

# Influenza Surveillance Weekly Report

**Week 38: 16 to 22 September 2019**

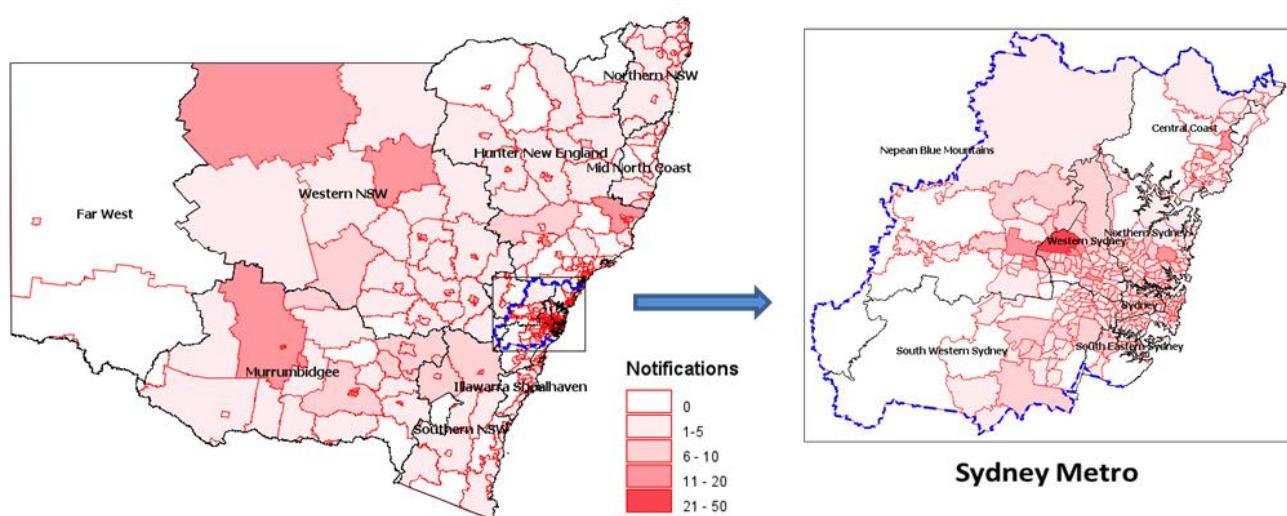
## Key Points

- Influenza activity continues to decrease across the state. Outbreaks in residential aged care facilities continue to be reported but are declining.
- Respiratory presentations to NSW emergency departments continue to decrease and are within the usual range for this period.
- Both influenza A and B strains continue to decline but the overall influenza positive test rate remains above the seasonal threshold.

## Activity compared to the previous week – NSW local health districts

Local Health District	Confirmed Influenza Notifications		NSW Emergency Departments (67) <i>All Respiratory/Fever/Unspecified infections</i>		% of LHD ED presentations <sup>2</sup>
	Cases	Trend <sup>1</sup>	Presentations	Trend <sup>1</sup>	
Central Coast	96	►	414	►	15%
Far West	2	►	47	►	11%
Hunter New England	296	▼	1034	►	15%
Illawarra Shoalhaven	158	►	424	►	14%
Mid North Coast	67	►	327	►	15%
Murrumbidgee	181	►	391	▲	18%
Nepean Blue Mountains	146	►	245	►	12%
Northern NSW	90	►	320	►	14%
Northern Sydney	236	►	529	►	12%
South Eastern Sydney	217	▼	755	►	12%
South Western Sydney	198	▼	849	►	15%
Southern NSW	53	►	230	►	14%
Sydney	144	▼	427	▲	13%
Western NSW	162	►	405	►	15%
Western Sydney	359	►	797	►	16%
New South Wales	2405	▼	7194	►	14%

## Confirmed influenza by NSW local health district and local area (SA2)<sup>3</sup>



## Summary for this reporting week:

- ▶ [Hospital surveillance](#) – ILI presentations to EDs decreased and are within the usual range for this time of year.
- ▶ [Laboratory surveillance](#) – overall respiratory testing and the influenza laboratory test positive rate (14.6%) both declined.
- ▶ [Community surveillance](#) – influenza activity decreased across the State. Eight outbreaks were reported from residential aged care facilities.
- ▶ [Death surveillance](#) – twenty-three influenza deaths were reported. People who die with influenza may have other underlying illnesses, and surveillance captures only a proportion of people who die from influenza.
- ▶ [National surveillance](#) – declining influenza activity; overall clinical severity rated as low.

## Hospital Surveillance

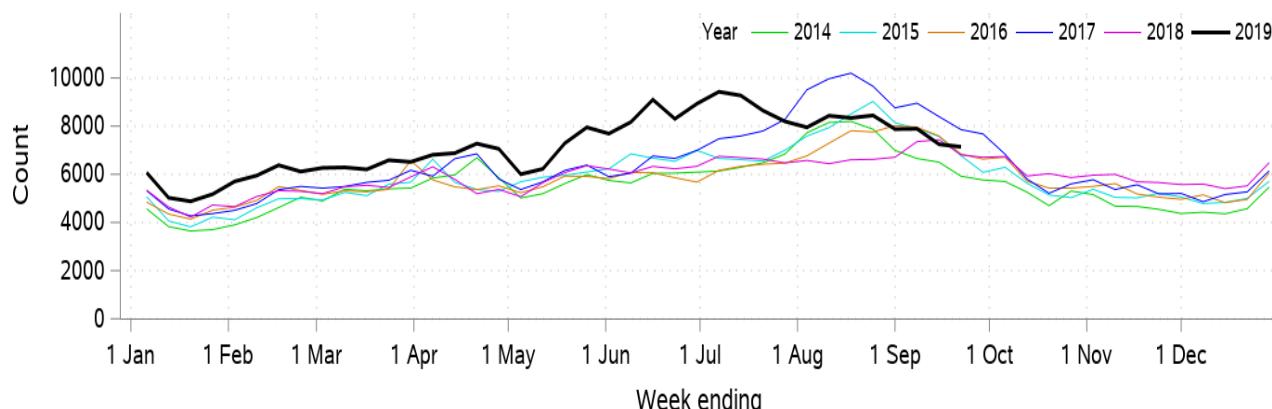
### NSW emergency department (ED) presentations for respiratory illness

Source: PHREDSS<sup>4</sup>

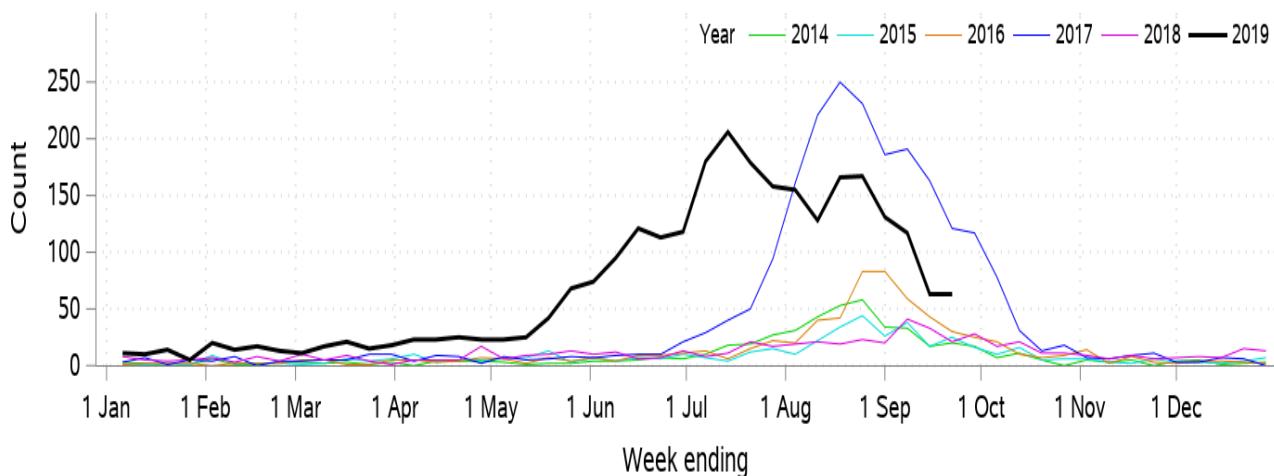
For the week ending 22 September 2019:

