Influenza Monthly Epidemiology Report, NSW

April 2012

Produced by: Population Health Division, NSW 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

In April 2012:

- Influenza-like illness activity in selected emergency departments was steady
- Influenza A (H3N2) was the dominant influenza strain
- Two laboratory-confirmed influenza cases were admitted to intensive care units
- Respiratory syncytial virus (RSV) activity increased
- Bronchiolitis activity in selected emergency departments increased
- The rate of deaths due to pneumonia or influenza remained below the seasonal threshold

2. Emergency Department (ED) presentations

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

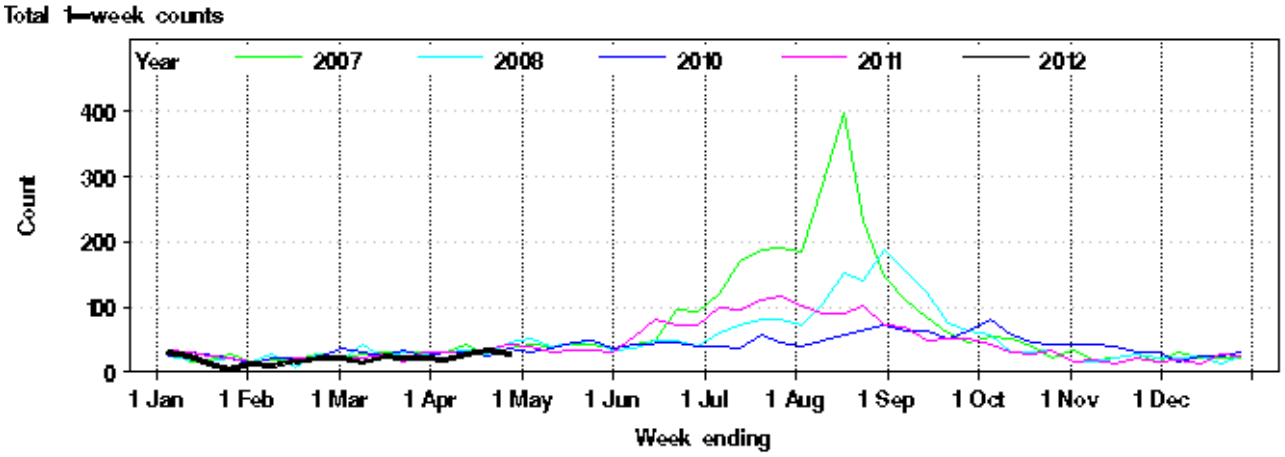
Presentations for influenza-like illness

- In April 2012 there were 110 presentations with influenza-like illness (rate 0.7 per 1,000 presentations) (Figure 1). This is higher than the previous month (March - 84 presentations, rate 0.5 per 1,000 presentations), lower than the count of 146 (rate 1.0 per 1, 000 presentations) for the month of April in 2011 but within the historical average for April.

- Total admissions from ED to critical care units for influenza-like illness and pneumonia continued to increase over the first two weeks of April and were significantly above the normal range seen for this time of year. However, admissions declined in the last two weeks of April, and overall they were within the usual range for April (Figure 2).

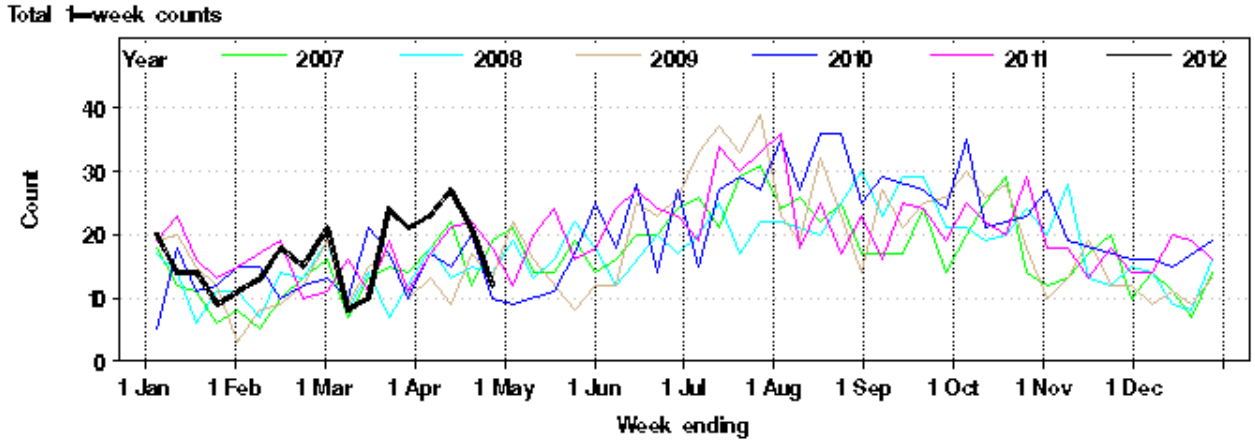
- Total ED presentations for bronchiolitis increased further throughout April and were above the usual range (Figure 3) for this time of year, except for the last week of April when they were comparable with years 2008-09. Bronchiolitis presentations to EDs tend to increase around this time each year, and usually reflect increasing circulation of respiratory syncytial virus (RSV) infection in the community.

