

NSW Health Influenza Surveillance Report

Week 29 Ending 21 July 2013

Influenza Surveillance Forecast (Update):

Influenza activity in NSW is slowly increasing. While the currently circulating influenza A strains are well matched to the 2013 seasonal influenza vaccine there has been a slight drift in the circulating influenza B strains to B/Massachusetts/2/2012 –like viruses. The influenza B component of the 2013 seasonal influenza vaccine is a B/Wisconsin/1/2010 – like strain. Both the B/Massachusetts and B/Wisconsin strains are Yamagata-lineage viruses and it is expected that the 2013 seasonal influenza vaccine should provide some protection against the new strain.

Factors that support a mild influenza season include the following:

- the influenza strains predominating in NSW this year also circulated last season
- the 2013 influenza vaccine is better matched to these strains than the 2102 vaccine
- the uptake of influenza vaccine in NSW this year has been higher than in recent years.

As influenza A(H1N1)pdm09 is currently the dominant circulating influenza A strain, younger people may be at greater risk of infection. In 2012, influenza A(H3N2) A was the dominant circulating influenza A strain and people in older age groups were more at risk of infection.

Summary:

For the week ending 21 July 2013, influenza activity continued to increase and gave a strong indication that the influenza season has started.

- [Emergency Department surveillance](#) – the index of increase for influenza-like illness (ILI) presentations was above the seasonal threshold. The current level is consistent with the winter influenza season.
- [Laboratory surveillance](#) – the proportion of respiratory samples positive for influenza A or B continues to increase (14.2%), with influenza B activity increasing this week. Other respiratory virus activity is also high.
- [Community illness surveillance](#) – data collected from eGPs, ASPREN and FluTracking on ILI activity in NSW remained steady.
- [National and International influenza surveillance](#) – One new human case of infection with the novel avian influenza A(H7N9) strain from China; otherwise low influenza activity worldwide.

About this report:

Health Protection NSW collects and analyses surveillance data on influenza and related respiratory pathogens, and produces regular surveillance reports for the community and health professionals. Surveillance reports are produced weekly reports commencing in May and continuing until the end of the influenza season. Monthly reports are produced throughout the rest of the year.

The influenza surveillance reports include data from a range of surveillance systems and sources concerned with Emergency Department illness surveillance, laboratory (virological) surveillance, and community illness surveillance. Pneumonia and influenza mortality data are also monitored and reported upon periodically. For further information see the [NSW Health Influenza website](#).

1. Emergency Department (ED) Surveillance

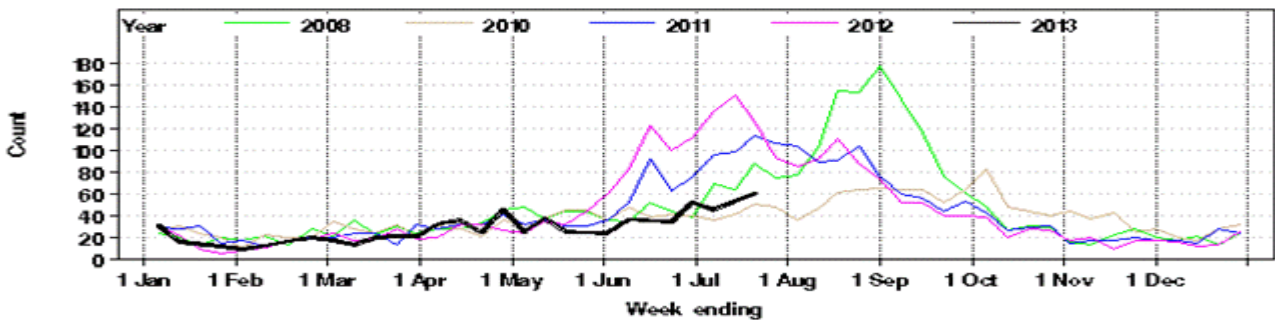
Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) managed by the Centre for Epidemiology and Evidence, NSW Ministry of Health. Data from 59 NSW emergency departments (ED) are included. Comparisons are made with data for the preceding five years. Recent counts are subject to change.

