Influenza Weekly Epidemiology Report, NSW

23 to 29 July 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 29 July 2011:

- The rate of influenza-like illness (ILI) presentations to selected emergency departments (EDs) decreased slightly this week.
- Laboratory data indicated overall influenza activity decreased slightly this week; influenza A(H1N1)2009 continued to be the predominant strain identified but influenza A(H3N2) and influenza B (also increasing) continued to co-circulate.
- At least seven confirmed cases with influenza were admitted to intensive care units (ICU).
- Influenza was the most common respiratory virus identified by sentinel laboratories.

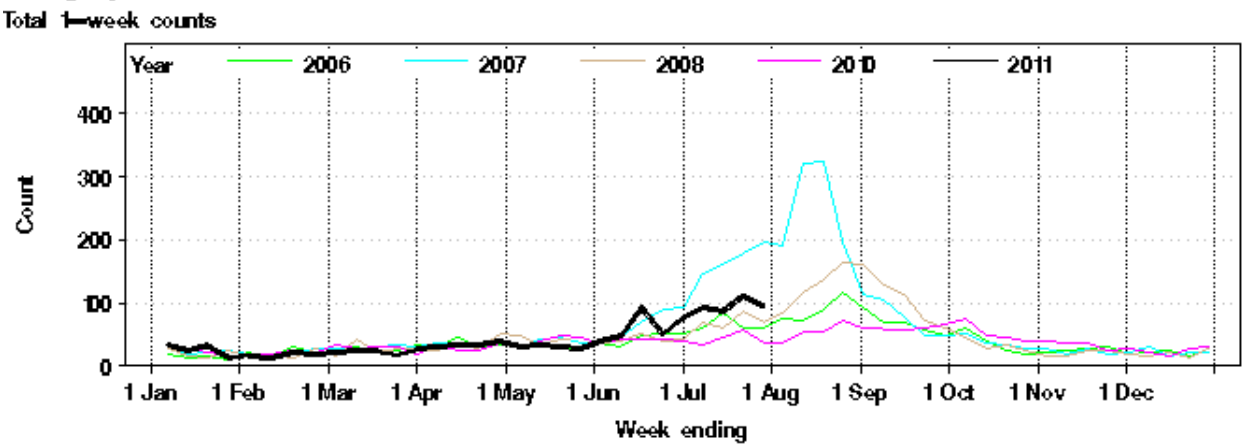
2. Emergency Department (ED) presentations

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 29 July 2011:

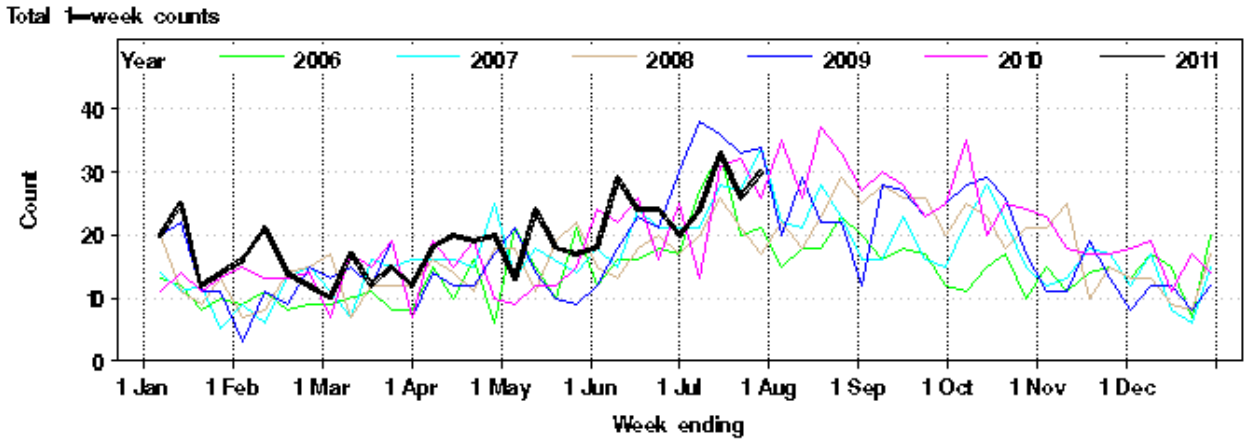
- The total number of patients presenting to EDs with influenza-like illness decreased slightly this week. However, the count was slightly above the usual range for this time of year, except for 2007 (Figure 1 and Table 1), and equated to a rate of 2.7 cases per 1000 presentations.
- A high proportion (51%) of presentations were reported in people aged 15 to 34 years.
- Total admissions to critical care units trended upwards however remained within the usual range for this time of year (Figure 2).
- Total bronchiolitis presentations continued to decline and are within the normal range for this time of year, equal to a rate of 6.3 per 1000 presentations (Figure 3).

