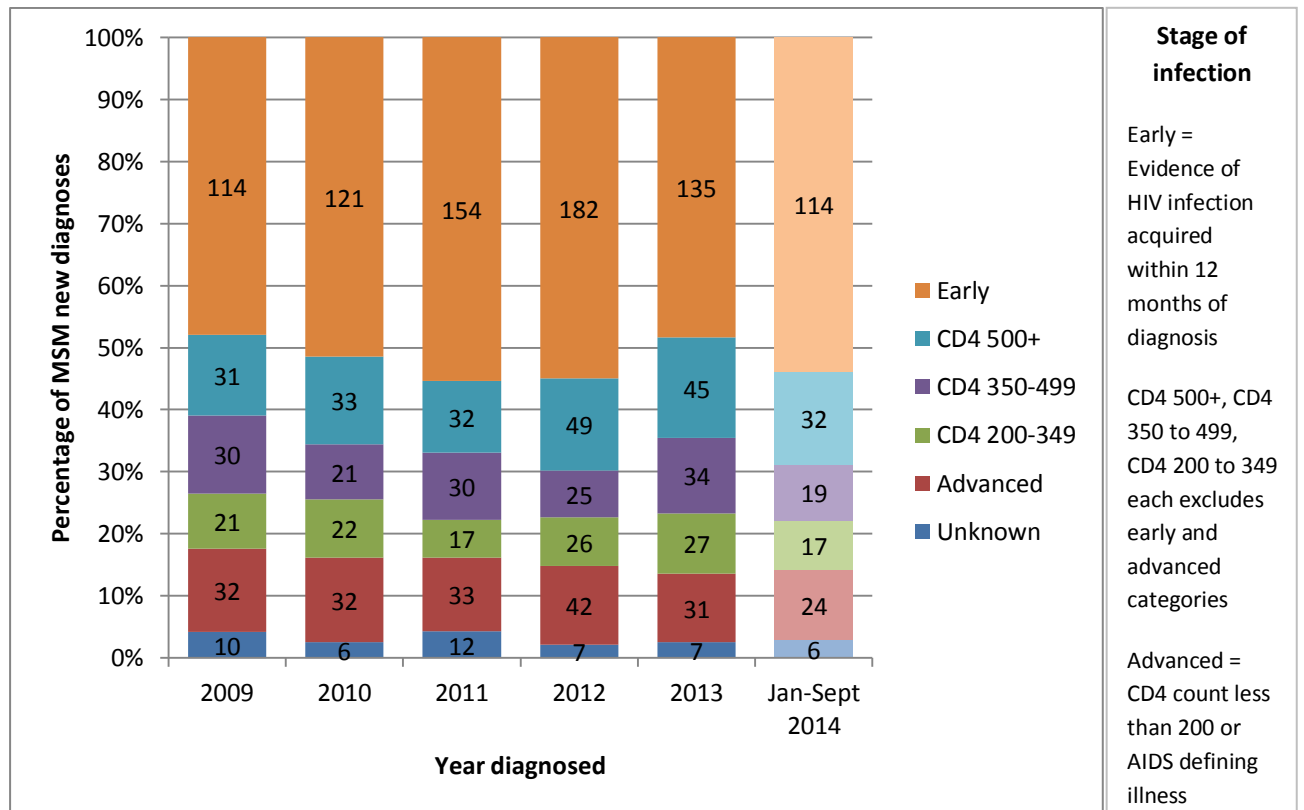
Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

<sup>1</sup>Evidence of early stage infection was defined as notification of a seroconversion illness or negative or indeterminate HIV test within 12 months of diagnosis, irrespective of CD4 or presentation with an AIDS defining illness at diagnosis

### Comment

In the first three quarters of 2014, 126 of 263 (48%) NSW residents newly diagnosed with HIV infection presented with evidence of early stage infection. This percentage is higher than that for the full year in 2013 (42%) and for the combined period of the previous five years, 2009 to 2013 (44%).

**Figure 3: Number and percentage of HIV notifications who were men who have sex with men (MSM), by stage of infection at diagnosis<sup>1</sup>, 1 January 2009 to 30 September 2014**



Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

<sup>1</sup>Evidence of early stage infection was defined as notification of a seroconversion illness or negative or indeterminate HIV test within 12 months of diagnosis, irrespective of CD4 or presentation with an AIDS defining illness at diagnosis

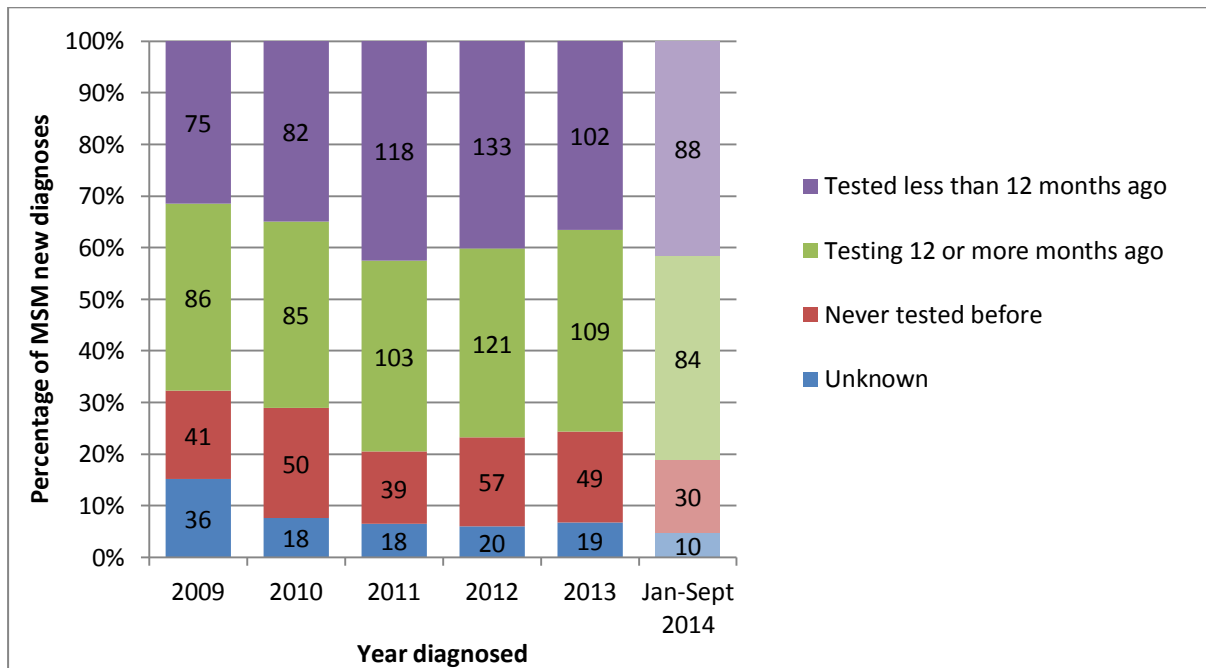
**Comment**

In the first three quarters of 2014, 114 of 212 (54%) newly diagnosed men who reported having sex with men (MSM) presented with evidence of early stage infection, similar to the full years of 2009 to 2013 (48%, 51%, 55%, 55% and 48% respectively).

One of the aims of the HIV testing strategies implemented by NSW is to achieve more timely diagnosis of people infected with HIV by increasing HIV testing, so as to link them with appropriate care and treatment as soon as possible and identify and trace all contacts in a timely manner, to reduce the opportunity for ongoing transmission.

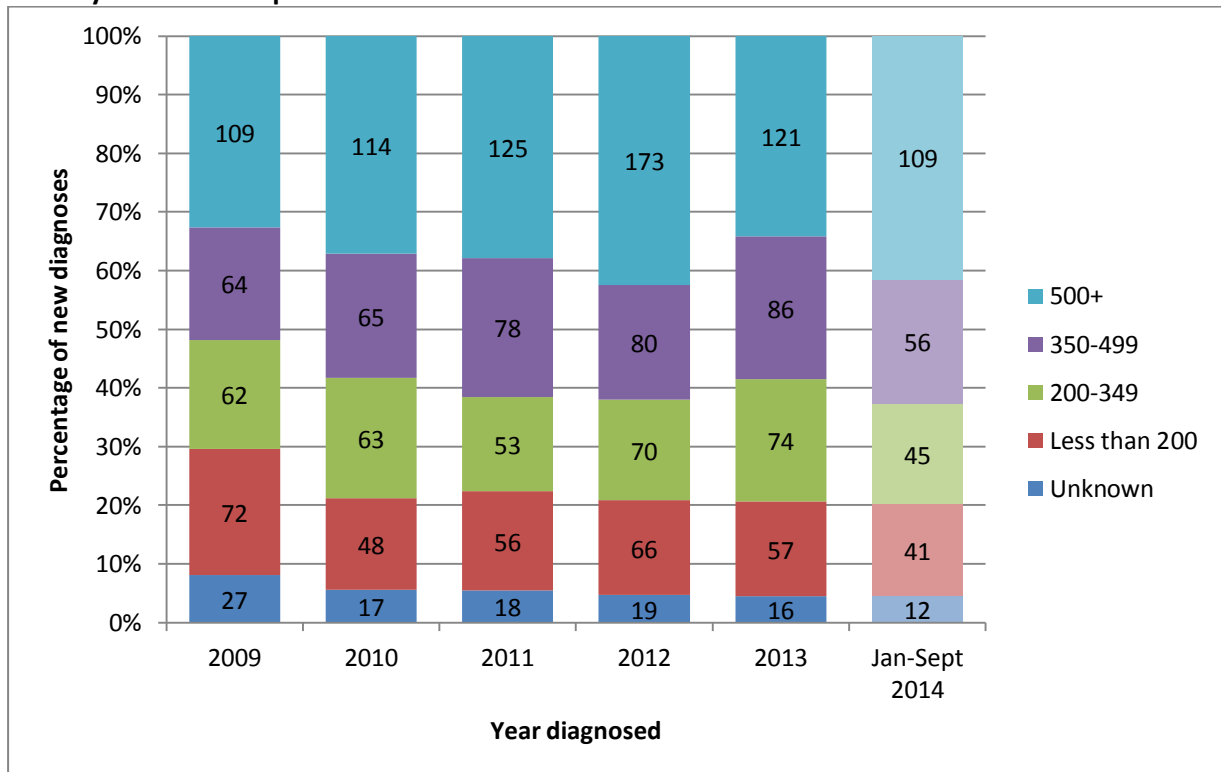
Of 212 new diagnoses who were MSM, 88 (42%) were reported by either laboratory, doctor, patient or other as having had a negative or indeterminate HIV test within 12 months of their diagnosis date, a higher proportion compared with the average (37%) for the years 2009 to 2013 (32%, 35%, 42%, 40%, 37% respectively) (Figure 4).

**Figure 4: Number and percentage of MSM newly diagnosed with HIV 1 January 2009 to 30 September 2014 by HIV testing history**



Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

**Figure 5: Number and percentage of new HIV diagnoses by CD4 count (cells/ $\mu$ L) at diagnosis, 1 January 2009 to 30 September 2014**



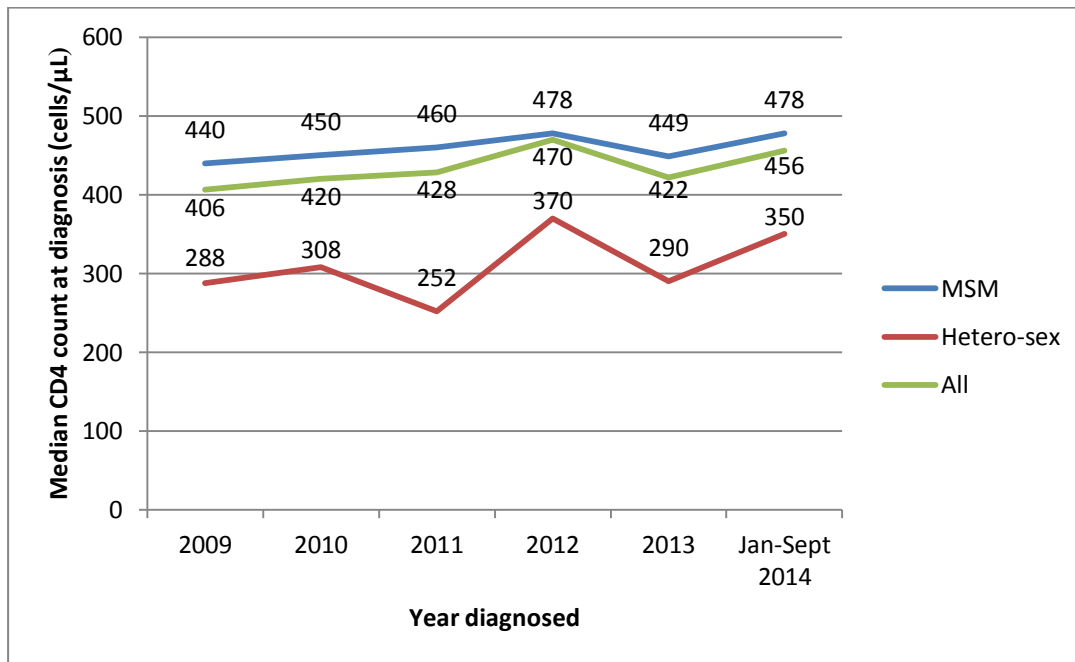
Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014



Comment

Of the 263 new diagnoses in the first three quarters of 2014, 86 (33%) had a CD4 count less than (<) 350 cells/ $\mu$ L at diagnosis, an indicator of late diagnosis. This is a lower proportion compared with the five year average (36%) for 2009 to 2013 (40%, 36%, 33%, 33% and 37% respectively) (Figure 5). Conversely, 165 (63%) of the 263 NSW residents newly diagnosed with HIV in the first three quarters of 2014 had a CD4 count of 350 cells/ $\mu$ L or over, compared with the five year average (59%) for 2009 to 2013 (52%, 58%, 62%, 62% and 58% respectively) (Figure 5).