- Presentations for *All respiratory illness, fever and unspecified infections* decreased further this week and are within the usual range for this time of year (Figure 1, Table 1). The proportion of these presentations to all unplanned ED presentations was stable at 14.3%, similar to the previous week (14.2).
- The daily index of increase for *influenza-like illness* (ILI)<sup>5</sup> presentations across NSW decreased further this week to 9.6, down from 12.9 in the previous week and is now below the seasonal threshold.
- ILI presentations resulting in admission were steady this week but were within the usual range for this time of year (Figure 2, Table 1).
- ED presentations and admissions for pneumonia decreased further and both were either within or below the usual range for this time of year (Table 1).
- *Pneumonia and ILI* presentations requiring admission to critical care decreased and were within the usual range for this time of year (Figure 3, Table 1).
- ED presentations for *bronchiolitis* increased and remained above the usual range for this time of year (Figure 4, Table 1).

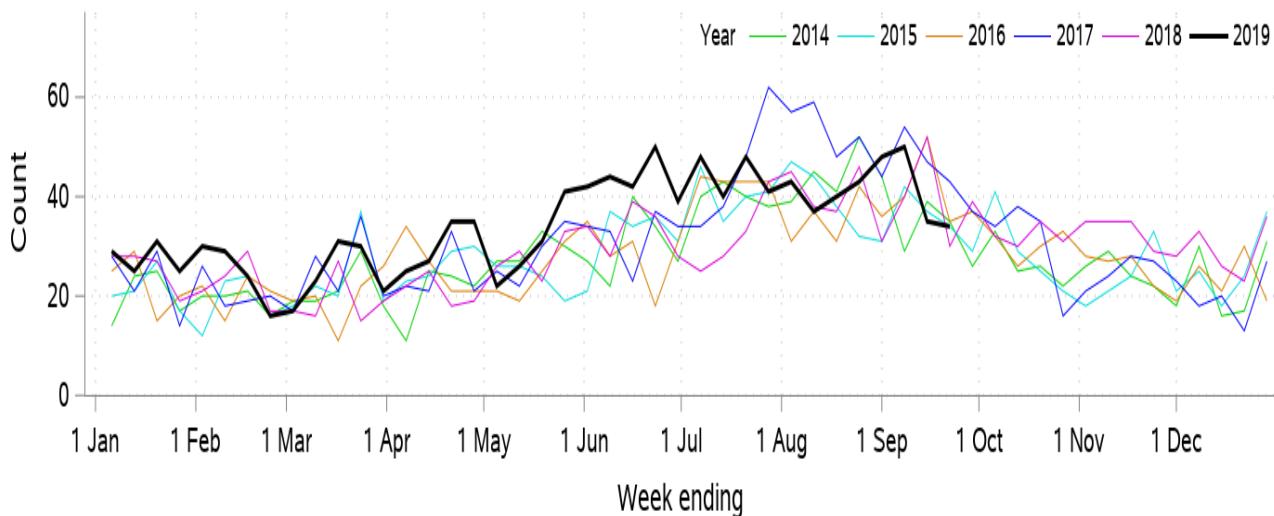
**Figure 1:** Total weekly counts of ED visits for *All respiratory illness, fever and unspecified infections*, all ages, 1 January – 22 September 2019 (black line), compared with the 5 previous years (coloured lines).



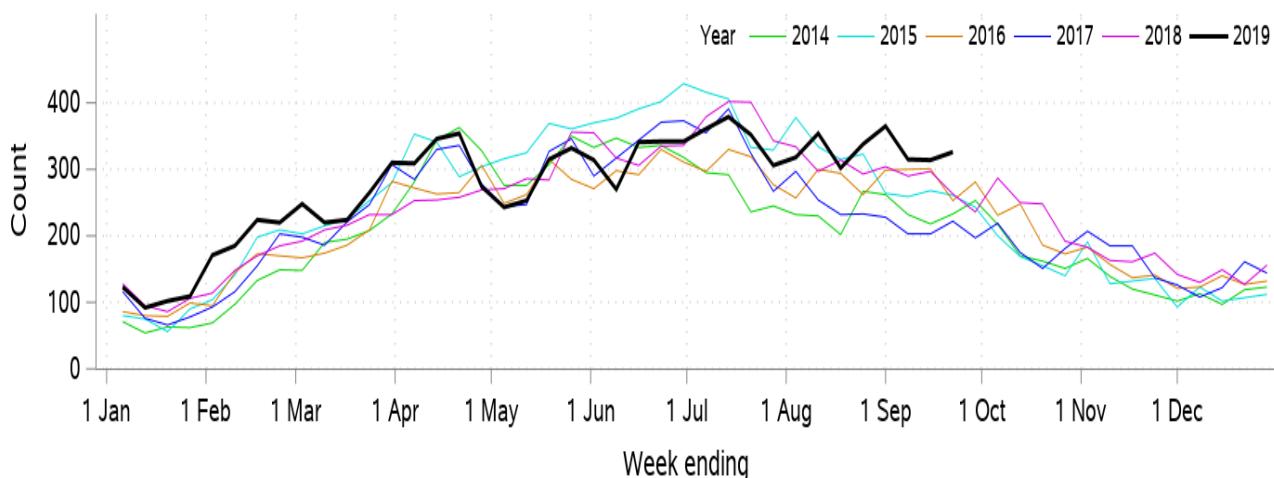
**Figure 2:** Total weekly counts of ED visits for *influenza-like-illness* that were admitted, all ages, 1 January – 22 September 2019 (black line), compared with the 5 previous years (coloured lines).



**Figure 3:** Total weekly counts of ED presentations for *influenza-like illness or pneumonia*, that were admitted to a critical care ward, all ages, 1 January – 22 September 2019 (black line), compared with the 5 previous years (coloured lines).



**Figure 4:** Total weekly counts of ED presentations for *bronchiolitis*, all ages, 1 January – 22 September 2019 (black line), compared with the 5 previous years (coloured lines).



