

# Influenza Surveillance Weekly Report

**Week 34: 19 to 25 August 2019**

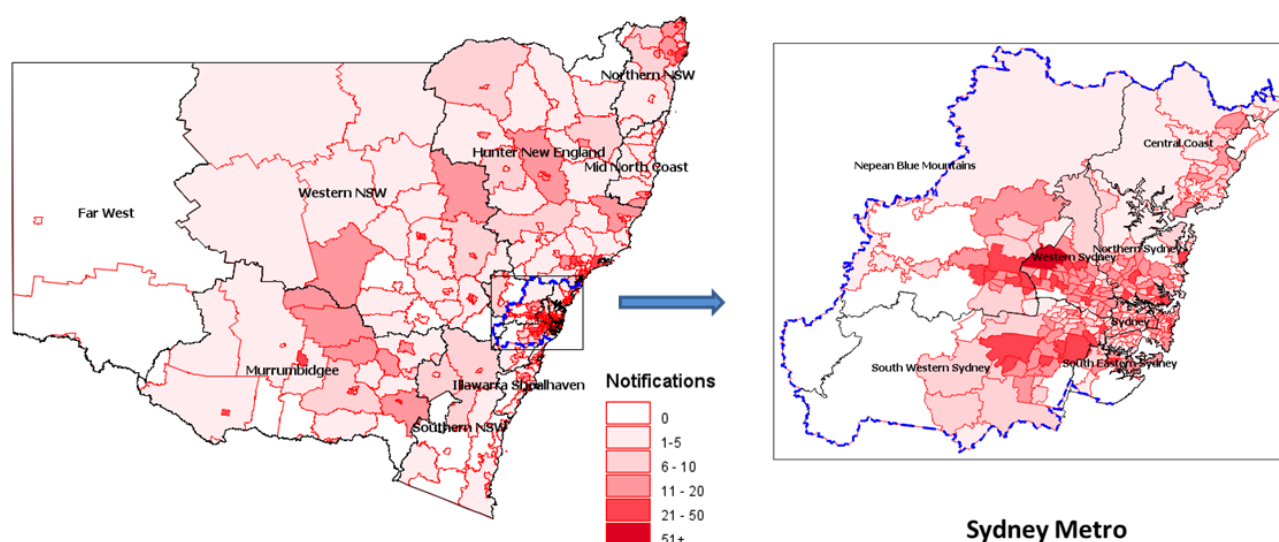
## Key Points

- ▶ Influenza activity has increased in some areas but remains stable across most local health districts (LHDs). Outbreaks in residential aged care facilities continue to be reported.
- ▶ Respiratory presentations to NSW emergency departments remain stable and are within the usual range for this period.
- ▶ Influenza B strain activity has increased while influenza A activity is steady.

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

| Local Health District | Confirmed Influenza Notifications |                    | NSW Emergency Departments (67)<br>All Respiratory/Fever/Unspecified infections |                    | % of LHD ED presentations <sup>2</sup> |
|-----------------------|-----------------------------------|--------------------|--|--------------------|--|
|                       | Cases                             | Trend <sup>1</sup> | Presentations  | Trend <sup>1</sup> |  |
| Central Coast         | 215                               | ▶                  | 481  | ▶                  | 16%                                    |
| Far West              | 3                                 | ▶                  | 44   | ▶                  | 11%                                    |
| Hunter New England    | 762                               | ▲                  | 1232   | ▶                  | 17%                                    |
| Illawarra Shoalhaven  | 264                               | ▶                  | 481  | ▶                  | 15%                                    |
| Mid North Coast       | 117                               | ▶                  | 371  | ▶                  | 17%                                    |
| Murrumbidgee          | 287                               | ▲                  | 394  | ▶                  | 19%                                    |
| Nepean Blue Mountains | 380                               | ▶                  | 312  | ▶                  | 15%                                    |
| Northern NSW          | 308                               | ▶                  | 360  | ▶                  | 15%                                    |
| Northern Sydney       | 607                               | ▼                  | 602  | ▶                  | 14%                                    |
| South Eastern Sydney  | 509                               | ▼                  | 952  | ▶                  | 15%                                    |
| South Western Sydney  | 680                               | ▶                  | 973  | ▶                  | 16%                                    |
| Southern NSW          | 116                               | ▲                  | 273  | ▶                  | 16%                                    |
| Sydney                | 297                               | ▶                  | 476  | ▶                  | 14%                                    |
| Western NSW           | 225                               | ▶                  | 490  | ▲                  | 18%                                    |
| Western Sydney        | 779                               | ▼                  | 930  | ▶                  | 17%                                    |
| New South Wales       | 5549                              | ▶                  | 8374   | ▶                  | 16%                                    |

## 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 increased but are within the usual range for this time of year.
- ▶ [Laboratory surveillance](#) – increased influenza B activity resulted in a rise in the influenza laboratory test positive rate (25.6%). Influenza A strains continue to predominate, with activity steady.
- ▶ [Community surveillance](#) – influenza activity increased in some areas but remained stable across the majority of LHDs. Eighteen outbreaks were reported from residential aged care facilities.
- ▶ [Death surveillance](#) – twenty 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 activity, with overall clinical severity rated as low.

## Hospital Surveillance

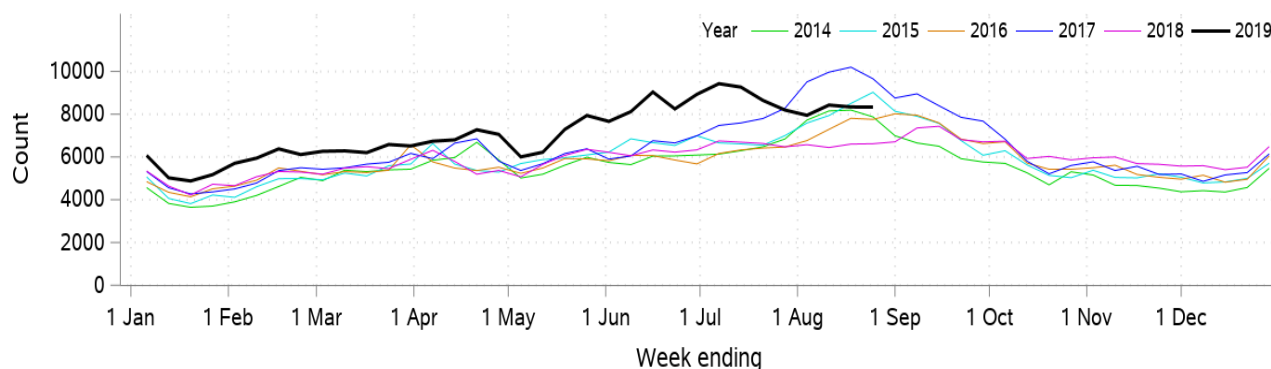
### NSW emergency department (ED) presentations for respiratory illness

