Communicable Diseases Weekly Report

Week 21, 18 May to 24 May 2015

In summary, we report:

- **Human immunodeficiency virus (HIV)** – 2014 data update
- **Results from a randomised clinical trial support early treatment of HIV**
- **Hepatitis D** – one new case
- **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.

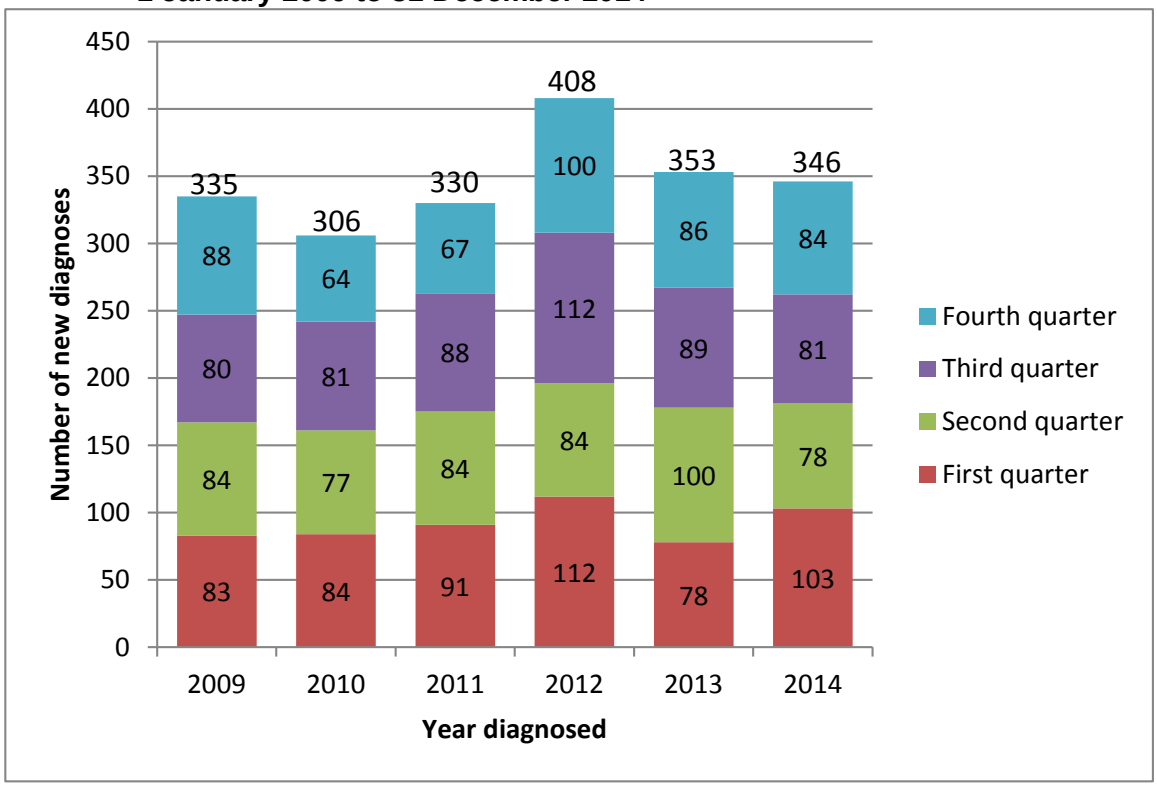
For links to other surveillance reports, including influenza reports, see the NSW Health Infectious Diseases Reports webpage.

Human immunodeficiency virus (HIV) – 2014 data update

In 2014 346 NSW residents were newly diagnosed with HIV in NSW. This is a two per cent (%) decrease compared with 2013 (353), a 15% decrease compared with 2012 (408) and the same as the previous five year average 2009 to 2013 (Figure 1).

Of the 346 new diagnoses in 2014, 320 (93%) were male, 25 (7%) were female and one (<1%) was transgender. Three (1%) were less than 20 years of age at diagnosis, 94 (27%) were 20 to 29 years, 109 (32%) were 30 to 39 years, 75 (22%) were 40 to 49 years and 65 (19%) were 50 years or over.