**Table 1:** Weekly emergency department respiratory illness summary, week ending 22 September 2019.<sup>6</sup>

Data source	Diagnosis or problem category	Trend since last week	Comparison with usual range	Significantly elevated age groups	Significant elevated severity indicators	Comment
ED presentations 60 NSW hospitals	Influenza-like illness (ILI)	Decreased (251)	Within (101–492)	Manning Base Hospital (15), Griffith Base Hospital (15)		The NSW daily index of increase for ILI presentations was (9.6).
	ILI admissions	Steady (63)	Within (20–121)	Albury Base Hospital (3)		
	Pneumonia	Decreased (578)	Within (492–637)			
	Pneumonia admissions	Decreased (405)	Below (365–455)			
	Pneumonia and ILI critical care admissions	Decreased (34)	Within (30–43)			
	Asthma	Decreased (372)	Within (372–481)			
	Bronchiolitis	Increased (326)	Above (222–263)			Bronchiolitis is a disease of infants.
	All respiratory illness, fever and unspecified infections	Decreased (7,140)	Within (5,921–7,855)	MLHD (387) Port Macquarie Base Hospital (130)		
Ambulance	Breathing problems	Increased (2,385)	Within (1,841–2,436)	HNELHD (382)		

## FluCAN (The Influenza Complications Alert Network)

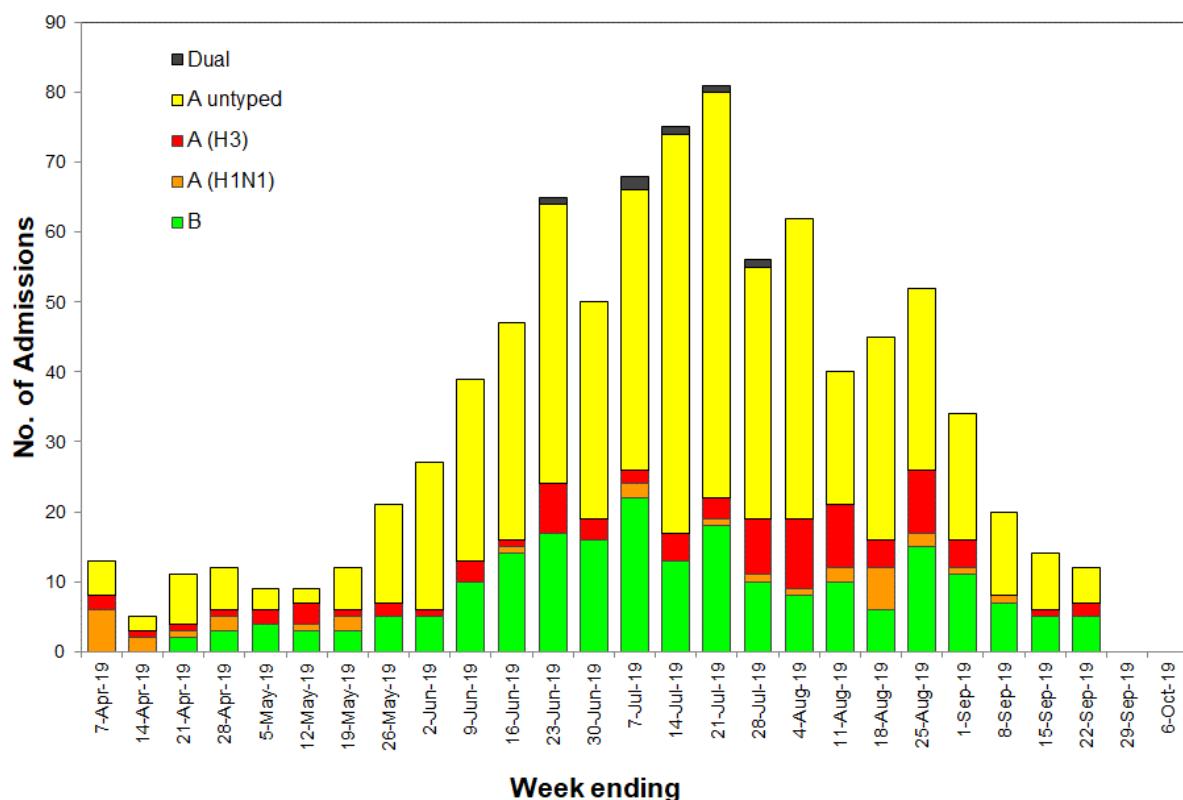
In 2009, the FluCAN surveillance system was created to be a rapid alert system for severe respiratory illness requiring hospitalisation. Data is provided on patients admitted with influenza confirmed by polymerase chain reaction (PCR) testing.

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

During week 38 there were 12 influenza admissions to NSW sentinel hospitals, less than the previous week (14 admissions) and continuing a declining trend in admissions (Figure 5). Since 1 April 2019, there have been 879 hospital admissions reported for influenza; 661 due to influenza A (including 32 A(H1N1) and 84 A(H3)), 212 due to influenza B and six due to dual infections.

Of these admissions for influenza, 446 were paediatric cases (<16 years of age) and 433 were in adults. Fifty-one adults and 14 children have been admitted to a critical care ward.

**Figure 5:** FluCAN – Confirmed influenza hospital admissions in NSW, 1 April – 22 September, 2019\*.



Note: \* Admissions data are subject to change as new information is received.

## Laboratory Surveillance

For the week ending 22 September 2019 the number and proportion of respiratory specimens reported by NSW sentinel laboratories<sup>7</sup> which tested positive for influenza A or influenza B was lower than the previous week (Table 2, Figure 6).

The total number of respiratory tests requested was lower than the previous week but testing levels remain higher than previous years. For the year up to week 38, there have been 541,164 respiratory virus tests, 127% more than for the same period in 2018 (238,307 tests).

Overall, 14.6% of tests for respiratory viruses were positive for influenza (Figure 6), lower than the previous week (16.3%). Both influenza A and B strains are declining (Table 2, Figures 6-7).

Further characterisation was available for only 5.8% of influenza A strains, but this suggests that the influenza A(H3N2) strain was the predominant influenza A strain this week. Information on the lineage of influenza B strains is even less commonly available but indicate that B/Victoria continues to be the predominant B strain in the community.

Influenza was the most common respiratory virus identified, followed by rhinovirus and parainfluenza viruses (Table 2).

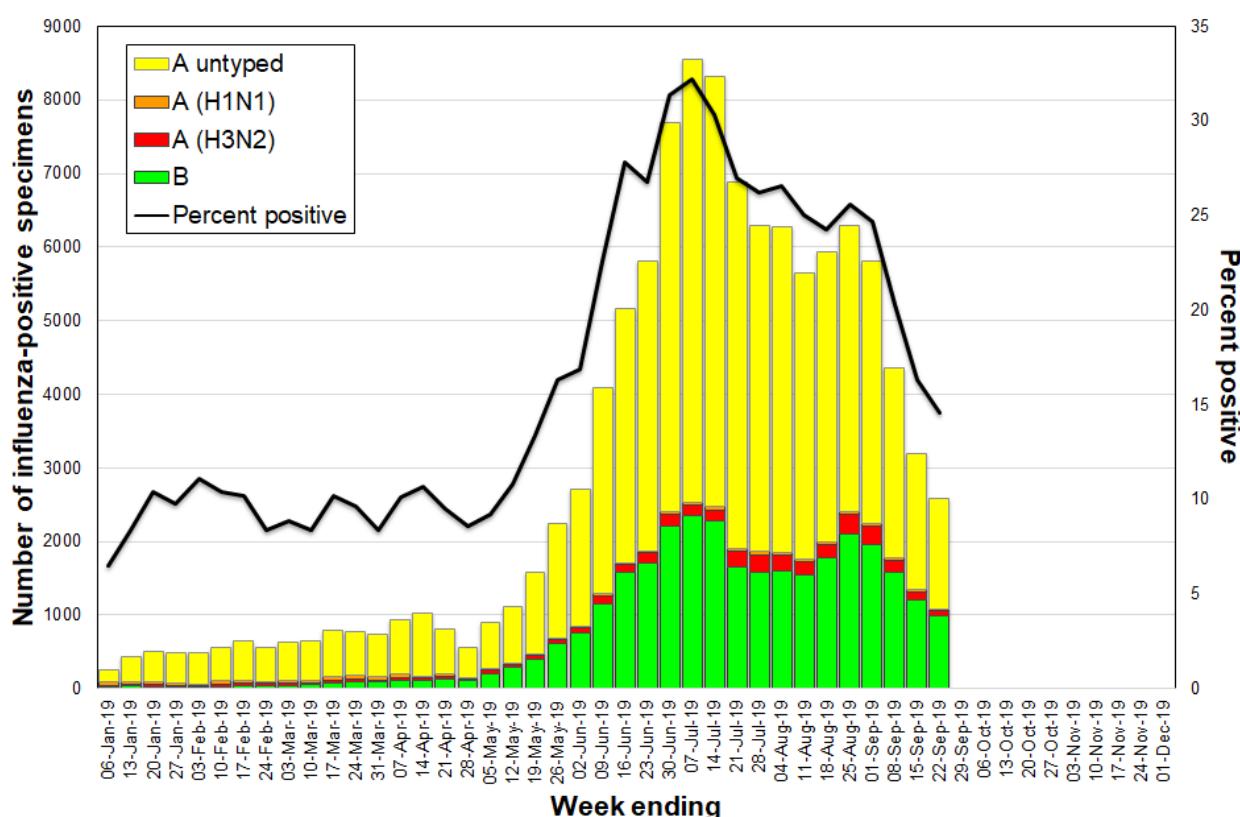
**Table 2:** Summary of testing for influenza and other respiratory viruses at NSW laboratories, 1 January to 22 September 2019.

