Influenza Weekly Epidemiology Report, NSW

4 to 10 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 10 June 2011:

- The rate of influenza-like illness (ILI) presentations to selected emergency departments (EDs) remained low and was within the usual range for this time of year.
- Laboratory data indicated overall influenza activity was low, but is increasing with evidence of co-circulation of influenza A(H1N1)2009, influenza A(H3N2), and influenza B.
- Respiratory syncytial virus (RSV) was the most common respiratory virus identified by sentinel laboratories but bronchiolitis presentations to EDs were within the usual range.

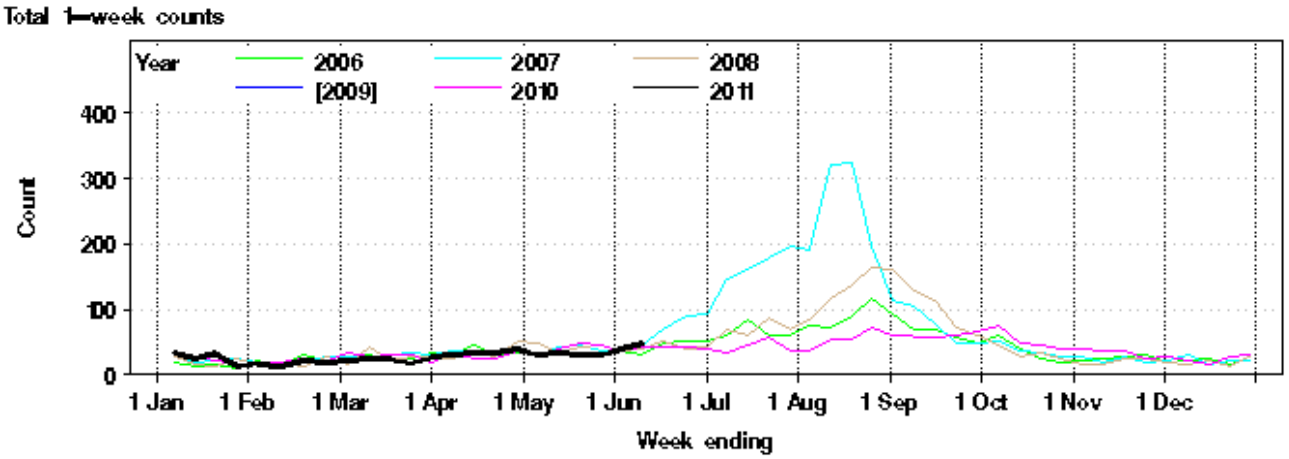
2. Emergency Department (ED) presentations

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 10 June 2011:

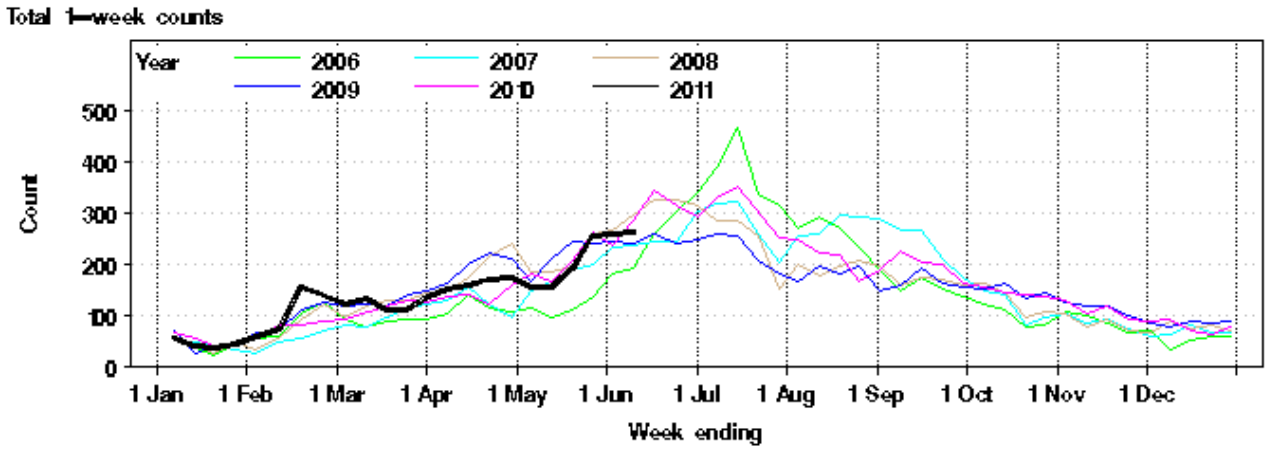
- The total count of ILI presentations to EDs was low, equal to a rate of 1.3 cases per 1000 presentations (Figure 1). This is higher than the previous week (rate 1.1 per 1000 presentations) but within the usual range seen in previous years. A higher proportion of presentations were reported in the age-group 15 to 34 years (52%).
- Bronchiolitis presentations steadied this week and are within the normal range for this time of year (Figure 2), equal to a rate of 7.2 per 1000 presentations. Bronchiolitis presentations to EDs tend to increase around this time each year, and usually reflect increasing circulation of RSV infection in the community.
- Pneumonia and ILI admissions to critical care units increased this week and are slightly above the usual range seen at this time of year (Figure 3 & Table 1).

