Communicable Diseases Weekly Report

Epi-Week 17: 21 April 2014 – 27 April 2014

In summary, we report:

- **Measles** – two new cases
- **Zika virus infection** – emergence in the Pacific
- **Gonorrhoea** – update on trends
- **Summary of notifiable conditions activity in NSW**

For further information on infectious diseases and alerts see the Infectious Diseases webpage.

Follow the A to Z of Infectious Diseases link for more information on specific diseases.

For links to other surveillance reports, including influenza reports, see the NSW Health Infectious Diseases Reports webpage.

Measles

One measles case was notified this reporting week (Table 1). The case was a 13 month old child who likely acquired their infection in Indonesia. The child departed Australia on their first birthday and hadn't been vaccinated prior to departure. The child spent time in Strathfield Plaza and Ashfield shopping centres while infectious, and had visited GPs in the Ashfield and Strathfield areas, and the Royal Prince Alfred Hospital Emergency Department, as well as attending a family gathering, necessitating an extensive contact tracing exercise by local Public Health Units (PHUs).

Another case of measles was diagnosed in NSW this reporting week, but does not appear as a NSW notification as the case was a resident of South Australia. A young adult became unwell when passing through Sydney following travel to Thailand. The case had stayed in Manly, visited a GP in Hornsby and attended a wedding in the Hunter Valley while infectious, with contact tracing being undertaken by relevant PHUs.

Four NSW residents have acquired measles in Indonesia in 2014. Two were Indonesian-born residents of South-East Sydney Local Heath District who speak Indonesian in their homes, while two were Australian born residents of Camperdown and Liverpool Local Health Districts who speak English in their homes.

There have been 52 measles notifications in NSW in 2014. The three most recent cases have all acquired their illness overseas, and more than one month (over two measles incubation periods) has passed since a locally acquired case has been identified.

Measles is highly infectious and is spread easily through the air. Symptoms can include fever, tiredness, runny nose, cough and sore red eyes which usually last for several days before a red, blotchy rash appears. Complications can range from an ear infection and pneumonia to swelling of the brain.

Measles contact tracing involves identifying as many people as possible who have been in the same place as the case while the case was infectious, including being in the same room up to 30 minutes after the case had left that room. This includes household members, work colleagues who share the same work area, others who attend or work in the same educational institution as the case and who may have spent time in the vicinity of the case (with higher priority placed on contacting those who shared the same classroom), people who stayed in a waiting area at the same time as the case, and aeroplane passengers seated within two rows in front of and behind the case. Measles can be prevented in contacts of infectious cases by the administration of measles vaccine within 72 hours of the first exposure to the case, or normal human immunoglobulin within 144 hours (6 days) of first exposure to the case. PHUs identify contacts, assess whether or not the contacts are already immune to measles, and arrange vaccine or immunoglobulin administration to non-immune contacts.

Measles is preventable by immunisation. Children should receive two doses of vaccine, one at 12 months and the second at 18 months. Babies who are travelling overseas to highly endemic areas and to outbreak affected areas before their vaccine is due can be given the first dose as early as 9 months of age. In this situation, the baby should then receive an additional measles containing vaccine after 12 months of age. Children over 18 months who have not had their second dose of measles vaccine can be vaccinated now. Anyone born during or after 1966 should have two doses of vaccine (at least 4 weeks apart).

NSW Health urges everyone planning international travel to ensure they are up to date with their vaccinations (including measles) prior to their departure.

Follow the link for further information on measles disease notifications.

Follow the link for further information on measles vaccination (external link).

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Zika virus infection

One new case of Zika virus infection was notified this week (Table 1, under "Flavivirus – other & unspecified") and a previously reported suspected case was confirmed. Both cases occurred in adults returning from travel to Cook Islands.

Zika virus is a mosquito-borne flavivirus closely related to dengue virus. The virus was first isolated in 1947 from a sentinel rhesus monkey stationed on a tree platform in the Zika forest of Uganda.

Zika virus is transmitted to humans mainly by certain species of *Aedes* mosquitoes. Some of these species bite during the day as well as in the late afternoon/evening. The main symptoms are fever, conjunctivitis, transient arthritis/arthralgia (mainly in the smaller joints of the hands and feet) and a maculo-papular rash (that often starts on the face and then spreads throughout the body). In general the symptoms are mild and last 2-7 days, although a case with co-infection with dengue has been reported from French Polynesia, resulting in a more severe illness.