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



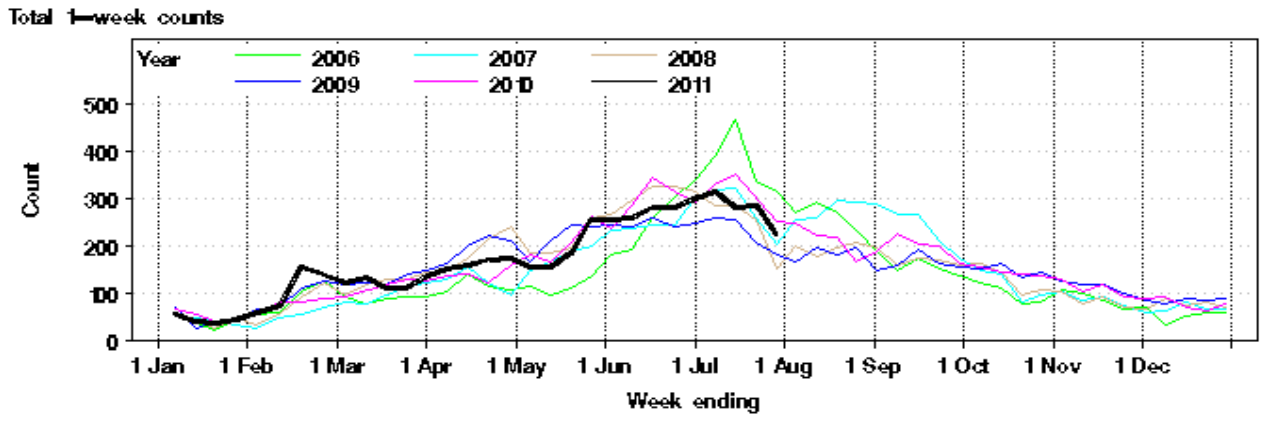
Note: Excludes data from 2009 to enable easier comparison of 2011 data with data from previous non-pandemic years. Includes data from 56 emergency departments. Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the Centre for Epidemiology and Research, NSW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

Figure 2: Comparison of weekly admissions to hospital critical care units for influenza-like-illness and pneumonia, 2006-2011.



Note: As for Figure 1, although includes 2009

Figure 3: Comparison of weekly bronchiolitis 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)	Decreased	Usual		**Broken Hill ED**	Situation report sent for Broken Hill	
	Pneumonia	Steady	Usual				
	Pneumonia and ILI admissions	Decreased	Usual				
	Pneumonia and ILI critical care admissions	Increased	Usual		**Tamworth ED**	Situation report and update sent for pneumonia at Tamworth	All were pneumonia diagnoses
	Bronchiolitis	Decreased	Usual				
	Respiratory, fever and unspecified infections	Decreased	Below				
	Total presentations	Increased					
Ambulance calls, Sydney region	Breathing problems	Steady	Below				

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 29 July 2011:

- A total of 1464 tests for respiratory viruses were performed at sentinel NSW laboratories and the results are presented in Table 2.
- The overall rate of laboratory tests positive for any influenza strain was 20%.
- The rate of laboratory tests positive for influenza A decreased slghtly this week (rate 14.5 per 100 samples). Two hundred and thirteen specimens tested positive for influenza A – 162 of these tested positive for A(H1N1)2009. The remainder were negative for A(H1N1)2009 and are presumed to be A(H3N2) (Table 2 and Figure 3).
- Specimens from 85 cases tested positive for influenza B (rate 6.5 per 100 samples).
- Laboratory testing indicated that seven cases, including four cases from the Northern NSW District were admitted to intensive care units.

