

Population Health Services produce the fluTAS Report to provide information about the level of influenza (flu) in Tasmania. Multiple surveillance data sources are used to obtain measures of influenza activity in the community.

This surveillance report describes influenza activity in Tasmania during the period 1 January to 31 October 2018 and will be the final report for the 2018 influenza season.

## October 2018 Update

- Influenza activity remains significantly lower than recent years.
- Rhinovirus and Parainfluenza were the most common respiratory viruses detected in patients presenting with influenza-like-illness (ILI) to the RHH during October 2018.
- There have been no outbreaks of influenza notified in Tasmania during January to October 2018.
- The recommended formulation of Australian influenza vaccines for 2019 was determined during October, and includes changes to the Influenza A(H3N2) and B Victoria lineage components.

## Influenza Notifications

There were 91 notifications of laboratory-confirmed influenza during October 2018 (Table 1). While greater than September (82 notifications), this was lower than the five-year October average (105 notifications).

Weekly influenza notifications peaked during the first week of October with 28 notifications. There were 14 notifications of influenza during the final week of October (Figure 1).

No outbreaks of influenza were notified during January to October 2018.

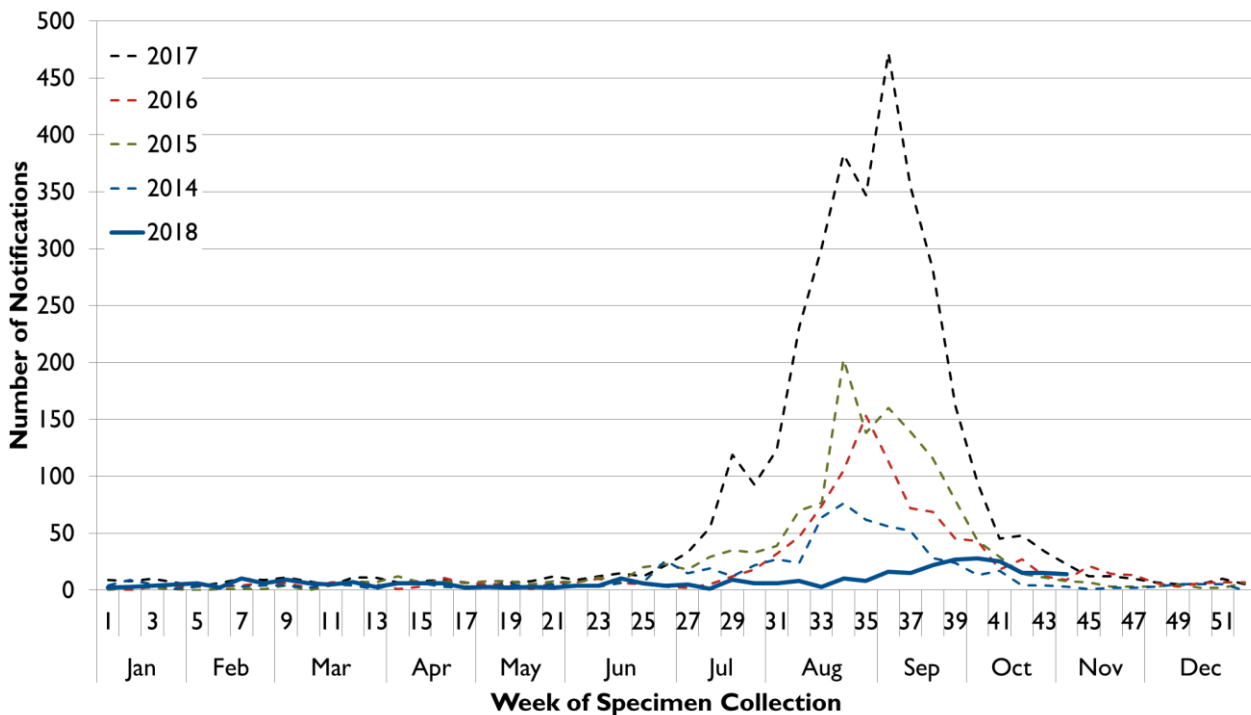


Figure 1: Notifications of influenza in Tasmania, by week, 1 January 2014 to Sunday 4 November 2018

From 1 January to 31 October 2018 there were 353 notifications of laboratory-confirmed influenza (Table 1).

