Communicable Diseases Weekly Report

Week 48, 28 November to 4 December 2016

In summary, we report:

- Measles – one new case
- Legionellosis – two new cases of *L. longbeachae*.
- HIV – quarter 3 2016 data report released
- 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.

Measles

One case of measles was notified this reporting week in an adult from South Eastern Sydney Local Health District. It is likely that the person acquired the infection while outside Australia. Contacts are being followed up by the local public health unit. Twelve measles cases have been reported this year to date in NSW. Of these cases, seven acquired the infection outside Australia, and five acquired their infection in Australia (two in Queensland and three in NSW). South Eastern Sydney Local Health District has issued a media alert about the most recent case.

Measles is endemic in many countries and it is important for people planning travel to make sure they are vaccinated. Travellers returning from areas where measles still circulates should seek medical advice if they develop the symptoms of measles. It is important that if someone suspects that they or a family member has symptoms of measles, they call ahead to their local doctor or emergency department so arrangements can be made to keep the person with suspected measles away from others who could be at risk of infection.

The measles virus is transmitted from person to person via respiratory secretions in the air following coughing and sneezing. Symptoms of measles include fever, runny nose, sore red eyes and cough, followed 3-4 days later by a red blotchy rash spreading from the head and neck to the rest of the body.

Infection with the measles virus can be serious with common complications including middle ear infection and viral or bacterial bronchopneumonia. Acute encephalitis occurs rarely and subacute sclerosing panencephalitis is a very rare fatal complication, occurring many years after infection in about 1 per 100,000 cases.

Vaccination is highly effective at preventing measles with two doses of measles containing vaccine offering protection against infection in 99% of people. Vaccination not only benefits those who receive it but also protects others, such as those too young or unable to be vaccinated, by reducing the risk that an unvaccinated person is exposed to measles virus; this is known as herd immunity.

Anyone born in or after 1966 should have had two doses of measles containing vaccine, which is free for people up to 50 years of age in NSW. Measles containing vaccine is now routinely offered to all children at 12 months (as measles-mumps-rubella) and 18 months (as measles-mumps-rubella-varicella) of age through the National Immunisation Program.

If you were born in or after 1966 and are unsure of your vaccination status, or have not had two vaccine doses in the past (and not had a confirmed measles infection), consult your GP for more advice. This is particularly important prior to overseas travel as the risk of being exposed to a case of measles is greater when travelling.

For more information please follow these links: measles fact sheet, measles notifications and measles vaccination.

Legionellosis

There two notifications of probable legionellosis (Legionnaires' disease) in this reporting week. Both cases were diagnosed with infections caused by *Legionella longbeachae* bacteria. Both cases reported using potting mix without wearing a mask or gloves. This serves as a timely reminder to use proper protective equipment when gardening and using potting mix.

Case reporting of Legionnaires' disease peaks in the summer and autumn months. Case reports have been reasonably stable in the past five years with 70-100 cases reported every year. There have been 113 cases reported in 2016 up to 4 December which is higher than the four-year average of 88 cases for the same time period. Of the 113 cases, 80 cases have been due to the *L. pneumophila* strain commonly associated with contaminated aerosolised water and 33 due to *L. longbeachae*.

Legionellosis is a type of pneumonia and the symptoms include fever, chills, cough and shortness of breath. Some people also have muscle aches, headache, tiredness, loss of appetite and diarrhoea. Risk factors for legionellosis include increasing age (most cases are aged over 50 years), smoking, and immunosuppression as a result of chronic medical conditions, cancer or taking high-dose corticosteroid medicines. People with legionellosis often have severe symptoms and infection is associated with a 10 to 15 per cent mortality rate.

Legionellosis is caused by infection with *Legionella* bacteria. There are around 50 different species of *Legionella* bacteria but most infections in NSW are caused by *L. pneumophila* or *L. longbeachae*.

Legionellosis is not spread from person to person, but can occur from inhaling contaminated water aerosols or dust. *L. longbeachae* is found in potting mix, compost and soils and infection is associated with gardening and the use of potting mix. To prevent legionellosis it is recommended that people handling potting mix wet the mix beforehand to reduce dust, wear gloves and a mask, and wash their hands after handling potting mix or soil.

L. pneumophila is found in water and can contaminate air conditioning cooling towers, spas, plumbing systems and other bodies of warm water. Outbreaks are sometimes associated with contaminated cooling towers that are part of air conditioning systems in large buildings.

Regular inspection, disinfection and maintenance of cooling towers and plumbing systems limit the growth of bacteria and prevent outbreaks of Legionnaires' disease.

The NSW *Public Health Act 2010* and the Public Health Regulation 2012 control various man-made environments and systems which are conducive to the growth of *Legionella* bacteria and which are capable, under the right conditions, of transmitting legionellosis.

