Influenza Surveillance Weekly Report

Week 23: 3 to 9 June 2019

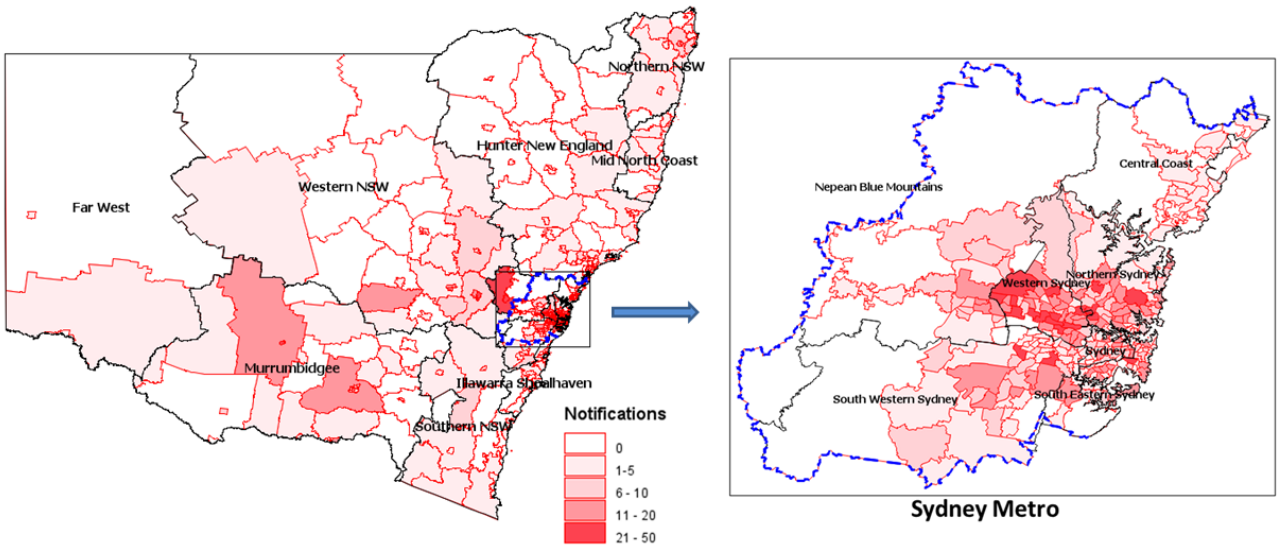
Key Points

- Influenza activity continued to be high across all NSW local health districts, consistent with the annual influenza season. There is no indication that influenza activity has peaked.
- Respiratory presentations to NSW emergency departments increased and remained high in most districts, but were within the usual range for influenza seasons overall.
- Influenza A strains predominated but influenza B strain activity is also increasing.

Activity compared to the previous week – NSW local health districts

Local Health District	Confirmed Influenza Notifications		NSW Emergency Departments (67) *All Respiratory/Fever/Unspecified infections*		
	Cases	Trend [1]	Presentations	Trend [1]	% of LHD ED presentations[2]
Central Coast	54	►	450	▲	16%
Far West	3	►	52	►	13%
Hunter New England	128	▲	982	▲	16%
Illawarra Shoalhaven	73	►	392	►	13%
Mid North Coast	20	►	293	►	15%
Murrumbidgee	155	▲	396	▲	19%
Nepean Blue Mountains	214	▲	308	►	15%
Northern NSW	77	▲	293	►	13%
Northern Sydney	436	►	630	▲	15%
South Eastern Sydney	359	▲	959	►	16%
South Western Sydney	327	▲	1072	►	19%
Southern NSW	58	▲	296	►	18%
Sydney	209	►	511	►	17%
Western NSW	148	▲	438	▲	17%
Western Sydney	708	▲	1032	►	20%
New South Wales	2969	▲	8104	▲	17%

Confirmed influenza by NSW local health district and local area (SA2)[3]



Summary for this reporting week:

- Hospital surveillance – ILI presentations to EDs remain on an increasing trend
- Laboratory surveillance – the influenza laboratory test positive rate was higher (22.5%). Influenza A strains predominated but B strains are increasing
- Community surveillance – influenza activity increased across the majority of LHDs and was above the usual range across all LHDs
- Death surveillance – one influenza-related death was 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 – high influenza activity for this time of year.

Hospital Surveillance

NSW emergency department (ED) presentations for respiratory illness

Source: PHREDSS[4]

For the week ending 9 June 2019:

- Presentations for *All respiratory illness, fever and unspecified infections* increased this week and remain above the usual range for this time of year (Figure 1, Table 1). The proportion of these presentations to all unplanned ED presentations increased and was 16.5 per 100 presentations, slightly higher than the previous week and within the seasonal range (Figure 2).
- Presentations were significantly elevated across all ages and in the majority of NSW local health districts (LHD) (Table 1).
- The daily index of increase for *influenza-like illness* (ILI)[5] presentations across NSW increased further to 54.2, up from 47.9 in the previous week. The seasonal threshold of 15 was exceeded on 21 April (Week 16), marking the start of the PHREDSS ILI season.
- ILI presentations resulting in admission increased further and remained above the usual range for this time of year (Figure 3, Table 1).
- ED presentations and admissions for pneumonia both increased, and both remain above 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 4, Table 1).
- ED presentations for *bronchiolitis* decreased further and were below the usual range for this time of year (Table 1).

Figure 1: Total weekly counts of ED visits for *All respiratory illness, fever and unspecified infections*, all ages, 1 January – 9 June 2019 (black line), compared with the 5 previous years (coloured lines).