The majority of notifications (190) were in the southern region of Tasmania. There were 85 notifications for residents of the North and 76 for the North-West. Two overseas visitors were diagnosed with influenza in Tasmania during this period.

Table 1: Notifications of influenza in Tasmania by subtype and month, 1 January to 31 October 2018

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	2018 YTD
<b>Influenza A</b>	<b>9</b>	<b>15</b>	<b>17</b>	<b>10</b>	<b>7</b>	<b>11</b>	<b>14</b>	<b>26</b>	<b>78</b>	<b>88</b>	<b>275</b>
A(H1N1)	0	2	0	0	0	1	1	2	22	22	50
A(H3N2)	2	5	2	3	0	1	1	1	4	2	21
A (not typed)	7	8	15	7	7	9	12	23	52	64	204
<b>Influenza B</b>	<b>8</b>	<b>11</b>	<b>8</b>	<b>11</b>	<b>6</b>	<b>13</b>	<b>7</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>78</b>
<b>Total Influenza</b>	<b>17</b>	<b>26</b>	<b>25</b>	<b>21</b>	<b>13</b>	<b>24</b>	<b>21</b>	<b>33</b>	<b>82</b>	<b>91</b>	<b>353</b>

Notifications of influenza are based on positive laboratory tests. Many people with flu-like illness choose not to attend medical care, or are not tested when they attend for a variety of reasons. As a result the notifications only represent a small proportion of influenza illness in the community.

## Laboratory testing

### Influenza testing

A wide range of pathogens (mostly viruses) commonly cause winter coughs, colds and influenza-like illnesses. The best test for influenza is a Polymerase Chain Reaction (PCR) test, which detects influenza virus genetic material (RNA). The number of influenza PCR tests being performed by Tasmanian laboratories can indicate the level of respiratory illness in the community.

Of the 353 notifications of influenza between January and October 2018, 92 (26 per cent) were tested using a serology test and 261 (74 per cent) were tested using a PCR test.

