Communicable Diseases Weekly Report

Week 24, 11 to 17 June 2017

In summary, we report:

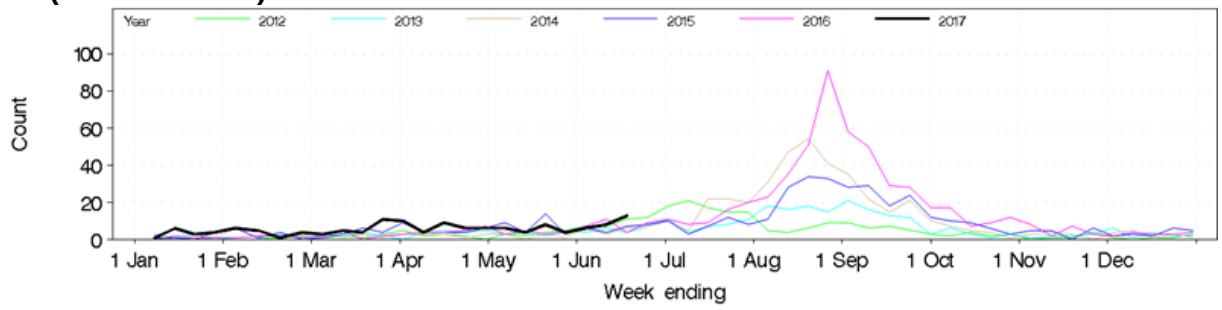
- Influenza – start of winter flu season
- Shiga toxigenic *Escherichia coli* – two cases
- HIV - NSW HIV Strategy First Quarter Data Report 2017
- Summary of notifiable conditions activity in NSW

For further information on infectious diseases on-line see NSW Health Infectious Diseases. Also see NSW Health Infectious Diseases Reports for links to other surveillance reports.

Influenza

Influenza surveillance data indicate that the annual winter influenza season has commenced. Influenza activity in the community is expected to increase further, with the peak of the season typically 5-8 weeks after the onset. The recent increase in influenza-like admissions seen in NSW emergency departments (Figure 1) is also likely to be related to the increasing levels of influenza as well as other respiratory viruses circulating in the community.

Figure 1. Total weekly counts of emergency department admissions for influenza-like-illness, from 1 January – 18 June 2017 (black line), compared with each of the 5 previous years (coloured lines).



Influenza is a highly contagious respiratory illness caused by influenza viruses. There are two main types of influenza virus that cause infection in humans - types A, and B - and many sub-types or strains. Influenza can occur throughout the year but activity usually peaks in winter. In most people influenza presents with fever, a cough, runny nose, headache and aching muscles and the symptoms last around one week. In some people influenza is complicated by bronchitis or pneumonia, which often requires hospitalisation.

Certain groups are at higher risk of complications if infected with influenza. Influenza vaccine is strongly recommended and available free for people aged 65 years and over, people aged 6 months and over with medical conditions predisposing to severe influenza, pregnant women, and all Aboriginal and Torres Strait Islander people aged six months to 5 years or aged 15 years and over.

Influenza can also spread quickly in hospitals and residential institutions, particularly in aged care facilities. NSW Health encourages people with symptoms of influenza or other illness to delay visiting friends or family members in hospital or aged care until they have fully recovered.

For more detailed influenza surveillance information from a range of sources see the weekly NSW Health influenza surveillance reports.

Follow the links for more information regarding influenza notifications and seasonal influenza vaccination 2017.

Shiga Toxigenic *Escherichia coli* (STEC) infection

Two cases of Shiga Toxigenic *Escherichia coli* (STEC) infection were notified in this reporting week (Table 1). For the first case, which was Stx1 and Stx2 gene positive, the person had no apparent high risk exposures for STEC identified on interview.

For the second case, an adult male from regional NSW, which was Stx2 gene positive, the person's risk factors included numerous pet animal exposures (snakes, dogs, bird, cat) as well as a history of having consumed various minced red meats in the home prior to his illness onset. He went on to develop haemolytic uraemic syndrome (HUS), a known and serious complication of STEC infection.