Source: PHREDSS<sup>4</sup>

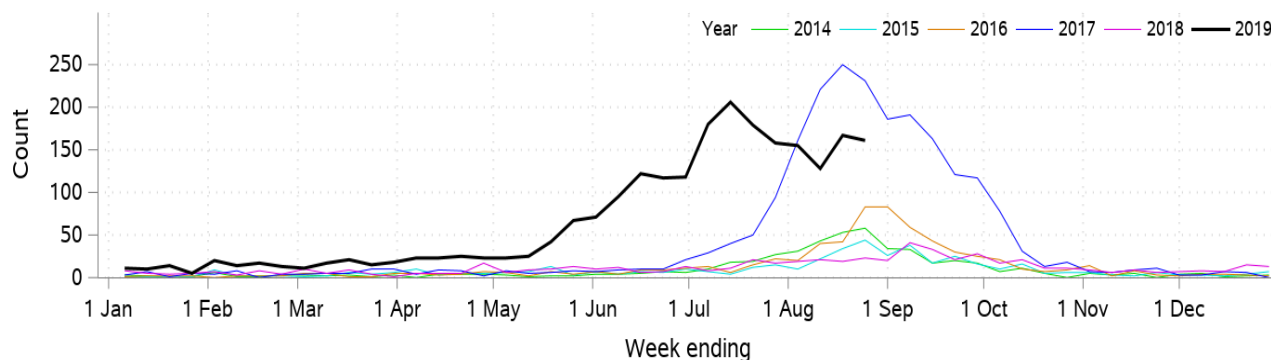
For the week ending 25 August 2019:

- Presentations for *All respiratory illness, fever and unspecified infections* were steady 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 16.0%, the same as the previous week.
- The daily index of increase for *influenza-like illness* (ILI)<sup>5</sup> presentations across NSW increased slightly this week to 29.6, up from 28.7 in the previous week.
- ILI presentations resulting in admission decreased and were within the usual range for this time of year (Figure 2, Table 1).
- ED presentations and admissions for pneumonia decreased; both were within the usual range for this time of year (Table 1).
- *Pneumonia and ILI* presentations requiring admission to critical care increased further but were within the usual range for this time of year (Figure 3, Table 1).
- ED presentations for *bronchiolitis* increased and were above the usual range for this time of year (Table 1).

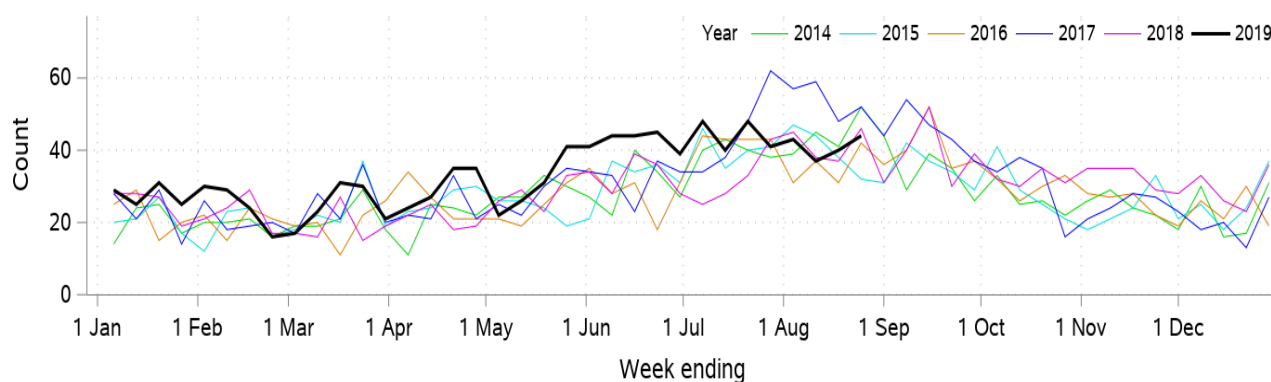
**Figure 1:** Total weekly counts of ED visits for *All respiratory illness, fever and unspecified infections*, all ages, 1 January – 25 August 2019 (black line), compared with the 5 previous years (coloured lines).



**Figure 2:** Total weekly counts of ED visits for *influenza-like-illness* that were admitted, all ages, 1 January – 25 August 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 – 25 August 2019 (black line), compared with the 5 previous years (coloured lines).



**Table 1:** Weekly emergency department respiratory illness summary, week ending 25 August 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<br>60 NSW hospitals | Influenza-like illness (ILI)                              | Increased (601)       | Within (87–860)             | 5-16 years (111)<br>65+ years (122)<br>0-4 years (81)<br>17-34 years (151) | Ambulance arrival (103)                  | The NSW daily index of increase for ILI presentations was (29.6). |
|                                      | ILI admissions  | Decreased (161)       | Within (23–231)             | 65+ years (68)   |  |   |
|                                      | Pneumonia   | Decreased (624)       | Within (546–783)            |  |  |   |
|                                      | Pneumonia admissions                                      | Decreased (419)       | Within (391–528)            |  |  |   |
|                                      | Pneumonia and ILI critical care admissions                | Increased (44)        | Within (32–52)              |  |  |   |
|                                      | Asthma  | Decreased (420)       | Within (402–574)            |  |  |   |
|                                      | Bronchiolitis   | Increased (337)       | Above (233–323)             |  |  | Bronchiolitis is a disease of infants.                            |
|                                      | All respiratory illness, fever and unspecified infections | Steady (8,334)        | Within (6,620–9,657)        | 0-4 years (2,790)  |  |   |
| Ambulance                            | Breathing problems  | Decreased (2,487)     | Within (2,182–2,759)        |  |  |   |