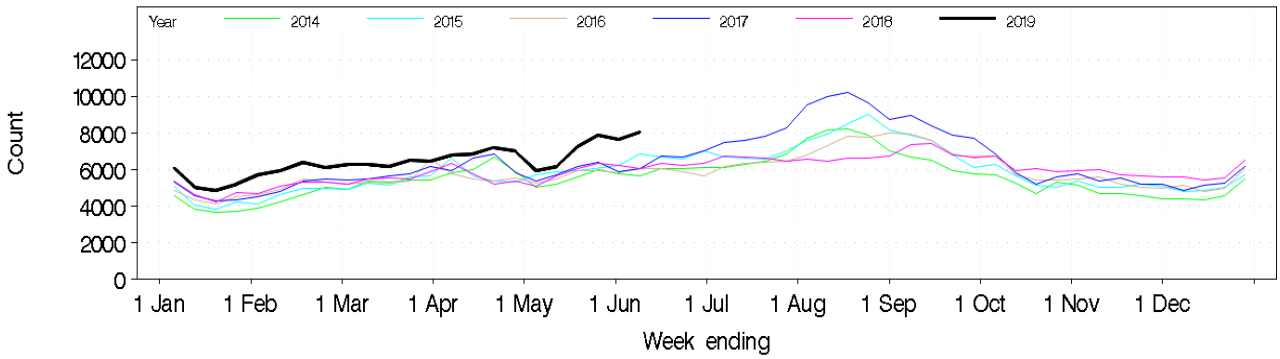


Figure 2: Total weekly counts of ED visits for *All respiratory illness, fever and unspecified infections*, all ages, as a rate per 100 ED visits, 1 January – 9 June 2019 (black line), compared with the range of season rate curves for the 5 previous years (white zone) aligned to the PHREDSS season start in 2019 (week 16).

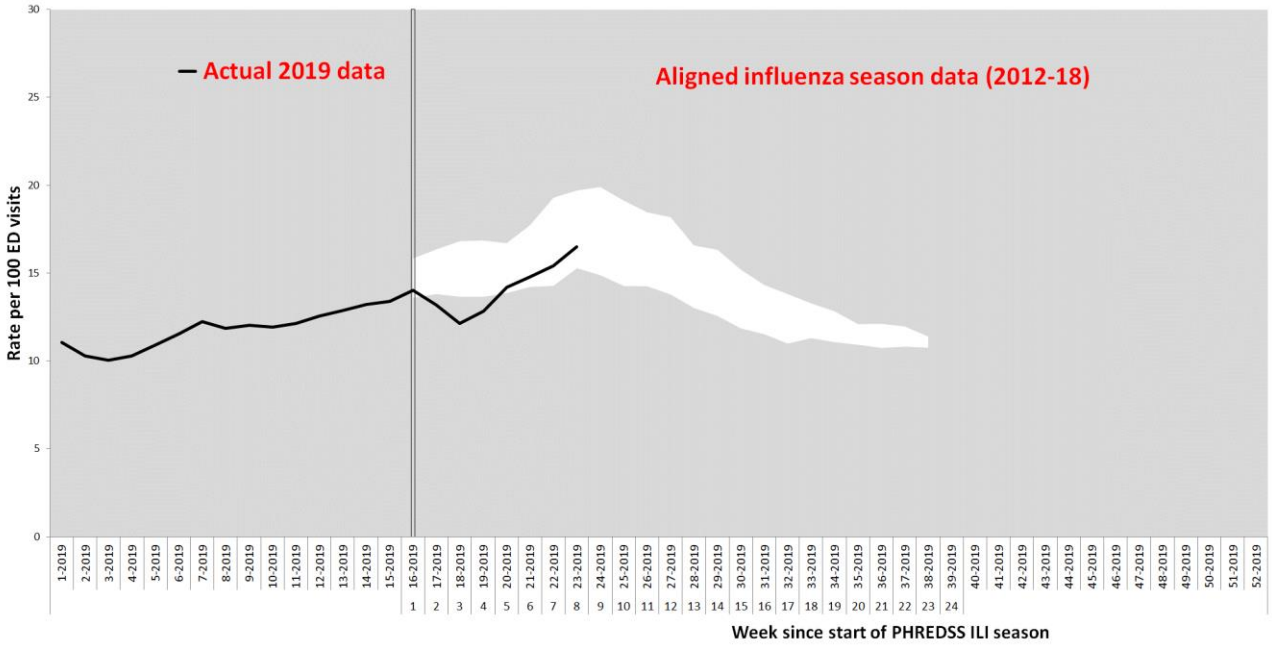


Figure 3: Total weekly counts of ED visits for *influenza-like-illness* that were admitted, all ages, 1 January – 9 June 2019 (black line), compared with the 5 previous years (coloured lines).

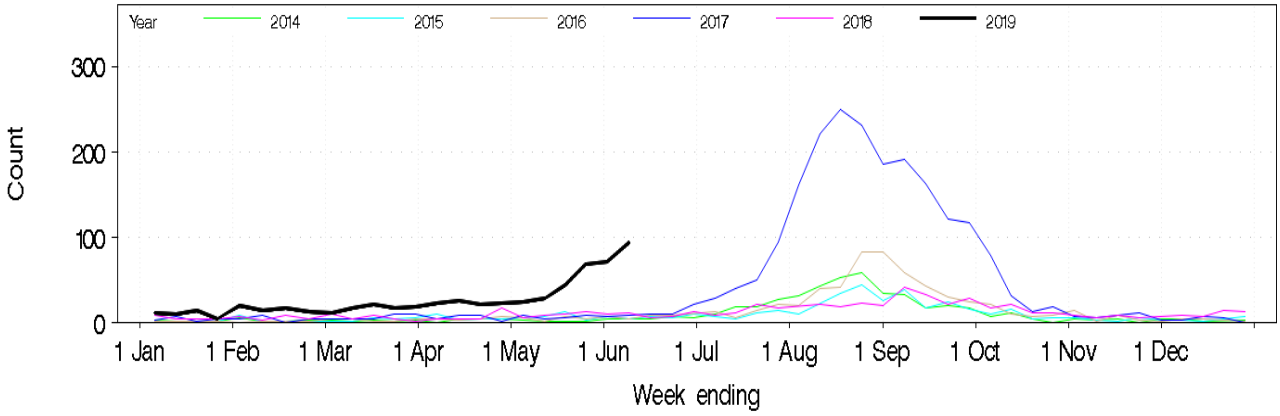


Figure 4: Total weekly counts of ED presentations for influenza-like illness and pneumonia, *that were admitted to a critical care ward*, all ages, 1 January – 9 June 2019 (black line), compared with the 5 previous years (coloured lines).