Figure 1: Number of NSW residents newly diagnosed with HIV infection, 1 January 2009 to 31 December 2014

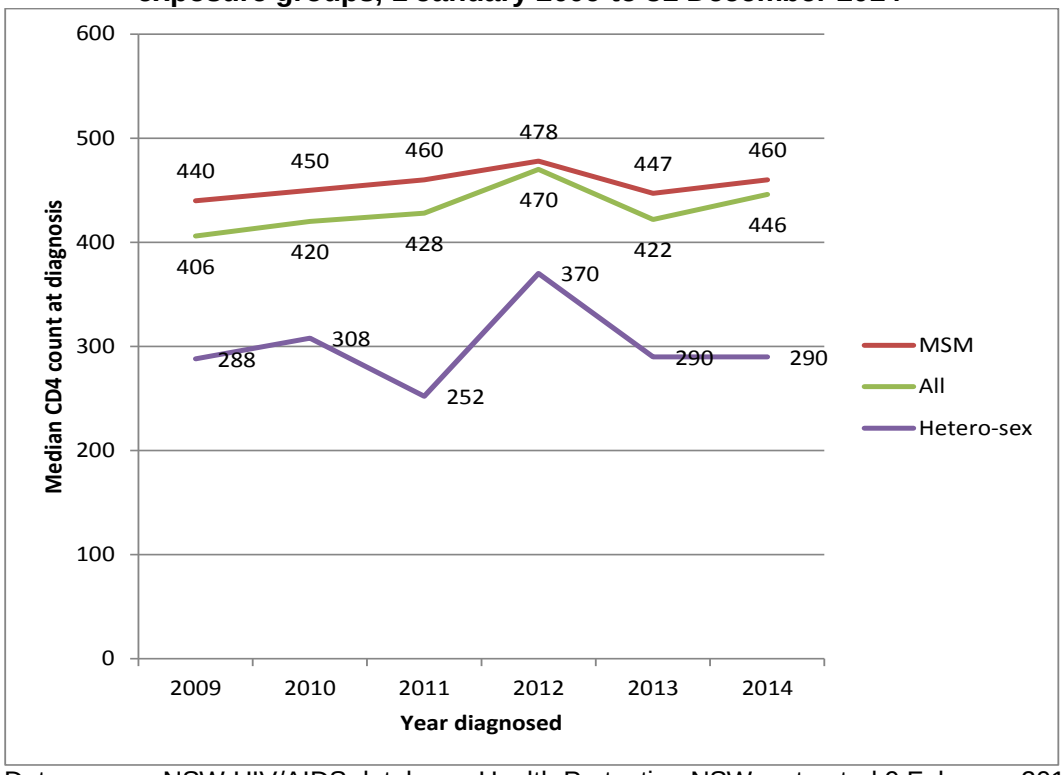


Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 9 February 2015

In 2014, 272 of 346 (79%) people newly diagnosed reported acquiring HIV through male to male sex (MSM), 50 (14%) through heterosexual sex, 8 (2%) through injecting drugs (PWID), 13 (4%) through an unknown exposure, 2 (1%) through an 'other' exposure and 1 (<1%) through mother to child (vertical) transmission which had occurred overseas.

The median CD4 count for NSW residents newly diagnosed with HIV infection in 2014 appears fairly stable for men reporting to be MSM and for those reporting heterosexual exposure, compared with the previous five years (Figure 2).

Figure 2: Median CD4 count (cells/μL) at diagnosis for all NSW residents newly diagnosed with HIV and for MSM and heterosexual risk exposure groups, 1 January 2009 to 31 December 2014



Data source: NSW HIV/AIDS database, Health Protection NSW, extracted 9 February 2015.

Since 2013, HIV surveillance in NSW was enhanced to:

a) at the time of diagnosis, collect from doctors additional information on the patient's HIV viral load, antiretroviral therapy (ART) commencement or deferral, and;
b) at six months post diagnosis, follow up on the patient via their doctor to collect information on retention in care, ART commencement, and pre-ART and latest HIV viral load and CD4 count.

Overall, of 534 NSW residents newly diagnosed with HIV infection from 1 January 2013 to 30 June 2014, 292 (55%) had commenced ART by six months post diagnosis, 189 (35%) had not yet commenced ART and 53 (10%) were of unknown ART status at six months post diagnosis.

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 healthy 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 usually occurs as a late stage of HIV infection on average 10 years after initial infection, but can occur earlier.

Most people have either no symptoms or only mild symptoms when they are first infected with HIV. However some people develop a flu-like illness with fever, sore throat, swollen glands or a rash a few weeks after infection. These symptoms disappear without treatment after a few days, and people with HIV infection may remain without symptoms for many years. However, people with

untreated HIV infection can transmit the virus to others. Infectiousness is very high in the period shortly after initial infection when the virus is replicating but before an immune response occurs.

HIV is predominantly transmitted by unprotected 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.

In Australia, men who have sex with men are the highest risk group for HIV infection. Other risk group include people from countries where HIV prevalence is high and their sexual partners, people who inject drugs, and people who travel to or work in high prevalence countries. HIV can be prevented by consistent condom use and by not sharing injecting equipment.

The first antiviral treatments for HIV infection became available in 1996. These drugs had severe side effects and the virus frequently developed resistance to them. More recently developed anti-retroviral treatment regimens for HIV infection do not cause side effects in most people and resistance does not emerge if the drugs are taken properly. Currently people with HIV infection can have a life expectancy that is only 6 to 8 years less than those who do not have HIV.

