

NSW Health Influenza Surveillance Report

Week 35 Ending 31 August 2014

Summary:

For the week ending 31 August 2014, influenza activity in the community across NSW remained high but there were further indications that it has passed its peak.

- [Emergency Department \(ED\) surveillance](#) – influenza-like illness (ILI) presentations to ED decreased further this week but remained high. ILI and pneumonia admissions to critical care wards decreased again this week and were within the usual range.
- [Laboratory surveillance](#) – influenza activity eased slightly this week but remains well above the usual range for this time of year, with the influenza A(H3N2) strain predominating. Reporting of laboratory-confirmed influenza outbreaks in aged care facilities remains high.
- [Community illness surveillance](#) – data collected from eGPS, ASPREN and FluTracking indicated continuing high ILI activity in NSW however decreasing.
- [Hospitalisations surveillance \(FluCAN\)](#) – nine new confirmed influenza admissions were reported.
- [Mortality surveillance](#) – at least 23 deaths linked to laboratory-confirmed influenza reported during the current influenza season.
- [National and International influenza surveillance](#) – the influenza A(H1N1)pdm strain is the predominant strain in most jurisdictions (unlike NSW). Moderate influenza activity was reported across the southern hemisphere.

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 on influenza see the [NSW Health Influenza website](#).

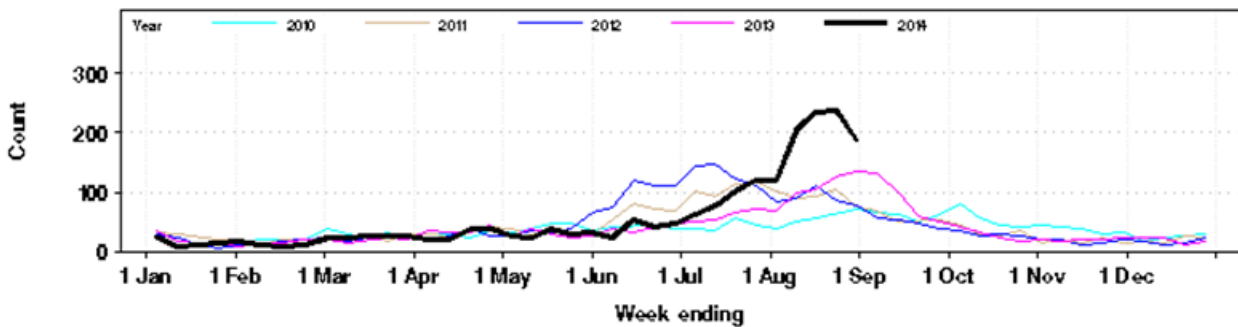
1. Emergency Department (ED) Surveillance

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

Data from 59 NSW emergency departments (ED) are included [1].

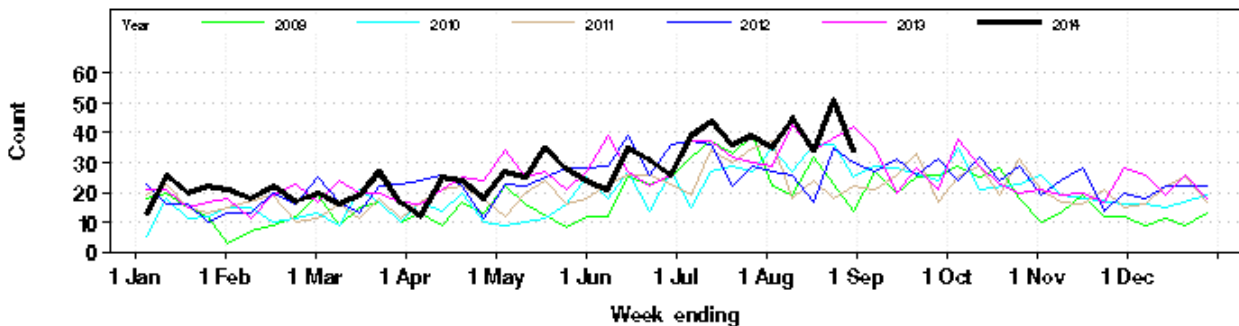
- On 31 August, the index of increase (2) for influenza-like illness presentations was 29.8. The index crossed the season threshold of 15 on 1 July 2014 and the peak index level of 50.7 was on 13 August.
- The total number of ILI presentations to EDs decreased further this week, (Figure 1 and Table 1), although presentations remained well above the peak levels seen in previous years.
- ILI presentations to EDs as a proportion of all ED presentations also remained high at 4.7 cases per 1000 presentations.
- ILI presentations to EDs in the Hunter New England, South Western and Sydney LHDs increased (Table 1).
- Combined ILI and pneumonia admissions to critical care wards decreased this week and returned to the usual range seen at this time of year (Figure 2 and Table 1).
- The overall number of 'respiratory, fever and unspecified infection' presentations decreased and are now within the usual range for this time of year (Table 1).