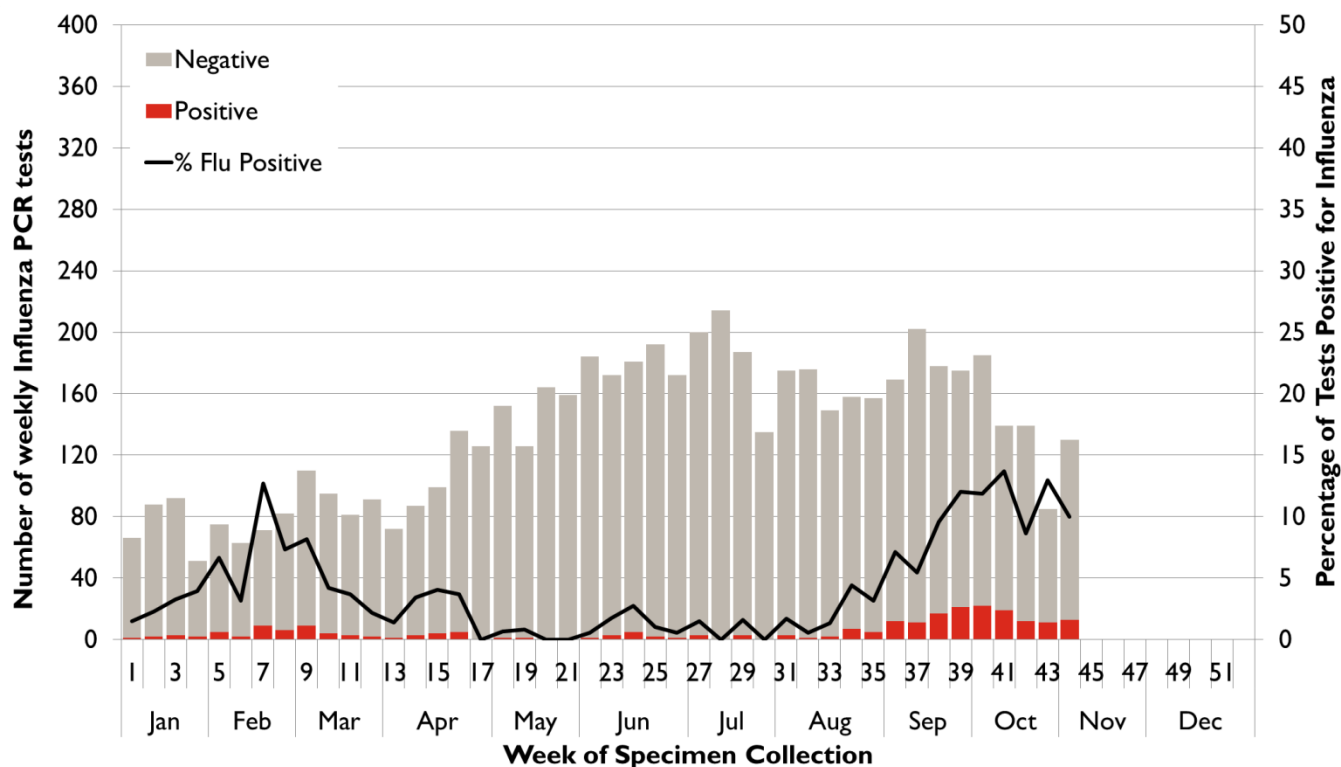


Figure 2: Statewide Influenza PCR testing, 1 January to Sunday 4 November 2018

During October 2018 an average of 136 PCR tests for influenza were conducted per week. This was a decrease on the testing conducted during September (average 181 tests per week) (Figure 2). For comparison, the average number of tests conducted per week during October 2017 was 214.

A low proportion of PCR tests were positive for influenza during October 2018 (Figure 2). The first week of October recorded 22 positive tests. While this was the peak weekly number of positives for 2018 (12 per cent), it was significantly lower than the peak activity during previous years: e.g. 424/1006 (42 per cent) tests positive for influenza during September 2017, and 141/350 (40 per cent) of tests were positive for influenza during September 2016.

### Other respiratory pathogens

The monitoring of non-influenza respiratory pathogen activity provides an indication of the proportion of respiratory infections caused by influenza. This proportion can give us some information about the timing of the season, as generally a larger proportion of respiratory illness is caused by influenza during the influenza season.

The Royal Hobart Hospital (RHH) performs a PCR test on samples from patients presenting with a respiratory illness that detects influenza and multiple other pathogens that cause similar symptoms. These data are only available from the RHH, which is a public laboratory and the majority of specimens collected and tested are from emergency department presentations and hospitalised patients. FluTAS reports on Influenza A, Influenza B, and seven other respiratory viruses most commonly reported in Tasmania.

There were 363 PCR tests performed during October 2018; an 11 per cent decrease on September 2018 testing (407 tests).

The most commonly detected pathogens during October 2018 were Rhinovirus (29 per cent), Parainfluenza virus (22 per cent) and Metapneumovirus (15 per cent). Twenty-two people (11 per cent) had Influenza A virus detected.

The proportion of October 2018 tests with one or more pathogens detected (47 per cent) was lower than September 2018 (52 per cent).

