

Influenza Monthly Epidemiology Report, NSW

April 2013

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 2013:

- The rate of influenza-like illness (ILI) presentations to selected emergency departments was low but above the normal range expected for April.
- Laboratory data indicated overall influenza activity was low, but there was some evidence of co-circulation of influenza A(H1N1)2009, influenza A(H3N2), and influenza B. The number of influenza cases is usual for this time of year.
- Respiratory syncytial virus (RSV) was the most common respiratory virus identified by sentinel laboratories.

2. Emergency Department (ED) presentations

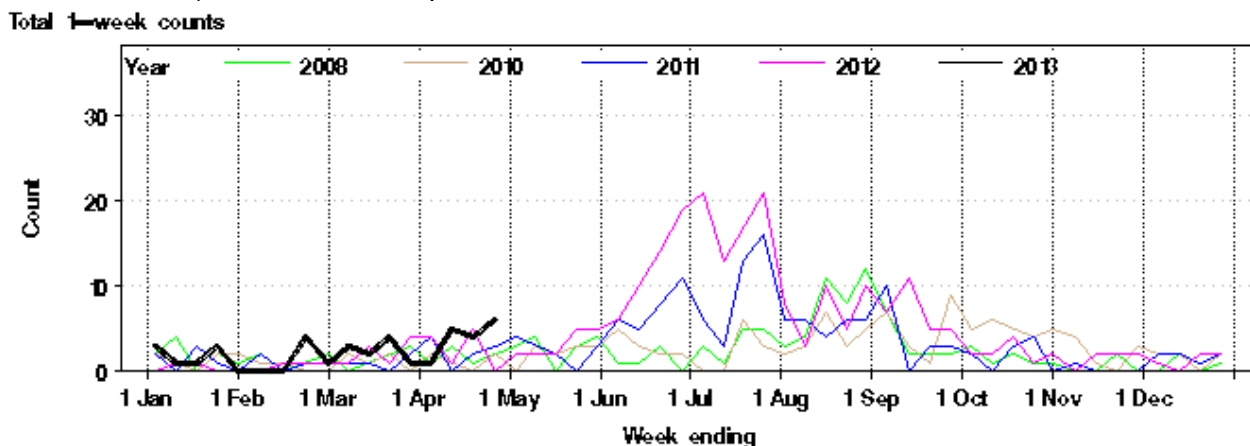
Data from 59 NSW emergency departments are included. Comparisons are made with data for the preceding six years. Recent counts are subject to change.

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

Presentations for influenza-like illness

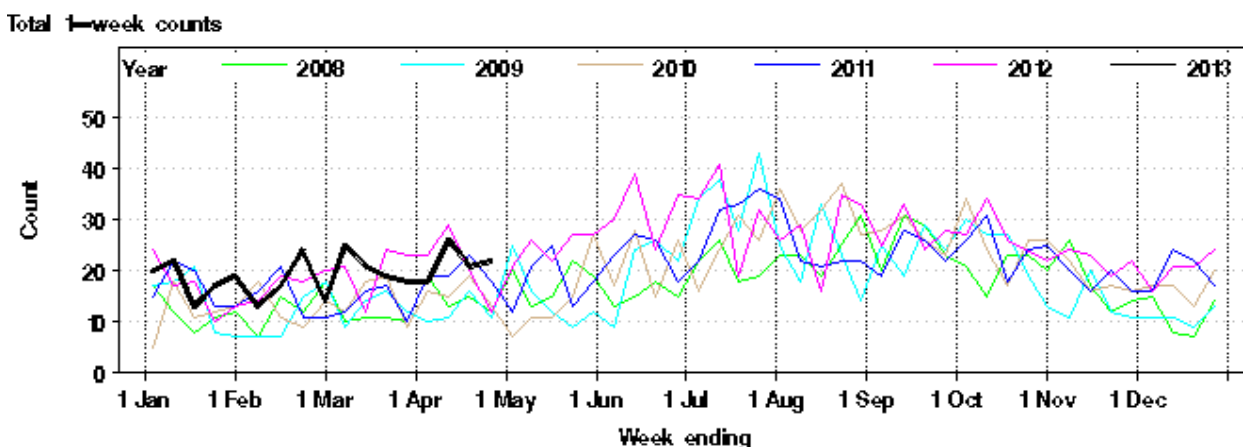
- In April 2013 there were 146 presentations with influenza-like illness (rate 0.9 per 1,000 presentations) (Figure 1). The rate of Influenza-like illness presentations to EDs in April was higher than the previous month (March – 74 presentations, rate 0.4 per 1,000 presentations), but higher than the count of 107 (rate 0.7 per 1,000 presentations) for the month of April in 2012, and above the historical average for April.
- Admissions from ED to critical care units for influenza-like illness and pneumonia were within the usual range for this time of year (Figure 2).
- ED presentations for bronchiolitis were above the usual range for this time of year. Bronchiolitis presentations to EDs tend to increase around this time each year, and usually reflect increasing circulation of RSV infection in the community (Figure 3).

