

# Influenza Weekly Epidemiology Report, NSW

29 September to 5 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

For the week ending 5 October 2012:

- The influenza-like illness (ILI) presentation rate to selected emergency departments (ED) was similar to that of last week. 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 this week and were within the usual range for this time of year.
- Laboratory testing data showed that influenza A activity continued to decline from its peak in late June, while influenza B activity has also declined having reached its peak mid September.
- As of 14 September, the population death rate for influenza and pneumonia increased slightly but was below the epidemic threshold.
- WHO makes vaccine composition recommendations for use in the 2013 southern hemisphere influenza season.

## 2. Emergency Department (ED) presentations

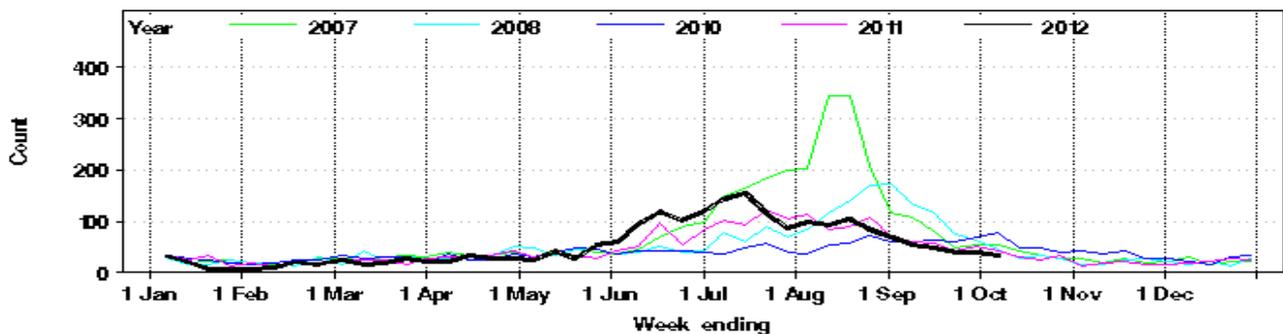
Data from 59 NSW emergency departments (ED) are included. Comparisons are made with data for the preceding five years. Recent counts are subject to change.

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 and other respiratory illness

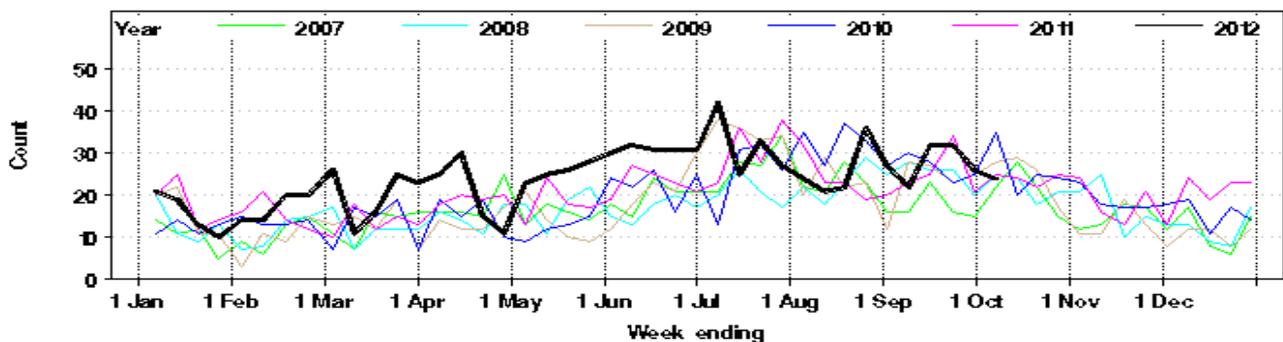
- The total number of patients presenting to ED with influenza-like illness (ILI) was similar to the previous week (rate of 0.9 cases per 1000 presentations) and was below the usual range for this time of year (Figure 1 and Table 1).
- The total number of admissions from ED to critical care units for ILI and pneumonia decreased further this week and are 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 – October 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 7 October 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 – October 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 7 October 2012.