Escherichia coli (*E. coli*) are bacteria commonly found in the gastrointestinal tract of people and animals. Many types of *E. coli* are harmless but some can produce toxins, called Shiga toxins (hence the acronym STEC) or verocytotoxins, which can result in severe disease in humans. STEC strains are carried by animals, particularly cattle.

People are infected when they come into contact with the faeces of an infected animal or person, either directly or indirectly through consuming contaminated food (e.g. undercooked hamburgers, unwashed salad vegetables, unpasteurised milk or milk products), drinking or swimming in contaminated water, person-to-person contact, or contact with animals on farms or petting zoos.

STEC infection causes a diarrhoeal illness, often with abdominal cramps, nausea and vomiting. The Shiga toxin may cause bleeding in the bowel so people with STEC gastroenteritis often have bloody diarrhoea.

STEC infections are also one cause of haemolytic uraemic syndrome (HUS), a severe and sometimes life-threatening illness characterised by haemolytic anaemia (a type of anaemia where the red blood cells break up), acute kidney failure (uraemia), and a low platelet count (thrombocytopenia). Children with STEC infections are more likely to develop HUS than adults.

STEC infections may be prevented by safe food handling and food storage, and good hand hygiene. This includes:

- washing your hands thoroughly with running water and soap before eating and preparing food, after touching pets and farm animals, and after using the toilet or changing nappies.
- only using clean knives and cutting boards when preparing ready-to-eat foods.
- thoroughly cooking all foods made from minced meat (e.g. hamburger patties and sausages).
- washing all fruit and vegetables before eating, and
- not eating or drinking unpasteurised dairy products.

For further information see the STEC and HUS factsheet and STEC notification data page.

HIV

Reports on progress against the NSW HIV Strategy 2016-2020 are published every three months, and the report for quarter 1 2017 is now available.

HIV testing continues to scale up in NSW. In quarter 1 2017 there were 147,674 HIV serology tests performed in 15 laboratories in NSW. Compared to previous first quarters, this is: 8% more than 2016 (n=136,466); 19% more than 2015 (136,466); 22% more than 2014 (120,658); 31% more than 2013 (n=112,441); and 33% more than in 2012 (n=110,994). More tests were conducted in March 2017 (n=53,365) than any month since data were available.

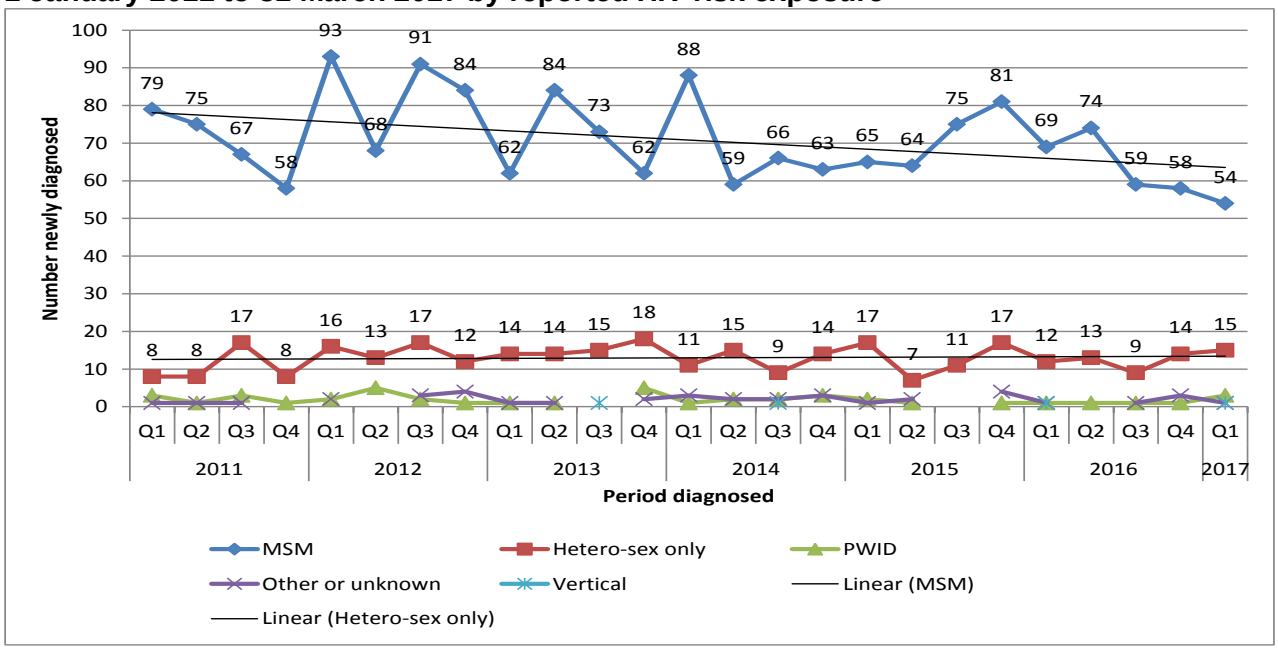
From 1 January to 31 March 2017 74 NSW residents were newly diagnosed with HIV infection, 20% fewer than the average for quarter 1 in 2011-2016 (n=92.3).

