

NSW Sexually Transmissible Infections Strategy 2016 – 2020

January to June
2017

Data Report



Key data

<i>Reduce gonorrhoea infections</i>				
	Jan-June 2017	Change since 2016		
Gonorrhoea notification rate	120 per 100,000 population (annualised)	33% higher (90 per 100,000 population)		
Number of tests	450,553	7.6% higher than Jan-Jun 2016 (418,631)		
<i>Reduce infectious syphilis infections</i>				
	Jan-June 2017	Change since 2016		
Infectious syphilis notification rate	12.9 per 100,000 population (annualised)	16% higher (11.1 per 100,000 population)		
<i>Reduce pelvic inflammatory disease (PID) associated with chlamydia: Hospitalisations</i>				
	2016	Change since 2015		
Hospital admissions for chlamydia associated PID	225	11.4% higher (202)		
<i>Reduce pelvic inflammatory disease (PID) associated with chlamydia: Chlamydia notifications</i>				
	Jan-June 2017	Change since 2016		
Chlamydia notification rate	387 per 100,000 population (annualised)	15% higher (337 per 100,000 population)		
Number of tests	301,330	8.5% higher than Jan-Jun 2016 (277,747)		
<i>Maintain levels of condom use for preventing the transmission of STIs</i>				
	2017	Change since 2016		
Proportion reporting condomless intercourse with casual partners	Men who have sex with men	69%	Increased by 12 per cent (57%)	
	Young people aged 15-29 years	17.6%	Increased by 1 per cent (16.6%)	
<i>Increase comprehensive STI testing in priority populations in accordance with risk</i>				
	Jan-June 2017	Change since Jan-June 2016		
Comprehensive STI testing rates	Men who have sex with men	PFSHSS¹	87%	Increased 1 per cent (86%)
		GP²	77%	Increased 3 per cent (74%)
	Young people	27%	Increased by 2 per cent (25%)	
	Female sex workers	91%	Increased 2 per cent (89%)	

¹ PFSHSS: Publicly funded sexual health services.

² GP: General practice.

Key messages

- Gonorrhoea, infectious syphilis and chlamydia notification rates continue to increase.
 - The relative increases in chlamydia and infectious syphilis notification rates were less than half of that for gonorrhoea.
 - The ratio of the number of gonorrhoea notifications to the number of tests increased, suggesting there was an increase in transmission and/or screening was more targeted to people at higher risk of infection.
 - The increase in the gonorrhoea notification rate among females suggests an increase in notifications in heterosexual people whilst the higher relative increase in the notification rate among males compared to females suggests an increase in gonorrhoea in gay and bisexual men.
 - The relative increase in throat and rectal gonorrhoea infections was greater than that for genitourinary infections in men, suggesting that the increase among gay and bisexual men was likely due to targeted screening in addition to increased transmission.
- The proportion of men who have sex with men and young people aged 15-29 years reporting condomless sexual intercourse with casual partners has increased, while the proportion who consistently use condoms has also declined. This decline shows the need for further scaling up and strengthening initiatives to promote condom use to prevent STI transmission.
- Targeted strategies are required to improve comprehensive STI testing among priority populations. Further efforts to increase the rate of testing and re-testing following treatment for gonorrhoea and chlamydia should continue, in accordance with STI testing guidelines.
- Partner notification, testing, treatment and condom use are central to the prevention of STIs and should be comprehensively undertaken.

Table of contents

Table of contents	i
List of acronyms	iii
Progress against the NSW Sexually Transmissible Infections Strategy 2016-2020	2
1 Reduce gonorrhoea infections	2
1.1 Gonorrhoea notifications	3
1.2 Gonorrhoea notifications among Aboriginal people.....	10
1.3 Gonorrhoea testing.....	11
1.4 Gonorrhoea test positivity among men who have sex with men, female sex workers and young people.....	12
2 Reduce infectious syphilis infections	13
2.1 Infectious syphilis notifications	14
2.2 Congenital syphilis notifications	23
3 Reduce pelvic inflammatory disease associated with chlamydia	24
3.1 Chlamydia-associated hospitalisations for pelvic inflammatory disease	25
3.2 Chlamydia notifications	26
3.3 Chlamydia notifications among Aboriginal people.....	32
3.4 Chlamydia testing.....	33
3.5 Chlamydia positivity among men who have sex with men, female sex workers and young people.....	34
4 Increase comprehensive STI testing in priority populations in accordance with risk .	39
4.1 Comprehensive STI testing in priority populations	39
4.2 Comprehensive STI testing among young people	40
4.3 Comprehensive STI testing among high risk MSM	41
5 Increase the proportion of people diagnosed with chlamydia and gonorrhoea who get re-tested within 1-4 months after diagnosis	42
5.1 Re-testing for chlamydia and gonorrhoea.....	42
5.2 Re-notifications of chlamydia	43
5.3 Re-notifications of gonorrhoea	43
6. Increase the proportion of people diagnosed with syphilis who get re-tested within 1-6 months after diagnosis	44
6.1 Re-testing for infectious syphilis.....	44
6.2 Re-notifications of infectious syphilis	44
7. Increase the proportion of Aboriginal people diagnosed with chlamydia or gonorrhoea who get tested for HIV and syphilis	45
7.1 Proportion of Aboriginal people diagnosed with chlamydia or gonorrhoea who get tested for HIV and syphilis.....	45
Appendix A: Indicators for monitoring and reporting	46
Appendix B: Data sources	47
Appendix C: Case definitions for gonorrhoea, infectious syphilis – less than two years duration, syphilis – more than 2 years or unknown duration and chlamydia	49
Gonorrhoea	49
Infectious syphilis – less than two years duration	49

Syphilis - more than 2 years or unknown duration.....	49
Chlamydia	49
Appendix D: Notification data tables	50
Appendix E: Data table for the HPV vaccination rate by LHD	Error! Bookmark not defined.
Appendix F: Infectious syphilis notification rate by Aboriginality and remoteness area, NSW, 2012-2015	52

List of acronyms

ABS	Australian Bureau of Statistics
ART	Antiretroviral therapy
CDR	Communicable Diseases Register
GU	Genitourinary tract
HIV	Human immunodeficiency virus
LHD	Local Health District
MHCL	Medium to high caseload
MSM	Men who have sex with men
NAAT	Nucleic acid amplification testing
NAT	Nucleic acid testing
NCIMS	Notifiable Conditions Information Management System
NSW	New South Wales
PID	Pelvic inflammatory disease
SAPHaRI	Secure Analytics for Population Health Research and Intelligence

Introduction

Sexually transmissible infections (STIs) remain a significant public health burden in NSW. If left untreated, STIs can be transmitted to sexual partners, increase the risk of the sexual transmission of HIV, and contribute to the development of severe complications such as infertility, ectopic pregnancy and congenital infection. They can also cause pain and discomfort and are stigmatising for the affected individual.

The NSW STI Strategy 2016-2020³ (*the Strategy*) provides a framework to effectively respond to changes in STI epidemiology across NSW.

The Strategy outlines four goals:

1. To reduce gonorrhoea and syphilis infections and reduce the burden of disease of chlamydia infection.
2. Sustain the low rates of STIs amongst sex workers.
3. Sustain the virtual elimination of congenital syphilis.
4. Maintain high coverage of HPV vaccination.

The priority populations for the Strategy include Aboriginal people, gay and homosexually active men, sex workers and young people. The priority settings for action include publicly funded sexual health services, Aboriginal community controlled health services, antenatal settings, drug and alcohol services, mental health services and general practice and primary health care.

These Data Reports form the primary mechanism for reporting progress against the Strategy's indicators. They will be developed on a biannual basis, and undergo a review process from experts from research, policy, clinical, community and peer organisations.

The review process will drive the implementation of the Strategy and provide the basis for the development and refinement of innovative practice, service models, improved health service quality, clinical safety and performance.

This report is the second in a series of reports that maps the epidemiological and behavioural data relevant to STIs against the targets of the Strategy. It is intended to provide an indication of progress and success of the implementation of the NSW STI Strategy 2016-2020.

³ NSW Ministry of Health (2015). NSW Sexually Transmissible Diseases Strategy 2016-2020. Sydney: NSW Ministry of Health. <http://stipu.nsw.gov.au/wp-content/uploads/STI-Strategy-2016-2020.pdf>.

Progress against the NSW Sexually Transmissible Infections Strategy 2016-2020

1 Reduce gonorrhoea infections

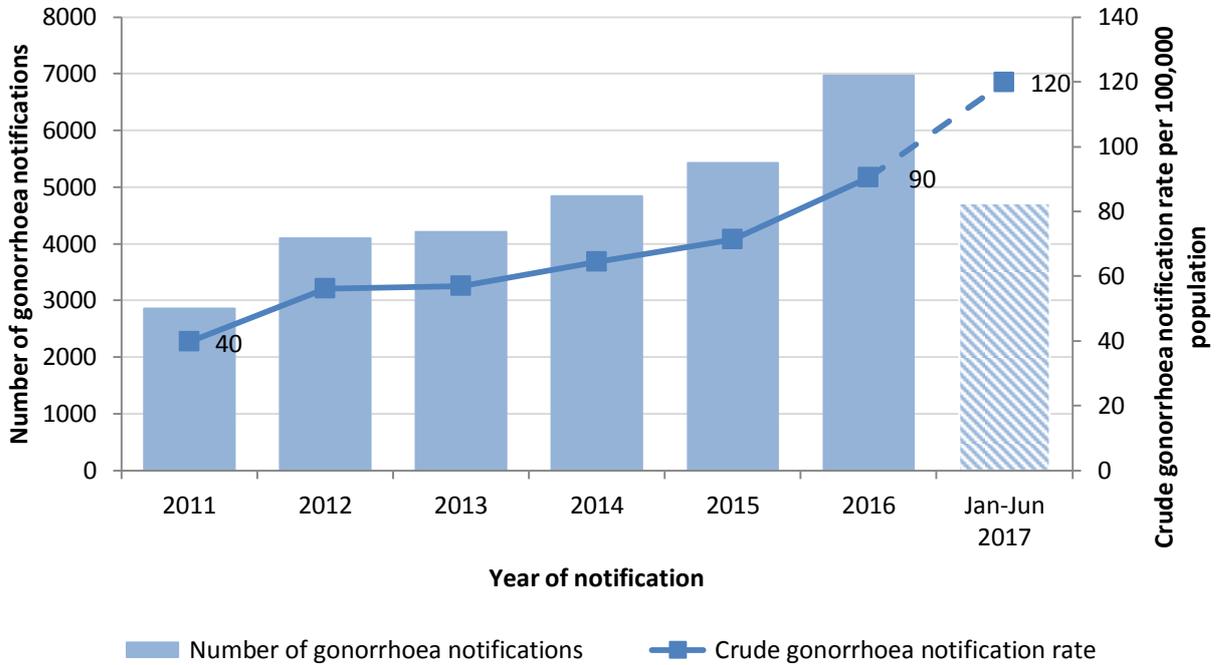
Prevention, testing and appropriate treatment and management with partner notification are the cornerstones of gonorrhoea control and are embedded in the current STI strategy. Gonorrhoea notification data does not reflect the true incidence of gonorrhoea infection as it only represents a proportion of infections in the population, however it is useful for monitoring notification trends over time. Gonorrhoea notification data are heavily influenced by testing practices, and hence, may not be representative of the NSW population.

Gonorrhoea is a notifiable disease under the NSW *Public Health Act 2010*. A confirmed case requires isolation of *Neisseria gonorrhoeae* from culture or detection by nucleic acid amplification testing (NAAT). Only confirmed cases of gonorrhoea are counted when reporting gonorrhoea notification data. Gonorrhoea infections are not routinely followed up by public health units so detailed information (e.g. sexual exposure) is difficult to ascertain.

It is important to note that there may be multiple specimens collected for each individual tested for gonorrhoea. Hence the number of gonorrhoea tests done is greater than the number of individuals tested. However, an individual with multiple specimens that are positive for gonorrhoea will generate only one notification.

1.1 Gonorrhoea notifications

Figure 1: Number and crude rate of gonorrhoea notifications, NSW, 1 January 2011- 30 June 2017



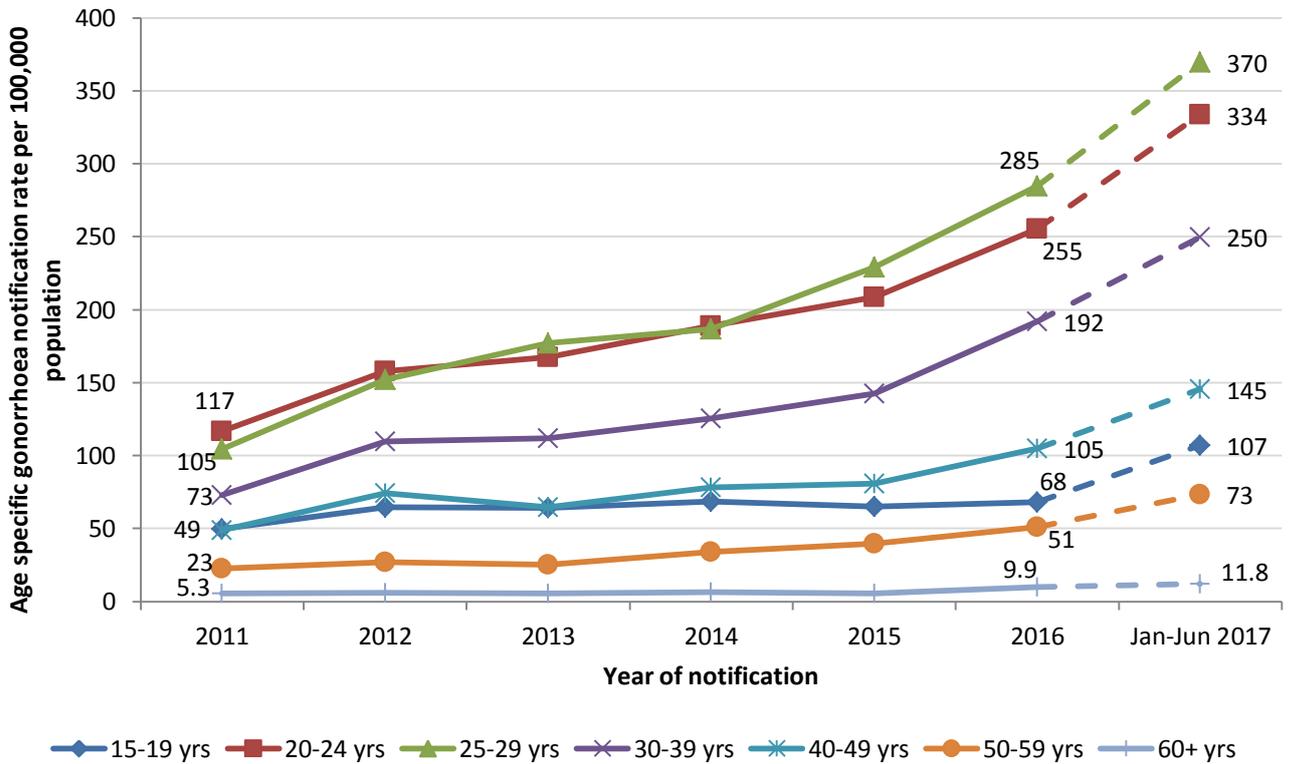
Data source: NCIMS and ABS population estimates (via SAPHARI), NSW Health; data extracted 9 Oct 2017.

Note: The rate is based on six months of data between Jan-June 2017 adjusted to an annual rate and is subject to change once data from July to December 2017 becomes available. Excludes non-NSW residents and persons whose residential postcode was not known

Comment

- From January to June 2017, the annualised gonorrhoea notification rate was 120 notifications per 100,000 population, 33% higher compared to 2016 (90 per 100,000 population).

Figure 2: Age specific gonorrhoea notification rates, NSW, 1 January 2011- 30 June 2017



Data source: NCIMS and ABS population estimates (via SAPHARI), NSW Health; data extracted 9 Oct 2017.

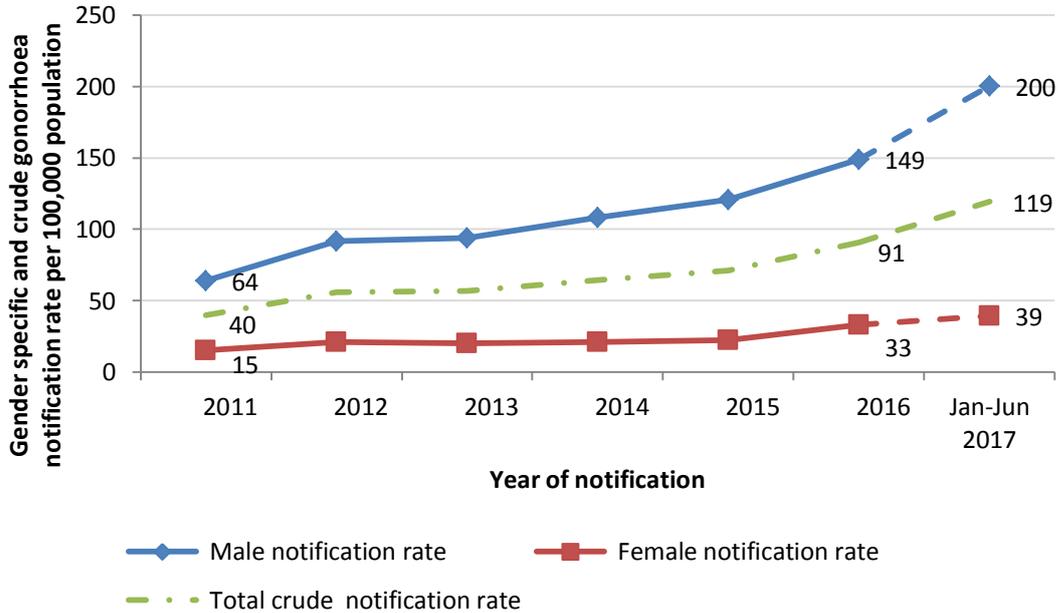
Note: The rate is based on six months of data between Jan-June 2017 adjusted to an annual rate and is subject to change once data from July to December 2017 becomes available. Excludes non-NSW residents and persons whose residential postcode was not known

Comment

From January to June 2017:

- The highest annualised gonorrhoea notification rates continue to occur in the 20-24yrs and 25-29yrs age groups.
- The largest relative increases in the annualised gonorrhoea notification rates were observed in the 15-19yrs and 50-59yrs age groups (57% and 43% respectively) compared with 2016.

