

Influenza Weekly Epidemiology Report, NSW

14 to 20 July 2012

Produced by: Public and 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 20 July 2012:

- The influenza-like illness (ILI) presentation rate to selected emergency departments (ED) decreased and was within the usual range for this time of year.
- ED admissions to critical care units for ILI and pneumonia continued to decrease this week, but were within the usual range for this time of year.
- In the over 65 years age-group, ED presentations and admissions continued to be higher than usual for a range of respiratory illness categories including ILI.
- There has been an increase in reports of respiratory outbreaks due to influenza A in aged care facilities.
- Laboratory testing data shows that influenza A(H3N2) activity remains high but is declining.
- Almost all circulating influenza A (H3N2) viruses are A/Victoria/361/2011-like. The WHO Collaborating Centre for Reference and Research on Influenza advises that current influenza vaccines are likely to induce significant protection against this new H3N2 lineage.
- The population death rate for influenza and pneumonia was below the epidemic threshold.

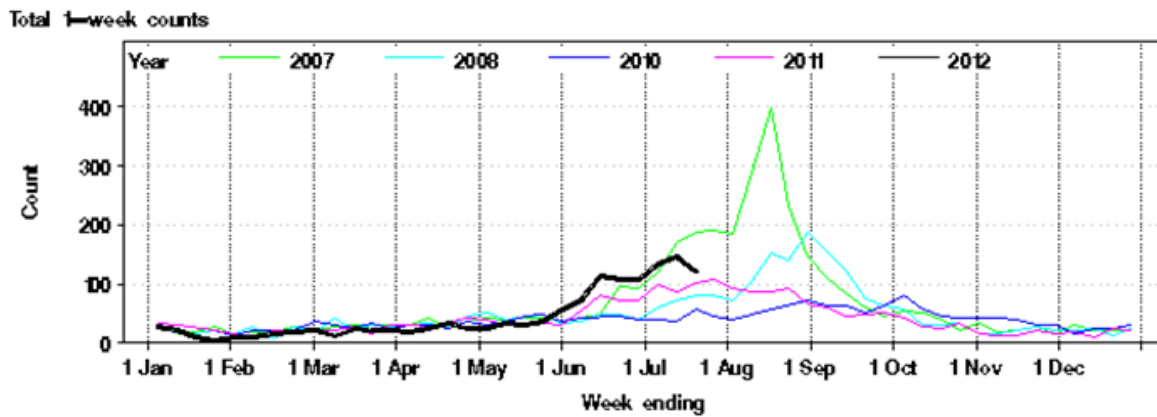
2. Emergency Department (ED) presentations

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.

Presentations for influenza-like illness and other respiratory illness

- The total number of patients presenting to ED with influenza-like illness (ILI) decreased this week (rate of 3.3 cases per 1000 presentations) and is within the usual range for this time of year (Figure 1 and Table 1). However, ED presentations in the over 65 years age group remain higher than the usual range for this time of year.
- Total admissions from ED to for ILI and pneumonia have decreased but remain above previous years (except 2009), particularly in the over 65 years age group (Table 1).
- Total admissions from ED to critical care units for ILI and pneumonia have continued to decrease and are now within the usual range for this time of year (Figure 2).
- The number of patients presenting with any respiratory illness declined compared with the previous week and counts was within the usual range of recent years. However, the number of presentations for patients over the age of 65 years was almost a third higher than usual for this time of year.

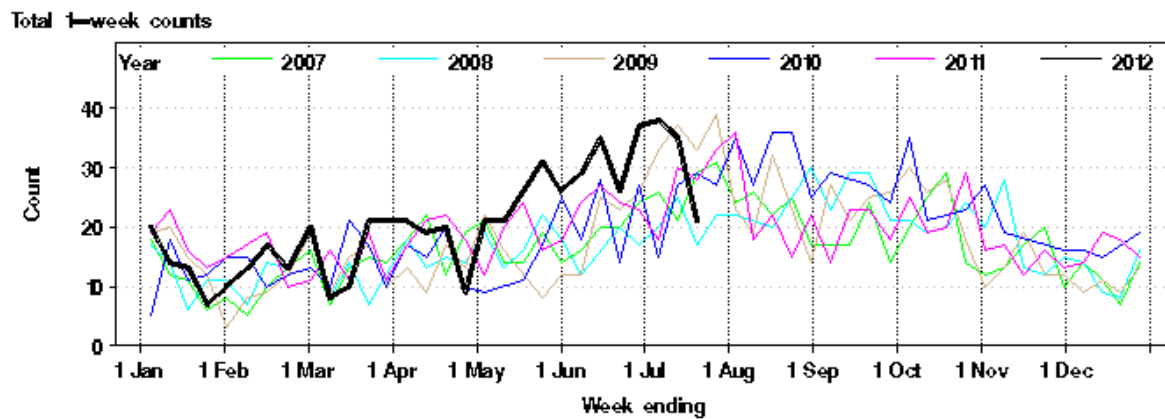
Figure 1: Total weekly counts of Emergency Department visits for influenza-like illness, from January – July 2012 (black line), compared with each of the 5 previous years (coloured lines) excluding 2009, for 59 NSW hospitals.*



* **Note:** Excludes data from 2009 to enable easier comparison of 2012 data with data from previous non-pandemic years.

Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the Centre for Epidemiology and Intelligence, NSW Health Centre for Population Health.

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 – July 2012 (black line), compared with each of the 5 previous years (coloured lines), for 59 NSW hospitals.



Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the Centre for Epidemiology and Intelligence, NSW Health Centre for Population Health.

Table 1: Weekly Emergency Department and Ambulance Respiratory Activity Summary. Includes 59 NSW Emergency Departments (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	Above previous years except 2007 and 2009		Shoalhaven Hospital		Shoalhaven was above peak levels in previous years.
	Pneumonia	Decreased	Above previous years except 2009	65+ years	Concord Hospital		
	Pneumonia and ILI admissions	Decreased	Above previous years except 2009	65+ years			In over 65 year-olds, levels were 39% higher than usual for this time of year.
	Pneumonia and ILI critical care admissions	Decreased	Usual				
	Bronchiolitis	Decreased	Usual				
	Respiratory, fever and unspecified infections	Decreased	Usual	65+ years			In over 65 year-olds, levels were 31% higher than usual for this time of year.
	Asthma	Decreased	Usual				
	Total presentations	Decreased	12% above 2011. In 65+ years, 13% above 2011.				Total inpatient admissions from ED, and those in over 65 year-olds were 7% above 2011.
Ambulance calls, Sydney region	Breathing problems	Decreased	Usual				

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 Research.

3. Laboratory testing summary for influenza

For the week ending 20 July:

- A total of 1769 tests for respiratory viruses were performed at sentinel NSW laboratories (Table 2) with 22.2% testing positive for influenza.
- Influenza A: 358 specimens (20.2%) tested positive (Table 2, Figure 4). Of these:
 - 235 (66%) tested positive for influenza A(H3N2)
 - One tested positive for influenza A(pH1N1). The remainder tested negative to influenza A(pH1N1) and are assumed to have been A(H3N2)
- Influenza B: 35 specimens (2.0%) tested positive (Table 2, Figure 4).
- The proportion of respiratory specimens positive for influenza A decreased compared to the previous week, and continued a downward trend. Influenza A detections remain much higher than for the same period in the past two years.

Influenza A(H3N2) continues to be the dominant respiratory virus identified by NSW laboratories.

Laboratory confirmed Influenza outbreaks in residential facilities

There were five respiratory outbreaks in aged care facilities reported this week which were associated with influenza A.

In 2012 (up to week ending 20 July), there have been 12 laboratory confirmed influenza A outbreaks in institutions have been reported to NSW Public Health Units. All but one outbreak occurred in an aged care facility. At least 92 residents were reported to have had ILI symptoms and 11 required hospitalisation. Four deaths in residents linked to the outbreaks have been reported, all of whom were noted to have other significant co-morbidities.

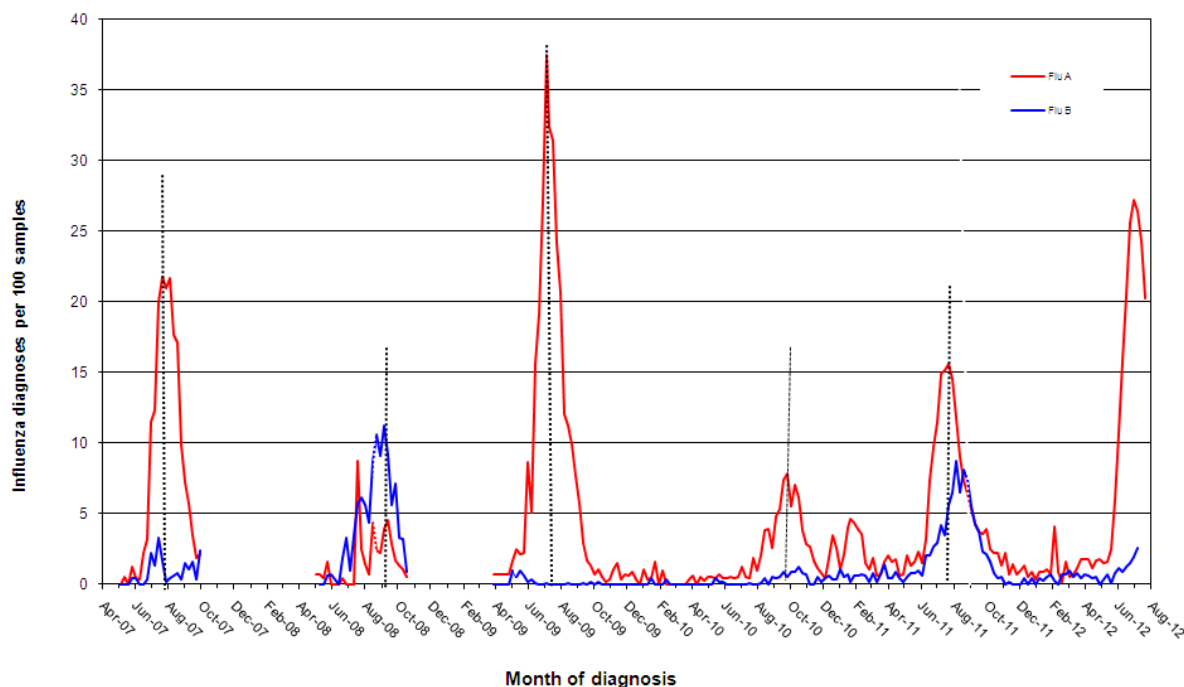
Table 2: Summary of testing for influenza and other respiratory viruses at NSW laboratories, 1 January to 20 July 2012.

