

NSW Health Influenza Surveillance Report

Week 20: 15 to 21 May, 2017

Summary:

- Influenza activity continues to be low across all NSW local health districts.
- Both influenza A and B strains are circulating at similar levels.

In this reporting week:

- [Hospital Surveillance](#) – influenza like illness (ILI) presentations to selected emergency departments were low and at inter-seasonal levels.
- [Laboratory surveillance](#) – the total number of influenza isolations increased this week and the proportion of respiratory samples positive for influenza also increased to 4.8%.
- [Community surveillance](#) – influenza notifications were low across all NSW local health districts (LHD). General Practice and community-based surveillance systems showed low ILI activity. No aged care facilities reported a respiratory outbreak.
- [National and international influenza surveillance](#) – national influenza surveillance reports are not produced at this time of year, however many jurisdictions are reporting low influenza activity.
- [Recommended composition of 2017 influenza vaccines](#) – the 2017 southern hemisphere influenza vaccines include one strain change as recommended by the World Health Organization (WHO).

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: PHREDSS [1]

For the week ending 21 May 2017:

- ILI presentations [2] decreased this week but were within the usual range for this time of year (Figure 1 and Table 1). Presentations were significantly increased at Calvary Mater Hospital.
- The index of increase for ILI presentations was 6.3 on 21 May, well below the seasonal threshold but higher than the previous week (3.3). The proportion of ILI presentations to all ED presentations was low at 0.8 per 1000 presentations, similar to the previous week (0.6).
- ED presentations for pneumonia [3] increased but remained within the usual range for this time of year (Table 1.)
- ILI presentations which resulted in admission decreased and were within the usual range for this time of year. However, admissions were significantly above the five-year mean at South East Regional Hospital. (Figure 2 and Table 1).
- Admissions for pneumonia increased, particularly at South East Regional Hospital, but were within the usual range for this time of year overall (Table 1). Pneumonia and ILI presentations which resulted in admission to critical care increased and were above the usual range for this time of year, particularly at Bowral Hospital (Table 1).
- Bronchiolitis presentations this week increased, particularly at Mona Vale Hospital, but were within the usual range for this time of year overall (Figure 3 and Table 1).

Figure 1: Total weekly counts of ED visits for influenza-like illness, all ages, from 1 January – 21 May, 2017 (black line), compared with each of the 5 previous years (coloured lines).

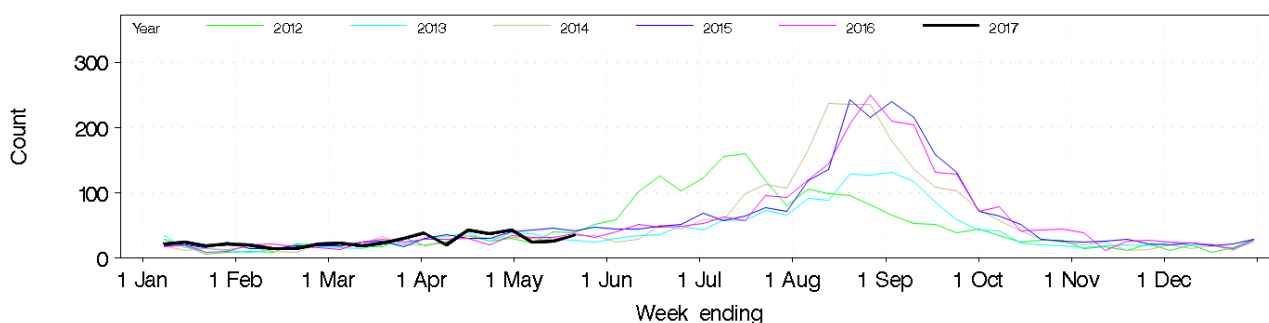
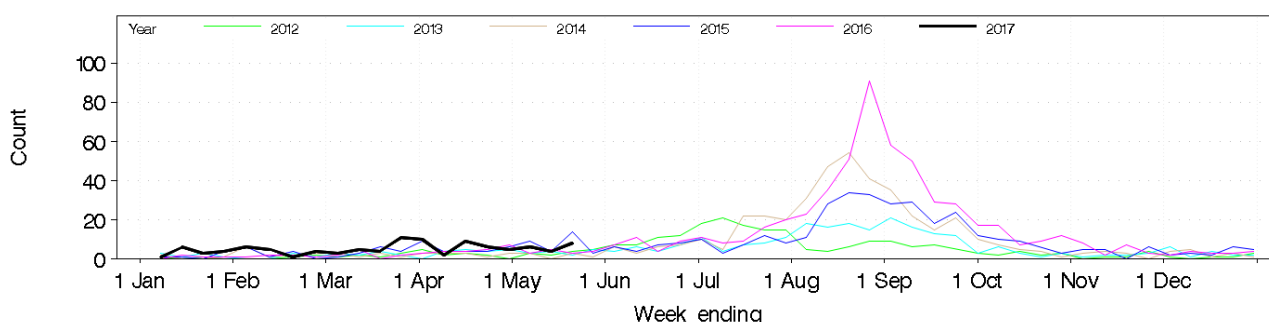