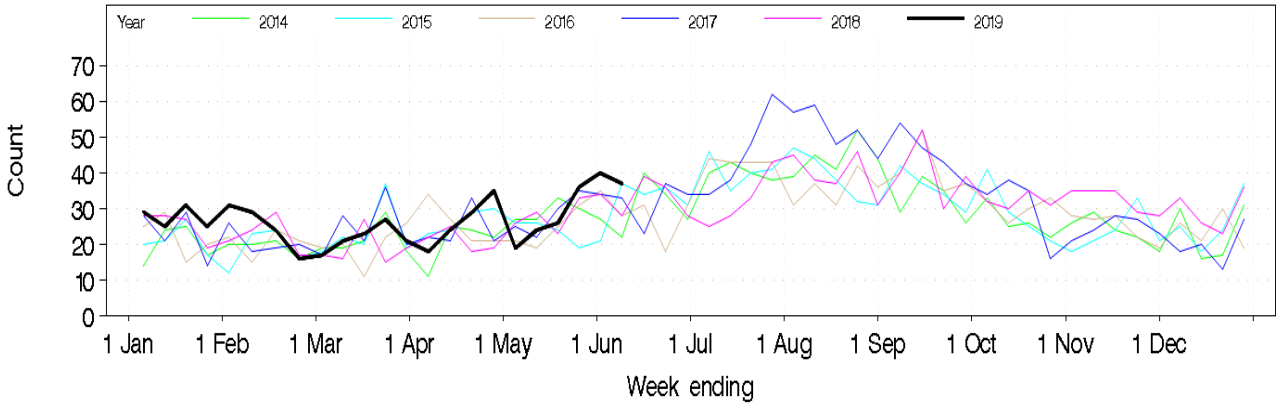


Table 1: Weekly emergency department respiratory illness summary, week ending 9 June 2019.[6]

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)	Increased (379)	**Above (28–56)**	**5-16 years (87) 0-4 years (47) 17-34 years (111) 65+ years (56) 35-64 years (78)**	**Ambulance arrival (69)**	The NSW daily index of increase for ILI presentations was 54.2.
	ILI admissions	Increased (94)	**Above (4–12)**	**5-16 years (12) 0-4 years (11) 65+ years (31) 17-34 years (17) 35-64 years (23)**	**Critical Care (4) Ambulance arrival (35)**	
	Pneumonia	Increased (650)	**Above (371–592)**	**5-16 years (71)**		
	Pneumonia admissions	Increased (447)	Above (273–434)	**5-16 years (41)**		
	Pneumonia and ILI critical care admissions	Decreased (37)	Within (22–37)			
	Asthma	Decreased (574)	Within (496–636)			
	Bronchiolitis	Decreased (269)	Below (298–377)			Bronchiolitis is a disease of infants.
	All respiratory illness, fever and unspecified infections	Increased (8,042)	**Above (5,642–6,849)**	**5-16 years (1,249) 17-34 years (1,110) 35-64 years (1,349) 65+ years (1,689) 0-4 years (2,656)**	**Admission (2,740) Ambulance arrival (1,728)**	
Ambulance	Breathing problems	Increased (2,474)	**Above (1,660–2,091)**	**65+ years (1,370) 35-64 years (580)**		

FluCAN (The Influenza Complications Alert Network)

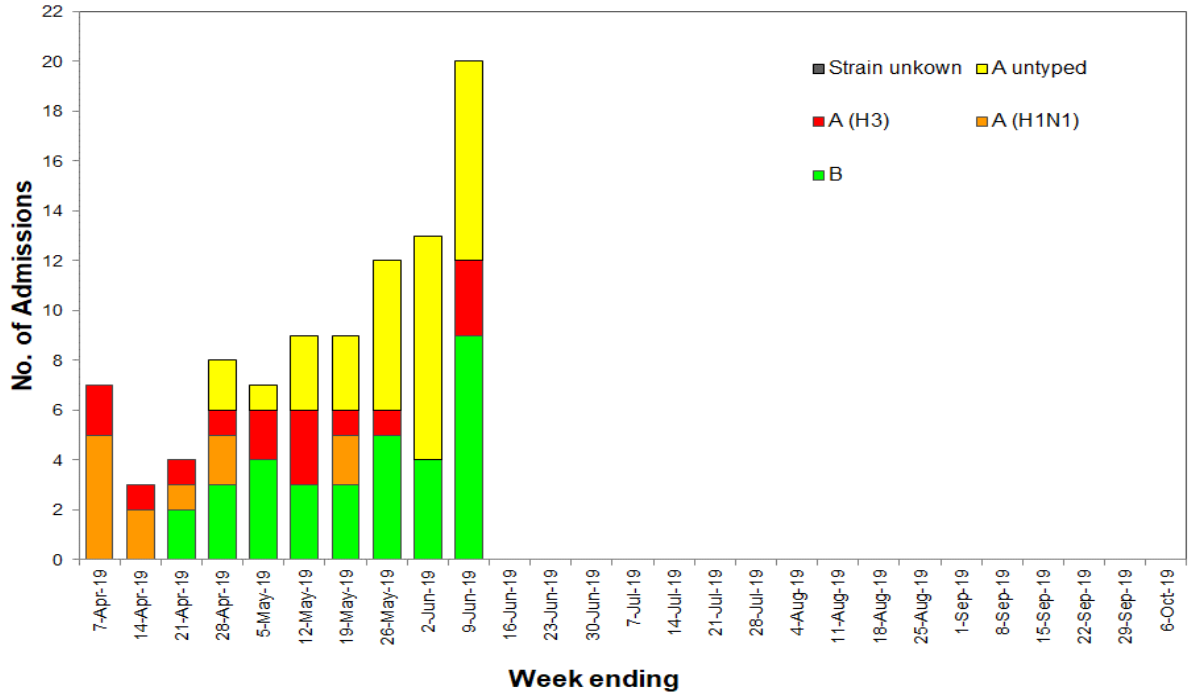
In 2009, the FluCAN surveillance system was created to be a rapid alert system for severe respiratory illness requiring hospitalisation. Data is provided on patients admitted with influenza confirmed by polymerase chain reaction (PCR) testing.

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

During week 23 there were 20 influenza admissions to NSW sentinel hospitals (Figure 6).

Since 1 April 2019, there have been 92 hospital admissions reported for influenza; 59 due to influenza A (including 12 A(H1N1) and 15 A(H3)) and 33 due to influenza B (Figure 6). Of these admissions, 85 were paediatric cases (<16 years of age) and seven were in adults. No cases have been admitted to a critical care ward.

Figure 6: FluCAN – Confirmed influenza hospital admissions in NSW, 1 April – 9 June, 2019*.



Note: * Admissions data are subject to change as new information is received. Westmead Hospital data is not available so far for 2019.