Zika virus can be identified from day 5 post onset of fever by serology (detection of specific IgM antibodies). Serological cross-reactions with antibodies to closely related flaviviruses are possible, including dengue. Recently, a number of Pacific islands and territories have reported outbreaks of Zika virus including French Polynesia, New Caledonia and Cook Islands.

In French Polynesia, there have been 8,700 suspected cases of Zika virus infection reported since early October 2013. All islands of French Polynesia have been affected but the epidemic there seems to be in decline. In New Caledonia, the first locally acquired case was detected in January 2014 and by 27 March there had been 320 locally-acquired cases reported. In Cook Islands, an outbreak of Zika virus has been declared with 49 laboratory-confirmed cases and 648 suspected cases having been reported up to 23 March. Health authorities are currently responding to and implementing measures to control the outbreaks. For more information see the WHO update here which also includes information on dengue outbreaks and other vector borne disease issues in the region.

Travellers to all islands and territories in the Pacific should take special care to avoid mosquito bites and so prevent infection. The Aedes mosquitoes that carry Zika virus can also transmit dengue virus and chikungunya virus. Travellers should cover up as much as possible with loose-fitting clothing and covered footwear, use an effective mosquito repellent on all exposed skin and re-apply every few hours (according to instructions) as protection wears off from perspiration, particularly in the heat or during exercise. The best mosquito repellents contain Diethyl Toluamide (DEET) or Picaridin.

Follow the link for more information on preventing mosquito infections.

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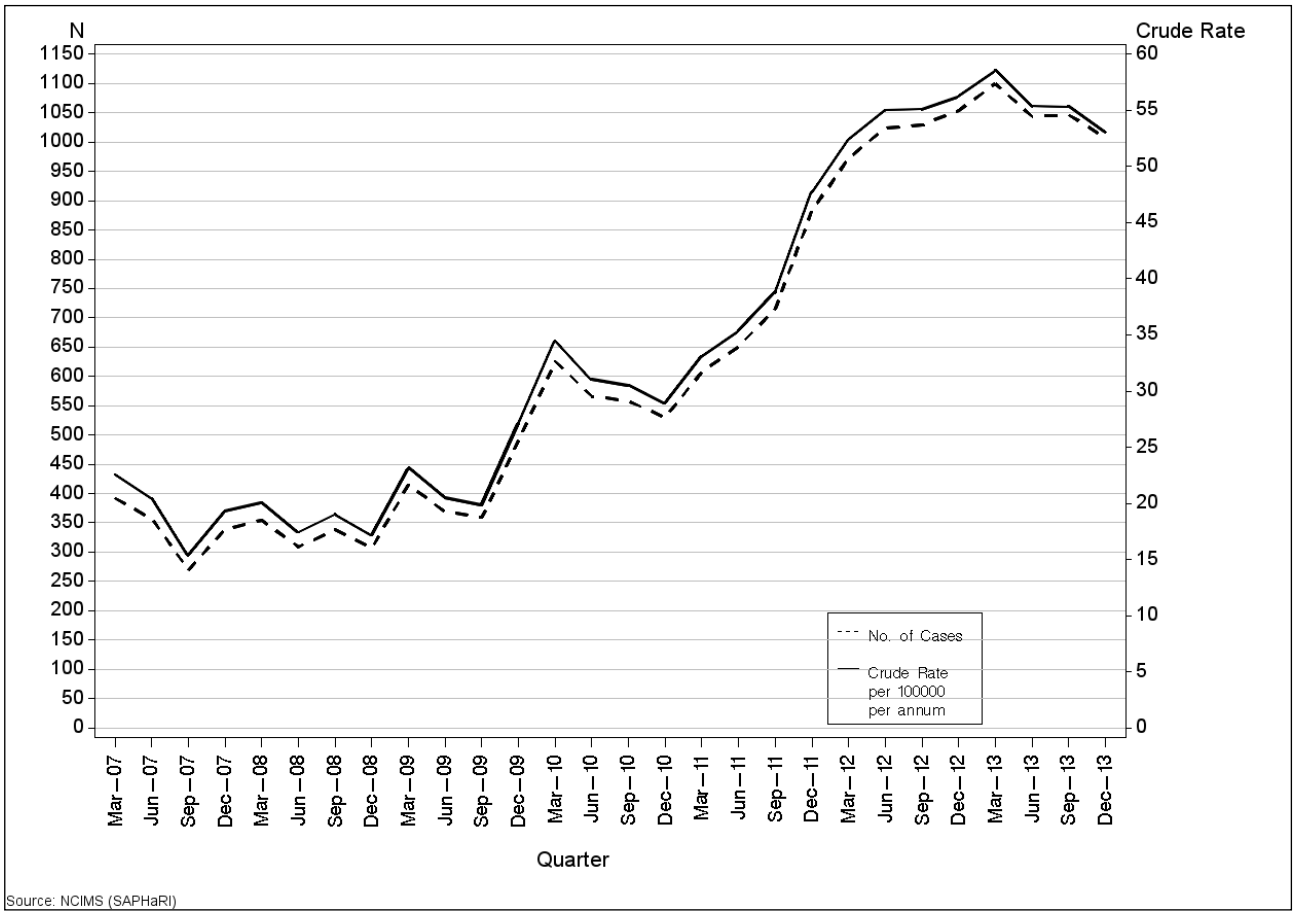
Gonorrhoea