Figure 1: Comparison of weekly influenza-like illness presentations to NSW EDs, 2007-2012.*



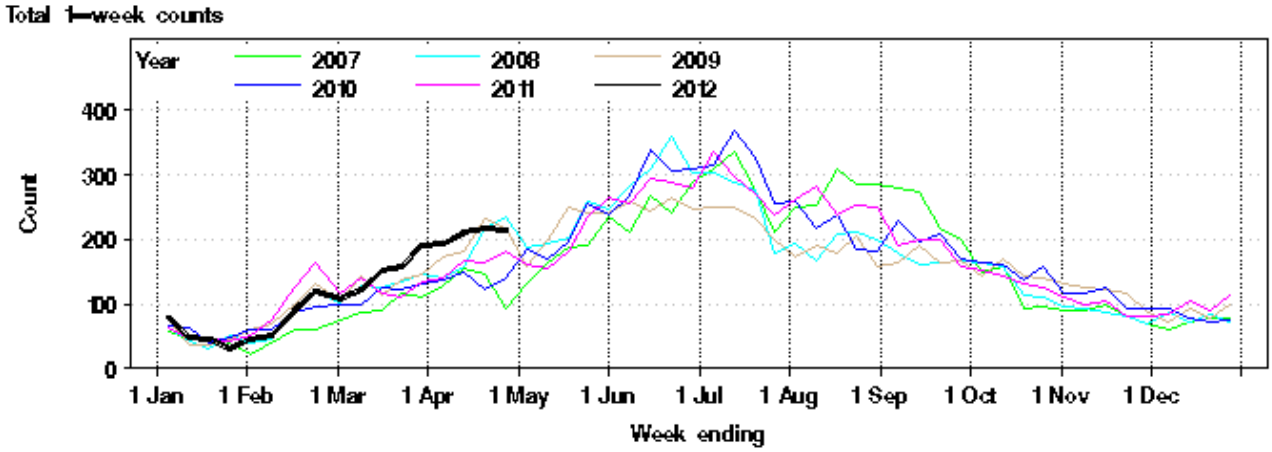
Note: Excludes data from 2009 to enable easier comparison of 2011 data with data from previous non-pandemic years. Includes data from 59 emergency departments. Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the Centre for Epidemiology and Research, NSW Health Department.

Figure 2: Comparison of weekly admissions to hospital critical care units for ILI and pneumonia, 2007-2012.



Note: As for Figure 1, although includes 2009

Figure 3: Comparison of weekly bronchiolitis presentations to NSW EDs, 2007-2012.



Note: As for Figure 1, although includes 2009

3. Laboratory testing summary for influenza

In April 2012:

- 2857 tests for respiratory viruses were performed at sentinel NSW laboratories (Table 1).
- 45 specimens tested positive for influenza A – 12 tested positive for influenza A (H3N2) and four tested positive for A (pH1N1). The remainder tested negative to influenza A (pH1N1) and are assumed to be A (H3N2) (Table 1, Figure 4).
- 11 cases of influenza B were reported (Table 1, Figure 4).
- the number of positive influenza tests in April increased compared with the previous month
- the rate of influenza is slightly higher when compared with the historical average for the month of April.

Laboratory testing suggests influenza has occurred at low levels. Respiratory syncytial virus was the most common respiratory viruses identified by laboratories.