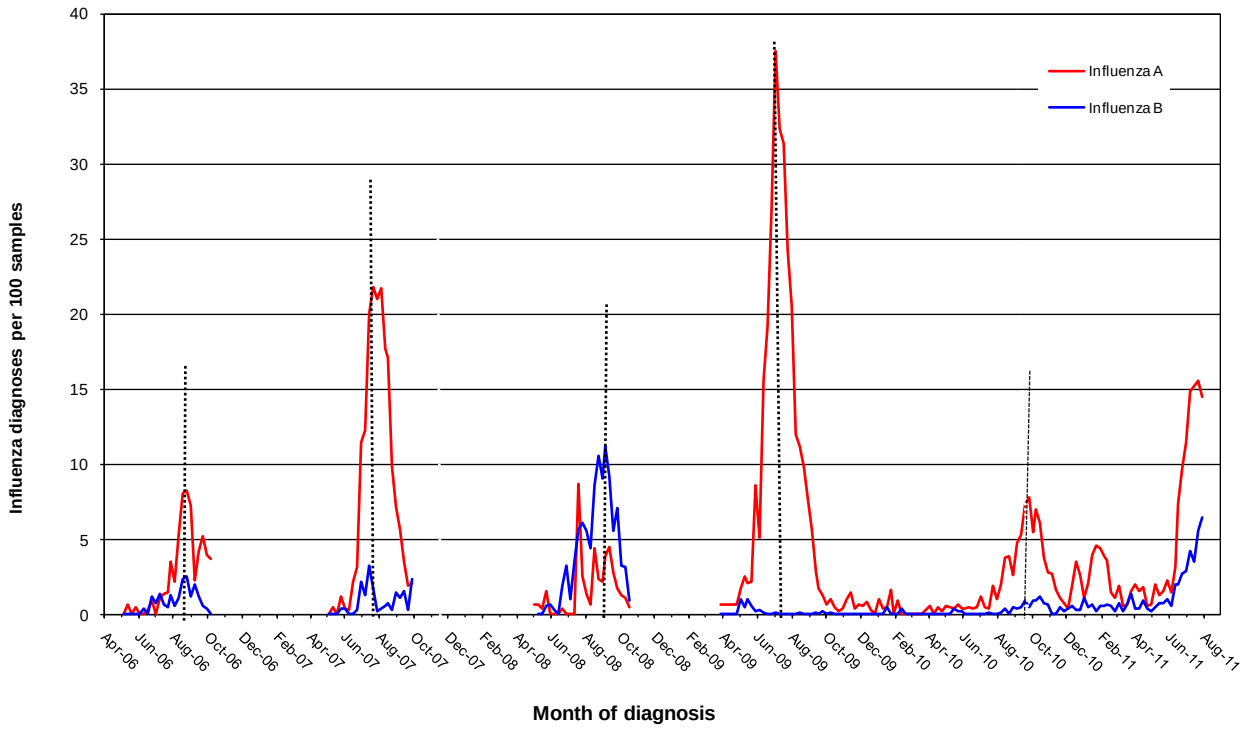
Table 2. Summary of testing for respiratory viruses and influenza at sentinel NSW laboratories, 1 January to 29 July 2011.

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
*01/07/2011	4373	363 (8.3%)	314 (85%)	104 (2.4%)	64	64	562	251	49
Week ending									
08/07/2011	1409	210 (14.9%)	163 (78%)	59 (4.2%)	31	31	159	71	32
15/07/2011	1437	219 (15.2%)	190 (87%)	49 (3.5%)	37	46	127	61	15
22/07/2011	1712	267 (15.6%)	234 (88%)	95 (5.5%)	31	21	134	60	31
29/07/2011	1464	213 (14.5%)	162 (76%)	85 (6.5%)	28	34	95	47	23

* Equals a five week period ** Subset of influenza A cases *** HMPV = Human metapneumovirus # does not include HAPS data

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 an influenza B, 1 January 2006 – 29 July 2011, New South Wales.



