

# NSW Health Influenza Surveillance Report

Week 24: 8 to 14 June 2015

## Summary:

- **The influenza season is likely to commence in the next few weeks.**
- **Influenza activity is increasing but continues to be generally low in most parts of NSW.**

### In this reporting week:

- [Hospital surveillance](#) – presentations to NSW emergency departments for influenza-like illness (ILI) eased and were below the flu season threshold. Bronchiolitis presentations remained high.
- [Laboratory surveillance](#) – the proportion of respiratory samples positive for influenza was low (5.5%) but continues to increase, with influenza B viruses predominant. Respiratory syncytial virus (RSV) and rhinovirus activity remain high.
- [Community surveillance](#) – influenza notifications were highest in metropolitan areas but low overall. Data collected from ASPREN and FluTracking show low but increasing ILI activity as expected for this time of year. There was one report of an influenza outbreak in an institution.
- [National and international influenza surveillance](#) – Across Australia the influenza season does not appear to have commenced. While influenza notifications are higher than at this point last year, they are still at low levels.

### About this report:

Health Protection NSW collects and analyses surveillance data on influenza and other respiratory viruses. Surveillance reports are produced weekly 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. Hospital Surveillance

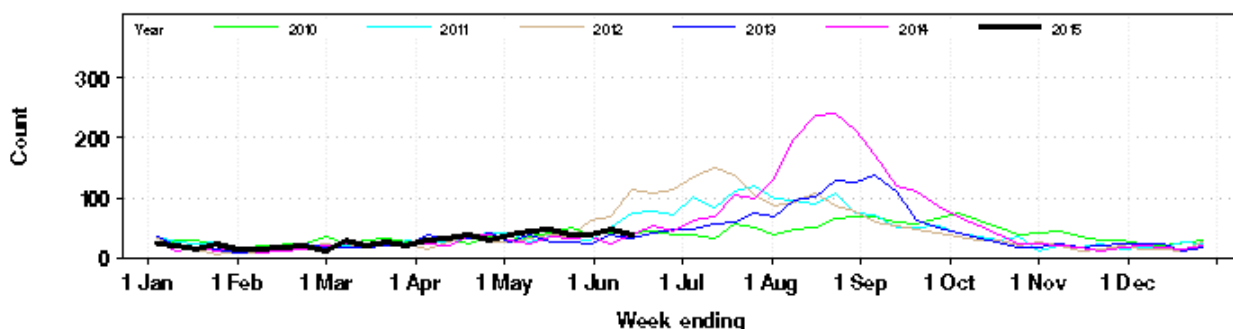
## NSW emergency department (ED) presentations for influenza-like illness (ILI) and other respiratory illnesses

Source: NSW PHREDSS [1]

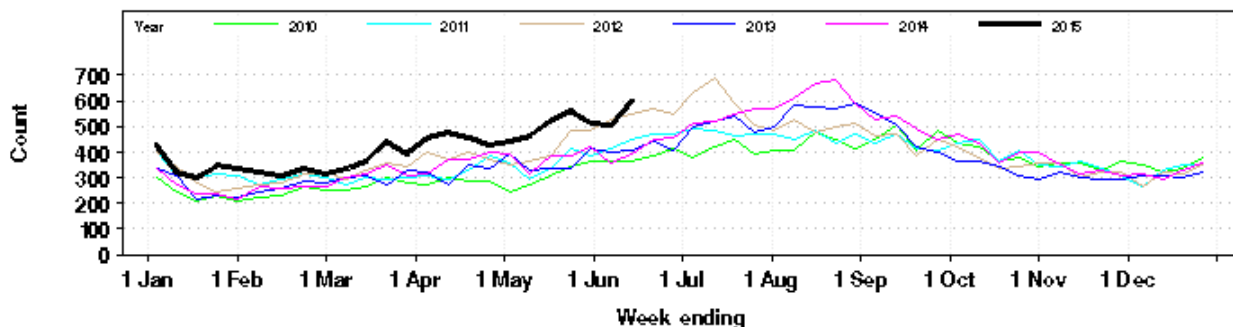
For the week ending 14 June 2015:

