Communicable Diseases Weekly Report

Week 48, 26 November to 2 December 2017

In summary, we report:

- **Brucellosis** – two new cases
- **Hepatitis A** – two new cases
- **HIV** – NSW HIV July-September 2017 Data Report
- **Summary of notifiable conditions activity in NSW**

For further information see NSW Health infectious diseases page. This includes links to other NSW Health infectious disease surveillance reports and a diseases data page for a range of notifiable infectious diseases.

Brucellosis

Two new cases of brucellosis were reported this week (Table 1). There is no known link between the cases but both were young adult males who presented with fever, rigors and drenching sweats following exposure to animal tissues and blood during pig hunts in north-western NSW.

Brucellosis is a bacterial zoonosis caused by different *Brucella* species. Although *Brucella* species preferably infect different animal species, infections can occur in animals other than the preferred host. There are five *Brucella* species known to cause human brucellosis. Two are of particular importance to Australian residents and travellers, *Brucella suis* and *Brucella melitensis*. *Brucella suis* is widespread in the feral pig population in northern NSW and Queensland, and has caused infections in humans and dogs who have hunted feral pigs in these areas. *Brucella melitensis* infects goats, sheep and camels in the Mediterranean, Middle East, Central Asia and Central America, and travellers to these countries may become infected after consuming unpasteurised dairy products.

Human brucellosis typically begins with a flu-like illness. This may include fever, headache, weakness, drenching sweats, chills, weight loss, joint and muscle pain, and generalised aches. Inflammation of the liver and spleen, and gastrointestinal or respiratory symptoms may also occur. In males, the testicles may become inflamed. *Brucella suis* infections are particularly associated with an increased risk of spontaneous abortion in pregnant women. Rarely, the heart valves become infected and this can be fatal. Symptoms usually start 5-60 days after infection and typically last for days or months. Symptoms can occasionally last for a year and can be recurrent.

Hunting of feral pigs is the main risk factor for human brucellosis infection acquired in NSW, and it is also a risk for hunting dogs. NSW Health works closely with the Department of Primary Industries (DPI) who report that a number of pig-hunting dogs with exposures in northern NSW have been diagnosed with *B. suis* so far this year. NSW Health and DPI recommend that infected dogs be euthanized or treated with antibiotics and desexed as they pose a potential risk to humans and other animals. Dogs in the same household as an infected dog should be tested for *B. suis*.

This is the third notification of brucellosis in a feral pig hunter from the same area in 2017 to date, highlighting the importance of educating hunters on precautionary measures. When coming into contact with pigs (especially feral pigs in Queensland and northern NSW) or feral pig products:

- Cover all cuts or abrasions with waterproof dressings
- Wear gloves, overalls and face masks when slaughtering animals or handling carcasses
- Wash hands and arms in soapy water after handling animals or carcasses. Wash off all urine, faeces, blood and other body fluids, and thoroughly clean all working areas with soapy water

- Avoid opening the swollen joints and testicles of feral pig carcasses as these may be brucellosis-related
- Slaughter and butcher feral pig carcasses away from areas that are used for handling meat for human consumption
- Avoid feeding domestic animals raw feral pig meat
- Ensure that feral pig meat (or other game) is thoroughly cooked prior to consumption.

Follow the links for the brucellosis factsheet and brucellosis and feral pig hunting factsheet. Follow the link for advice on brucellosis for dog owners from DPI.

Hepatitis A

Two new cases of hepatitis A infection were reported this week (Table 1). One case is thought to be related to the ongoing hepatitis A outbreak reported in Sydney, while the other is thought to have acquired the infection while overseas. On average, there are three cases reported in NSW per month, and usually most cases have acquired their infection overseas.

From 25 July to 2 December 2017, there have been a total of 32 cases of hepatitis A reported in adults in NSW under investigation as part of a locally transmitted outbreak.

Molecular typing of the viruses isolated from 30 of these cases has shown that they share an identical partial genome sequence, meaning that the cases are all part of the same outbreak. The median age of the 30 cases is 41 years (range 21 to 69 years). Twenty-nine of the 30 cases are male, with 17 reporting being men who have sex with men (MSM). Two of the 30 cases travelled outside Australia during their exposure period. These 30 cases are residents of South Eastern Sydney Local Health District (LHD) (10), Sydney LHD (7), Northern Sydney LHD (3), Central Coast LHD (3), Western Sydney LHD (2), South Western Sydney LHD (2), Hunter New England LHD (2) and Illawarra Shoalhaven LHD (1). Two of the four cases who live outside Sydney reported travel to Sydney during their exposure period.

The two remaining cases have molecular typing results pending; both cases are male and identify as MSM.