Presentations for influenza-like illness (ILI) and other respiratory illness

The ED surveillance system uses a statistic called the ‘index of increase’ to indicate when presentations are increasing at a statistically significant rate. It accumulates the difference between the previous day’s count of presentations and the average for that weekday over the previous 12 months. An index of increase value of 15 is considered an important signal for the start of the influenza season in NSW as it suggests influenza is circulating widely in the community.

- On 21 July 2013, the index of increase for influenza-like illness presentations was 21.1, above the threshold of 15, and suggested that the influenza season has commenced in NSW (the index of increase first crossed the threshold of 15 on 26 June).
- ILI presentations remained steady this week, at a rate of 1.5 cases per 1000 presentations. This was at the lower end of the usual range for this time of year (Figure 1 and Table 1).
- Combined ILI and pneumonia admissions to critical care wards increased this week and were at the upper end of the usual range for this time of year (Figure 2 and Table 1).
- The number of children presenting with bronchiolitis continues to decrease and is within the usual range seen for this time of year (Figure 3 and Table 1).

Figure 1: Total weekly counts of ED visits for influenza-like illness, from January – 21 July 2013 (black line), compared with each of the 5 previous years (coloured lines).*



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

Figure 2: Total weekly counts of ED visits for pneumonia and ILI admitted to a critical care ward, from January – 21 July 2013 (black line), compared with each of the 5 previous years (coloured lines).

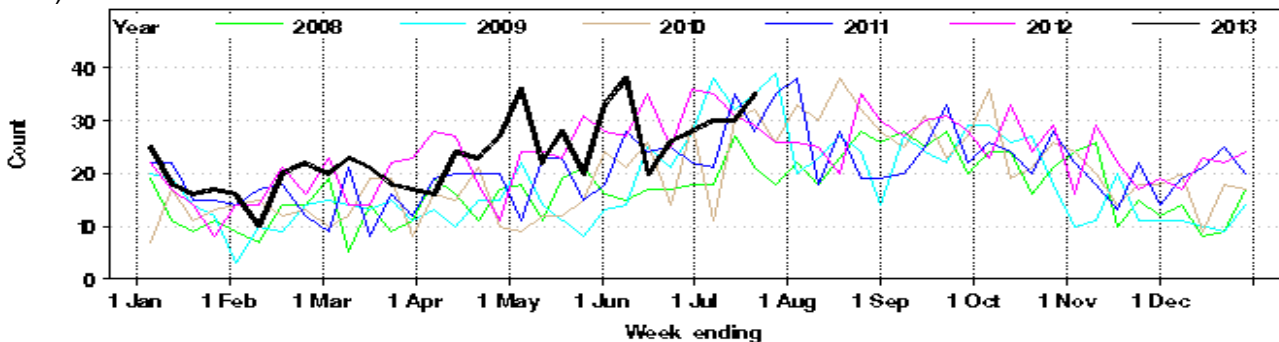


Figure 3: Total weekly counts of ED visits for bronchiolitis, from January – 21 July 2013 (black line), compared with each of the 5 previous years (coloured lines).

