

Influenza Weekly Epidemiology Report, NSW

11 to 17 June 2011

Produced by: Population Health Division, NSW Health.

This report describes the surveillance data collected for influenza and other respiratory pathogens, collected by NSW Health during the reporting period to identify changing trends in disease activity. This includes data collected from Emergency Department presentations data, sentinel laboratory testing data, and death registry data. Links are also provided at the end of the report to national and international influenza surveillance reports.

Information on the number of laboratory-confirmed influenza cases notified to NSW Health is available at the following website: <http://www.health.nsw.gov.au/data/diseases/influenza.asp>. Notified cases are likely to represent only a small proportion of the true number of influenza cases in the community as most cases are not confirmed by laboratory testing.

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

1. Summary

For the week ending 17 June 2011:

- The rate of influenza-like illness (ILI) presentations to selected emergency departments (EDs) increased to a level above the usual range for this time of year.
- Laboratory data indicated overall influenza activity increased substantially and to a level higher than is usual for this time of year; influenza A(H1N1)2009, influenza A(H3N2), and influenza B continued to co-circulate.
- Respiratory syncytial virus (RSV) and influenza were the most common respiratory viruses identified by sentinel laboratories.

The available influenza surveillance data is consistent with an early onset of the winter influenza season but this will need to be confirmed in the coming weeks.

2. Emergency Department (ED) presentations

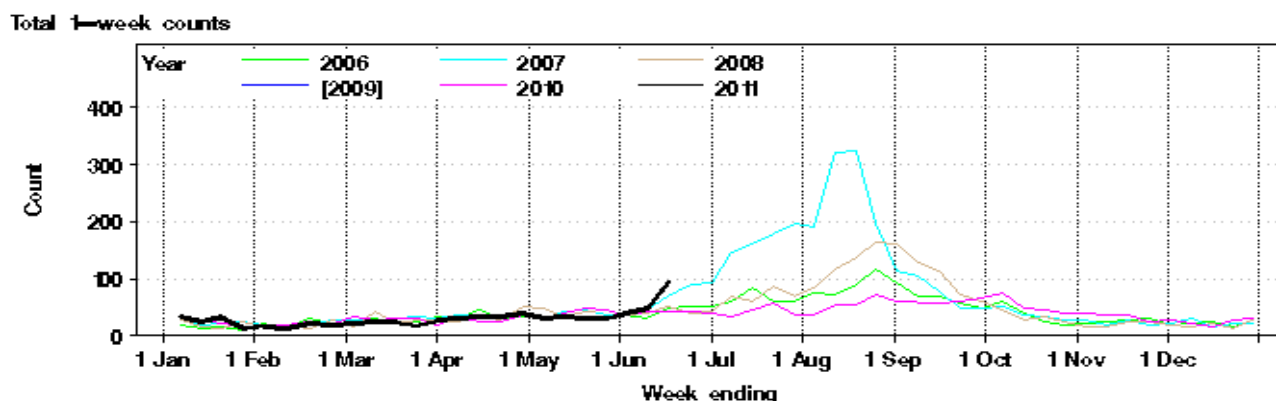
Data from 56 NSW emergency departments are included. Comparisons are made with data for the preceding six years. Recent counts are subject to change.

For the week ending 17 June 2011:

- ILI presentations to EDs continued to trend up this week (Figure 1). There were 2.6 cases per 1000 presentations this week which was double the rate of the previous week and higher than the usual range seen in previous years.
- A high proportion (79%) of ILI presentations were reported in people aged 5 to 54 years.
- Bronchiolitis presentations increased further this week but were within the normal range for this time of year (Figure 2), equal to a rate of 7.7 per 1000 presentations.
- While overall pneumonia and ILI admissions decreased slightly this week, admissions to critical care units increased and were slightly above the usual range for this time of year.