Figure 2: Total weekly counts of ED presentations for influenza-like-illness that were admitted, all ages, from 1 January – 21 May 2017 (black line), compared with each of the 5 previous years (coloured lines).



¹ NSW Health Public Health Rapid, Emergency Disease and Syndromic Surveillance system, CEE, NSW Ministry of Health. Comparisons are made with data for the preceding 5 years. Recent counts are subject to change. Data from 60 NSW emergency departments are included. The coverage of rural EDs is lower than metropolitan EDs. Data shown represent unplanned presentations to hospital EDs.

² The ED 'ILI' syndrome includes provisional diagnoses selected by a clinician of 'influenza-like illness' or 'influenza' (including 'pneumonia with influenza'), avian and other new influenza viruses.

³ The ED 'Pneumonia' syndrome includes provisional diagnoses selected by a clinician of 'viral, bacterial, atypical or unspecified pneumonia', 'SARS', or 'legionnaire's disease'. It excludes the diagnosis 'pneumonia with influenza'.

Figure 3 Total weekly counts of ED presentations for bronchiolitis, all ages, from January – 21 May, 2017 (black line), compared with each of the 5 previous years (coloured lines).

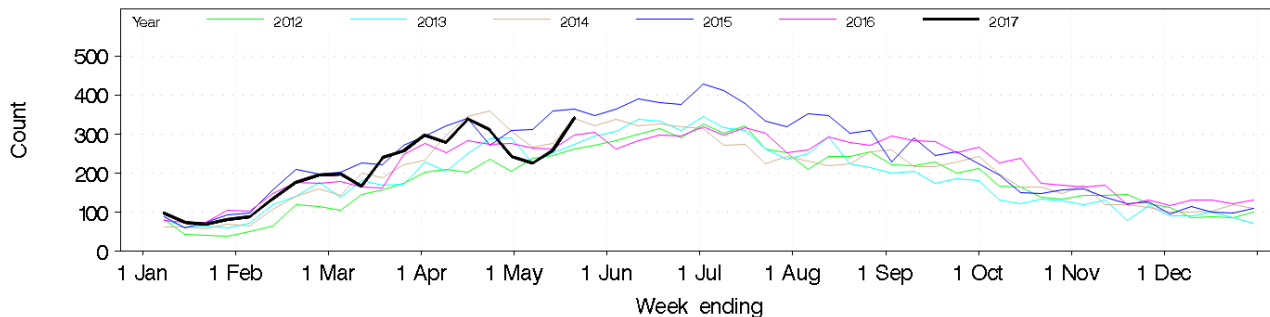


Table 1: Weekly ED and Ambulance Respiratory Activity Summary for the week ending 21 May 2017. Includes data from 60 NSW EDs and the NSW Ambulance Division.