Laboratory Surveillance

For the week ending 9 June 2019 the number and proportion of respiratory specimens reported by NSW sentinel laboratories [7] which tested positive for influenza A or influenza B increased further and remained higher than expected for this time of year (Table 2, Figure 7). However, influenza detections were similar to equivalent weeks of the influenza season in previous years

This comes on the background of increased numbers of respiratory virus tests conducted by these laboratories compared to the same time last year. In this reporting week (week 23), there were 17,710 respiratory tests, 64% more than for the same week in 2018 (6,333 tests). For the year up to week 23, there have been 195,082 respiratory virus tests, 45% more than for the same period in 2018 (107,490 tests).

Overall, 22.5% of tests for respiratory viruses were positive for influenza (Figure 7), higher than the previous week (16.9%). Influenza A strains remained more common than B strains but detections of both types are increasing (Table 2, Figures 7-8).

Further characterisation was available for only 3.2% of 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. However, both B/Yamagata and B/Victoria strains have been identified this year and there are indications that B/Victoria is becoming the predominant B strain in the community.

Influenza was the most common respiratory virus identified for the first time this year, followed by rhinovirus and respiratory syncytial virus (RSV) (Table 2).

Table 2: Summary of testing for influenza and other respiratory viruses at NSW laboratories, 1 January to 9 June 2019.

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	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%)	132	(5.0%)	198	(7.4%)	2334	(87.6%)	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
28/04/2019*	61942	6303	(10.2%)	264	(4.2%)	112	(1.8%)	5927	(94.0%)	2270	(3.7%)	1528	1337	4695	11729	312	1206
Week ending																	
9/06/2019	17710	2867	(16.2%)	108	(3.8%)	23	(0.8%)	2736	(95.4%)	1120	(6.3%)	354	277	963	3224	57	175

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

Figure 7: Weekly influenza positive test results by type and sub-type reported by NSW sentinel laboratories, 1 January to 9 June 2019.

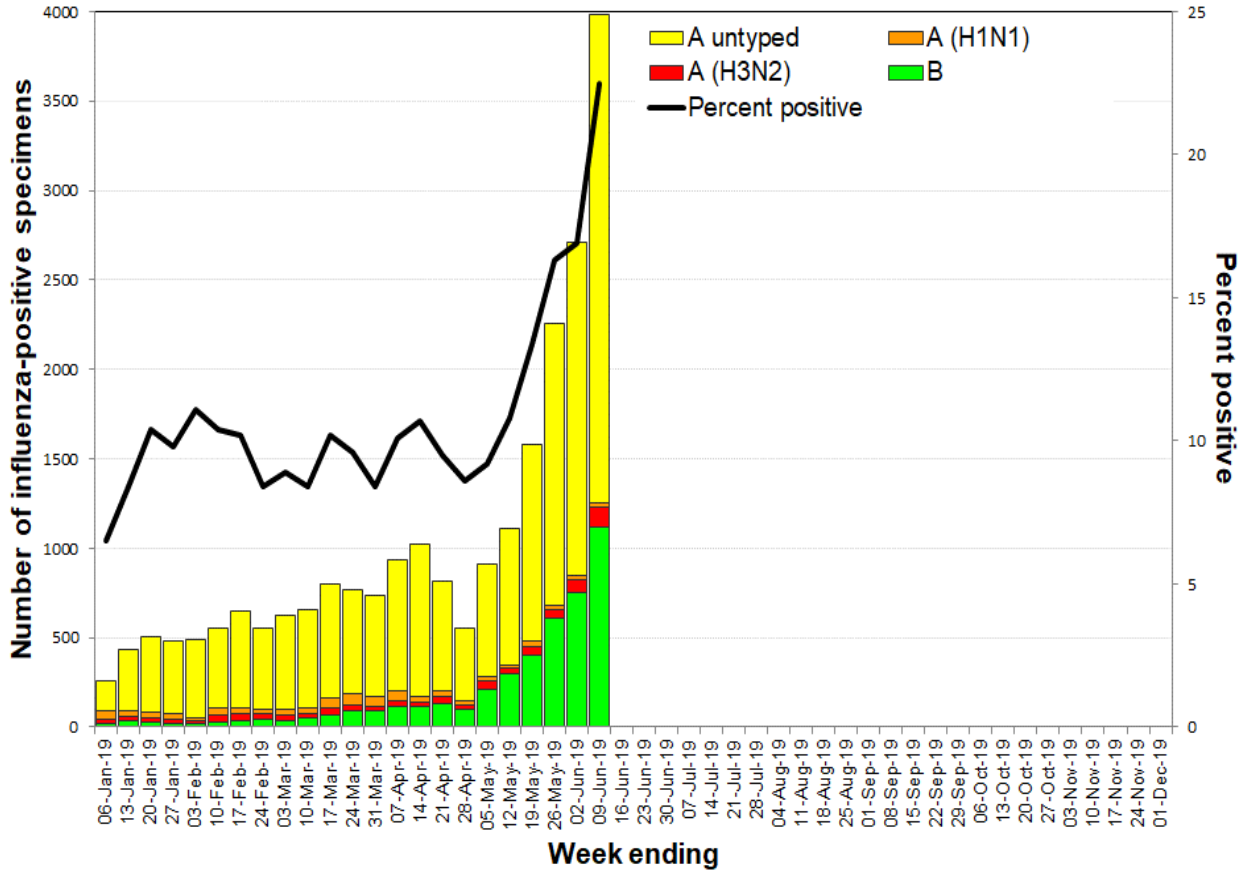
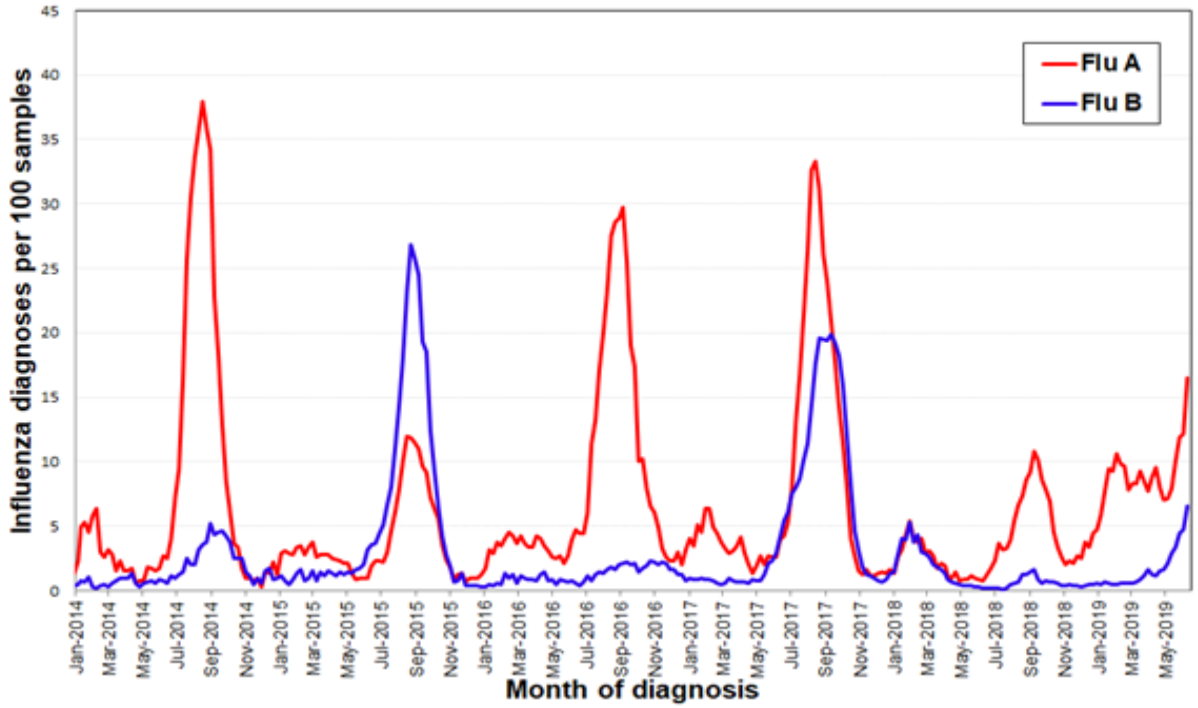