## 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.

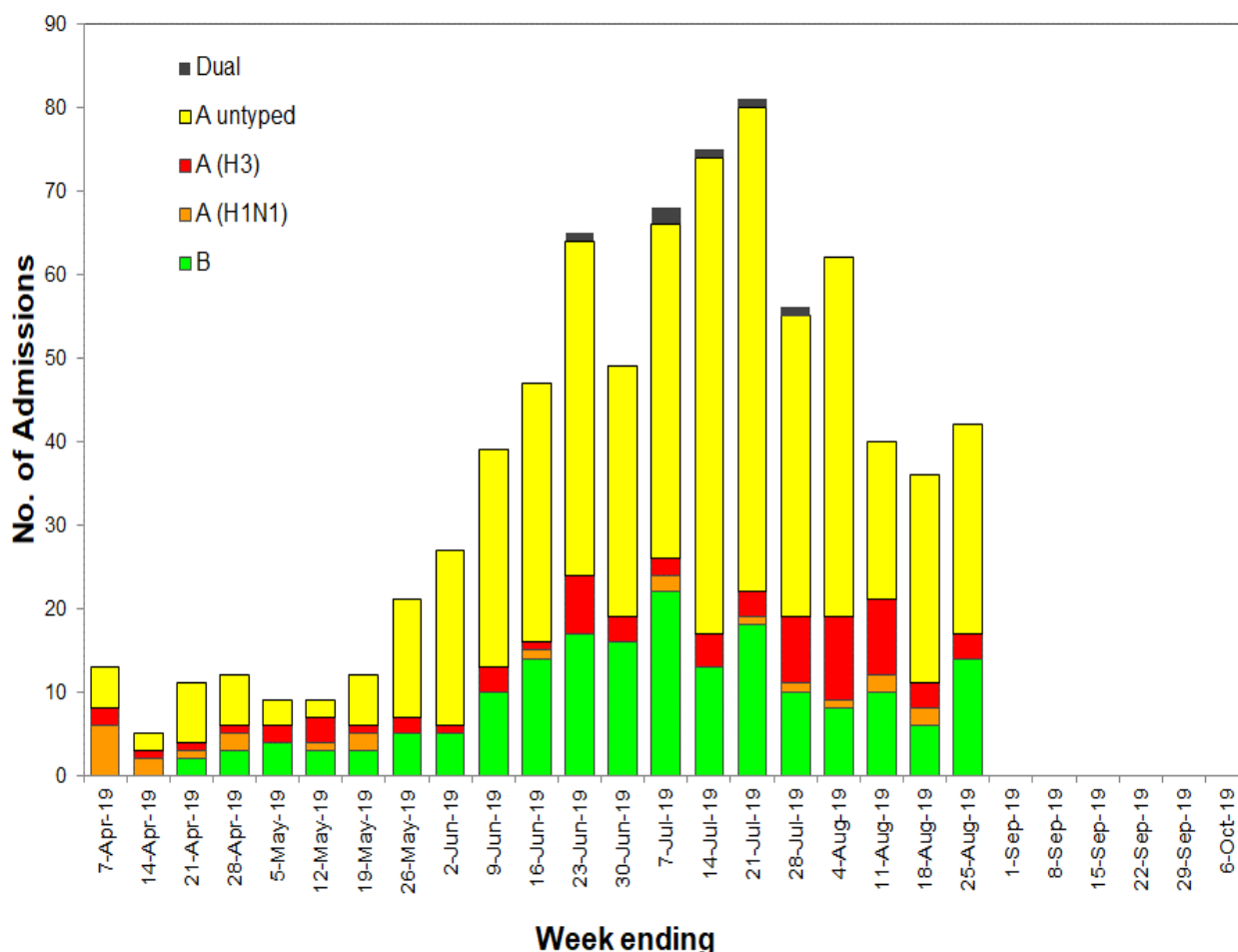
In NSW, three hospitals participate in providing weekly FluCAN data: Westmead Hospital, John Hunter Hospital and the Children’s Hospital at Westmead.

During week 34 there were 42 influenza admissions to NSW sentinel hospitals (Figure 4), more than the previous week (36 admissions, revised). There was an increase in admissions due to influenza B infections, particularly among children, consistent with the increase in influenza B infections seen in the community.

Since 1 April 2019, there have been 779 hospital admissions reported for influenza; 590 due to influenza A (including 24 A(H1N1) and 70 A(H3)), 183 due to influenza B and six due to dual infections (Figure 4).

Of these admissions for influenza, 380 were paediatric cases (<16 years of age) and 399 were in adults. Forty-four adults and 10 children have been admitted to a critical care ward.

**Figure 4:** FluCAN – Confirmed influenza hospital admissions in NSW, 1 April – 25 August, 2019\*.



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

## Laboratory Surveillance

For the week ending 25 August 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 increased (Table 2, Figure 5). However, influenza detections were similar to equivalent weeks of the influenza season in previous years.

The total number of respiratory tests requested each week has fallen over the past month but testing levels remain higher than previous years. For the year up to week 34, there have been 458,681 respiratory virus tests, 132% more than for the same period in 2018 (197,500 tests).

Overall, 25.6% of tests for respiratory viruses were positive for influenza (Figure 5), higher than the previous week (24.3%). Influenza A strains remained more common than B strains. Detection of influenza A strains appears to be steady while influenza B strain detections are increasing (Table 2, Figures 5-6).

Further characterisation was available for only 7.0% 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 respiratory syncytial virus (RSV) (Table 2).