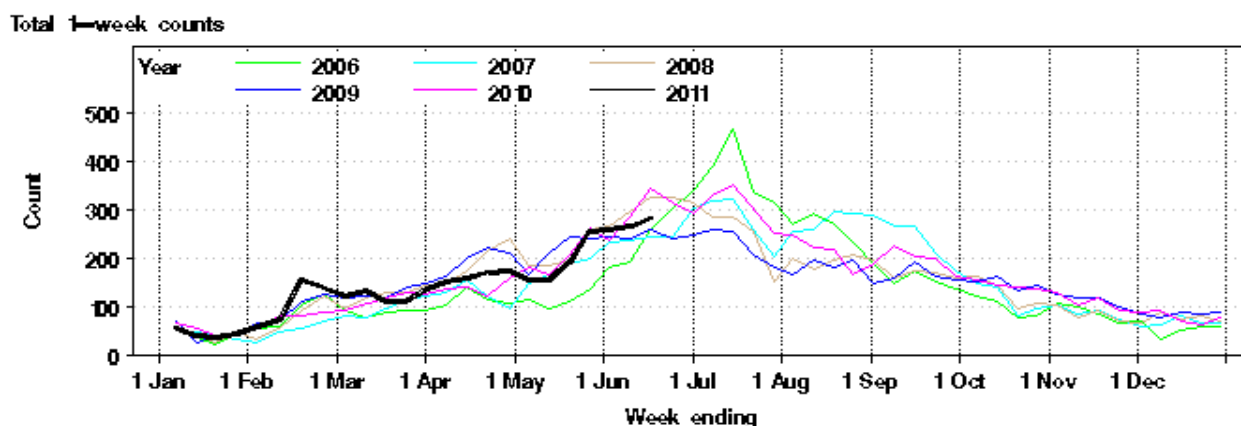
(Figure 3 and Table 1). Presentations to EDs with pneumonia increased further this week and were above the usual range seen at this time of year (Figure 4).

Figure 1: Comparison of weekly influenza-like illness presentations to NSW emergency departments, 2006-2011.



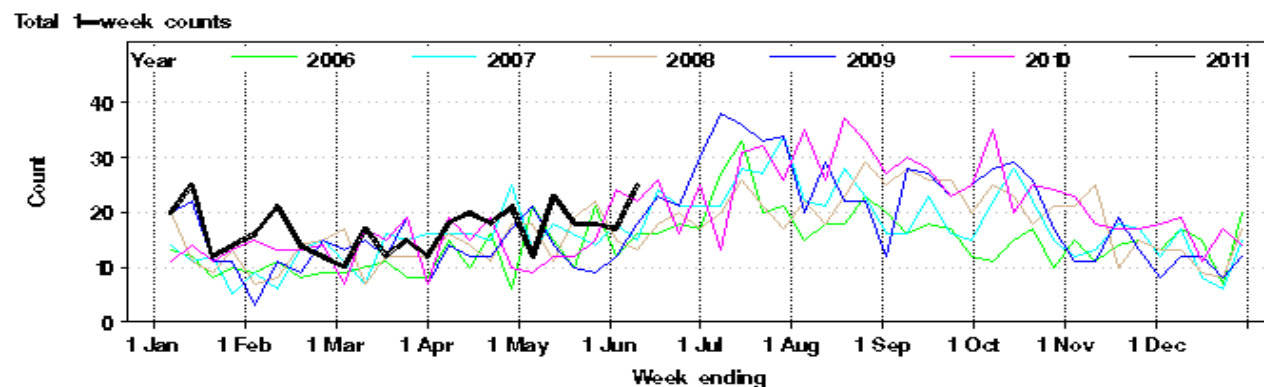
Note: Excludes data from 2009 to enable easier comparison of 2011 data with data from previous non-pandemic years. Includes data from 56 emergency departments. Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the Centre for Epidemiology and Research, NSW Health Department.

Figure 2: Comparison of weekly bronchiolitis presentations to NSW emergency departments, 2006-2011.