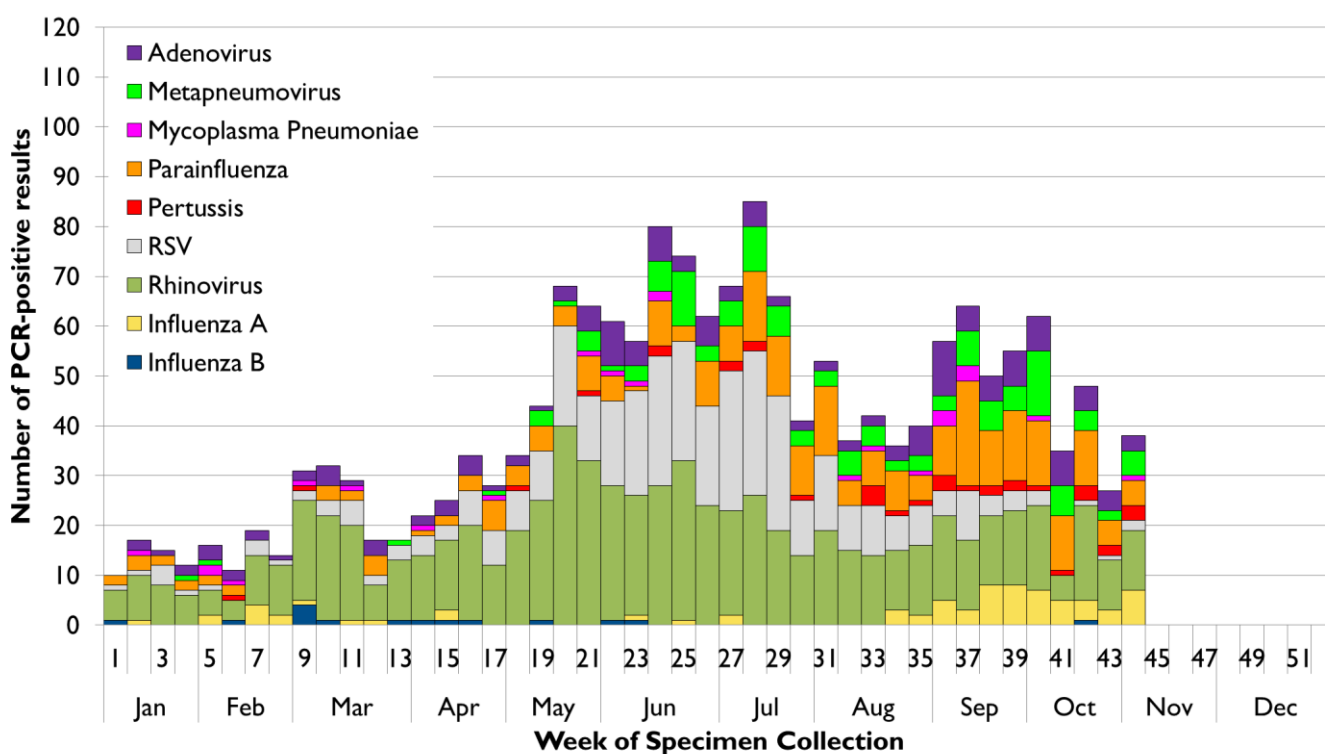


Figure 3: Respiratory pathogen detections, 1 January to Sunday 4 November 2018.

## National surveillance systems

### FluCAN

The Influenza Complications Alert Network (FluCAN) reports on influenza-related hospitalisations and complications in sentinel hospitals Australia-wide during each influenza season. This system aims to provide an indication of severity of the influenza season and identify groups at higher risk of influenza related hospital admission. The details of recent FluCAN activity are published in the Australian Influenza Surveillance Report (see *Interstate Activity*).

From 3 April to 26 October 2018 there were 754 hospital admissions of confirmed influenza reported by sentinel hospitals Australia-wide. Sixty-one (eight per cent) were admissions to an ICU. During the fortnight ending 26 October FluCAN described activity across participating hospitals as ‘low influenza activity’.

Seventeen out of the 754 influenza admissions were to the one participating Tasmanian hospital, the Royal Hobart Hospital. Of the 17 admissions, two were admitted to the ICU (12 per cent).

### FluTracking (Community Syndromic Surveillance)

*FluTracking* is a weekly online survey that asks participants to report whether they have had fever and/or cough in the preceding week. It is a joint initiative of Newcastle University, Hunter New England Population Health and the Hunter Medical Research Institute. *FluTracking* information is available at [www.flutracking.net](http://www.flutracking.net) and on Facebook [www.facebook.com/Flutracking](https://www.facebook.com/Flutracking)

*FluTracking* commenced on 30 April 2018 and concluded on 22 October 2018. An average of 3 150 Tasmanians participated each week; an increase on 2017 participation (average 2 710 Tasmanians per week).

Influenza-like illness (fever plus cough) in Tasmanian participants continued to decrease during October 2018 (Figure 4). During weeks 40 to 42 an average of one per cent of Tasmanian participants reported a new episode of ILI each week. Of these participants, 58 per cent also reported absenteeism from normal duties due to illness. New episodes of ILI were more frequently reported in unvaccinated participants (1.3 per cent) compared to vaccinated participants (0.9 per cent) during October 2018.