Figure 1: Total weekly counts of ED visits for influenza-like illness, from January – 31 August 2014 (black line), compared with each of the 4 previous years (coloured lines).*



* **Note:** Excludes 2009 data to better enable comparison of 2014 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 – 31 August 2014 (black line), compared with each of the 5 previous years (coloured lines).



[1] Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) is 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.

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)	Decreased	Above	35+ year olds	Hunter New England, South Western Sydney LHDs		
	Pneumonia	Decreased	Usual	65+ year olds			
	Pneumonia and ILI admissions	Decreased	Usual	65+ year olds			
	Pneumonia and ILI critical care admissions	Decreased	Usual				
	Bronchiolitis	Steady	Usual				Bronchiolitis is a disease of infants.
	Respiratory illness, fever or unspecified infections	Decreased	Usual	0-4 year olds and 35+ year olds	South Western Sydney LHD		
	Asthma	Decreasing	Usual				
Ambulance calls, NSW	Breathing problems	Decreased	Above	65+ year olds			

* **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 31 August 2014, the number and proportion of respiratory specimens reported by NSW sentinel laboratories [2] which tested positive for influenza A continued to decrease. However, activity is still at very high levels and remained above the usual range for this time of year (Table 2 and Figure 3). Influenza B activity increased further this week.

Overall, a total of 5793 tests for respiratory viruses were reported with 2283 specimens (39.4%) testing positive for influenza viruses. These testing results suggest that the influenza A (H3N2) strain is continuing to circulate at higher levels than the influenza A (H1N1) or influenza B strains (Table 2).

Influenza was the leading respiratory virus identified by laboratories this week; reports of rhinovirus and human metapneumovirus were also high for this time of year (Table 2).