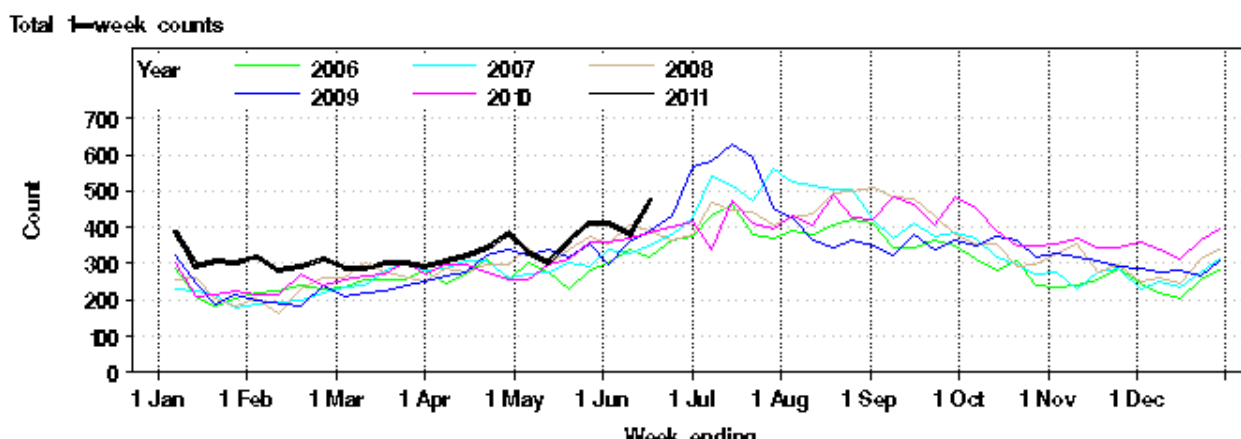
Note: As for Figure 1, although includes 2009

Figure 3: Comparison of weekly admissions to hospital critical care units for influenza-like-illness and pneumonia, 2006-2011.



Note: As for Figure 1, although includes 2009

Figure 4: Comparison of weekly pneumonia presentations to NSW emergency departments, 2006-2011.



Note: As for Figure 1, although includes 2009

Table 1: Weekly Emergency Department and Ambulance Respiratory Activity Summary

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, 56 NSW hospitals	Influenza like illness (ILI)	Increased	Above		HNE LHD, Griffith and Westmead EDs	Situation report sent for NSW, HNE	Counts rose early this year and are at levels consistent with the start of the influenza season
	Pneumonia	Increased	Above		Tamworth, Armidale	Situation report sent for HNE	Admissions for pneumonia or influenza increased significantly in HNE, particularly Tamworth
	Pneumonia and ILI admissions	Decreased	Usual				
	Pneumonia and ILI critical care admissions	Increased	Slightly above				
	Bronchiolitis	Slight increase	Usual				
	Respiratory, fever and unspecified infections	Steady	Usual		Griffith		Possibly related to reported flu-like illness at Griffith
	Total presentations	Steady	Usual				
Ambulance calls, Sydney region	Breathing problems	Steady	Usual				

Notes on Table 1.

- (1) Statistically significant increases are shown in **bold**.
- (2) This report summarises activity from 56 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 for influenza

For the week ending 17 June 2011:

- A total of 941 tests for respiratory viruses were performed at sentinel NSW laboratories and the results are presented in Table 2.

- The total number of positive influenza tests increased further this week and was above the expected level seen for this time of year.
- Seventy specimens tested positive for influenza A – 57 tested positive for A(H1N1)2009 while the remainder tested negative for A(H1N1)2009 and were presumed to be A(H3N2).
- A total of 18 specimens tested positive for influenza B.
- The rate of laboratory tests positive for influenza A (7.0%) was markedly increased from the previous week (Table 2 and Figure 4). The overall rate of tests positive for any influenza (9.4%) was higher than usual range for this time of year.
- RSV also continued to be commonly identified.