- ILI presentations decreased slightly and were within the range of activity seen in previous years (Figure 1 and Table 1). The index of increase for ILI presentations decreased to 9.3 on 14 June, slightly lower than the previous week and below the influenza season threshold of 15.
- The proportion of ILI presentations to all ED presentations was low at 0.9 per 1000 presentations.
- ED presentations for pneumonia increased this week and were above the usual range seen for this time of year (Figure 2).
- Pneumonia or ILI presentations which resulted in admission to critical care increased further this week and were at the upper end of the usual range for this time of year (Figure 3 and Table 1).
- The overall numbers of respiratory, fever and unspecified infection presentations were elevated for children under the age of 5 years and adults aged more than 65 years and in Northern Sydney, Hunter New England and South Western Sydney LHDs (Table 1).
- Bronchiolitis presentations continued to be elevated and increased this week. Presentations were well above the usual range for this time of year (Figure 4 and Table 1).

**Figure 1:** Total weekly counts of ED visits for influenza-like illness, from January – 14 June 2015 (black line), compared with each of the 5 previous years (coloured lines).

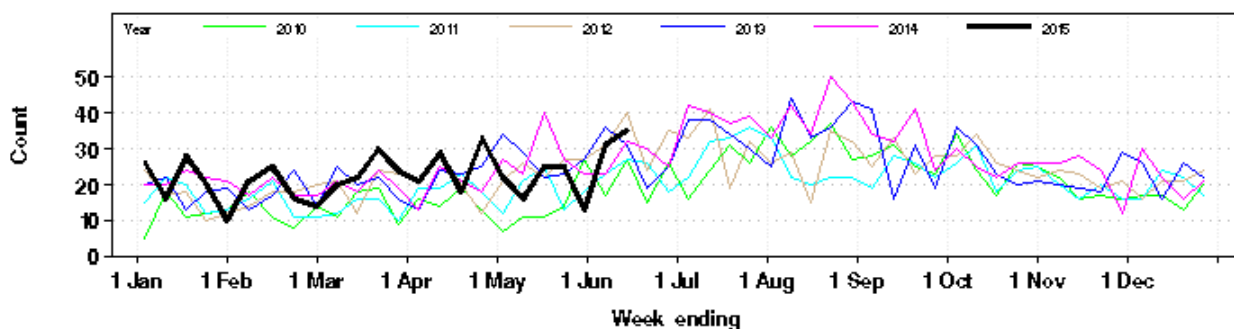


**Figure 2:** Total weekly counts of ED presentations for pneumonia, from January – 14 June 2015 (black line), compared with each of the 5 previous years (coloured lines).

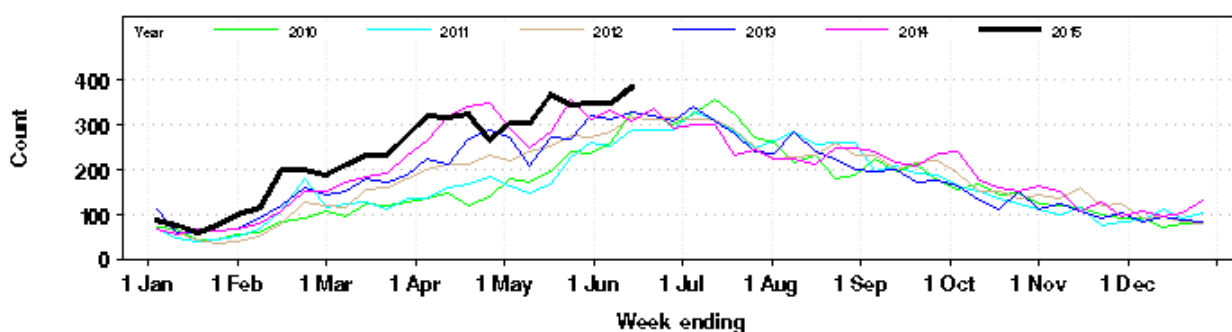


[1] NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) is managed by the Centre for Epidemiology and Evidence, NSW Ministry of Health. Data from 59 NSW emergency departments (ED) are included. Comparisons are made with data for the preceding five years. Recent counts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

**Figure 3:** Total weekly counts of ED presentations for pneumonia or influenza-like illness and admitted to a critical care ward, from January – 14 June 2015 (black line), compared with each of the 5 previous years (coloured lines).