Follow the link for more information on the regulatory control of Legionnaires' disease.

Follow the links for more information on Legionnaires' disease and on notifications of Legionnaires' disease.

HIV

From July to September (quarter 3) 2016, 70 NSW residents were notified with newly diagnosed HIV infection (Figure 1), 22 per cent (%) less than the average count for quarter 3 2010-2015 (n=89.5). Of 70 new diagnoses, 84% (n=59) reported being men who have sex with men (MSM), 18% less than the average count for MSM for quarter 3 2010-2015 (n=72). Of 59 MSM newly diagnosed in quarter 3 2016, 5% were reported to have been tested as part of eligibility screening for pre-exposure prophylaxis (PrEP).

The number of new diagnoses in 2016 should be considered in the context of:

- A marked and continued increase in HIV testing. For instance from January to September 2016, 407,029 HIV serology tests were performed in 15 laboratories in NSW, which was 8% greater than in the same period in 2015 (n=376,671), 16% greater than in the same period in 2014 (n=351,375), 20% greater than in the same in 2013 (n=338,018) and 28% greater than in the same period in 2012 (n=318,534). In NSW publically funded sexual health clinics, there

was a 27% increase in HIV testing in quarter 3 2016 compared to quarter 3 in 2015 and a 34% increase in testing in men who have sex with men during this period;
- Commencement of a study of the population level impact of PrEP (EPIC-NSW) on 1 March 2016 with almost 3500 participants enrolled to 30 September 2016 and likely bringing forward in time screening of many of those at the highest risk of HIV acquisition, and;
- A lesser proportion of people newly diagnosed January to September 2016 had evidence of early stage infection compared with the previous six years.

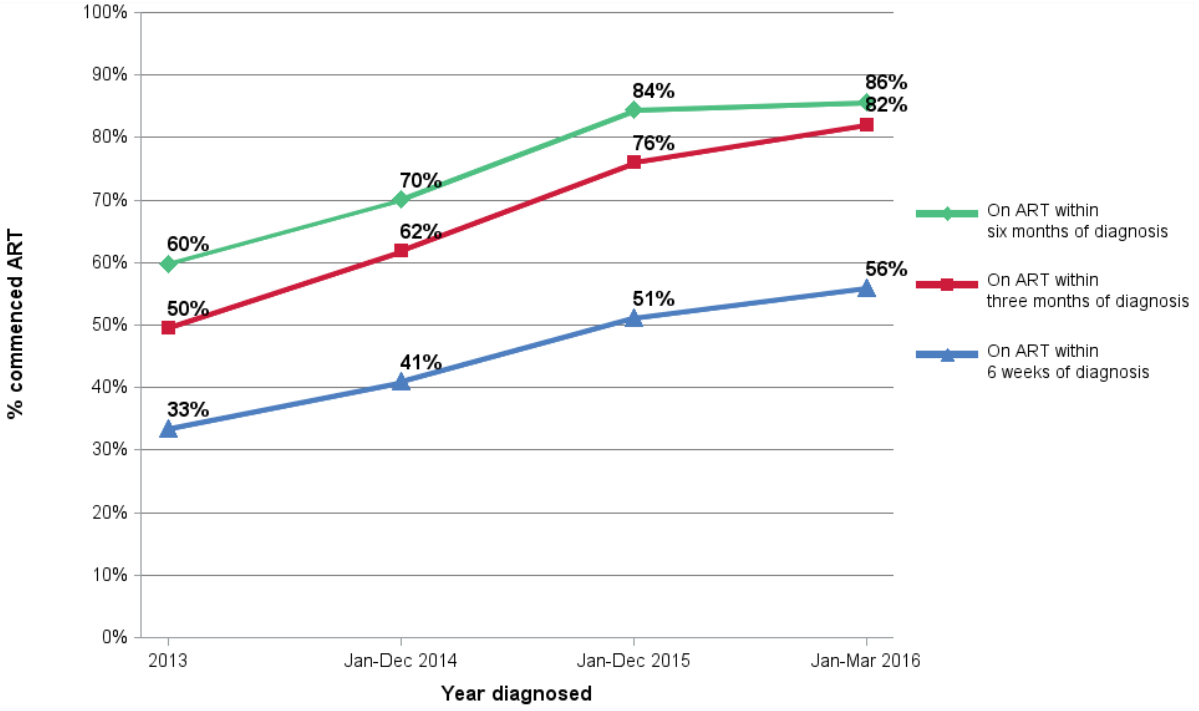
Figure 1: Number of NSW residents notified with newly diagnosed HIV infection from 1 January 2010 to 30 September 2016

Data source: Notifiable Conditions Information Management System, Health Protection NSW, extracted 7 November 2016

Since 2013, increasing proportions of people newly diagnosed in NSW have commenced antiretroviral therapy (ART) within 6 weeks, 3 and 6 months of diagnosis (Figure 2). Of 1127 NSW residents newly diagnosed with HIV infection from 1 January 2013 to 31 March 2016, 43% (n=483) had commenced ART within six weeks of diagnosis. This comprises 33% (118/353) of people newly diagnosed in 2013, 41% (143/344) of those diagnosed in 2014, 51% (177/346) of those diagnosed in 2015 and 56% of those diagnosed in quarter 1 2016. More detailed data can be found in the NSW HIV Strategy 2016 – 2020 Quarter 3 2016 Data Report.