Figure 8: Percentage of laboratory tests positive for influenza A and influenza B by week, 1 January 2014 to 9 June 2019, New South Wales.



Community Surveillance

Influenza notifications by Local Health District (LHD)

In the week ending 9 June there were 2969 notifications of influenza confirmed by polymerase chain reaction (PCR) testing, higher than the 2382 (revised) notifications reported in the previous week. Influenza notification rates increased across most of the state, with the exception of the Central Coast, Far West NSW, Illawarra, Mid North Coast and Sydney LHDs (Table 3).

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

Local Health District	Week ending 09 Jun 2019		Week ending 02 Jun 2019	
	Number of notifications	Rate per 100 000 population	Number of notifications	Rate per 100 000 population
Central Coast	54	15.5	57	16.36
Far West	3	9.98	11	36.59
Hunter New	128	13.58	97	10.29
Illawarra	73	17.54	87	20.91
Mid North Coast	20	8.95	31	13.88
Murrumbidgee	155	52.21	86	28.97
Nepean Blue	214	55.56	135	35.05
Northern NSW	77	25.09	54	17.6
Northern Sydney	436	46.11	428	45.27
South Eastern	359	37.88	311	32.81
South Western	327	32.06	220	21.57
Southern NSW	58	27.09	32	14.94
Sydney	209	30.44	210	30.58
Western NSW	148	52.18	102	35.96
Western Sydney	708	68.92	521	50.72

Notes: * All data are preliminary and may change as more notifications are received. For further information see the influenza notifications data page.

Influenza outbreaks in institutions

There were eight influenza outbreaks in institutions reported this week. One outbreak was in a private hospital, with the rest in residential care facilities. All were due to influenza A.

In the year to date there have been 70 laboratory confirmed influenza outbreaks in institutions reported to NSW public health units, including 57 in residential care facilities (Table 4, Figure 9). Sixty-seven of the outbreaks have been due to influenza A, two were due to influenza B and one involved both A and B strains.

In the 57 influenza outbreaks affecting residential care facilities, at least 560 residents were reported to have had ILI symptoms and 61 required hospitalisation. Overall, there have been 14 deaths[1] in residents reported which were linked to these outbreaks, all of whom were noted to have other significant co-morbidities.

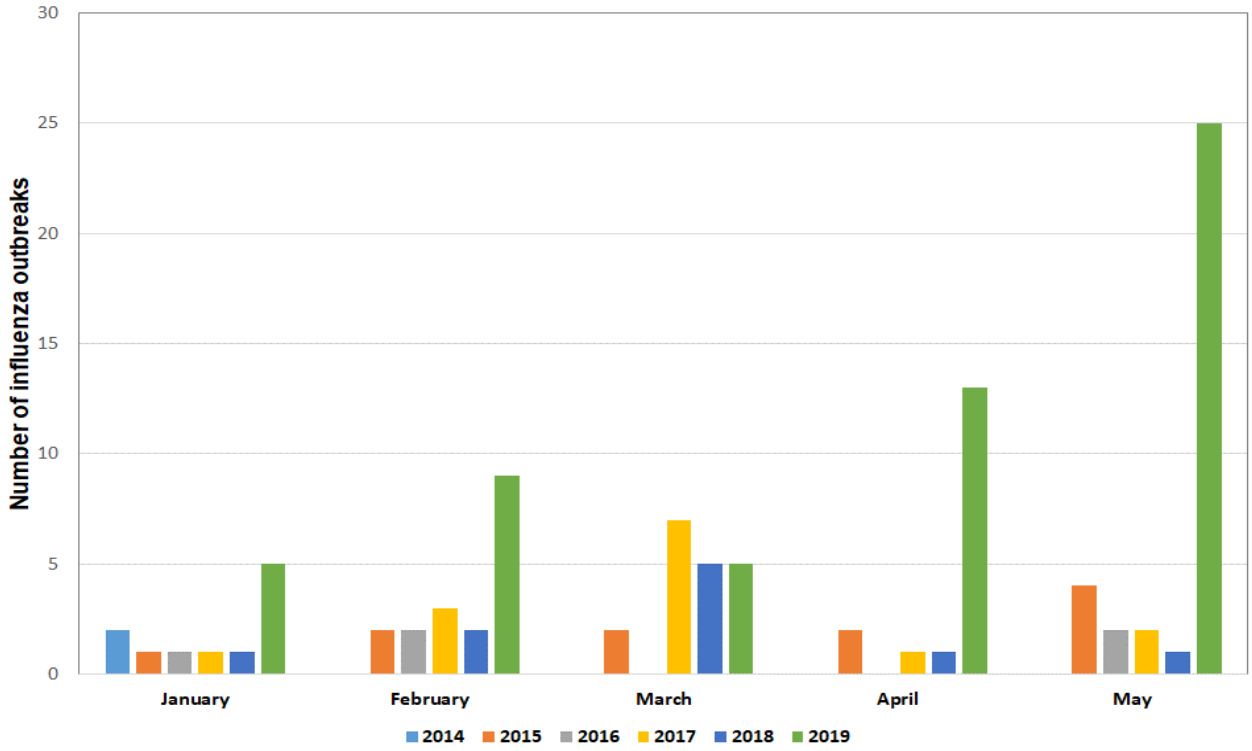
NSW public health units advise institutions on how to manage their influenza outbreaks. NSW Health also provides influenza antiviral treatment to help control outbreaks when requested and appropriate. This week NSW Health provided 60 courses of oseltamivir to one institution with an influenza outbreak and have provided 793 courses of antivirals so far this year.