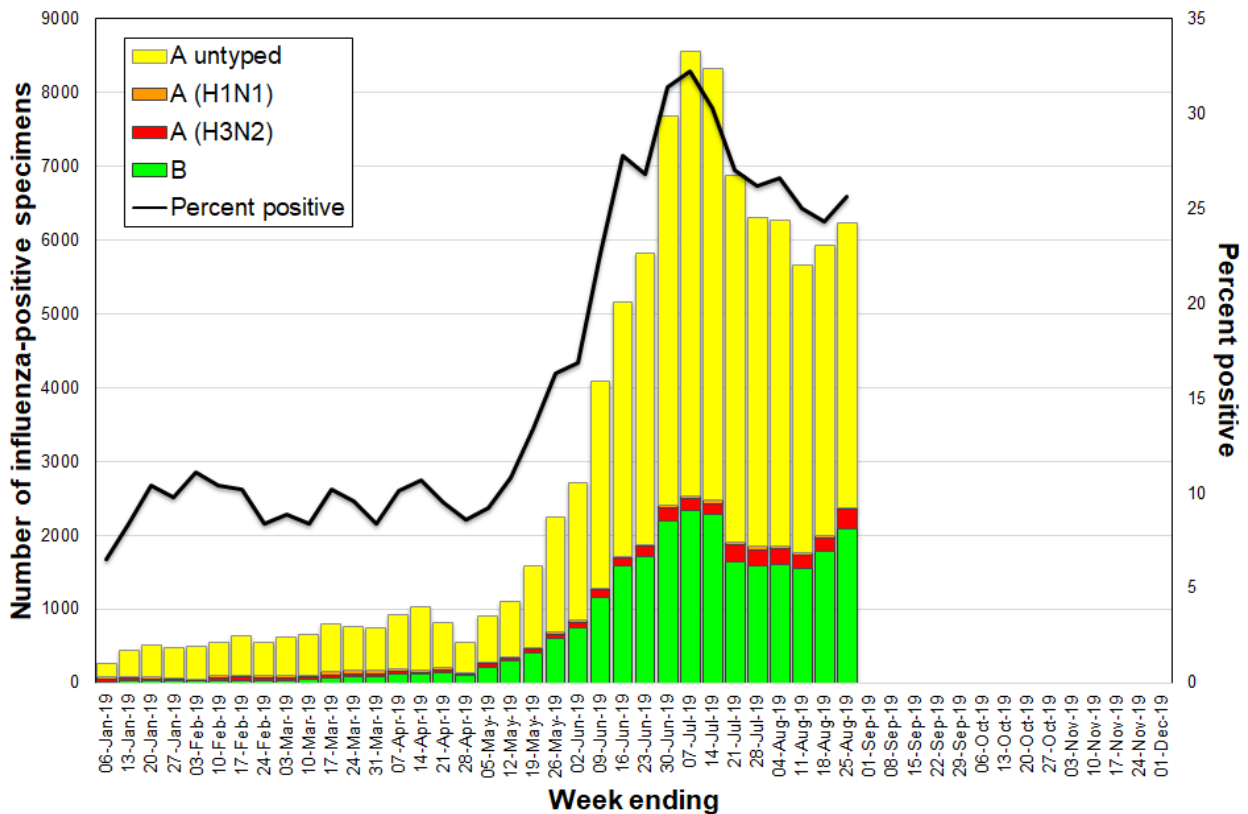
**Table 2:** Summary of testing for influenza and other respiratory viruses at NSW laboratories, 1 January to 25 August 2019.

| 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  |        |
| 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         | (96.2%) | 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    |
| <b>Week ending</b> |             |              |         |       |        |            |        |               |         |             |        |       |                  |       |       |        |        |
| 11/08/2019         | 22566       | 4103         | (18.2%) | 184   | (4.5%) | 32         | (0.8%) | 3887          | (94.7%) | 1548        | (6.9%) | 475   | 423              | 892   | 2688  | 276    | 150    |
| 18/08/2019         | 24457       | 4139         | (16.9%) | 187   | (4.5%) | 39         | (0.9%) | 3933          | (95.0%) | 1775        | (7.3%) | 667   | 432              | 742   | 3434  | 436    | 116    |
| 25/08/2019         | 24545       | 4187         | (17.1%) | 265   | (6.3%) | 30         | (0.7%) | 3892          | (93.0%) | 2107        | (8.6%) | 616   | 744              | 1001  | 3415  | 553    | 17     |