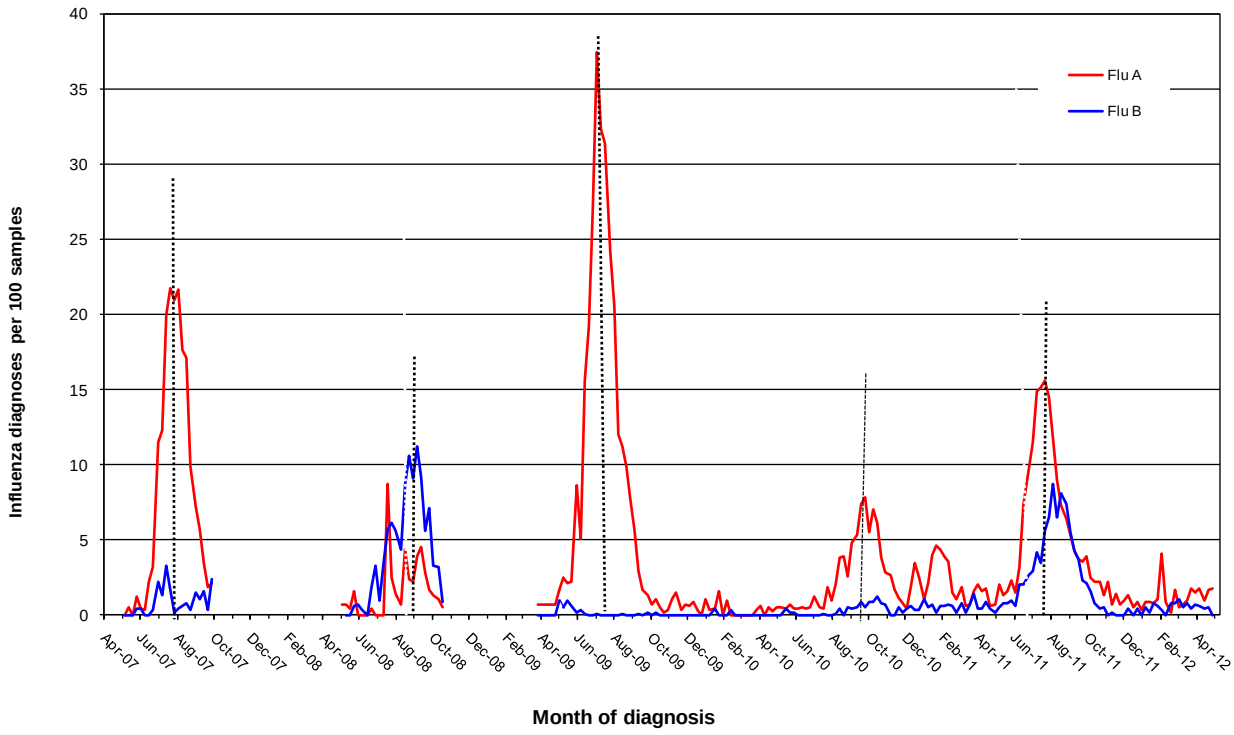
Table 1: Summary of testing for respiratory viruses and influenza at NSW laboratories 1 January to 27 April 2012.

W/E	Virology specimens tested	Influenza A (total pos) (%)	H1N1** influenza 09 (total pos) (%)	Influenza B (total pos) (%)	Adenovirus	Parainfluenza 1, 2 & 3	RSV	Rhinovirus	Enterovirus	HMPV***
27/01/2012	1617	14 (0.9%)	4 (29%)	7 (0.4%)	37	60	38	119	64	36
02/03/2012*	2520	30 (1.2%)	1 (3%)	15 (0.6%)	44	65	156	224	128	30
30/03/2012	2573	33 (1.3%)	3 (9%)	16 (0.6%)	59	79	269	263	114	40
27/04/2012	2857	45 (1.6%)	4 (9%)	11 (0.4%)	65	63	422 (14.7%)	231	114	28
Week ending										
06/04/2012	666	12 (1.8%)	1 (8%)	4 (0.6%)	18	16	97 (14.6%)	38	23	8
13/04/2012	708	7 (1.0%)	0	3 (0.4%)	13	23	98 (13.8%)	59	33	8
20/04/2012	755	13 (1.7%)	1 (8%)	4 (0.5%)	17	13	103 (13.6%)	76	24	7
27/04/2012	728	13 (1.8%)	2 (15%)	0	17	11	124 (17.0%)	58	34	5

** 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 Service (HAPS), St Vincent's (SydPath) , Nepean, Douglas Hanley Moir (DHM) , VDRLab .