Table 4: Reported influenza outbreaks in NSW residential care facilities, January 2014 to 9 June 2019.

Year	2014	2015	2016	2017	2018	2019*
Number of outbreaks	121	103	252	543	42	57

Note: * Year to date.

Figure 9: Reported influenza outbreaks in NSW residential care facilities by month, 2014 to 9 June 2019.



[1] Deaths associated with institutional outbreaks are also included in the Deaths surveillance section if laboratory-confirmed.

The Australian Sentinel Practices Research Network (ASPREN)

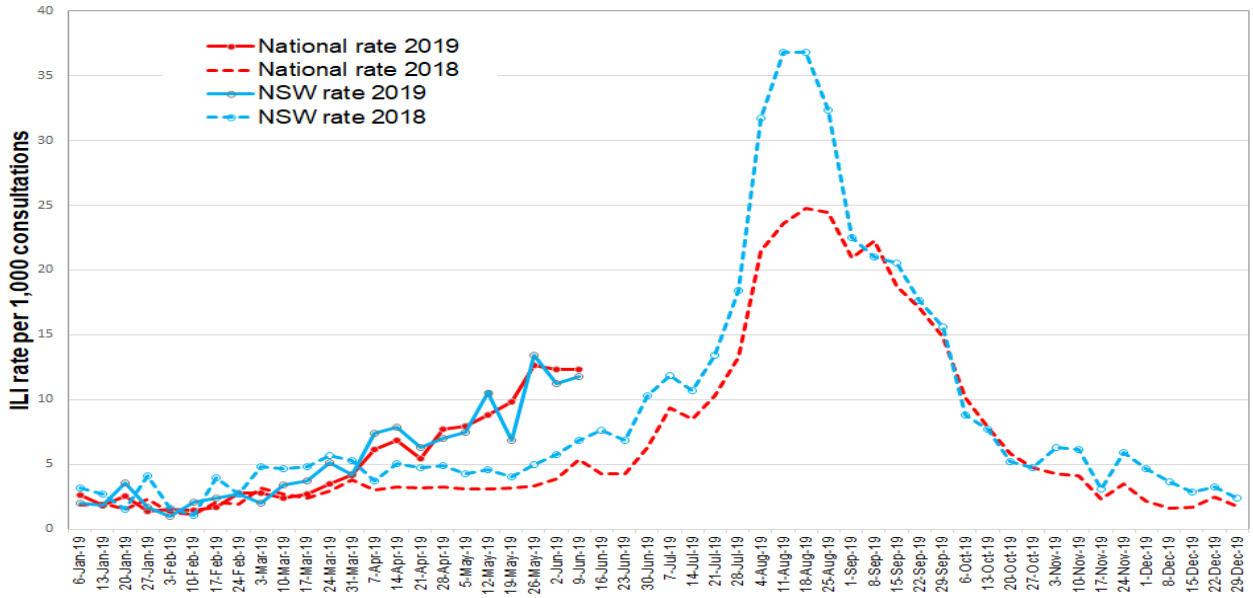
ASPREN is a network of sentinel general practitioners (GPs) run through the Royal Australian College of General Practitioners and the University of Adelaide which has collected de-identified information on influenza-like illness (ILI) and other conditions seen in general practice since 1991.

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 23 there were ASPREN reports received from 72 NSW GPs. The reported consultation rate for ILI per 1000 consultations was increased at 11.8 (Figure 10), slightly higher than the previous week (11.3, revised), but higher than usual for this time of year and similar to the National level, and similar to equivalent weeks of the influenza season in previous years.

For further information see the ASPREN website.

Figure 10: ASPREN – NSW and National GP ILI rates per 1000 consultations – 2019 to the week ending 9 June, compared to 2018 weekly rates.



