

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 30 September 2018.

## September 2018 Update

- There was a small increase in influenza activity during September 2018.
- 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 September 2018.
- There have been no outbreaks of influenza notified in Tasmania during January to September 2018.

## Influenza Notifications

There were 80 notifications of laboratory-confirmed influenza during September 2018 (Table 1). This was substantially lower than the five-year August average (495 notifications). Weekly influenza notifications increased during September with 26 notifications during the final week ending Sunday 30 September. This was the highest weekly count since the start of 2018. The numbers of weekly influenza notifications during September 2018 were significantly lower than the September activity of recent influenza seasons (Figure 1).

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

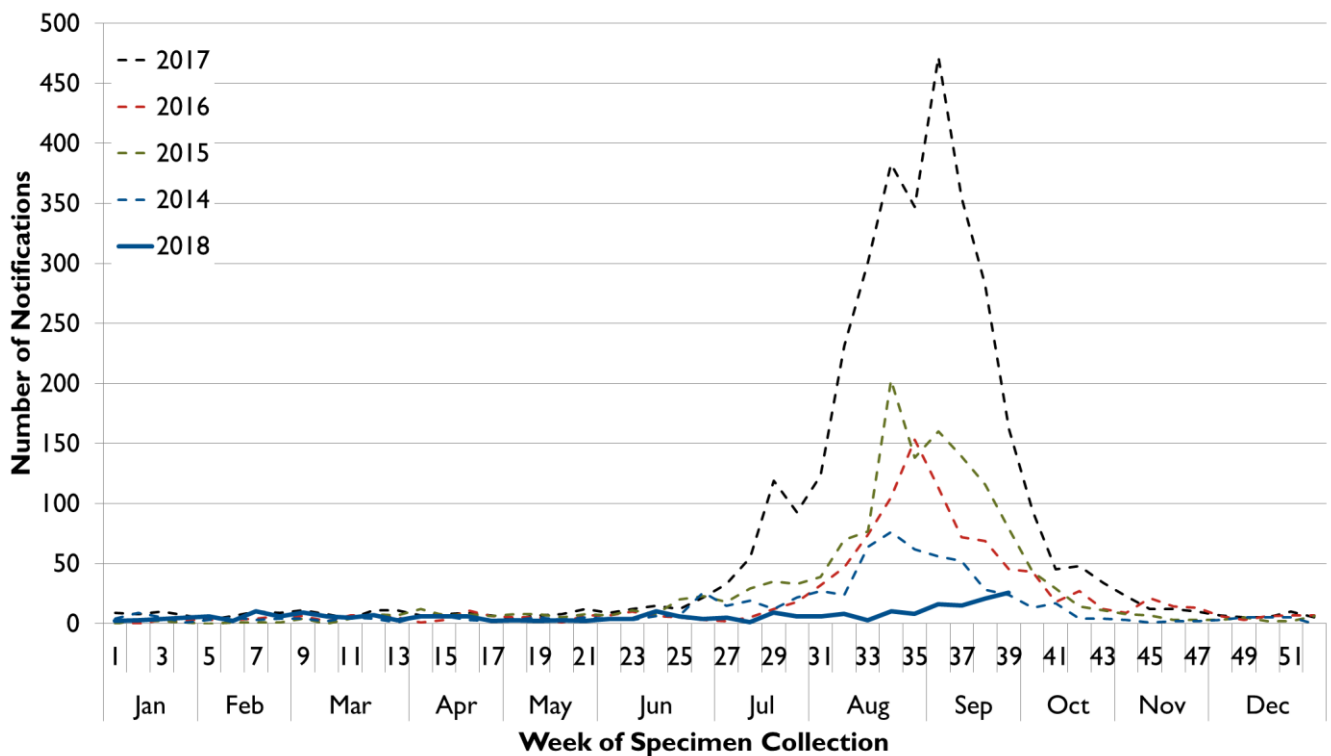


Figure 1: Notifications of influenza in Tasmania, by week, 1 January 2014 to Sunday 30 September 2018

From 1 January to 30 September 2018 there were 260 notifications of laboratory-confirmed influenza (Table 1).

The majority of notifications (139) were in the southern region of Tasmania. There were 65 notifications for residents of the North and 55 for the North-West. One overseas visitor was diagnosed with influenza in Tasmania during this period.

Table 1: Notifications of influenza in Tasmania by subtype and month, 1 January to 30 September 2018

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	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>76</b>	<b>185</b>
A(H1N1)	0	2	0	0	0	1	1	2	20	26
A(H3N2)	2	5	2	3	0	1	1	1	4	19
A (not typed)	7	8	15	7	7	9	12	23	52	140
<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>75</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>80</b>	<b>260</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 260 notifications of influenza between January and September 2018, 80 (31 per cent) were tested using a serology test and 180 (69 per cent) were tested using a PCR test.

