

NSW Health Influenza Surveillance Report

Week 36 Ending 7 September 2014

Summary:

For the week ending 7 September 2014, influenza activity in the community across NSW remained high but continues to trend downward.

- [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 has decreased.
- [Community illness surveillance](#) – data collected from eGPS, ASPREN and FluTracking indicated continuing high ILI activity in NSW however decreasing.
- [Hospitalisations surveillance \(FluCAN\)](#) – eleven new confirmed influenza admissions were reported.
- [National and International influenza surveillance](#) – the influenza A(H1N1)pdm09 strain is the predominant strain in most jurisdictions (unlike NSW). Moderate influenza activity was reported across the southern hemisphere. Two new human cases of infection with the 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 on influenza see the [NSW Health Influenza website](#).

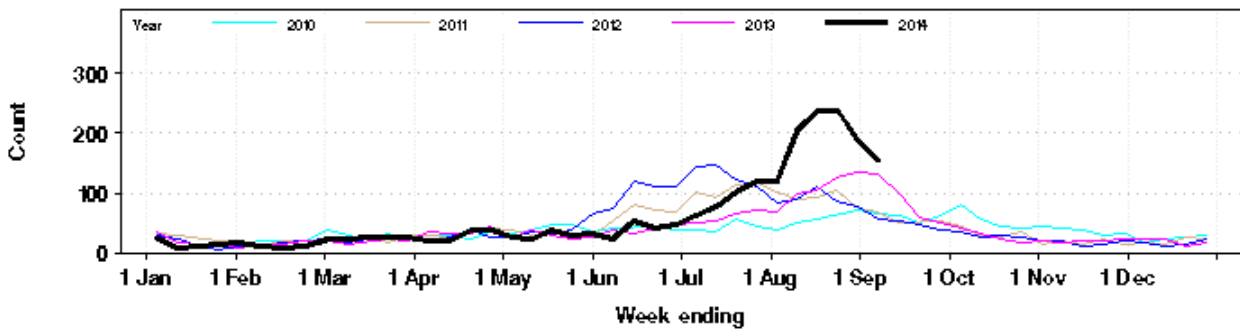
1. Emergency Department (ED) Surveillance

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

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

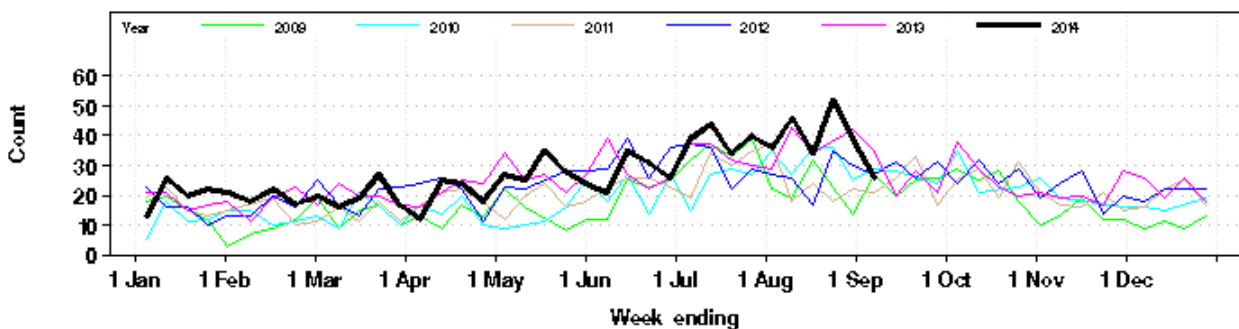
- On 7 September, the index of increase for influenza-like illness presentations was 21.2, well above the usual level for this time of year. The index crossed the season threshold of 15 on 1 July 2014 and the peak index level of 50.7 was on 13 August.
- The total number of ILI presentations to EDs decreased further this week, (Figure 1 and Table 1) although presentations remained well above the peak levels seen in previous years, particularly in persons aged 65 years and over.
- ILI presentations to EDs as a proportion of all ED presentations also remained high at 3.9 cases per 1000 presentations.
- Local increases in ILI presentations to EDs were seen in Northern NSW LHD, John Hunter, Bankstown and Sydney Children’s hospitalised (Table 1).
- Combined ILI and pneumonia admissions to critical care wards decreased further this week and were within the usual range seen at this time of year (Figure 2 and Table 1).