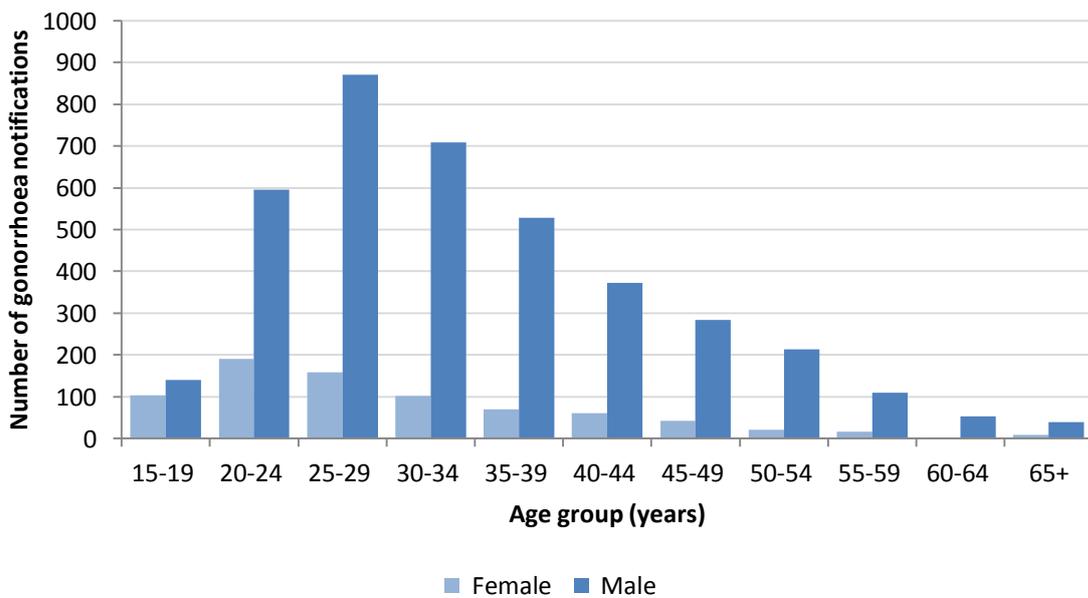
Figure 3: Gender specific gonorrhoea notification rate, NSW, 1 January 2011- 30 June 2017



Data source: NCIMS and ABS population estimates (via SAPHaRI), NSW Health; data extracted 9 Oct 2017.

Note: Excludes persons reported as transgender (due to small numbers), and persons whose age or sex was not reported. The rate is based on six months of data between Jan-June 2017 adjusted to an annual rate and is subject to change once data from July to December 2017 becomes available. Excludes non-NSW residents and persons whose residential postcode was not known.

Figure 4: Number of gonorrhoea notifications by age group and gender, NSW, 1 January 2017- 30 June 2017



Data source: NCIMS, NSW Health; data extracted 9 Oct 2017.

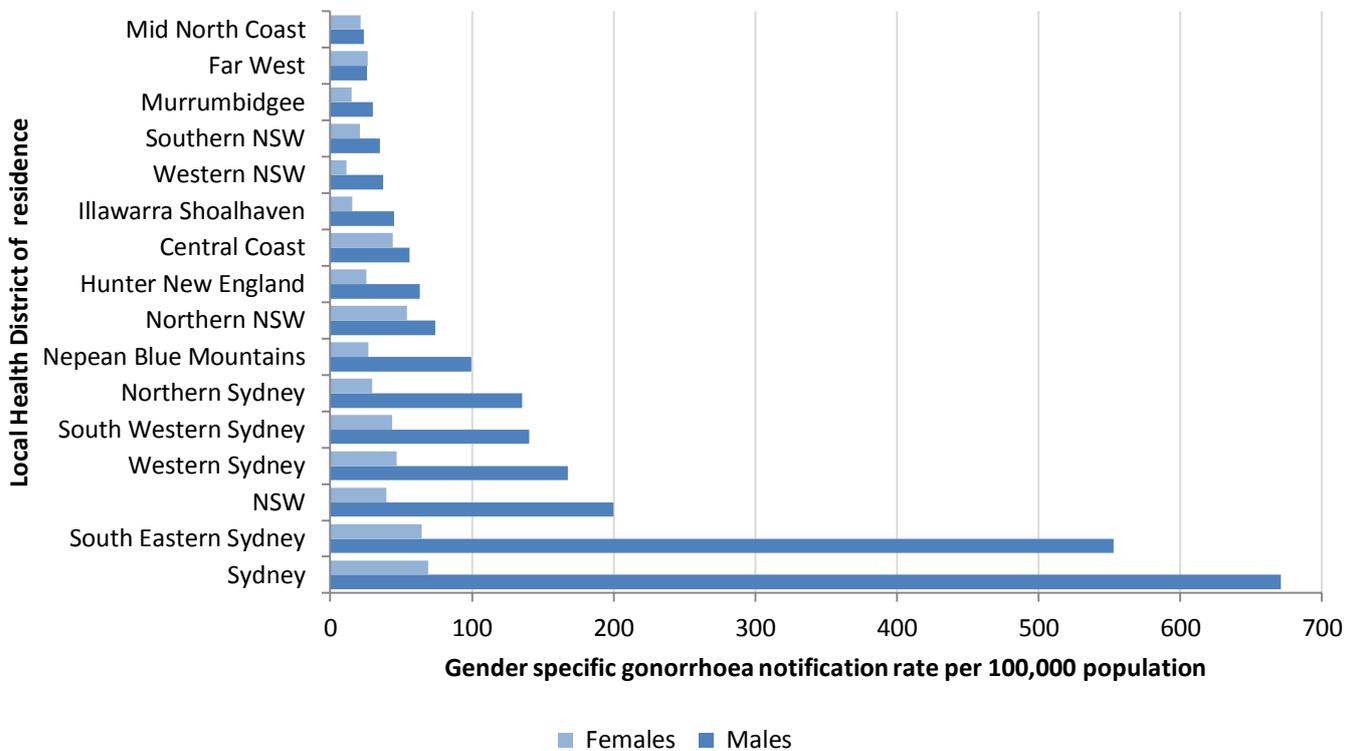
Note: Excludes persons reported as transgender (due to small numbers), and persons whose age or sex was not reported. Excludes non-NSW residents and persons whose postcode of residence was not known.

Comment

From January to June 2017:

- Of the 4717 gonorrhoea notifications, 3915 gonorrhoea notifications were reported as male, 782 notifications were reported as female, 10 people were reported as transgender and there were 10 people whose gender was reported as not stated/ inadequately described (for further notes on gender classification, see Appendix D).
- The annualised gonorrhoea notification rate in males was 200 notifications per 100,000 males, five times higher than that for females.
- A 34% relative increase in the gender specific annualised gonorrhoea notification rate was observed in males and an 18% relative increase was observed in females.
- The median age of females notified with gonorrhoea was 27.6 years, lower than in 2016 (28.4 years).
- The median age of males notified with gonorrhoea was 32.9 years, higher than in 2016 (31.9 years).

Figure 5: Crude gonorrhoea notification rate by local health district and gender, NSW, 1 January 2017- 30 June 2017



Data source: NCIMS and ABS population estimates (SAPHaRI), NSW Health; data extracted 8 Oct 2017.

Note: The rate is based on six months of data between Jan-June 2017 adjusted to an annual rate and is subject to change once data from July to December 2017 becomes available. Excludes non-NSW residents, persons whose residential postcode was not known and notifications from Justice Health. For Justice Health notifications, see Table in Appendix D: Notification data.

Comment

From January to June 2017:

- The highest annualised gonorrhoea notification rates continue to be observed in the Sydney and South Eastern Sydney Local Health Districts (LHDs) for both males and females.
- The largest relative increases in the male annualised gonorrhoea notification rates compared to 2016 were in the Western NSW, Sydney and South Eastern Sydney LHDs (32%, 30% and 29% respectively).
- The largest relative increases in the female annualised gonorrhoea notification rates compared to the same period in 2016 were in the Mid North Coast, Northern NSW and Central Coast LHDs (74%, 46% and 42% respectively).

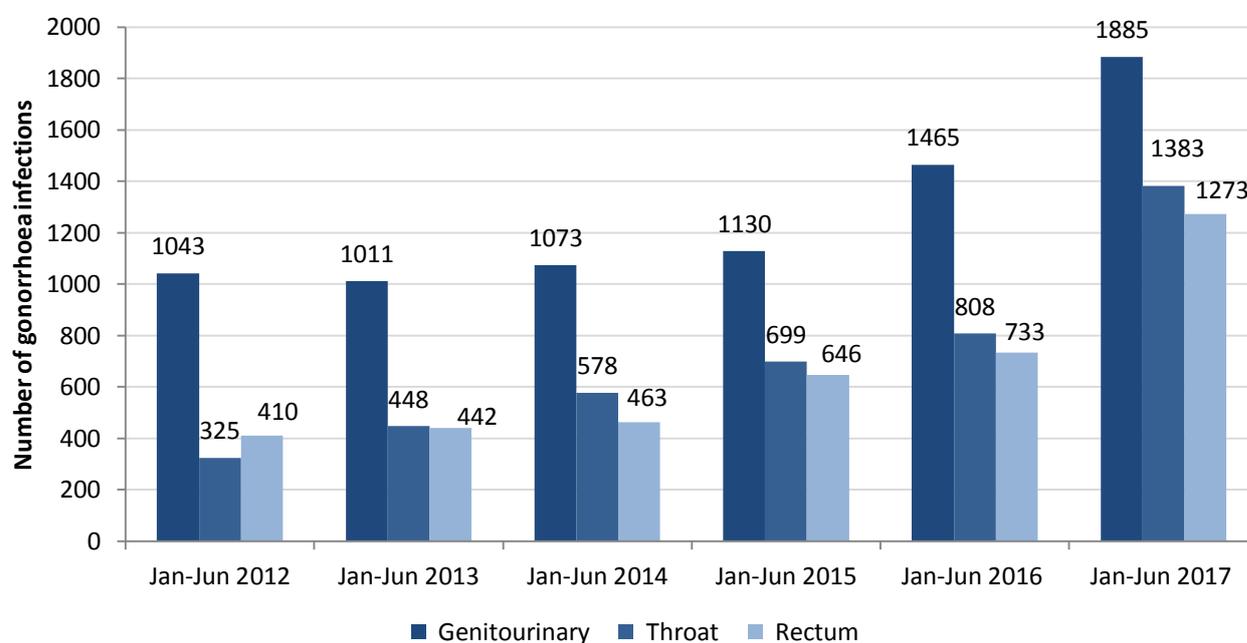
Table 1: Number of gonorrhoea infections by site combination, NSW, 1 January-30 June 2017

Site of infection	Number of infections (total*)	Males	Females
Genitourinary tract (GU) only	2115	1507	601
Throat only	923	840	78
Rectum only	715	700	10
Rectum and throat	337	331	5
GU and rectum	143	136	5
GU and throat	131	103	28
GU and rectum and throat	100	93	7
Other (joints/conjunctiva) only	14	7	5

Data source: NCIMS, NSW Health; data extracted 16 Oct 2017.

*Includes transgender people and people whose gender was not stated/ inadequately described

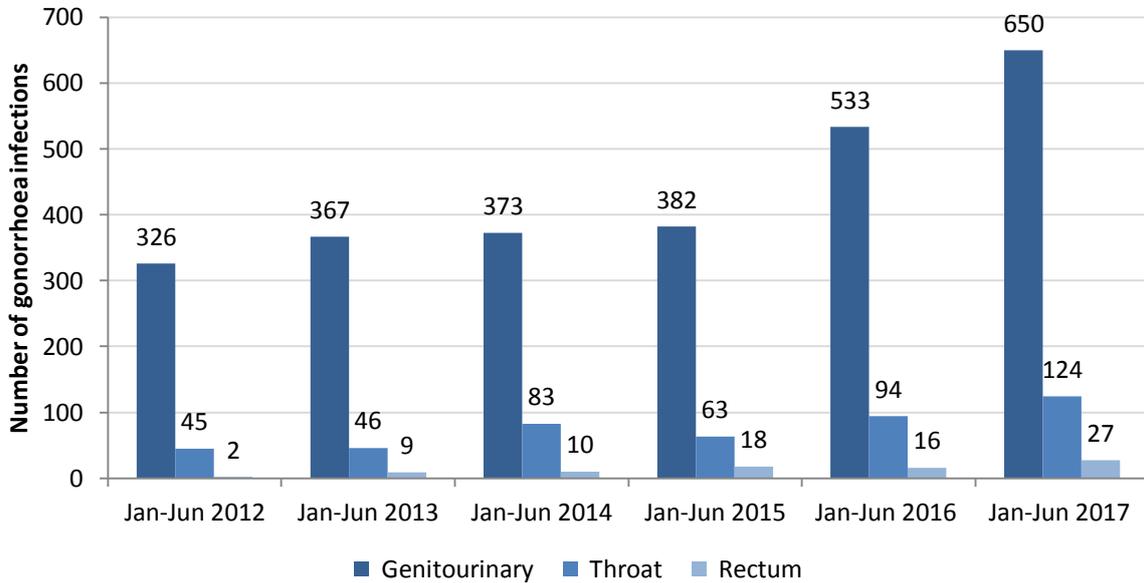
Figure 6: Number of male gonorrhoea infections by site of infection, NSW, 1 January- 30 June 2016 and 1 January-30 June 2017



Data source: NCIMS, NSW Health; data extracted 28 Nov 2017.

Notes: Does not include 'other' (including conjunctiva and joints) site of infection or missing/unknown site of infection; number of infections may exceed number of notifications due to infection at multiple sites. Excludes persons reported as transgender and persons whose gender was not reported

Figure 7: Number of female gonorrhoea infections by site, NSW, 1 January- 30 June 2016 and 1 January-30 June 2017



Data source: NCIMS, NSW Health; data extracted 28 Nov 2017.

Notes: Does not include 'other' (including conjunctiva and joints) site of infection or missing/unknown site of infection; number of infections may exceed number of notifications due to infection at multiple sites. Excludes persons reported as transgender and persons whose gender was not reported

Comment

Genitourinary infections are usually symptomatic, therefore may be used as an indicator of gonorrhoea transmission. Rectal and throat infections however, are usually asymptomatic and may be used as indicators of screening trends.

From January to June 2017:

- The largest (69%) relative increase in the site of infection for females was observed in rectal infections compared to the same period in 2016, however the number of infections is small. Relative increases in the number of female genitourinary and throat infections were also observed (21% and 27% respectively).
- The largest relative increases in the site of infection for males were observed in rectal and throat infections (74% and 71% respectively). A 27% relative increase in the number of male genitourinary infections was also observed.

1.2 Gonorrhoea notifications among Aboriginal people

Figure 8: Gonorrhoea notifications by Aboriginality, NSW, 2012-2016

Data to be provided in future reports.

Figure 9: Gonorrhoea notification rate by Aboriginality, NSW, 2012-2016

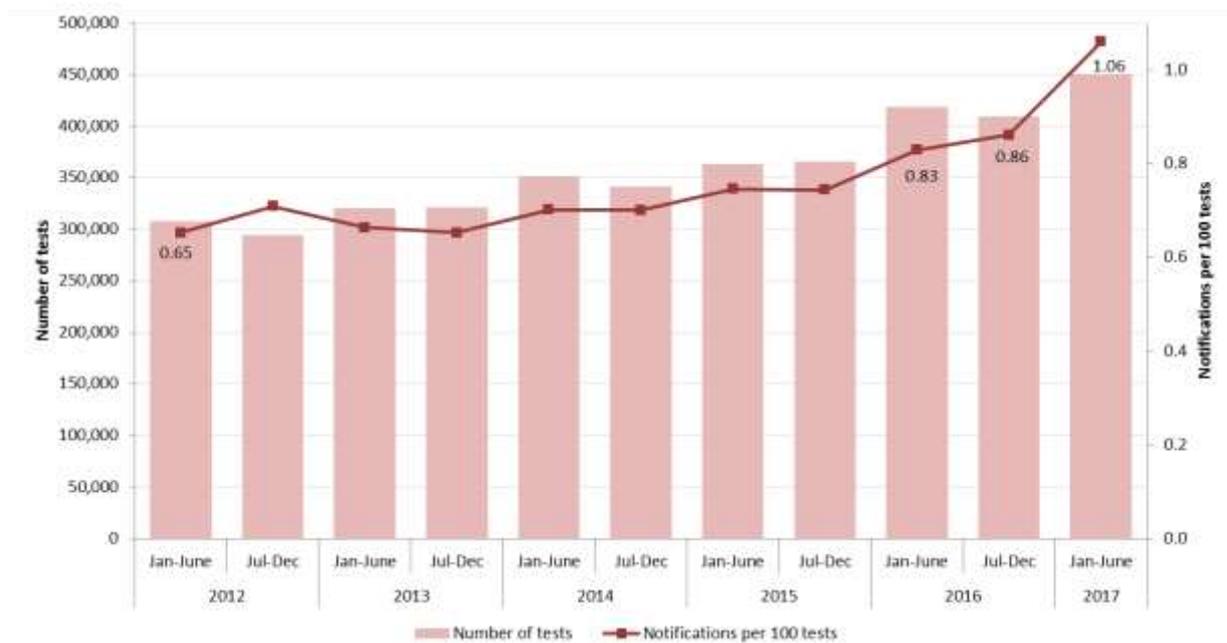
Data to be provided in future reports.

Figure 10: Gonorrhoea notifications in the Aboriginal population, by gender and remoteness area, NSW, 2012-2016

Data to be provided in future reports.

