Influenza Weekly Epidemiology Report, NSW

21 to 27 July 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 27 July 2012:

- The influenza-like illness (ILI) presentation rate to selected emergency departments (ED) decreased further and was within the usual range for this time of year.
- ED admissions to critical care units for ILI and pneumonia increased slightly 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.
- Reports of respiratory outbreaks in residential care facilities due to influenza A are increased compared to 2009-2011, but similar to 2007.
- Laboratory testing data shows that influenza A(H3N2) activity remains high but is declining.

2. Emergency Department (ED) presentations

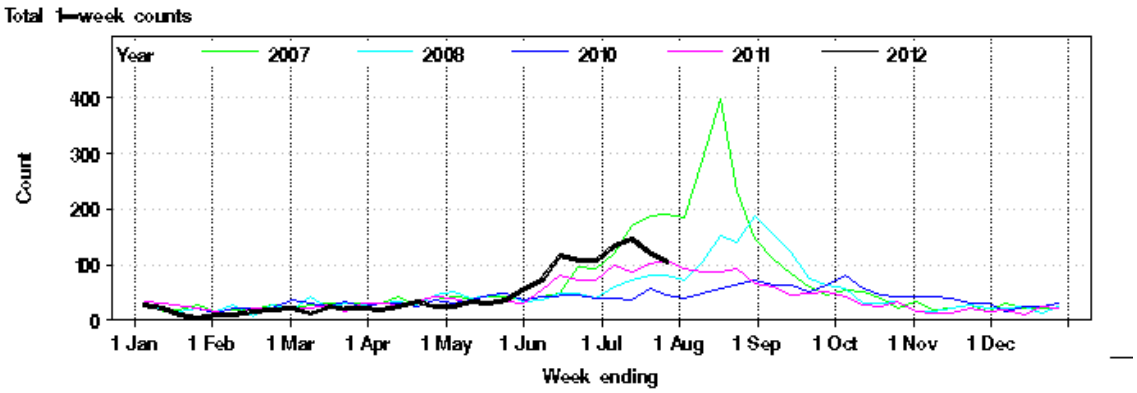
Data from 59 NSW emergency departments (ED) are included. Comparisons are made with data for the preceding five years. Recent counts are subject to change.

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

Presentations for influenza-like illness and other respiratory illness

- The total number of patients presenting to ED with influenza-like illness (ILI) decreased further this week (rate of 3.0 cases per 1000 presentations) and was within the usual range for this time of year (Figure 1 and Table 1).
- Total admissions from ED to critical care units for ILI and pneumonia increased slightly but were 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 were within the usual range of recent years. However, the number of presentations for patients over the age of 65 years remained 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 2009 data to enable comparison of 2012 data with data from previous non-pandemic years.

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.

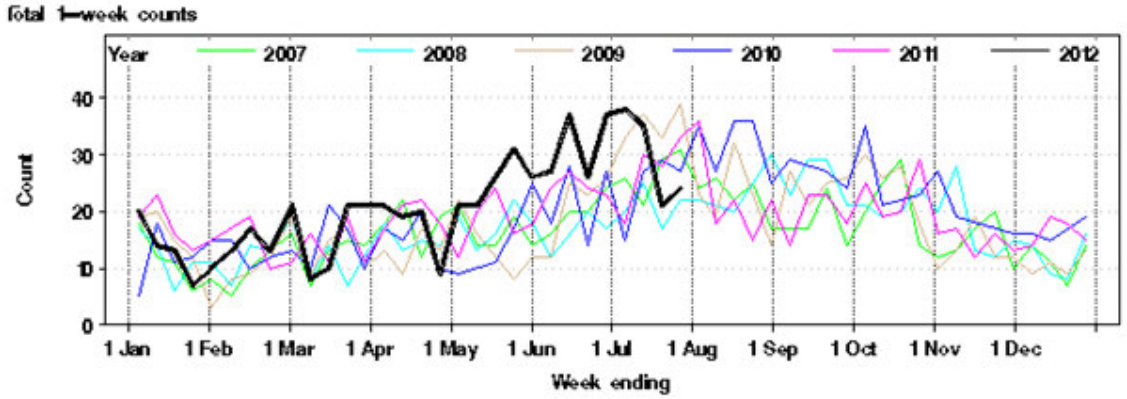


Table 1: Weekly Emergency Department and Ambulance Respiratory Activity Summary. Includes 59 NSW Emergency Departments (EDs) and Sydney Ambulance Division.