Data source	Diagnosis or problem category	Trend since last week	Comparison with usual range	Significantly elevated age groups	Significantly elevated locations	Significant elevated severity indicators	Comment
ED presentations 60 NSW hospitals	Influenza-like illness (ILI)	Increased	Usual		Calvary Mater Newcastle		Daily index of increase = 6.3.
	ILI admissions	Increased	Usual		Hunter New England LHD		
	Pneumonia	Increased	Usual		South East Regional Hospital		Formerly Bega Hospital
	Pneumonia and ILI admissions	Increased	Usual		South East Regional Hospital		Formerly Bega Hospital
	Pneumonia and ILI critical care admissions	Increased	Above		Bowral and District Hospital		
	Asthma	Increased	Usual				
	Bronchiolitis	Increased	Usual		Mona Vale and District Hospital		Daily index of increase = 36.6 Bronchiolitis is a disease of infants.
	Breathing problems	Increased	Above	0-16 years	Western Sydney LHD, The Children’s Hospital at Westmead, Canterbury, Broken Hill, Hornsby Ku-Ring-Gai, Sydney Children’s Hospital	Admitted	
All respiratory illness, fever and unspecified infections	Increased	Above		Broken Hill Base Hospital	Admitted		
Ambulance	Breathing problems	Steady	Above				

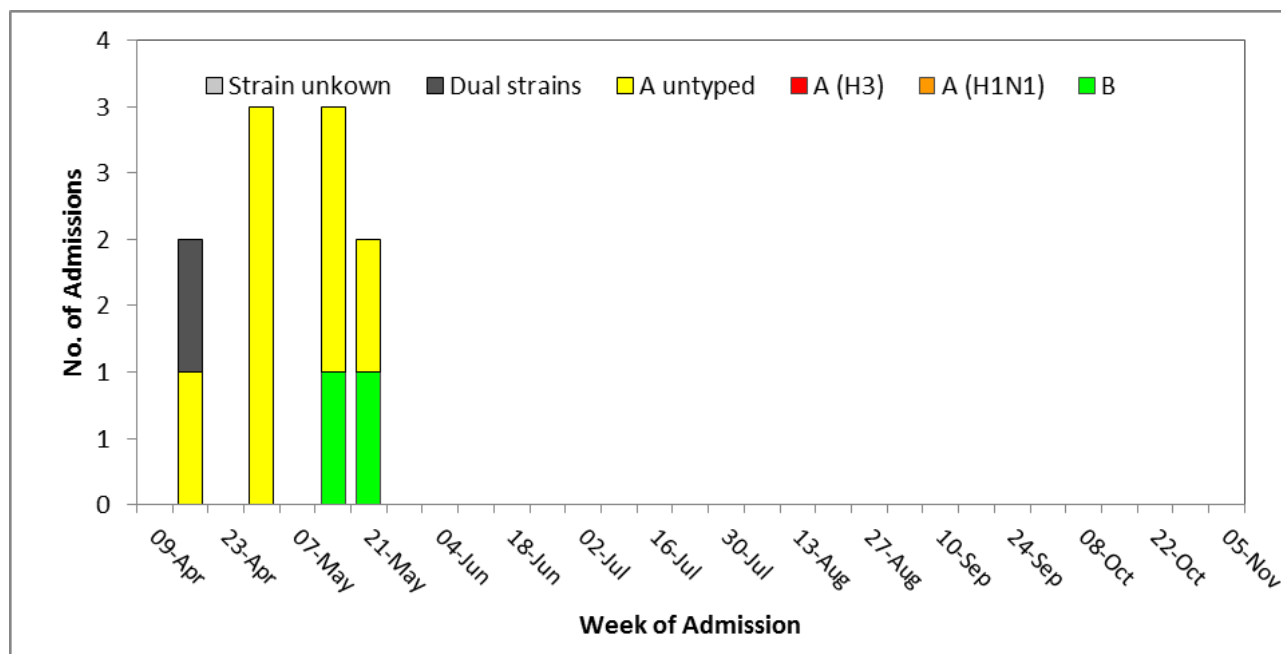
FluCAN (The Influenza Complications Alert Network)