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



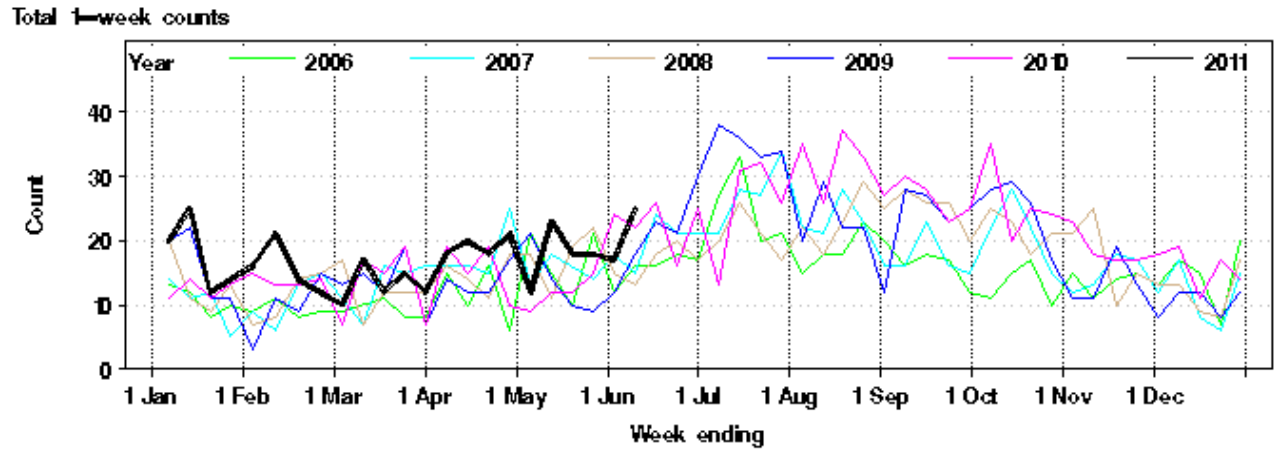
Note: Excludes data from 2009 to enable easier comparison of 2011 data with data from previous non-pandemic years. Includes data from 56 emergency departments. Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the Centre for Epidemiology and Research, NSW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

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	Slightly above		**HNE LHD**	Situation report sent	Hunter to further promote vaccination through local media
	Pneumonia	Decreased	Slightly above				
	Pneumonia and ILI admissions	Decreased	Usual				
	Pneumonia and ILI critical care admissions	Increased	Slightly above		**Sydney LHD**		Within the range of seasonal variation and did not continue.
	Bronchiolitis	Steady	Usual				
	Respiratory, fever and unspecified infections	Steady	Usual				
	Total presentations	Decrease	Usual				
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 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 week ending 10 June 2011:

- A total of 843 tests for respiratory viruses were performed at sentinel NSW laboratories and the results are presented in Table 2.
- Twenty-seven specimens tested positive for influenza A – 27 of these tested positive for A(H1N1)2009. The remainder were negative for A(H1N1)2009 and are presumed to be A(H3N2).
- Specimens from 17 cases tested positive for influenza B.
- RSV was the most common respiratory virus identified by laboratories, which is usual for this time of year.
- The overall rate of laboratory tests positive for all influenza increased this week (3.2 %) and is higher than usual range for this time of year (Figure 4).