1.3 Gonorrhoea testing

Figure 11: Number of gonorrhoea tests and notification to test⁴ ratio, NSW, January 2012 to June 2017



Data source: NCIMS and NSW Denominator Data Project, NSW Health; data extracted 25 Sept 2017

Note: Testing multiple sites results in multiple tests being counted per person

Comment

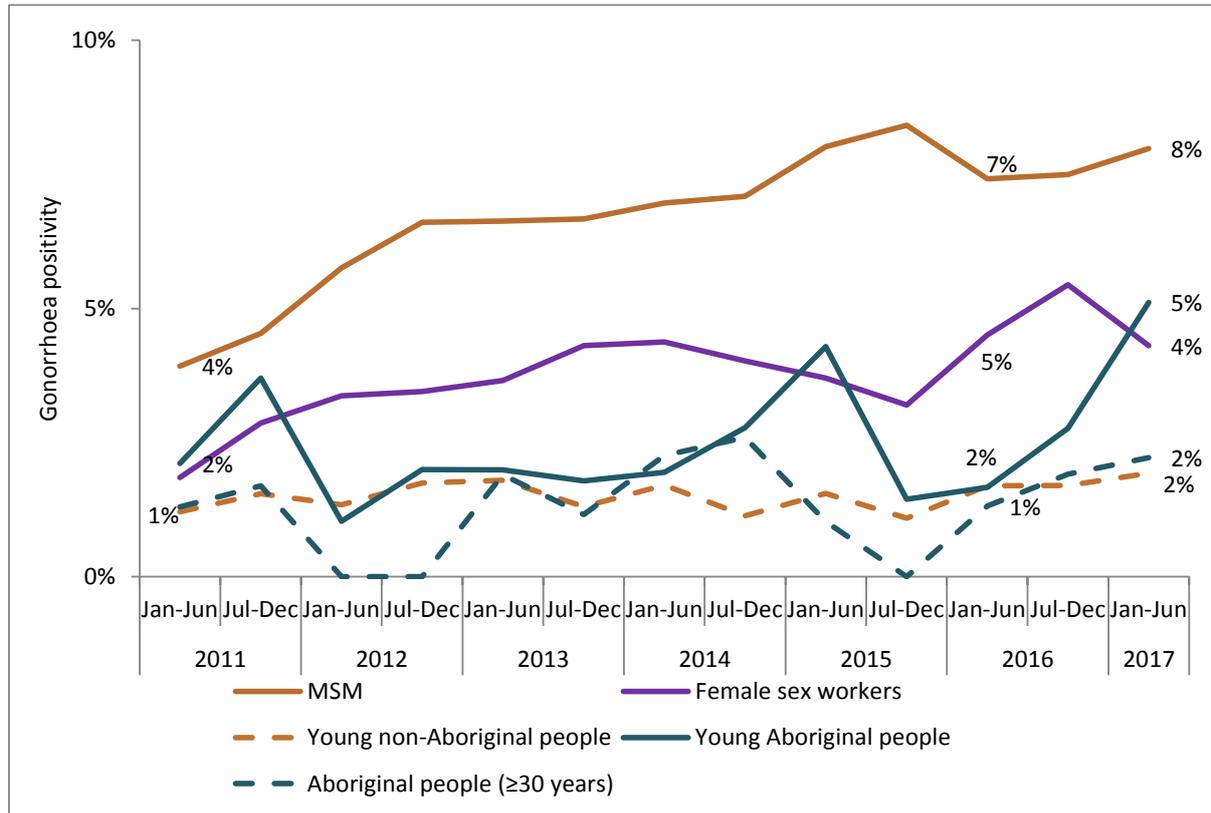
The number of gonorrhoea tests (NAAT and culture) performed in NSW is continuing to increase. Between January and June 2017:

- 450,553 tests for gonorrhoea were performed in 15 laboratories in NSW, an increase of 7.6% compared to the same period in 2016 (418,631).
- There were 1.06 gonorrhoea notifications per 100 gonorrhoea tests in the first half of 2017. This is higher than the notification to test ratio for January to June 2016 (0.83) and July to December 2016 (0.86), suggesting that transmission of gonorrhoea has increased and/or screening is better targeted at people at higher risk of infection.

⁴ The notification to test ratio has been calculated by dividing the overall positive results notified to NSW Health by all laboratories by the total number of tests performed as reported from the participating laboratories, and multiplying by 100. Notifications are for individual people with gonorrhoea reported from all laboratories. However, the testing data are for individual tests reported from participating laboratories and may include multiple specimens per individual. As such, the notification to test ratio may be an underestimate of the per cent of people tested that were positive in NSW for the condition.

1.4 Gonorrhoea test positivity among men who have sex with men, female sex workers and young people

Figure 12: Proportion of individual patients attending PFSHs and GP clinics⁵ tested for gonorrhoea with a positive result (gonorrhoea positivity⁶), by priority population⁷, 1 January 2011 to 30 June 2017



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

Comment

- When compared with the same time period in 2016, gonorrhoea positivity declined among female sex workers in 2017.
- The proportion of gonorrhoea positivity increased among MSM, young non-Aboriginal people, and Aboriginal people.

⁵ GP clinics included those serving at least 50 gay and bisexual male patients annually.

⁶ Positivity is the proportion of individuals (i.e., de-duplicated) tested in each six-month period with any positive result.

⁷ While priority populations are not mutually exclusive those other than MSM exclude MSM-identified patients.

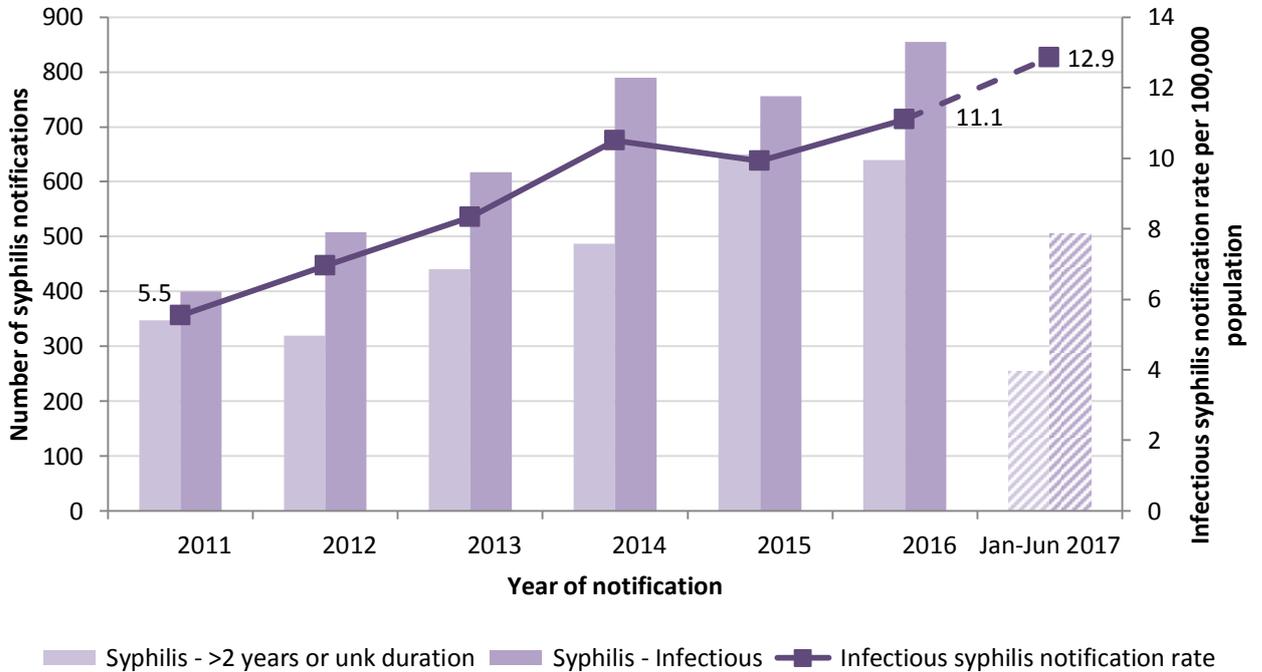
2 Reduce infectious syphilis infections

Prevention, testing and appropriate treatment and management including partner notification are the cornerstones of syphilis control and are embedded in the current STI strategy. Syphilis notification data does not reflect the true incidence of syphilis infection as it only represents a proportion of infections in the population, however it is useful for monitoring notification trends over time. Syphilis notification data are heavily influenced by testing practices, availability of enhanced surveillance information and classification of syphilis cases as 'infectious' or 'greater than 2 years or unknown duration'. Therefore, syphilis data may not be representative of the NSW population.

Syphilis is a notifiable disease under the *NSW Public Health Act 2010*. A confirmed or probable infectious syphilis case requires laboratory evidence or a combination of laboratory, clinical and epidemiological evidence (see Appendix C: Case definitions for gonorrhoea, infectious syphilis – less than two years duration, syphilis – more than 2 years or unknown duration and chlamydia for full details). Only probable or confirmed cases of infectious syphilis and confirmed cases of syphilis >2 years or unknown duration are included when reporting syphilis notification data. Enhanced surveillance information is routinely collected for people notified with syphilis which includes demographic, testing, treatment and risk exposure information.

2.1 Infectious syphilis notifications

Figure 13: Number and crude rate of Syphilis notifications, NSW, 1 January 2011 to 30 June 2017

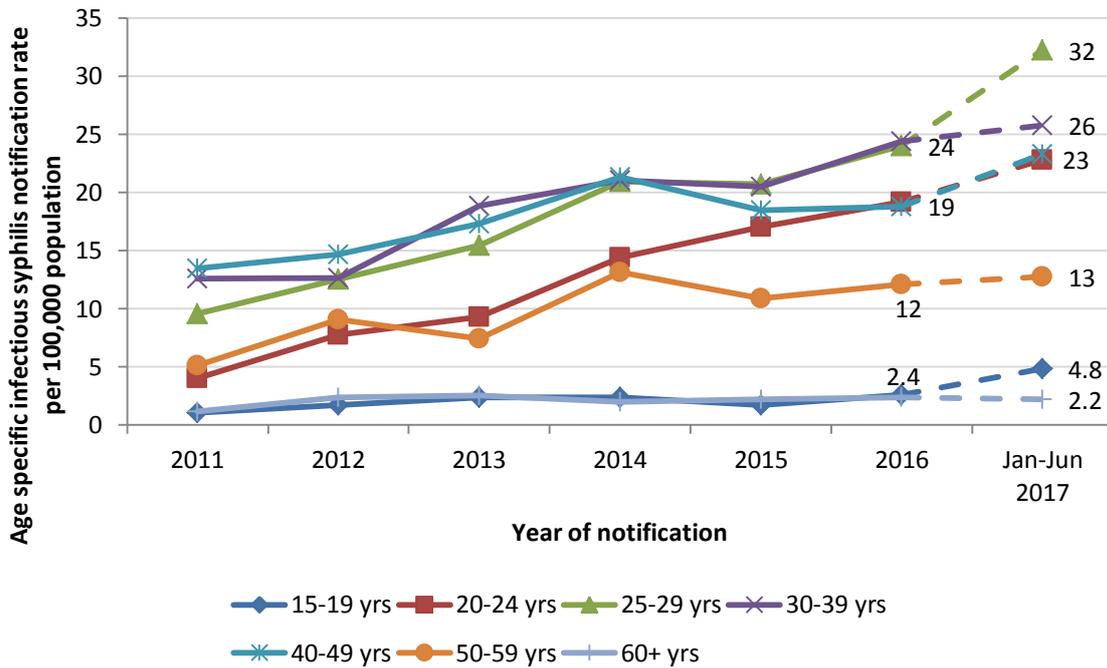


Data source: NCIMS and ABS population estimates (via SAPHARI), NSW Health; data extracted 10 Oct 2017. The rate is based on six months of data between Jan-June 2017 adjusted to an annual rate and is subject to change once data from July to December 2017 becomes available. Excludes non-NSW residents and persons whose residential postcode was not known.

Comment

- From January to June 2017, there were 506 infectious syphilis notifications. The annualised infectious syphilis notification rate was 12.9 notifications per 100,000 population, 16% higher than the rate for the full year of 2016 (11.1 per 100,000).

Figure 14: Age specific infectious syphilis notification rates, NSW, 1 January 2011- 30 June 2017



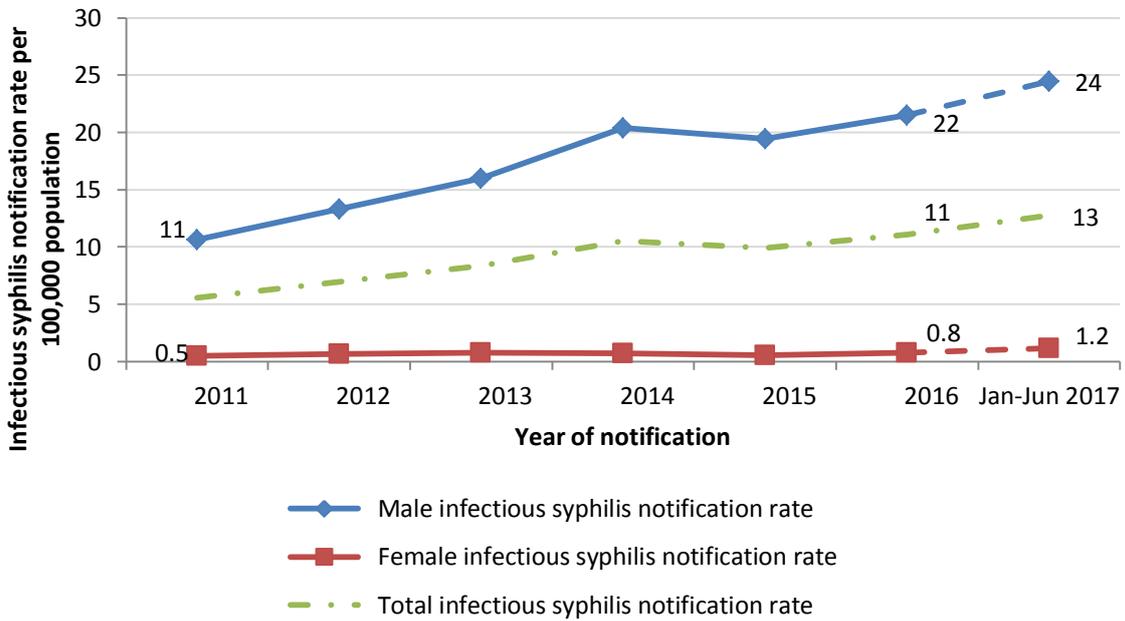
Data source: NCIMS population estimates (via SAPHARI), NSW Health; data extracted 10 Oct 2017. The rate is based on six months of data between Jan-June 2017 adjusted to an annual rate and is subject to change once data from July to December 2017 becomes available. Excludes non-NSW residents and persons whose residential postcode was not known.

Comment

From January to June 2017:

- The highest annualised syphilis notification rates occurred in the 25-29yrs and 30-39yrs age groups (32 notifications per 100,000 and 26 per 100,000 population respectively).
- The largest relative increases in the annualised infectious syphilis notification rates were observed in the 15-19yrs and 25-29yrs age groups (100% and 33% respectively), however the annualised number of notifications in the 15-19yrs age group was small (22).

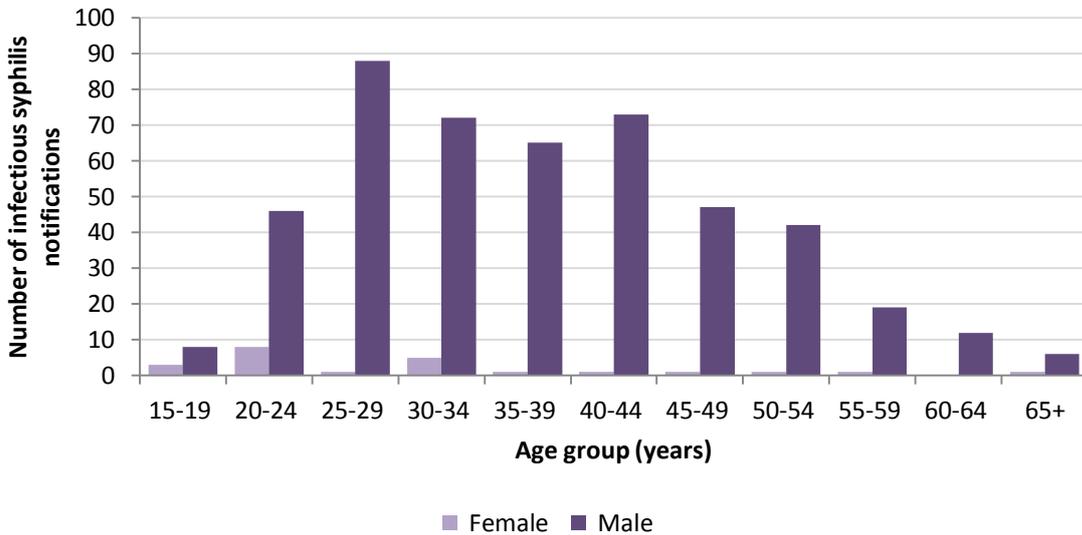
Figure 15: Gender specific infectious syphilis notification rate, NSW, 1 January 2011- 30 June 2017



Data source: NCIMS (via SAPHaRI), NSW Health; data extracted 10 Oct 2017.

Note: Excludes persons reported as transgender (due to small numbers), and persons whose age or sex was not reported. The Jan-Jun 2017 rate is based on six months of data between Jan-June 2017 adjusted to an annual rate and is subject to change once data from July to December 2017 becomes available. Excludes non-NSW residents and persons whose residential postcode was not known.

Figure 16: Infectious syphilis notifications by age and gender, NSW, 1 January to 30 June 2017



Data source: NCIMS (via SAPHaRI), NSW Health; data extracted 10 Oct 2017.