**Table 1:** Weekly ED and Ambulance Respiratory Activity Summary. Includes 59 NSW EDs and Sydney Ambulance Division.

Data source	Diagnosis or problem category	Trend since last week	Overall comparison with usual range for time of year	Statistically significant age groups (if any)	Statistically significant local increase (if any)	Action other than this report (if any)	Comment
ED presentations, 59 NSW hospitals*	Influenza like illness (ILI)	Decreased	Below				
	Pneumonia	Decreased	Usual				
	Pneumonia and ILI admissions	Decreased	Usual				
	Pneumonia and ILI critical care admissions	Decreased	Usual				
	Bronchiolitis	Decreased	Above				
	Respiratory, fever and unspecified infections	Decreased	Usual				
	Asthma	Decreased	Below				
	Total presentations	Steady	Above				6% above the same week last year
Ambulance calls, Sydney region	Breathing problems	Increased	Above				

**Notes on Table 1:**

- (1) Statistically significant increases are shown in bold.
- (2) This report summarises activity from 59 Emergency Departments (EDs) across NSW and the Sydney Ambulance Operations Region. It provides information on general respiratory activity. Recent activity counts are subject to change.
- (3) This is a routine general report for information on respiratory activity, and is additional to public health situation reports that advise of unusual increases in activity in particular provisional ED diagnosis groupings or Ambulance problem categories. It is prepared by the Centre for Epidemiology and Intelligence.

### 3. Laboratory testing summary for influenza

For the week ending 5 October 2012:

- A total of 891 tests for respiratory viruses were performed at sentinel NSW laboratories (Table 2) with 6.4% testing positive for influenza.
- Influenza A: 8 specimens (0.9%) tested positive (Table 2, Figure 4). Of these:
  - 2 (25%) tested positive for influenza A(H3N2)
  - The remainder tested negative to influenza A(pH1N1) and are assumed to have been A(H3N2)
- Influenza B: 49 specimens (5.5%) tested positive (Table 2, Figure 4).
- The proportion of respiratory specimens positive for influenza A was low, influenza B activity decreased further having peaked mid-September.

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

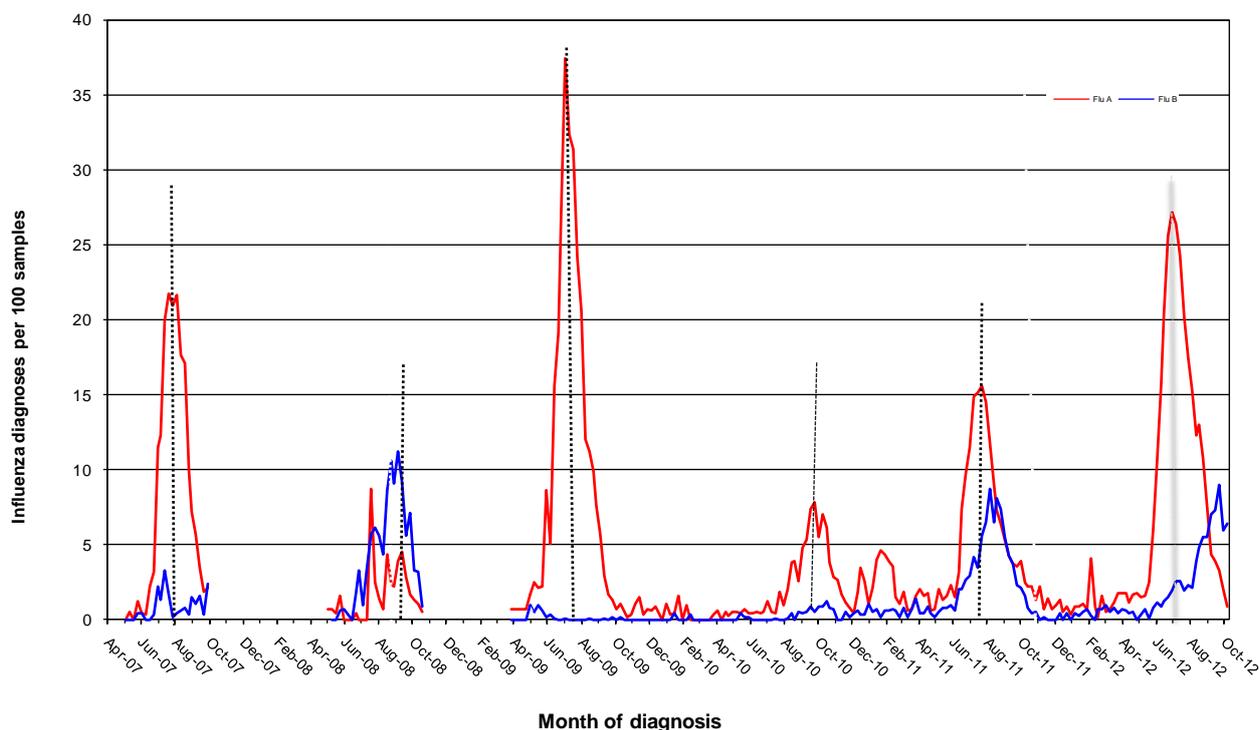
**Table 2:** Summary of testing for influenza and other respiratory viruses at NSW laboratories, 1 January to 5 October 2012.