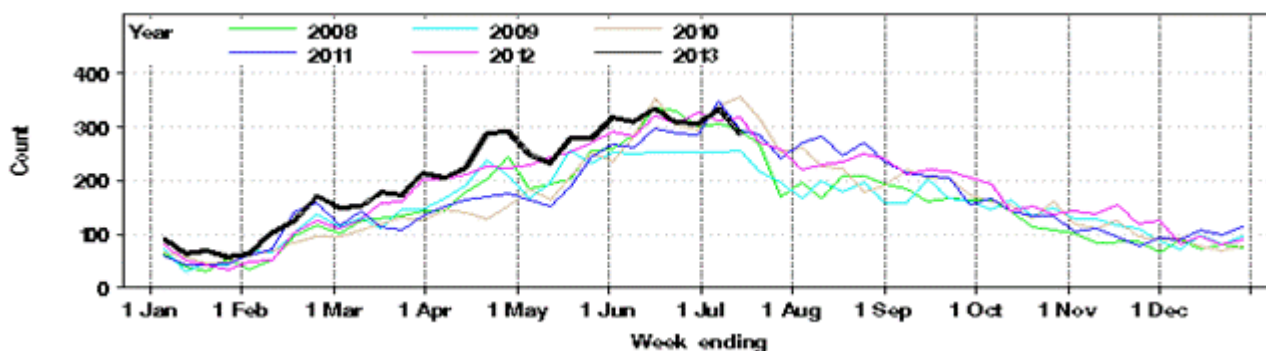


Table 1: Weekly ED and Ambulance Respiratory Activity Summary. Includes data from 59 NSW EDs and the Sydney Ambulance Division. *

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)	Increased	Usual				The current level is consistent with the early stage of the winter influenza season.
	Pneumonia	Decreased	Usual				
	Pneumonia and ILI admissions	Steady	Usual				
	Pneumonia and ILI critical care admissions	Increased	Usual				
	Bronchiolitis	Decreased	Usual				
	Respiratory, fever and unspecified infections	Decreased	Usual				
	Asthma	Increased	Usual				
	Total presentations (compared with 2012 only)	Increased	Usual				Overall, 4.0% higher than the same week in 2012. Admissions from ED were 8.9% higher.
Ambulance calls, Sydney region	Breathing problems	Increased	Usual				

* **Notes on Table 1:** Statistically significant increases are shown in bold. Recent activity counts are subject to change. 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.

2. Laboratory Surveillance

For the week ending 21 July 2013, the number and proportion of respiratory specimens reported by NSW sentinel laboratories which tested positive for influenza continued to increase (Table 2 and Figure 4). However, respiratory syncytial virus (RSV) and rhinoviruses were the most common respiratory viruses identified by NSW sentinel laboratories.

A total of 1582 tests for respiratory viruses were reported with 154 specimens (14.2 %) testing positive for influenza viruses. Influenza A and influenza B are circulating at similar levels. Influenza A(H1N1) pdm09 appears to be circulating at higher levels than A(H3N2). Influenza B activity increased further this week.

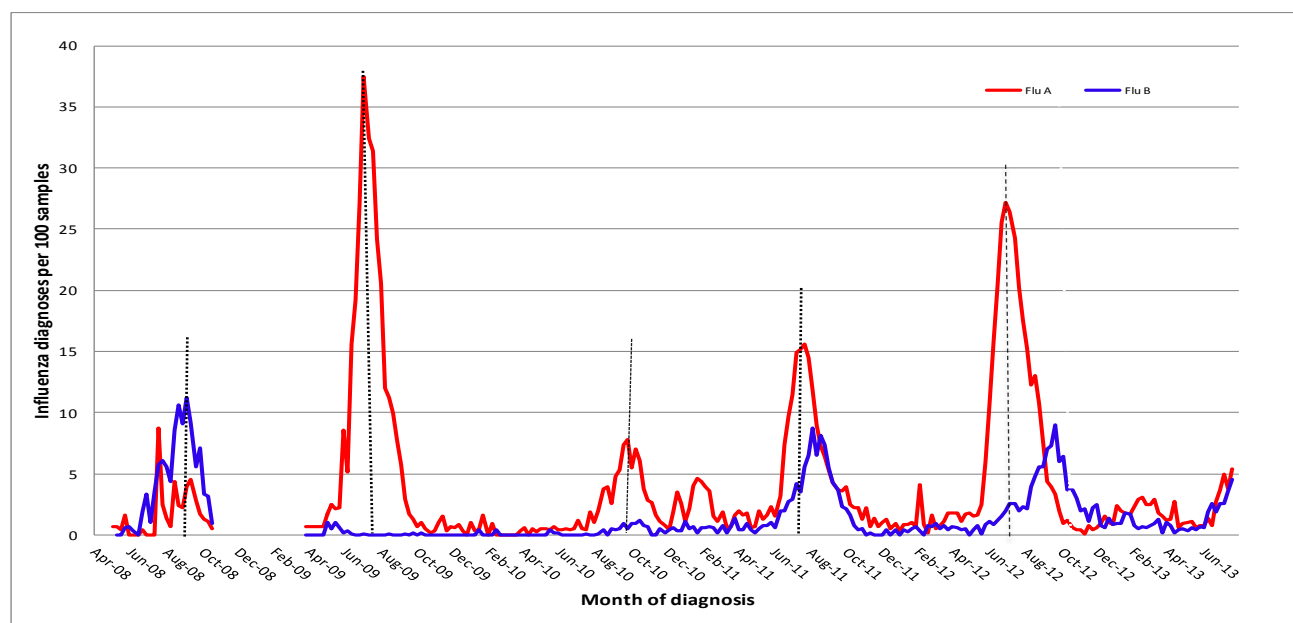
Table 2: Summary of testing for influenza and other respiratory viruses at NSW laboratories, 1 January to 21 July 2013. *