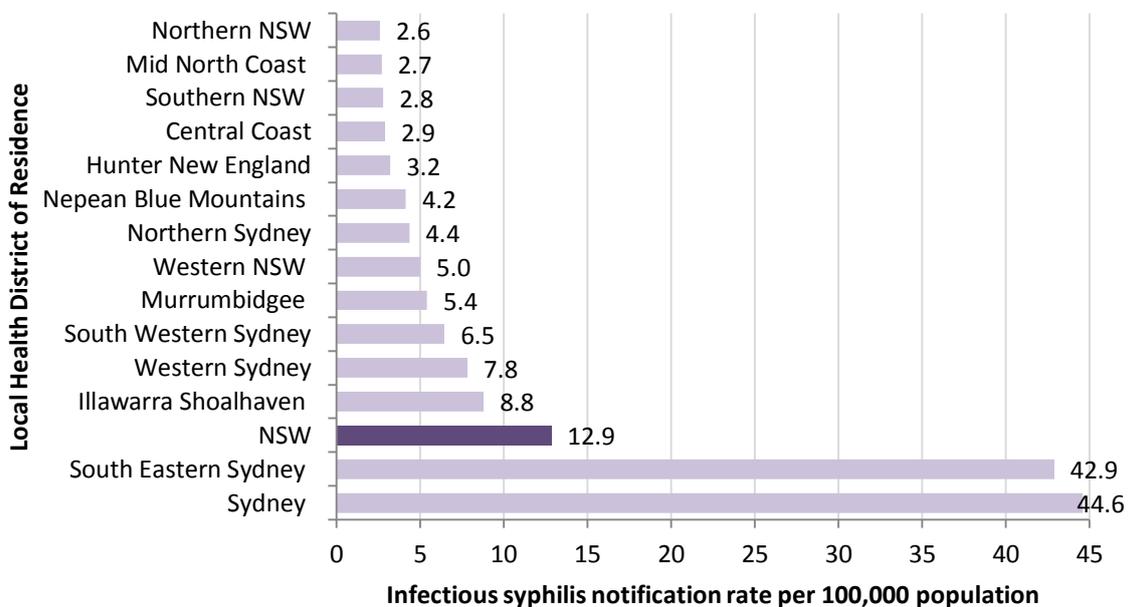
Notes: Excludes persons reported as transgender (due to small numbers), and persons who age or gender was not reported.

Comment

From January to June 2017:

- A total of 479 infectious syphilis notifications were reported as male compared with 393 notified from January to June 2016. The majority (62%) of male infectious syphilis notifications occurred in those aged 25-44yrs.
- A total of 23 notifications were reported as female compared with 12 notified from January to June 2016. The majority (74%) of female infectious syphilis notifications occurred in those aged 15-34yrs.
- There were 3 people notified with infectious syphilis who were reported as transgender and 1 person whose gender was reported as not stated/ inadequately described.
- The highest gender specific annualised infectious syphilis notification rate was in males at 24 notifications per 100,000 males, 20 times higher than females.

Figure 17: Infectious syphilis notification rate by LHD, NSW, 1 January to 30 June 2017



Data source: NCIMS and ABS population estimates (SAPHaRI), NSW Health; data extracted 10 Oct 2017.

Note: Excludes non-NSW residents, persons whose residential postcode was not known and notifications from Justice Health.

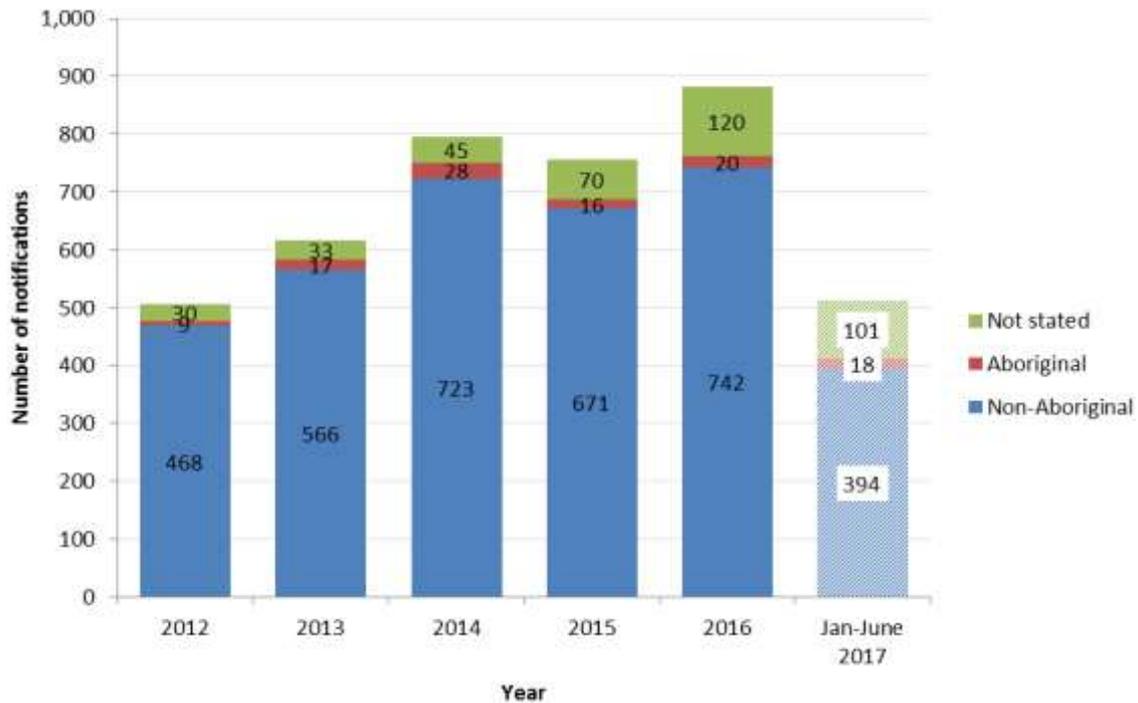
For Justice Health notifications, see Table in Appendix D: Notification data.

Comment

From January to June 2017:

- The highest annualised infectious syphilis notification rates continue to be observed in the Sydney and South Eastern Sydney LHDs (44.6 notifications per 100,000 and 42.9 per 100,000 population respectively).
- The largest relative increases in the annualised infectious syphilis notification rates compared to the same period in 2016 were in the Southern NSW and Western Sydney LHDs (48% and 46% respectively), however the number of annualised notifications (6) for Southern NSW was small.

Figure 18: Infectious syphilis notifications by Aboriginality, NSW, 1 January 2012- 30 June 2017



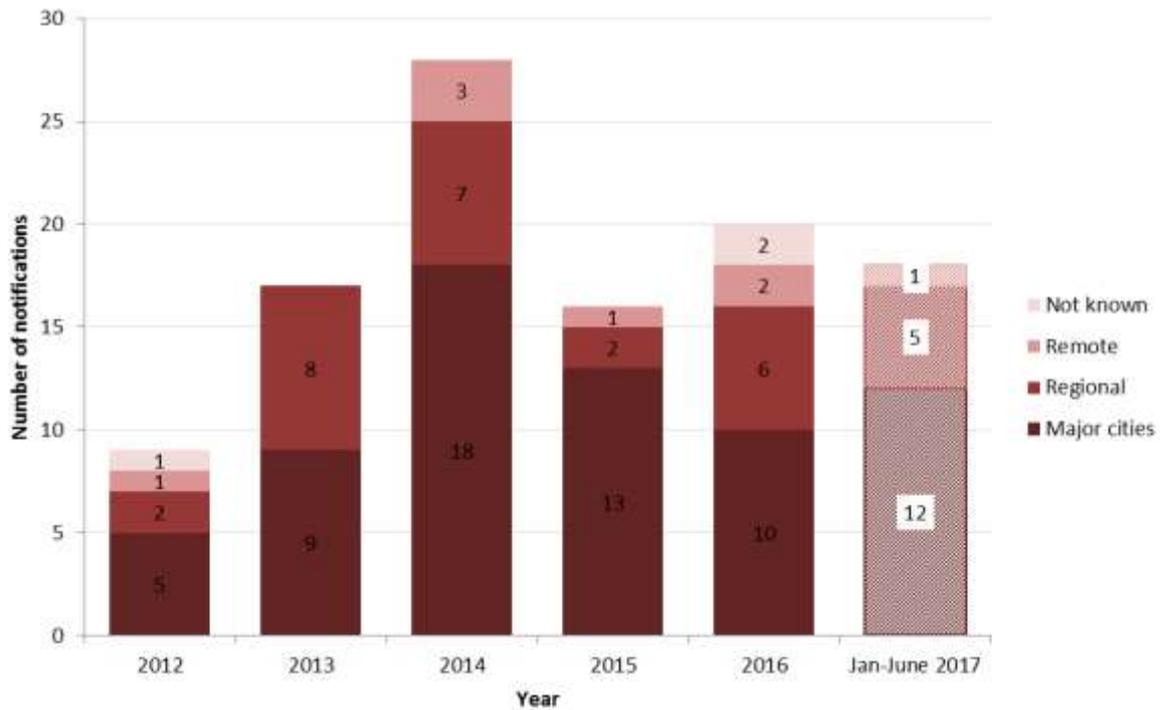
Data source: NCIMS, NSW Health; data extracted 12 Oct 2017.

Comment

- Of 513 infectious syphilis notifications in January to June 2017, 18 (3.5%) were among Aboriginal people, 394 (77%) were among non-Aboriginal people and Aboriginal status was not known for 101 (20%).
- The proportion of infectious syphilis notifications that were among Aboriginal people was slightly higher in January to June 2017 than for the full year of 2016 (2.3%).
- Of the 18 infectious syphilis notifications among Aboriginal people from January to June 2017, 16 were male and two were female.

As the number of infectious syphilis notifications in the Aboriginal population is small, trends should be interpreted with caution.

Figure 19: Infectious syphilis notifications in the Aboriginal population, by remoteness area, NSW, 1 January 2012- 30 June 2017.



Data source: NCIMS, NSW Health; data extracted 12 Oct 2017

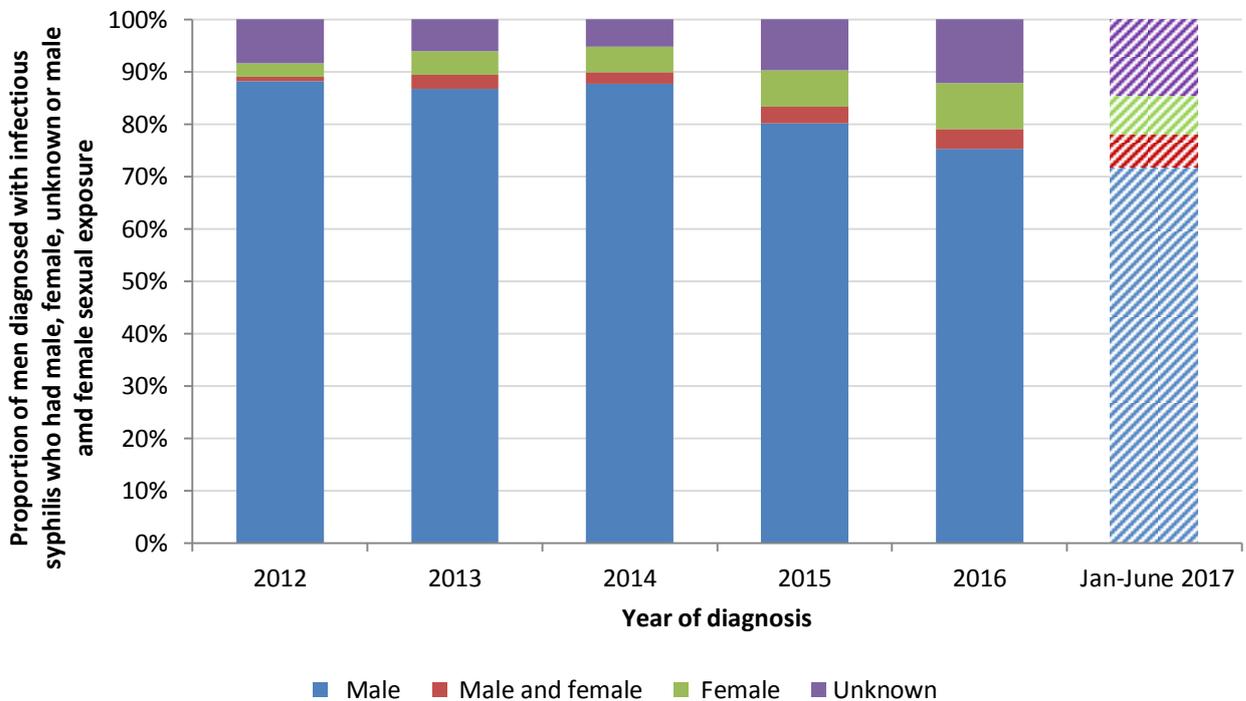
Comment

- Of the 18 infectious syphilis notifications among Aboriginal people between January and June 2017, 12 (67%) were in major cities, five (28%) were in regional areas and one (6%) was in a remote area.
- Among Aboriginal people in regional and remote areas, the male to female ratio of infectious syphilis notification was 5:1 between January and June 2017, and 3:1 for the full year of 2016.

As the number of infectious syphilis notifications in the Aboriginal population is small, trends should be interpreted with caution.

Rates of infectious syphilis notification by Aboriginality and remoteness area for 2012-2015 are provided in Appendix F.

Figure 21: Sexual exposure of men diagnosed with infectious syphilis, Sydney and South Eastern Sydney LHDs, 1 January 2011- 30 June 2017



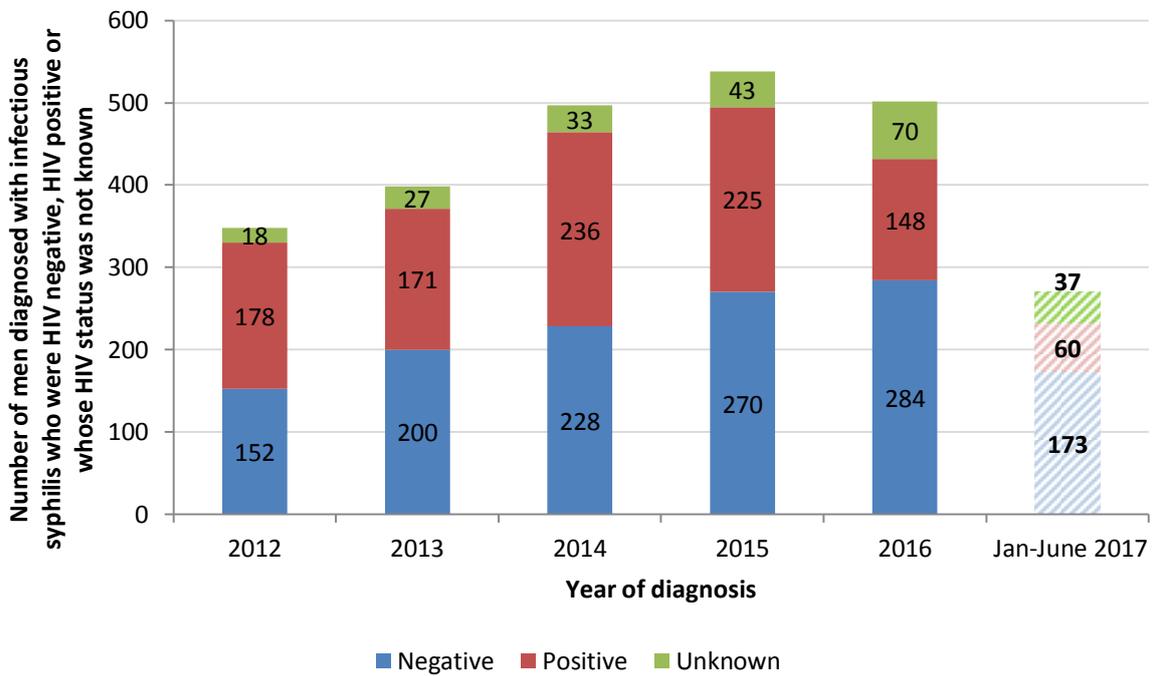
Data source: South Eastern Sydney and Sydney LHDs HREC enhanced surveillance research project for infectious syphilis.
Note: This data may not be representative of infectious syphilis cases across NSW.

Comment

From January to June 2017:

- The sexual exposure of men diagnosed with infectious syphilis continued to be predominantly (72%) male.
- There was a 66% increase in the proportion of men diagnosed with infectious syphilis who had male and female sexual exposure compared to the whole year of 2016.
- There was a small (1.4%) decline in the proportion of men diagnosed with infectious syphilis who had female only sexual exposure compared to the whole year of 2016.

Figure 22: HIV status of men diagnosed with infectious syphilis, Sydney and South Eastern Sydney LHDs, 1 January 2012- 30 June 2017



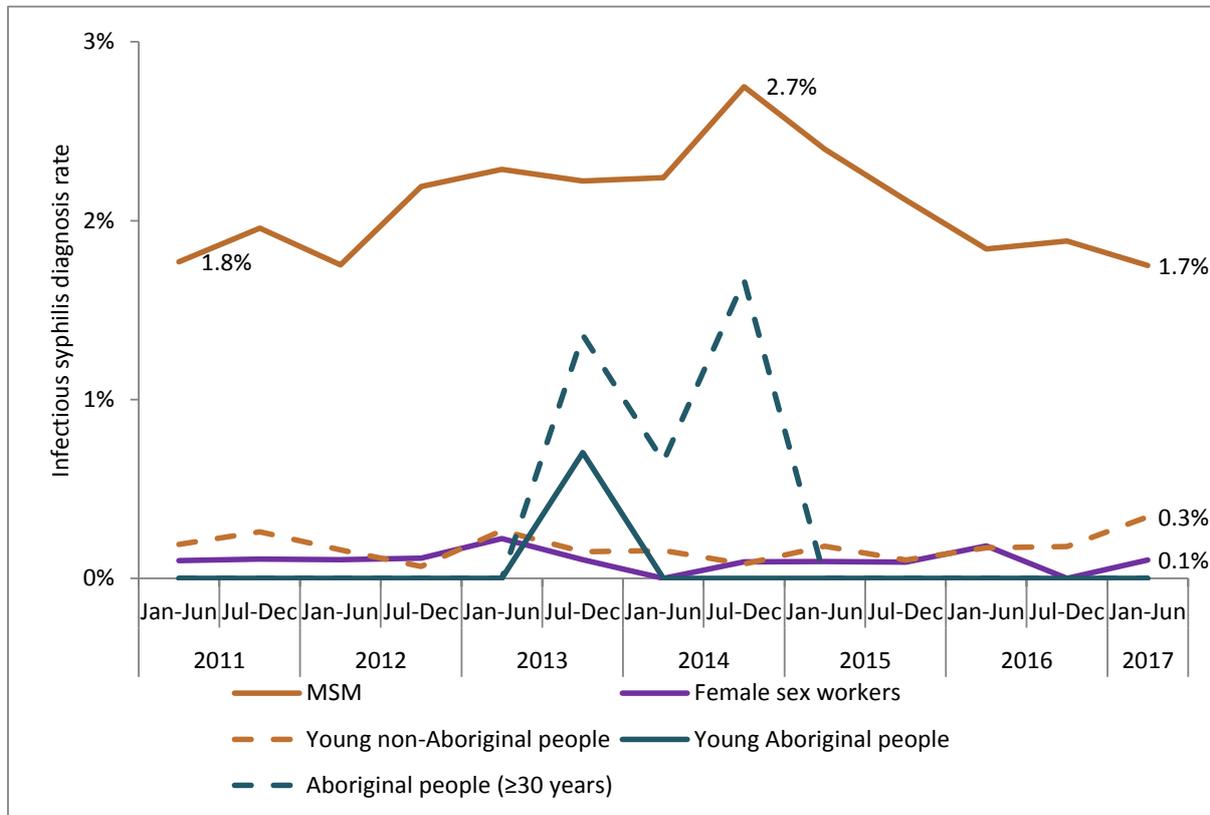
Data source: South Eastern Sydney and Sydney LHDs enhanced surveillance for infectious syphilis.