Figure 4: Percent of laboratory tests positive for influenza A and influenza B, 1 January 2007 – 27 April 2012, 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 the week ending 06 April:

- There were 0.9 pneumonia or influenza deaths per 100,000 NSW population, below the seasonal threshold of 1.3 per 100,000 population (Figure 5).*

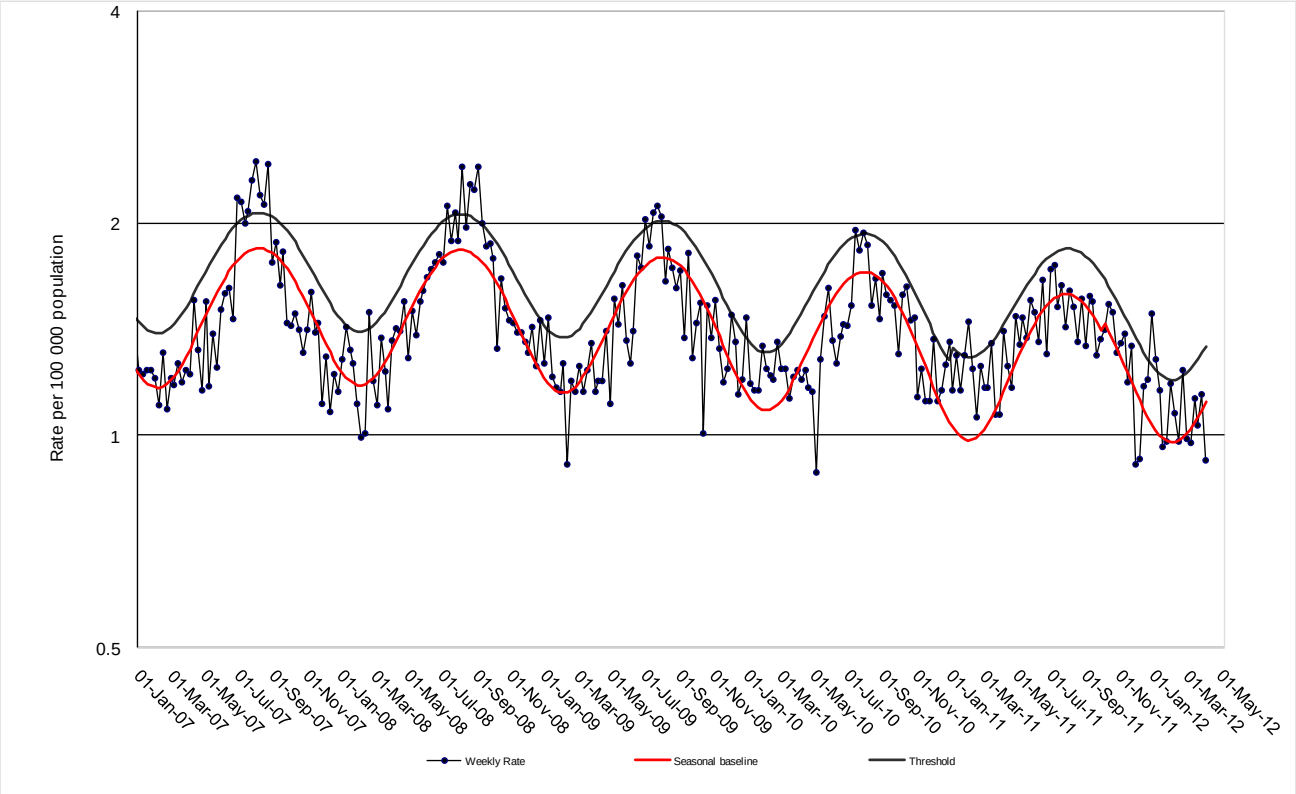

Figure 5: Rate of deaths classified as influenza and pneumonia (by NSW Registered Death Certificates) per 100,000 NSW population, 2007-2012

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

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

For the information on current strains covered in this year's influenza vaccine see WHO Collaborating Centre for Reference and Research on Influenza at the following website:
http://www.influenzacentre.org/centre_vaccines.htm