**Figure 4:** Total weekly counts of ED visits for bronchiolitis, from January – 14 June 2015 (black line), compared with the 5 previous years (coloured lines).



**Table 1:** Weekly ED and Ambulance Respiratory Activity Summary for the week ending 14 June 2015. Includes data from 59 NSW EDs and the NSW Ambulance Division. \*

Data source	Diagnosis or problem category	Trend since last week	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	Usual				
	Pneumonia	Increased	<b>Above</b>				
	Pneumonia and ILI admissions	Increased	<b>Above</b>				
	Pneumonia and ILI critical care admissions	Increased	Usual				
	Bronchiolitis	Increased	<b>Above</b>				Bronchiolitis is a disease of infants.
	Respiratory illness, fever or unspecified infections	Increased	<b>Above</b>	0-4 years 65+ years	Northern Sydney LHD Hunter New England LHD South Western Sydney LHD		
	Asthma	Steady	Usual				
Ambulance Triple Zero (000) calls, NSW	Breathing problems	Increased	<b>Above</b>				

\* **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.

## FluCAN (The Influenza Complications Alert Network)

In 2009, the [FluCAN](#) surveillance system was created to be a rapid alert system for severe respiratory illness requiring hospitalisation. Data is provided on patients admitted with influenza confirmed by polymerase chain reaction (PCR) testing.

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

- During week 24 there were three influenza admissions reported in NSW sentinel hospitals.
- Since 1 April 2015, there have been 16 hospital admissions reported for influenza; 10 with influenza A and 6 with influenza B.
- Of these admissions, 6 were paediatric (<16 years of age) cases and 10 were in adults. Two cases were admitted to ICU/HDU.

## 2. Laboratory Surveillance

For the week ending 14 June 2015 the number and proportion of respiratory specimens reported by NSW sentinel laboratories [2] which tested positive for influenza A or influenza B increased compared to the activity levels seen in the previous week (Table 2 and Figures 5 and 6).

A total of 3,399 tests for respiratory viruses were reported with 186 specimens (5.5%) testing positive for influenza viruses. Influenza B was more commonly identified than influenza A.

Rhinovirus and respiratory syncytial virus (RSV) were the leading respiratory viruses reported. Other viruses are circulating at usual levels for this time of year (Table 2).

**Table 2:** Summary of testing for influenza and other respiratory viruses at NSW laboratories, 1 January to 14 June, 2015.

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 (%)	Total (%)	Total (%)									
01/02/2015*	5920	182 (3.1%)	40 (22.0%)	11 (6.0%)	131 (72.0%)	55 (0.9%)	150	181	181	607	59	49		
01/03/2015	6287	212 (3.4%)	72 (34.0%)	14 (6.6%)	126 (59.4%)	75 (1.2%)	128	83	271	842	24	29		
29/03/2015	8577	242 (2.8%)	87 (36.0%)	21 (8.7%)	135 (55.8%)	108 (1.3%)	181	117	767	1084	52	34		
03/05/2015*	12584	285 (2.3%)	125 (43.9%)	13 (4.6%)	147 (51.6%)	163 (1.3%)	257	187	1351	1443	59	78		
31/05/2015	12244	128 (1.0%)	40 (31.3%)	9 (7.0%)	84 (65.6%)	200 (1.6%)	272	167	1276	1514	64	64		
<b>Week ending</b>														
07/06/2015	3472	34 (1.0%)	7 (20.6%)	2 (5.9%)	25 (73.5%)	112 (3.2%)	99	36	381	468	6	21		
14/06/2015	3399	63 (1.9%)	22 (34.9%)	5 (7.9%)	36 (57.1%)	123 (3.6%)	79	63	362	468	32	23		