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 20 there were two influenza admissions in NSW sentinel hospitals (Figure 4).
- Since 1 April 2017, there have been 15 hospital admissions reported for influenza; 10 with influenza A, 4 with influenza B and one with a co-infection (Figure 4). Of these admissions, 7 were paediatric cases (<16 years of age) and 8 were in adults.
- No cases were admitted to ICU/HDU.

Figure 4: FluCAN – Number of confirmed influenza hospital admissions in NSW, 09 April – 21 May, 2017.



2. Laboratory Surveillance

For the week ending 21 May 2017 the number and proportion of respiratory specimens reported by NSW sentinel laboratories [4] which tested positive for influenza A or influenza B was low (Table 2).

A total of 5,344 tests for respiratory viruses were reported this week with 4.8% testing positive for influenza viruses, up from 4,913 tests and a 3.2% influenza-positive rate in the previous week.

Both influenza A & B strains appear to be circulating at similar levels (Figures 5 and 6).

Rhinovirus was the leading respiratory virus reported, with other viruses 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 21 May 2017.

Month ending	Total Tests	TEST RESULTS													
		Influenza A						Influenza B		Adeno	Parainf 1, 2 & 3	RSV	Rhino	HMPV **	Entero
		Total	H3N2	H1N1 pdm09	A (Not typed)		Total								
		Total (%)	Total (%A)	Total (%A)	Total (%A)	Total (%)	Total (%)								
29/01/2017	9981	489 (4.9%)	53 (10.8%)	4 (0.8%)	432 (88.3%)	92 (0.9%)		374	433	323	1462	236	131		
26/02/2017	12273	564 (4.6%)	78 (13.8%)	7 (1.2%)	479 (84.9%)	83 (0.7%)		430	458	719	2772	170	248		
02/04/2017*	21161	724 (3.4%)	78 (10.8%)	12 (1.7%)	634 (87.6%)	158 (0.7%)		684	1000	1830	5427	290	530		
30/04/2017	18089	377 (2.1%)	54 (14.3%)	15 (4.0%)	308 (81.7%)	135 (0.7%)		588	901	2600	4202	231	468		
Week ending															
07/05/2017	4805	128 (2.7%)	29 (22.7%)	11 (8.6%)	88 (68.8%)	39 (0.8%)		179	167	611	1008	60	79		
14/05/2017	4913	96 (2.0%)	10 (10.4%)	7 (7.3%)	79 (82.3%)	60 (1.2%)		180	165	622	1203	52	72		
21/05/2017	5344	142 (2.7%)	11 (7.7%)	12 (8.5%)	119 (83.8%)	113 (2.1%)		168	186	661	1520	56	114		

Notes: * Five-week reporting period. ** Human metapneumovirus

⁴ 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: Pathology North (Hunter, Royal North Shore Hospital), Pathology West (Nepean, Westmead), South Eastern Area Laboratory Services, Sydney South West Pathology Service (Liverpool, Royal Prince Alfred Hospital), The Children’s Hospital at Westmead, Australian Clinical Labs, Douglas Hanly Moir Pathology, Laverty Pathology, Medlab, SydPath, VDRLab

Figure 5: Weekly influenza positive test results by type and sub-type reported by NSW sentinel laboratories, 1 January to 21 May 2017.