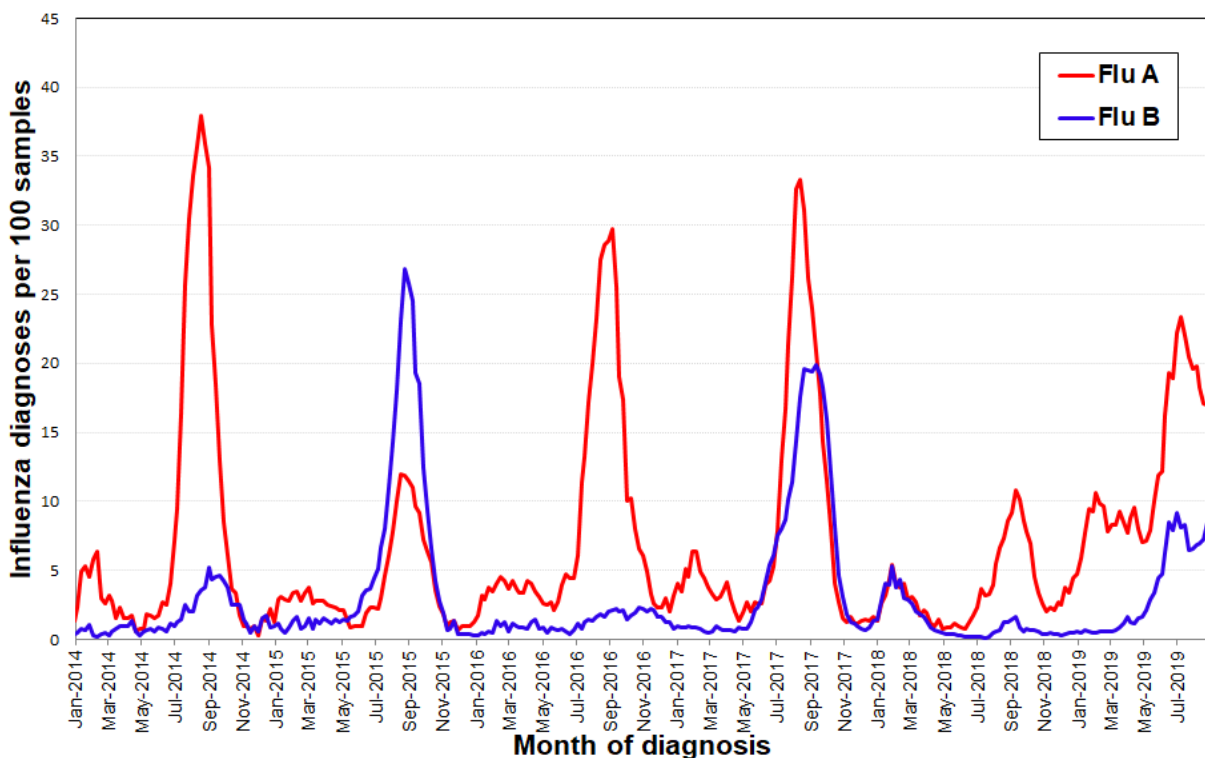
Notes: \* Five-week reporting period

\*\* Human metapneumovirus

**Figure 5:** Weekly influenza positive test results by type and sub-type reported by NSW sentinel laboratories, 1 January to 25 August 2019.



**Figure 6:** Percentage of laboratory tests positive for influenza A and influenza B by week, 1 January 2014 to 25 August 2019, New South Wales.

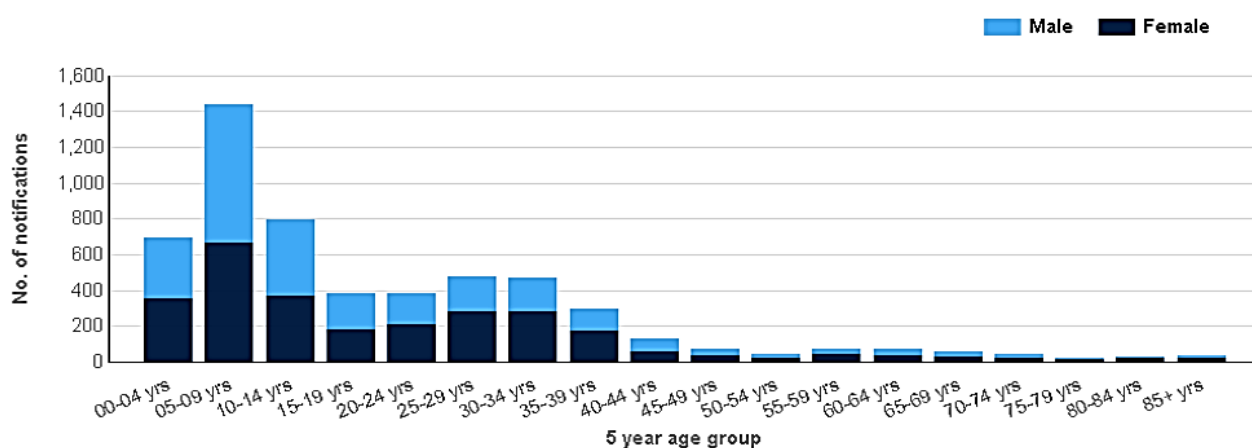


## Community Surveillance

In the week ending 25 August there were 5,549 notifications of influenza, slightly lower than the previous week (5,800, revised). There have been 90,409 influenza notifications so far this year.

The proportion of notifications due to influenza B increased this week (32% vs 29% in the previous week). Younger people, particularly children aged 5-9 years, continue to be more affected by influenza B than older age-groups. This is illustrated in Figure 7 which shows influenza B notifications reported in August by age-group.

**Figure 7:** Influenza B notifications in NSW residents, by five year age-group and gender. 1 August – 25 August 2019.



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

Influenza notifications and notification rates were decreased or stable across the majority of districts. However Hunter New England, Murrumbidgee and Southern NSW all had notable increases in notifications. Notification rates remain highest in Northern NSW, Nepean Blue Mountains and Murrumbidgee districts (Table 3).

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

| Local Health District | Week ending 25 Aug 2019 |                             | Week ending 18 Aug 2019 |                             |
|-----------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|
|                       | Number of notifications | Rate per 100 000 population | Number of notifications | Rate per 100 000 population |
| Central Coast         | 215                     | 61.7                        | 212                     | 60.84                       |
| Far West              | 3                       | 9.98                        | 3                       | 9.98                        |
| Hunter New            | 762                     | 80.86                       | 713                     | 75.66                       |
| Illawarra             | 264                     | 63.45                       | 245                     | 58.88                       |
| Mid North Coast       | 117                     | 52.38                       | 119                     | 53.28                       |
| Murrumbidgee          | 287                     | 96.67                       | 251                     | 84.55                       |
| Nepean Blue           | 380                     | 98.66                       | 409                     | 106.18                      |
| Northern NSW          | 308                     | 100.36                      | 307                     | 100.03                      |
| Northern Sydney       | 607                     | 64.2                        | 686                     | 72.55                       |
| South Eastern         | 509                     | 53.7                        | 572                     | 60.35                       |
| South Western         | 680                     | 66.67                       | 776                     | 76.08                       |
| Southern NSW          | 116                     | 54.17                       | 69                      | 32.22                       |
| Sydney                | 297                     | 43.25                       | 322                     | 46.89                       |
| Western NSW           | 225                     | 79.33                       | 202                     | 71.22                       |
| Western Sydney        | 779                     | 75.84                       | 914                     | 88.98                       |

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 20 influenza outbreaks in institutions reported this week; eighteen in residential care facilities and one each in a hospital and a child care facility. All but one were due to influenza A.

In the year to date there have been 339 laboratory confirmed influenza outbreaks in institutions reported to NSW public health units, including 286 in residential care facilities (Table 4, Figure 8). There have been 317 outbreaks due to influenza A, 16 due to influenza B and six involving both A and B strains.

In the 286 influenza outbreaks affecting residential care facilities, at least 2878 residents were reported to have had ILI symptoms and 368 required hospitalisation. Overall, there have been 99 deaths<sup>1</sup> in residents reported which were linked to these outbreaks, all of whom were noted to have other significant co-morbidities.