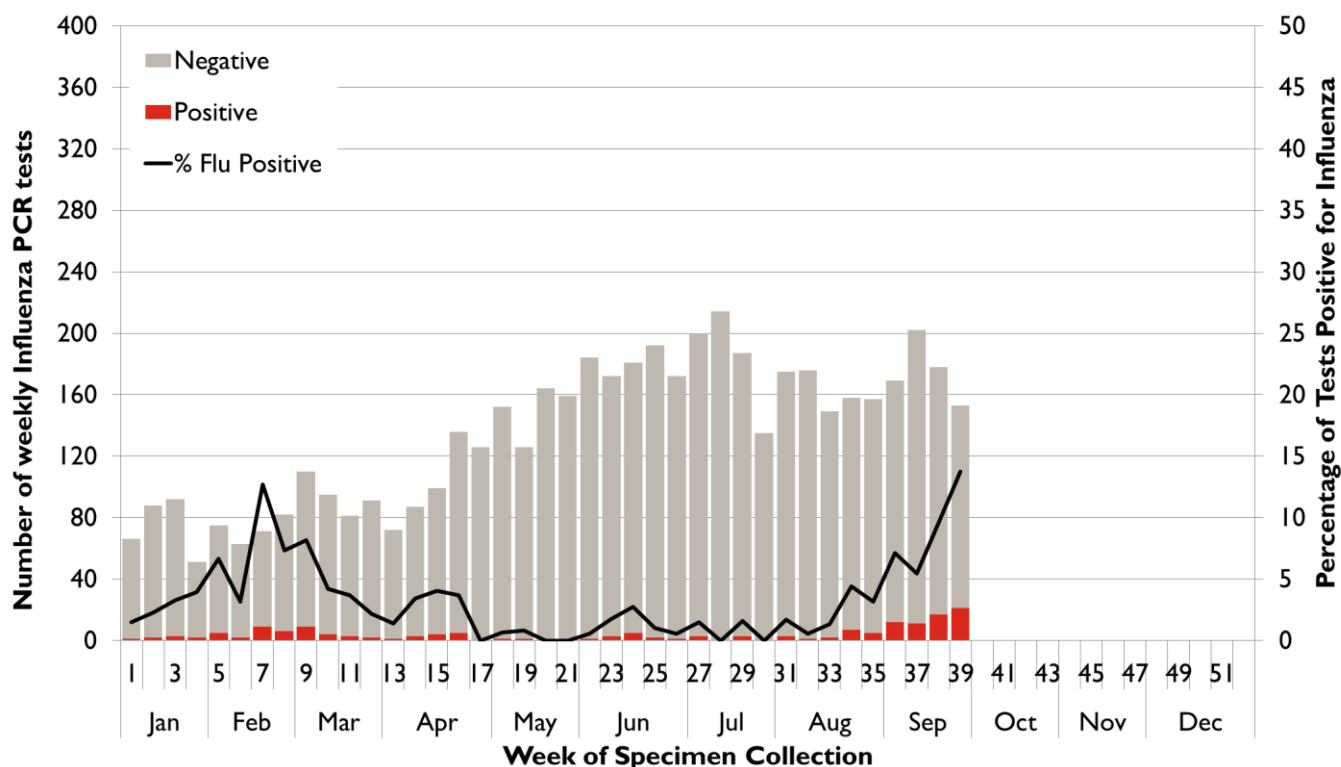


Figure 2: Statewide Influenza PCR testing, 1 January to Sunday 30 September 2018

During September 2018 an average of 176 PCR tests for influenza were conducted per week. This was an increase on the testing conducted during August (average 160 tests per week) (Figure 2). For comparison, an average of 756 PCR tests were conducted per week during September 2017; the peak period of the 2017 influenza season.

The weekly proportion of tests positive for influenza continued to increase, from three per cent in August to 14 per cent in September 2018 (Figure 2).

### 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 386 PCR tests performed during September 2018; a two per cent decrease on August 2018 testing (397 tests). This was a significantly lower than testing during September 2017 (1 238 tests).

The most commonly detected pathogens during September 2018 were Rhinovirus (27 per cent), Parainfluenza virus (23 per cent) and Adenovirus (13 per cent). Twenty-three people (10 per cent) had Influenza A virus detected. There were no detections of Influenza B virus reported during August.

The proportion of September 2018 tests with one or more pathogens detected (52 per cent) was higher than August 2018 (42 per cent). For comparison, 58 per cent of September 2017 tests resulted in one or more pathogens being detected: of those, 66 per cent were detections of Influenza A or Influenza B virus.