Comment

From January to June 2017:

- The proportion of men diagnosed with infectious syphilis who were HIV negative has increased from 56.5% in 2016 to 64% in 2017 and is the highest proportion of men diagnosed with infectious syphilis who were HIV negative from 2012 to Jan-June 2017.

Figure 23: Proportion of individual patients attending PFSHSs and GP clinics⁸ tested for syphilis with a diagnosis of infectious syphilis (syphilis diagnosis rate⁹), by priority population¹⁰, 1 January 2011 to 30 June 2017



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

Comment

- The percentage of diagnosis rate of infectious syphilis was most prevalent amongst MSM. There were few cases reported in sex workers and young non-Aboriginal people.
- No cases of infectious syphilis were reported amongst Aboriginal people (both young and older than 30yrs).

⁸ GP clinics included those serving at least 50 gay and bisexual male patients annually

⁹ Diagnosis rate is the proportion of individuals (i.e., de-duplicated) tested in each six-month period with any positive result. In PFSHS, infectious syphilis was defined as a diagnosis of primary, secondary or early latent (<2 years) syphilis and in general practice as the proportion of individuals tested with reactive syphilis antigen and antibody tests and, if relevant a fourfold increase in RPR titre

¹⁰ While priority populations are not mutually exclusive those other than MSM exclude MSM-identified patients

2.2 *Congenital syphilis notifications*

There were no congenital syphilis notifications in NSW between January and June 2017.

Data source: NCIMS, NSW Health

3 Reduce pelvic inflammatory disease associated with chlamydia

Chlamydia infection is usually a self-limiting disease, however in women it is associated with an increased risk of pelvic inflammatory disease (PID), ectopic pregnancy, and infertility. The risk of these outcomes increases with the number of chlamydia infections that a woman contracts. For this reason, the burden of pelvic inflammatory disease may be a better measure of chlamydia morbidity than chlamydia notification data.

Chlamydia associated PID hospitalisation data are used in this report as an indicator of the burden of pelvic inflammatory disease. Emergency department presentations (without a subsequent hospital admission) have not been included as the diagnoses of PID in the admitted patient data collections are likely to be more reliably and consistently applied than in the emergency department data. As only the most severe cases of PID are likely to be hospitalised, chlamydia associated PID hospitalisations do not reflect the true incidence or full burden of PID, but are used to monitor trends over time. PID hospitalisation data are influenced by changes in coding practices and changes in PID management guidelines over time.

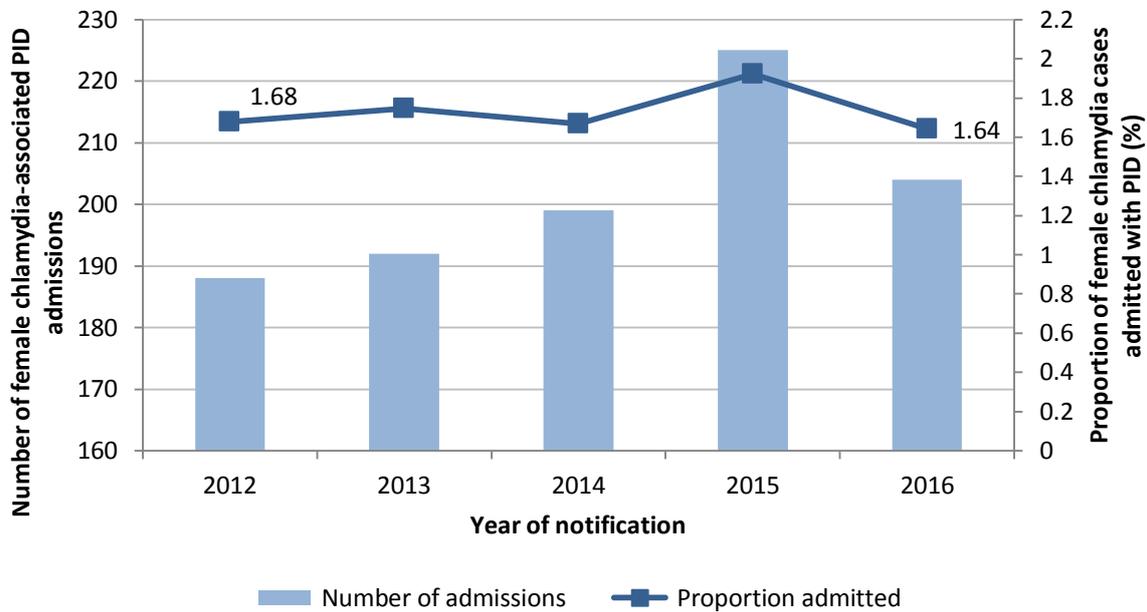
Prevention, testing and appropriate treatment and management are the cornerstones of chlamydia control and are embedded in the current STI strategy. Chlamydia notification data does not reflect the true incidence of chlamydia infection as it only represents a proportion of infections in the population, however it is also useful for monitoring trends over time. Chlamydia notification data are heavily influenced by testing practices.

Chlamydia is a notifiable disease under the NSW *Public Health Act 2010*. A confirmed case requires isolation of *Chlamydia trachomatis* from culture or detection by nucleic acid testing (NAAT) or antigen. Only confirmed cases of chlamydia are counted when reporting chlamydia notification data. Chlamydia infections are not routinely followed up by public health units so detailed information (e.g. sexual exposure) is difficult to ascertain.

It is important to note that there may be multiple specimens collected for each individual tested for chlamydia. Hence the number of chlamydia tests done is greater than the number of individuals tested. However, an individual with multiple specimens that are positive for *Chlamydia trachomatis* will generate only one notification.

3.1 Chlamydia-associated hospitalisations for pelvic inflammatory disease

Figure 24: Number and proportion of women notified with chlamydia who are admitted with PID within 12 months of diagnosis, NSW, 1 January 2012- 30 December 2016



Data source: Communicable Diseases Register, NSW Ministry of Health, SAPHaRI. Data extracted 18 Oct 17.

Comment

- The number of women notified with chlamydia who were admitted to hospital with PID within 12 months varied over time from 2012 to 2016, ranging from 188-225 admissions.
- The proportion of all women notified with chlamydia who were admitted to hospital also varied over time from 2012 to 2016, ranging from 1.6-1.9%.

The Communicable Diseases Register (CDR) has been established under the Public Health and Disease Registers provisions of the NSW *Public Health Act 2010*. It contains de-identified records from the NSW Notifiable Conditions Information Management System (NCIMS), linked to emergency department, hospitalisation and deaths data. Data are currently available to the end of 2016. More details on the data sources contained within this report can be found in Appendix B.

Figure 25: Number and proportion of women notified with chlamydia who are admitted with PID within 12 months of diagnosis, by Aboriginality, NSW, 1 January 2012- 31 December 2016

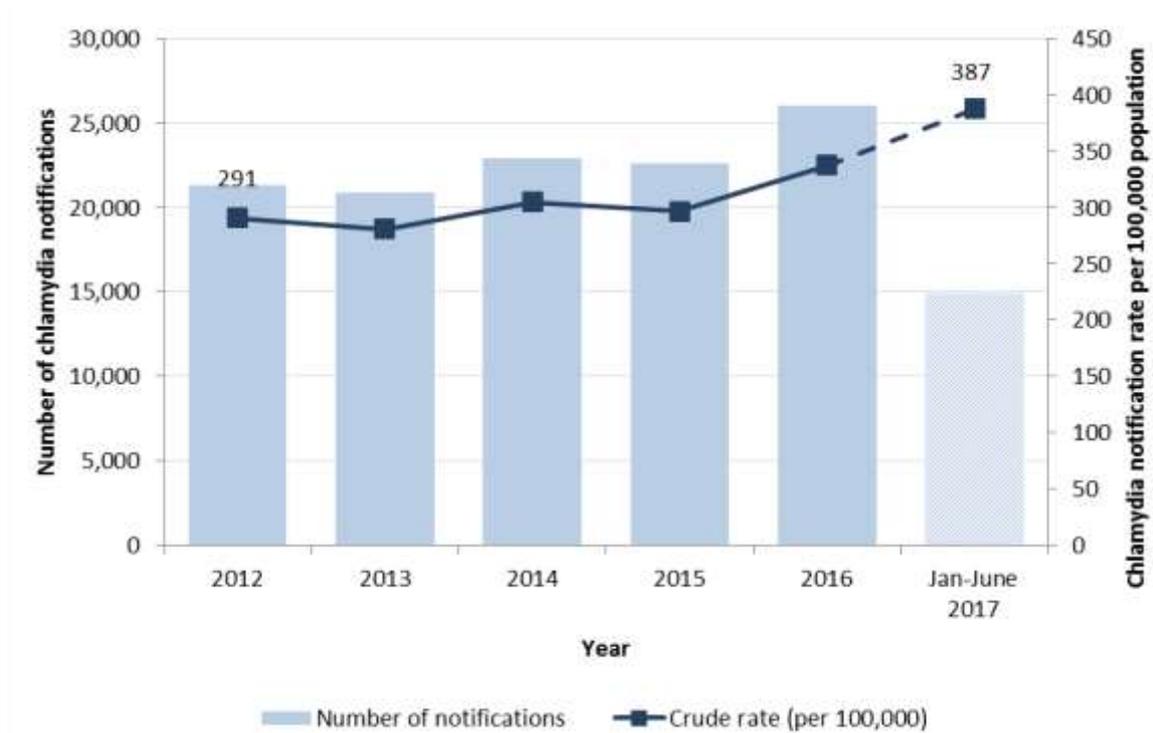
Data to be provided in future reports.

Figure 26: Number and proportion of women notified with chlamydia who are admitted with PID within 12 months of diagnosis, by Aboriginality and residential region, NSW, 1 January 2012- 31 December 2016

Data to be provided in future reports.

3.2 Chlamydia notifications

Figure 27: Number and crude rate of chlamydia notifications, NSW, 1 January 2012 to 30 June 2017



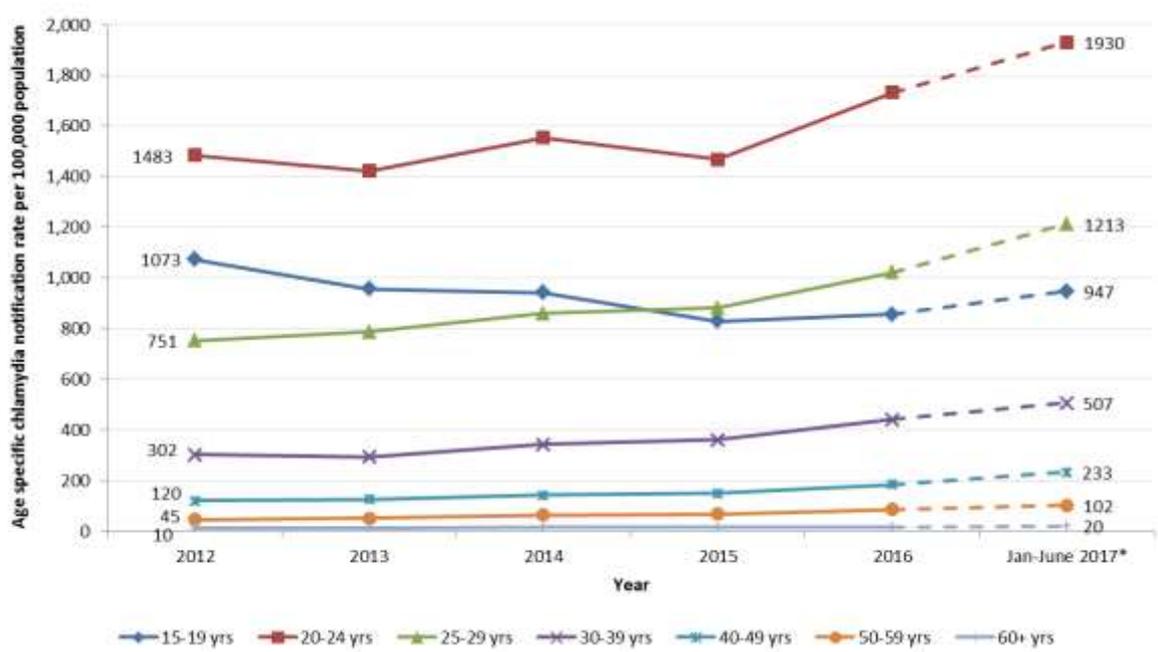
Data source: NCIMS and ABS (via SAPHARI), NSW Health; data extracted 26 Sept 2017.

Note: The 2017 rate is based on 6 months of data (from Jan-June 2017) adjusted to an annual rate and is subject to change once data between July-Dec 2017 becomes available.

Comment

- From January to June 2017, there were 14,918 chlamydia notifications. The annualised chlamydia notification rate was 387 notifications per 100,000 population, 15% higher than the rate for the full year of 2016 (337 per 100,000).

Figure 28: Age specific chlamydia notification rates, NSW, 1 January 2012- 30 June 2017



Data source: NCIMS (via SAPHaRI), NSW Health; data extracted 26 Sept 2017.

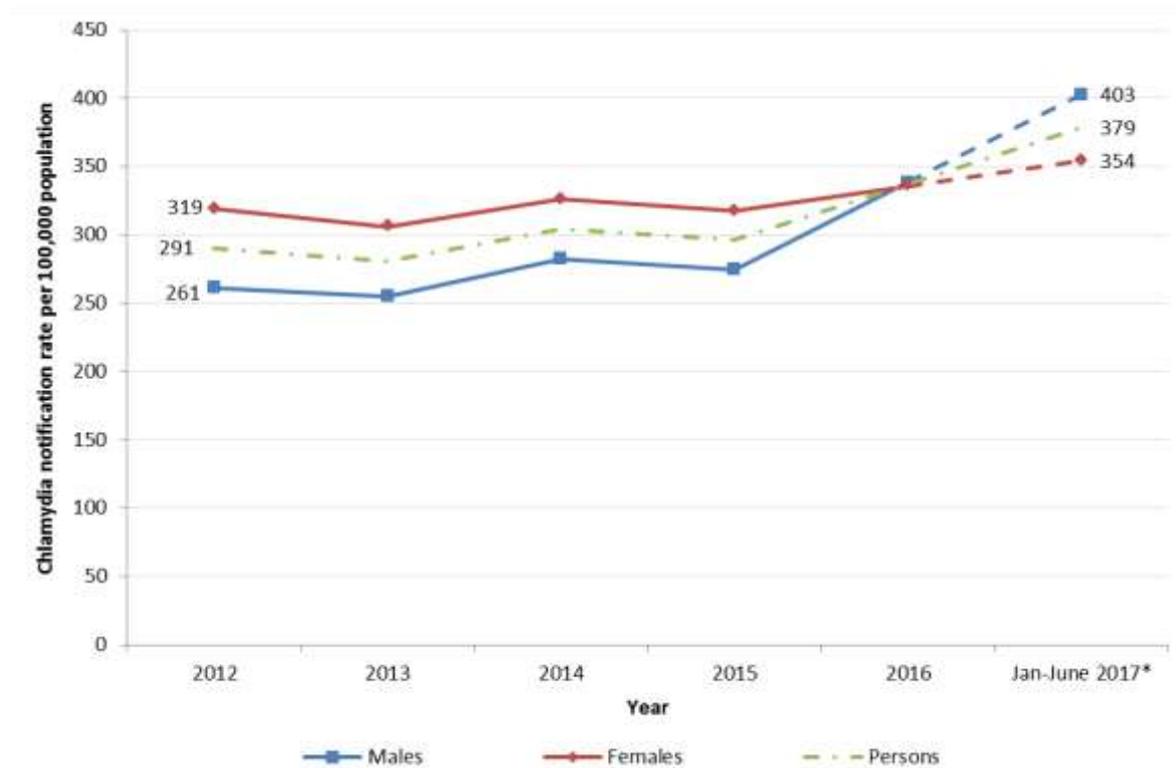
* The 2017 rates are based on 6 months of data between Jan-June 2017 adjusted to annual rates and are subject to change once data between July-Dec 2017 becomes available.

Comment

In January to June 2017:

- Chlamydia notification rates increased among all age groups (15 years and over)
- The annualised age-specific rates for the 15-19 years, 20-24 years, 25-29 years and 30-39 years age groups increased by 11%, 12%, 19% and 15% (respectively) compared to the rate for the full year of 2016. Larger relative increases were observed in the 40-49 years, 50-59 years and 60+ years age groups (27%, 19% and 27% respectively), although actual numbers are smaller.
- The median age of males notified with chlamydia was 28.4 years, higher than in 2016 (27.9 years).
- The median age of females notified with chlamydia was 23.5 years, slightly higher than in 2016 (23.3 years).

Figure 29: Gender specific chlamydia notification rate, NSW, 1 January 2012- 30 June 2017



Data source: NCIMS (via SAPHaRI), NSW Health; data extracted 26 Sept 2017.