**Figure 6: Median CD4 count of all HIV notifications and for the two major risk groups, 1 January 2008 to 30 September 2014**

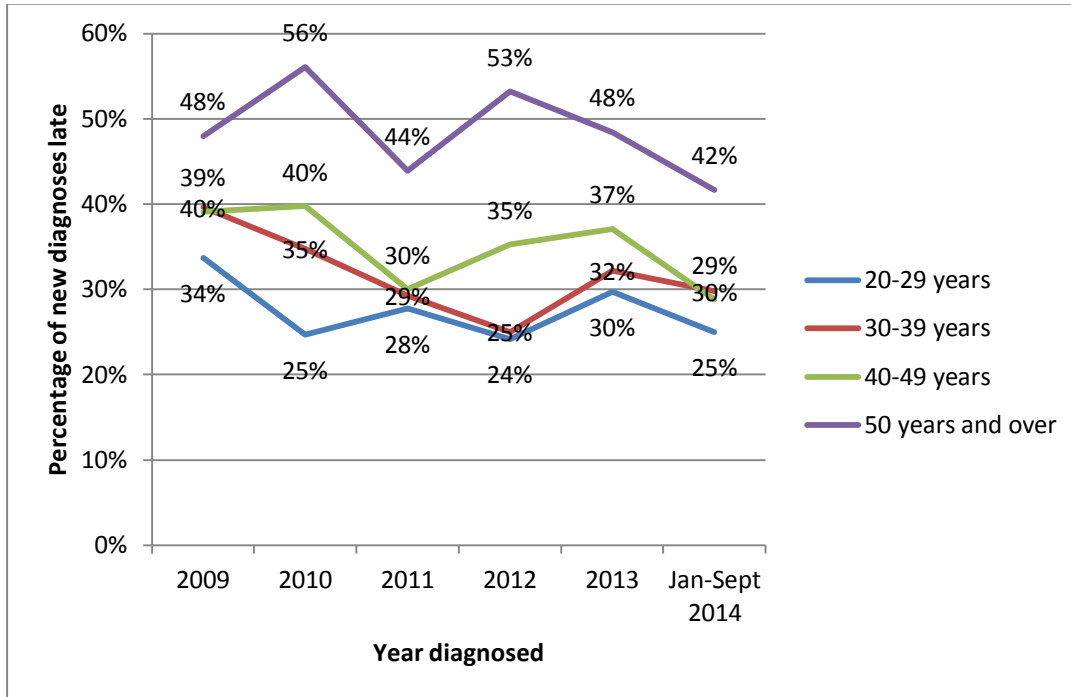


Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014.

Comment

The median CD4 count for NSW residents newly diagnosed with HIV infection in the first three quarters of 2014 appears elevated for all risk groups (Figure 6). A slightly higher median CD4 count at diagnosis is consistent with a slight reduction in late diagnosis, an objective of HIV testing strategies.

**Figure 7: Percentage of HIV notifications with clinical or immunological evidence of late diagnosis<sup>1</sup> by age group, 1 January 2009 to 30 September 2014**



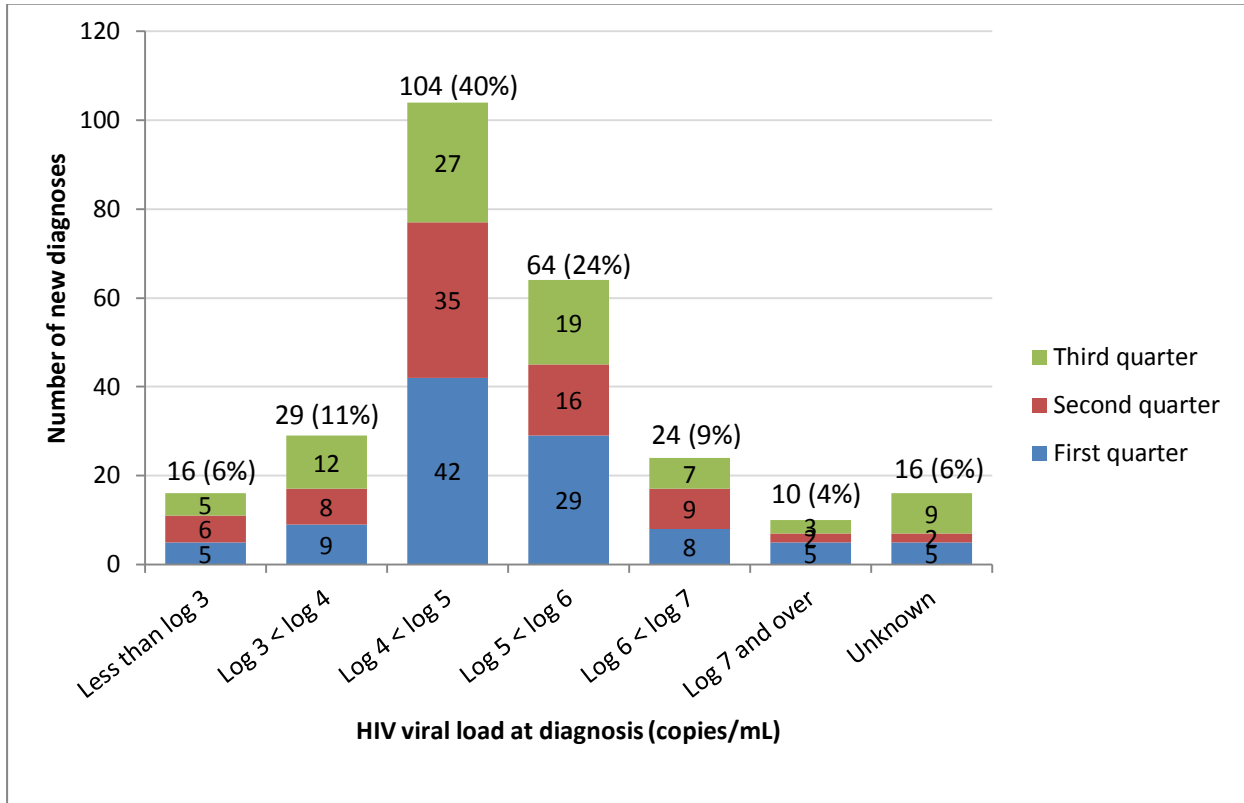
Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

<sup>1</sup>Clinical or immunological evidence of a late diagnosis included a CD4 count less than 350 or an AIDS defining illness within three months of diagnosis, in the absence of a laboratory confirmed negative HIV test in the 12 months prior to diagnosis. Please note: this definition of “late” has changed and tightened since the 2013 fourth quarter and annual report.

Comment

In general, the data shows that the older the age group, the greater the proportion of newly diagnosed people within that age group with clinical or immunological evidence of late diagnosis (Figure 7). The age category “less than 20 years” was excluded from Figure 7 due to very low numbers. The “50 years and over” age group has a distinctly higher proportion of people with evidence of late diagnosis compared with younger age groups.

**Figure 8: Number of new diagnoses of HIV by viral load within three months of diagnosis, 1 January to 30 September 2014**



Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

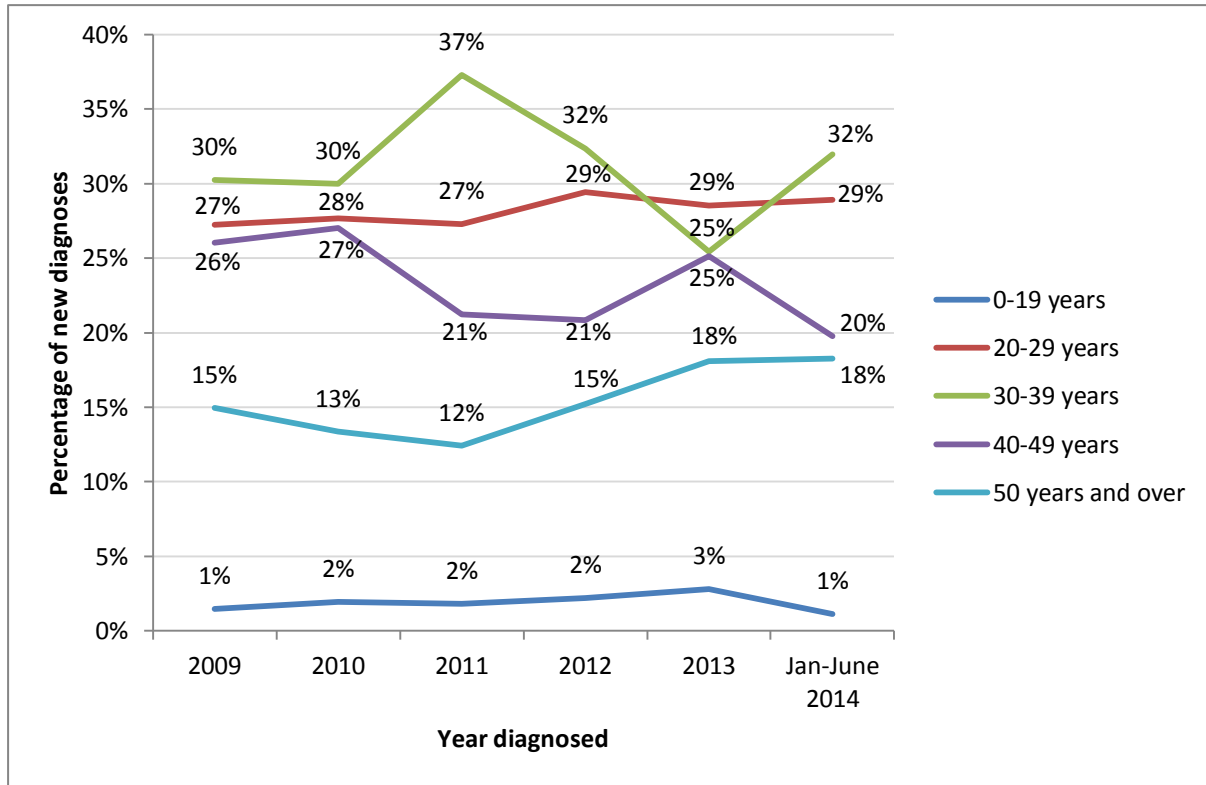
**Comment**

Of the 263 new diagnoses in the first three quarters of 2014, 104 (40%) had a viral load between log 4 and log 5 (10,000 and 100,000) copies/mL. A further 64 (24%) had a viral load between log 5 and log 6 (100,000 and 1,000,000) (Figure 8). Higher viral loads are associated with a higher risk of sexual transmission of HIV.

### 1.3 Which groups are being notified?

Of the 263 new diagnoses in the first three quarters of 2014, 246 (94%) were male and 17 (6%) were female (See Appendix A).