### Notes:

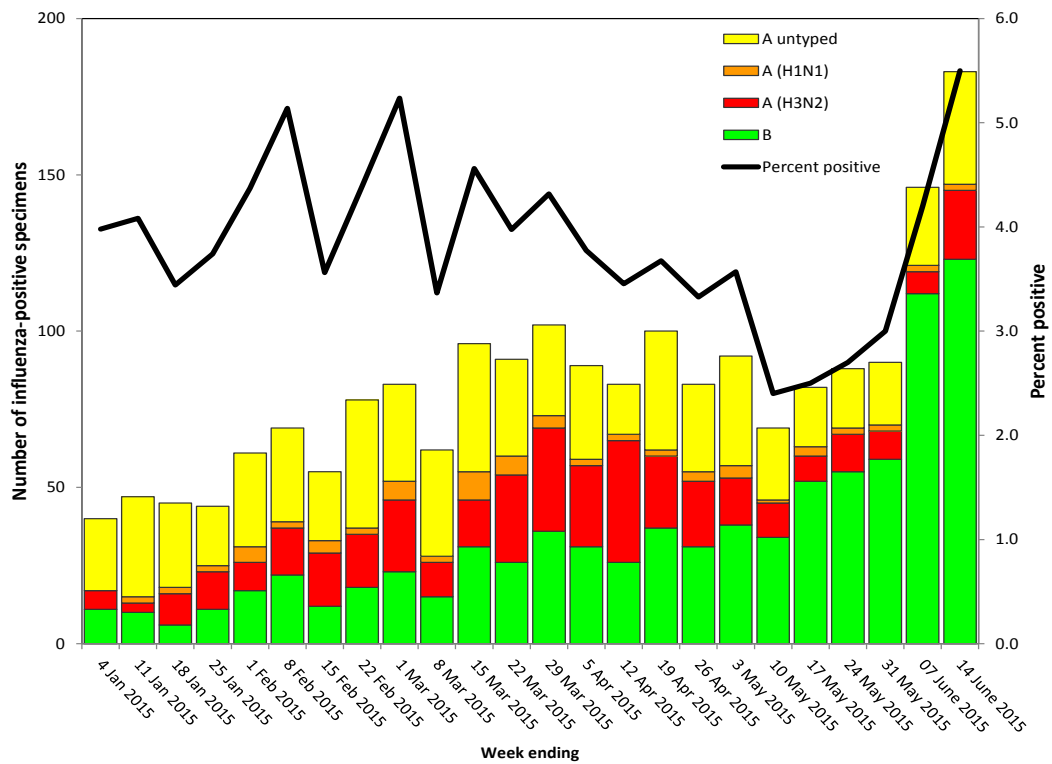
\* Five-week reporting period.