The molecular typing of hepatitis A viruses in this cluster shows they are very similar to a strain currently circulating in Europe associated with a large, multi-country outbreak. Since June 2016, 1,500 confirmed hepatitis A cases and 2,660 probable or suspected cases have been reported in Europe, predominantly among MSM (see the ECDC report).

It is suspected that the earlier outbreak cases and some of the later cases have been exposed to a common source as they share overlapping exposure periods. Secondary cases have also been identified, with evidence that some infections have been transmitted from person to person. Men who engage in sexual activity with other men (MSM) are being reminded to get vaccinated, as anal sex and oral-anal sex have been identified as risk factors for infection (see media release). Despite extensive investigation, to date no food item or other possible exposure has been found in common with all the cases. NSW public health units are continuing to investigate possible sources of infection in conjunction with the NSW Food Authority (see the related media release).

Hepatitis A is a viral infection of the liver. Symptoms include feeling unwell, lack of appetite, aches and pains, fever, nausea, and abdominal discomfort, followed by dark urine, pale stools and jaundice (yellowing of the skin and eyes). The illness usually lasts from one to three weeks. People who experience these symptoms are advised to see their GP.

Infected people can transmit the virus to others from two weeks before the development of symptoms until one week after the appearance of jaundice. The virus is spread by the faecal-oral route, including through the consumption of contaminated food or water or by direct contact with an infected person. While infectious, people diagnosed with hepatitis A should avoid preparing food or drink for other people, sharing utensils or towels, or having sex for at least one week after onset of jaundice.

There is no specific treatment for hepatitis A and people sometimes require hospitalisation for supportive care. A safe and effective vaccine is available, with two doses spaced at least six

months apart shown to provide high levels of protection against infection for many years. Hepatitis A vaccination is routinely recommended for people at higher risk of infection and those who are at increased risk of severe liver disease. These include travellers to countries where hepatitis A is common (most developing countries), some occupational groups, men who have sex with men, people with developmental disabilities and people with chronic liver disease.

People exposed to hepatitis A can be protected from developing the disease if they receive the vaccine or protective antibodies within two weeks of exposure.

Follow the links for NSW Health hepatitis A notification data and the NSW Health hepatitis A fact sheet.

HIV

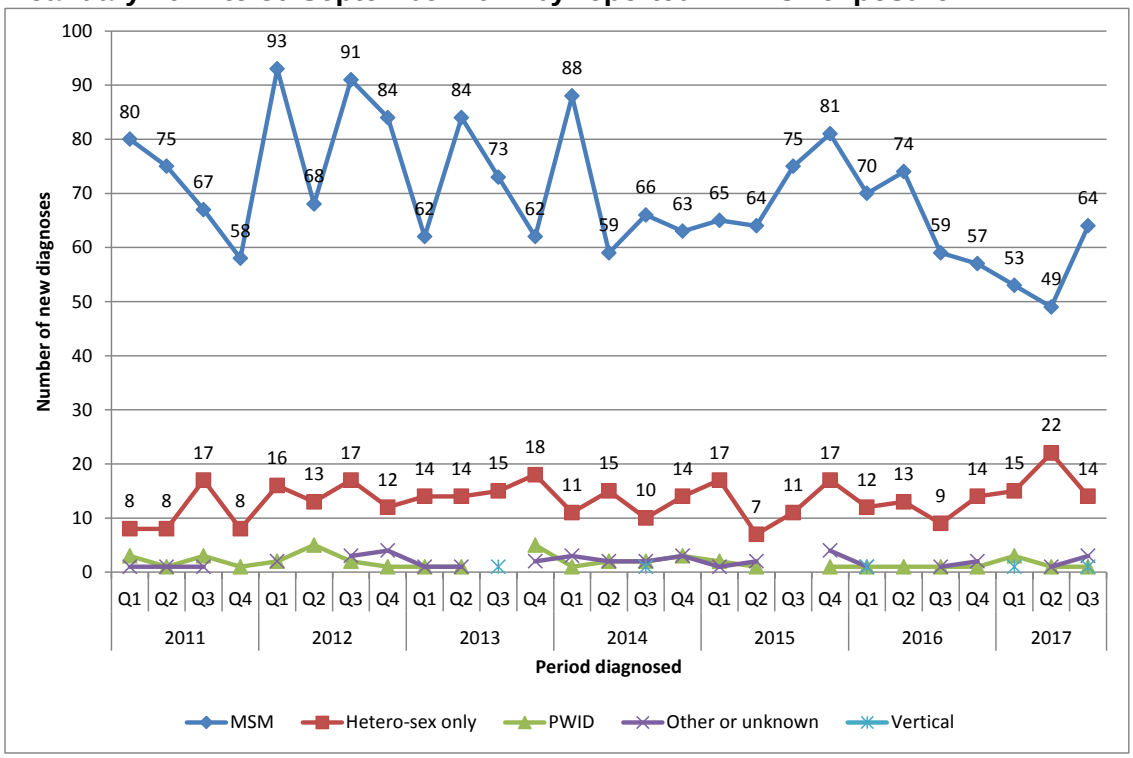
Reports on progress against the NSW HIV Strategy 2016-2020 are published every three months, and the report for quarter 3 2017 is now available.