**Figure 9: Percentage of HIV notifications by age group, 1 January 2009 to 30 September 2014**

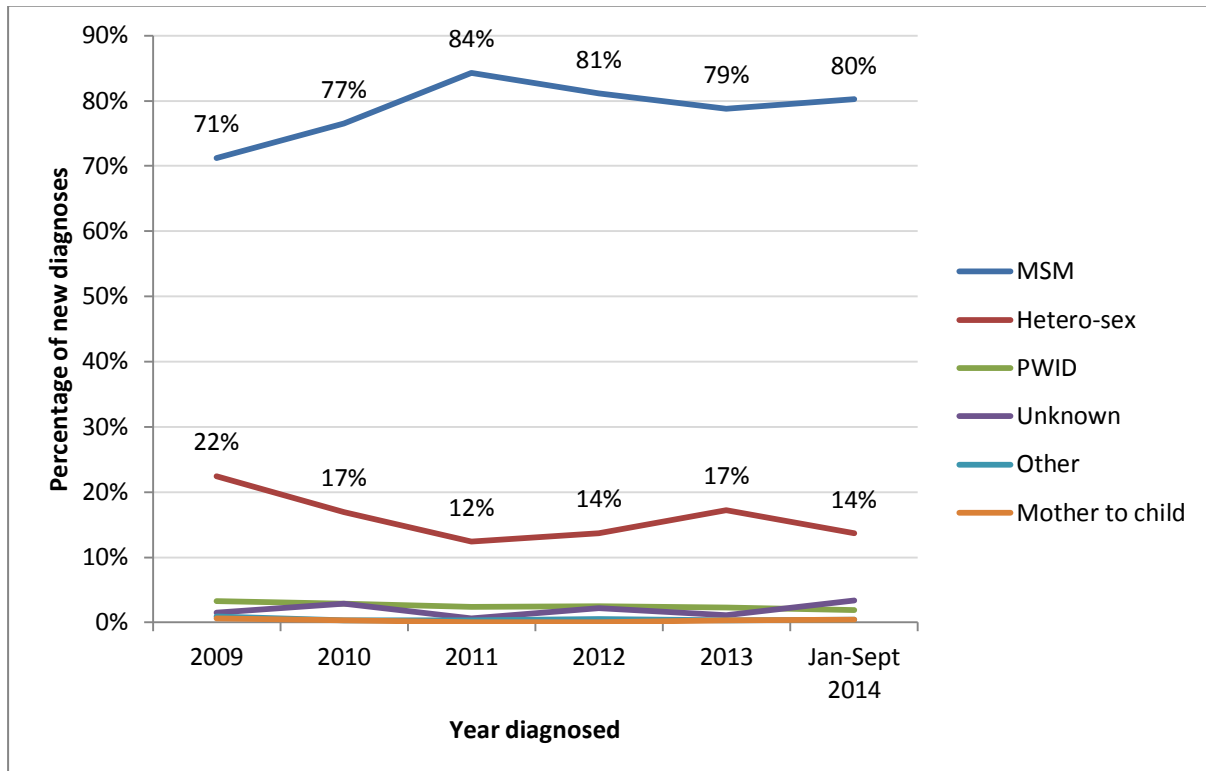


Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

#### Comment

Of 263 NSW residents newly diagnosed with HIV in the first three quarters of 2014, 3 (1%) were less than 20 years of age at diagnosis, 76 (29%) were 20 to 29 years, 84 (32%) were 30 to 39 years, 52 (20%) were 40 to 49 years and 48 (18%) were 50 years or over (Figure 8). The upward trend in the proportion of notifications that are people aged 50 years or over has plateaued.

**Figure 10: Percentage of HIV notifications by risk exposure category, 1 January 2009 to 30 September 2014**



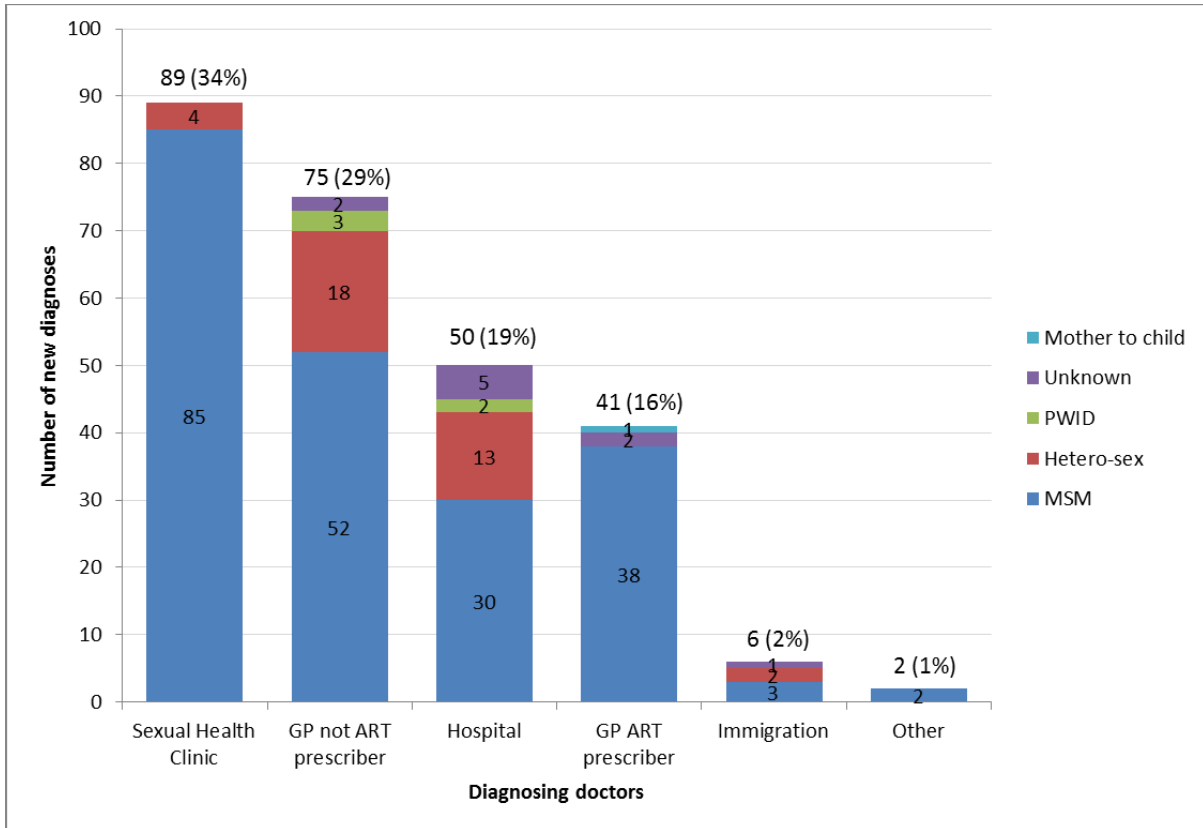
Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

**Comment**

Of the 263 new diagnoses in the first three quarters of 2014, 211 (80%) reported being MSM, 37 (14%) reported acquiring HIV through heterosexual sex, 5 (2%) reported being a person who injected drugs (PWID) and 9 (3%) have an unknown exposure to HIV (Figure 9). Among the 211 MSM notifications, 13 (6.2%) also reported injecting drugs, compared with 62 of 1361 (4.6%) of MSM newly diagnosed in 2009 to 2013 (Appendix A).

There was one notification in this period reported to be a mother to child transmission; this occurred in a child who was born overseas, had recently migrated to Australia and whose mother was reported to be HIV positive.

**Figure 11: Number of HIV notifications by diagnosing doctor type and self-reported HIV risk exposure, 1 January to 30 September 2014**



Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

**Comment**

Of the 263 new diagnoses in the first three quarters of 2014, 89 (34%) were diagnosed by sexual health clinics, 75 (29%) by general medical practitioners not accredited to prescribe HIV antiretroviral therapy (ART), 50 (19%) by doctors in hospital settings and 41 (16%) by general medical practitioners accredited to prescribe ART ('s100 GPs') (Figure 10). Most new diagnoses where the reported exposure was heterosexual or injecting drug use were made by GPs who are not ART prescribers and doctors within hospitals.

## 2. Maintain safe behaviour

### 2.1 How many men who have sex with men use condoms with casual sexual partners?

Condom use with casual partners among men who have sex with men is measured through the Sydney Gay Community Periodic Survey (SGCPS). Most recent data from the February 2014 SGCPS was presented in the Quarter 1 2014 report and are included here in Appendix B. Updated data from the February 2015 SGCPS will be presented in the Quarter 1 2015 report.

Questions have recently been introduced into the NSW Population Health Survey (NSWPHS) on sexual identity and HIV testing (quarter 4, 2013), and sex without a condom in the last 12 months and sex with more than one partner (quarter 1, 2014). Reporting of data from the NSWPHS will occur once the sample size is sufficient to produce reliable estimates of the proportion of men who have sex with men who report sex without a condom in the past year, and/or report sex with more than one partner.

### 2.2 How accessible are NSP services in NSW?

As of 30 June 2014, there were 1,151 NSP outlets located across NSW. This represents an increase of 122 additional outlets (12%) compared with same period in 2013 (NSP Enhanced Data Collection).

In the year ending 30 September 2014, 12,277,255 units of injecting equipment were distributed in NSW. This represents an increase of 271,972 additional units (2%) compared with the previous 12 months (NSW NSP Data Collection).

### 2.3 How many people are using new injecting equipment in NSW?

Among people attending the NSW NSP in 2013, 20% reported sharing injecting equipment over a four week period (NSW NSP Enhanced Data Collection 2013).<sup>1</sup> The reported rate of sharing injecting equipment among NSP attendees in 2014 has decreased to 13% (NSW NSP Enhanced Data Collection 2014). Findings from the 2015 data collection will indicate whether the decrease is a continuing trend.

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<sup>1</sup> In 2013, the first annual NSW NSP Enhanced Data Collection survey was conducted. The purpose of the survey is to collect NSP client demographic, behavioral and drug use data on an annual basis to strengthen the state-wide prevention approach, and also inform LHDs in planning for NSP service delivery at the local level.

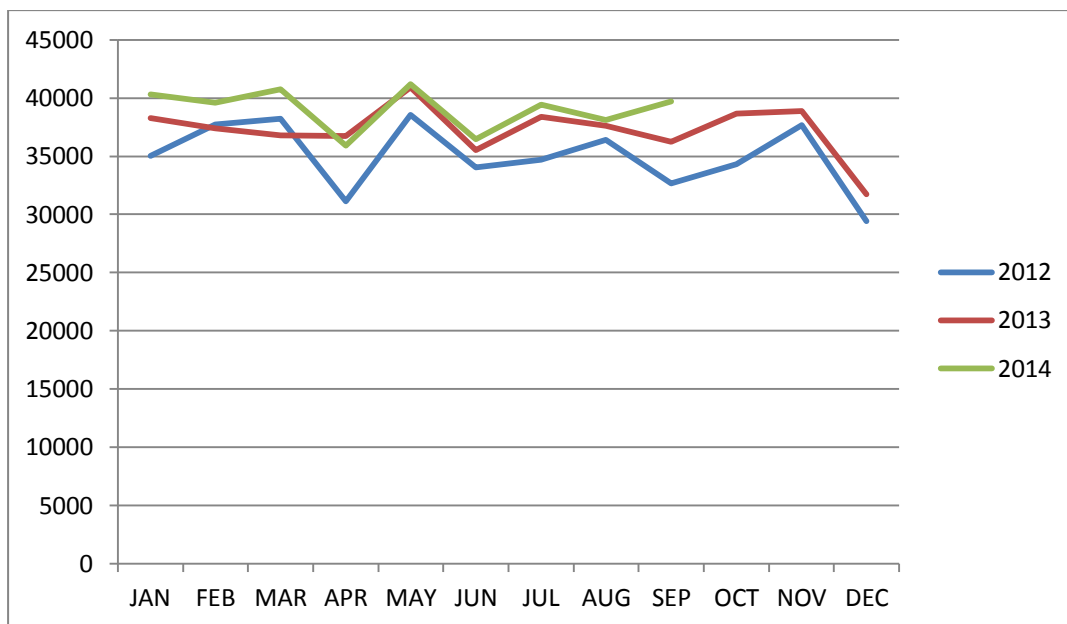
### 3. Increase HIV testing

#### 3.1 Is HIV testing increasing in NSW?

##### 3.1.1 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 12: Number of HIV serology tests performed at 15 NSW laboratories per month, 1 January 2012 to 30 September 2014**



Data source: NSW denominator data project

##### Comment

In the third quarter of 2014, there were 117,257 HIV serology tests performed in 15 laboratories in NSW. This is a four per cent increase compared with the same period in 2013 (112,292), and a 13% increase compared with the same period in 2012 (103,803).