\*\* Human metapneumovirus

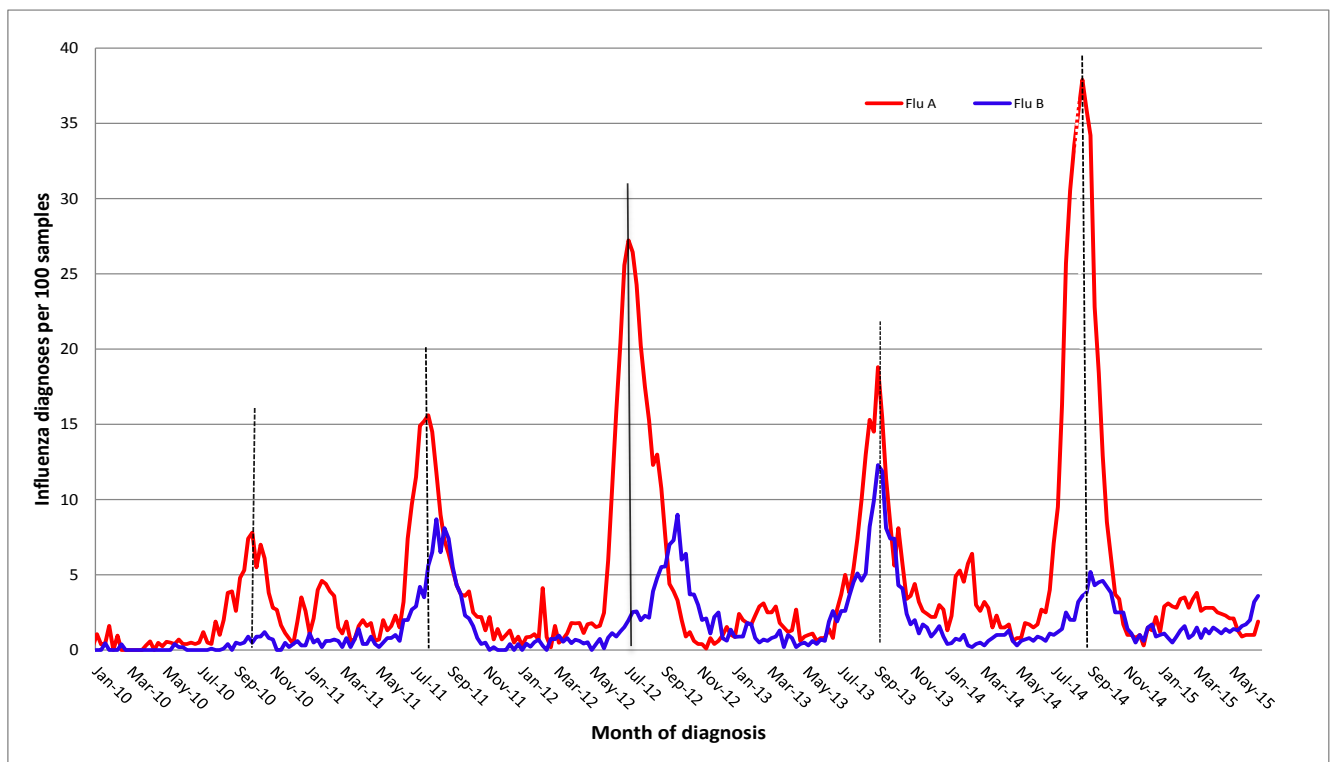
[2]: Preliminary laboratory data is provided by participating sentinel laboratories on a weekly basis and are subject to change. Point-of-care test results have been included since August 2012 but serological diagnoses are not included.

**Participating sentinel laboratories:** South Eastern Area Laboratory Services, 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 & Nepean), Douglas Hanley Moir Pathology, VDRLab, Lavery Pathology, SydPath (St Vincent's), Medlab, and Lavery.

**Figure 5:** Influenza positive test results by type and sub-type reported by NSW sentinel laboratories, 1 January 2010 to 14 June 2015.



**Figure 6:** Percentage of laboratory tests positive for influenza A and influenza B, 1 January 2010 – 14 June 2015, New South Wales.



### 3. Community Surveillance

#### Influenza notifications by Local Health District (LHD)

In the week ending 14 June, there were 100 notifications of influenza confirmed by polymerase chain reaction (PCR) testing. The highest numbers of notifications were for residents of Northern Sydney, Western Sydney, and South Eastern Sydney LHDs (Table 3).

Influenza activity has been lower in most non-metropolitan LHDs. Notification rates per population are not particularly instructive when case numbers are low.

