

Influenza Monthly Epidemiology Report, NSW

October 2012

Produced by: Population Health Division, NSW Ministry of Health.

This report describes the surveillance for influenza and other respiratory pathogens, undertaken by NSW Health to date. This includes data from a range of surveillance systems.

For weekly communicable disease surveillance updates refer to the Communicable Disease Weekly Report at <http://www.health.nsw.gov.au/publichealth/infectious/index.asp>.

1. Summary

In October 2012:

- Influenza-like illness activity in selected emergency departments was low. The rate was below the usual range for this time of year and well below the peak of activity seen in mid-July.
- ED admissions to critical care units for ILI and pneumonia decreased and are within the usual range for this time of year.
- Laboratory testing data showed that influenza A activity is sporadic, while influenza B activity continues to decline having reached its peak mid September.
- The rate of deaths due to pneumonia or influenza remained below the seasonal threshold

2. Emergency Department (ED) presentations

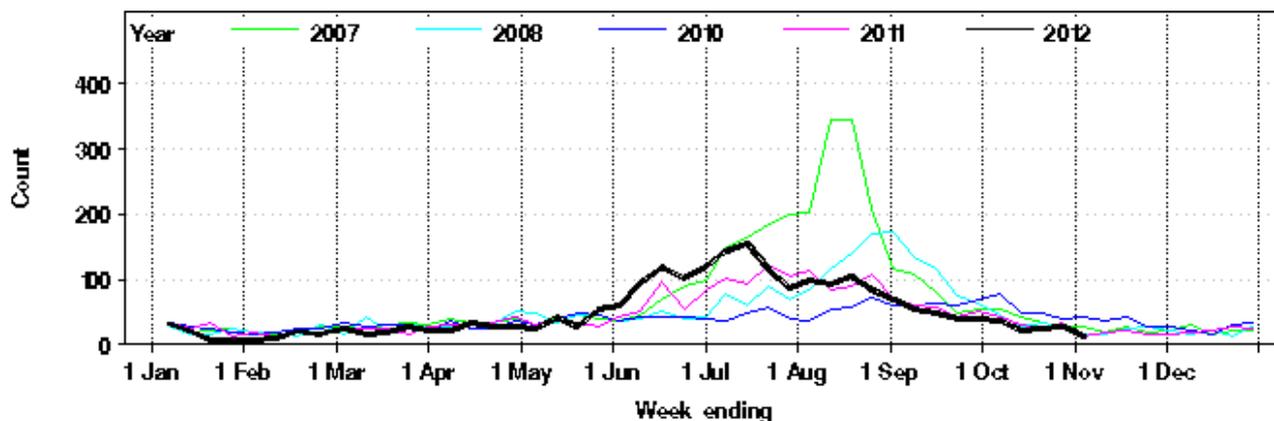
Data from 59 NSW emergency departments are included. Comparisons are made with data for the preceding six years. Recent counts are subject to change.

Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) managed by the Centre for Epidemiology and Evidence, NSW Ministry of Health.