In the first three quarters of 2014, there were 351,475 HIV serology tests performed, compared with 337,907 (4% increase) in the same period in 2013 and 318,534 (10% increase) in the same period in 2012.



**3.1.2 Local Health Districts**

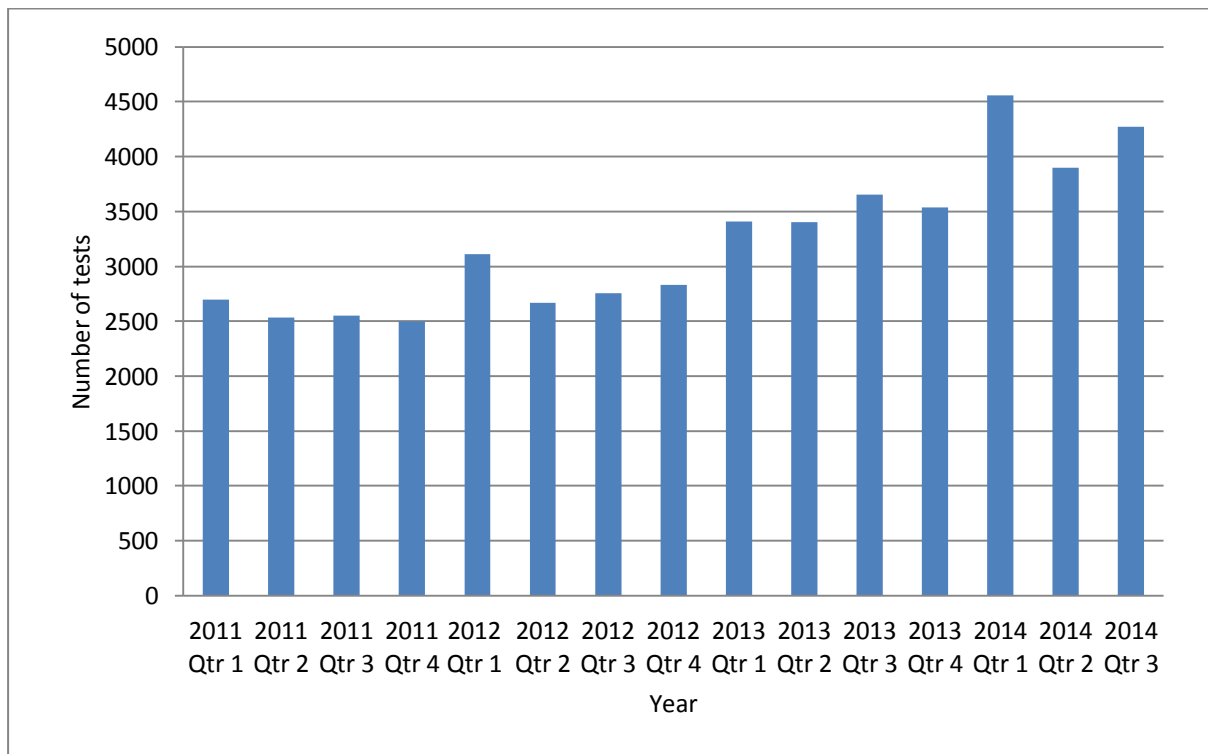
Data on HIV testing is available from Publicly Funded Sexual Health Clinics (PFSHCs) in all LHDs however the time periods and the type of data is not uniform due to different data management systems. Key differences in the availability of data are summarised in Table 1.

**Table 1: Summary of testing data availability from Publicly Funded Sexual Health Clinics in NSW**

	Total number of HIV tests and positivity per quarter	Number of HIV tests and positivity per quarter by priority population
	<i>Available from</i>	<i>Available from</i>
South Eastern Sydney LHD	January 2011	July 2013
Western Sydney LHD Nepean Blue Mountains LHD North Sydney LHD Northern NSW LHD Illawarra Shoalhaven LHD	January 2011	January 2011
All other LHDs	July 2013	July 2013

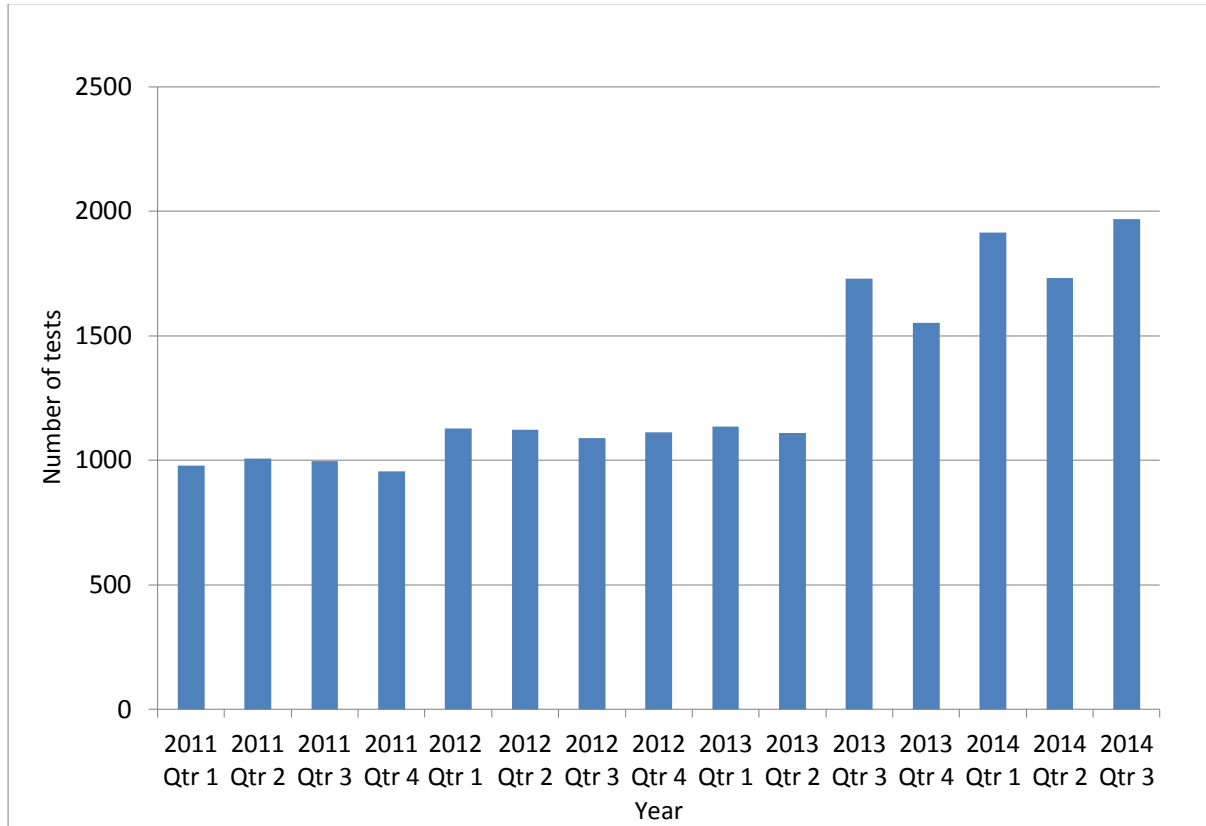
Figure 12 (South Eastern Sydney LHD) and 13 (Western Sydney, North Sydney, Nepean Blue Mountains, Northern NSW and Illawarra Shoalhaven LHDs) display the number of HIV tests done in PFSHCs between 1 January 2011 and 30 September 2014 in LHDs where this data is available. Both rapid HIV testing and HIV serology are included.

**Figure 13: Number of HIV tests performed in South Eastern Sydney Local Health District Publicly Funded Sexual Health Clinics, January 2011 to September 2014**



Data source: South Eastern Sydney Local Health District

**Figure 14: Number of HIV tests performed in five Local Health District Publicly Funded Sexual Health Clinics, January 2011 to September 2014**



Data source: PFSHCs in Western Sydney, North Sydney, Nepean Blue Mountains, Northern NSW and Illawarra Shoalhaven LHDs

**Comment**

In PFSHCs in South Eastern Sydney LHD and 5 LHDs with smaller numbers of high risk populations (Figures 12 & 13), overall HIV testing in quarter 3 2014 increased by 28% compared with the average number of tests per quarter in 2013.

In quarter 3 2014, 9,373 HIV tests were done in all PFSHCs in NSW. This represents a 25% increase on the number of tests performed in the same quarter in 2013, after excluding South West Sydney LHD and St Vincent’s Hospital Network, for whom data on HIV testing was not available for quarter 3 in 2013.

Data from NSW laboratories and PFSHCs indicate that in the first three quarters of 2014, HIV testing increased both overall in NSW and among high risk populations. Testing increased particularly in key inner Sydney city areas, with Sydney LHD almost doubling testing from 579 tests in quarter 3 2013 to 1,146 tests in quarter 3 2014 (98% increase). To reduce the number of undiagnosed HIV infections in the community, populations with ongoing risk of HIV infection need to continue to test frequently.

## 3.2 Where is HIV testing being done?

Apart from PFSHCs, HIV testing takes place in a range of other clinical and community settings (see 3.4). A large proportion of testing occurs in the private sector, especially in general practice. Efforts to better understand HIV testing practices in different clinical settings including drug and alcohol services and maternity services are ongoing.

### 3.2.1 General practice

Number of HIV tests done and positivity for 3 General Practice clinics with high caseloads of MSM clients located in South Eastern Sydney LHD was presented in the Quarter 2 2014 report and are included here in Appendix D. Updated data for this project is not available as the study has concluded. Obtaining a further understand of HIV testing practices in General Practice is being explored.

### 3.2.2 Survey data

HIV testing in MSM – including location - is measured regularly through the SGCPs, with most recent data presented in the Quarter 1 2014 report and included here at Appendix B. Updated data from the 2015 SGCPs will be presented in the Quarter 1 2015 report.

As mentioned in section 2.1, a question on HIV testing was included in the NSWPHS in quarter 4, 2013. Reporting on this indicator will occur once the sample size is sufficient to produce reliable estimates.

## 3.3 Who is being tested for HIV?

### 3.3.1 LHD data

To reduce the pool of undiagnosed HIV infection, testing should be targeted to high risk populations. Table 3 summarises the available data from PFSHCs on HIV testing in priority population groups. The number of HIV tests for all priority populations in quarter 3, 2014 was higher than in quarter 3, 2013, with the exception of Aboriginal people for whom testing levels have remained the same.

**Table 3: HIV testing in priority populations, Publicly Funded Sexual Health Clinics, NSW**

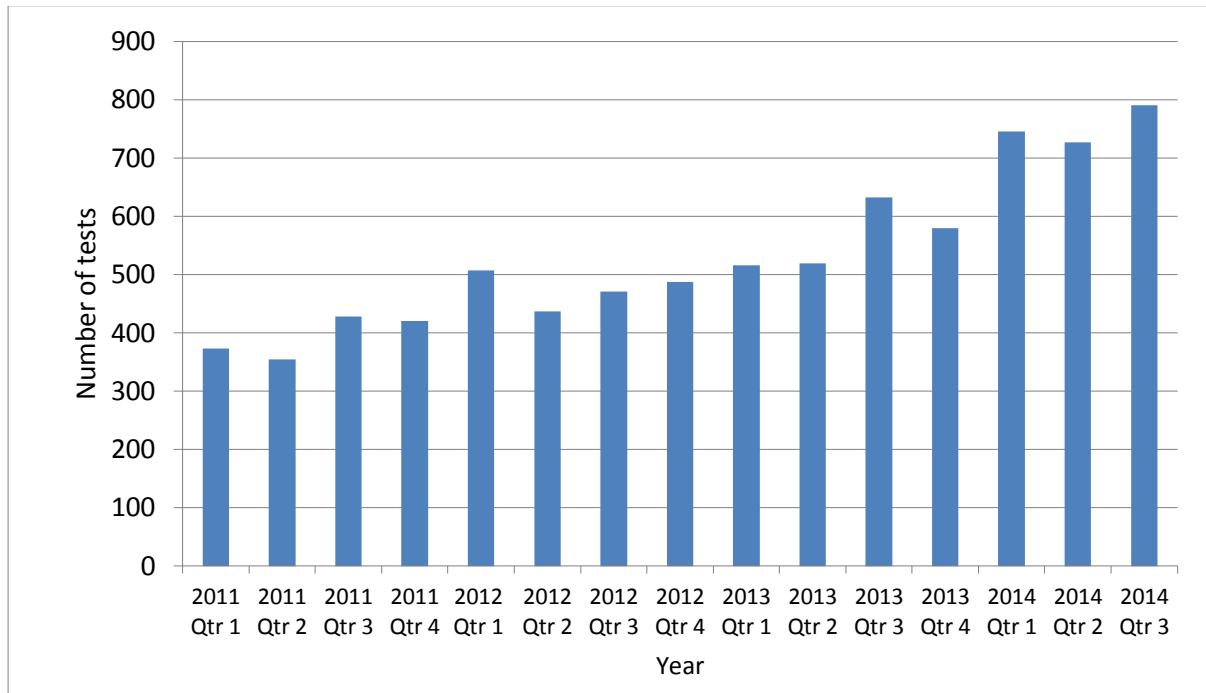
Priority Population	% of HIV tests in all PFSHCs, Quarter 3 2014*	Number of tests in Q 3 2014 in PFSHCs in all LHDs*	% increase from Q 3 2013 in PFSHCs in all LHDs <sup>#</sup>
Men who have sex with men (MSM)	50%	4214	28%
Sex workers <sup>^</sup>	15%	1270	38%
People who inject drugs (PWID) <sup>^</sup>	7%	577	20%
Aboriginal people	3%	291	0%

\*Excludes Central Coast LHD, St Vincent's Hospital Network, and select Southern Eastern Sydney LHD services, who were unable to provide testing data by priority population for this quarter. Also excludes Sydney Children's Hospital Network.