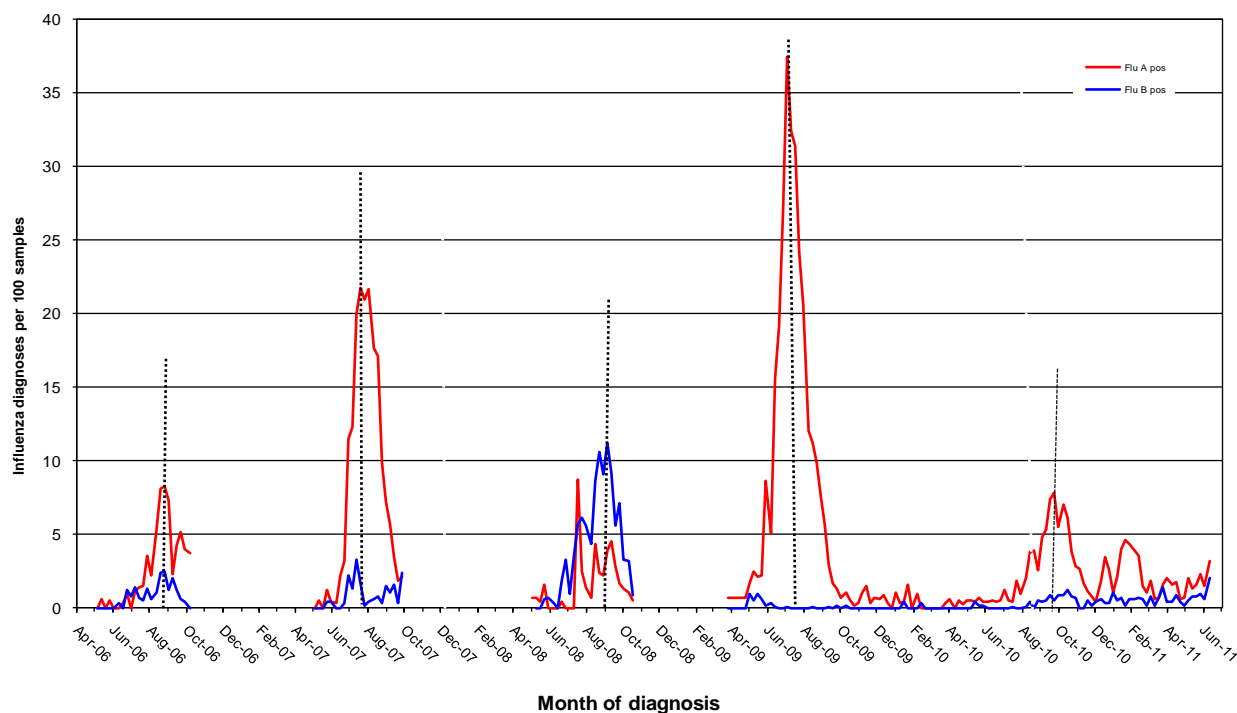
Table 2: Summary of testing for respiratory viruses and influenza at sentinel NSW laboratories, 1 January to 17 June 2011.

Four week period ending	Virology specimens tested	Influenza A (total pos) (%)	H1N1** influenza 09 (total pos) (%)	Influenza B (total pos) (%)	Adenovirus	Parainfluenza 1, 2 & 3	RSV	Rhinovirus	HMPV***
27/01/2011	1572	57 (3.7%)	36 (64%)	6 (0.4%)	22	50	36	97	20
25/02/2011	1842	43 (2.3%)	32 (74%)	9 (0.5%)	20	21	69	180	8
*01/04/2011	2697	36 (1.3%)	26 (72%)	18 (0.7%)	14	40	184	235	13
29/04/2011	2292	27 (1.1%)	14 (52%)	12 (0.5%)	22	36	288	174	29
27/05/2011	2595	49 (1.9%)	30 (61%)	24 (0.9%)	47	46	348	202	16
Week ending									
03/06/2011	917	13 (1.4%)	10 (77%)	5 (0.6%)	19	10	134	38	11
10/06/2011	926	29 (3.1%)	22 (76%)	17 (0.2%)	17	14	119	51	10
17/06/2011	941	70 (7.4%)	57 (81%)	18 (0.2%)	15	13	119	52	10

* Equals a five week period ** 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 Services (HAPS), St Vincents (SydPath), Douglas Hanley Moir (DHM) and VDRLab, Nepean data recommenced 27 May 2011.