Presentations for influenza-like illness

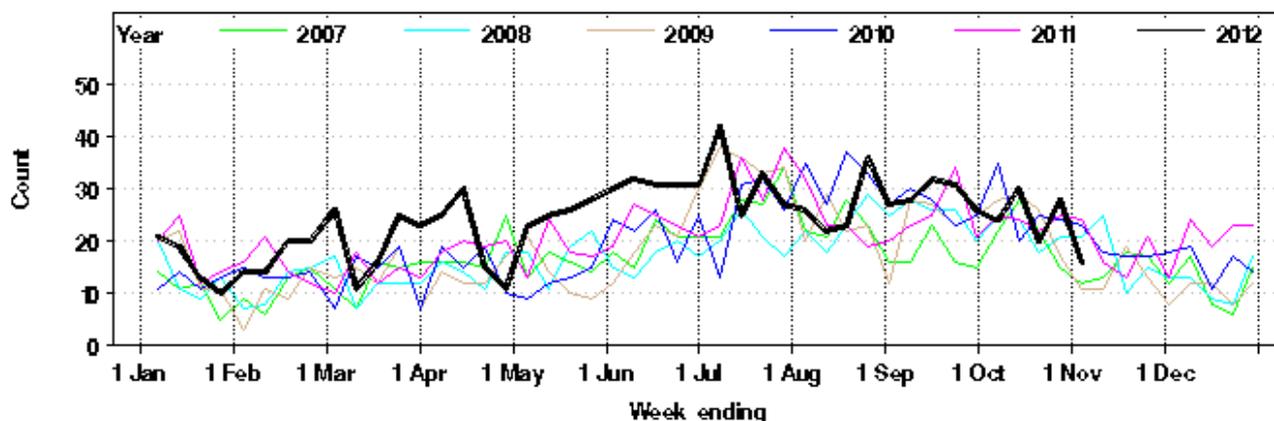
- In October 2012 there were 141 presentations with influenza-like illness (rate 0.7 per 1,000 presentations) (Figure 1). This is lower than the previous month (September – 195 presentations, rate 1.2 per 1,000 presentations), and similar to the count of 142 (rate 0.8 per 1,000 presentations) for the month of October in 2011 but within the historical average for October.
- Total admissions from ED to critical care units for influenza-like illness and pneumonia continued to decrease over the period of October and were within the usual range for this time of year (Figure 2).

Figure 1: Total weekly counts of Emergency Department visits for influenza-like illness, from January – November 2012 (black line), compared with each of the 5 previous years (coloured lines), for 59 NSW hospitals.*



* **Note:** Excludes 2009 data to enable comparison of 2012 data with data from previous non-pandemic years. Data shown includes ED presentations up to 4 November 2012.

Figure 2: Total weekly counts of Emergency Department visits for pneumonia and influenza-like illness, which were subsequently admitted to a critical care ward, from January – November 2012 (black line), compared with each of the 5 previous years (coloured lines), for 59 NSW hospitals.



* **Note:** Data shown includes ED presentations up to 14 October 2012

3. Laboratory testing summary for influenza

In October 2012:

- 3920 tests for respiratory viruses were performed at sentinel NSW laboratories (Table 1).
- 29 specimens tested positive for influenza A – 12 tested positive for influenza A (H3N2) and four tested positive for A (pH1N1). The remainder tested negative to influenza A (pH1N1) and are assumed to be A (H3N2) (Table 1, Figure 3).
- 150 cases of influenza B were reported (Table 1, Figure 3).
- During October, influenza A activity was sporadic and the number of tests positive for influenza B continued to decrease throughout the month

Influenza virus activity continues to decline and is no longer the dominant respiratory virus identified by NSW sentinel laboratories.