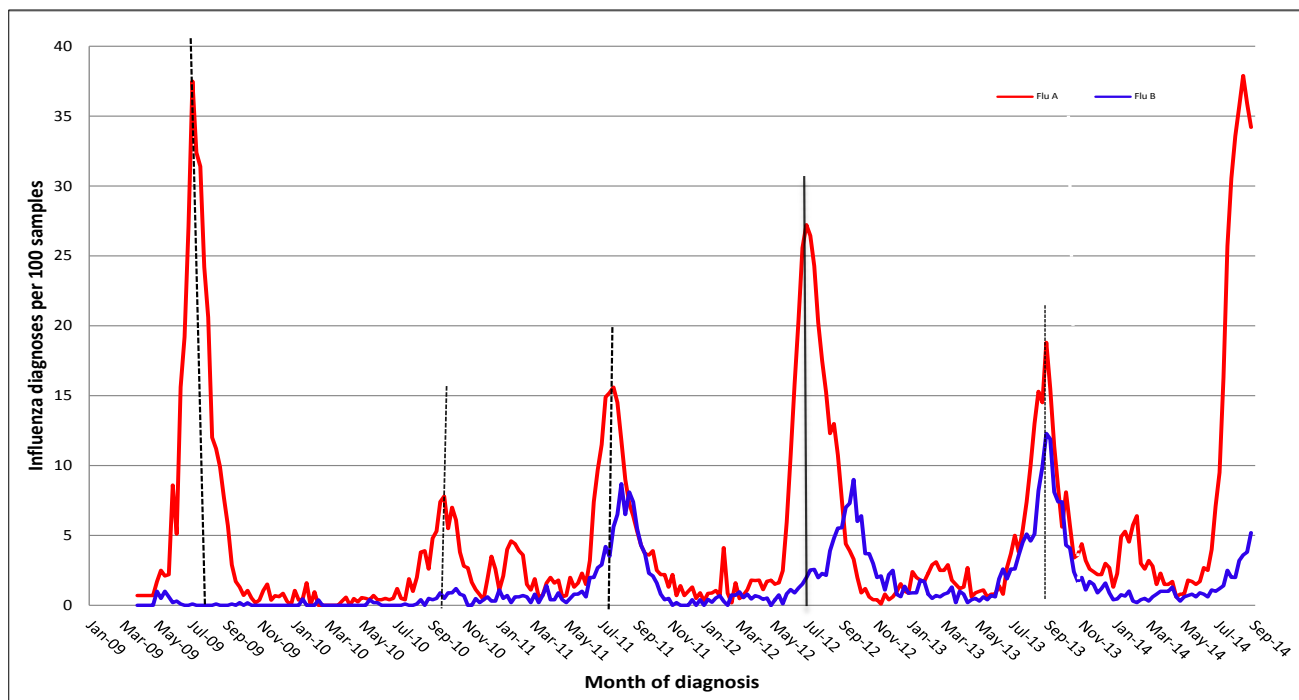
Table 2: Summary of testing for influenza and other respiratory viruses at NSW laboratories, 1 January to 31 August 2014.

Month ending	Total Tests	TEST RESULTS *																
		Influenza A						Influenza B		Adeno	Parainf 1, 2 & 3	RSV	Rhino	Entero	HMPV			
		Total		H3N2 **		H1N1 pdm09		A (Not typed)								Total		
		Total	(%)	Total	(%A) **	Total	(%A)	Total	(%A)	Total	(%)							
02/02/2014*	3541	163	(4.6%)	36	(22.1%)	31	(19.0%)	96	(58.9%)	23	(0.6%)	98	123	90	339	12	32	
02/03/2014	3413	127	(3.7%)	19	(15.0%)	39	(30.7%)	69	(54.3%)	12	(0.4%)	56	79	149	362	7	23	
30/03/2014	4843	95	(2.0%)	11	(11.6%)	36	(37.9%)	49	(51.6%)	41	(0.8%)	97	135	387	549	22	37	
27/04/2014	5360	64	(1.2%)	3	(4.7%)	15	(23.4%)	47	(73.4%)	45	(0.8%)	103	177	753	535	30	50	
01/06/2014*	7383	112	(1.5%)	8	(7.1%)	17	(15.2%)	87	(77.7%)	48	(0.7%)	115	159	1011	659	21	83	
29/06/2014	6572	280	(4.3%)	90	(32.1%)	34	(12.1%)	156	(55.7%)	58	(0.9%)	102	88	792	560	39	92	
03/08/2014*	13818	3497	(25.3%)	958	(27.4%)	327	(9.4%)	2216	(63.4%)	264	(1.9%)	216	143	852	926	22	245	
31/08/2014	22209	7980	(35.9%)	1586	(19.9%)	651	(8.2%)	5637	(70.6%)	893	(4.0%)	275	155	416	990	41	319	
Week ending																		
10/08/2014	4259	1519	(35.7%)	400	(26.3%)	156	(10.3%)	963	(63.4%)	137	(3.2%)	56	32	85	220	3	73	
17/08/2014	5786	2192	(37.9%)	510	(23.3%)	201	(9.2%)	1481	(67.6%)	215	(3.7%)	81	56	134	264	8	66	
24/08/2014	6371	2286	(35.9%)	398	(17.4%)	180	(7.9%)	1603	(70.1%)	241	(3.8%)	67	27	104	259	5	81	
31/08/2014	5793	1983	(34.2%)	278	(14.0%)	114	(5.7%)	1590	(80.2%)	300	(5.2%)	71	40	93	247	25	99	