The *NSW HIV Strategy 2012-2015 A New Era* (the Strategy) was launched in December 2012. The goal of the Strategy is to work towards the virtual elimination of HIV transmission by 2020. The impetus behind the Strategy has come from recent evidence showing that the people with HIV infection who are on HIV treatment have a greatly reduced risk of transmitting HIV to their sexual partners. The Strategy focuses on: promoting condom use, safe injecting and risk reduction behaviour among priority populations; improving access to HIV testing for those who need it; and encouraging and supporting people with HIV to start and maintain anti-retroviral treatment.

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

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Results from a randomised clinical trial support early treatment of HIV

On 28 May 2015 The Kirby Institute released a media statement about a major international trial with interim results supporting early treatment of people with HIV infection. The trial, co-ordinated by the Kirby Institute at the University of New South Wales in partnership with three other international research centres, has been stopped ahead of schedule after interim results provided conclusive evidence that immediate treatment of HIV is clinically superior compared with deferred treatment among people with HIV infection and early disease.

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Hepatitis D

One new case of hepatitis D, also called delta hepatitis, was reported this week.

Hepatitis D virus is a defective virus that requires the helper function of the hepatitis B virus to multiply and is therefore only found in people who are infected with hepatitis B. Hepatitis D is the least common but most severe form of viral hepatitis. Over the last 5 years, an average of 11 cases of hepatitis D have been reported in NSW each year.

The symptoms of hepatitis D are similar to hepatitis B, such as: a mild flu-like illness, a yellowing of the skin and eyes (jaundice), abdominal pain, loss of appetite, nausea and vomiting, dark urine and fatigue. Hepatitis D is found in blood and is spread in similar ways to hepatitis B. Infection can occur through sharing injecting equipment, or through needle stick or sharps injuries. It is less common for hepatitis D to be spread through sexual contact, or mother to baby transmission compared to hepatitis B.

Hepatitis D infection can occur as a co-infection, which means it occurs at the same time as hepatitis B infection, or it can occur as a super-infection in people who already have chronic hepatitis B.

Most people who are co-infected will clear hepatitis D and never develop chronic hepatitis D infection. However, some people who are co-infected with hepatitis B and hepatitis D may

experience a more serious acute illness and have a higher risk (2%–20%) of developing acute liver failure compared to people infected with hepatitis B alone.

People with chronic hepatitis B who are infected with hepatitis D (super-infection) usually develop chronic (long term) hepatitis D infection and have a higher risk of developing chronic liver disease and cirrhosis (scarring of the liver) than those infected with hepatitis B alone.

Co-infection with hepatitis D can be prevented through hepatitis B vaccination.

There is no medication or vaccine to prevent hepatitis D super-infection in people with chronic hepatitis B. Prevention of hepatitis D super-infection can only be achieved through education to reduce exposure to infectious blood.

For more information on hepatitis D, go to the hepatitis australia website.

Follow the links for more information on hepatitis B and vaccination.

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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 18 May to 24 May 2015, by date received.

		Weekly		Year to date			Full Year	
		This week	Last week	2015	2014	2013	2014	2013
Enteric Diseases	Cryptosporidiosis	9	25	551	232	861	428	1132
	Giardiasis	57	73	1624	1412	1128	2942	2242
	Hepatitis A	1	1	47	35	34	80	62
	Rotavirus	10	3	143	159	182	714	508
	Salmonellosis	59	77	2243	2377	1897	4304	3483
	Shigellosis	1	3	71	110	56	210	136
Respiratory Diseases	Influenza	72	96	1771	1241	712	20888	8403
	Legionellosis	3	3	42	35	41	72	109
	Tuberculosis	3	5	133	175	176	472	444
Sexually Transmissible Infections	Chlamydia	414	491	9295	10089	9225	22899	21086
	Gonorrhoea	64	115	2117	2107	1900	4876	4266
Vaccine Preventable Diseases	Adverse Event Following Immunisation	5	2	77	149	350	255	509
	Mumps	1	0	17	43	44	82	89
	Pertussis	152	137	2578	805	1075	3051	2379
	Pneumococcal Disease (Invasive)	12	6	125	125	174	512	490
Vector Borne Diseases	Barmah Forest	1	5	131	101	230	163	438
	Chikungunya	1	0	21	8	10	27	22
	Dengue	4	2	156	210	117	378	303
	Ross River	23	26	1257	268	277	677	512
Zoonotic	Q fever	4	5	85	77	69	190	163

Notes on Table 1: NSW notifiable conditions

- 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.
- All 'Adverse Event Following Immunisation' reports 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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