In 2017 to 30 September, 228 people were newly diagnosed, 14% less than the January to September average in 2011-2016 (n=266). Of these, 166 (73%) were men who have sex with men (MSM), 24% less than the average number of new diagnoses in MSM in January to September of 2011-2016 (n=219) (Figure 1). Of these 166 MSM:

- 73 (44%) had evidence of infection in the 12 months before diagnosis, 36% less compared with an average number of 113 MSM in January to September of 2011-2016) (Figure 2)
- 33 (20%) were in advanced stage infection, 14% more compared with an average number of 29 MSM in January to September of 2011-2016
- 69 (42%) were Australian born, a 44% decrease compared with 124, the average for January to September 2011-2016
- 97 (58%) were overseas born, a 5% increase compared with 92, the average for January to September 2011-2016.

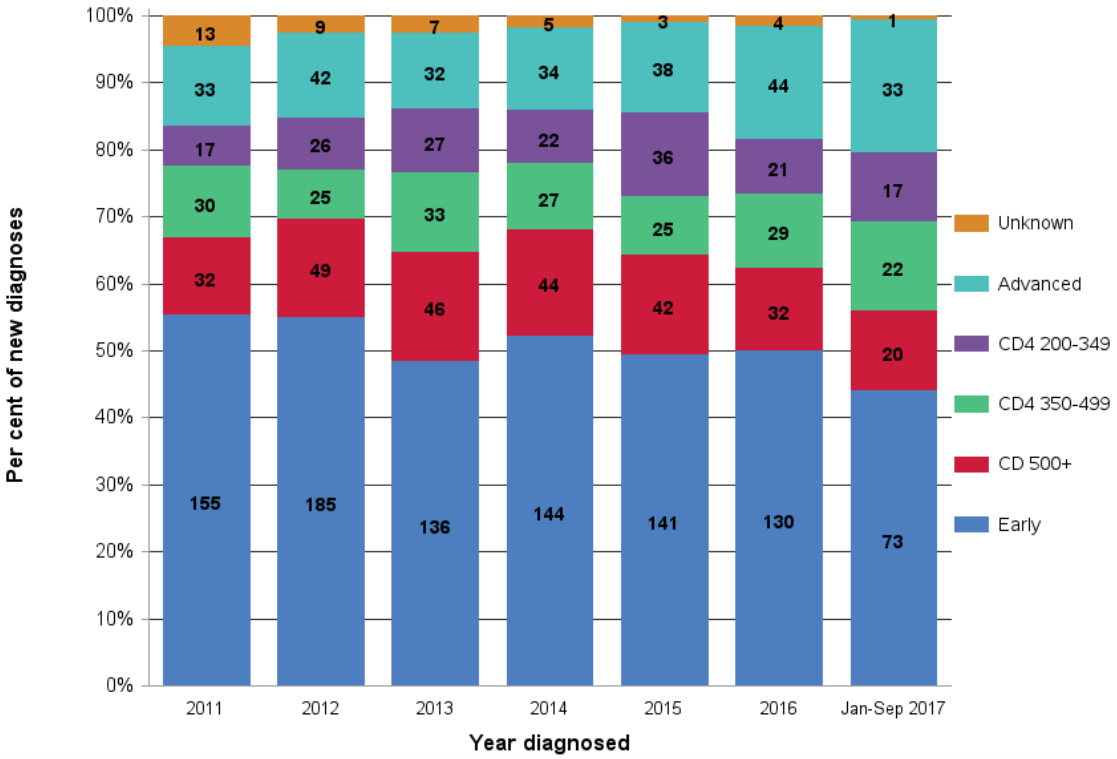
Of 51 people with heterosexual risk exposure newly diagnosed from January to September 2017, 28 (55%) were Australian born, an 87% increase compared with 15, the average for January to September 2011-2016. Two-thirds of these infections were most likely acquired overseas.