Figure 1: Total weekly counts of ED visits for influenza-like illness, from January – 7 September 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 – 7 September 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	65+ year olds	Northern NSW LHD, John Hunter, Bankstown, and Sydney Children's Hospitals		
	Pneumonia	Decreased	Usual		Far West LHD (Broken Hill hospital)		
	Pneumonia and ILI admissions	Decreased	Usual				
	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	65+ year olds	Far West LHD (Broken Hill hospital), South Western Sydney LHD, and John Hunter Hospital		
	Asthma	Decreasing	Usual				
Ambulance calls, NSW	Breathing problems	Decreased	Usual		Sydney metropolitan area		

* **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 7 September 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 high levels (Table 2 and Figure 3). Influenza B activity eased this week.

Overall, a total of 5244 tests for respiratory viruses were reported with 1419 specimens (27.1%) testing positive for influenza viruses. The 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 adenovirus and human metapneumovirus were also high for this time of year (Table 2).

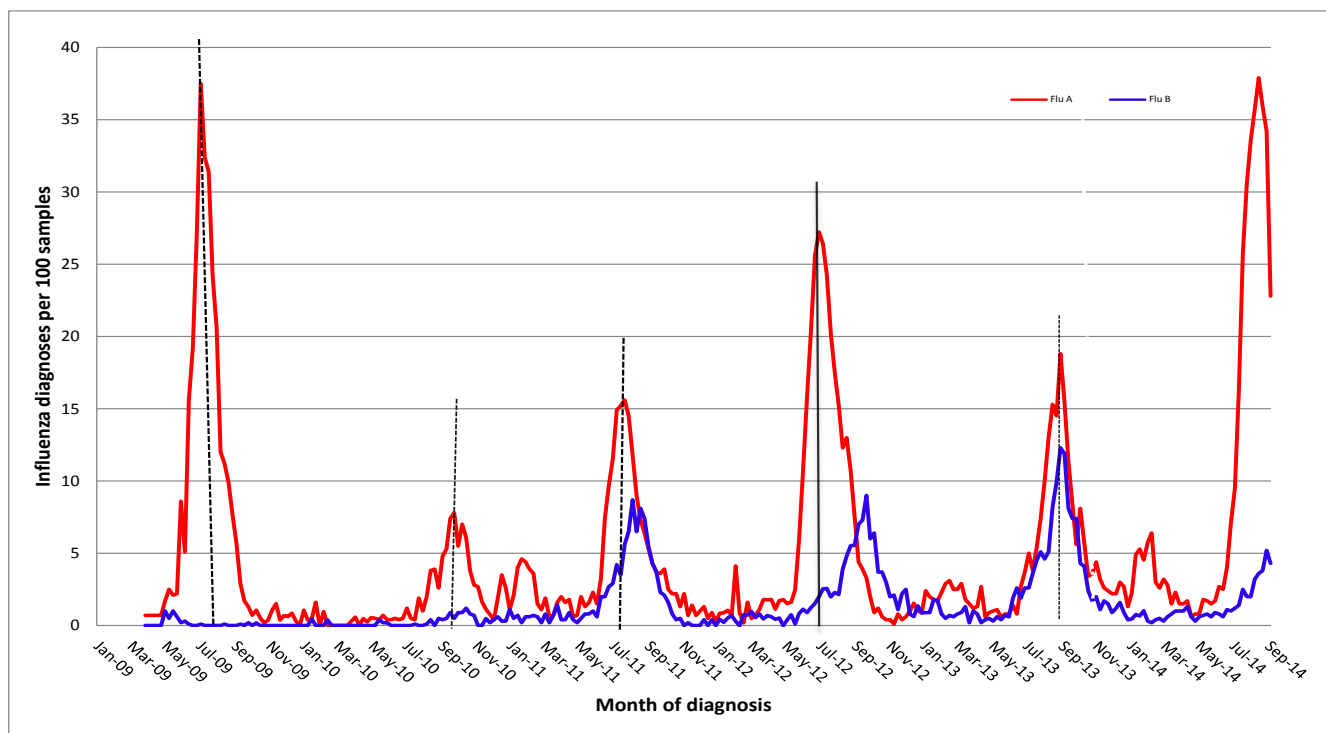
Table 2: Summary of testing for influenza and other respiratory viruses at NSW laboratories, 1 January to 7 September 2014.