Among the 74 new diagnoses:

- 41% (n=30) had evidence of late diagnosis, compared with 33% of the new diagnoses in quarter 1 of 2011-2016;

- 73% (n=54) reported male-to male sex exposure (MSM), 29% fewer than the average number of new diagnoses with MSM exposure in quarter 1 of 2011-2016 (n=76). This is the lowest quarter 1 count for MSM new diagnoses since 1985 (Figure 2).

Figure 2: Number of NSW residents notified with newly diagnosed HIV infection from 1 January 2011 to 31 March 2017 by reported HIV risk exposure

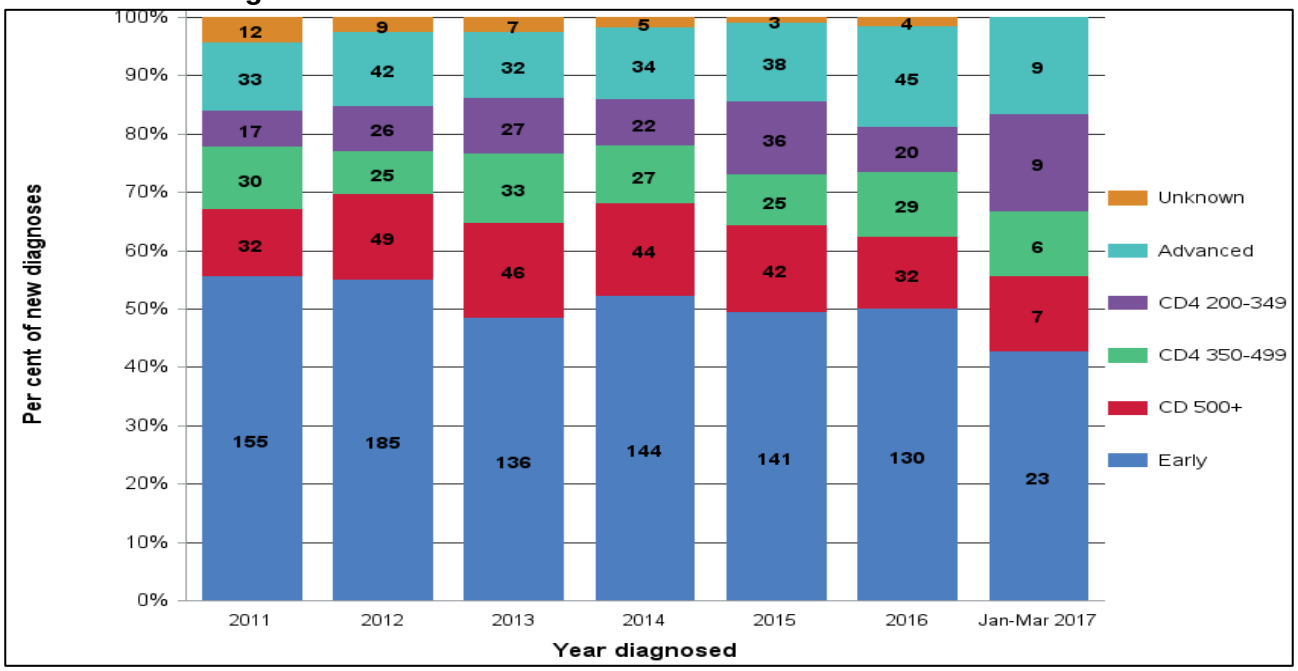


Data source: Notifiable Conditions Information Management System, Health Protection NSW, extracted 8 May 2017

Of the 54 people newly diagnosed with HIV who reported MSM exposure in quarter 1 2017:

- 43% were in early stage infection, compared with 54% in quarter 1 of 2011-2016 (Figure 3). This was 43% less than the average number in quarter 1 of 2011-2016; and
- 17% were in advanced stage infection, compared with 12% in quarter 1 of 2011-2016. This was the same number (n=9) as the average number in quarter 1 of 2011-2016.

Figure 3: Per cent of NSW residents notified with newly diagnosed HIV infection from 1 January 2011 to 31 March 2017 reporting to be men who have sex with men (MSM) by stage of infection at diagnosis[1]



Data source: Notifiable Conditions Information Management System, Health Protection NSW, extracted 8 May 2017

When comparing quarter 1 2017 notification data with the quarter 1 average of the previous six years, other shifts noted were:

- a 34% reduction in the number of Australian born people newly diagnosed,
- a 36% reduction in the number of 20-29 year olds diagnosed and
- a 32% reduction in the number of 30-39 year olds diagnosed (Table 1).

Table 1: Key characteristics of NSW residents newly diagnosed with HIV infection in quarter 1 2017 versus quarter 1 2011-2016.

Key characteristics	Q1 2017: number (%)	Q1 2011-2016 average number
Total new diagnoses	**74**	**92.5**
Sex		
Male	65 (87.8%)	87.0 (94.2%)
Female	8 (10.8%)	5.0 (5.4%)
Transgender	1 (1.4%)	0.3 (0.4%)
Aboriginal or Torres Strait Islander Person status		
Aboriginal or Torres Strait Islander person	3 (4.1%)	2.2 (2.3%)
Non-Aboriginal person	68 (91.9%)	89.7 (97.1%)
Not stated	3 (4.0%)	0.5 (0.5%)
Place born		
Australia	33 (44.6%)	50.0 (54.2%)
Overseas	40 (54.0%)	41.7 (45.1%)
Unknown	1 (1.4%)	0.7 (0.7%)
Age in years at diagnosis		
0-19	2 (2.7%)	1.2 (1.3%)
20-29	17 (23%)	26.7 (28.9%)
30-39	19 (25.7%)	28.0 (30.3%)
40-49	21 (28.4%)	20.8 (22.6%)
Over 50	15 (20.3%)	15.7 (17.0%)
Reported HIV exposure risk		
MSM	54 (73%)	76 (82.3%)
PWID*	3 (4.1%)	1.7 (1.8%)
Heterosexual	15 (20.3%)	13 (14.1%)
Vertical	1 (1.3%)	0.2 (0.2%)
Other or unknown	1 (1.3%)	1.5 (1.6%)

*People who inject drugs

An aim of the *NSW HIV Strategy 2016-2020* is that 90% of people newly diagnosed with HIV are on antiretroviral therapy (ART, the treatment for HIV) within 6 weeks of diagnosis. Of 242 people newly diagnosed with HIV from January to September 2016, 56% (n=136) commenced ART within six weeks of diagnosis, 80% (n=194) within three months and 86% (n=209) within six months of diagnosis.