Note: * Five week reporting period. ** Subset of influenza A positive tests. Not all influenza A samples are typed; samples that test negative for A(H1N1)pdm09 are assumed to be A(H3N2). *** HMPV = Human metapneumovirus

[2] **Source:** Participating sentinel laboratories include the following: South Eastern Area Laboratory Services (Data incomplete for week 29), The Children's Hospital at Westmead, Sydney South West Pathology Service, Pacific Laboratory Medicine Service, Royal Prince Alfred Hospital, Hunter Area Pathology Service, Pathology West – Westmead & Pathology West - Nepean [no data from Oct 2010 to June 2011], Douglas Hanley Moir Pathology, VDRLab [data from 5 March 2010], Laverty Pathology [data from 1 April 2010 to February 2011], SydPath (St Vincent's) Pathology [data from Nov 2010], Medlab, and Laverty [data from September 2013].

Figure 3: Percent of respiratory samples positive for influenza A or influenza B, 1 January 2009 to 31 August 2014, 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.

Laboratory-confirmed influenza outbreaks in institutions

There were 13 respiratory outbreaks in residential care facilities reported this week; three were due to the influenza A(H3N2) strain, one was due to influenza B, and nine remain untyped.

In the year to date there have been 97 laboratory-confirmed influenza outbreaks in institutions reported to NSW public health units (Table 3). Eighty-eight of these outbreaks have been in residential care facilities (RCF), with at least 1121 residents affected and resulting in 150 hospitalisations. Fifty-two deaths in residents linked to these RCF outbreaks have been reported, although influenza has not been confirmed for all of the fatal cases.

As influenza A(H3N2) is currently the dominant strain in NSW people in older age-groups, particularly residents of aged care facilities, are at higher risk of infection than when influenza A(H1N1)pdm was the dominant strain.

Table 3. Reported influenza outbreaks in NSW institutions, 2006 to August 2014.

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014*
No. of outbreaks	2	25	9	1	2	4	39	12	97

Note: * Year to date.

3. Community Illness Surveillance

Electronic General Practice Surveillance (eGPS)