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
<b>Week ending</b>															
05/10/2012	891	8	(0.9%)	2	(25.0%)	0	(0.0%)	49	(5.5%)	27	34	32	89	7	52

\* 5 week period; \*\* HMPV = Human metapneumovirus

**Note:** Data is provided by laboratories on a weekly basis. Includes point of care tests as of 10 August 2012. 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), Sydney South West Area Services (SSWPS), 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 respiratory samples positive for influenza A or influenza B, 1 January 2007 – 5 October 2012, New South Wales.



**Note:** Data is provided by laboratories on a weekly basis. Includes point of care tests as of 10 August 2012. 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), Sydney South West Pathology Services (SSWPS), 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).

### 3. 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.

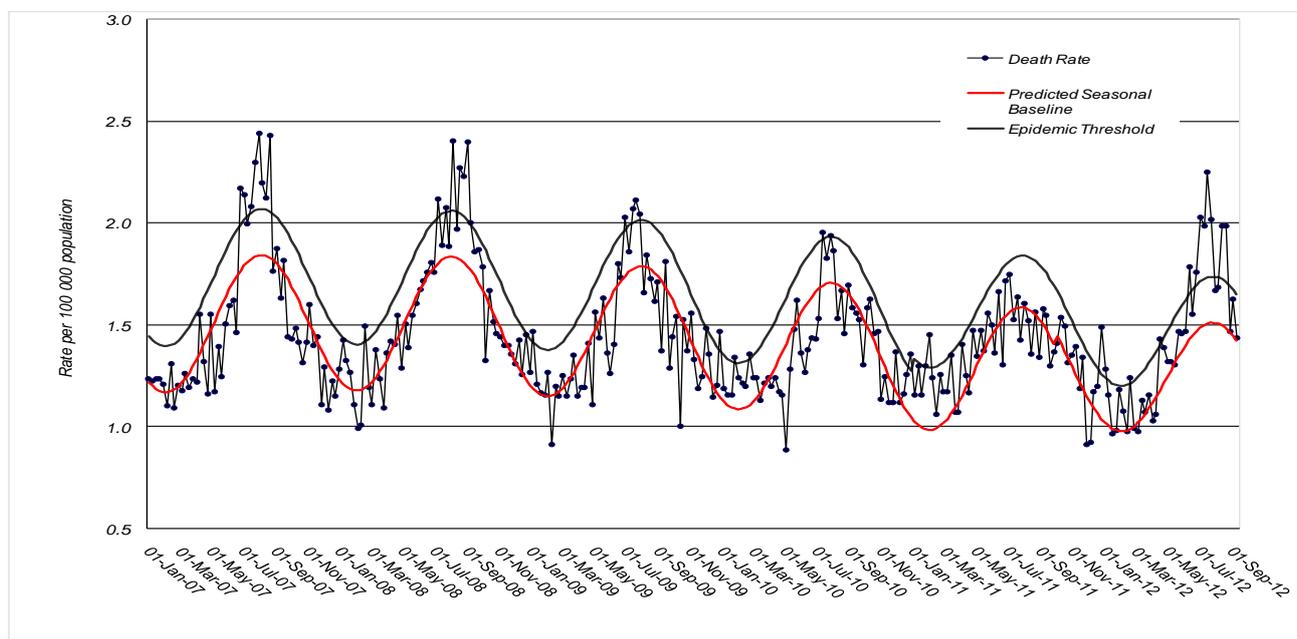
The predicted seasonal baseline estimates the predicted rate of influenza or pneumonia deaths in the absence of influenza epidemics. If deaths exceed the epidemic threshold, then it may be an indication that influenza is beginning to circulate widely.

For the week ending 14 September:

- There were 1.43 pneumonia or influenza deaths per 100,000 NSW population, which is below the epidemic threshold of 1.65 per 100,000 population (Figure 5).\*
- Between 1 July and 14 September 2012, out of 12206 deaths there were 28 death certificates mentioning influenza, and 1450 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.

#### 4. 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.

#### 5. National and International Influenza Surveillance and Links

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

Up to 5 October, 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>