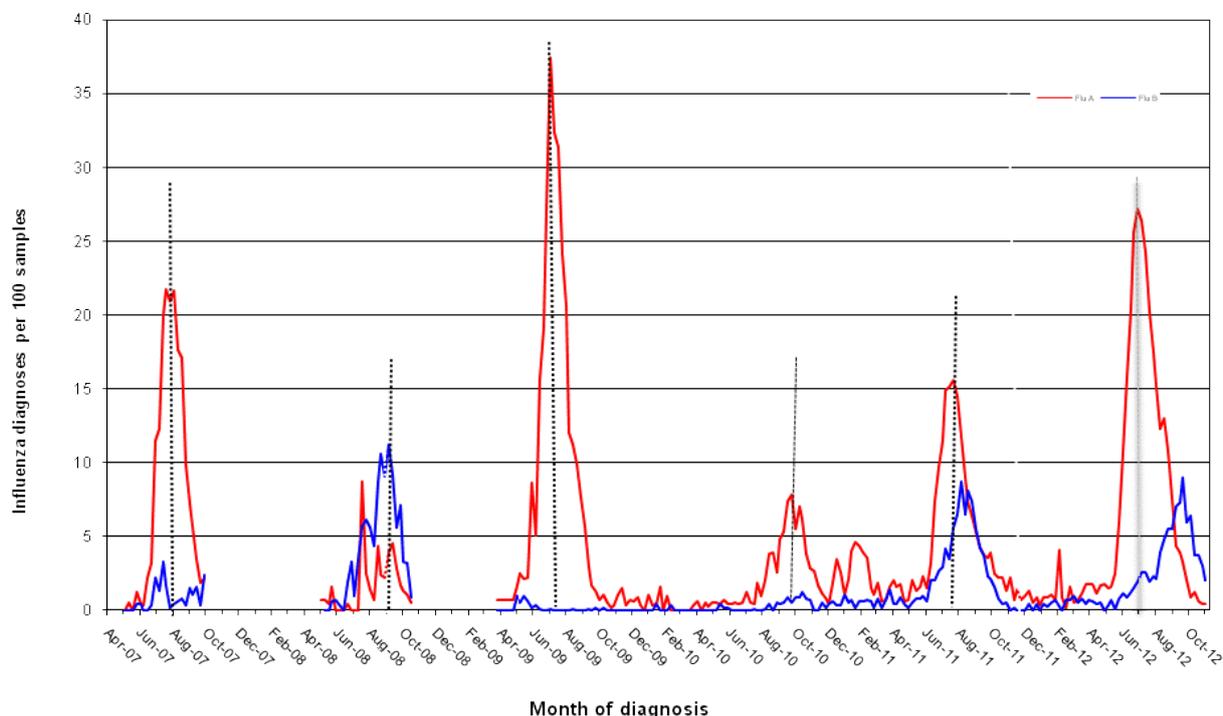
Table 1: Summary of testing for respiratory viruses and influenza at NSW laboratories 1 January to 2 November 2012.

Month ending	Total Tests	Influenza A		A(H3N2)		A(pH1N1)		Influenza B		Adeno.	Parainf. 1, 2 & 3	RSV	Rhino.	Entero.	HMPV**
		Total	(%)	Total	(% Flu A) *	Total	(% Flu A) *	Total	(%)						
27/01/2012	1617	14	(0.9%)	6	(42.9%)	4	(28.6%)	7	(0.4%)	37	60	38	119	64	36
02/03/2012*	2520	31	(1.2%)	12	(38.7%)	1	(3.2%)	15	(0.6%)	44	65	156	224	128	30
30/03/2012	2573	36	(1.4%)	25	(69.4%)	3	(8.3%)	16	(0.6%)	59	79	269	263	114	40
27/04/2012	2857	46	(1.6%)	31	(67.4%)	5	(10.9%)	11	(0.4%)	65	63	422	231	114	28
01/06/2012*	4394	209	(4.8%)	166	(79.4%)	2	(1.0%)	30	(0.7%)	91	76	574	463	170	31
29/06/2012	5704	1316	(23.1%)	613	(46.6%)	2	(0.2%)	84	(1.5%)	96	68	558	535	16	53
27/07/2012	6818	1552	(22.8%)	982	(63.3%)	5	(0.3%)	159	(2.3%)	138	70	551	552	13	88
31/08/2012*	7781	915	(11.8%)	556	(60.8%)	10	(1.1%)	344	(4.4%)	165	145	515	577	34	189
28/09/2012	5096	178	(3.5%)	94	(52.8%)	6	(3.4%)	373	(7.3%)	162	201	239	477	24	203
02/11/2012*	3920	29	(0.7%)	12	(41.4%)	4	(13.8%)	150	(3.8%)	139	256	108	475	16	154
Week ending															
05/10/2012	891	8	(0.9%)	2	(25.0%)	0	(0.0%)	49	(5.5%)	27	34	32	89	7	52
12/10/2012	859	10	(1.2%)	3	(30.0%)	0	(0.0%)	32	(3.7%)	34	55	30	98	2	36
19/10/2012	819	5	(0.6%)	3	(60.0%)	2	(40.0%)	30	(3.7%)	32	70	21	112	6	33
26/10/2012	698	3	(0.4%)	2	(1.0%)	1	(33.3%)	21	(3.0%)	25	54	13	94	1	19
02/11/2012	653	3	(0.5%)	2	(1.0%)	1	(33.3%)	18	(2.8%)	21	43	12	82	0	14