Month ending	Total Tests	Influenza A		A(H3N2)		A(H1N1)pdm09		Influenza B		Adeno.	Parainf. 1, 2 & 3	RSV	Rhino.	Entero.	HMPV****
		Total	(%)	Total	(% Flu A)**	Total	(% Flu A)**	Total	(%)						
01/02/2013*	2199	44	(2.0%)	13	(29.5%)	14	(31.8%)	26	(1.2%)	68	87	81	328	37	59
01/03/2013	2263	60	(2.7%)	17	(28.3%)	20	(33.3%)	15	(0.7%)	55	41	119	452	29	31
29/03/2013	2595	47	(1.8%)	9	(19.1%)	12	(25.5%)	21	(0.8%)	82	59	333	488	53	33
26/04/2013	3165	39	(1.2%)	13	(33.3%)	11	(28.2%)	10	(0.3%)	92	188	599	586	61	54
02/06/2013*	4885	38	(0.8%)	14	(36.8%)	12	(31.6%)	23	(0.5%)	116	115	742	812	41	62
30/06/2013	4855	106	(2.2%)	21	(19.8%)	45	(42.5%)	108	(2.2%)	109	105	663	685	44	94
Week ending															
07/07/2013	1415	71	(5.0%)	1	(1.4%)	35	(49.3%)	37	(2.6%)	40	29	209	175	13	38
14/07/2013	1513	57	(3.8%)	6	(10.5%)	24	(42.1%)	54	(3.6%)	40	40	191	214	15	69
21/07/2013	1582	154	(9.7%)	5	(3.2%)	41	(26.6%)	71	(4.5%)	46	26	166	156	8	56

** Subset of influenza A positive tests. Not all influenza A samples are typed; not all labs currently test for A(H1N1)pdm09.

Samples that test negative for A(H1N1)pdm09 are assumed to be A(H3N2).* HMPV = Human metapneumovirus

Figure 4: Percent of respiratory samples positive for influenza A or influenza B, 1 January 2008 – 21 July 2013, New South Wales. *



Note: Laboratory surveillance data is provided by laboratories on a weekly basis and includes point-of-care tests as of 10 August 2012. Serological diagnoses are not included.

Source: Participating sentinel laboratories include the following: South Eastern Area Laboratory Services, Institute of Clinical Pathology and Medical Research, The Children’s Hospital at Westmead, Sydney South West Pathology Service, Pacific Laboratory Medicine Service, Royal Prince Alfred Hospital, Hunter Area Pathology Service, Nepean Hospital Pathology [no data from Oct 2010 to June 2011], Douglas Hanley Moir Pathology, VDRLab [data from 5 March 2010], Lavery Pathology [data from 1 April 2010 to February 2011] and SydPath (St Vincent’s) Pathology [data since Nov 2010].