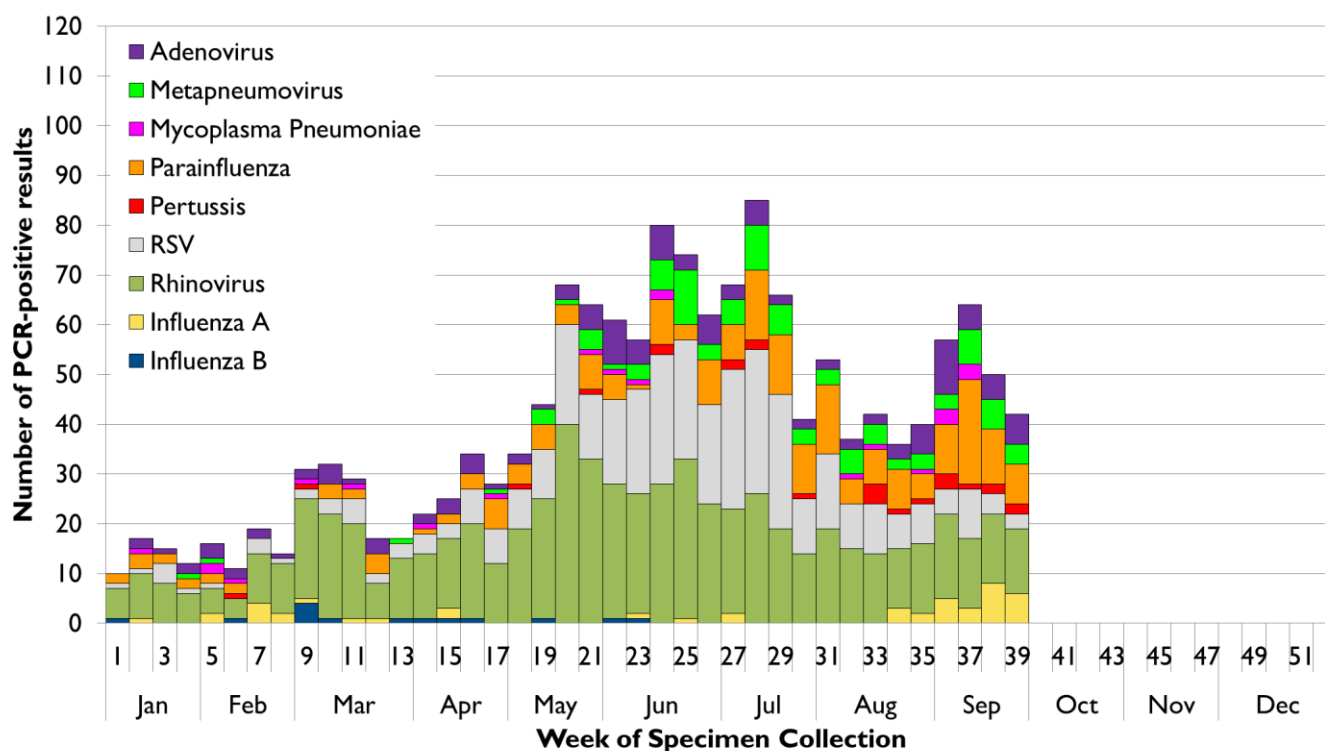


Figure 3: Respiratory pathogen detections, 1 January to Sunday 30 September 2018.

## 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 28 September 2018 there were 546 hospital admissions of confirmed influenza reported by sentinel hospitals Australia-wide. Forty-nine were admissions to an ICU. During this period FluCAN described activity across participating hospitals as 'moderate influenza activity'.

Six out of the 546 influenza admissions were to the one participating Tasmanian hospital, the Royal Hobart Hospital. These were all non-ICU admissions. No admissions were reported during the fortnight ending 28 September 2018.

### 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. An average of 3 200 Tasmanians have 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 throughout September 2018 (Figure 4). During weeks 36 to 39 an average of 1.5 per cent of Tasmanian participants reported a new episode of ILI each week. Of these participants, 72 per cent also reported absenteeism from normal duties due to illness. New episodes of ILI were more frequently reported in unvaccinated participants (2 per cent) compared to vaccinated participants (1.3 per cent) during September 2018.