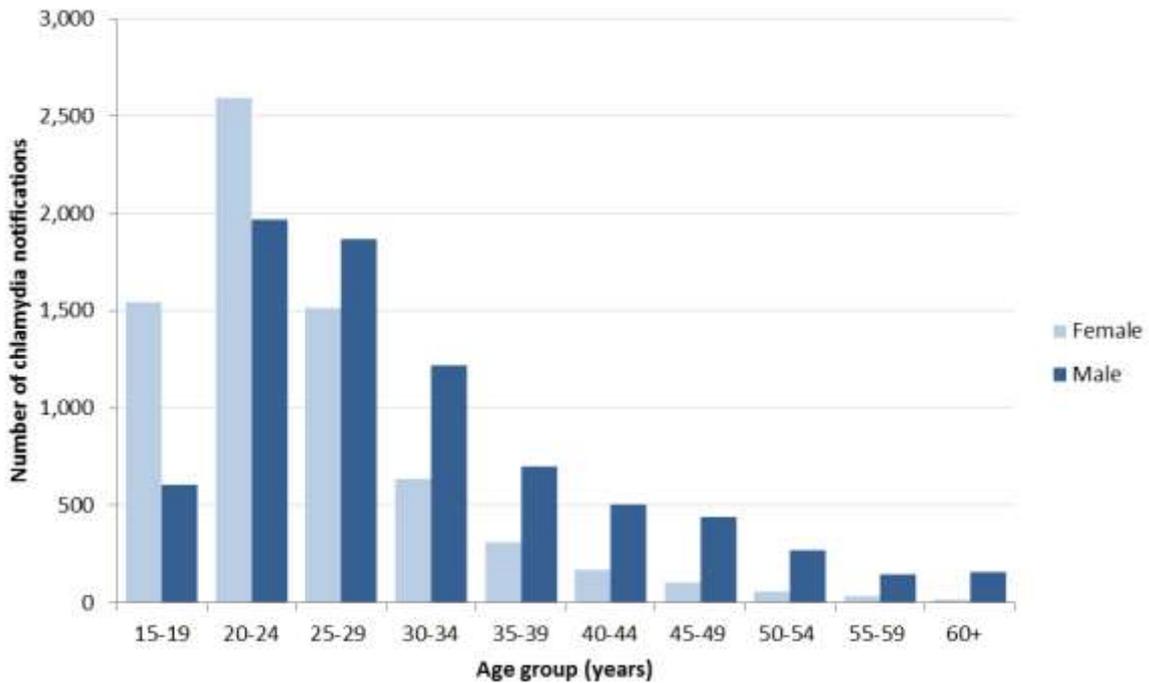
Notes: Excludes persons reported as transgender (due to small numbers), and persons whose sex was not reported.

* The 2017 rates are based on 6 months of data between Jan-June 2017 adjusted to annual rates and are subject to change once data between July-Dec 2017 becomes available.

Comment

- Chlamydia notification rates increased among both males and females in the first half of 2017.
- Between January and June 2017, the annualised chlamydia notification rate was higher in males than females (403 per 100,000 males compared to 354 per 100,000 females). The rate in males increased by 19% compared to the full year of 2016, whereas the rate in females increased by 5%.

Figure 30: Chlamydia notifications by age and gender, NSW, 1 January to 30 June 2017



Data source: NCIMS, NSW Health; data extracted 26 Sept 2017.

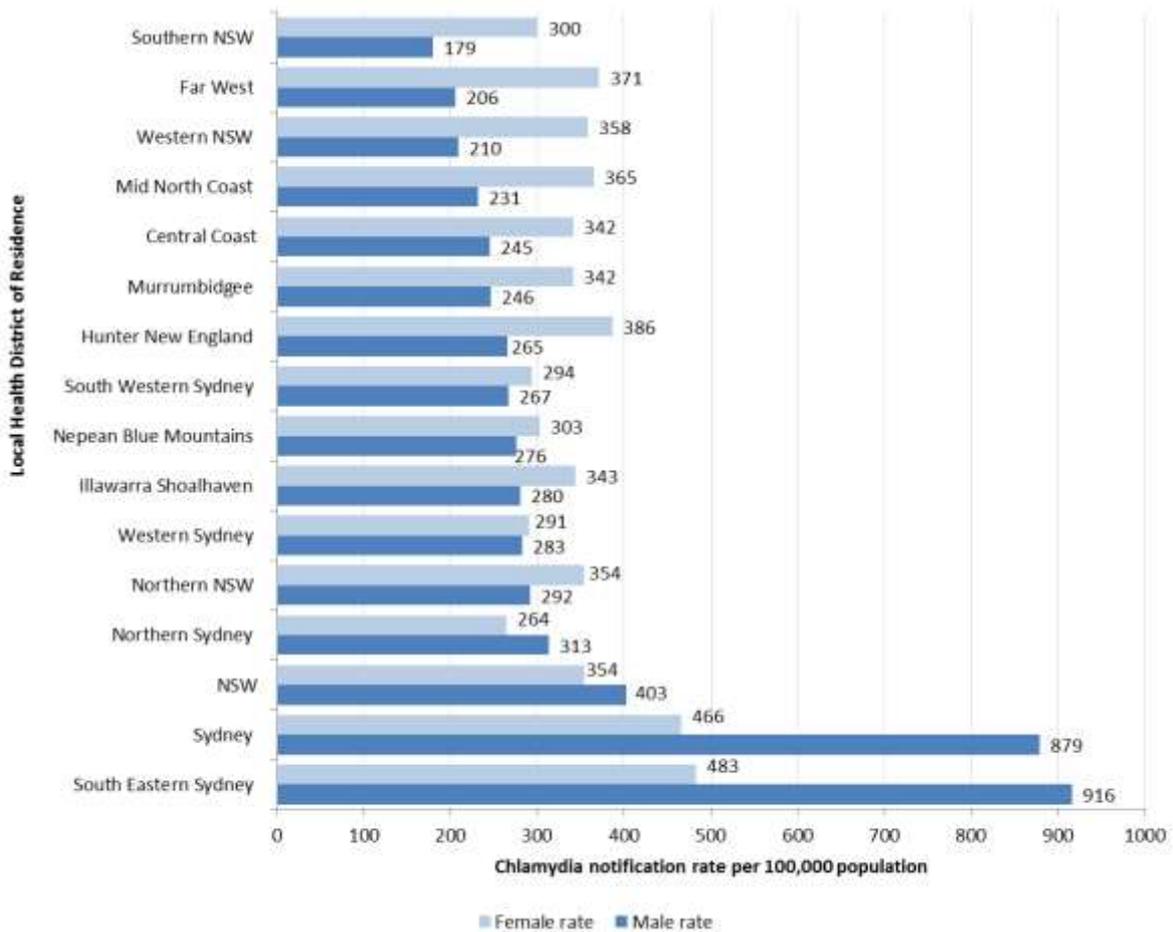
Notes: Excludes persons reported as transgender (due to small numbers) and persons whose age or sex was not known or reported.

Comment

Between January and June 2017:

- 47% of chlamydia notifications were in females and 53% was in males; the most commonly notified groups were females and males aged 20-24 years, followed by males aged 25-29 years and females aged 15-19 years.

Figure 31: Chlamydia notification rate by LHD and gender, NSW, 1 January to 30 June 2017



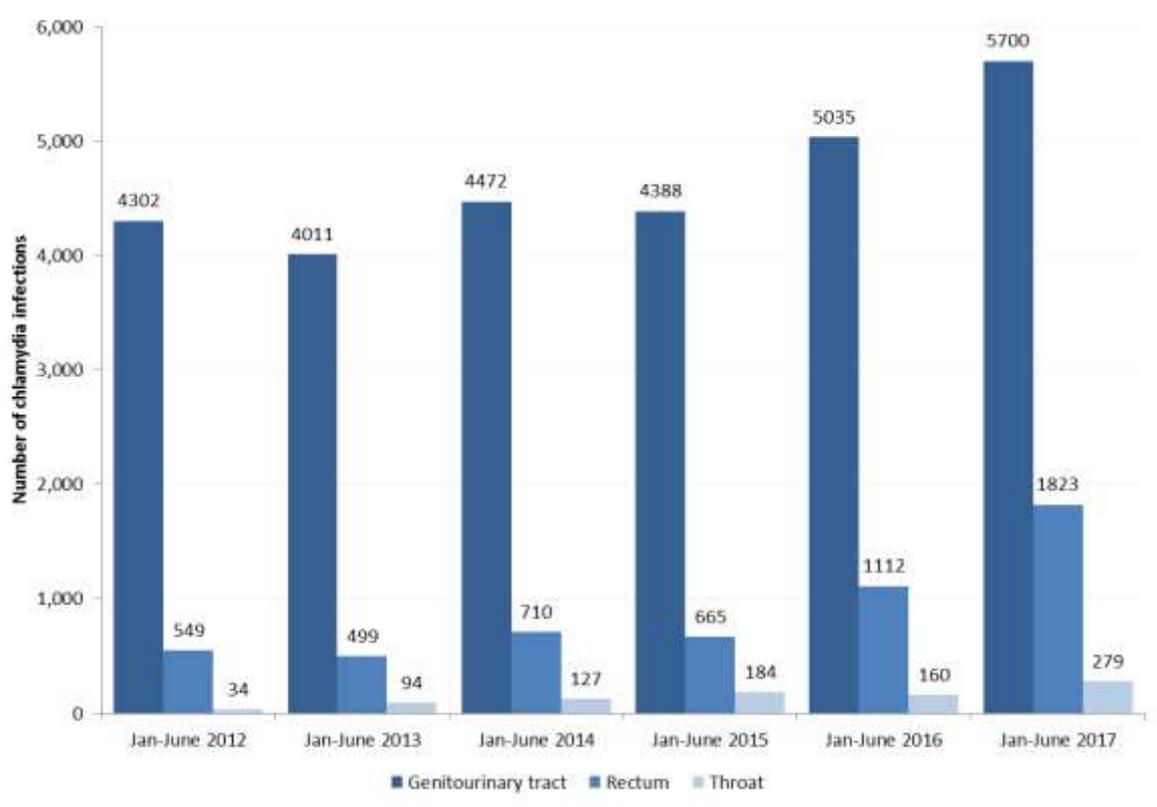
Data source: NCIMS and ABS population estimates (SAPHaRI), NSW Health; data extracted 27 Sept 2017

Note: Excludes non-NSW residents, persons whose residential postcode was not known and notifications from Justice Health. For Justice Health notifications, see Table in Appendix D: Notification data.

Comment

- In January to June 2017, the highest annualised chlamydia notification rates for both males and females were in South Eastern Sydney and Sydney LHDs.
- The largest relative increases in the male chlamydia notification rates (compared to the full year of 2016) were in Nepean Blue Mountains, Far West and South Eastern Sydney LHDs (44%, 38% and 30% respectively). For females, the largest relative rate increases were in Far West, Nepean Blue Mountains and Southern NSW LHDs (19%, 18% and 15% respectively).

Figure 32: Number of chlamydia infections in males, by site of infection, NSW, January to June period, 2012-2017



Data source: NCIMS, NSW Health; data extracted 10 Oct 2017.

Notes: Does not include 'other' (including conjunctiva and joints) site of infection or missing/unknown site of infection; number of infections may exceed number of notifications due to infection at multiple sites.

Comment

- Among men, the genitourinary tract is the main site of chlamydia infection notified to NSW Health, followed by the rectum and throat.
- Compared with January-June 2016, the largest relative increases in January-June 2017 among men were reported in the throat (74%) and rectum (64%); infections in the genitourinary tract increased by 13%.

3.3 *Chlamydia notifications among Aboriginal people*

Figure 33: Chlamydia notifications by Aboriginality, NSW, 2012-2016

Data to be provided in future reports.

Figure 34: Chlamydia notification rate by Aboriginality, NSW, 2012-2016

Data to be provided in future reports.

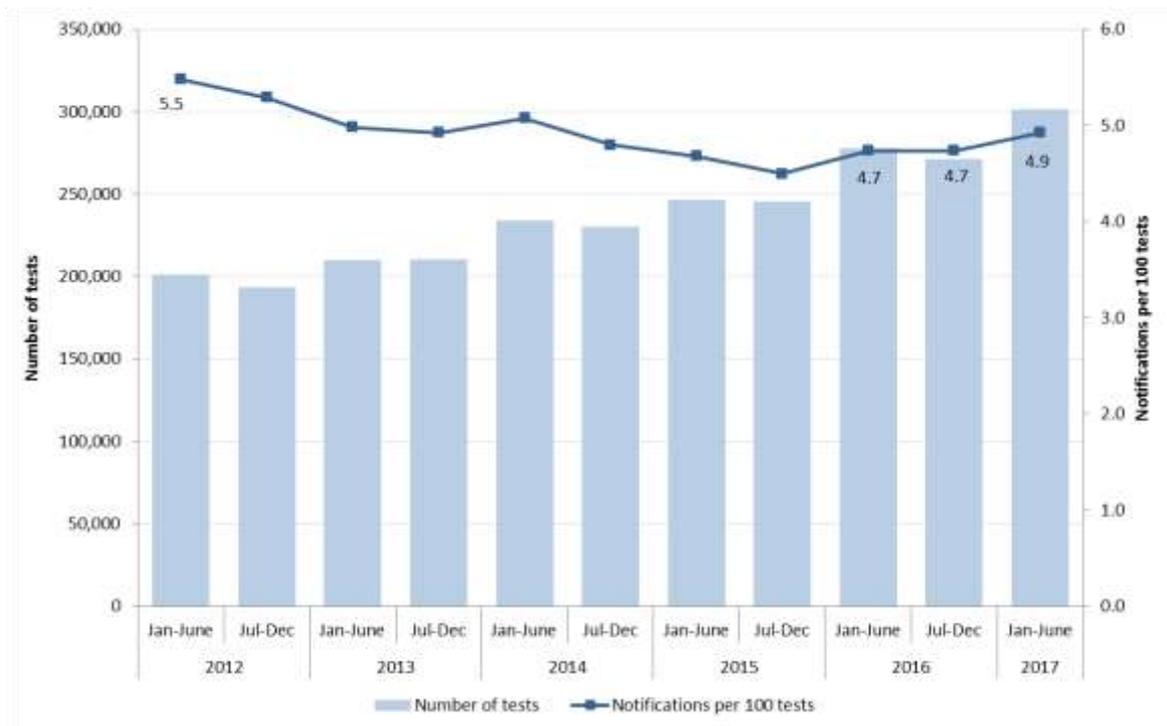
Figure 35: Chlamydia notifications in the Aboriginal population, by gender and remoteness area, NSW, 2012-2016

Data to be provided in future reports.

3.4 Chlamydia testing

In 2012, NSW Health commenced collection of monthly testing data for selected notifiable conditions from 15 NSW public and private laboratories under the NSW Denominator Data Project. These laboratories account for more than 90% of the total notifications for the selected conditions in NSW. Information from laboratories does not provide any indication on whether there are repeat tests on the same individual.

Figure 36: Number of chlamydia tests and notification to test ratio¹¹, NSW, January 2012 to June 2017



Data source: NCIMS and NSW Denominator Data Project, NSW Health; data extracted 25 Sept 2017

Note: Testing multiple sites results in multiple tests being counted per person.

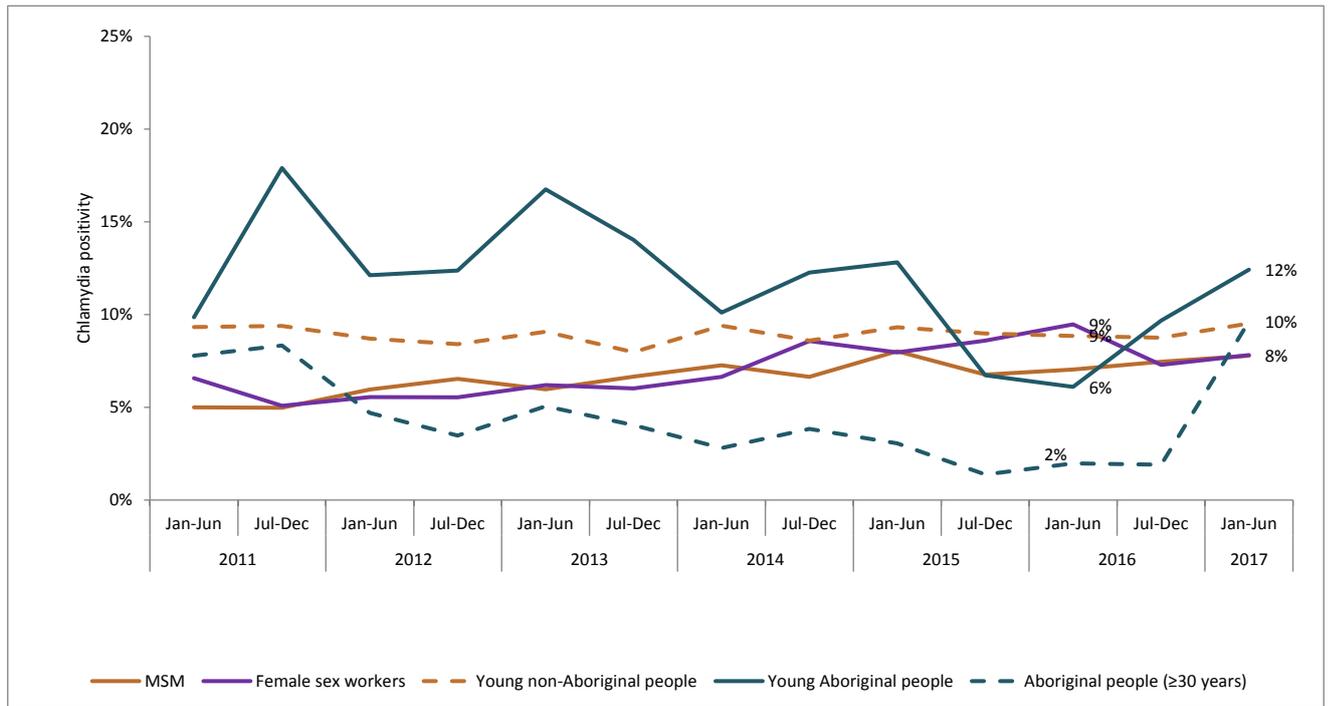
Comment

- The number of chlamydia tests (NAAT) performed in NSW is continuing to increase.
- Between January and June 2017, 301,330 tests for chlamydia were performed in 15 laboratories in NSW, an increase of 8.5% compared to the same period in 2016 (277,747).
- There were 4.9 chlamydia notifications per 100 chlamydia tests in the first half of 2017. This is higher than the notification to test ratio for January to June 2016 (4.7) and July to December 2016 (4.7).

¹¹ The notification to test ratio has been calculated by dividing the overall positive results notified to NSW Health by all laboratories by the total number of tests performed as reported from the participating laboratories, and multiplying by 100. Notifications are for individual people with chlamydia reported from all laboratories. However, the testing data are for individual tests reported from participating laboratories and may include multiple specimens per individual. As such, the notification to test ratio may be an underestimate of the percentage of people tested who were positive in NSW for the condition.