Figure 1: Total weekly counts of Emergency Department visits for influenza-like illness, from January – April 2013 (black line), compared with each of the 5 previous years (coloured lines), for 59 NSW hospitals.*



* Note: Excludes 2009 data to enable comparison of 2013 data with data from previous non-pandemic years

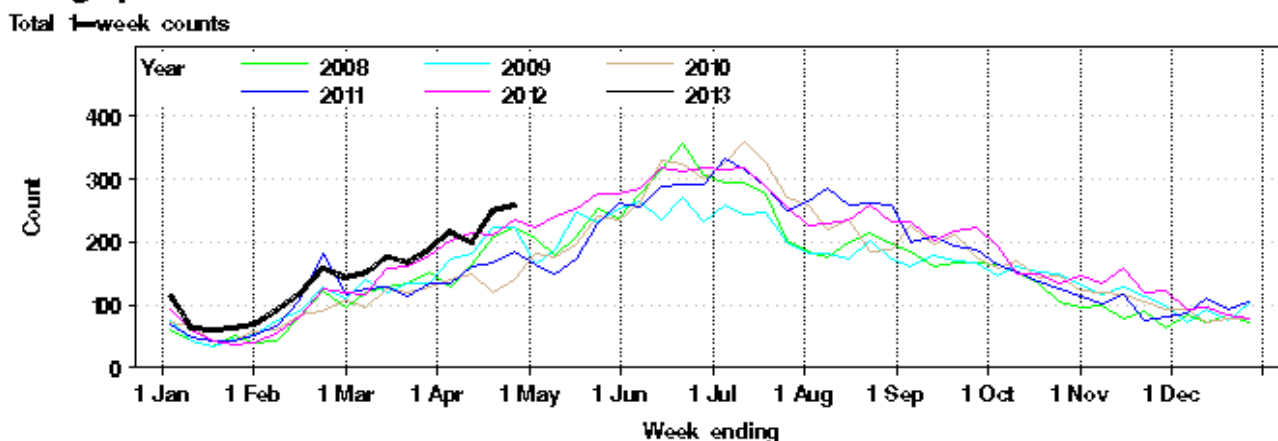
Figure 2: Total weekly counts of Emergency Department visits for pneumonia and influenza-like illness, which were subsequently admitted to a critical care ward, from January – April 2013 (black line), compared with each of the 5 previous years (coloured lines), for 59 NSW hospitals.*



* Note: As for Figure 1, although includes 2009

Figure 3: Total weekly counts of Emergency Department visits for bronchiolitis, from January – April 2013 (black line), compared with each of the 5 previous years (coloured lines), for 59 NSW hospitals.*

Category: All visits with the above inclusions



* Note: As for Figure 1, although includes 2009

3. Laboratory testing summary for influenza

In April 2013:

- 2,599 tests for respiratory viruses were performed at sentinel NSW laboratories (Table 1).
- 35 specimens tested positive for influenza A – 1 of these tested positive for A(H3N2), and 9 tested positive for influenza A(pH1N1). The remainder tested negative to influenza A(pH1N1) and are assumed to be A(H3N2) (Table 1, Figure 4).
- 10 cases of influenza B were reported (Table 1, Figure 4).
- the total number of positive influenza tests in March was lower than the previous month but higher than that for the same month in 2012.

Laboratory testing indicates that although influenza has occurred at low levels, the number of confirmed influenza cases (both A and B) is similar to the same period in 2012. Influenza A(pH1N1) continues to circulate at higher than expected levels. Respiratory syncytial virus (RSV) was the most commonly identified respiratory virus by laboratories, and this is usual for this time of year.