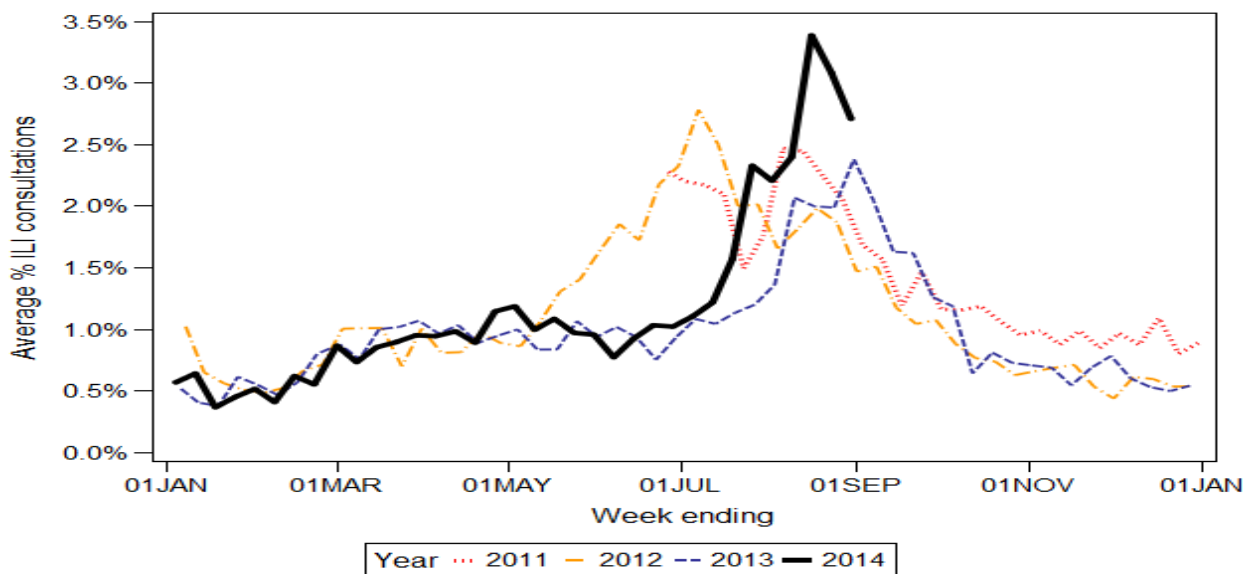
eGPS is a primary care influenza surveillance system involving sentinel general practices within three NSW Local Health Districts (LHD): Northern Sydney (NS), South Eastern Sydney* (SES) and Illawarra Shoalhaven (IS). The system monitors patient consultations for influenza-like illness (ILI) as an

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 they are not representative of all practices within the participating LHDs or across NSW. In week 35:

- there were 13 surveillance reports received from eGPS sentinel practices in NSW;
- the average rate for patient consultations was 2.7% (range 0.4 – 5.5%), which was down compared with the previous week however remains higher than for the same time period in recent years (Figure 5).

Figure 5. Average rate of influenza-like presentations to sentinel general practices, by week of consultation 2011-14



* Note – South Eastern Sydney are currently only providing data for 2 practices.

The Australian Sentinel Practices Research Network (ASPREN)

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

In week 35 there were 39 ASPREN reports received from NSW GPs. The overall consultation rate for ILI was 5.1 per cent, down from the previous week, and higher the usual range seen for this time of year with the exception of 2009.