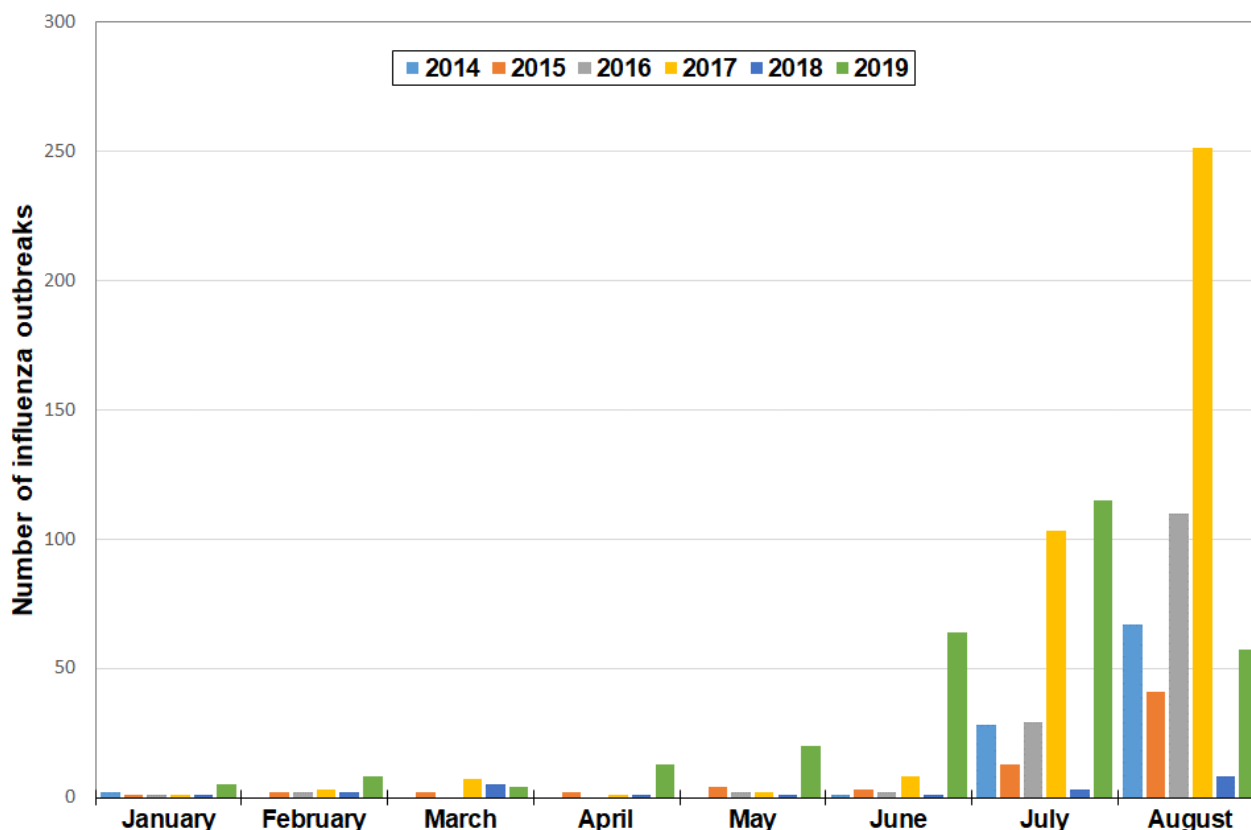
NSW public health units advise institutions on how to manage their influenza outbreaks. NSW Health also provides influenza antiviral treatment to help control outbreaks when requested and appropriate. This week NSW Health provided 102 courses of oseltamivir to two residential care facilities experiencing outbreaks, and have provided 6522 courses so far this year.

**Table 4:** Reported influenza outbreaks in NSW residential care facilities, January 2014 to 25 August 2019.

| Year                       | 2014 | 2015 | 2016 | 2017 | 2018 | 2019* |
|----------------------------|------|------|------|------|------|-------|
| <b>Number of outbreaks</b> | 121  | 103  | 252  | 543  | 42   | 286   |

Note: \* Year to date.

**Figure 8:** Reported influenza outbreaks in NSW residential care facilities by month, 2016 to 25 August 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)

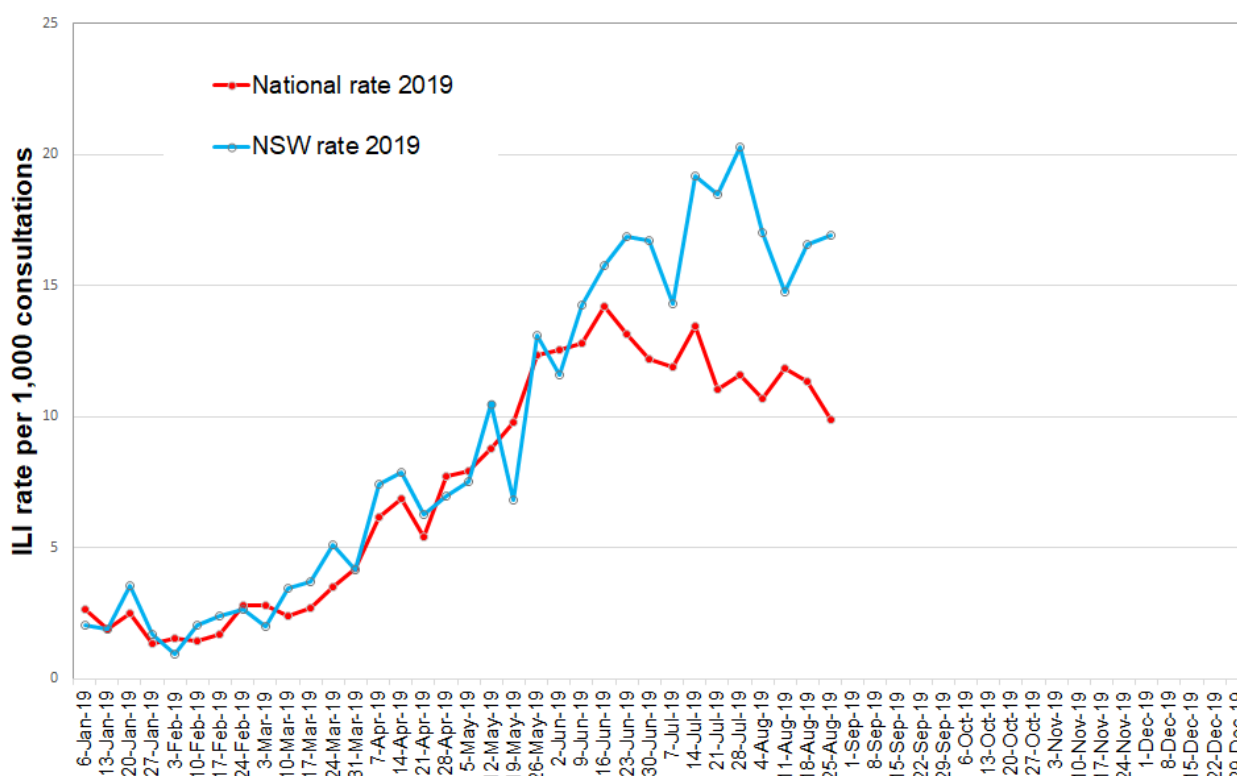
ASPREN is a network of sentinel general practitioners (GPs) run through the Royal Australian College of General Practitioners and the University of Adelaide which has collected de-identified information on influenza-like illness (ILI) and other conditions seen in general practice since 1991.