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	Usual				
	Pneumonia	Decreased	Usual				
	Pneumonia and ILI admissions	Decreased	Usual				
	Pneumonia and ILI critical care admissions	Increased	Usual				
	Bronchiolitis	Decreased	Usual				
	Respiratory, fever and unspecified infections	Decreased	Usual	65+ years			In over 65 year-olds, levels were 18% higher than usual for this time of year.
	Asthma	Decreased	Usual				
	Total presentations	Decreased	6% above 2011. In 65+ years, 5% above 2011.				
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 27 July:

- A total of 1577 tests for respiratory viruses were performed at sentinel NSW laboratories (Table 2) with 19.8% testing positive for influenza.
- Influenza A: 276 specimens (17.5%) tested positive (Table 2, Figure 4). Of these:
- 180 (65%) tested positive for influenza A(H3N2)
- Three tested positive for influenza A(pH1N1). The remainder tested negative to influenza A(pH1N1) and are assumed to have been A(H3N2)
- Influenza B: 36 specimens (2.3%) 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.

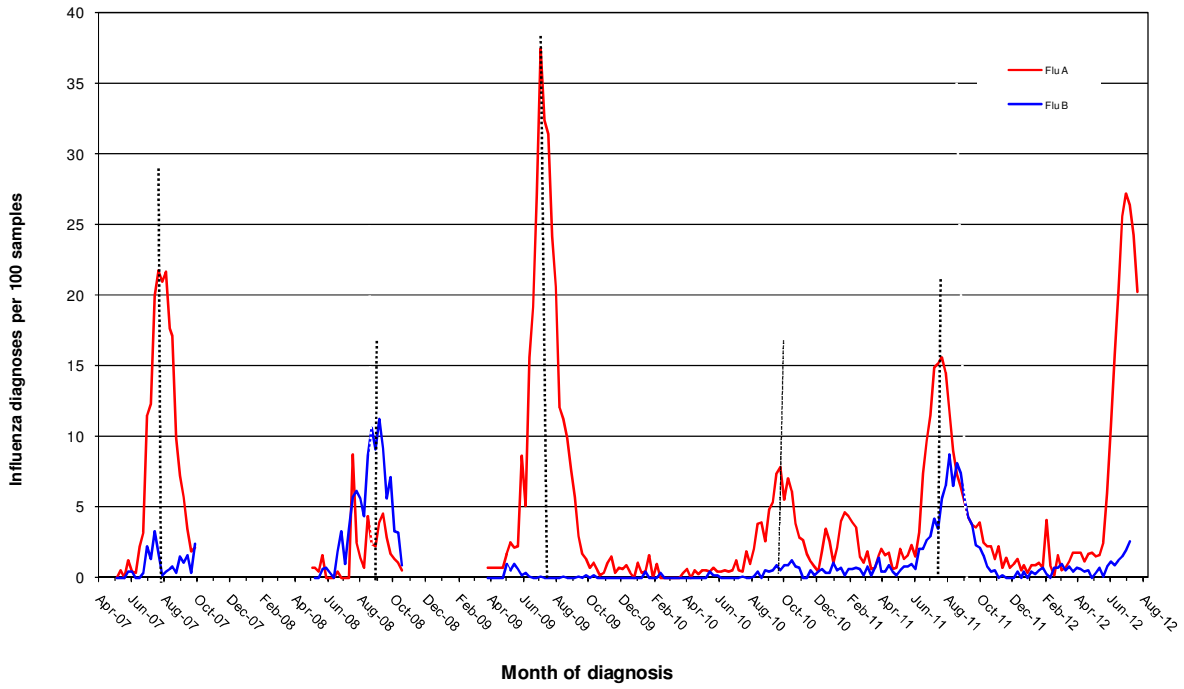
Influenza A(H3N2) continues to be the dominant respiratory virus identified by NSW sentinel laboratories.

Table 2: Summary of testing for influenza and other respiratory viruses at NSW laboratories, 1 January to 27 July 2012.

* 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 – 27 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).