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

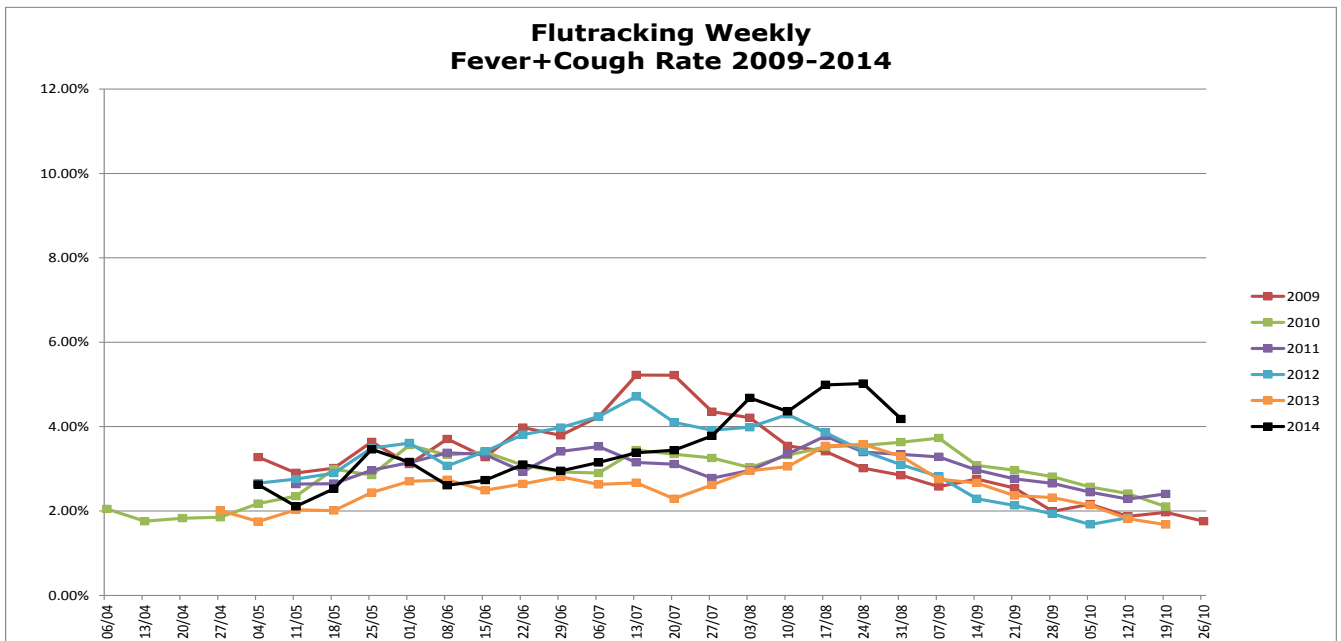
FluTracking.net

FluTracking.net is an online health surveillance system to detect epidemics of influenza. FluTracking is a project of the University of Newcastle, the Hunter New England Local Health District and the Hunter Medical Research Institute. 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.

In week 35 FluTracking received reports for 5383 people in NSW, including:

- 4.2% of respondents reported fever and cough, lower than the previous week and above the usual range for this time of year (Figure 6);
- 2.6% of respondents reported fever, cough and absence from normal duties, lower than the previous week (data not shown).

Figure 6: FluTracking – Weekly influenza like illness reporting rate, NSW, 2009 – 2014.



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

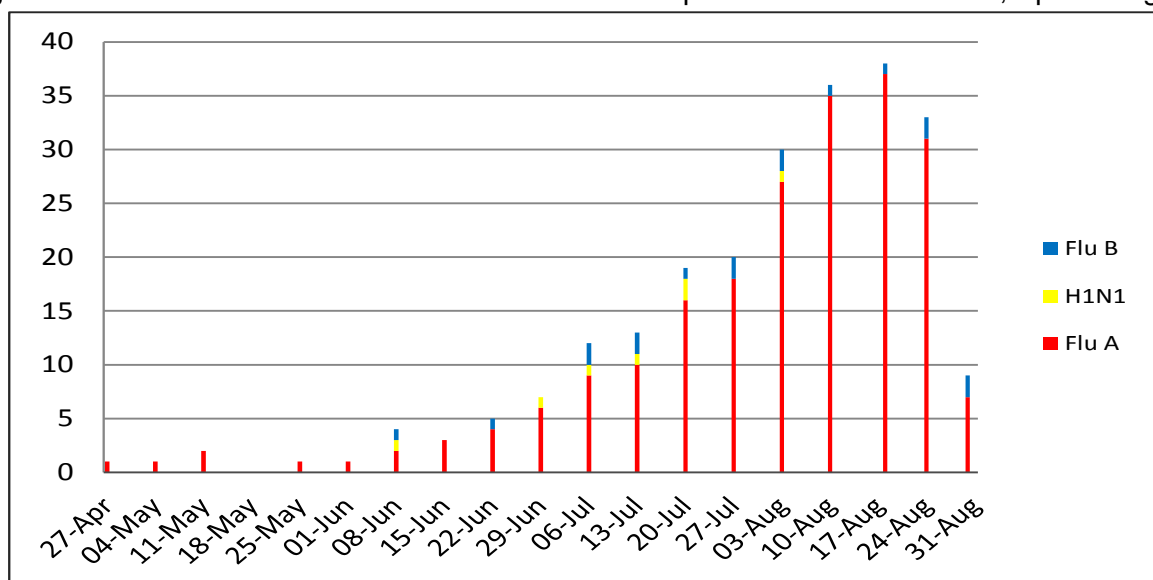
FluCAN (The Influenza Complications Alert Network)

In 2009, the [FluCAN](#) surveillance system was created with the involvement and support of the Thoracic Society of Australia and New Zealand and with funding from the NHMRC to be a rapid alert system for severe respiratory illness. The aim of FluCAN was to establish and maintain a real-time sentinel hospital surveillance system for acute respiratory disease requiring hospitalisation, which could provide a reliable and timely source of information that could be used to inform public health policy.