<sup>#</sup>Excludes LHDs without testing data by priority population in Q3 2013 (South Western Sydney, St Vincent's Hospital Network and select Southern Eastern Sydney LHD services) or Q3 2014 (Central Coast LHD, St Vincent's Hospital Network, and select Southern Eastern Sydney LHD services)

<sup>^</sup>Includes people who ever were sex workers or who ever injected drugs

**Figure 15: Number of HIV tests performed in MSM in five Local Health District Publicly Funded Sexual Health Clinics, 1 January 2011 to 30 September 2014**



Data source: PFSHCs in Western Sydney, North Sydney, Nepean Blue Mountains, Northern NSW and Illawarra Shoalhaven LHDs

Comment

In PFSHCs in 5 LHDs where longer term trend data is available, there have been consistent increases in the number of HIV tests done in MSM (Figure 14). In quarter 3 2014, there were 791 HIV tests done in MSM in these 5 LHDs, an increase of 41% on the average number of tests per quarter in 2013.

Graphs displaying testing trend data for Sex Workers, PWID and Aboriginal and Torres Strait Islander people are in Appendix C.

Sydney Sexual Health Centre in South Eastern Sydney LHD performed the highest number of HIV tests amongst PFSHCs in NSW. Of the 3,011 tests done by this clinic in quarter 3 2014, 1,777 (59%) were for MSM. Eleven were positive yielding a 0.6% positivity rate among MSM clients.

In the context of increased testing and retesting among high risk groups, declines in positive rates are to be expected. Saturation of testing is likely to have occurred when testing numbers are high, high risk populations are well targeted and positivity is low. Aiming for and maintaining this triad is important for ensuring a negligible pool of undiagnosed HIV infection.

In summary, data from PFSHCs indicates that priority populations are being reached by public services. Achieving further increases in testing, particularly in MSM, are important to identify and link HIV infected individuals to care; and to reduce the number of people living with HIV in NSW who are undiagnosed.

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

#### 3.4.1 Rapid testing

Rapid HIV testing is part of a mix of high quality, safe and innovative HIV testing services being offered across NSW, to encourage gay men and other men who have sex with men to have a test annually, with more frequent testing up to 4 times a year for men who report higher risk behaviours including sex without a condom and multiple sexual partners. Rapid testing offers choice and convenience to people who do not routinely access conventional testing.

Rapid HIV testing has been made available to high risk groups in a range of settings across NSW, including community based sites, PFSHCs and general practice. Since June 2013, three 'fixed' community sites and five 'pop up' sites have been operational. In quarter 3 2014, 2,274 HIV rapid tests were performed in NSW, approximately 730 of which were at community sites. 20 of the total 2,274 rapid tests were confirmed as positive (0.9%).

Though the number of clients tested in community sites is relatively small, preliminary data suggests it is an effective testing model for engaging MSM, a high proportion of whom reported any unprotected anal intercourse (51%), multiple sexual partners (24%), or never previously testing for HIV (19%).

The majority of rapid testing in quarter 3 2014, was conducted in PFSHCs. Complete data on clients tested at PFSHCs is unavailable, however a comparison of data from community sites and a snapshot of data from one PFSHC suggests that a higher proportion of men attending community sites have never previously tested for HIV. Larger numbers and more complete data are necessary to identify any significant difference in the profile of clients seen in clinic versus community based sites.

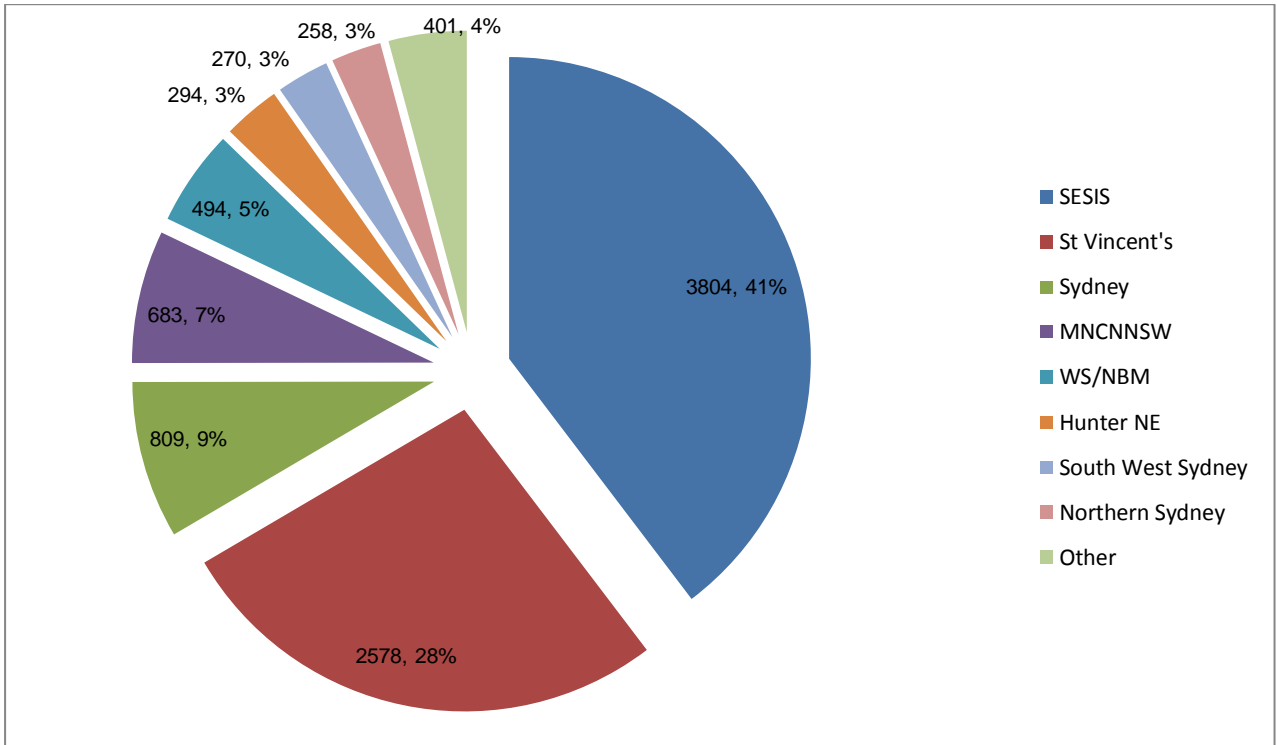
A key priority in 2014 has been to upscale rapid HIV testing in community sites to increase access to testing among MSM who report high risk behaviour, or have not previously tested for HIV. In the first three quarters of 2014, 8,225 HIV rapid tests were performed in NSW, of which 27% (2,180) were at community sites. This represents a 93% increase in the proportion of rapid tests that were performed in community sites compared to the same period in 2013 (14% (506) in community sites).

Data sources: Sydney Rapid HIV Testing Study, Rapid Testing Evaluation Framework, The Albion Centre Oraquick study, Sydney Sexual Health Centre and Lismore Sexual Health Centre.

## 4 Increase HIV treatment

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

**Figure 16: Number of patients dispensed ART in NSW by LHD of dispensing pharmacy, 1 October 2013 to 30 September 2014<sup>2345</sup>**



Data source: Health Share NSW ipharmacy data and data submitted by Western Sydney, Nepean Blue Mountains and Hunter New England LHDs

#### Comment

Pharmacy dispensing data indicates that in the year period from 1 October 2013 to 30 September 2014, 9,232 people diagnosed with HIV in NSW and in care were dispensed antiretroviral therapy (ART) at least once. This includes all people accessing subsidised HIV treatment through the Pharmaceutical Benefits Scheme, as part of the Highly Specialised Drugs Programme. It does not include people who may be accessing treatment through other sources, including those who purchase HIV treatment from overseas, receive ART through clinical trials or are dispensed ART for post-exposure prophylaxis.

<sup>2</sup>In December 2013, Health Share NSW completed the NSW rollout of a standardised ipharmacy system, which enables the collection of data from LHDs about pharmacy dispensing activities including dispensing of ART for HIV. 2013 was the first year for which actual treatment numbers can be ascertained. Past estimates were based on modelled data and therefore comparisons should be made with caution.

<sup>3</sup>Northern NSW, Mid North Coast, South Western Sydney, Justice Health, Murrumbidgee and Southern NSW LHDs came online with the ipharmacy system late in 2013.

<sup>4</sup>The numbers displayed in the graph add up to a figure greater than the overall total of 9,232 for 1/10/13 -30/9/14. This is because a small number of cross-LHD patient flows are not eliminated

<sup>5</sup>'Other' includes Central Coast 158 (1.7%); Far West/Western NSW 82 (0.9%); Murrumbidgee/Southern NSW 86 (0.9%); Childrens Hospital Network 17 (0.2%); Justice Health 58 (0.6%).

Over three-quarters (78%) of all ART dispensing in NSW in the year ending 30 September 2014 occurred through inner metropolitan pharmacies, with over half of all patients receiving ART from pharmacies at the Albion Centre (29.6%) or the St Vincent's Hospital (27.9%). A further 7.4% received ART from the Royal Prince Alfred Hospital and 7.3% from Sydney Hospital and Sydney Eye Hospital.

The NSW Ministry of Health is working with Health Share NSW towards making more comprehensive ART dispensing data available, including data on ART initiations, the LHD of patient's residence, prescriber location and drug combinations.

## 4.2 What are the current antiretroviral treatment prescribing patterns?

### 4.2.1 LHDs

Data on the treatment status of clients who received HIV care in NSW public sexual health and HIV services in the year ending 30 September 2014 is summarised at Table 4.