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

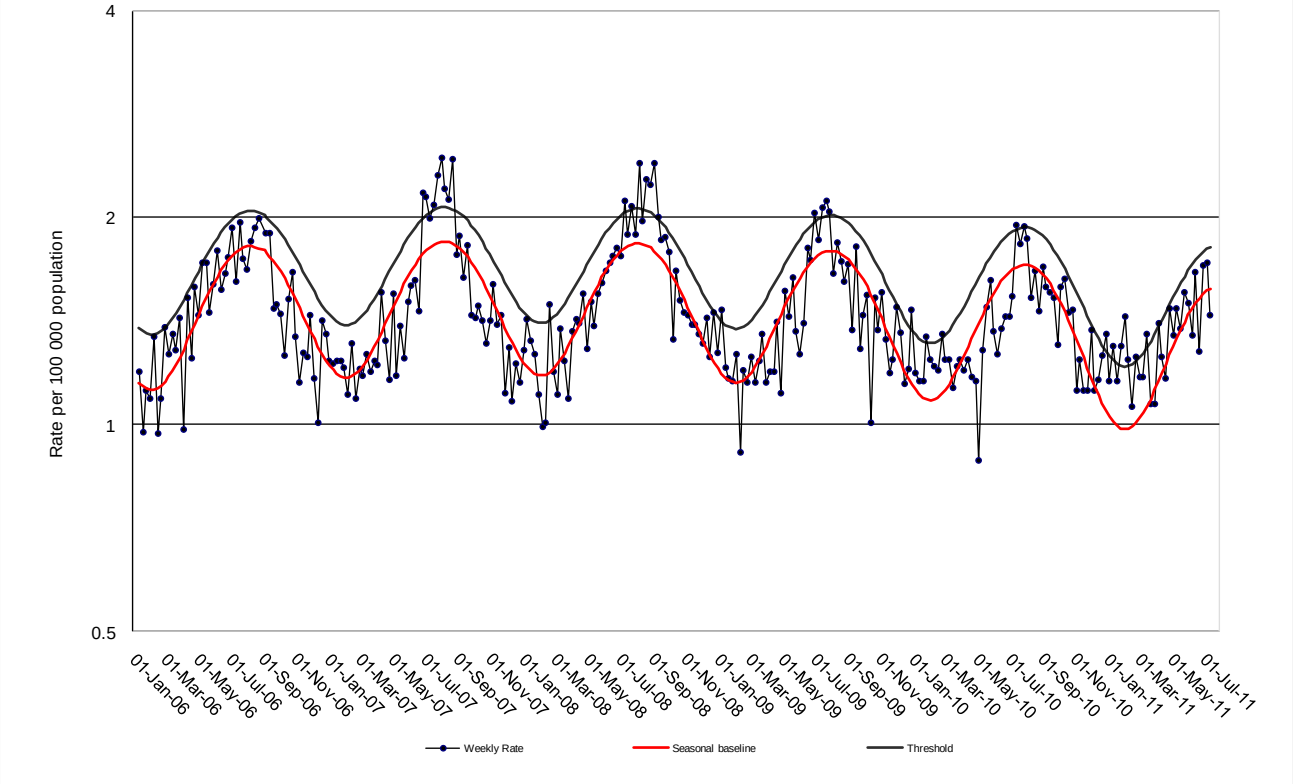
Deaths registration data is routinely reviewed for deaths attributed to pneumonia or influenza. While pneumonia has many causes, a well-known indicator of seasonal and pandemic influenza activity is an increase in the number of death certificates that mention pneumonia or influenza as a cause of death.

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 15 July:

- The most recent death registration data available showed that as of 15 July 2011 there were 1.4 pneumonia or influenza deaths per 100,000 NSW population, below the seasonal threshold of 1.8 per 100,000 population (Figure 4).*****

Figure 4: 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