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																	
07/09/2014	5244	1195 (22.8%)	215 (18.0%)	70 (5.9%)	910 (76.2%)	224 (4.3%)	107	51	75	252	16	83					

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], Lavery Pathology [data from 1 April 2010 to February 2011], SydPath (St Vincent's) Pathology [data from Nov 2010], Medlab, and Lavery [data from September 2013]. Medlab data not available for week ending 5 September 2014.

Figure 3: Percent of respiratory samples positive for influenza A or influenza B, 1 January 2009 to 7 September 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 seven respiratory outbreaks in residential care facilities reported this week; two were due to the influenza A(H3N2) strain, and five were due to an untyped influenza A strain.

In the year to date there have been 105 laboratory-confirmed influenza outbreaks in institutions reported to NSW public health units (Table 3). Ninety-six of these outbreaks have been in residential care facilities (RCF), with at least 1302 residents affected and resulting in 168 hospitalisations. Fifty-seven 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 for years when influenza A(H1N1)pdm09 was the dominant strain.

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

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014*
No. of outbreaks	2	25	9	1	2	4	39	12	105

Note: * Year to date.

3. Community Illness Surveillance

Electronic General Practice Surveillance (eGPS)

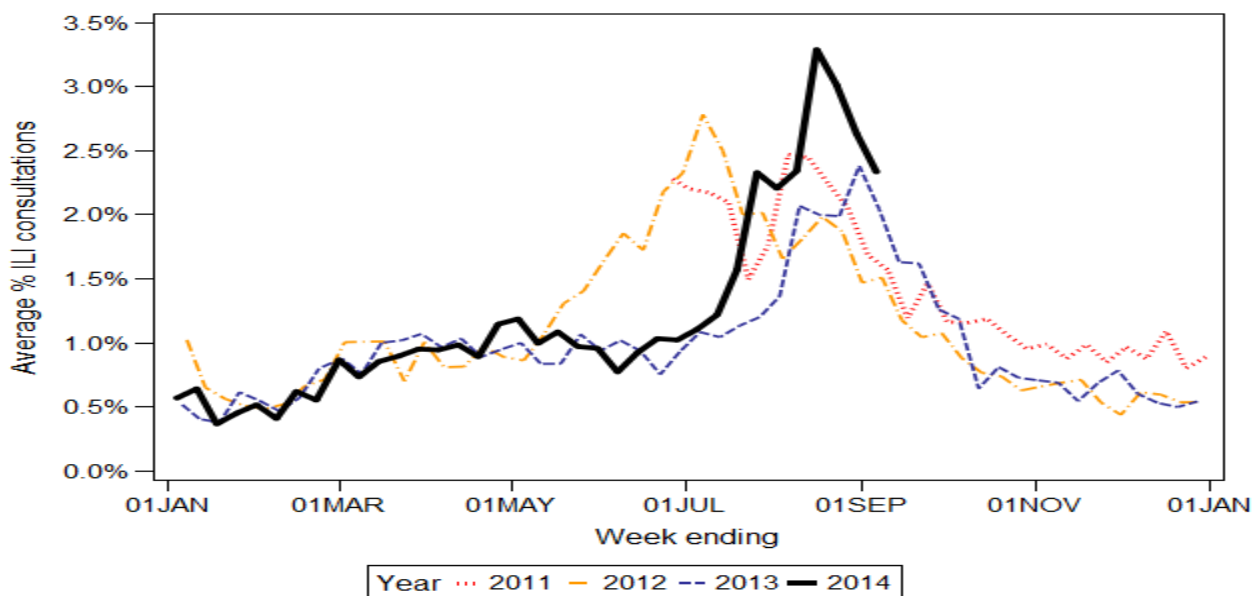
eGPS is a primary care influenza surveillance system involving sentinel general practices within three NSW Local Health Districts (LHD): Northern Sydney (NS), South Eastern Sydney* (SES) and Illawarra Shoalhaven (IS). The system monitors patient consultations for influenza-like illness (ILI) as an

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 36:

- there were 13 surveillance reports received from eGPS sentinel practices in NSW;
- the average rate for patient consultations was 2.3% (range 0.7 – 4.5%), which was down compared with the previous week but 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 36 there were 30 ASPREN reports received from NSW GPs. The overall consultation rate for ILI was 4.2 per cent, down from the previous week but higher the usual range seen for this time of year (with the exception of 2009).