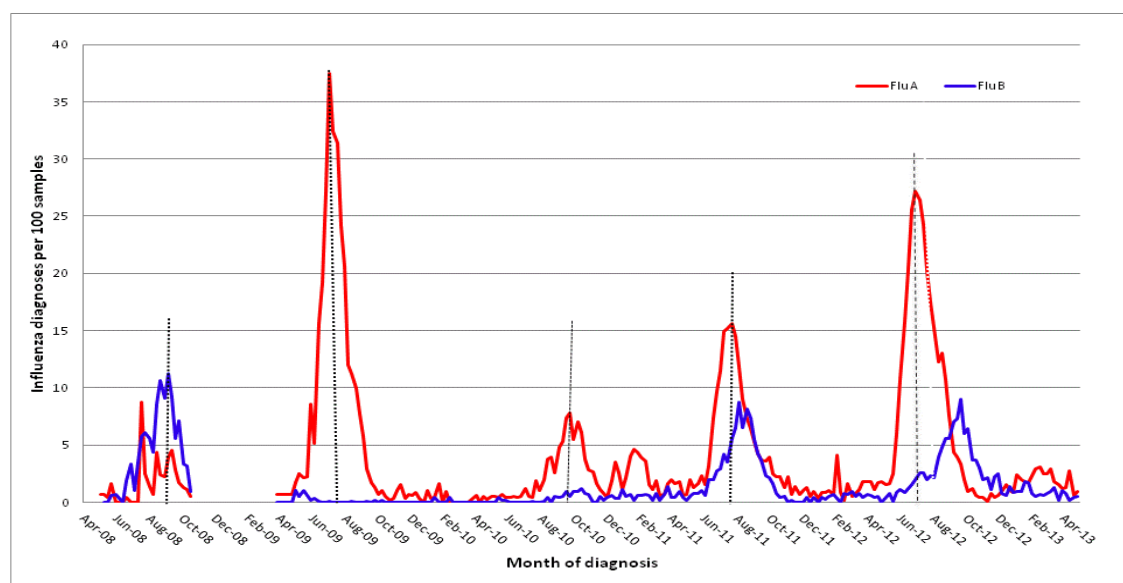
Table 1: Summary of testing for respiratory viruses and influenza at NSW public hospital laboratories, 1 January to 26 April 2013.

| Month ending | Total Tests | Influenza A | | A(H3N2) | | A(pH1N1) | | Influenza B | | Adeno. | Parainf. 1, 2 & 3 | RSV | Rhino. | Entero. | HMPV*** |
|--------------|-------------|-------------|--------|---------|-------------|----------|-------------|-------------|---------|--------|-------------------|-----|--------|---------|---------|
| | | Total | (%) | Total | (% Flu A)** | Total | (% Flu A)** | Total | (%) | | | | | | |
| 01/02/2013* | 2141 | 44 | (2.1%) | 13 | (29.5%) | 14 | (31.8%) | 26 | (1.2%) | 68 | 87 | 81 | 328 | 37 | 59 |
| 01/03/2013 | 2199 | 60 | (2.7%) | 17 | (28.3%) | 20 | (33.3%) | 15 | (0.7%) | 55 | 41 | 119 | 452 | 29 | 31 |
| 29/03/2013 | 2472 | 47 | (1.9%) | 9 | (19.1%) | 12 | (25.5%) | 21 | (0.8%) | 82 | 59 | 333 | 488 | 53 | 33 |
| 26/04/2013 | 2599 | 35 | (1.3%) | 11 | (31.4%) | 9 | (25.7%) | 10 | (0.4%) | 88 | 184 | 532 | 424 | 55 | 43 |
| Week ending | | | | | | | | | | | | | | | |
| 05/04/2013 | 623 | 8 | (1.3%) | 3 | (37.5%) | 2 | (25.0%) | 5 | (28.0%) | 28 | 29 | 112 | 150 | 31 | 8 |
| 12/04/2013 | 639 | 17 | (2.7%) | 5 | (29.4%) | 3 | (17.6%) | 1 | (27.0%) | 23 | 117 | 119 | 8 | 8 | 11 |
| 19/04/2013 | 700 | 4 | (0.6%) | 2 | (50.0%) | 1 | (25.0%) | 1 | (0.1%) | 16 | 19 | 146 | 142 | 9 | 13 |
| 26/04/2013 | 637 | 6 | (0.9%) | 1 | (16.7%) | 3 | (50.0%) | 3 | (0.5%) | 21 | 19 | 155 | 124 | 7 | 11 |

* Five week period ** Subset of influenza A cases *** HMPV = Human metapneumovirus

NOTE - No data available from ICPMR for the month of April

Figure 4: Percent of laboratory tests positive for influenza A and influenza B, 1 January 2008 – 26 April 2013, New South Wales.



Source: Data is provided by laboratories on a weekly basis. Includes point of care tests as of 10 August 2012. 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 .