Month ending	Total Tests	TEST RESULTS															
		Influenza A								Influenza B		Adeno	Parainf 1, 2 & 3	RSV	Rhino	HMPV **	Enterovirus
		Total		H3N2		H1N1 pdm09		A (Not typed)		Total		Total	(%)	Total	Total	Total	Total
		Total	(%)	Total	(%)A	Total	(%A)	Total	(%)A	Total	(%)	Total	Total	Total	Total	Total	Total
3/02/2019*	23496	2055	(8.7%)	111	(5.4%)	161	(7.8%)	1777	(86.5%)	129	(0.5%)	730	902	920	3171	270	485
3/03/2019*	25351	2232	(8.8%)	144	(6.5%)	134	(6.0%)	1954	(87.5%)	145	(0.6%)	710	926	1448	5053	162	693
31/03/2019	31863	2664	(8.4%)	134	(5.0%)	202	(7.6%)	2328	(87.4%)	302	(0.9%)	967	1408	2583	5866	172	843
28/04/2019	34720	2957	(8.5%)	144	(4.9%)	158	(5.3%)	2652	(89.7%)	491	(1.4%)	1003	1422	3799	7148	208	1109
02/06/2019*	61942	6303	(10.2%)	265	(4.2%)	119	(1.9%)	5919	(93.9%)	2270	(3.7%)	1528	1337	4695	11729	312	1206
30/06/2019*	82219	15913	(19.4%)	530	(3.3%)	81	(0.5%)	15302	(0.0%)	6653	(8.1%)	1300	1023	4207	12526	214	662
04/08/2019*	127104	26862	(21.1%)	964	(3.6%)	198	(0.7%)	25700	(95.7%)	9460	(7.4%)	2080	1812	1818	13880	664	716
01/09/2019*	95125	16278	(17.1%)	873	(5.4%)	137	(0.8%)	15288	(93.9%)	7396	(7.8%)	2410	2411	3544	12485	1926	400
Week ending																	
8/09/2019	21533	2790	(13.0%)	174	(6.2%)	30	(1.1%)	2586	(92.7%)	1575	(7.3%)	626	945	828	2816	721	139
15/09/2019	19759	1997	(10.1%)	105	(5.3%)	28	(1.4%)	1920	(96.1%)	1228	(6.2%)	638	1038	700	2718	854	93
22/09/2019	17634	1598	(9.1%)	85	(5.3%)	7	(0.4%)	1506	(94.2%)	983	(5.6%)	538	996	636	2360	853	90

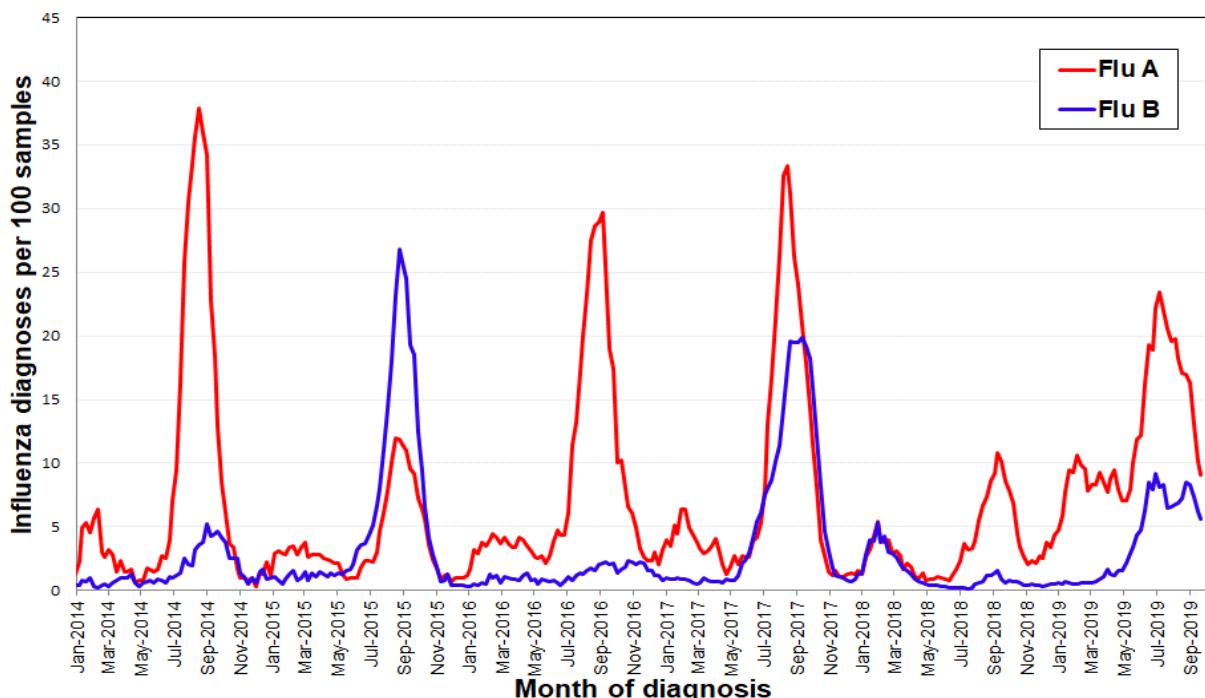
Notes: \* Five-week reporting period

\*\* Human metapneumovirus

**Figure 6:** Weekly influenza positive test results by type and sub-type reported by NSW sentinel laboratories, 1 January to 22 September 2019.



**Figure 7:** Percentage of laboratory tests positive for influenza A and influenza B by week, 1 January 2014 to 22 September 2019, New South Wales.



## Community Surveillance

In the week ending 22 September there were 2,405 notifications of influenza, lower than the previous week (3,090, revised). There have been 107,682 influenza notifications so far this year.

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

Influenza notifications and notification rates continued to decrease across the majority of NSW districts. Notification rates remain highest in Murrumbidgee and Western NSW LHDs (Table 3).

**Table 3:** Weekly notifications of laboratory-confirmed influenza by local health district.\*

Local Health District	Week ending 22 Sep 2019		Week ending 15 Sep 2019	
	Number of notifications	Rate per 100 000 population	Number of notifications	Rate per 100 000 population
<b>Central Coast</b>	96	27.55	128	36.73
<b>Far West</b>	2	6.65	7	23.29
<b>Hunter New England</b>	296	31.41	508	53.91
<b>Illawarra Shoalhaven</b>	158	37.97	128	30.76
<b>Mid North Coast</b>	67	30	102	45.67
<b>Murrumbidgee</b>	181	60.97	199	67.03
<b>Nepean Blue Mountains</b>	146	37.9	169	43.88
<b>Northern NSW</b>	90	29.33	114	37.15
<b>Northern Sydney</b>	236	24.96	285	30.14
<b>South Eastern Sydney</b>	217	22.89	282	29.75
<b>South Western Sydney</b>	198	19.41	320	31.37
<b>Southern NSW</b>	53	24.75	61	28.49
<b>Sydney</b>	144	20.97	211	30.73
<b>Western NSW</b>	162	57.12	185	65.23
<b>Western Sydney</b>	359	34.95	391	38.06

Notes: \* All data are preliminary and subject to change. Significant delays in the registration of notifications may occur during the winter months. For further information see the [influenza notifications data page](#).