** Subset of influenza A cases *** HMPV = Human metapneumovirus

Note: Data is provided by laboratories on a weekly basis. Excludes point of care tests. Influenza laboratory diagnoses using virology are reported by South Eastern Area Laboratory Services (SEALS), Institute of Clinical Pathology and Medical Research (ICPMR), The Children's Hospital at Westmead (CHW), South West Area Pathology Services (SWAPS), Pacific Laboratory Medicine Services (PaLMS), Royal Prince Alfred Hospital (RPAH), Hunter Area Pathology Service (HAPS), St Vincent's (SydPath), Nepean, Douglas Hanley Moir (DHM), VDRLab.

Figure 4: Percent of laboratory tests positive for influenza A and influenza B, 1 January 2007 – 2 November 2012, New South Wales.



Note: Data is provided by laboratories on a weekly basis. Excludes point of care tests. Influenza laboratory diagnoses using virology are reported by South Eastern Area Laboratory Services (SEALS), Institute of Clinical Pathology and Medical Research (ICPMR), The Children's Hospital at Westmead (CHW), South West Area Pathology Services (SWAPS), Pacific Laboratory Medicine Services (PaLMS), Royal Prince Alfred Hospital (RPAH), Hunter Area Pathology Services (HAPS), St Vincent's (SydPath), Nepean (no data between Oct 2010 to June 2011), Douglas Hanley Moir (DHM), VDRLab from 5 March 2010, Laverty (data from 1 April 2010 to February 2011) and St Vincent's (data since November 2010).

4. Deaths with pneumonia or influenza reported on the death certificate

Deaths registration data is routinely reviewed for deaths attributed to pneumonia or influenza. While pneumonia has many causes, a well-known indicator of seasonal and pandemic influenza activity is an increase in the number of death certificates that mention pneumonia or influenza as a cause of death.

The predicted seasonal baseline estimates the predicted rate of influenza or pneumonia deaths in the absence of influenza epidemics. If deaths exceed the epidemic threshold, then it may be an indication that influenza is beginning to circulate widely.

For the week ending 19 October:

- There were 1.18 pneumonia or influenza deaths per 100,000 NSW population, which is below the epidemic threshold of 1.49 per 100,000 population (Figure 4).*
- Between 1 July and 19 October 2012, out of 17020 deaths there were 31 death certificates mentioning influenza, and 1912 mentioning pneumonia. The majority of these influenza and pneumonia deaths were in persons aged greater than 65 years.
- The updated data on pneumonia and influenza deaths indicates that the rate of deaths in this category was above the epidemic threshold for most of July. As expected, the increase in the death rate has mirrored the increases seen in laboratory isolations of influenza and Emergency Department ILI activity, but with a delay of one to two weeks.