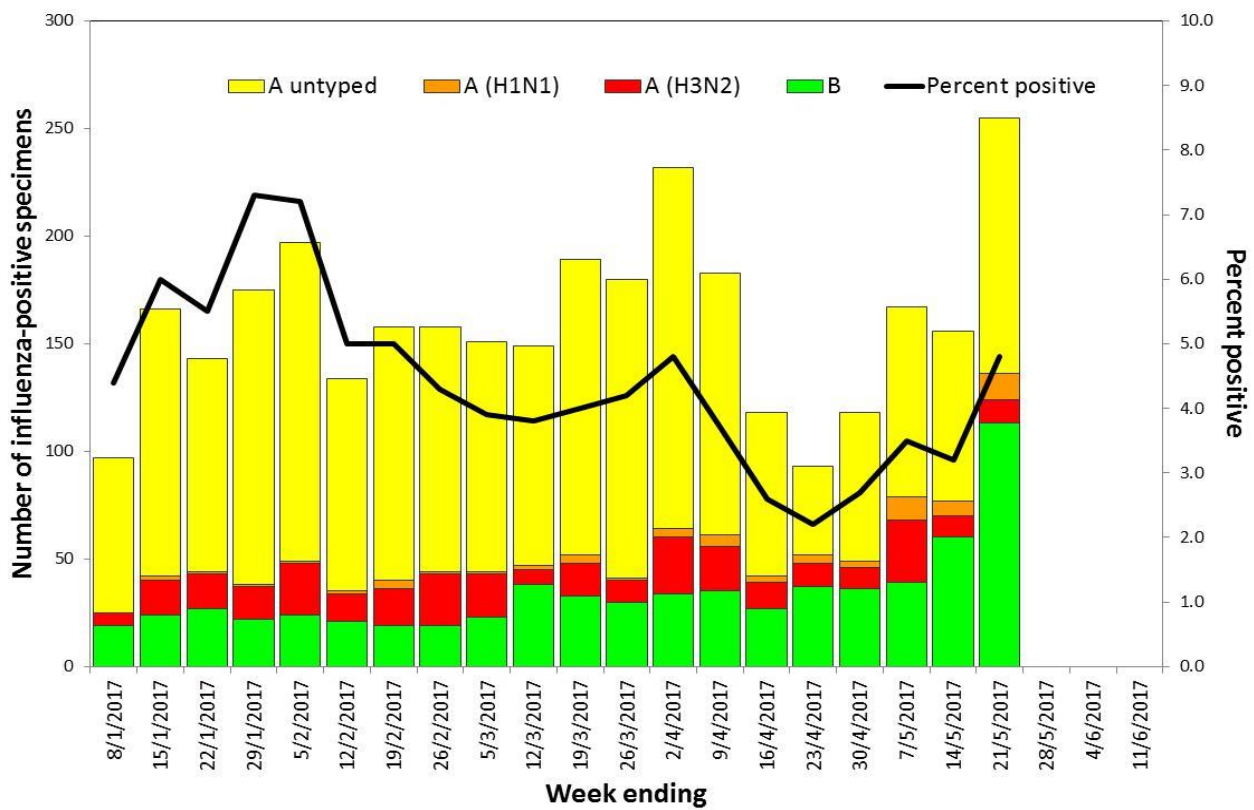
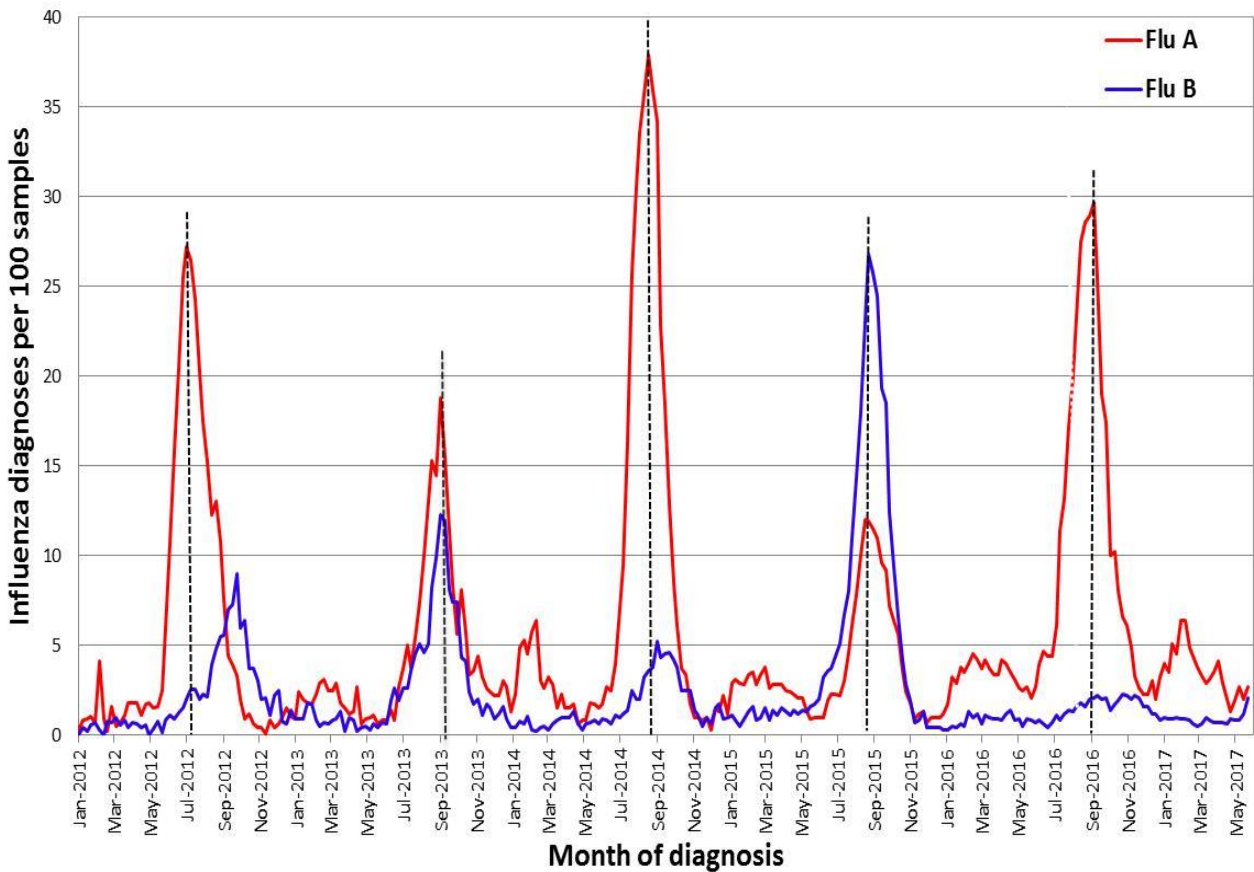