**Table 3:** Notifications of laboratory-confirmed influenza by NSW Local Health District of residence.

Local Health District	Week ending 14 June 2015		Previous 4 weeks	
	Number of notifications	Rate per 100 000 population	Average weekly notifications	Rate per 100 000 population
Central Coast	0	0.00	2	0.60
Far West	0	0.00	1	4.08
Hunter New England	3	0.33	6	0.69
Illawarra Shoalhaven	1	0.25	2	0.44
Mid North Coast	2	0.93	2	0.93
Murrumbidgee	0	0.00	2	0.60
Nepean Blue Mountains	12	3.26	4	0.95
Northern NSW	3	1.01	3	1.01
Northern Sydney	20	2.23	16	1.75
South Eastern Sydney	16	1.79	12	1.34
Southern NSW	3	1.46	1	0.24
South Western Sydney	8	0.85	5	0.53
Sydney	9	1.45	9	1.45
Western NSW	4	1.44	1	0.45
Western Sydney	19	2.05	18	1.94

**Note:** \* All data are preliminary and may change as more notifications are received. Excludes notifications based on serology.

#### Influenza outbreaks in institutions

There was one influenza A outbreak in a residential care facility reported this week.

In the year to date there have been 11 laboratory-confirmed influenza outbreaks in institutions reported to NSW public health units (Table 4).

People in older age-groups are at higher risk of infection from influenza A(H3N2) strains (currently the dominant influenza A strain in NSW) than from the influenza A(H1N1) strain. An influenza A(H3N2) strain also predominated in 2012 and 2014 and was associated with an increase in influenza outbreaks in institutions, particularly aged care facilities (Table 4).

**Table 4.** Reported influenza outbreaks in NSW institutions, 2010 to June 2015.

Year	2010	2011	2012	2013	2014	2015 *
No. of outbreaks	2	4	39	12	120	11

**Note:**

\* Year to date.

## Electronic General Practice Surveillance (eGPS)

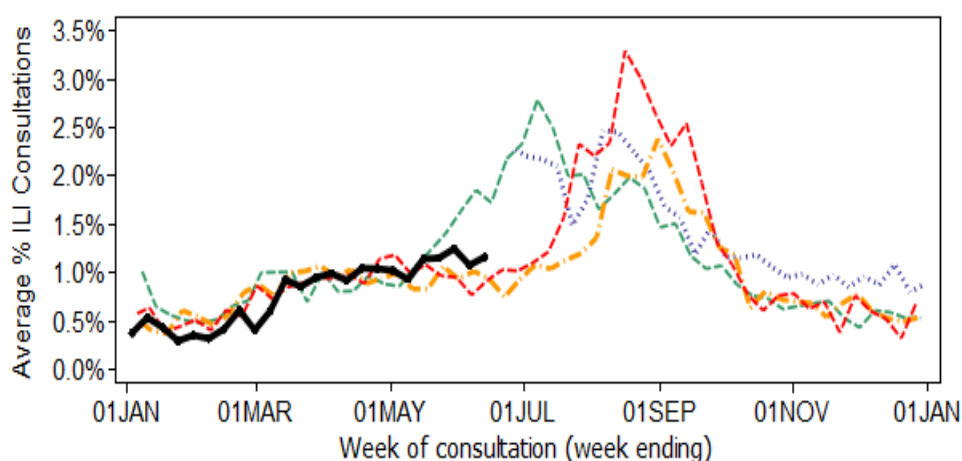
eGPS is a primary care influenza surveillance system involving sentinel general practices within three NSW Local Health Districts (LHD): Northern Sydney (NS), South Eastern Sydney (SES) and Illawarra Shoalhaven (IS). The system monitors patient consultations for influenza-like illness (ILI) as an indicator 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 24:

- There were 11 surveillance reports received from eGPS sentinel practices in NSW;
- The average rate of ILI patient consultations was low at 1.2% (range 0.7 – 1.8%), which was higher than the previous week and similar to the same time period in recent years (Figure 7).

**Figure 7.** Average rate of influenza-like presentations to sentinel general practices by week of consultation 2011-2015 (year to date).



## 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. Participating GPs 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 24 there were 34 ASPREN reports received from NSW GPs. The overall consultation rate for ILI was low at 1.8 per cent and within the usual range seen for this time of year.