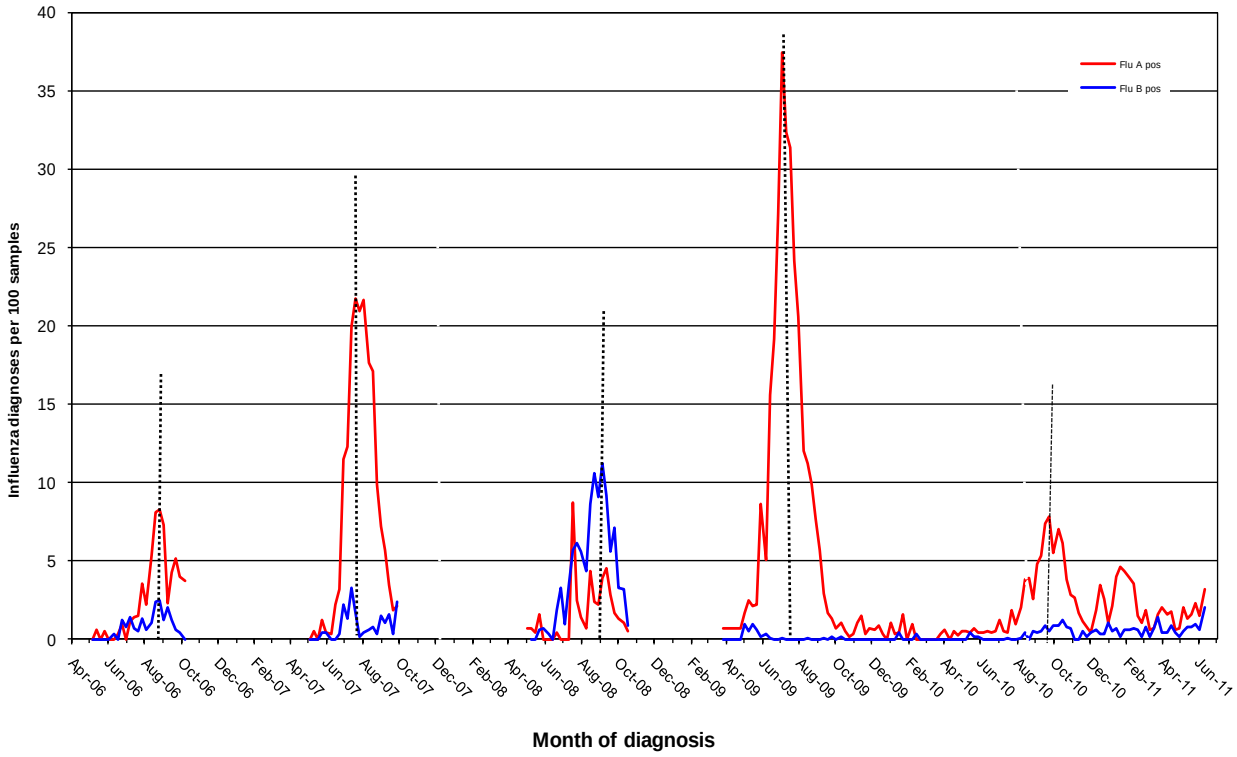
Table 2: Summary of testing for respiratory viruses and influenza at sentinel NSW laboratories, 1 January to 10 June 2011.