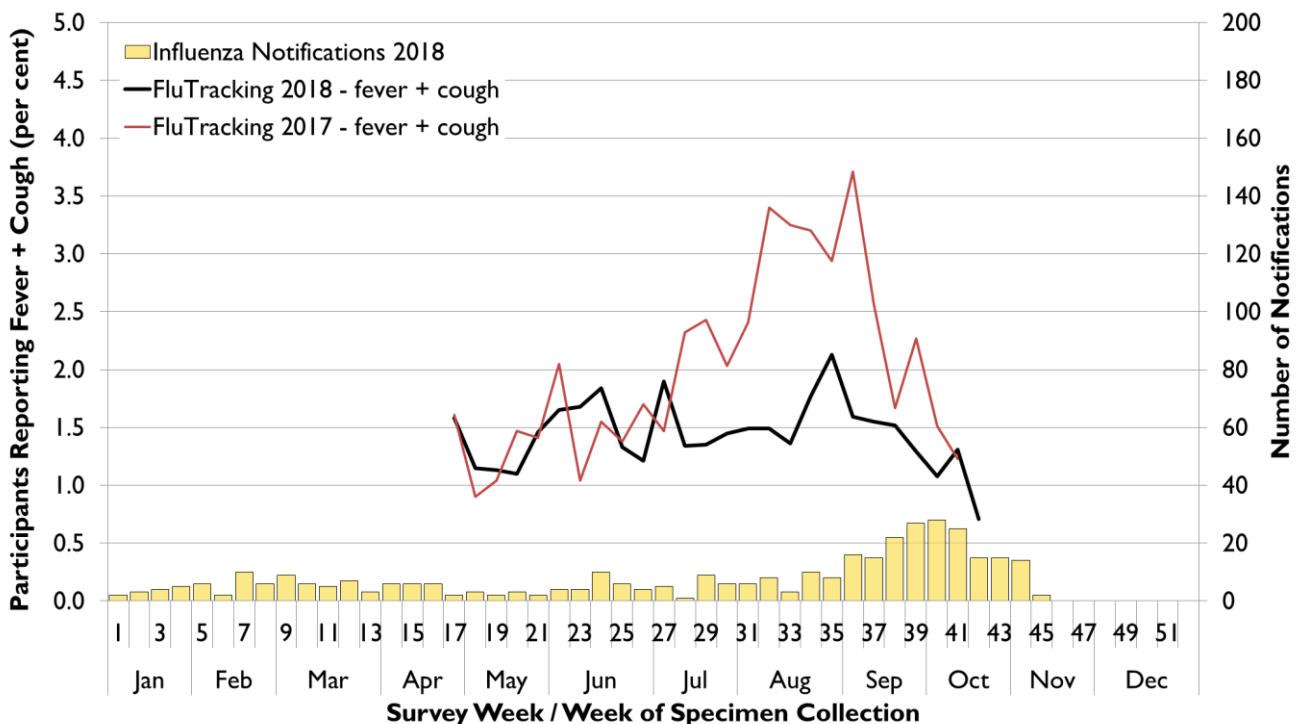


Figure 4: Percentage of Tasmanian *FluTracking* participants reporting fever and cough, week ending Sunday 4 November 2018

## ASPREN (General Practice Syndromic Surveillance)

The Australian Sentinel Practices Research Network (ASPREN) includes registered sentinel General Practices (GPs) across Australia who report fortnightly on the number of patients presenting with influenza-like illness (ILI). Five GPs are registered in Tasmania. ASPREN is a joint initiative of the Royal Australian College of General Practitioners and University of Adelaide. Further information is available at [aspren.dmac.adelaide.edu.au](http://aspren.dmac.adelaide.edu.au)

The ASPREN report for the period 24 September to 7 October 2018 indicated baseline activity in participating Tasmanian GPs, with up to three consultations out of every 1 000 due to an ILI presentation. Nationally presentations of ILI to participating GPs decreased during this period to five per 1 000 consultations.