3.5 Chlamydia positivity among men who have sex with men, female sex workers and young people

Figure 37: Proportion of individual patients attending PFSHs and GP clinics¹² tested for chlamydia with a positive result (chlamydia positivity¹³), by priority population¹⁴, 1 January 2011 to 30 June 2017



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

Comment

- When compared to January-June 2016, the proportion of positivity among Aboriginal patients tested who got tested for chlamydia increased sharply.

¹² GP clinics included those serving at least 50 gay and bisexual male patients annually

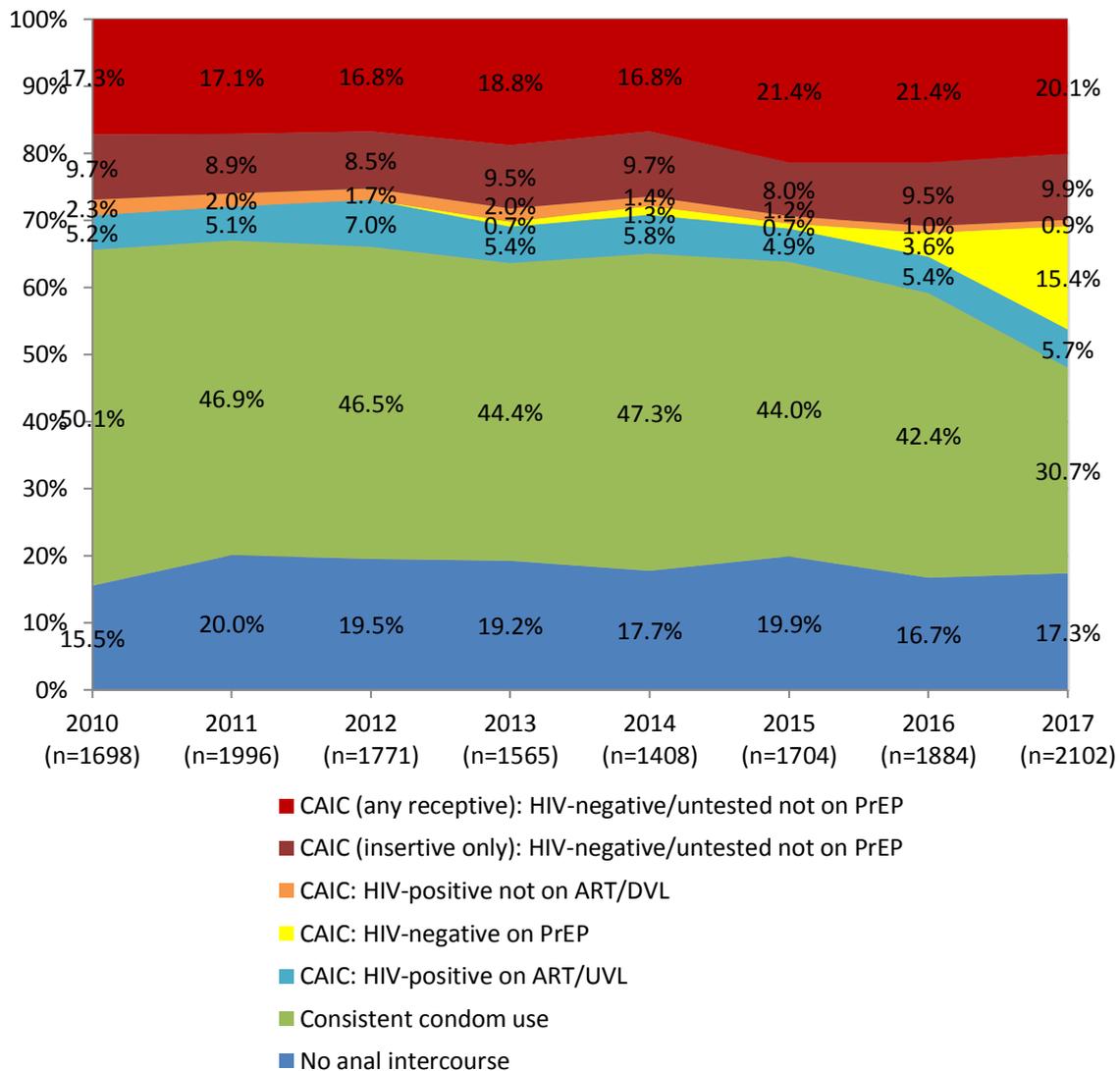
¹³ Positivity is the proportion of individuals (i.e., de-duplicated) tested in each six-month period with any positive result

¹⁴ While priority populations are not mutually exclusive those other than MSM exclude MSM-identified patients

3.6 Condom use among men who have sex with men

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

Figure 39: Proportion of MSM with casual partners reporting consistent condom use and any condomless anal intercourse in the previous six months



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

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

Comment

- Among gay men with casual male partners, the proportion avoiding anal intercourse has remained relatively stable since 2010, while consistent condom use has declined.
- Between 2016 and 2017, the combined proportion of respondents reporting no anal intercourse or consistent condom use with casual partners decreased from 59.1% to 48.0% with consistent condom use alone declining from 42.4% to 30.7%.
- The proportion of HIV-positive men not on treatment or with a detectable viral load who reported CAIC has declined to 0.9% of men with casual partners in 2017.
- Between 2016 and 2017, HIV-negative men on PrEP reporting CAIC increased from 3.6% to 15.4% of men with casual partners. The majority of men who report CAIC continue to be HIV-negative and untested, and *not* using PrEP.
- In 2017, HIV-negative men not using PrEP and who reported any CAIC (insertive or receptive) remained unchanged at 30.0% of casual partners.

3.7 Condom use among young people

A cross-sectional periodic survey 'It's Your Love Life'¹⁵ on sexual health among young people is carried out by Centre for Social Research in Health, UNSW. Participants (male and female young people aged 15 to 29 years and living in NSW) who identified themselves heterosexual were invited to answer a digital questionnaire on sexual health. The survey is designed to capture potential trends of self-reported condomless sexual intercourse with casual partners. Overall, 4,951 male and female participants who self-identified as heterosexual responded to either of the surveys, with 2,210 participants in 2016 and 2,831 in 2017.

Table 1: Sample characteristics

	All	2016	2017	p-value
Age (continuous)				
Mean age	20.9	20.8	20.9	
Standard deviation	4.45	4.82	4.16	
Range	15-29	15-29	15-29	ns
Gender				
Male	38.0%	35.3%	40.0%	
Female	62.0%	64.7%	60.0%	.001
Area of residence				
Capital city	61.3%	55.3%	65.7%	
Major regional centre or city	18.1%	21.2%	15.7%	
Smaller city or town	14.4%	15.7%	13.4%	
Rural area	6.3%	7.8%	5.2%	<.001
Sexual activity				
Never had oral, vaginal or anal sex	29.7%	26.1%	32.5%	
Ever had sex but not in the past 12 months	4.2%	5.5%	3.2%	
Had sex in the past 12 months	64.7%	65.9%	63.6%	
Preferred not to report this information	1.4%	2.5%	0.6%	<.001

Comment:

- More than half of the participants were female (62%) and 38% were male.
- A significant proportion (61.3%) of respondents resided in the capital city with a smaller proportion in the rural area (6.3%).

¹⁵ Adam, P., Schippers, M., Schmidt, H., Modderman, K., Welsby, D., Slattery, C., Murray, C., Estoesta, J., Hearnshaw, G., Murphy, D., Britton, M., Jenkins, L., Dixon, K., Becket, N. & de Wit, J. (2016). It's Your Love Life: A new periodic survey on sexual health among young people in NSW. Sydney: Centre for Social Research in Health, UNSW Australia.

Table 2: Participants who reported condomless sexual intercourse with casual partners in the past 12 months

	2016			2017		
	All* (n=1,167)	Males (n=376)	Females (n=791)	All (n=788)	Males (n=254)	Females (n=534)
Across age groups	16.6%	20.7%	14.7%	17.6%	22.8%	15.2%
15–19	13.3%	13.8%	13.2%	16.6%	17.8%	16.1%
20–24	23.0%	28.1%	21.1%	20.4%	29.2%	18.1%

Note: *Participants who were sexually active in the 12 months prior to the survey.

Comment:

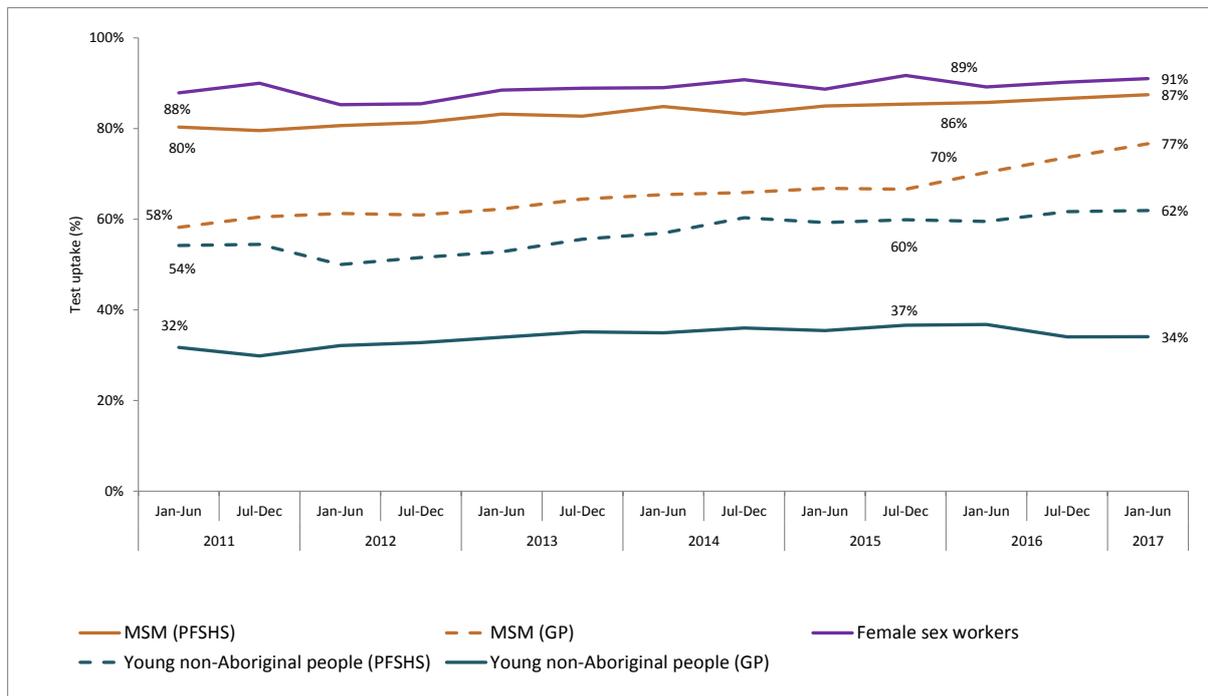
- Respondents who were sexually active and having condomless sexual intercourse with casual partners was slightly higher in 2017 (17.6%) than in 2016 (16.6%).

4 Increase comprehensive STI testing in priority populations in accordance with risk

4.1 Comprehensive STI testing in priority populations

Integrating comprehensive STI screening¹⁶ into routine care within general practice and primary care is a key activity within the Strategy. It ensures timely diagnoses and treatment of STIs among priority populations.

Figure 40: Proportion of individual patients attending PFSHSs and GP clinics tested for chlamydia, gonorrhoea¹⁷ and syphilis, by priority population¹⁸, 1 January 2011 to 30 June 2017



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

Note: This report and all future reports will report on data based on linked services. Linked services represent individuals attending multiple services to meet their testing needs.

Comment

- From January- June 2017, the proportion of patients who had a full screen for bacterial STIs was highest among female sex workers (91%) and MSM attending PFSHS (87%).
- When compared to January-June 2016, in the first half of 2017, MSM attending GP clinics increased by 7% (from 70% to 77%).

¹⁶ Comprehensive ST testing is defined in this context as testing for chlamydia trachomatis, Neisseria gonorrhoea and syphilis (see Appendix C: Case definitions for gonorrhoea, infectious syphilis – less than two years duration, syphilis – more than 2 years or unknown duration and chlamydia for full details) at any anatomical site.

¹⁷ Testing for chlamydia and gonorrhoea included testing at any anatomical site.

¹⁸ While priority populations are not mutually exclusive those other than MSM exclude MSM-identified patients.

4.2 Comprehensive STI testing among young people

Comprehensive STI testing among young people who identified themselves as heterosexual is based on “It’s Your Love Life” cross-sectional digital survey. Respondents who ever had oral, vaginal or anal sex were asked if they ever tested for STIs or HIV.

Table 41: The proportion of sexually active heterosexual people aged 15-29 who ever tested for STIs and/or HIV in the past 12 months

	2016			2017		
	All (n=1,255)	Males (n=419)	Females (n=836)	All (n=1,482)	Males (n=552)	Females (n=930)
Across age groups	25.1%	17.7%	28.8%	27.3%	21.7%	30.6%
15–19	15.0%	5.9%	17.6%	21.2%	11.8%	26.4%
20–24	34.2%	18.4%	40.5%	33.3%	23.4%	37.3%
25–29	29.3%	22.4%	35.1%	28.4%	28.7%	28.2%

Note: * Participants who ever had oral, vaginal or anal sex

Comment

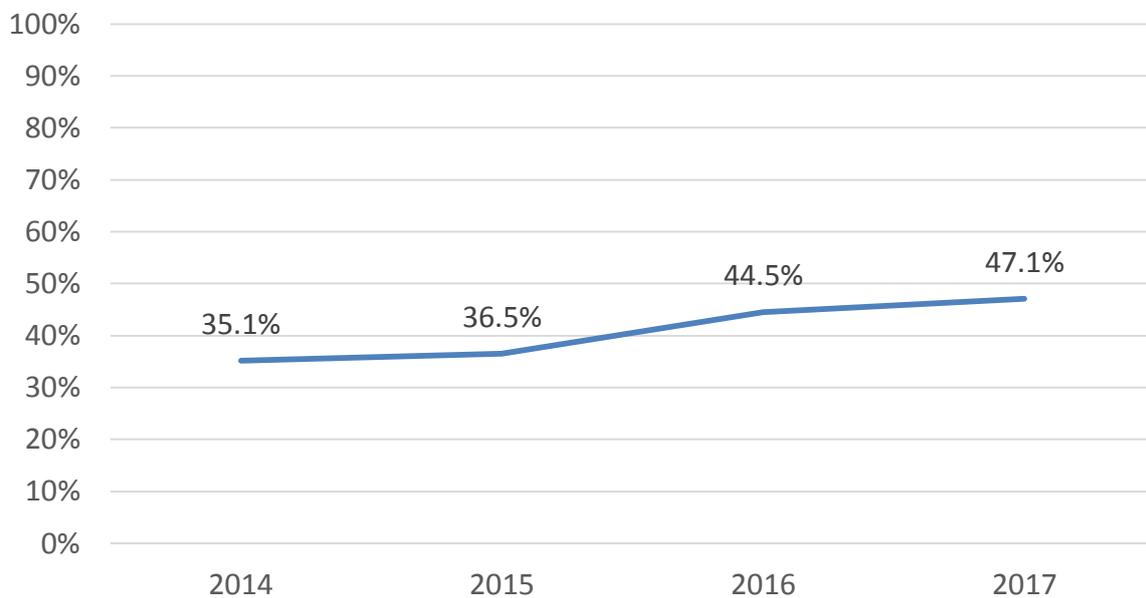
- The percentage of participants who had tested for STIs or HIV in the past 12 months increased from 25.1% in 2016 to 27.3% in 2017.

4.3 Comprehensive STI testing among high risk MSM

According to the [Australian STI Management Guidelines for Use in Primary Care](#), high risk men who have sex with men should be screened for STIs up to four times a year, and it is recommended that HIV-positive MSM be screened at the same frequency. The Sydney Gay Community Periodic Survey measures the frequency of STI testing among MSM. High risk behaviour is defined as recently engaging in any of the following:

- condomless anal sex with casual partners;
- having more than 10 sexual partners;
- participating in group sex;
- using recreational drugs during sex.

Figure 41: Proportion of high risk MSM reporting comprehensive STI testing more than once in the previous 12 months



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

Comment

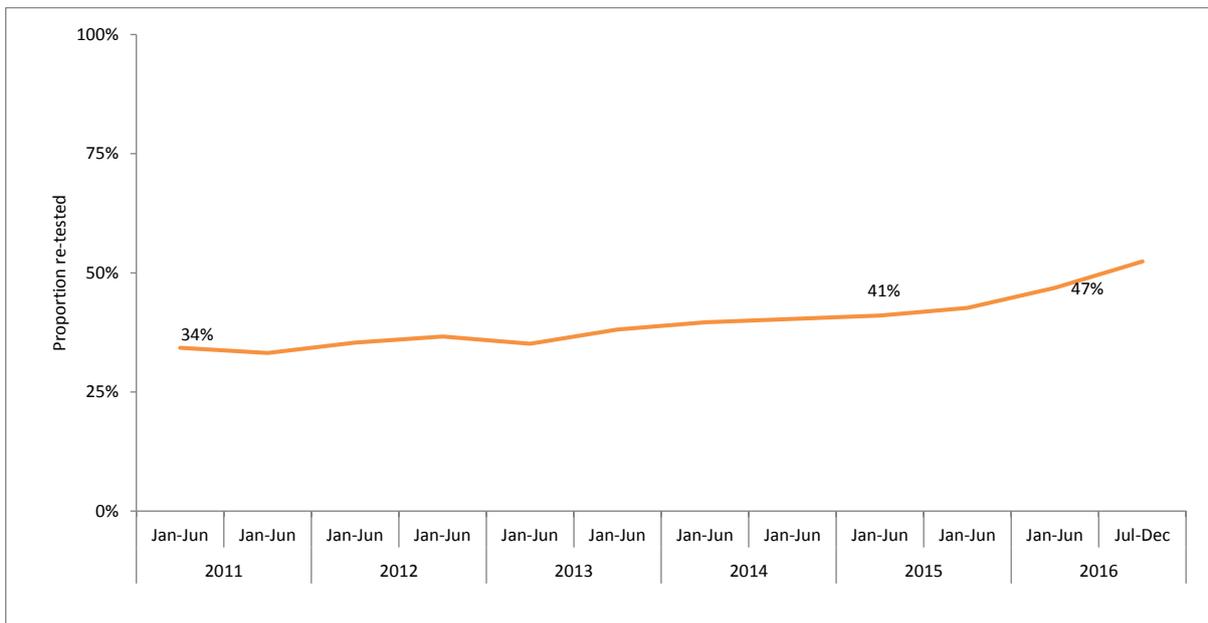
- From 2014 to 2017, the proportion of high risk MSM and HIV-positive MSM reporting more than one comprehensive STI screen has increased by 12%.