## Influenza outbreaks in institutions

There were nine influenza outbreaks in institutions reported this week. Of these, eight were in residential care facilities and one was in a hospital. All but one were due to influenza A.

In the year to date there have been 421 laboratory confirmed influenza outbreaks in institutions reported to NSW public health units, including 358 in residential care facilities (Table 4, Figure 8). There have been 396 outbreaks due to influenza A, 18 due to influenza B and seven involving both A and B strains.

In the 358 influenza outbreaks affecting residential care facilities, at least 4201 residents were reported to have had ILI symptoms and 710 required hospitalisation. Overall, there have been 166 deaths<sup>1</sup> in residents reported which were linked to these outbreaks, all of whom were noted to have other significant co-morbidities.

NSW public health units advise institutions on how to manage their influenza outbreaks.

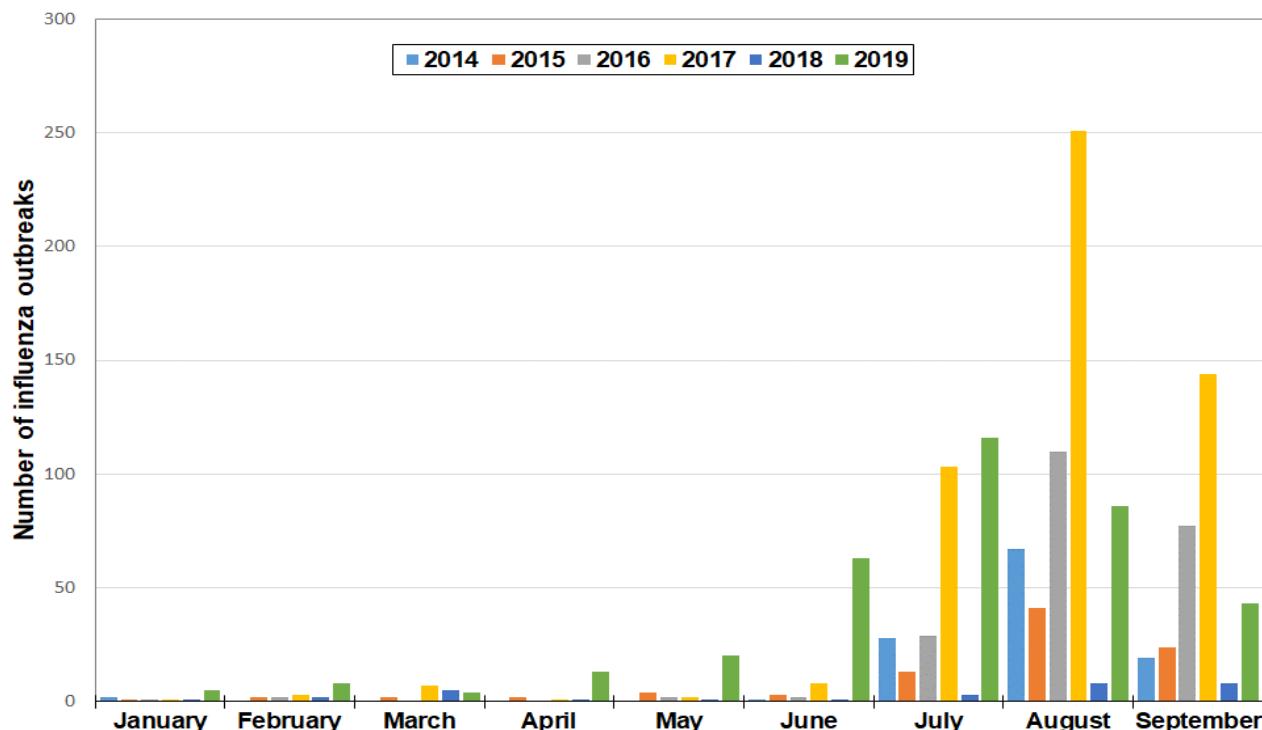
NSW Health also provides influenza antiviral treatment to help control outbreaks when requested and appropriate. This week NSW Health provided 137 courses of oseltamivir to two residential care facilities experiencing outbreaks, and have provided 7569 courses so far this year.

**Table 4:** Reported influenza outbreaks in NSW residential care facilities, January 2014 to 22 September 2019.

Year	2014	2015	2016	2017	2018	2019*
<b>Number of outbreaks</b>	121	103	252	543	42	358

Note: \* Year to date.

**Figure 8:** Reported influenza outbreaks in NSW residential care facilities by month, 2016 to 22 September 2019.



<sup>1</sup> Deaths associated with institutional outbreaks are also included in the [Deaths surveillance](#) section if laboratory-confirmed.

## The Australian Sentinel Practices Research Network (ASPREN)

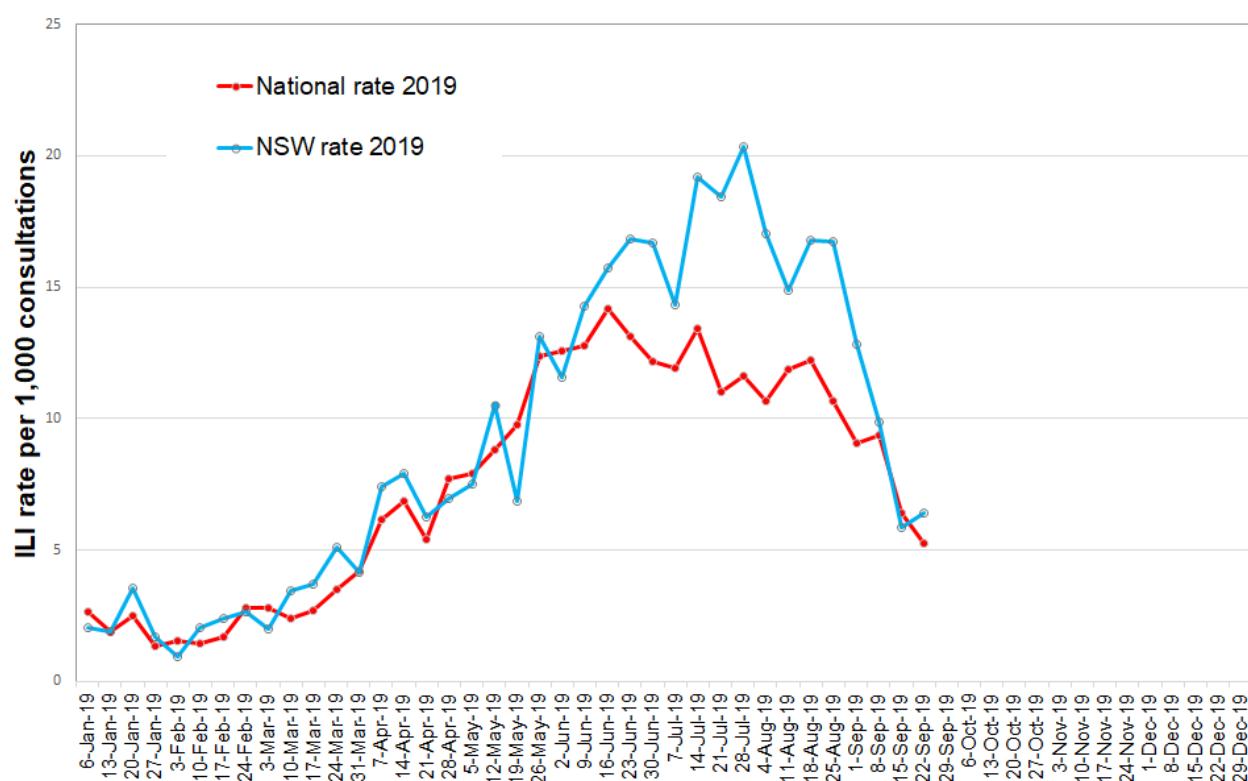
ASPREN is a network of sentinel general practitioners (GPs) run through the Royal Australian College of General Practitioners and the University of Adelaide which has collected de-identified information on influenza-like illness (ILI) and other conditions seen in general practice since 1991.