3. Community Illness Surveillance

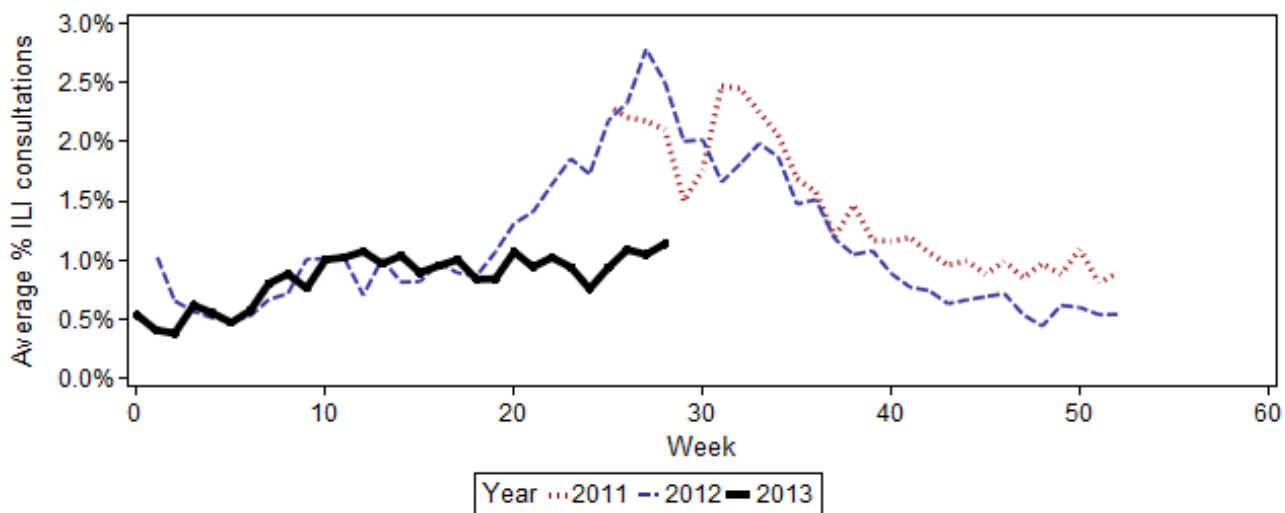
Electronic General Practice Surveillance (eGPS)

eGPS is a primary care influenza surveillance system involving sentinel General Practices within three NSW Local Health Districts (LHD): Northern Sydney (NS), South Eastern Sydney (SES) and Illawarra Shoalhaven (IS). The system monitors patient consultations for influenza-like illness (ILI) as an indicator of influenza activity. Consultations for ILI are identified each week by an automatic search of electronic records for validated combinations of ILI terms rather than diagnosis codes.

Data generated from eGPS should be interpreted with caution as it is not representative of all practices within the participating LHDs or across NSW.

- For week 29 (ending 18 July), reports were received from 19 sentinel practices.
- The average rate for patient consultations with ILI was 1.1% (range 0.0 – 2.3%). This compares to 1.0% in the previous week (Figure 5) and below activity seen at this time in the two previous years.

Figure 5. Average rate of influenza-like-presentations to sentinel General Practices, by week of consultation, 2011-2013.



Note: The number of practices reporting may vary from week to week. Data available from Week 29, 2011.

The Australian Sentinel Practices Research Network (ASPREN)

ASPREN is a network of sentinel general practitioners (GPs) run through the RACGP and University of Adelaide that has collected de-identified information on influenza like illness and other conditions seen in general practice since 1991. GP's participating in the program report on the proportion of patients presenting with an ILI. The number of GP's participating on a weekly basis may vary.

- For the week ending 21 July, there were 22 ASPREN reports received from NSW GP's. The average rate for people presenting with ILI was 2.0% of consultations.