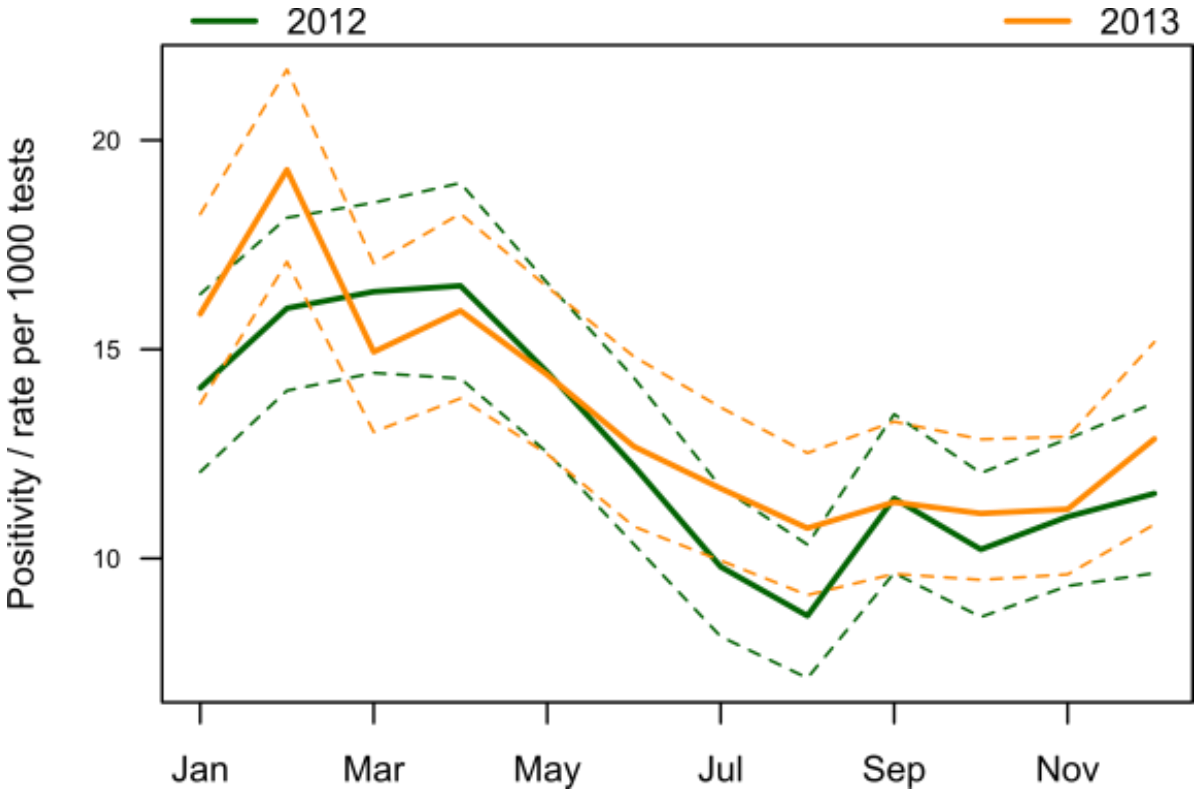
The number of gonorrhoea notifications in NSW has increased from 2010 to mid-2012, but have since plateaued (Figure 1). Eighty-two percent of gonorrhoea notifications from 2007 to 2013 were in males and spread of gonorrhoea in NSW is thought to be mainly associated with male to male sex. During 2007 to 2013, 36% of notifications were in the 25-35 year age group with 27% aged 15-24 years and 21% aged 34-44 years. Thirty-two percent of cases were notified in South Eastern Sydney Local Health District and 22% in Sydney Local Health District.