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
1/06/2012	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
Week ending															
6/07/2012	1736	459	(26.4%)	277	(60.3%)	0	(0.0%)	44	(2.5%)	34	13	146	136	4	11
13/07/2012	1736	459	(26.4%)	290	(63.2%)	1	(0.2%)	44	(2.5%)	34	13	146	136	4	11
20/07/2012	1769	358	(20.2%)	235	(65.6%)	1	(0.3%)	35	(2.0%)	30	20	144	149	1	31

* Subset of influenza A positive tests; ** 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), 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 – 20 July 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), 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).

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

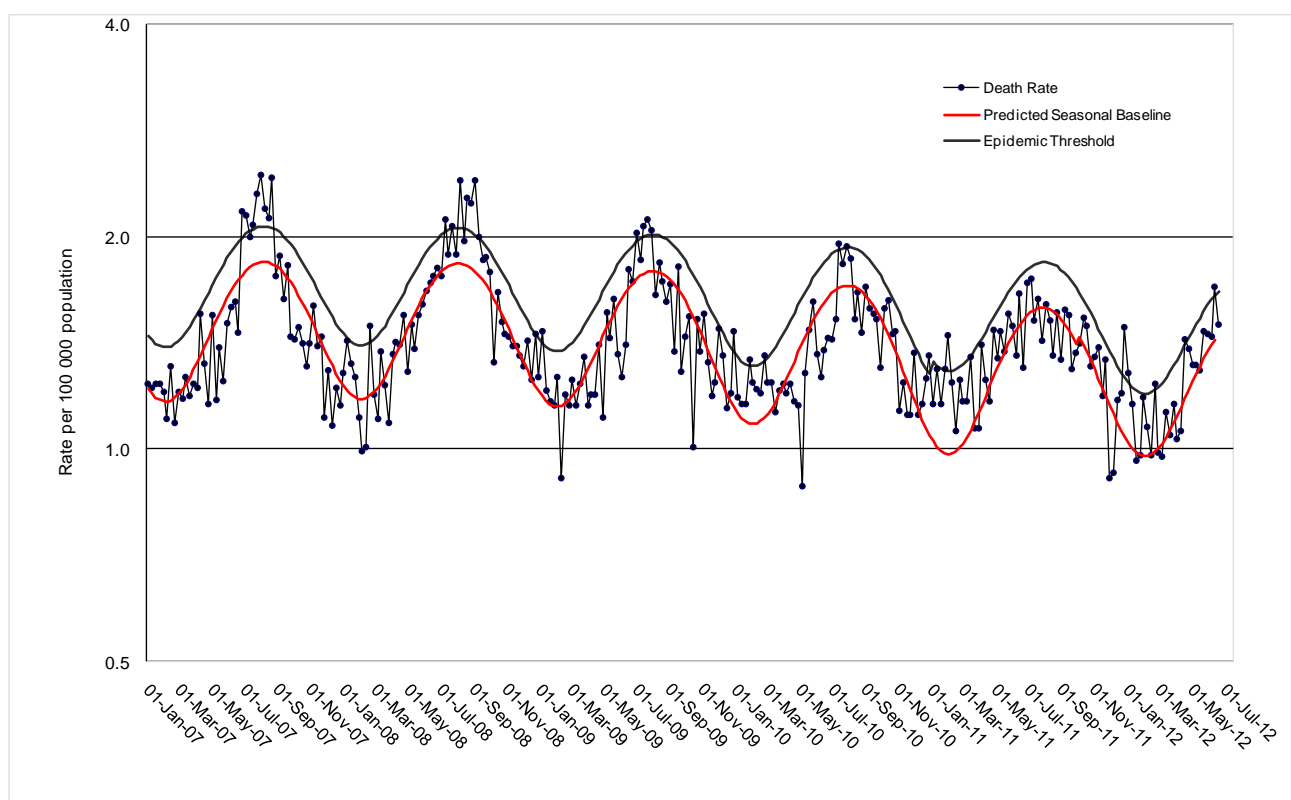
Deaths registration data is routinely reviewed for deaths attributed to pneumonia or influenza. While pneumonia has many causes, a well-known indicator of seasonal and pandemic influenza activity is an increase in the number of death certificates that mention pneumonia or influenza as a cause of death.

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 06 July:

- There were 1.2 pneumonia or influenza deaths per 100,000 NSW population, below the epidemic threshold of 1.7 per 100,000 population (Figure 5).*

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. National and International Influenza Surveillance Links

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>