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

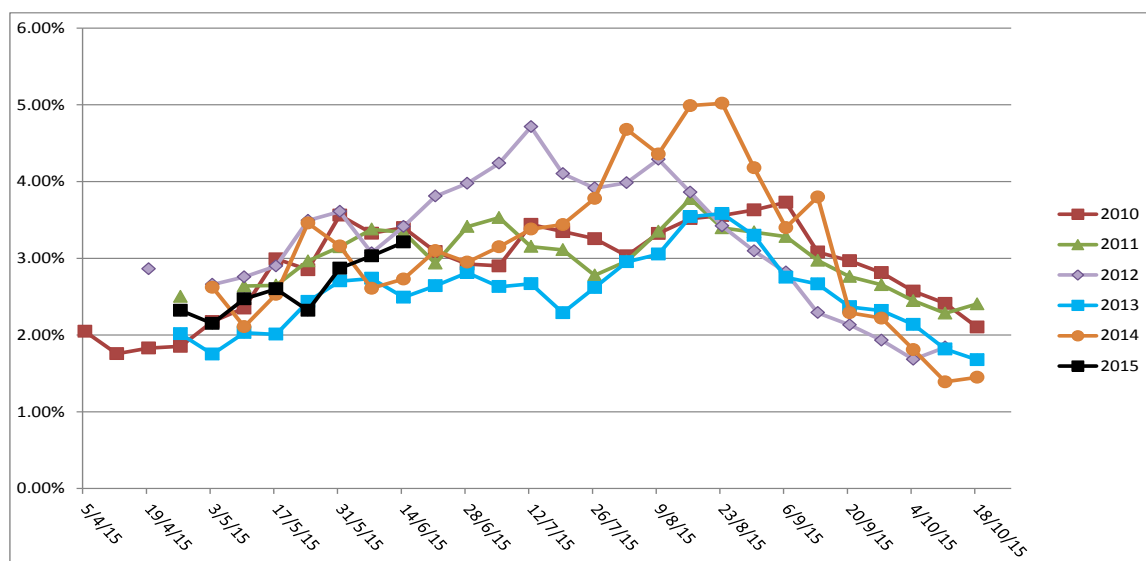
## FluTracking.net

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 24 FluTracking received reports for 6604 people in NSW, including:

- 3.2% of respondents reported fever and cough, up from the previous week but within the usual range for this time of year (Figure 8);
- 1.8% of respondents reported fever, cough and absence from normal duties, higher than the previous week (data not shown).

**Figure 8:** FluTracking – Weekly influenza like illness reporting rate, NSW, 2010 – 2015.



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

## 4. National and International Influenza Surveillance

### National Influenza Surveillance

The Australian Department of Health has reported the following for the period 23 May to 5 June 2015:

The 2015 influenza season does not appear to have commenced. While influenza notifications are higher than at this point last year, they are still at low levels.

- As at 5 June 2015, there were 9449 cases of laboratory confirmed influenza reported, with 1013 notifications reported in the most recent fortnight.
- So far this year, influenza A has been the predominant influenza virus type. However influenza B has been circulating at increasing levels and is the predominant influenza virus type circulating in the most recent fortnight. This trend is common amongst most jurisdictions.
- Systems that monitor influenza-like illness (ILI) are reporting low levels of activity, with an increase in activity in recent weeks, as expected at this time of year. In particular, viral respiratory presentations to Western Australia emergency departments have increased sharply in the most recent fortnight.
- Respiratory viruses other than influenza are more commonly causing ILI in the community, with rhinovirus detected most frequently.
- There is no indication of the potential severity of the season at this time.
- Of the limited number of isolates that have been further characterised for similarity with the vaccine components, influenza A viruses appear to be well matched. Over 80% of the influenza B viruses characterised are a match to the trivalent vaccine strain; the remaining influenza B viruses match the additional strain in the quadrivalent vaccine.



Follow the link for the [Australian Influenza Surveillance Reports](#) which provide the latest information on national influenza activity.