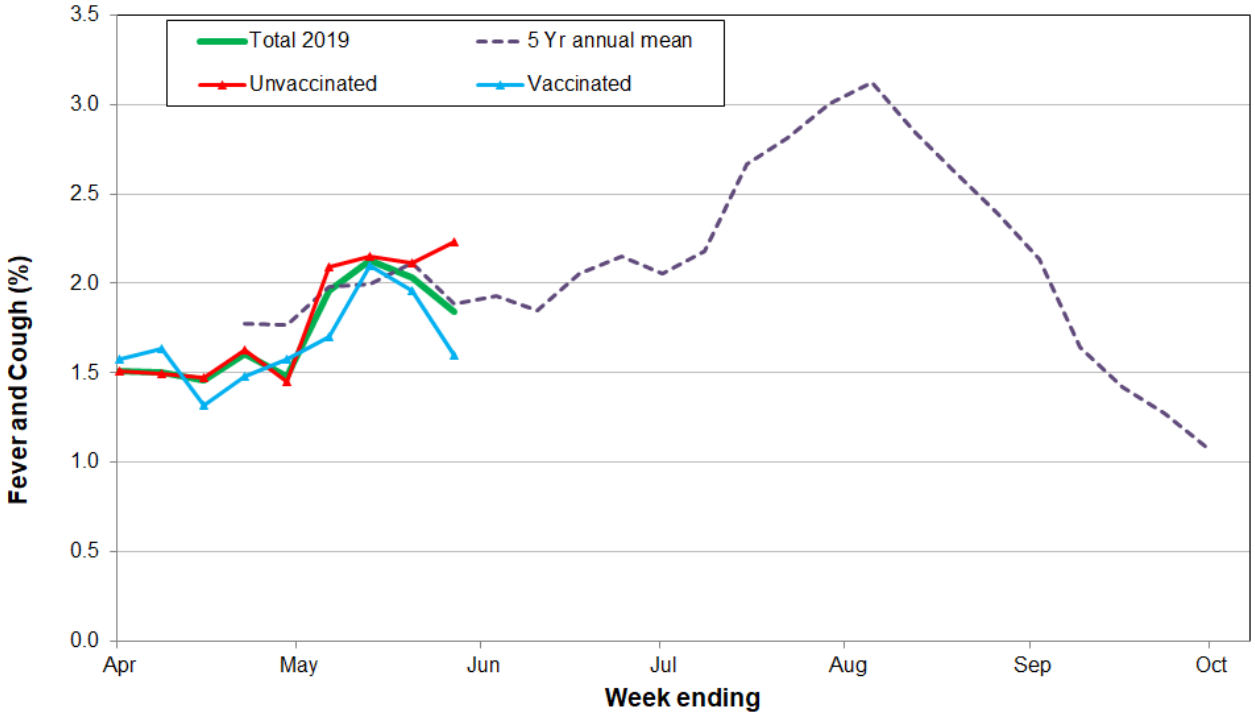
FluTracking.net

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

In week 23 FluTracking received reports for 13,058 people in NSW with the following results:

- 1.8% of respondents reported fever and cough, lower than the previous week (2.0%) and similar to the five year annual mean (1.9%) (Figure 11).
- Among respondents who reported being vaccinated for influenza in 2019, 1.6% reported fever and cough which was notably lower than the 2.2% rate reported among unvaccinated respondents (Figure 11).
- 1.2% of respondents reported fever, cough and absence from normal duties, lower than the previous week (1.4%).

Figure 11: FluTracking – Percent of NSW participants reporting fever and cough by vaccination status and week, 2019 to the week ending 9 June, 2019 compared to the 5 year mean.



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

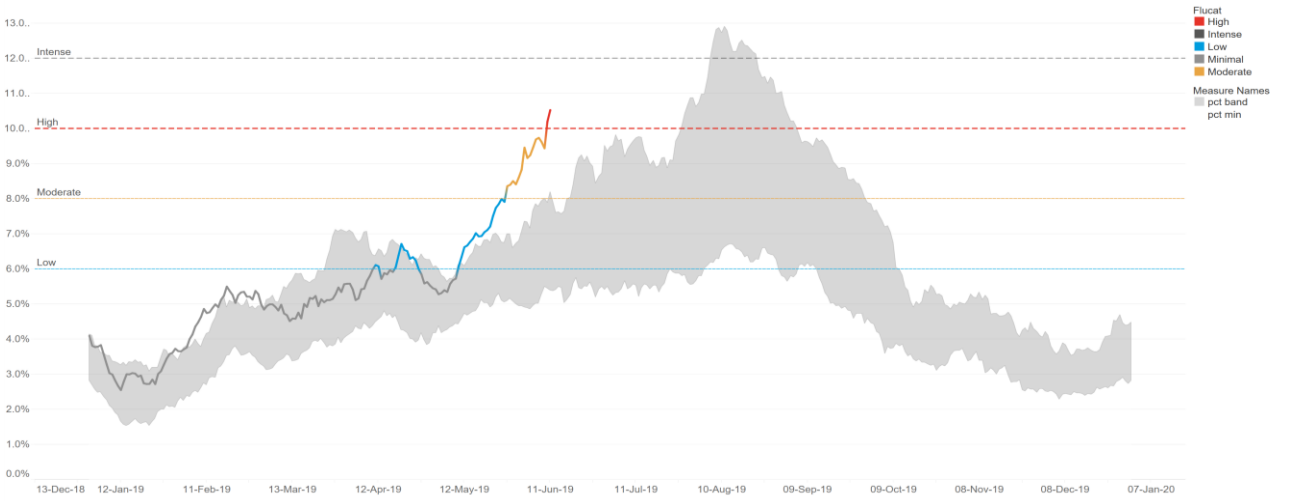
For further information on the project and how to participate, please see the FluTracking website.

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 9 June the number of ILI-related calls to Healthdirect Australia for NSW increased and was above the usual range of activity for this time of year and was in the high range of activity for the season (Figure 12).

Figure 12: Healthdirect Australia – weekly ILI-related calls as a proportion of all calls for NSW, 2019 to the week ending 9 June compared to the weekly range between 2012 and 2017.



For further information see the Healthdirect Australia flu trends website.

Deaths surveillance

It is estimated that 800-1,000 people die from influenza in NSW annually, although only a small proportion of these are diagnosed at the time of death and reported on death certificates. NSW Health monitors the number of people whose deaths certificates report influenza, 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