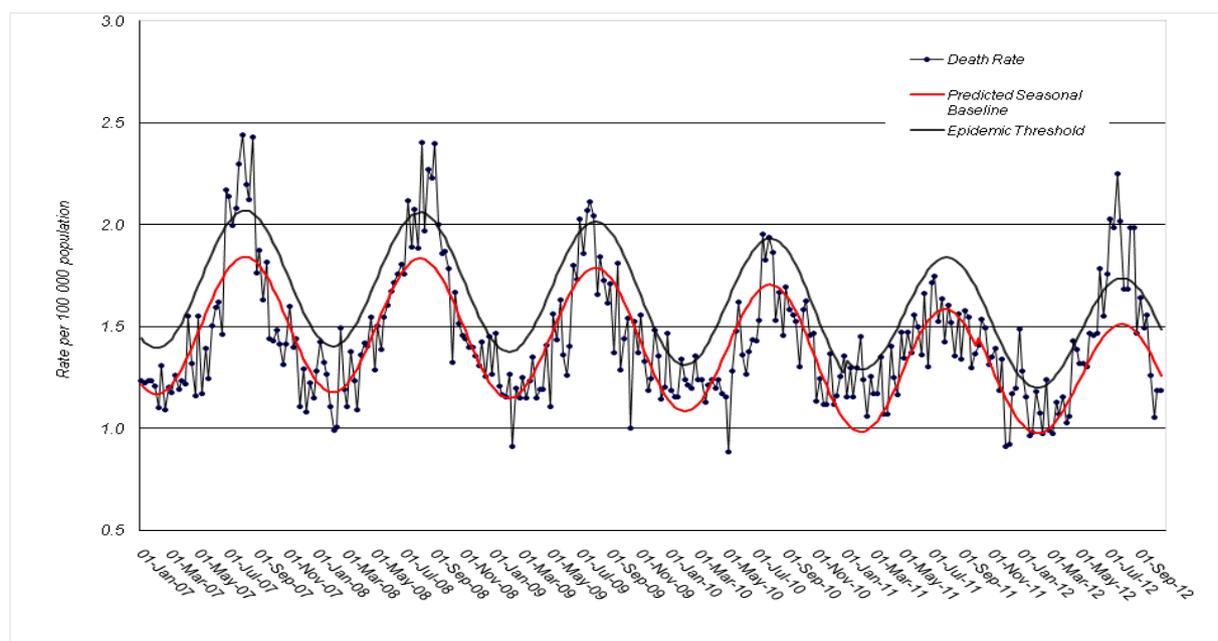


Figure 5: Rate of deaths classified as influenza and pneumonia (by NSW Registered Death Certificates) per 100,000 NSW population, 2007-2012

Source: NSW Registry of Births, Deaths and Marriages.

* Notes on interpreting death data:

- (1) The number of deaths mentioning "Pneumonia or influenza" is reported as a rate per 100,000 NSW population. Using the NSW population provides a more stable and reliable denominator than deaths from all causes. This is because pneumonia and influenza are known to contribute to increases in deaths from non-respiratory illnesses, such as deaths due to ischaemic heart disease. As the number of these deaths will increase with rises in influenza activity, the actual effect of influenza on mortality rates will be obscured if all-cause mortality is used as the denominator. This limitation is avoided by using the NSW population, which is relatively constant throughout the year, as the denominator.

- (2) Deaths referred to a coroner during the reporting period may not be available for analysis. Deaths in younger people may be more likely to require a coronial inquest. Therefore influenza-related deaths in younger people may be under-represented in these data.
- (3) The interval between death and death data availability is usually at least 7 days, and so these data are one week behind reports from emergency departments and laboratories. In addition, previous weekly rates may also change due to longer delays in reporting some deaths.

5. WHO recommendation for the 2013 southern hemisphere influenza vaccine

The WHO Consultation on the Composition of Influenza Vaccines for the Southern Hemisphere 2013 was held in Beijing on 17-19 September 2012. Following the Consultation, WHO made the following recommendation:

It is recommended that trivalent vaccines for use in the 2013 influenza season (southern hemisphere winter) contain the following:

- *an A/California/7/2009 (H1N1)-like virus;*
- *an A/Victoria/361/2011 (H3N2)-like virus*
- *a B/Wisconsin/1/2010-like virus.*

6. National and International Influenza Surveillance and Links

Novel Swine-Origin triple reassortant H3N2 viruses in the United States

Up to 2 November, the US CDC reported that multiple human infections with variant influenza A (H3N2v) viruses had been identified across 13 US states, bringing the total to 319 cases since it was first reported July 2011. Since July 2012, 16 cases have required hospitalisation and there has been one death reported.

See updated weekly case counts at: <http://www.cdc.gov/flu/swineflu/h3n2v-case-count.htm>).

Links to Other Influenza Surveillance

Australian Influenza Surveillance Reports:

<http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-ozflu-2012.htm>

World Health Organization Influenza Updates:

<http://www.who.int/csr/disease/influenza/en/index.html>

WHO Collaborating Centre for Reference and Research on Influenza (Melbourne):

<http://www.influenzacentre.org/index.htm>