## Global Influenza Update

The World Health Organization (WHO) reported on current influenza activity in the [WHO Global Influenza Update](#) of 15 June 2015 (with data up to 31 May) which indicated that:

- In North America, influenza activity was at inter-seasonal levels. Influenza B remained predominant in recent weeks, but at low levels.
- In Europe, countries reported low influenza activity levels with influenza B continuing to dominate in recent weeks.
- In northern Africa and western Asia, influenza activity remained low in most countries with influenza A activity predominant.
- In the temperate countries of Asia, influenza activity continued to remain at low levels in most countries.
- In tropical countries of the Americas and tropical Asia, influenza activity continued to decrease and remained low in most countries. In China, Hong Kong (SAR) and Singapore had slight increases in influenza activity while Sri Lanka and Viet Nam both reported a higher level of activity compared to recent weeks.
- In the southern hemisphere, influenza activity was slightly higher in most countries but remained at low levels. However, South Africa reported a greater increase in influenza activity in recent weeks, with co-circulation of A(H1N1)pdm09 and A(H3N2) viruses.

WHO reported global influenza laboratory data for the period 17 to 30 May 2015, which noted:

- Of the 42 971 specimens submitted for testing, 2 426 were positive for influenza viruses, of which 1174 (48%) were typed as influenza A and 1252 (52%) as influenza B.
- Of the sub-typed seasonal influenza A viruses, 212 (23%) were influenza A (H1N1) and 712 (77%) were influenza A(H3N2).
- Of the characterized B viruses, 263 (93%) belonged to the B-Yamagata lineage and 19 (7%) to the B-Victoria lineage.

## Avian influenza Update

The most [recent update from WHO](#) on 15 June 2015 reported 15 new laboratory-confirmed human cases of avian influenza A(H7N9) virus infection, including three fatal cases, were reported from seven provinces and municipalities: Anhui (4), Beijing (1), Fujian (1), Hubei (1), Jiangsu (3), Jiangxi (1), and Zhejiang (4).

WHO is assessing the epidemiological situation and conducting further risk assessment based on the latest information. Overall, the public health risk from avian influenza A(H7N9) viruses has not changed.

WHO advises that further sporadic human cases of avian influenza A(H7N9) infection are expected in affected and possibly neighbouring areas. Should human cases from affected areas travel internationally, their infection may be detected in another country during or after arrival. If this were to occur, community level spread is considered unlikely as the virus does not have the ability to transmit easily among humans.

The latest WHO monthly risk assessment report for human infections with avian influenza A strains H5, H7, H9 is available here: [WHO Avian influenza summary 1 May 2015](#)

Other sources of information on avian influenza and the risk of human infection include the following:

- US CDC [Avian influenza](#)
- European CDC (ECDC) [Avian influenza](#)
- Public Health Agency of Canada [Avian influenza H7N9](#) .

## **Recommended composition of 2015 Australian influenza vaccines**

The WHO Consultation on the Composition of Influenza Vaccines for the Southern Hemisphere 2015 was held in Geneva on 22-24 September 2014. Following the Consultation, WHO changed its recommendations for the composition of trivalent vaccines for use in the 2015 influenza season (southern hemisphere winter) as follows:

- A/California/7/2009 (H1N1)pdm09-like virus;
- A/Switzerland/9715293/2013 (H3N2)-like virus <sup>a</sup>;
- B/Phuket/3073/2013-like virus.

It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Brisbane/60/2008-like virus.

<sup>a</sup> A/South Australia/55/2014, A/Norway/466/2014 and A/Stockholm/6/2014 are A/Switzerland/9715293/2013-like viruses

These changes from the previous vaccine recommendations (for the southern hemisphere in 2014 and the northern hemisphere in 2014-2015) reflect observed antigenic drift in circulating A(H3N2) and B/Yamagata lineage viruses. More details about the most recent recommendations can be found at: [http://www.who.int/influenza/vaccines/virus/recommendations/2015\\_south/en/](http://www.who.int/influenza/vaccines/virus/recommendations/2015_south/en/) .