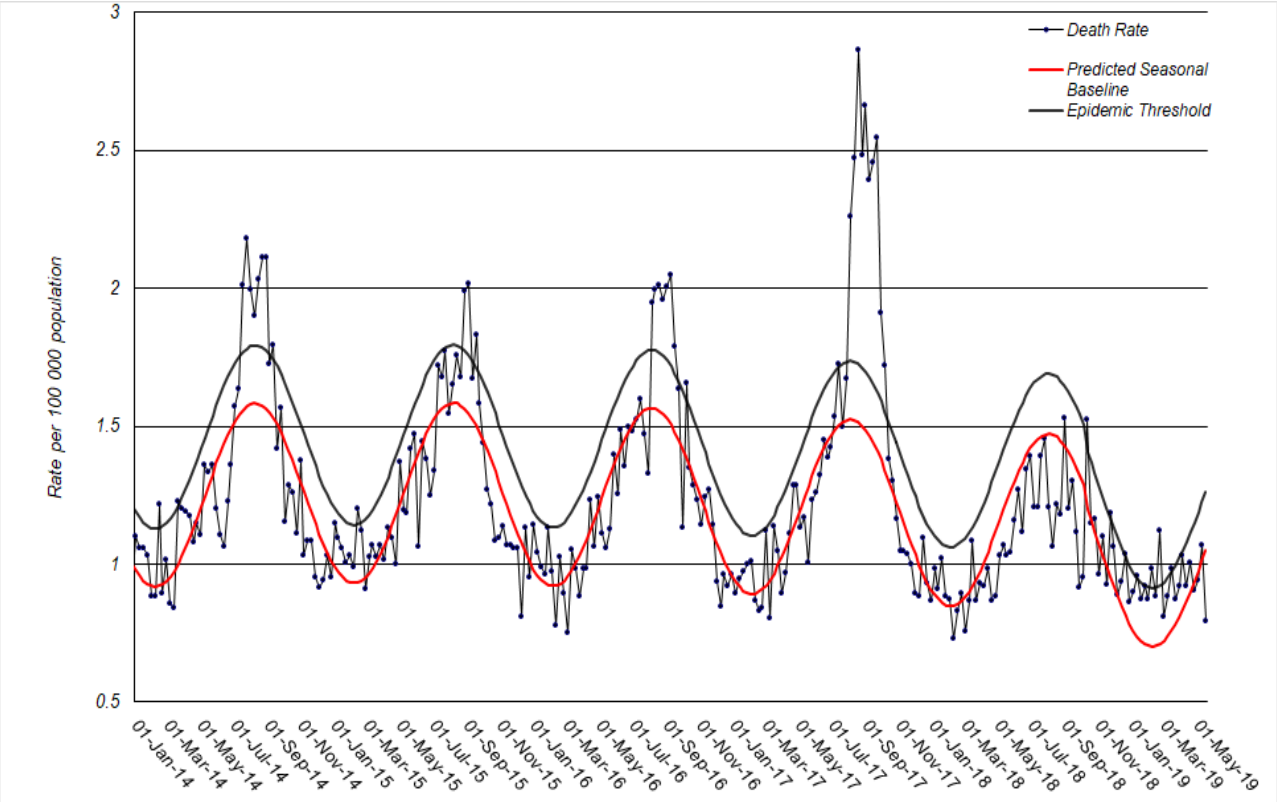
Due to delays in the death registration process, death data for recent weeks are highly variable. For this reason, pneumonia and influenza mortality data from the three most recent weeks are not included.

For the week ending 17 May 2019, the rate of deaths attributed to *pneumonia or influenza* was 0.79 per 100 000 NSW population, below the epidemic threshold of 1.26 per 100 000 population (Figure 13).

For the year up to 17 May 2019, *pneumonia or influenza* deaths have remained mostly below the epidemic threshold with the exception of a short period late in February and mid-March where the death rate rose above the epidemic threshold. However, the death rate has remained above the predicted seasonal baseline throughout summer and autumn (Figure 13).

Among the 19,193 registry death certificates in 2019, 50 (0.26%) certificates mentioned influenza. An additional 1469 (7.65%) death certificates mentioned pneumonia.

Figure 13: Rate of deaths classified as *influenza or pneumonia* per 100 000 NSW population, 2014 – 17 May, 2019



Source: NSW Registry of Births, Deaths and Marriages.

* Notes on interpreting death data:

(a) Deaths registration data is routinely reviewed for deaths attributed to 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-related deaths with laboratory confirmation

For the year to 9 June 2019 there have been 49 laboratory-confirmed influenza deaths (Table 5). This includes one person who died in this reporting week. This death was in a person aged 60 years or older. In 2019, one death occurred in June, 15 were in May, 12 were in April, 2 were in March, 10 were in February and 9 were in January.

Influenza-related deaths are identified from the NSW Registry of Births, Deaths and Marriages. Deaths are categorized as influenza-related if influenza is listed in the *Cause of death* section of the death certificate (including *Antecedent causes*), and where there has been laboratory confirmation of a recent influenza infection for that person. Deaths where influenza is only noted in the *Other significant conditions* section of the death certificate are also included.

Data are subject to change as new information is received.

Table 5: Laboratory-confirmed influenza deaths by age-group and year, NSW, 2017 to 2 June 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	8
65+ years	509	32	41
Total	**559**	**40**	**49**

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 9 June, 2.3 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

National Influenza Surveillance

The fortnightly *Australian Surveillance Report No.3,* with data up to 2 June 2019, noted:

- **Activity** – Currently, influenza and influenza-like illness (ILI) activity are high for this time of year compared to previous years. At the national level, notifications of laboratory-confirmed influenza have increased in the past fortnight. The number of laboratory-confirmed notifications of influenza reported to the NNDSS in the 2019 year-to-date are greater when compared to the same periods in 2017 and 2018, however, this is due to heightened inter-seasonal activity.
- **Severity** –There is no indication of the potential severity of the 2019 season at this time.
- **Impact** – There is no indication of the potential impact on society of the 2019 season at this time.
- **Virology** – In the year to date and in the past fortnight, the majority of confirmed influenza cases reported nationally were influenza A (81%). Where subtyping data were available, influenza A(H3N2) was the dominant influenza A subtype in the past fortnight, however, the proportion of influenza B has been steadily increasing in a number of jurisdictions since late April.

For further information see the Australian Influenza Surveillance Reports.

Global Influenza Update

The latest WHO global update on 10 June 2019 provides data up to 26 May 2019. In the temperate zones of the southern hemisphere, influenza detections increased overall. In summary:

- In the temperate zones of the southern hemisphere, influenza detections increased overall. The 2019 influenza season appeared to have started earlier than previous years in Australia, Chile, South Africa and New Zealand.
- Influenza A(H3N2) viruses predominated in Oceania and South Africa.
- Influenza A(H1N1)pdm09 viruses predominated in South America.
- In Southern Asia and South East Asia, influenza activity was low overall, with exception of Bangladesh and Cambodia, respectively.
- In the Caribbean, Central American countries, and the tropical countries of South America, influenza and RSV activity were low in general.
- In Eastern, West and Middle Africa, influenza activity was low across reporting countries.
- In the temperate zone of the northern hemisphere influenza activity returned to inter-seasonal level in most countries.

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 9 April 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, new human infections with avian influenza A(H7N9) and A(H9N2) viruses were 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

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:

[1] 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

[2] *All Respiratory, fever and unspecified infections* presentations as a percentage of all unplanned emergency department presentations in participating hospitals in the local health district.

[3] 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.

[4] 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.

[5] 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.

[6] 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.
**Severity indicators include: Admission or admission to a critical care ward (CCW); Triage category 1; Ambulance arrival and Death in ED.

[7] 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.