In NSW, three hospitals participate in providing weekly data; Westmead Hospital, John Hunter Hospital and the Children’s Hospital at Westmead.

- In week 35 there were 9 confirmed influenza admissions reported in NSW sentinel hospitals (Figure 7), a marked decrease compared to recent activity.
- Since 7 April 2014, there have been 235 hospital admissions reported for influenza: 218 with influenza A and 17 with influenza B (Figure 7).
- Of these admissions, 165 were paediatric (<16 years of age) case and 70 were in adults. Fifteen of the cases were admitted to an ICU/HDU.

Figure 7: FluCAN – Number of confirmed influenza hospital admissions in NSW, April – August 2014.



4. Mortality Surveillance

In previous years we have routinely reviewed deaths registration data for deaths attributed to pneumonia or influenza. Unfortunately death data from the NSW Register of Births, Deaths and Marriages is currently unavailable and will not be available until later this year.

Information on influenza-related deaths obtained from a variety of other sources for the period 01 May to 31 August 2014 indicated that there have been at least 23 people die in NSW with laboratory-confirmed influenza infections. Four of these have been in children aged less than 15 years, six in people aged 30 to 50 years, and 13 in people aged more than 50 years. It is unclear to what extent the influenza infection contributed to their deaths.

Influenza infections are likely to cause many more deaths each year but they are often not confirmed. Influenza infections may also be complicated by secondary bacterial pneumonia or may exacerbate non-respiratory illnesses, such as ischaemic heart disease, and so contribute to fatal illness.

5. National and International Influenza Surveillance

Australian Influenza Activity Update (week ending 15 August 2014)

The Australian Department of Health has reported the following:

- Seasonal influenza activity has continued to increase across all jurisdictions with New South Wales and Queensland reporting the highest levels of activity.
- Influenza A strains continue to predominated over influenza B strains.
- Influenza A(H1N1)pdm09 remains the predominant influenza virus type in most jurisdictions where subtyping data are available. However, influenza A(H3N2) is the dominant strain in New South Wales and the Australian Capital Territory, with reporting of this strain also increasing in Western Australia.
- Laboratory analyses suggest that the current influenza vaccine is likely to provide good coverage against the influenza viruses currently circulating in Australia (reported by the WHO Collaborating Centre for Reference and Research on Influenza in Melbourne).
- The severity of the 2014 influenza season appears to be moderate across most jurisdictions, although only NSW has noted a markedly increased impact on aged-care facilities (as described in this report).

For further information on the National Notifiable Disease Surveillance System, which includes laboratory-confirmed influenza reports, see:

<http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-ozflu-2014.htm>

Influenza activity worldwide

The World Health Organization (WHO) influenza update released on 25 August 2014 noted that globally influenza activity remained low, with influenza-like illness activity in the southern hemisphere either at or approaching peak seasonal levels.

- In Europe and North America, overall influenza activity remained at inter-seasonal levels.
- Influenza activity was low in northern and central tropical Africa, and in western Asia.
- In eastern Asia, influenza activity was at inter-seasonal levels in most countries. Influenza A(H3N2) activity continued in south China.
- In the southern hemisphere, influenza activity continued to increase in most countries. In temperate South America, influenza activity was mainly associated with the A(H3N2) strain and continued to increase.
- In New Zealand as in other parts of Australia, the influenza season is underway with influenza A(H1N1)pdm09 the most commonly detected strain. In South Africa the influenza detection rate increased with A(H3N2) the dominant strain.

For further information see the full WHO report at: [WHO influenza update No 218](#).

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.