**Table 4: Clients who received HIV care in NSW public sexual health and HIV services between 1 October 2013 and 30 September 2014**

<b>Total number of patients who received care between October 2013 and September 2014</b>	<b>5161</b>
<b>Number (%) of patients for whom treatment information was available</b>	4974 (96%)
<b>Number (%) on ART</b>	4419 (89%)
<b>Number not on ART<sup>^</sup></b>	555
<i>Number (%) not on ART with CD4 count &lt; 350</i>	118 (21%)
<i>Number (%) not on ART with CD4 count between 350 - 499</i>	116 (21%)
<i>Number (%) not on ART with CD4 count &gt; 500</i>	320 (58%)
<b>Number who initiated ART</b>	360
<i>Number (%) initiated at a CD4 count &lt;350</i>	103 (29%)
<i>Number (%) initiated at a CD4 count between 350 - 500</i>	70 (19%)
<i>Number (%) initiated at a CD4 count &gt;500</i>	187 (52%)

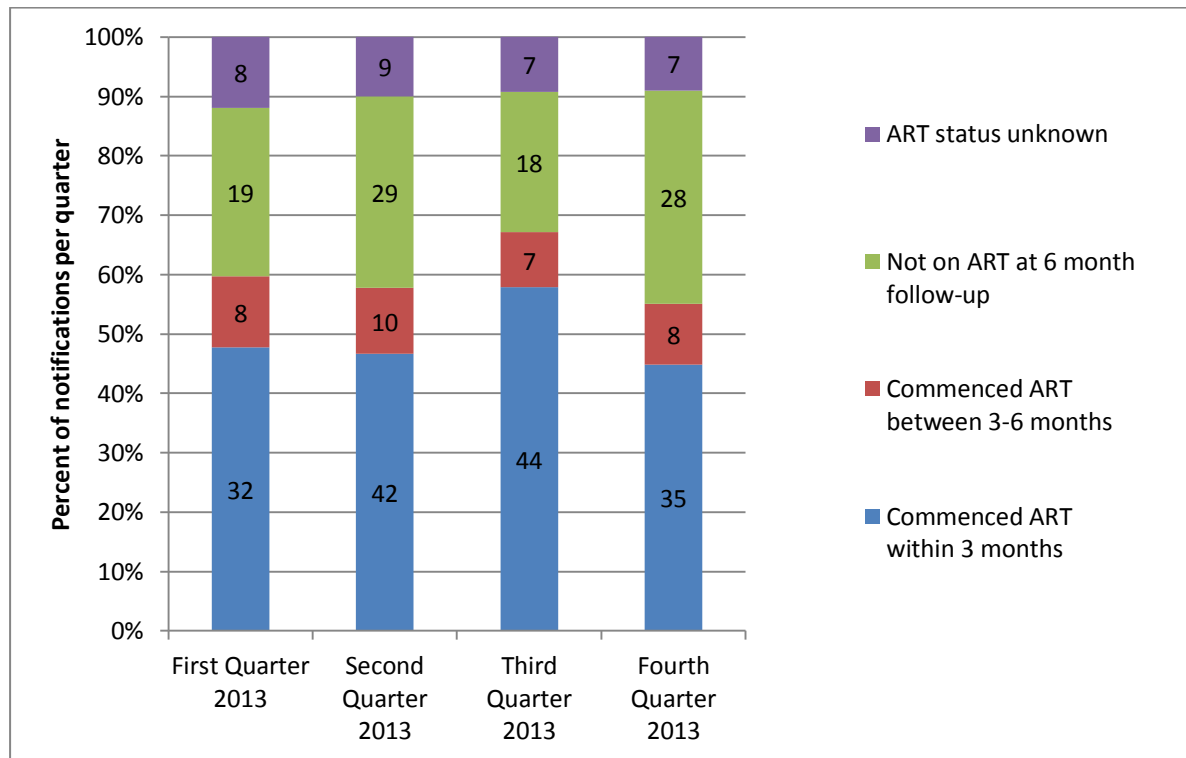
<sup>^</sup>Includes ART naïve clients and clients who have stopped ART

In the year ending 30 September 2014, at least 5,161 clients with HIV received care in public HIV and sexual health clinics in NSW. The available data indicates that treatment coverage in public clinics is high at 89%.

**4.2.2 ART initiation**

Data on initiation of ART is available from enhanced surveillance information collected about people newly diagnosed with HIV from 01 January 2013 onwards. Data on ART commencement, CD4 count and viral load at least six months post diagnosis is recorded via prescribing doctors who complete a standardised HIV six-monthly follow up form.

**Figure 17: Time from diagnosis to commencement of anti-retroviral therapy in NSW residents diagnosed with HIV in 2013 (n=311) by quarter**



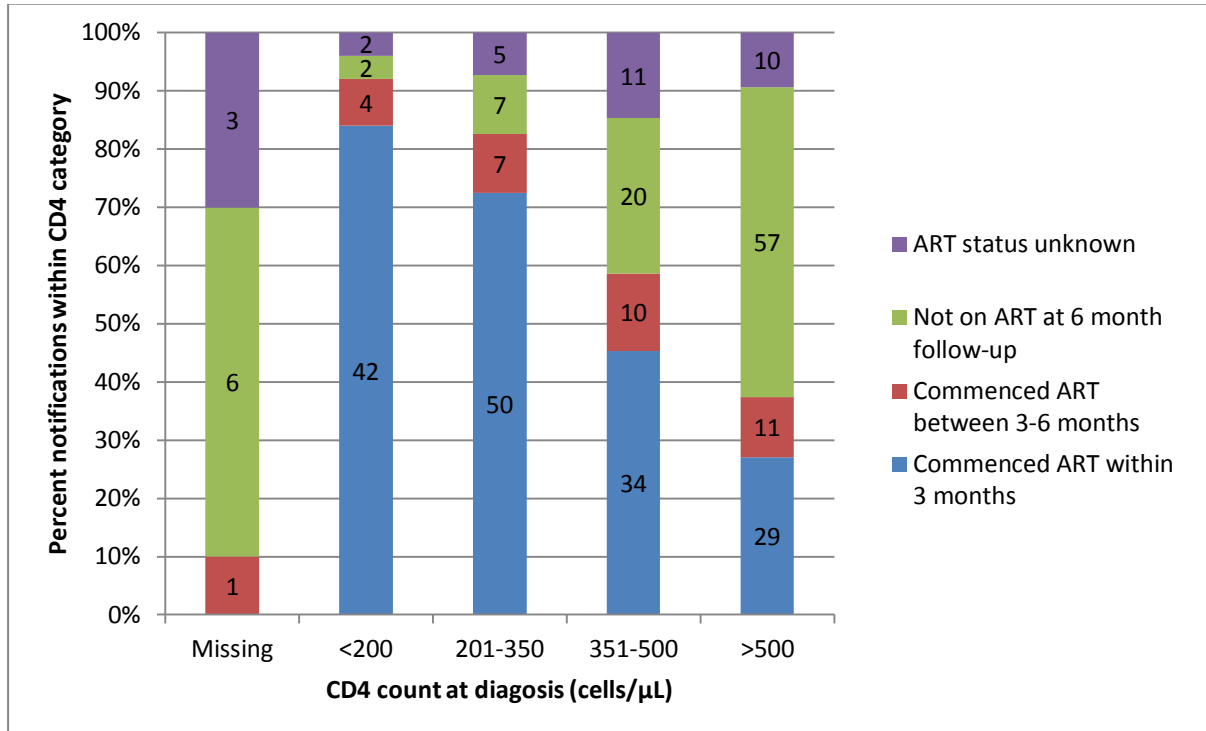
Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

Comment

Of the 354 HIV notifications in NSW in 2013, six-monthly follow-up forms were completed for 311 (88%) new diagnoses. Of these, 49% (153) had commenced ART within three months of diagnosis and 60% (186) had commenced ART within six months of diagnosis. For the 10% (31) for which ART status was unknown, all had 'No' as the answer for the question 'Is this patient currently in your care for HIV infection' on the follow-up form.



**Figure 18: Time from diagnosis to commencement of anti-retroviral therapy in NSW residents newly diagnosed with HIV in 2013 by CD4 count at diagnosis (n=311)**

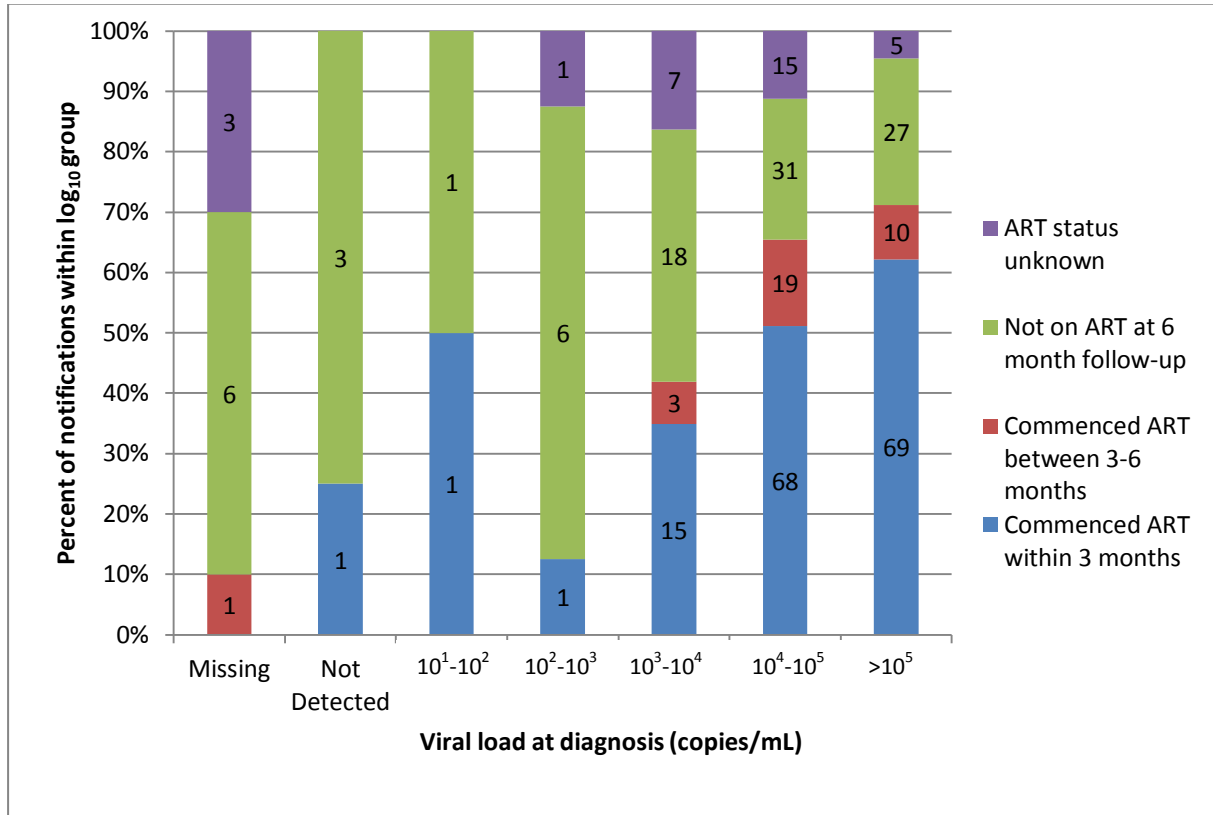


Date source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

Comment

Of the 311 newly diagnosed persons for whom six monthly follow-up forms were available, 301 had results available for CD4 count at diagnosis. Of those with a CD4 count less than 200 cells/μL at diagnosis, 84% had commenced ART within three months of diagnosis and a further eight per cent had commenced ART within six months of diagnosis. Of those with a CD4 count at diagnosis between 201 and 500 cells/μL, 58.3% (84) had commenced ART within three months of diagnosis and a further 11.8% (17) had commenced ART within six months of diagnosis. Lower CD4 counts at diagnosis are associated with earlier commencement of ART. The PBAC restriction on the prescription of ART for asymptomatic people with HIV with a CD4 count less than 500 cells/μL was lifted in April 2014, by which time the majority of people diagnosed in 2013 had already been diagnosed more than six months previously.

**Figure 19: Time from diagnosis to commencement of anti-retroviral therapy in NSW residents newly diagnosed with HIV in 2013 by viral load at diagnosis (n=311)**



Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

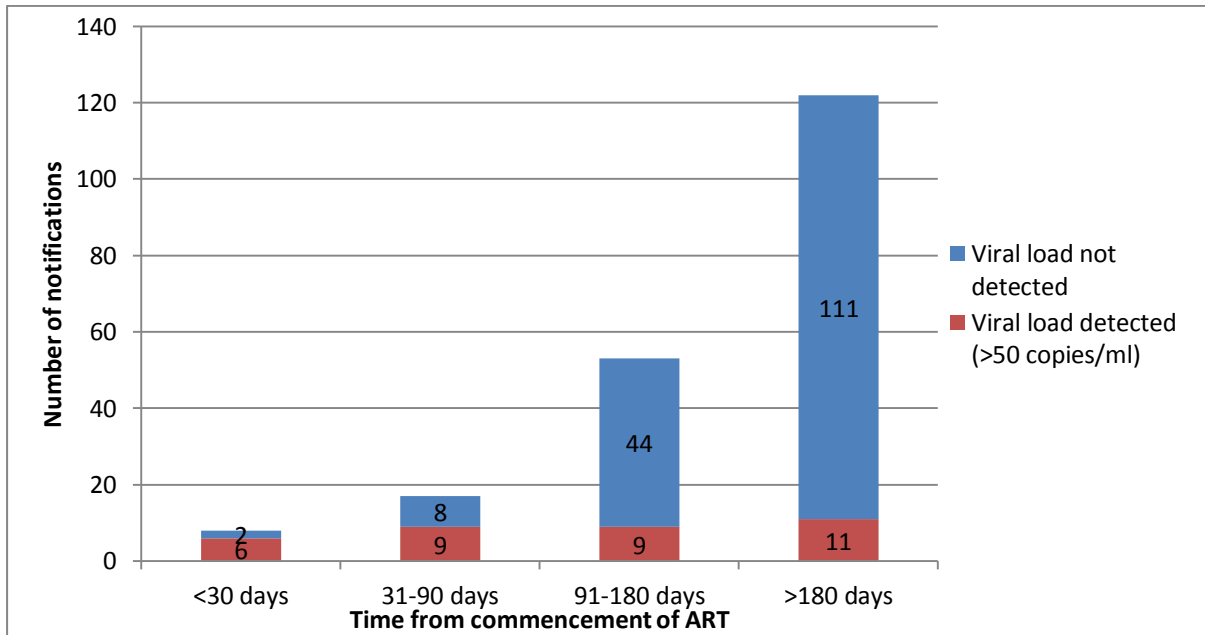
**Comment**

Of the 311 newly diagnosed persons for whom six monthly follow-up forms were available, 301 had results available for viral load at diagnosis (Figure 19). Of those with a viral load at diagnosis greater than 10<sup>5</sup>, 62.2% had commenced ART within three months of diagnosis and a further 9% had commenced ART within six months of diagnosis. Of those with a viral load between 10<sup>2</sup> and 10<sup>5</sup> at diagnosis 45.7% (84) had commenced ART within three months of diagnosis and a further 12% (22) had commenced ART within six months of diagnosis. Higher viral load at diagnosis is associated with earlier initiation of ART.