Because of the fall in the number of new diagnoses that were made early in the infection, in the setting of continuing increases in HIV testing, NSW Health is cautiously optimistic that the notification data reflects a true reduction in HIV transmission in NSW. This reduction is likely due to the combination prevention approach adopted in NSW, including:
- high HIV testing and treatment coverage, both of which have continued to increase;
- the introduction of PrEP for people at high risk of infection; and
- targeted and innovative education and community mobilisation initiatives to encourage and support the uptake of prevention strategies including condoms and PrEP, HIV testing and rapid treatment.

Figure 2: ART commencement status at six weeks, three and six months post diagnosis, among 1046 NSW residents newly diagnosed from January 2013 to March 2016



Data source: Notifiable Conditions Information Management System, Health Protection NSW, extracted 7 November 2016

HIV is a retrovirus that was first identified in 1983 as the cause of acquired immune deficiency syndrome (AIDS). HIV damages the immune system so that organisms that don't normally cause disease in HIV-negative people can cause severe illness. Additionally certain types of cancer can develop. If these infections or cancers occur in a person with HIV infection, the person is considered to have AIDS. AIDS is now a rare event due to widespread uptake of ART, which is highly effective in preventing immune deficiency in people infected with HIV.

ART is safe and effective and has made HIV a manageable chronic disease. Recent research has proven that ART initiated immediately after HIV diagnosis results in better health outcomes than delaying ART initiation until the CD4 count falls or symptoms develop. ART reduces the infected person's HIV viral load and greatly reduces the risk of transmitting HIV to others. People living with HIV on ART can now have a similar life expectancy as someone who is HIV-negative.

HIV is predominantly transmitted by unprotected anal or vaginal sexual intercourse. It is also spread via contaminated drug injecting equipment and from mother to child during pregnancy, child birth or breast feeding. HIV can also be acquired where there is poor infection control in health care settings or other settings where skin penetration occurs such as with tattooing or body piercing.

HIV can be prevented by consistent condom use, not sharing injecting equipment, people with HIV taking treatment (treatment as prevention), pre-exposure prophylaxis (PrEP) taken by HIV-negative people at high risk of acquisition of HIV, and post-exposure prophylaxis (PEP) taken within 72 hours of exposure to HIV.

Follow the links for more information on HIV and on HIV resources and data.

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 28 November to 4 December 2016, by date received*

		Weekly		Year to date			Full Year	
		This week	Last week	2016	2015	2014	2015	2014
Enteric Diseases	Cryptosporidiosis	31	23	1010	873	378	1038	429
	Giardiasis	53	54	3279	3151	2697	3416	2942
	Hepatitis A	1	0	34	68	73	71	80
	Rotavirus	30	28	644	947	657	1036	714
	STEC/VTEC	3	0	52	24	30	29	31
	Salmonellosis	71	83	4195	3671	3880	4040	4272
	Shigellosis	5	7	282	159	196	172	212
Respiratory Diseases	Influenza	149	212	35058	30145	20696	30306	20888
	Legionellosis	2	2	117	92	66	96	72
	Tuberculosis	4	8	459	406	453	445	475
Sexually Transmissible Infections	Chlamydia	508	521	24186	20781	21272	22548	22899
	Gonorrhoea	147	154	6468	4944	4538	5398	4876
Vaccine Preventable Diseases	Adverse Event Following Immunisation	4	3	240	180	248	186	258
	Measles	1	0	12	7	67	9	68
	Meningococcal Disease	1	0	70	44	33	46	37
	Mumps	2	0	54	54	78	64	82
	Pertussis	253	292	10201	10247	2571	12083	3051
	Pneumococcal Disease (Invasive)	11	12	531	462	473	495	511
Vector Borne Diseases	Chikungunya	1	1	30	37	24	37	27
	Dengue	5	4	420	307	362	343	378
	Malaria	2	2	53	44	85	47	87
	Ross River	12	8	415	1580	589	1637	673
Zoonotic Diseases	Psittacosis	1	1	8	2	11	3	13
	Q fever	9	3	202	243	167	265	190

*** 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 other blood-borne virus case reports are not included here but are available from the Infectious Diseases Data webpage.