Laboratory-confirmed Influenza outbreaks in residential care facilities

There were five respiratory outbreaks in residential care facilities reported this week associated with influenza A, more than annual number of reports for 2009, 2010 and 2011.

In the year to date (up to week ending 27 July), there have been 16 laboratory confirmed influenza A outbreaks in institutions reported to NSW Public Health Units (Table 3). All but one outbreak occurred in an aged care facility. At least 120 residents were reported to have had ILI symptoms and 16 required hospitalisation. Six deaths in residents linked to the outbreaks have been reported, all of whom were noted to have other significant co-morbidities.

Table 3. Reported influenza outbreaks in NSW institutions, 2005-2012.

Year	2005	2006	2007	2008	2009	2010	2011	2012*
No. of outbreaks	5	2	25	9	1	2	4	16

* Up to 27 July 2012.

Respiratory outbreaks in aged care facilities were uncommon from 2009 to 2011, and this is thought to be due to the predominance of the influenza A(pH1N1) strain in these years, against which people in older age-groups appeared to have higher levels of protection.

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

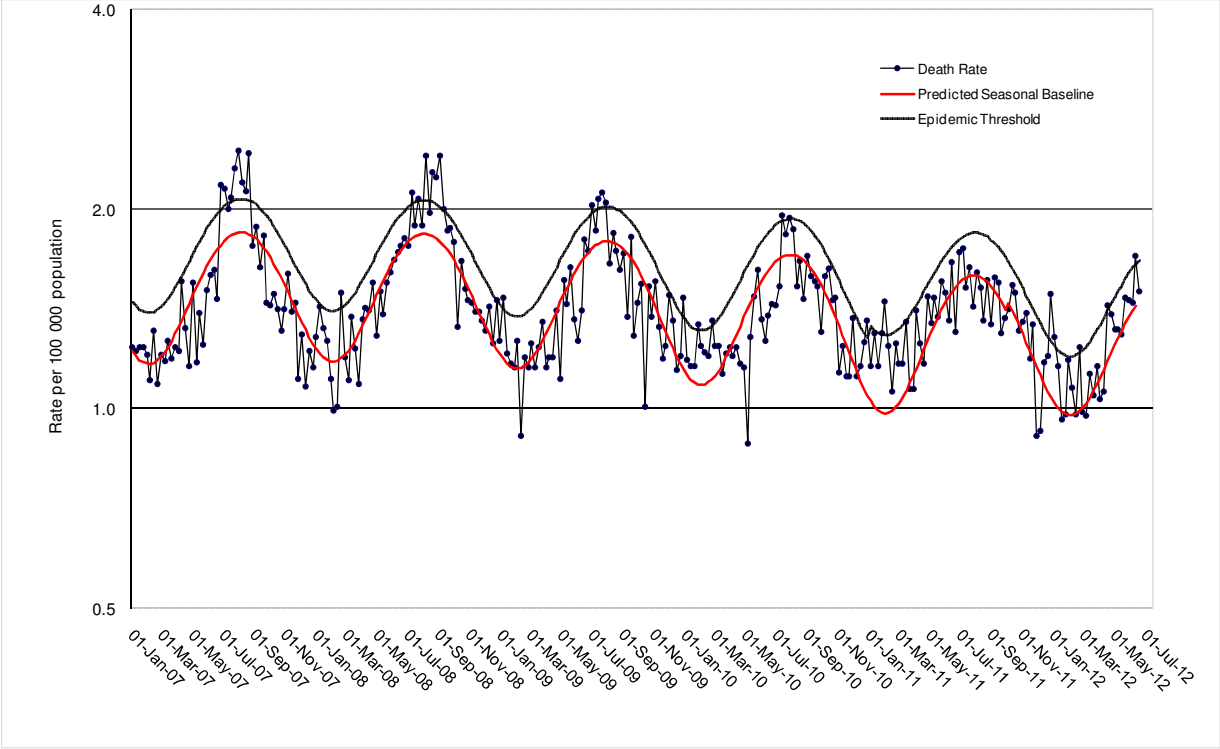
Deaths registration data is routinely reviewed for deaths attributed to pneumonia or influenza. While pneumonia has many causes, a well-known indicator of seasonal and pandemic influenza activity is an increase in the number of death certificates that mention pneumonia or influenza as a cause of death.

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 13 July:

- There were 1.5 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.

6. 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