Figure 6: Percentage of laboratory tests positive for influenza A and influenza B by week, 1 January 2012 to 21 May 2017, New South Wales.



3. Community Surveillance

Influenza notifications by Local Health District (LHD)

In the week ending 21 May there were 214 notifications of influenza confirmed by polymerase chain reaction (PCR) testing, higher than the 153 notifications in the previous week.

Overall rates were low in all areas; however population rates were highest in Northern Sydney and South Western Sydney LHDs (Table 3).

Table 3: Weekly notifications of laboratory-confirmed influenza by Local Health District.

Local Health District	Week ending 21 May 2017		Average (previous 4 weeks)	
	Number of notifications	Rate per 100 000 population	Number of notifications	Rate per 100 000 population
Central Coast	3	0.87	3	0.72
Far West	0	0	1	3.27
Hunter New England	14	1.51	13	1.37
Illawarra Shoalhaven	5	1.22	7	1.65
Mid North Coast	8	3.6	1	0.45
Murrumbidgee	2	0.83	1	0.52
Nepean Blue Mountains	8	2.08	6	1.43
Northern NSW	13	4.24	5	1.55
Northern Sydney	56	6.12	22	2.38
South Eastern Sydney	25	2.69	18	1.91
South Western Sydney	34	3.43	15	1.51
Southern NSW	1	0.47	1	0.62
Sydney	10	1.53	14	2.18
Western NSW	5	1.79	2	0.6
Western Sydney	30	3.09	17	1.73

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

Influenza outbreaks in institutions

There were no respiratory outbreaks reported this week in residential care facilities.