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

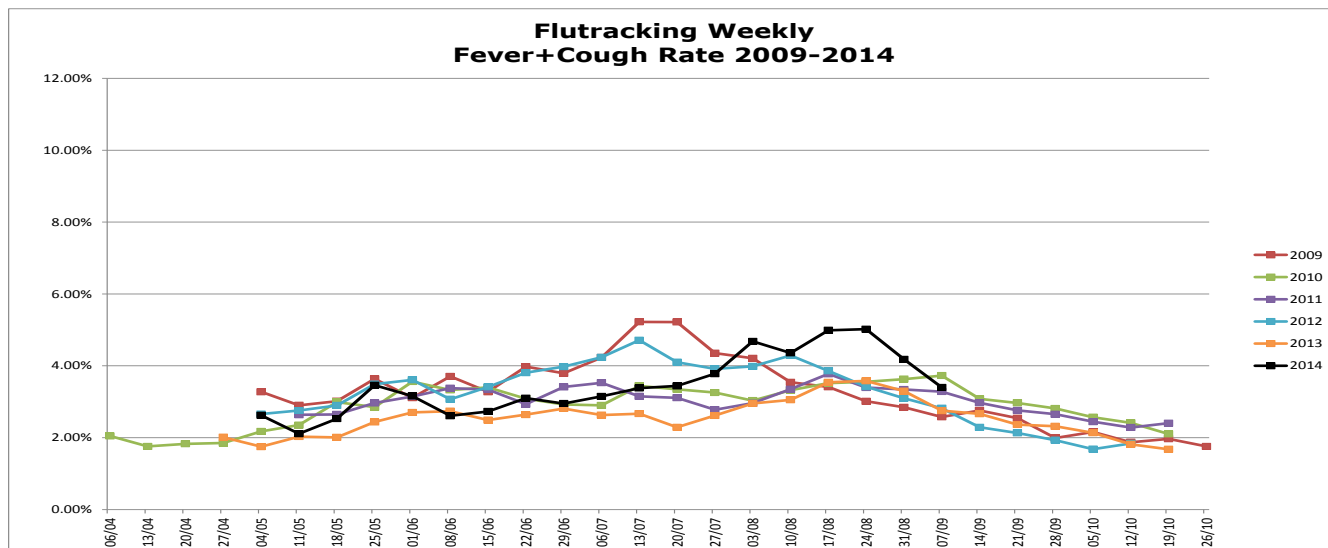
FluTracking.net

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 36 FluTracking received reports for 5326 people in NSW, including:

- 3.4% of respondents reported fever and cough, lower than the previous week and within the usual range for this time of year (Figure 6);
- 2.2% 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.

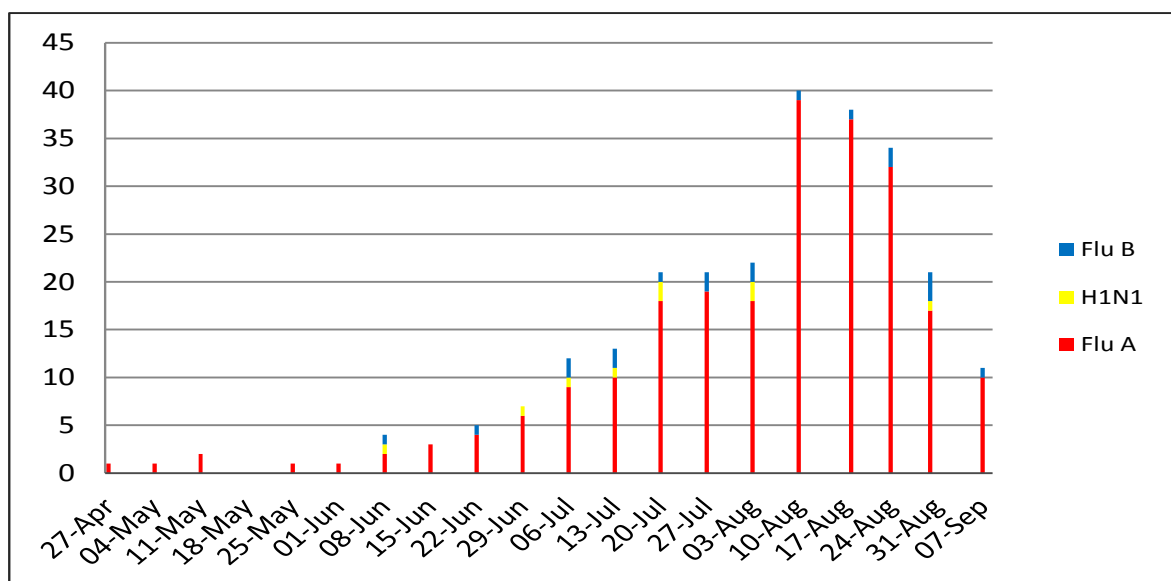
FluCAN (The Influenza Complications Alert Network)