ART is also effective in preventing HIV acquisition. On 1 March 2016, the population level HIV pre-exposure prophylaxis (PrEP) study (EPIC-NSW) commenced in NSW. By 31 March 2017, 5376 people at high risk of HIV infection were enrolled in the study.

In January-March 2017, the fall in the number of new HIV diagnoses among gay and bisexual men, first noted in June-September 2016, has continued. Fifty four is the lowest number of new diagnoses among gay and bisexual men in a January-March period since the early 1980s. In the context of continued increases in HIV testing among priority populations, this suggests that HIV transmission in gay and bisexual men may be declining. Earlier diagnosis through more frequent testing, higher and more timely treatment coverage and the scale up of HIV PrEP should all be contributing to preventing HIV transmission.

However, there has not been a fall in the number of diagnoses made with evidence of late diagnosis, indicating that there are still people with undiagnosed HIV infection in the community. This underlines the need to further strengthen efforts to reach people with longstanding undiagnosed HIV infections, better identify people at risk of HIV, increase HIV testing in priority settings, and identify and support partners of newly diagnosed people to test for HIV.

Continuing efforts are also needed to further reduce the time between diagnosis and commencement of treatment.

More detailed data can be found in the NSW HIV Strategy 2016–2020 First Quarter Data Report 2017.

Summary of notifiable conditions activity in NSW

The following table summarises notifiable conditions activity over the reporting period (Table 2).

Table 2. NSW Notifiable conditions from 11 – 17 June 2017, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2017	2016	2015	2016	2015
Enteric Diseases	Cryptosporidiosis	10	13	1011	698	588	1184	1040
	Giardiasis	45	73	1766	2005	1853	3481	3413
	Haemolytic Uremic Syndrome	1	0	3	2	6	4	11
	Rotavirus	11	13	317	240	162	751	1033
	STEC/VTEC	2	3	30	21	11	65	29
	Salmonellosis	39	61	2285	2618	2425	4543	4022
	Shigellosis	3	6	100	147	81	310	172
Respiratory Diseases	Influenza	471	447	4897	3703	2388	35538	30301
	Legionellosis	2	2	60	71	52	134	96
	Tuberculosis	7	14	203	218	196	532	443
Sexually Transmissible Infections	Chlamydia	377	522	13736	12234	10894	25990	22525
	Gonorrhoea	136	185	4535	3175	2493	7005	5397
Vaccine Preventable Diseases	Adverse Event Following Immunisation	1	3	153	138	98	257	186
	Mumps	2	2	64	18	26	67	65
	Pertussis	91	108	2835	5407	3315	10957	12079
	Pneumococcal Disease (Invasive)	8	18	198	184	169	543	494
Vector Borne Diseases	Barmah Forest	5	7	56	22	137	35	184
	Dengue	2	5	154	273	180	481	344
	Malaria	2	1	34	21	20	59	47
	Ross River	27	23	1256	323	1253	540	1635
Zoonotic Diseases	Leptospirosis	1	0	12	10	6	15	15
	Q fever	4	3	101	109	109	230	264

*** Notes on Table 2: NSW Notifiable Conditions activity**

- Data cells represent the number of case reports received by NSW Public Health Units and recorded on the NSW Notifiable Conditions Information Management System (NCIMS) in the relevant period.
- Data cells in the 'Adverse Event Following Immunisation' category refer to suspected cases only. These reports are referred to the Therapeutic Goods Administration (TGA) for assessment. Data on adverse events following immunisation is available online from the TGA Database of Adverse Event Notifications.
- Only conditions for which at least one case report was received appear in the table. HIV and other blood-borne virus case reports are not included here but are available from the Infectious Diseases Data webpage.