People in older age-groups are at higher risk of infection from influenza A(H3N2) strains than from the influenza A(H1N1) strain. The influenza A(H3N2) strain predominated in 2012, 2014 and 2016 and was associated with an increase in influenza outbreaks in institutions, particularly residential aged care facilities (Table 4).

Table 4: Reported influenza outbreaks in NSW institutions, January 2010 to 21 May 2017.

Year	2010	2011	2012	2013	2014	2015	2016	2017*
No. of outbreaks	2	4	39	12	120	103	279	13

Notes: * 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 20 there were 37 ASPREN reports received from NSW GPs. The overall consultation rate for ILI was low at 2.0%, similar to the previous week (1.8%). For further information please see the [ASPREN](#) website.

FluTracking.net

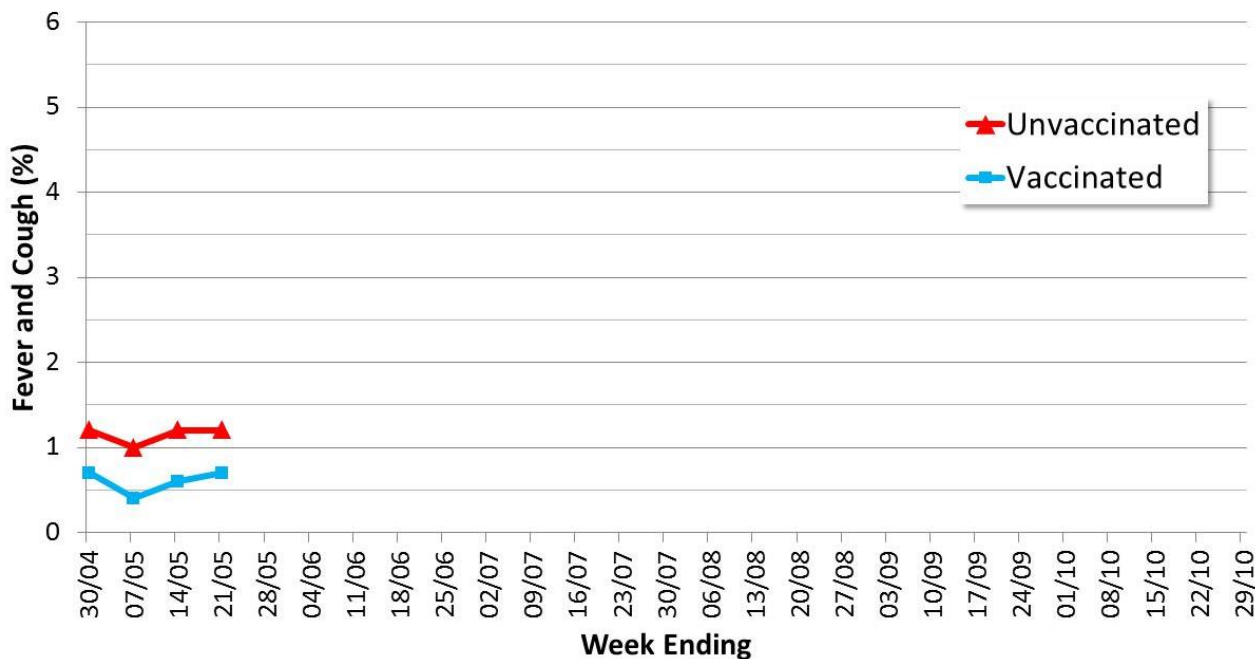
FluTracking.net is an online health surveillance system to detect epidemics of influenza. FluTracking is a project of the University of Newcastle, the Hunter New England Local Health District and the Hunter Medical Research Institute.