### Interstate activity

The Australian Influenza Surveillance Report is compiled from a number of data sources including laboratory-confirmed notifications to National Notifiable Diseases Surveillance System, sentinel influenza-like illness reporting from general practitioners and emergency departments, workplace absenteeism and laboratory testing. The routine Australian Influenza Surveillance Report is published by the Australian Government Department of Health and is available at [www.health.gov.au/flureport](http://www.health.gov.au/flureport).

The key messages from the report describing national activity for the period 8 October to 21 October 2018 were:

- **Activity** – In the last fortnight, at the national level, indicators for person to person transmission of influenza and influenza-like illness (ILI) continued to decline, after reaching a peak in early September. Activity levels have returned to or are approaching baseline levels.
- **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 moderate.
- **Impact** – Currently, the impact of circulating influenza on society, as measured through the proportion of people with ILI taking time off work, and the burden on hospitals, is low.
- **Virology** – In the last fortnight, the majority of confirmed influenza cases reported nationally were influenza A (83%), and where subtyping data were available, influenza A(H1N1)pdm09 was the dominant subtype.
- **At-risk populations** – Children aged less than 10 years appear to be more commonly infected with influenza; however the severity of illness in this population is on par with other age-groups.
- **Vaccine effectiveness** – Based on currently available data, vaccinated individuals were 68% less likely to present to a GP and 66% less likely to be hospitalised due to all influenza, when compared to unvaccinated individuals.

The Australian Government Department of Health indicated that this would be the final fortnightly report for 2018. A season summary is due for release at the end of the year.

## Annual Influenza Vaccine

### Composition of 2019 influenza vaccines

The annual influenza vaccine is reviewed late each year, aiming to produce vaccines for the following year that provide protection from influenza strains likely to be common during winter. Advice on the formulation of annual influenza vaccines is provided to the Therapeutic Goods Administration (TGA) by the Australian Influenza Vaccine Committee (AIVC): [www.tga.gov.au/committee/australian-influenza-vaccine-committee-aivc](http://www.tga.gov.au/committee/australian-influenza-vaccine-committee-aivc)

The AIVC met on 10 October 2018 to prepare advice to the TGA on the composition of 2019 influenza vaccines.

### The TGA accepted the recommendations of the AIVC.

The recommended composition of 2019 influenza vaccines in Australia is:

#### Egg based Quadrivalent influenza vaccine:

- 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/2/87 lineage); and
- a B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage).

#### Egg based Trivalent vaccines:

- an A/Michigan/45/2015 (H1N1)pdm09-like virus;
- an A/Switzerland/8060/2017 (H3N2)-like virus; and
- a B/Phuket/3073/2013-like (B/Yamagata/16/88 lineage)

#### Non-egg based vaccines:

- A(H3N2) component: A/Singapore/INFMH-16-0019/2016 (H3N2)-like virus
- Other components the same as above indicated for egg based vaccines

The AIVC recommendation for the composition of influenza vaccines for Australia in 2019 introduces a new A(H3N2) like virus strain in both the trivalent and quadrivalent vaccines and a new strain for the B Victoria lineage in the quadrivalent vaccine when compared to the composition vaccines for Australia in 2018.

Further information on the composition of influenza vaccines is available at [www.tga.gov.au/aivc-recommendations-composition-influenza-vaccine-australia](http://www.tga.gov.au/aivc-recommendations-composition-influenza-vaccine-australia)

### Is vaccination recommended?

Annual influenza vaccination is recommended for anyone over the age of six months who wishes to reduce the likelihood of influenza and its complications. Annual vaccination can help to reduce the spread of influenza and protect vulnerable members of the community.

For more information see [flu.tas.gov.au](http://flu.tas.gov.au) or [beta.health.gov.au/topics/immunisation](http://beta.health.gov.au/topics/immunisation)

# Please note there may be a consultation fee for the healthcare provider to administer the vaccine.

### Further Information

For the latest information on influenza in Tasmania visit [flu.tas.gov.au](http://flu.tas.gov.au)

Past fluTAS reports are available at [dhhs.tas.gov.au/publichealth/communicable\\_diseases\\_prevention\\_unit](http://dhhs.tas.gov.au/publichealth/communicable_diseases_prevention_unit)