Figure 1: Number of NSW residents notified with newly diagnosed HIV infection from 1 January 2011 to 30 September 2017 by reported HIV risk exposure



Data source: Notifiable Conditions Information Management System, Health Protection NSW, extracted 10 November 2017

Figure 2: Per cent of NSW residents newly diagnosed with HIV from 1 January 2011 to 30 September 2017 reporting to be MSM by stage of infection at diagnosis[1]



[1]Stage of infection at diagnosis: Early = Evidence of HIV infection acquired within 12 months of diagnosis, which was defined as notification of a sero-conversion like illness or negative or indeterminate HIV test within 12 months of diagnosis, irrespective of CD4 or presentation with an AIDS defining illness at diagnosis. CD4 500+, CD4 350 to 499, CD4 200 to 349 each excludes early and advanced categories. Advanced = CD4 count less than 200 or AIDS defining illness in absence of evidence of 'Early' diagnosis

HIV testing continues to scale up in NSW. From July to September 2017, there were 143,220 HIV serology tests performed in 15 laboratories in NSW. Compared with previous third quarters, this was 6 per cent (%) more than in 2016 (n=135,362) and 38% more than in 2012 (n=103,803).

An aim of the *NSW HIV Strategy 2016-2020* is that 90% of people newly diagnosed with HIV are on antiretroviral therapy (ART) within 6 weeks of diagnosis. The most recently diagnosed cases followed up 6 months post diagnosis to ascertain ART uptake were the 72 NSW residents newly diagnosed in quarter 1 2017. Of these 75% (n=54) commenced ART within six weeks and 99% (n=71) within six months, of diagnosis, with a median of 28 days to starting ART.

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 30 September 2017, 7,284 people at high risk of HIV infection were enrolled in the study.

The drop in the number of new diagnoses the past 9 months is due to a drop in new diagnoses in MSM with evidence that they were infected in the year before being diagnosed. Early diagnoses in MSM dropped by 36% in January to September 2017 compared to the same period in the previous six years. This fall in early HIV diagnoses at the same time that testing rates have increased indicate that HIV transmission in this population group is declining.

In 2017 to 30 September, for the first time, the number of overseas born gay and bisexual men (GBM) diagnosed with HIV exceeds the number of Australian born GBM diagnosed with HIV. This is due to the decline in new diagnoses in Australia born GBM.

Efforts to raise awareness of PrEP in overseas born GBM have led to a greater proportion of overseas born men being enrolled in EPIC-NSW in Q3 and it is hoped that this will result in a fall in the number of diagnoses in overseas born GBM in the future. However increased efforts to provide more equitable access to PrEP and to other HIV prevention interventions in overseas born GBM must be further strengthened.

Travel health messages should include that the risk of HIV and other STIs is higher in many other countries than Australia, and all travellers should protect themselves against these infections.

The reduction in HIV transmission in MSM has occurred in the setting of more frequent testing, earlier and higher treatment uptake, and high uptake of PrEP in NSW. This is significant progress. However further efforts are needed to:

- increase HIV testing amongst people and communities at risk of longstanding HIV infections
- improve engagement with less connected groups who are at risk of HIV, particularly people who identify as heterosexual, and culturally and linguistically diverse backgrounds, including those who are GBM
- continue to increase HIV testing in general practice and other health services
- continue to promote the use of PrEP and condoms for HIV prevention.

More detailed data can be found in the NSW HIV Strategy 2016-2020 July-September 2017 Data Report.

Summary of notifiable conditions activity in NSW

The following table summarises notifiable conditions activity over the reporting period (Table 1).

Table 1. NSW Notifiable conditions from 26 November to 2 December 2017, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2017	2016	2015	2016	2015
Enteric Diseases	Cryptosporidiosis	17	11	1224	1010	907	1184	1040
	Giardiasis	51	40	2833	3285	3200	3480	3413
	Hepatitis A	2	1	64	34	70	41	72
	Rotavirus	37	41	2088	651	968	750	1033
	STEC/VTEC	1	2	48	52	25	65	29
	Salmonellosis	44	62	3440	4196	3725	4544	4022
	Shigellosis	6	3	210	288	160	310	172
Respiratory Diseases	Influenza	210	192	103447	35072	30168	35540	30295
	Legionellosis	2	1	129	121	92	134	96
	Tuberculosis	3	12	460	481	413	534	445
Sexually Transmissible Infections	Chlamydia	516	575	26818	24297	21142	25993	22525
	Gonorrhoea	169	176	8569	6515	5059	7004	5395
	LGV	1	0	25	57	34	60	35
Vaccine Preventable Diseases	Adverse Event Following Immunisation	3	4	259	246	181	258	186
	Mumps	3	5	116	60	57	67	65
	Pertussis	91	85	5063	10233	10693	10956	12078
	Pneumococcal Disease (Invasive)	5	10	656	524	470	544	494
Vector Borne Diseases	Barmah Forest	1	2	120	35	182	40	184
	Dengue	6	6	279	460	314	485	344
	Ross River	14	9	1630	464	1585	594	1635
Zoonotic Diseases	Brucellosis	2	0	5	10	10	10	10
	Q fever	2	3	182	216	248	231	264

*** Notes on Table 1: 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 chronic blood-borne virus case reports are not included here but are available from the Infectious Diseases Data webpage.