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 38 there were ASPREN reports received from 78 NSW GPs. The reported consultation rate for ILI per 1000 consultations was 6.43 (Figure 9), higher than the previous week (5.86, revised), and slightly higher than the national level.

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

**Figure 9:** ASPREN – NSW and National weekly GP ILI rates per 1000 consultations – 2019 to the week ending 22 September.



## FluTracking.net

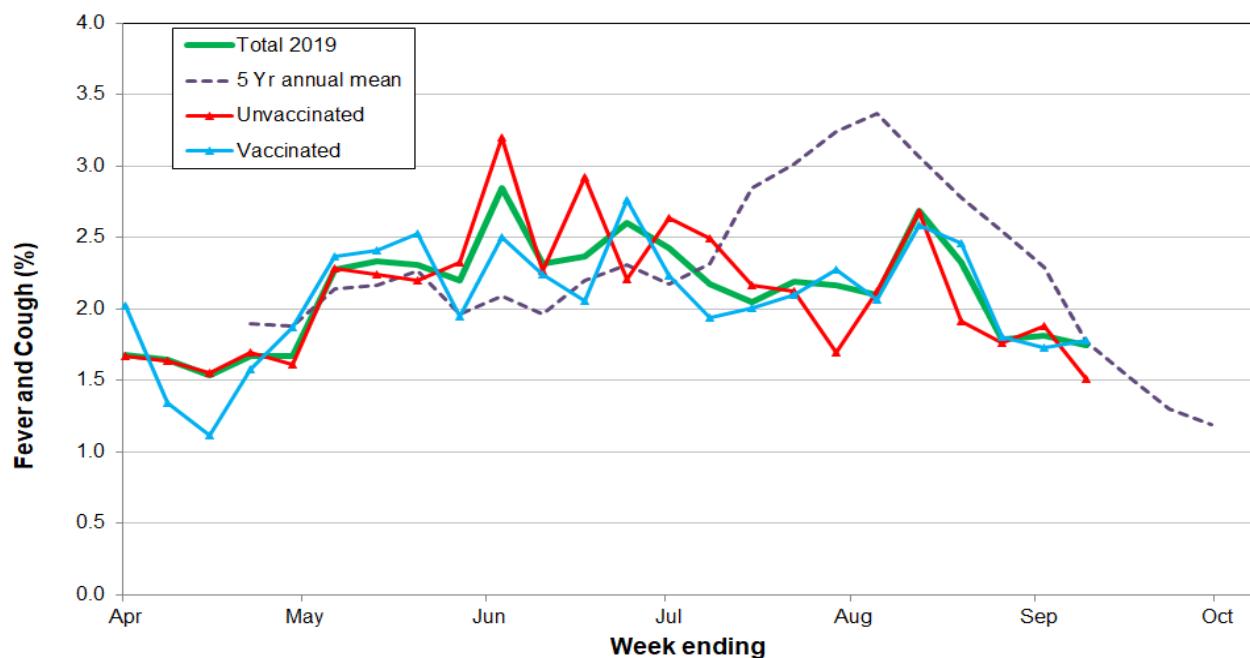
FluTracking.net is an online health surveillance system to detect epidemics of influenza. It is a project of the University of Newcastle, the Hunter New England Local Health District and the Hunter Medical Research Institute.

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

In week 38 FluTracking received reports for 12,671 people in NSW with the following results:

- 1.74% of respondents reported fever and cough, similar to the previous week (1.81%, revised) and similar to the five year annual mean (1.77%) (Figure 10).
- Among respondents who reported being vaccinated for influenza in 2019, 1.78% reported fever and cough compared to 1.51% among unvaccinated respondents (Figure 10).
- 1.03% of respondents reported fever, cough and absence from normal duties, lower than the previous week (1.34%, revised).

**Figure 10:** FluTracking – Percent of NSW participants reporting fever and cough by vaccination status and week, April to the week ending 22 September 2019, compared to the age standardised 5 year mean.



Note: Participants are not considered vaccinated until at least two weeks has elapsed since their recorded time of vaccination.

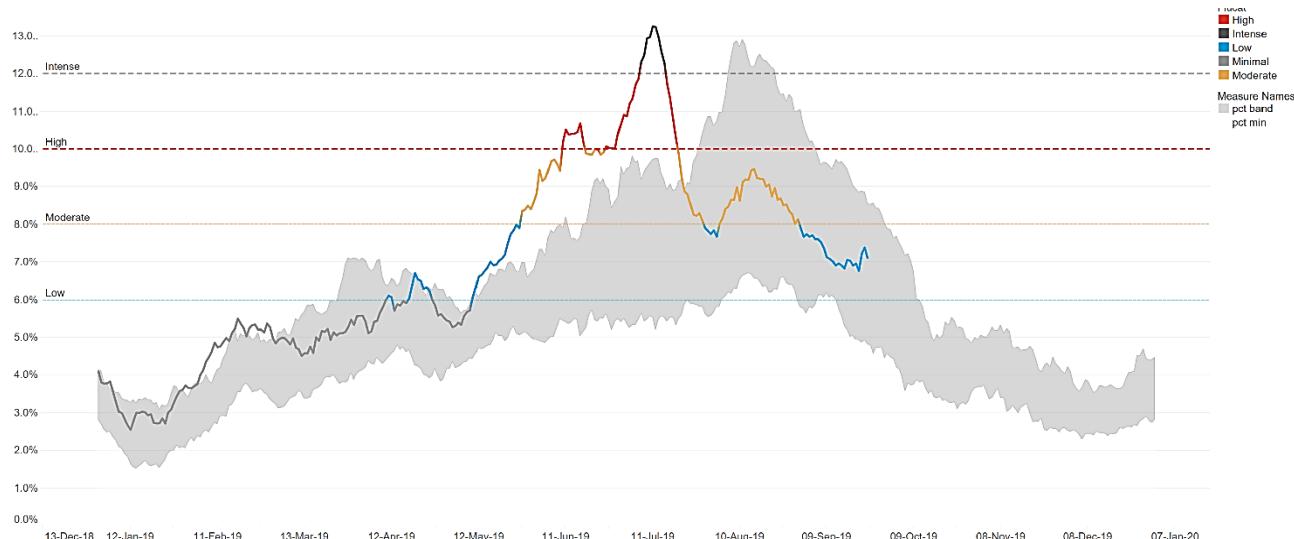
For further information on the project and how to participate, please see the [FluTracking](#) website.

## Healthdirect Australia

Healthdirect Australia is a national, government-owned, not-for profit organisation that collects data based on calls to its Healthdirect helpline (1800 022 222). This data includes the number of callers who report symptoms consistent with influenza-like illness (ILI).