Participants complete a simple online weekly survey which is used to generate data on the rate of ILI symptoms in communities.

In week 20 FluTracking received reports for 7,784 people in NSW with the following results:

- 1.9% of respondents reported fever and cough, similar to the previous week. Of these, 0.7% reported being vaccinated (Figure 7).
- 0.3% of respondents reported fever, cough and absence from normal duties, lower than the previous week (1.3%) (data not shown).

Figure 7: FluTracking – Percent of participants reporting fever AND cough by Vaccination Status, NSW.



Notes: From 2016, if a participant reported influenza-like illness symptoms for more than one consecutive week, only the first reported week of symptoms is included. Participants are not considered vaccinated until two or more weeks has elapsed since their recorded time of vaccination

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

4. National and International Influenza Surveillance

National Influenza Surveillance

Although national influenza surveillance reports are not produced at this time of year, many jurisdictions are reporting low influenza activity. Total national reports of laboratory-confirmed influenza in January and February were high compared to 2016 and to earlier years but have now returned to levels similar to previous years.

For further information on the National Notifiable Disease Surveillance System, which includes laboratory-confirmed influenza reports, see: <http://www9.health.gov.au/cda/source/cda-index.cfm>.

Global Influenza Update

The latest [WHO global update on 15 May 2017](#) provides data up to 30 April. WHO reports that influenza activity in the temperate zone of the northern hemisphere continued decrease. In the temperate zone of the southern hemisphere, influenza activity reached seasonal thresholds in some countries, but remained low in general. Worldwide, influenza B viruses were predominant.

Follow the link for the [WHO influenza surveillance reports](#).

Avian Influenza Update

WHO publishes monthly updated risk assessments of human infections with avian influenza viruses at [Influenza at the human-animal interface](#). These reports provide updated information on human cases of infection with H5 and H7 clade viruses and outbreaks among animals.

The overall risk assessment for these viruses remains unchanged. Whenever avian influenza viruses are circulating in poultry, sporadic infections and small clusters of human cases are possible in people exposed to infected poultry or contaminated environments, therefore sporadic human cases would not be unexpected.

For H7N9, WHO has noted current evidence suggests that this virus has not acquired the ability of sustained transmission among humans but it is possible that limited human-to-human transmission may have occurred where there was unprotected close contact with symptomatic human cases.

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

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

5. Composition of 2017 Australian influenza vaccines

The WHO Consultation on the Composition of Influenza Vaccines for the 2017 Southern Hemisphere was held in Geneva on 26-28 September 2016. Following the Consultation, WHO announced its recommendations for the composition of trivalent vaccine for use in the 2017 Southern Hemisphere influenza season as follows:

- an A/Michigan/45/2015 (H1N1)pdm09-like virus;
- an A/Hong Kong/4801/2014 (H3N2)-like virus;
- a B/Brisbane/60/2008-like virus (Victoria lineage)

WHO also recommended that quadrivalent vaccines containing two influenza B viruses and should contain the above three viruses and a B/Phuket/3073/2013-like virus.

Of note, there has been replacement of the A/California/7/2009 (H1N1)pdm09-like virus component with an A/Michigan/45/2015 (H1N1)pdm09-like virus in the vaccine recommendations, the first time the recommended A(H1N1) strain has changed since 2010.

All influenza vaccination included in the Australian National Immunisation Influenza Program in 2017 are quadrivalent vaccines.

More details about the most recent influenza vaccine recommendations can be found at: http://www.who.int/influenza/vaccines/virus/recommendations/2017_south/en/.

The WHO consultation on the composition of influenza vaccines for the Northern Hemisphere 2017-18 influenza season was held in February 2017. The recommended composition was unchanged from the composition recommended for the 2017 Southern Hemisphere vaccines. Information about the Northern Hemisphere vaccine recommendations can be found at: [WHO | Recommended composition of influenza virus vaccines for use in the 2017-2018 northern hemisphere influenza season](#).