### 4.2.3 Viral load after ART initiation

The goal of ART is to reduce the HIV viral load to both minimise the effects of the virus and reduce the risk of HIV transmission.

**Figure 20: Number of people newly diagnosed with HIV in NSW in 2013 with a detectable and with an undetectable HIV viral load, by time from commencement of anti-retroviral therapy to follow-up\***



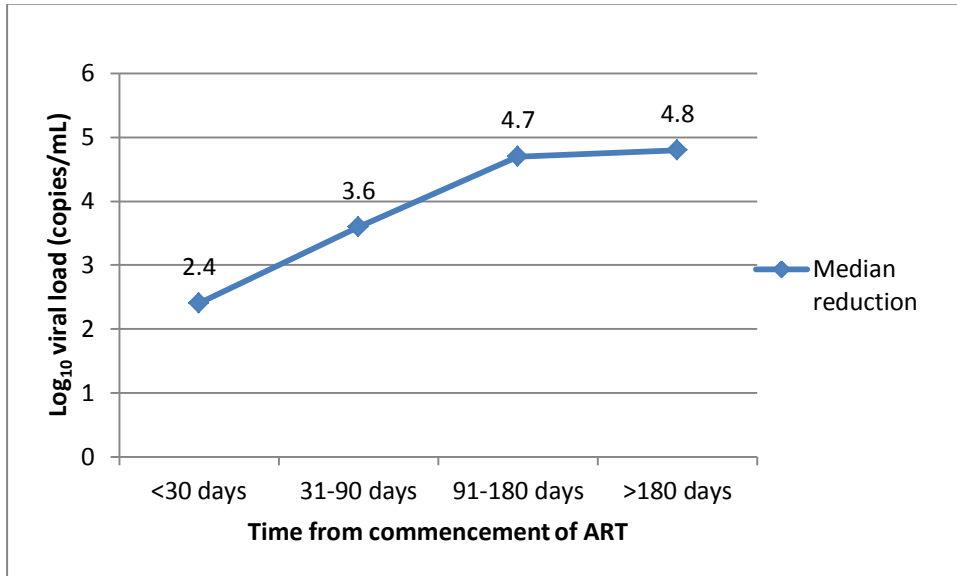
Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

\*Data on viral load was reported for 200 of 212 people newly diagnosed in 2013 on ART at six-monthly follow-up

#### Comment

Of the 213 newly diagnosed people in 2013 on ART at six-monthly follow up, 200 had pre and post ART viral load results available. Time from ART commencement was calculated as difference in days between the most recent viral load specimen date and the date ART was commenced. The median time on ART was 224 days. Viral load not detected was defined as a viral load reported as  $\leq 50$  copies/ml or *Not Detected*. Viral load not detected was reported in 165 people (82.5%). Of the 11 people with a detectable viral load at a time point more than 180 days after commencement of ART, 36.4% (4) had a viral load less than 100 copies/ml, and 63.6% (7) had a viral load between 100 and 1,000 copies/ml.

**Figure 21: Median reduction in viral load (log<sub>10</sub>) by time from commencement of antiretroviral therapy; as reported at six monthly follow up (n= 199).**



Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

Comment

Of the 213 newly diagnosed persons who had commenced ART, pre and post ART commencement viral load results were available for 200 (93.9%). Of these 60% (120) had been on ART for greater than 180 days. Change in viral load was calculated as the difference in log<sub>10</sub> viral load between pre-ART specimen and most recent (post-ART) specimen as reported on six monthly follow-up forms. Reduction in viral load was seen in all cases, the median reduction is shown. The median time between tests was 250 days.

T-tests showed the difference in change between groups was statistically significant (p<0.05) for all comparisons except '91-180 days' vs '>180 days'.

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## 5. Sustain the virtual elimination of HIV related deaths

### 5.1 What is the number of deaths for which HIV/AIDS was reported as underlying cause?

Ascertaining the number of deaths due to HIV is complex in an era when people with HIV have access to effective treatment giving them a long life expectancy. People with HIV are subject to the same causes of morbidity and mortality as are people without HIV. Methods to better estimate deaths attributable to HIV are being investigated.

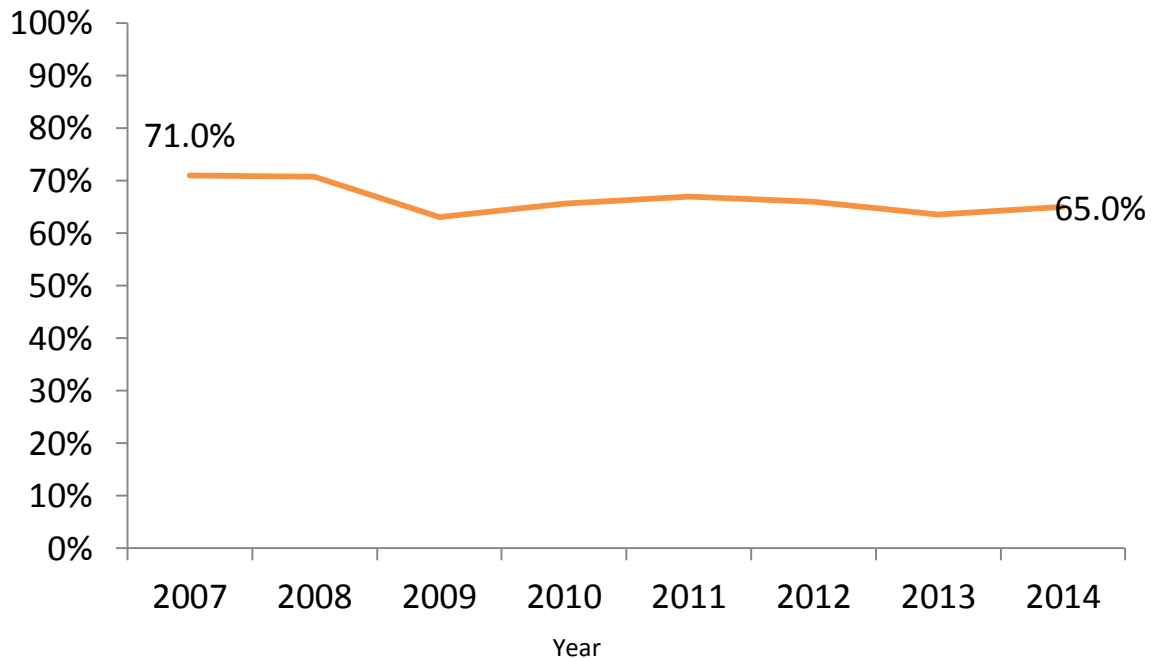


Characteristics of the newly diagnosed	2008	N=325	2009	N=334	2010	N=307	2011	N=330	2012	N=408	2013	N=354	Jan-Sept 2014	N=263	1981-Sept 2014	N=17183
Men who have sex with men (MSM)	236	72.6%	221	66.2%	227	73.9%	268	81.21%	318	77.9%	265	74.9%	198	75.3%	10769	62.7%
MSM who inject drugs	11	3.4%	17	5.1%	8	2.6%	10	3.03%	13	3.2%	14	4.0%	13	4.9%	485	2.8%
Sex only with the opposite sex	64	19.7%	75	22.5%	52	16.9%	41	12.42%	56	13.7%	61	17.2%	37	14.1%	1564	9.1%
Person who injects drugs	12	3.7%	11	3.3%	9	2.9%	8	2.42%	10	2.5%	8	2.3%	5	1.9%	554	3.2%
Haemophilia, coagulation disorders, or blood tissue recipient	0	0.0%	1	0.3%	0	0.0%	0	0.00%	0	0.0%	0	0.0%	0	0.0%	276	1.6%
Vertical	0	0.0%	2	0.6%	1	0.3%	0	0.00%	0	0.0%	1	0.3%	1	0.4%	46	0.3%
Other	0	0.0%	2	0.6%	1	0.3%	1	0.30%	2	0.5%	1	0.3%	0	0.0%	41	0.2%
Unknown	2	0.6%	5	1.5%	9	2.9%	2	0.61%	9	2.2%	4	1.1%	9	3.4%	3448	20.1%
<b>Local health district of residence</b>																
South Eastern Sydney	117	36.0%	107	32.0%	110	35.8%	128	38.79%	149	36.5%	125	35.3%	88	33.5%	5367	31.2%
Sydney	78	24.0%	90	26.9%	77	25.1%	83	25.15%	111	27.2%	90	25.4%	65	24.7%	2815	16.4%
Northern Sydney	25	7.7%	39	11.7%	19	6.2%	24	7.27%	23	5.6%	26	7.3%	14	5.3%	952	5.5%
Western Sydney	26	8.0%	22	6.6%	20	6.5%	31	9.39%	25	6.1%	26	7.3%	20	7.6%	688	4.0%
South Western Sydney	16	4.9%	21	6.3%	24	7.8%	18	5.45%	31	7.6%	29	8.2%	17	6.5%	611	3.6%
Hunter New England	14	4.3%	16	4.8%	16	5.2%	10	3.03%	14	3.4%	18	5.1%	21	8.0%	457	2.7%
Nepean Blue Mountains	7	2.2%	3	0.9%	3	1.0%	4	1.21%	5	1.2%	3	0.8%	5	1.9%	252	1.5%
Illawarra Shoalhaven	3	0.9%	5	1.5%	8	2.6%	5	1.52%	9	2.2%	7	2.0%	5	1.9%	216	1.3%
Central Coast	6	1.8%	5	1.5%	5	1.6%	4	1.21%	10	2.5%	5	1.4%	7	2.7%	190	1.1%
Northern NSW	4	1.2%	4	1.2%	9	2.9%	11	3.33%	5	1.2%	5	1.4%	5	1.9%	185	1.1%
Mid North Coast	8	2.5%	6	1.8%	3	1.0%	4	1.21%	3	0.7%	6	1.7%	4	1.5%	136	0.8%
Western NSW	3	0.9%	3	0.9%	4	1.3%	3	0.91%	7	1.7%	5	1.4%	2	0.8%	118	0.7%
Murrumbidgee	3	0.9%	2	0.6%	7	2.3%	2	0.61%	5	1.2%	3	0.8%	1	0.4%	83	0.5%
Southern NSW	3	0.9%	6	1.8%	1	0.3%	2	0.61%	7	1.7%	4	1.1%	4	1.5%	54	0.3%
Far West	0	0.0%	2	0.6%	0	0.0%	0	0.00%	2	0.5%	0	0.0%	0	0.0%	8	0.0%
Justice Health	1	0.3%	1	0.3%	1	0.3%	0	0.00%	1	0.2%	1	0.3%	1	0.4%	6	0.0%
Unknown	11	3.4%	2	0.6%	0	0.0%	1	0.30%	1	0.2%	1	0.3%	4	1.5%	5045	29.4%
<b>Total</b>	<b>2008</b>	<b>N=325</b>	<b>2009</b>	<b>N=334</b>	<b>2010</b>	<b>N=307</b>	<b>2011</b>	<b>N=330</b>	<b>2012</b>	<b>N=408</b>	<b>2013</b>	<b>N=354</b>	<b>Jan-Sept 2014</b>	<b>N=263</b>	<b>1981-Sept 2014</b>	<b>N=17183</b>

Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 13 November 2014

## Appendix B: Sydney Gay Community Periodic Survey, February 2014

Figure 18: Condom use reported by MSM with casual sexual partners in NSW, 2007-2014



Data source: Sydney Gay Community Periodic Survey (February, 2014)

### Comment

The February 2014 figure represent behaviour in the previous 6 months and are therefore reflective of behaviours in the latter part of 2013. Among gay men with casual sexual partners surveyed, 65% reported practicing safe sex<sup>6</sup>. Safe sex among gay men with casual male partners has remained stable since 2009.