In the week ending 22 September the number of ILI-related calls to Healthdirect Australia for NSW has fluctuated. The number of calls remained within the usual range of activity for this time of year, and was in the low range of activity for the season (Figure 11).

**Figure 11:** Healthdirect Australia – weekly ILI-related calls as a proportion of all calls for NSW, 2019 to the week ending 22 September compared to the weekly range between 2013 and 2018.



For further information see the [Healthdirect Australia Flu trends](#) website.

## Deaths surveillance

Coded cause of death data is not timely enough for seasonal influenza surveillance. To provide rapid indicators of influenza and pneumonia mortality, death registrations from the NSW Registry of Births, Deaths and Marriages are used. A keyword search is applied, across any text field of the Medical Certificate Cause of Death (MCCD), to identify death registrations that mention influenza or pneumonia. The MCCD text includes conditions directly leading to the death, antecedent causes and other significant conditions contributing to the death. Two indicators are then reported:

1. Pneumonia and influenza mortality to provide a more complete picture of the impact of influenza, and
2. Influenza deaths with laboratory confirmation for a more specific measure.

NSW Health monitors the number of people whose deaths certificates report influenza and pneumonia, however the proportion of deaths accurately identified as being due to influenza likely varies over time as influenza testing has become more readily available, and so trends need to be interpreted with caution.

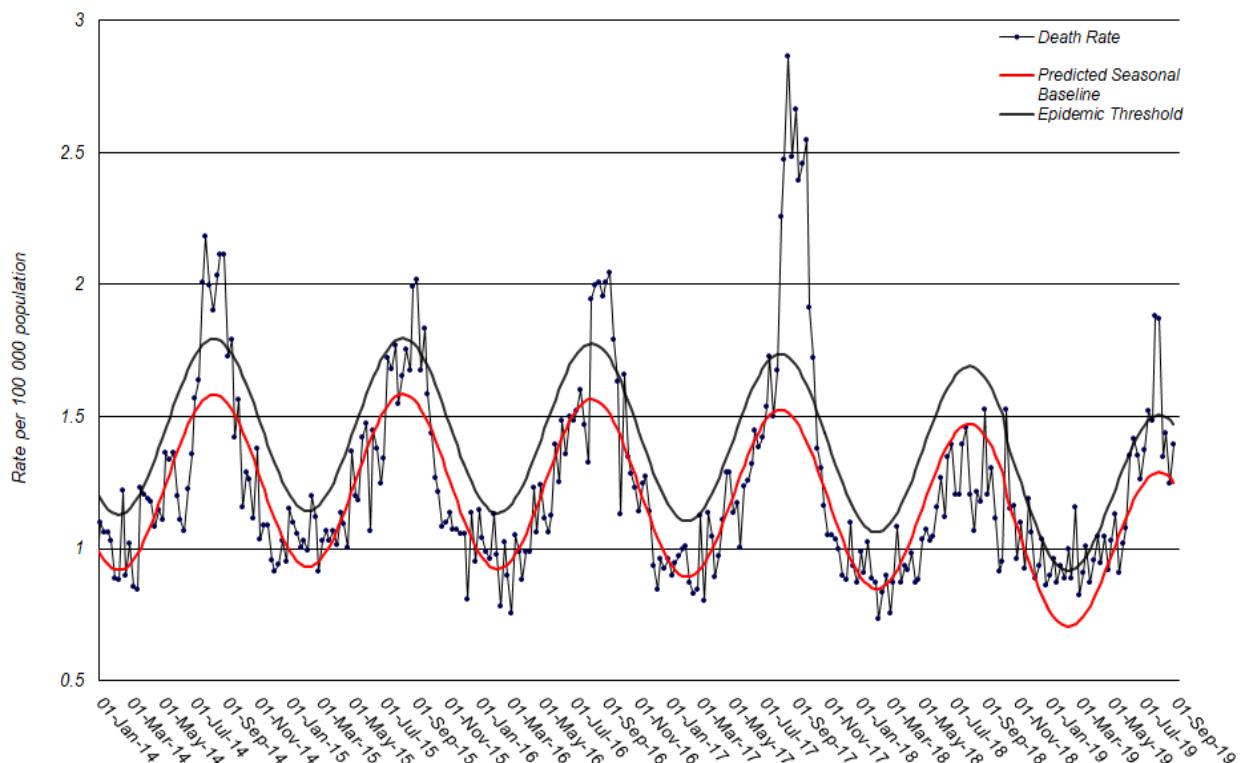
### Pneumonia and influenza mortality

Due to delays in the death registration process, death data for recent weeks are underestimated. For this reason, *pneumonia or influenza* mortality data from the three most recent weeks are not included.

For the week ending 30 August 2019, the rate of deaths attributed to *pneumonia or influenza* was 1.40 per 100,000 NSW population, higher than reported in the previous week (1.25 per 100,000, revised) but below the epidemic threshold of 1.47 per 100,000 population (Figure 12).

Among the 36,351 death registrations in 2019, 263 (0.72%) mentioned influenza. An additional 3065 (8.43%) death registrations mentioned pneumonia.

**Figure 12:** Rate of death registrations classified as *pneumonia or influenza* per 100,000 NSW population, 2014 – 30 August, 2019



Source: NSW Registry of Births, Deaths and Marriages.

\* Notes on interpreting death data:

- (a) Deaths registration data is routinely reviewed for deaths mentioning pneumonia or influenza. While pneumonia has many causes, a well-known indicator of seasonal and pandemic influenza activity is an increase in the number of death certificates that mention pneumonia or influenza as a cause of death.
- (b) The predicted seasonal baseline estimates the predicted rate of pneumonia or influenza deaths in the absence of influenza epidemics. If deaths exceed the epidemic threshold, then it may be an indication that influenza is beginning to circulate widely and may be more severe.
- (c) The number of deaths mentioning “Pneumonia or influenza” is reported as a rate per 100,000 NSW population (rather than a rate per total deaths reported).
- (d) Deaths referred to a coroner during the reporting period may not be available for analysis, particularly deaths in younger people which are more likely to require a coronial inquest. Influenza-related deaths in younger people may be under-represented in these data as a result.
- (e) The interval between death and death data availability is usually at least 14 days, and so these data are at least two weeks behind reports from emergency departments and laboratories and subject to change.

### Influenza deaths with laboratory confirmation

For the year to 22 September 2019, there have been 258 influenza deaths identified using Coroner’s reports and death registrations with laboratory confirmation. (Table 5). This includes the deaths of 23 people reported this week.

Four of the newly notified deaths were in people aged under 60 years – one person was aged in their 40’s and the remainder were aged in their 50’s. All had other significant medical conditions.

Deaths data are subject to change as new information is received.

**Table 5:** Laboratory-confirmed influenza deaths by age-group and year, NSW, 2017 to 22 September 2019 (by date of death).

Age-group	Year		
	2017	2018	2019*
0-4 years	2	2	0
5-19 years	4	0	0
20-64 years	44	6	27
65+ years	509	32	231
<b>Total</b>	<b>559</b>	<b>40</b>	<b>258</b>

Notes: \*Year to date.

### Government-funded vaccine distribution

NSW Health commenced distributing National Immunisation Program and NSW Government Program influenza vaccines on 1 April 2019.

National Immunisation Program (NIP) vaccines include vaccines for people aged 65 years and over, pregnant women, Aboriginal people aged 6 months and over, and people 6 months and over with medical conditions pre-disposing them to severe influenza.

NSW Government Program vaccines are for health care workers in NSW Health facilities and all children from 6 months to under 5 years of age not covered under the NIP.