NOTE - No data available from ICPMR for the month of April

Deaths with pneumonia or influenza reported on the death certificate

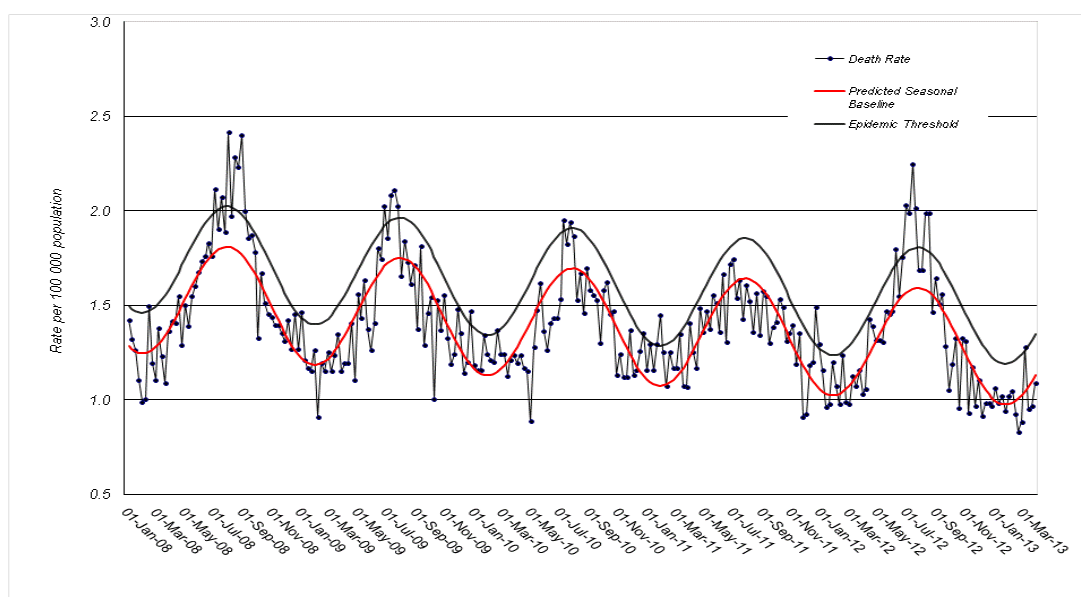
Deaths registration data is routinely reviewed for deaths attributed to pneumonia or influenza. While pneumonia has many causes, a well-known indicator of seasonal and pandemic influenza activity is an increase in the number of death certificates that mention pneumonia or influenza as a cause of death.

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 5 April:

- There were 1.09 pneumonia or influenza deaths per 100,000 NSW population, which is below the epidemic threshold of 1.34 per 100,000 population (Figure 4).*
- Between 1 January and 5 April 2013, out of 12153 deaths there was one death certificate mentioning influenza, and 1026 mentioning pneumonia.

Figure 5: Rate of deaths classified as influenza and pneumonia (by NSW Registered Death Certificates) per 100,000 NSW population, 2008-2013



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

6. International Reports of Note

H7N9 avian influenza human infections in China

Up to 2 May, a total of 128 laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus including 26 deaths have been reported to WHO. Contacts of the confirmed cases are being closely monitored.

This is the first time avian influenza A (H7N9) viruses have been detected in humans. The infections so far have resulted in severe respiratory illness and, in some cases, death. According to WHO, there has been no person-to-person transmission identified to date, and the cases do not have a known epidemiological link to one another. An investigation by Chinese health officials is ongoing to determine the source of infection and detect any additional cases.

NSW Health is following this situation closely and coordinating with national and state disease control partners to make a knowledgeable public health risk assessment and provide appropriate advice, particularly to clinicians. Laboratory specialists are reviewing posted genetic information on the new H7N9 viruses to assess whether existing influenza diagnostic tests need to be enhanced or new ones developed. All of these actions are routine preparedness measures taken whenever a new novel influenza virus is detected in humans. As this an evolving situation, NSW Health will provide updated information and as it becomes available.

Any suspected cases identified in NSW should be reported to your local public health unit on 1300 066 055. Further information about avian influenza viruses and how they spread is available at the [Avian Influenza \("Bird Flu"\) factsheet](#).

Novel Coronavirus Infections

As of 2 May 2013, 24 cases of human infection with novel coronavirus (nCoV) including 16 deaths have been reported to WHO: two from Jordan, two from Germany, 16 cases from Saudi Arabia, and four from the United Kingdom (UK). Most patients are male (81.3%) and range in age from 25 to 73 years old (median 45 years old).

Four clusters of cases have been identified. The first occurred in April 2012 in a health care setting in Jordan, with 2 confirmed cases, and 11 probable cases. Both of the confirmed cases died. Ten of the 13 persons in this cluster were health care workers. Two additional clusters occurred among family contacts of cases in Saudi Arabia and one among family members of a resident of the United Kingdom who had recently visited Saudi Arabia. Human-to-human transmission can be confirmed only in the latter as none of the family members who were infected had recently been outside of the United Kingdom and their only known exposure was to the first case (see UKHPA reference below). No sustained community transmission was observed in any of the clusters.

Although some of the cases may have become infected from animal exposures and zoonotic transmission, information on animal exposures is limited. An animal reservoir has not been identified. Investigations into animal sources are on-going.

See the [WHO Coronavirus site](#) for further information, including recommendations for surveillance, laboratory testing and infection control.

NSW Health has also posted [Novel Coronavirus Information for Clinicians and Laboratories](#).