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	2598	47 (1.8%)	30 (64%)	24 (0.9%)	46	44	345	190	15
Week ending									
03/06/2011	855	13 (1.5%)	10 (77%)	5 (0.6%)	19	10	129	27	10
10/06/2011	843	27 (3.2%)	22 (81%)	17 (02.0)	15	13	113	35	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 – 10 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

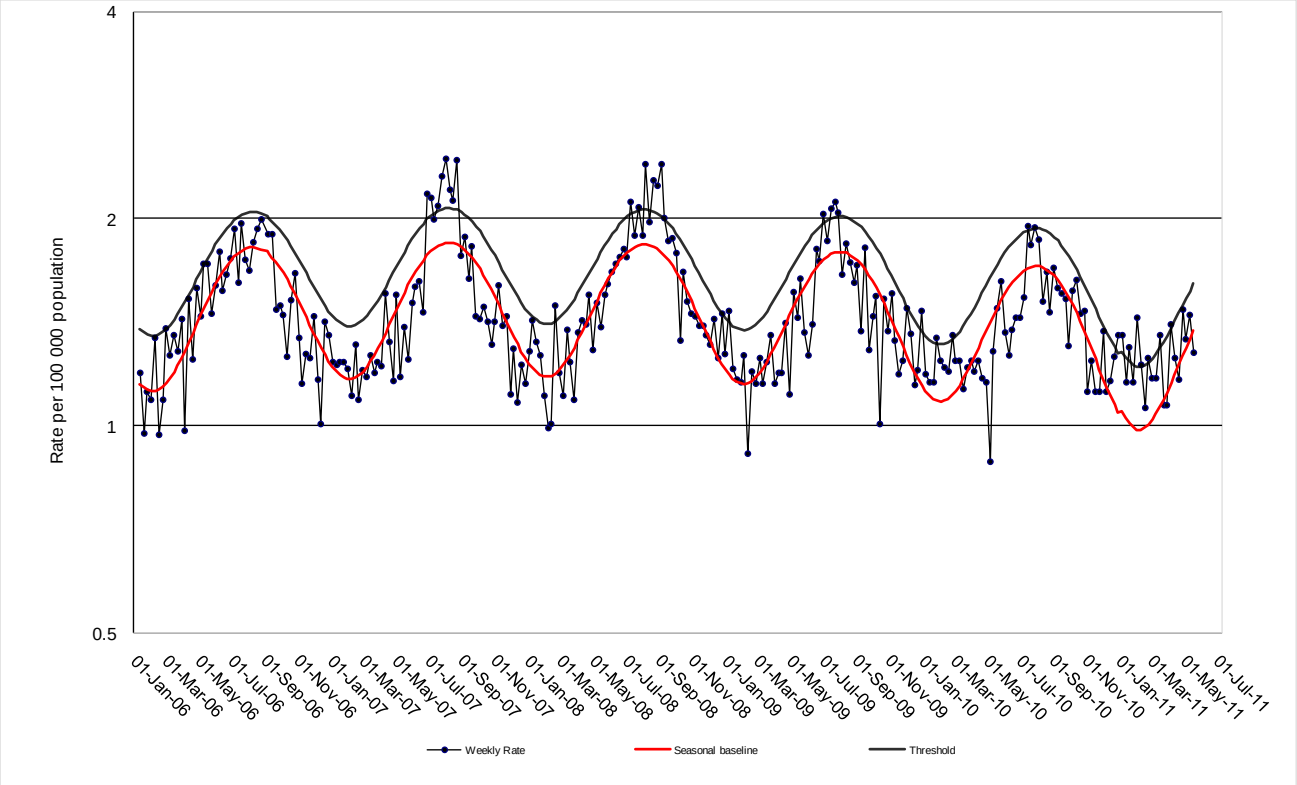
Deaths registration data is routinely reviewed for deaths attributed to pneumonia or influenza. While pneumonia has many causes, a well-known indicator of seasonal and pandemic influenza activity is an increase in the number of death certificates that mention pneumonia or influenza as a cause of death.

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 20 May:

- The most recent death registration data available showed that as of 20 May 2011 there were 1.3 pneumonia or influenza deaths per 100,000 NSW population, below the seasonal 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, 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