As of 22 September, 2.5 million doses had been distributed to general practitioners, Aboriginal medical services, hospitals, aged care facilities, and childhood vaccination clinics across NSW.

For more information about the 2019 Influenza Vaccination Program see:

<https://www.health.nsw.gov.au/immunisation/Pages/flu.aspx>.

# National and International Influenza Surveillance

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## National Influenza Surveillance

The fortnightly *Australian Surveillance Report No. 10*, with data up to 8 September 2019, noted:

- **Activity** – Currently, overall influenza and influenza-like illness (ILI) activity is lower than average for this time of year compared to previous years, and current activity is consistent with activity in previous years following a peak. At the national level, notifications of laboratory-confirmed influenza continued to decrease in the past fortnight following an apparent peak in early July.
- **Severity** – Clinical severity for the season to date, as measured through the proportion of patients admitted directly to ICU, and deaths attributed to influenza, is considered low.
- **Impact** – Impact for the season to date, as measured through the number of sentinel hospital beds occupied by patients with influenza and the rate of FluTracking respondents absent from normal duties, is considered to be low to moderate.
- **Virology** – The majority of confirmed influenza cases reported nationally were influenza A in the year to date (79.5%) and reporting fortnight (66.3%). Of the influenza A cases that were subtyped, there has been a higher proportion of influenza A(H3N2) compared to influenza A(H1N1)pdm09. The proportion of cases attributed to influenza B has decreased slightly in the past fortnight, following a steady decline during July.
- **Vaccine match and effectiveness** – Antigenic analysis of circulating influenza viruses in Australia in 2019 shows that the influenza A(H1N1)pdm09 and influenza B/Yamagata-lineage viruses are well matched to the 2019 influenza vaccine while some A(H3N2) and B/Victoria-lineage viruses are less well matched. Overall vaccine effectiveness appears good and as expected based on preliminary estimates from sentinel general practice (ASPREN) and sentinel hospital (FluCAN-PAEDS) surveillance systems, noting that effectiveness typically ranges from around 40-60% each year.

For further information see the [Australian Influenza Surveillance Reports](#).

## Global Influenza Update

The latest [WHO global update on 16 September 2019](#) provides data up to 1 September 2019. In the temperate zones of the southern hemisphere, influenza activity continued to decrease in most countries. In summary:

- In the Caribbean, and tropical South American countries, influenza activity was low overall. In Central American countries, influenza activity slightly increased across the sub-region.
- In tropical Africa, influenza activity was low across reporting countries.
- In Southern Asia, influenza activity was low across reporting countries except in Bhutan where influenza percent positivity was reported above alert threshold.
- In South East Asia, influenza activity was low in most reporting countries and continued to be reported in Myanmar.
- In the temperate zone of the northern hemisphere, influenza activity remained at inter-seasonal levels.
- Worldwide, seasonal influenza A viruses accounted for the majority of detections.

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

## Influenza at the human-animal interface

WHO publishes regular updated risk assessments of human infections with avian and other non-seasonal influenza viruses at [Influenza at the human-animal interface](#), with the most recent report published on 24 June 2019. These reports provide information on human cases of infection with non-seasonal influenza viruses, such as H5 and H7 clade viruses, and outbreaks among animals.

Since the previous update, one new human infection with an influenza A(H1N1) variant virus was reported. There were no new reports of human cases of avian influenza A(H5) or A(H7) reported. The overall risk assessment for these viruses remains unchanged.

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](#).

## Composition of influenza vaccines in 2019

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### WHO influenza vaccine strain recommendations – Southern Hemisphere, 2019

The [WHO recommendations](#) for the composition of trivalent vaccines included changes in the influenza A(H3N2) component and the influenza B (Victoria lineage), as follows:

- an A/Michigan/45/2015 (H1N1)pdm09-like virus
- an A/Switzerland/8060/2017 (H3N2)-like virus
- a B/Colorado/06/2017-like virus (B/Victoria lineage)

It was recommended that quadrivalent vaccines also contain a second B component, a B/Phuket/3073/2013-like virus (B/Yamagata lineage).

### Australian influenza vaccine strain recommendations – 2019 influenza season

The Australian Influenza Vaccine Committee (AIVC) recommendation for the Australian trivalent vaccine includes a B/Yamagata lineage virus (a B/Phuket/3073/2013-like virus), rather than a B/Victoria lineage virus, based on circulating influenza B viruses at the time of the recommendation. The Therapeutic Goods Administration (TGA) accepted the [AIVC recommendations](#) for 2019.

Information on NSW seasonal influenza vaccination activities in 2019, including free vaccine for all children aged 6 months to less than 5 years can be found at:

<https://www.health.nsw.gov.au/immunisation/Pages/flu.aspx> .

### WHO influenza vaccine strain recommendations – Northern Hemisphere, 2019-20

The WHO Consultation on the Composition of Influenza Vaccines for Use in the 2019-20 Northern Hemisphere Influenza Season was held in Beijing on 18-20 February 2019.

From this meeting it was recommended that egg based quadrivalent vaccines for use in the 2019-2020 northern hemisphere influenza season contain the following:

- an A/Brisbane/02/2018 (H1N1)pdm09-like virus;
- an A/Kansas/14/2017 (H3N2)-like virus;
- a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage); and
- a B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage).

It was also recommended that the influenza B virus component of trivalent vaccines for use in the 2019-2020 northern hemisphere influenza season should be a B/Colorado/06/2017-like virus of the B/Victoria/2/87-lineage.

In light of recent changes in the proportions of genetically and antigenically diverse A(H3N2) viruses, the recommendation for the A(H3N2) component was announced on 21 March. More details about the most recent influenza vaccine recommendations can be found at:

<http://www.who.int/influenza/vaccines/virus/en/>.

## Report Notes:

<sup>1</sup> Notes for trend comparisons with the previous week:

		Trend in Cases	Trend in Presentations
►	Stable	<10% change or <20 cases change	<10% change or <40 presentations change
▼	Decrease	10% or greater decrease	10% or greater decrease
▲	Increase	10-20% increase	10-20% increase
▲	Higher increase	>20% increase	>20% increase

<sup>2</sup> All Respiratory, fever and unspecified infections presentations as a percentage of all unplanned emergency department presentations in participating hospitals in the local health district.

<sup>3</sup> NSW Local Health Districts and SA2: Influenza notification maps use NSW Local Health District Boundaries and Australian Bureau of Statistics (ABS) statistical area level 2 (SA2) of place of residence of cases are shown. Note that place of residence is used as a surrogate for place of acquisition for cases; the infection may have been acquired while the person was in another area.

<sup>4</sup> 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. Includes unplanned presentations to 67 NSW emergency departments, which accounted for 83% of all NSW ED presentations in the 2016/2017 financial year. The coverage is lower in rural EDs. Data is continuously updated.

<sup>5</sup> 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.

<sup>6</sup> Notes: The usual range is the range of weekly counts for the same week in the previous five years for ED presentations and for ambulance Triple (000) calls.

Key for trend since last week: Non-bold and green=decreased or steady; Non-bold and orange=increased

Key for comparison with usual range: Non-bold and green =usual range; Non-bold and orange=above

usual range, but not significantly above five-year mean; Bold and yellow=within usual range, but significantly above five-year mean; Bold and red = above the usual range and significantly above five-year mean (ED).

Counts are statistically significant (shown in bold) if they are at least five standard deviations above the five-year mean. The 'daily index of increase' is statistically significant above a threshold of 15. LHD = Local Health District.

<sup>ii</sup> Severity indicators include: Admission or admission to a critical care ward (CCW); Triage category 1; Ambulance arrival and Death in ED.

<sup>7</sup> 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 (up to 2017), Austech, 4cyte.