5 Increase the proportion of people diagnosed with chlamydia and gonorrhoea who get re-tested within 1-4 months after diagnosis

5.1 Re-testing for chlamydia and gonorrhoea

Re-testing for repeat chlamydial and gonorrhoea infections is recommended to detect reinfection of chlamydia and gonorrhoea¹⁹.

Figure 42: Proportion of patients attending PFSHs and GP clinics²⁰ diagnosed with chlamydia and re-tested²¹ within one to four months, 1 January 2011 to 30 June 2016²²



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

Comment

- When compared to January- June 2015, in January-June 2016, the proportion of patients diagnosed with chlamydial and gonorrhoea who got re-tested increased by 6% (from 41% to 47%)

¹⁹ http://stipu.nsw.gov.au/wp-content/uploads/STIGMA_Testing_Guidelines_Final_v5.pdf.

²⁰ GP clinics included those serving at least 50 gay and bisexual male patients annually.

²¹ Only re-testing at participating ACCESS sites is represented here.

²² Because of the re-testing timeframe, data from the first half of 2017 have been excluded.

5.2 *Re-notifications of chlamydia*

Updated data not yet available, as the re-notification period for Jan-June 2017 notifications has not yet elapsed (at the time of writing this report).

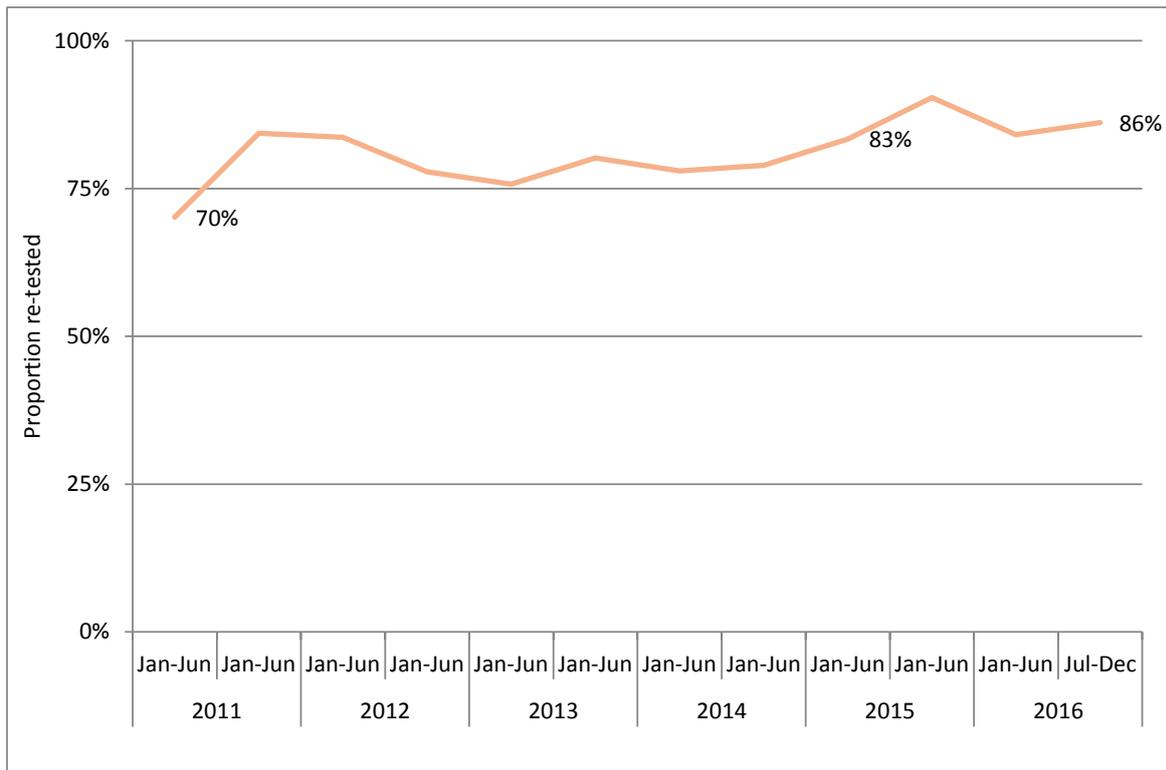
5.3 *Re-notifications of gonorrhoea*

Updated data not yet available, as the re-notification period for Jan-June 2017 notifications has not yet elapsed (at the time of writing this report).

7. Increase the proportion of people diagnosed with syphilis who get re-tested within 1-6 months after diagnosis

7.1 Re-testing for infectious syphilis

Figure 43: Proportion of people diagnosed with infectious syphilis who are re-tested within one to seven month of diagnosis



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

Comment:

- The rate of testing for infectious syphilis has increased from 83 % in early 2015 to 86% in July to December, 2016.

7.2 Re-notifications of infectious syphilis

- Of the 718 men who had their first ever syphilis notification in NSW in 2016, 7 (1%) were re-notified within three and seven months after initial notification.
- None of the 32 women who had their first ever syphilis notification in NSW in 2016 were re-notified within three and seven months after initial notification.

Data source: NCIMS, NSW Health.

8. Increase the proportion of Aboriginal people diagnosed with chlamydia or gonorrhoea who get tested for HIV and syphilis

8.1 Proportion of Aboriginal people diagnosed with chlamydia or gonorrhoea who get tested for HIV and syphilis

These data are still being collected and will be included in later reports.

Appendix A: Indicators for monitoring and reporting

Table 5: Indicators for monitoring and reporting of the NSW STI Strategy 2016-2020

NSW STI Strategy 2016-2020 indicator	Monitoring tool
Reduce gonorrhoea infections	NSW Notifiable Conditions Information Management System ACCESS Database
Reduce infectious syphilis infections	NSW Notifiable Conditions Information Management System ACCESS Database
Reduce pelvic inflammatory disease associated with chlamydia	NSW Health data collection systems
Maintain high coverage of HPV vaccination for Year 7 school students	HealthStats NSW
Maintain levels of condom use for preventing the transmission of STIs	Sexual health survey of young people in NSW aged 15-29 years Sexual health survey of gay and homo-sexually active men in NSW
Increase comprehensive STI testing in priority populations in accordance with risk	NSW Health data collection systems Sexual health survey of gay and homo-sexually active men in NSW ACCESS Database
Increase the proportion of people diagnosed with chlamydia and gonorrhoea who get re-tested within 1-4 months after diagnosis	NSW Health data collection systems ACCESS Database
Increase the proportion of people diagnosed with syphilis who get re-tested within 1-6 months after diagnosis	NSW Health data collection systems
Increase the proportion of Aboriginal people diagnosed with chlamydia or gonorrhoea who get tested for HIV and syphilis	NSW Health data collection systems ACCESS Database

Appendix B: Data sources

Table 6: Details on data sources included in this report

Name	Custodian	Description
NSW Health denominator data project	Health Protection NSW, NSW Health	Monthly aggregated testing data for selected notifiable conditions from 15 NSW public and private laboratories. These laboratories account for more than 90% of the total notifications for the selected conditions in NSW. Information from laboratories does not provide any indication on whether there are repeat tests or multiple site tests for the same individual.
NSW Health HIV Strategy Monitoring Database	NSW Ministry of Health, NSW Health	Aggregated testing data for public sexual health clinics by priority populations.
ACCESS Study	The Kirby Institute	Testing data for unique individuals attending public sexual health clinics by priority populations, and for select GP practices with high and medium case load of GBM in Sydney. ACCESS is a living database and retrospective and prospective data can change as new services are introduced or discontinued, data analyses evolve, and organisational structures are updated, which may introduce variations between reporting periods.
Sydney Gay Community Periodic Survey	Centre for Social Research in Health	Data on sexual, drug use and testing practices related to the transmission of HIV and other STIs among gay men in Sydney (self-reported).
It's Your Love Life Survey	Centre for Social Research in Health	Data about sexual health and health behaviours among approximately 4,000 young people living in NSW.
Communicable Diseases Register (CDR)	Health Protection NSW, NSW Health	The Communicable Diseases Register (CDR) contains de-identified records from the NSW Notifiable Conditions Information Management System (NCIMS), linked to emergency department, hospitalisation and deaths data. Record linkage was carried out by the Centre for Health Record Linkage (www.cherel.org.au). Data are currently available to the end of 2016.
NSW Notifiable Conditions Information Management System (NCIMS)	Health Protection NSW, NSW Health	The NSW Notifiable Conditions Information Management System (NCIMS) contains records of all people notified to NSW Health with a notifiable condition under the NSW <i>Public Health Act</i> . Notification data may not reflect the true incidence of notifiable sexually transmitted diseases as they only represent a proportion of notifiable diseases in the population, however they are useful for monitoring trends

Name	Custodian	Description
		<p>over time.</p> <p>Re-infection periods: A person is only re-notified with chlamydia, gonorrhoea or infectious syphilis if the infection is acquired outside of the re-infection period as follows:</p> <p>Chlamydia - 29 days</p> <p>Gonorrhoea- 29 days</p> <p>Infectious syphilis- 89 days</p> <p>Multiple sites: A person who is notified with more than one site of infection simultaneously is counted as one notification.</p>

Appendix C: Case definitions for gonorrhoea, infectious syphilis – less than two years duration, syphilis – more than 2 years or unknown duration and chlamydia

Gonorrhoea

<http://www.health.nsw.gov.au/Infectious/controlguideline/Pages/gonorrhoea.aspx>

Infectious syphilis – less than two years duration

<http://www.health.nsw.gov.au/Infectious/controlguideline/Pages/syphilis.aspx>

Syphilis - more than 2 years or unknown duration

<http://www.health.nsw.gov.au/Infectious/controlguideline/Pages/syphilis.aspx>

Chlamydia

<http://www.health.nsw.gov.au/Infectious/controlguideline/Pages/chlamydia.aspx>

Appendix D: Notification data tables

Table 7: Number of infectious syphilis, gonorrhoea and chlamydia notifications by gender, age group and local health district, NSW, 1 January 2012-30 June 2017

	Infectious syphilis						Gonorrhoea						Chlamydia					
	2012	2013	2014	2015	2016	Jan-June 2017	2012	2013	2014	2015	2016	Jan-June 2017	2012	2013	2014	2015	2016	Jan-June 2017
TOTAL	507	617	796	756	882	514	4128	4236	4856	5451	7004	4823	21,317	20,836	22,928	22,603	26,047	14,918
Gender																		
Female	24	29	28	21	33	23	777	758	812	866	1,287	799	11,767	11,427	12,358	12,185	13,040	7,014
Male	483	588	767	732	844	487	3,348	3,470	4,036	4,574	5,699	4,002	9,523	9,391	10,554	10,411	12,990	7,885
Transgender*	0	0	1	3	4	3	2	4	7	7	15	10	2	2	1	2	7	7
Unknown	0	0	0	0	1	1	1	4	1	4	3	12	25	16	15	5	10	12
Age group (years)																		
00-04	0	0	0	0	0	0	1	3	3	2	3	4	0	2	2	0	1	0
05-09	0	0	0	0	0	0	0	1	2	0	2	0	0	0	1	0	1	1
10-14	0	0	0	1	0	0	11	4	16	6	2	4	123	109	101	70	59	32
15-19	8	11	11	8	12	11	298	301	322	303	315	247	4966	4443	4397	3887	3942	2156
20-24	39	47	75	86	100	54	799	854	972	1,061	1,255	812	7434	7190	7982	7638	8547	4571
25-29	66	82	111	113	135	91	812	947	1,008	1,259	1,581	1,053	3961	4174	4628	4818	5664	3387
30-34	67	107	126	122	141	83	668	696	815	917	1,245	831	1931	1947	2330	2504	3082	1860
35-39	61	86	96	96	134	66	451	454	499	602	855	616	1122	1058	1220	1300	1749	1012
40-44	71	90	116	85	101	74	445	370	438	464	639	448	714	747	861	884	1103	677
45-49	77	83	101	103	98	50	301	277	351	360	439	332	489	523	568	628	788	543
50-54	49	42	77	80	70	44	167	155	228	243	328	240	290	297	392	422	558	323
55-59	35	29	51	27	51	20	89	88	102	143	171	129	135	185	215	229	282	181
60-64	16	19	18	28	19	12	49	46	59	58	93	58	80	83	128	130	141	86
65-69	10	15	8	5	8	6	19	26	32	20	46	27	48	56	66	62	77	60
70-74	6	5	4	2	10	2	8	8	8	9	13	13	15	8	20	20	24	23
75-79	2	1	1	0	2	0	6	4	1	0	9	4	3	4	5	6	15	4

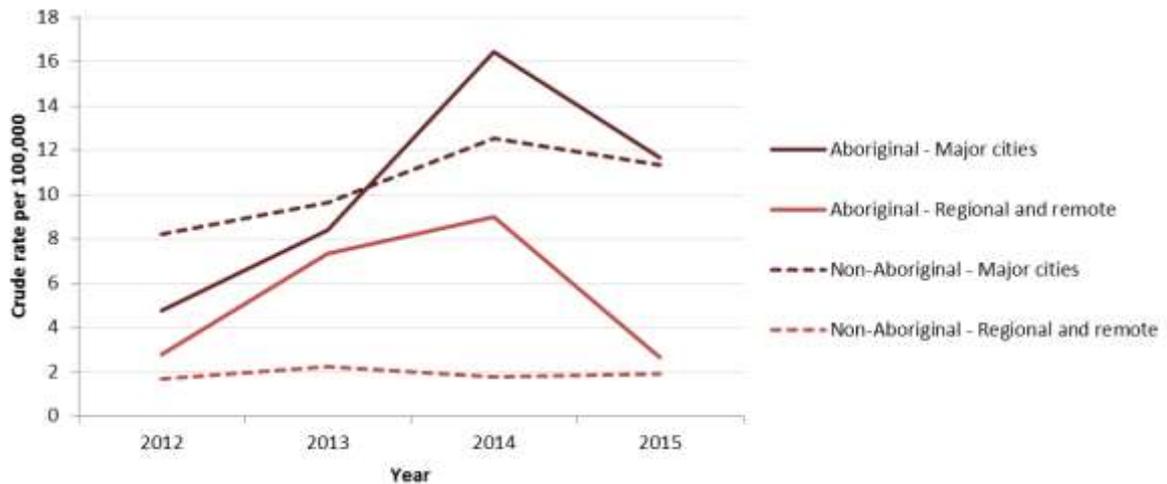
	Infectious syphilis						Gonorrhoea						Chlamydia					
	2012	2013	2014	2015	2016	Jan-June 2017	2012	2013	2014	2015	2016	Jan-June 2017	2012	2013	2014	2015	2016	Jan-June 2017
80-84	0	0	0	0	0	0	2	0	0	3	3	1	0	1	6	2	4	0
85 and over	0	0	1	0	1	0	1	1	0	1	2	0	3	2	3	0	3	1
Unknown	0	0	0	0	0	1	1	1	0	0	3	4	3	7	3	3	7	1
Local Health Districts[#]																		
Central Coast	12	2	5	12	20	5	62	96	76	99	133	86	1,039	857	1,037	914	1,042	509
Far West	2	0	1	0	1	0	33	6	7	2		4	90	109	138	109	71	44
Hunter New England	15	27	19	19	35	15	260	208	267	258	384	205	3,060	2,998	2,852	2,876	2,953	1,516
Illawarra Shoalhaven	15	12	24	23	27	18	100	107	72	115	123	62	1,094	1,120	1,180	1,200	1,149	637
Justice Health	0	0	1	1	0	0	17	15	23	24	26	13	181	137	179	164	180	79
Mid North Coast	3	14	8	1	0	3	23	27	37	36	27	25	520	426	630	583	571	333
Murrumbidgee	5	8	5	7	15	8	39	34	34	29	50	33	742	783	856	889	832	433
Nepean Blue Mountains	11	16	23	6	17	9	124	105	133	146	184	124	889	836	824	788	842	557
Northern NSW	8	15	9	12	11	4	72	98	72	86	137	98	936	820	813	877	938	496
Northern Sydney	34	37	33	46	60	21	294	313	416	418	627	372	1,731	1,824	2,009	1,994	2,375	1,319
Other NSW	7	8	3	7	13	6	15	23	30	26	62	94	71	151	127	69	115	73
South Eastern Sydney	215	196	273	294	343	199	1,317	1,297	1,447	1,756	2,057	1,437	3,607	3,193	3,711	3,614	5,137	3,248
South Western Sydney	22	37	37	13	45	32	373	395	465	446	627	455	1,986	2,009	2,214	2,232	2,317	1,391
Southern NSW	1	2	4	5	3	3	20	24	19	34	57	30	392	404	409	423	475	258
Sydney	119	219	305	265	241	145	893	1,015	1,068	1,354	1,689	1,214	2,163	2,263	2,710	2,784	3,791	2,204
Western NSW	8	3	5	7	9	7	45	66	94	81	46	34	816	932	981	912	791	396
Western Sydney	28	20	36	35	40	38	411	393	584	527	760	523	1,941	1,954	2,233	2,145	2,428	1,394

Data source: NCIMS, NSW Health; data extracted 16 Oct 2017; Data are provisional and subject to change.

*'Transgender' is recorded according to information provided on the notification, and overall numbers reported as transgender may be an underestimation.

Excludes non-NSW residents

Appendix F: Infectious syphilis notification rate by Aboriginality and remoteness area, NSW, 2012-2015



Data sources: NCIMS, NSW Health; ABS (via SAPHaRI, NSW Health); data extracted 11 May 2017;
Note: Excludes persons whose residential postcode was not known.

Comment

- In 2015, infectious syphilis notification rates were higher in major cities than in regional and remote areas among both Aboriginal and non-Aboriginal people.
- As the number of infectious syphilis notifications in the Aboriginal population is small, trends should be interpreted with caution.

Rates for 2016 and 2017 have not been calculated as NSW sub-state Aboriginal population estimates were developed by Prometheus Information Pty Ltd (under contracts with Commonwealth Department of Health and NSW Ministry of Health), and are currently only available to 2015.