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 34 there were ASPREN reports received from 78 NSW GPs. The reported consultation rate for ILI per 1000 consultations was increased at 16.9 (Figure 9), slightly higher than the previous week (16.6, revised), and higher than the national level.

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

**Figure 9:** ASPREN – NSW and National GP ILI rates per 1000 consultations – 2019 to the week ending 25 August.



## FluTracking.net

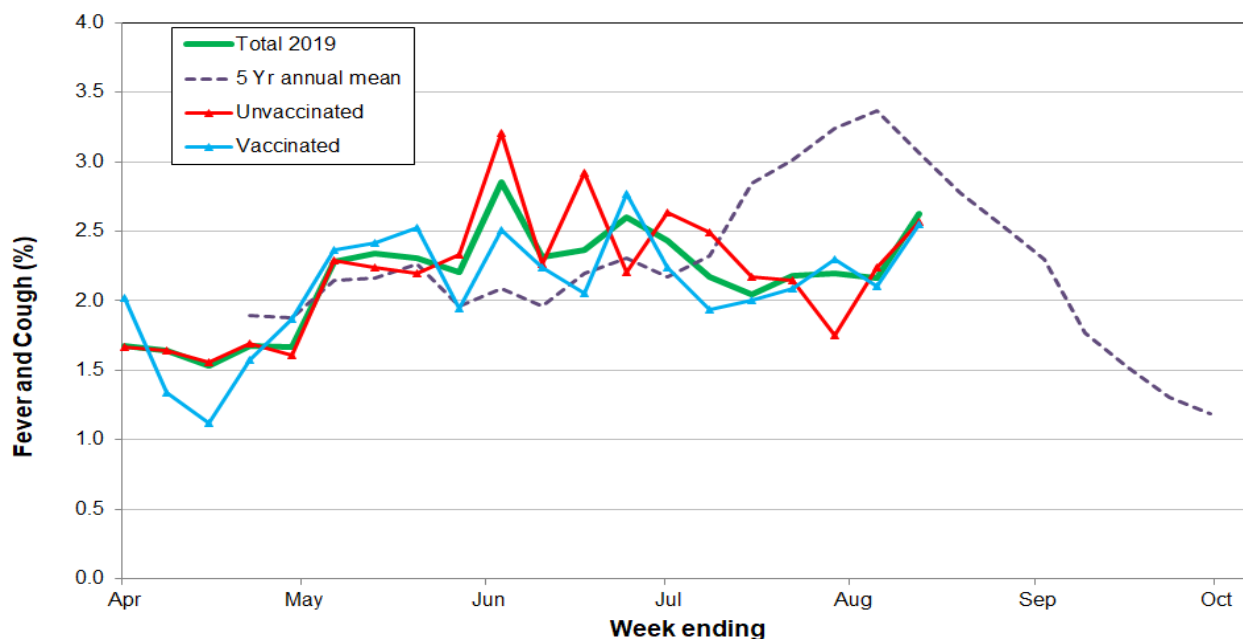
FluTracking.net is an online health surveillance system to detect epidemics of influenza. It is a project of the University of Newcastle, the Hunter New England Local Health District and the Hunter Medical Research Institute.

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

In week 34 FluTracking received reports for 13,095 people in NSW with the following results:

- 2.62% of respondents reported fever and cough, higher than the previous week (2.16, revised) but lower than the five year annual mean (3.06%) (Figure 10).
- Among respondents who reported being vaccinated for influenza in 2019, 2.55% reported fever and cough compared to 2.57% among unvaccinated respondents (Figure 10).
- 1.75% of respondents reported fever, cough and absence from normal duties, higher than the previous week (1.52%, revised).

**Figure 10:** FluTracking – Percent of NSW participants reporting fever and cough by vaccination status and week, April to the week ending 25 August 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.

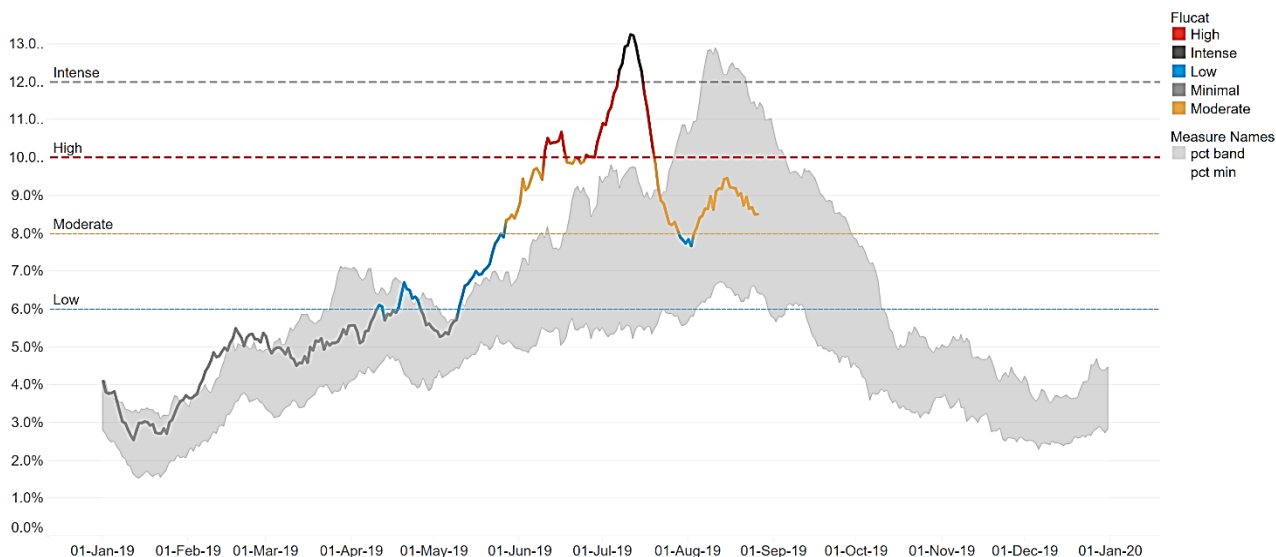
For further information on the project and how to participate, please see the [FluTracking](#) website.