<sup>6</sup> Practicing safe sex is defined as always protected or avoided anal sex



**Table 7: Location of last HIV test among HIV-negative and untested/unknown status who were tested in the past 12 months**

Where last HIV test took place	n	%
GP	635	48.8%
Clinic/hospital	526	40.4%
Community based ACON aTEST	113	8.7%
Other	27	2.1%
<b>Total</b>	<b>1955</b>	<b>100%</b>

Data source: Sydney Gay Community Periodic Survey (February 2014)

#### Comment

The majority of gay men surveyed who reported having an HIV test in the past 12 months, reported that their last HIV tests took place in general practice or a public hospital service, 48.8% and 40.4% respectively.<sup>7</sup> Data collection in the survey on community based services commenced in 2013. Future reports will provide comment on trends regarding these data.

**Table 8: Number of HIV tests in the past 12 months among non-HIV-positive men who reported being tested within 12 months**

	2013		2014	
	n	%	n	%
<b>One</b>	602	40.8	532	38.9
<b>Two</b>	573	38.8	493	36.1
<b>Three or four</b>	262	17.7	296	21.7
<b>Five or more</b>	40	2.7	45	3.3

Data source: Sydney Gay Community Periodic Survey (February, 2014)

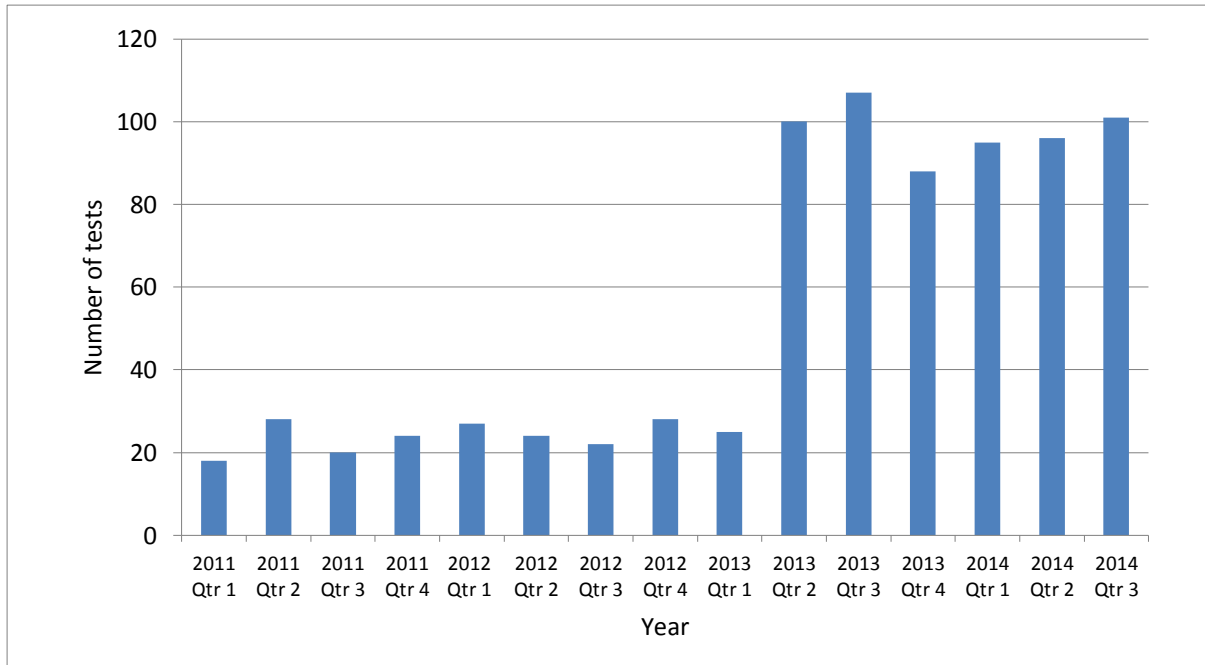
#### Comment

Of the gay men surveyed who had not been diagnosed with HIV, 76% reported an HIV test in the last 12 months. This is a significant increase from 71% in the same survey in 2013 and the highest level recorded since the survey began in 1996. Among these men who had a test, there was an increase in 2014 in the proportion who had three or more HIV tests in the previous 12 months (Table 8).

<sup>7</sup> excludes HIV-positive men and men who said they hadn't been tested for HIV

## Appendix C: HIV Testing Figures

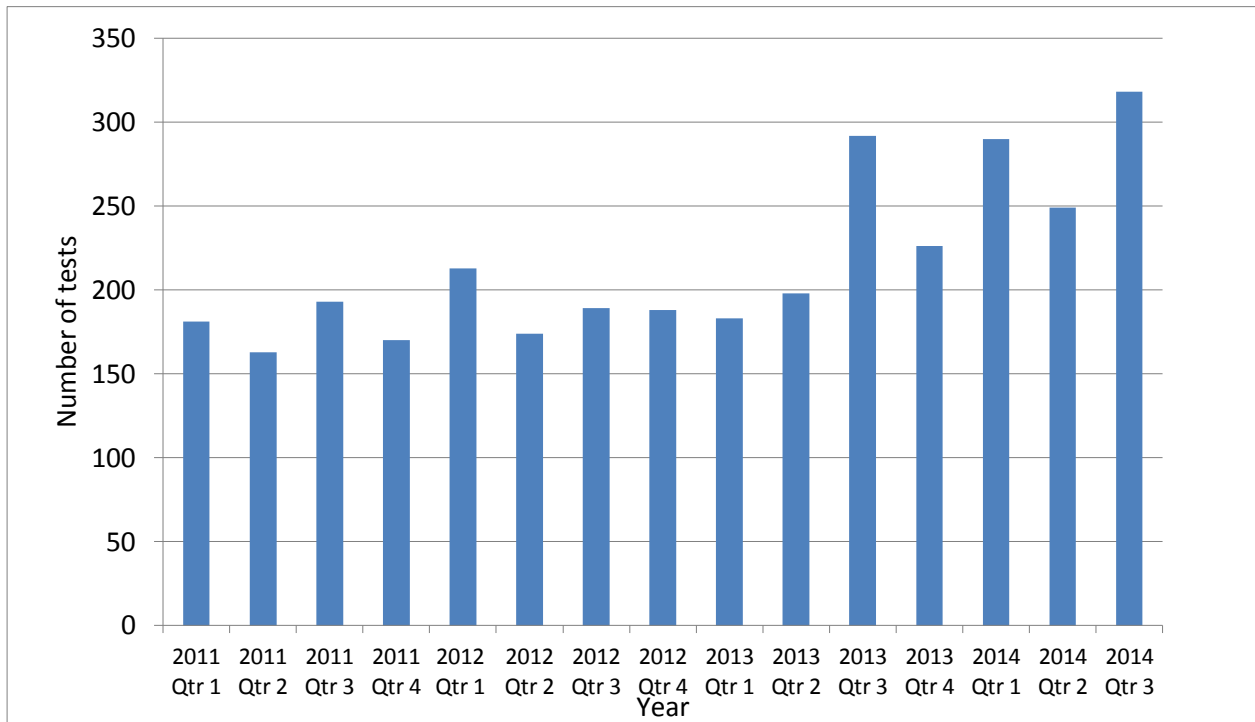
**Figure 19: Number of HIV tests performed in Aboriginal people in five Local Health District Publicly Funded Sexual Health Clinics, 1 January 2011 to 30 September 2014\***



Note: Increase largely driven by Western Sydney LHD

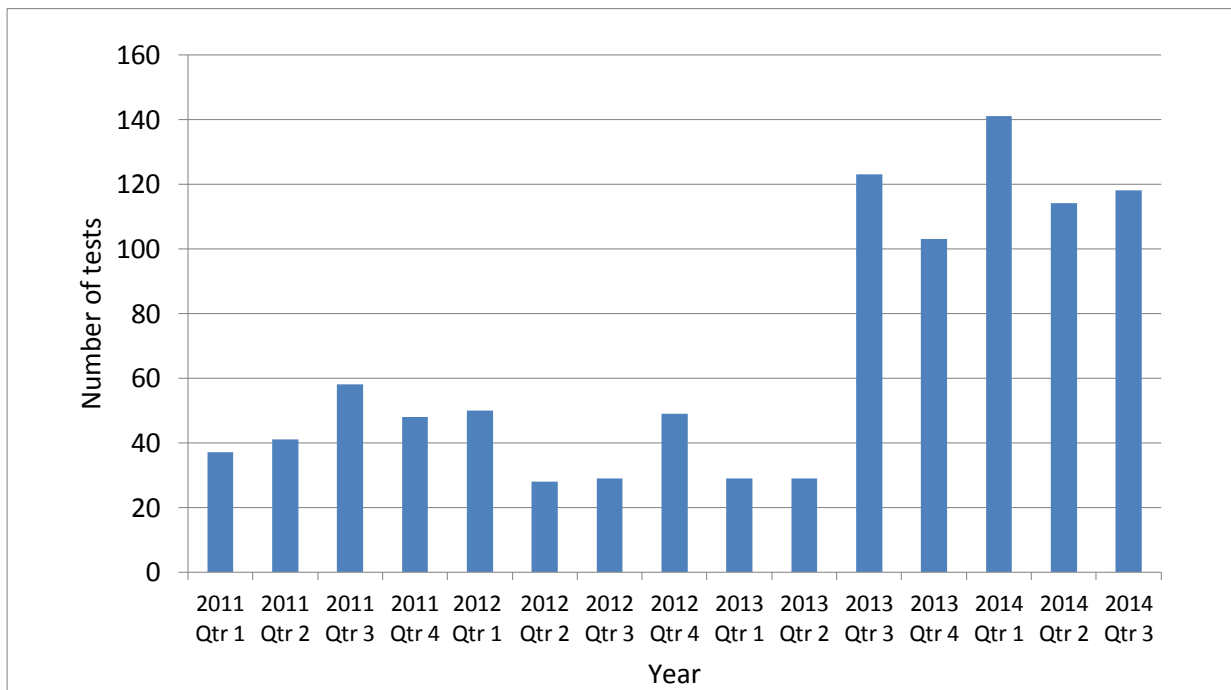
Data source: PFSHCs in Western Sydney, North Sydney, Nepean Blue Mountains, Northern NSW and Illawarra Shoalhaven LHDs

**Figure 20: Number of HIV tests performed in clients who were ever sex workers in five Local Health District Publicly Funded Sexual Health Clinics, 1 January 2011 to 30 September 2014**



Data source: PFSHCs in Western Sydney, North Sydney, Nepean Blue Mountains, Northern NSW and Illawarra Shoalhaven LHDs

**Figure 21: Trend in number of HIV tests performed in clients who ever injected drugs in five Local Health District Publicly Funded Sexual Health Clinics, 1 January 2011 to 30 September 2014**



Note: large increase in part due in part to improved data collection

Data source: PFSHCs in Western Sydney, North Sydney, Nepean Blue Mountains, Northern NSW and Illawarra Shoalhaven LHDs

## Appendix D: eTEST study, 2014

### 3.2.1 General practice

Table 2 displays the number of HIV tests done and positivity for 3 clinics with high caseloads of MSM clients located in South Eastern Sydney LHD between 1 January 2012 and 30 June 2014.

**Table 2: HIV testing and positivity among general practice clinics with high caseloads of MSM**

Year	Q	Total tests	Positives*	Positivity
<b>2012</b>	Total	6611	122	1.8%
<b>2013</b>	1	1732	32	1.8%
	2	1656	26	1.6%
	3	1847	26	1.4%
	4	1775	16	0.9%
	Total	7010 (+6%)	100 (-18%)	1.4% (-0.4%)
<b>2014</b>	1	1943	18	0.9%
	2	1798	17	1.2%

\*not all new diagnoses

Data source: eTEST study (2014)

#### Comment

In three general practice clinics with high caseloads of MSM located in South East Sydney LHD, HIV testing increased by 10% in the first half of 2014 compared with the first half of 2013.