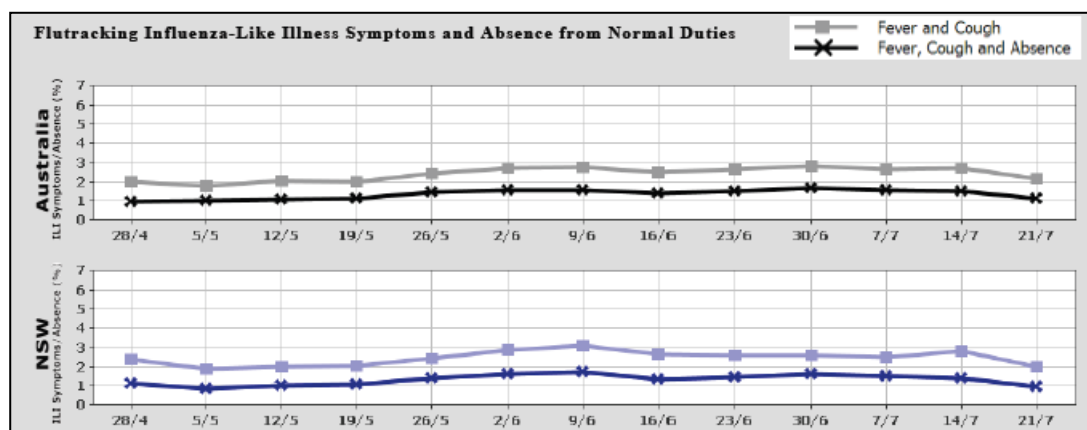
For further information please see the [ASPREN](#) website.

FluTracking.net

FluTracking.net is an online health surveillance system to detect epidemics of influenza. It involves participants from around Australia completing a simple online weekly survey which is used to generate data on the rate of ILI symptoms in communities.

- For the week ending 21 July, FluTracking received reports for 426 people in NSW. Fever and cough declined to 2.0% of respondents, with 0.9% of respondents reporting fever, cough and absence from normal duties (Figure 6).

Figure 6: FluTracking Influenza-Like Illness Symptoms and Absence from Normal Duties, Australia and NSW, to 15 July April to 21 July, 2013.



For further information please see the [FluTracking](#) website.

4. National and International Influenza Surveillance

Avian influenza A(H7N9) in China

The World Health Organization (WHO) this week reported a new case from China. A 61 year-old woman from Hebei province is hospitalized and in a critical condition. The woman's illness is the first new H7N9 case to be confirmed since May 29, raising the outbreak total to 134 cases, including 43 deaths.

Influenza activity worldwide

In summary during weeks 26 and 27, WHO has reported:

- Influenza activity in the northern hemisphere temperate zones remained at inter-seasonal levels. The United States of America reported 12 cases of human infection with influenza A(H3N2)v. More details can be found at <http://www.cdc.gov/flu/swineflu/h3n2v-cases.htm>.
- In most regions of tropical Asia influenza activity decreased, except for India and Viet Nam where influenza A activity remained relatively high.
- In the Caribbean, influenza activity in Cuba and the Dominican Republic remained high, but with decreasing trends. Influenza activity began to increase in Central America.
- Influenza activity in the southern hemisphere increased considerably in South America and in Southern Africa but remained low in Oceania. In temperate South America, respiratory syncytial virus remained the main detected respiratory virus, but the proportion of influenza positive viruses continued to increase. In tropical South America, influenza A(H1N1)pmd09 became the main detected respiratory virus in most countries, except in Ecuador where respiratory syncytial virus (RSV) remained the main detected virus [WHO influenza update No190](#).

Useful influenza surveillance links

- Follow the link for the [Australian Influenza Surveillance Reports](#) which provide the latest information on national influenza activity.
- Follow the link for the [World Health Organization Global Influenza Programme](#).
- Follow the link for Australia's [WHO Collaborating Centre for Reference and Research on Influenza](#), part of an international network of centres analysing influenza viruses currently circulating in the human population in different countries around the world. The centre also provides information on the [current vaccine recommendations](#) for influenza.