### 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 25 August the number of ILI-related calls to Healthdirect Australia for NSW decreased further and remained within the usual range of activity for this time of year, and was in the moderate 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 25 August 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

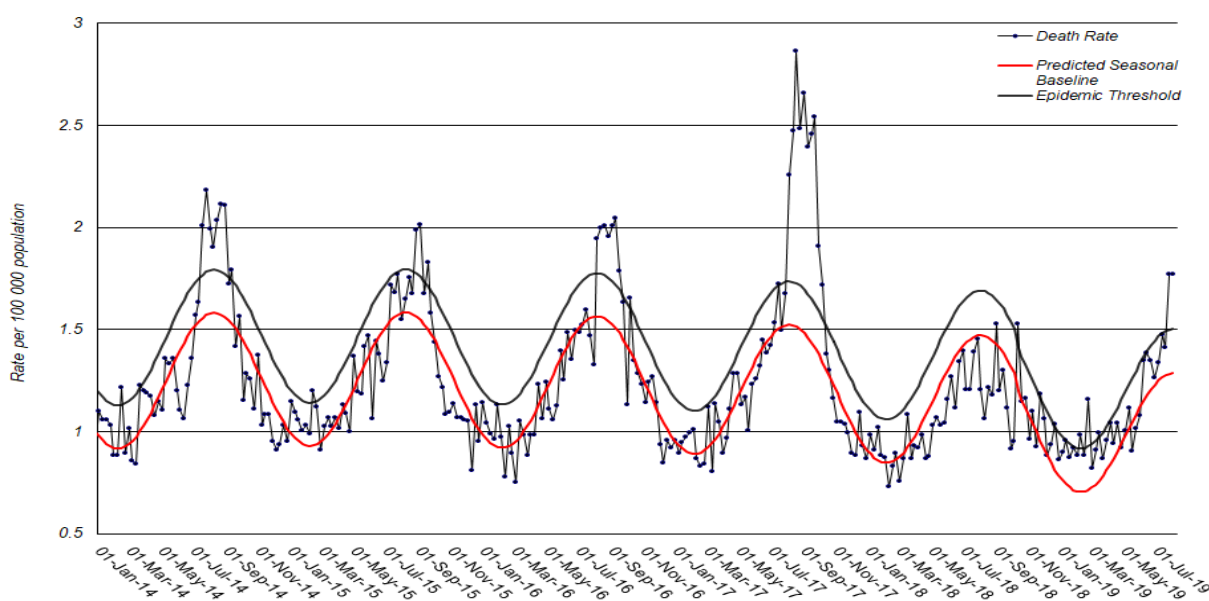
Due to delays in the death registration process, death data for recent weeks are underestimated. For this reason, *pneumonia or influenza* mortality data from the three most recent weeks are not included.

For the week ending 2 August 2019, the rate of deaths attributed to *pneumonia or influenza* was 1.77 per 100,000 NSW population, slightly higher than the previous week reported (1.72 per 100,000) and still above the epidemic threshold of 1.50 per 100,000 population (Figure 11).

The *pneumonia or influenza* death rate also rose above the epidemic threshold for a short period from late February to mid-March (Figure 12).

Among the 31,795 death registrations in 2019, 187 (0.59%) mentioned influenza. An additional 2642 (8.31%) death registrations mentioned pneumonia.

**Figure 12:** Rate of death registrations classified as *pneumonia or influenza* per 100,000 NSW population, 2014 – 2 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 25 August 2019, there have been 188 influenza deaths identified using Coroner’s reports and death registrations with laboratory confirmation. (Table 5). This includes the deaths of 20 people reported this week.

Of the newly notified deaths one was in a person in their fifties. The remaining 19 deaths were all in people aged 65 years or over.

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 25 August 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         | 18         |
| 65+ years    | 509        | 32        | 170        |
| <b>Total</b> | <b>559</b> | <b>40</b> | <b>188</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 25 August, 2.496 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.8*, with data up to 11 August 2019, noted:

- **Activity** – Currently, influenza and influenza-like illness (ILI) activity is lower than average for this time of year compared to previous years, and is consistent with past activity following a peak in notifications. At the national level, notifications of laboratory-confirmed influenza have decreased in the past fortnight; however, this may be due in some measure to data entry backlogs.
- **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 low.
- **Virology** – The majority of confirmed influenza cases reported nationally were influenza A in the year to date (81%) and past fortnight (77%). The proportion of cases attributed to influenza B has increased slightly in the past fortnight, following a steady decline during July.

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

### Global Influenza Update

The latest [WHO global update on 19 August 2019](#) provides data up to 4 August 2019. In the temperate zones of the southern hemisphere, influenza detections increased overall. In summary:

- In the temperate zones of the southern hemisphere, influenza activity appeared to have peaked in most countries.
- In the Caribbean, Central American, and tropical South American countries, influenza activity was low overall.
- In tropical Africa, influenza activity was low across reporting countries, with the exception of a few countries in Eastern Africa.
- In Southern Asia, influenza activity was low across reporting countries.
- In South East Asia, influenza activity was decreasing or low across reporting countries except 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

---

### 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, Lavery Pathology, Medlab, SydPath, VDRLab (up to 2017), Austech, 4cyte.