Figure 1: Gonorrhoea notifications and rates (per 100,000 population) for NSW by quarter, 2007-2013



People with gonorrhoea often have no symptoms, particularly women or men with gonorrhoea of the throat and anus. Therefore the number of people screened for gonorrhoea is likely to affect the number of people diagnosed with this infection. All specimens that are submitted for chlamydia testing are also tested for gonorrhoea. Figure 2 shows the percentage of tests for gonorrhoea in NSW in 2012 and 2013 that were positive. Nine positive tests were notified for every 1000 tests performed in 2013, similar to the positivity rate in 2012. This, together with the plateau in notifications suggests there has been little difference in gonorrhoea transmission in NSW between 2012 and 2013.

Figure 2. Gonorrhoea positivity rate per 1,000 tests* - NSW residents, January 2012 –December 2013. Dotted lines denote 95% confidence interval for positivity.



* Testing data is submitted by 14 public and private laboratories and represents 88% of the total notifications for the selected conditions

Gonorrhoea is a sexually transmissible infection caused by the bacteria *Neisseria gonorrhoeae*. Infections can occur in the throat, anus, urethra, cervix and eyes. If untreated, gonorrhoea can result in infections of the skin, joints, blood stream, heart valves and lining of the brain (meningitis). Untreated gonorrhoea in women can lead to infection in the womb and Fallopian tubes (pelvic inflammatory disease or PID) and this can result in infertility. Infertility can also occur if the infection spreads down the urethra into the testes.

Gonorrhoea often does not cause any symptoms, except in infections of the urethra in men where there are symptoms of discharge from the penis and pain when urinating. Women can experience vaginal discharge or abnormal bleeding, particularly after sex.

Gonorrhoea can be prevented by the use of condoms for vaginal and anal sex and dental dams for oral sex.

Gonorrhoea in Australia remains treatable with antibiotics. Sexual partners of cases should be contacted, tested and treated.

Many strains of *Neiserria gonorrhoeae*, both overseas and within Australia, are resistant to a wide range of antibiotics. Of concern, is the emergence overseas of some strains of gonococcal bacteria that are highly resistant to the major classes of antibiotics. In Australia the National Neisseria Network monitors antibiotic resistance in gonococcal bacteria, and this information is used to inform treatment guidelines.

Follow the link for more information on gonorrhoea and gonorrhoea notifications.

More detail on trends of sexually transmitted infections is available from the STI report.

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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 21 April to 27 April 2014, by date received.*

		Weekly		Year to date			Full Year	
		This week	Last week	2014	2013	2012	2013	2012
Enteric Diseases	Cryptosporidiosis	6	8	183	759	315	1131	655
	Giardiasis	37	61	1096	921	884	2240	2012
	Hepatitis A	1	0	31	31	11	62	41
	Rotavirus	4	7	116	160	236	508	1758
	Salmonellosis	67	93	1889	1577	1328	3486	2942
	Shigellosis	1	3	105	46	56	136	131
	Typhoid	1	0	17	29	19	58	43
Respiratory Diseases	Influenza	34	33	924	572	344	8402	8037
	Legionellosis	1	2	25	33	58	104	107
Sexually Transmissible Infections	Chlamydia	218	344	7594	7472	7793	21080	21262
	Gonorrhoea	44	85	1553	1574	1380	4268	4115
Vaccine Preventable Diseases	Adverse Event Following Immunisation	2	5	106	315	121	508	269
	Measles	1	1	52	4	7	33	174
	Meningococcal Disease	1	1	11	11	20	48	68
	Mumps	1	3	39	28	31	88	110
	Pertussis	21	16	583	878	2694	2378	5998
	Pneumococcal Disease (Invasive)	3	4	84	114	100	490	564
Vector Borne Diseases	Barmah Forest	4	9	81	191	146	440	352
	Flavivirus - other & unspecified	1	0	2	0	0	0	0
	Ross River	8	17	166	183	311	513	596
Zoonotic	Q fever	1	0	54	50	53	155	124

* **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.

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