Figure 4: Percent of laboratory tests positive for influenza A and influenza B, 1 January 2006 – 17 June 2011, 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 Vincents (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

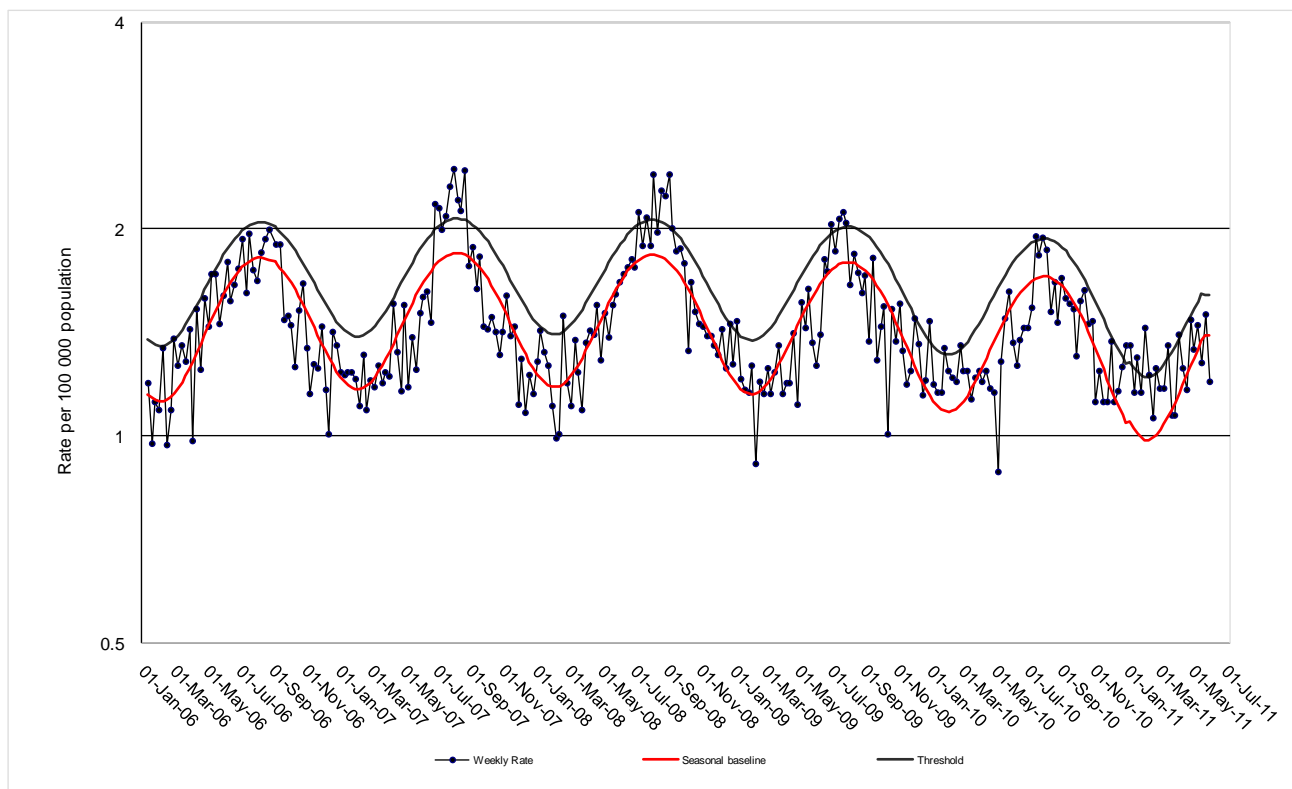
Deaths registration data is routinely reviewed for deaths attributed to pneumonia or influenza. While pneumonia has many causes, a well-known indicator of seasonal and pandemic influenza activity is an increase in the number of death certificates that mention pneumonia or influenza as a cause of death.

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 week ending 4 June:

- The most recent death registration data available showed that as of 4 June 2011 there were 1.2 pneumonia or influenza deaths per 100,000 NSW population, below the seasonal threshold of 1.6 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, 2006-2011.*



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

For the latest information on national influenza activity please see the Australian Influenza Surveillance Reports at the following website:

<http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-ozflu-2011.htm>

For the latest information on international influenza activity please see the World Health Organization Influenza Updates at the following website:

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