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 36 there were 11 confirmed influenza admissions reported in NSW sentinel hospitals (Figure 7), with admissions continuing to decrease.
- Since 7 April 2014, there have been 258 hospital admissions reported for influenza: 239 with influenza A and 19 with influenza B (Figure 7).
- Of these admissions, 131 were paediatric (<16 years of age) case and 127 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 – September 2014.



4. National and International Influenza Surveillance

Australian Influenza Activity Update (week ending 29 August 2014)

The Australian Department of Health has reported the following:

- Across most jurisdictions, seasonal influenza activity appears to have peaked in recent weeks with the exception of South Australia and the Northern Territory where activity continues to rise.
- As at 29 August 2014, there have been 42,354 cases of laboratory confirmed influenza reported, with 12,279 notifications occurring during the report fortnight.
- Nationally influenza A is the predominant influenza virus type. Of those viruses where subtyping data are available, A(H1N1)pdm09 remains the predominant influenza virus type in most jurisdictions. In New South Wales and the Australian Capital Territory, influenza A(H3N2) is the most common virus type.
- The influenza vaccine is likely to provide good coverage against the currently circulating viruses.
- The rate of influenza associated hospitalisations has remained stable over the past fortnight, with around 11% of cases admitted directly to ICU. The majority of hospital admissions have been associated influenza A infections and the median age of cases is 45 years.
- The severity of the 2014 influenza season appears to be moderate across most jurisdictions. However, more severe activity is noted in NSW.

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>

Avian influenza in Humans

Human infection with avian influenza A(H7N9) viruses:

On 2 September 2014, the National Health and Family Planning Commission of China notified the World Health Organization (WHO) of two new laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus.

According to the most recent update on avian influenza A(H7N9) available on the Hong Kong Centre for Health Protection [website](#), a total of 453 human cases of avian influenza A(H7N9) have been confirmed in the Mainland. This has been the first report of cases of avian influenza A(H7N9) since July 2014.

There remains no evidence of sustained human-to-human transmission and most cases are linked to exposure to poultry, particularly in live poultry markets. The disease is mild in poultry so outbreaks remain difficult to detect.

Influenza activity worldwide

The World Health Organization (WHO) influenza update released on 25 August 2014 noted that globally the influenza season is ongoing in the southern hemisphere. Elsewhere influenza activity remained low.

- In Europe and North America, overall influenza activity remained at inter-seasonal levels.
- In Africa (except the southern cone) and western Asia, influenza activity was low.
- In eastern Asia, influenza activity remained low in most countries with influenza A(H3N2) the main detected virus subtype. Influenza A(H3N2) and some influenza B activity continued in south China.
- In the southern hemisphere, the influenza season was ongoing. In the temperate zone of South America, influenza activity mainly associated with A(H3N2) virus decreased. In Australia and New Zealand, the influenza season was ongoing. Australia reported a sharp increase in activity associated with A(H1N1)pdm09 and A(H3N2) viruses in recent weeks with the highest number of influenza-like illness (ILI) rates and weekly notifications of influenza confirmed cases in the last 5 years. In South Africa the influenza season continued with the A(H3N2) strain most frequently detected.

WHO FluNet laboratory reporting during weeks 33 and 34 (10 August to 23 August 2014) noted:

- Of the 26 262 respiratory specimens tested, 3222 (6.9%) were positive for influenza viruses. Of these, 82% were typed as influenza A and 18% as influenza B.
- Of the sub-typed influenza A viruses, 18% were A(H1N1)pdm09 and 82% were A(H3N2).
- Of the characterized B viruses, 99% belonged to the B-Yamagata lineage and 1% to the B-Victoria lineage.

For further information see the full WHO report at: [WHO influenza update No 219](#).

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.