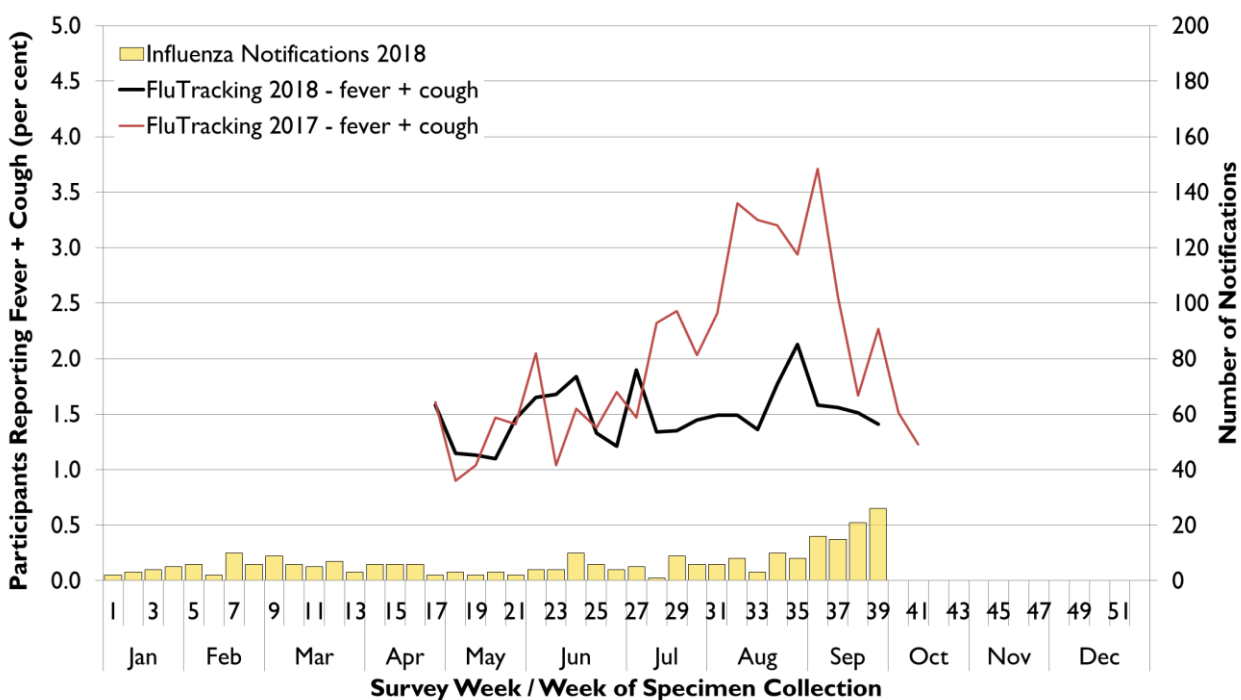


Figure 4: Percentage of Tasmanian *FluTracking* participants reporting fever and cough, week ending Sunday 30 September 2018

## 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 27 August to 9 September 2018 indicated baseline activity in participating Tasmanian GPs, with one consultation out of every 1 000 due to an ILI presentation. In contrast, presentations of ILI to participating GPs nationally increased during this period. National ILI rates during this period were between six and eight 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 10 September to 23 September 2018 were:

- **Activity** – In the last fortnight, at the national level, there were declines in the majority of indicators for person to person transmission of influenza and influenza-like illness (ILI), signalling that nationally the season peaked in recent weeks or is nearing its peak. This is the first fortnight this season where influenza was the dominant cause of ILI among patients attending sentinel GPs and samples tested through sentinel laboratories.
- **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.
- **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** – This fortnight, the majority of confirmed influenza cases reported nationally were influenza A (88%), 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.

## Annual Influenza Vaccine

### Composition of 2018 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 is scheduled to meet in October 2018 to prepare advice to the TGA on the composition of 2019 influenza vaccines.

Composition of influenza vaccines in 2018:

- Trivalent (three-strain) vaccines should contain the following
  - **A (H1N1)**: an A/Michigan/45/2015 (H1N1)pdm09-like virus
  - **A (H3N2)**: an A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus
  - **B**: a B/Phuket/3073/2013-like virus
- Quadrivalent (four-strain) vaccines should contain the trivalent strains listed above plus an additional B strain
  - **B**: a B/Brisbane/60/2008-like virus.

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.

Influenza vaccines in 2018 are free<sup>#</sup> in Tasmania for people at greater risk of contracting and developing severe complications from influenza. Free vaccine is available through General Practitioners for the following people:

- All children aged from six months to under five years (state funded in 2018)
- Aboriginal and Torres Strait Islander people aged 15 years and over
- Adults aged 65 and over (two enhanced trivalent vaccines in 2018)
- Pregnant women at any stage in their pregnancy.
- Adults and children aged from six months with chronic medical conditions such as heart, lung, liver or kidney diseases, asthma, diabetes, cancer, impaired immunity and neuromuscular conditions.

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)

<sup>#</sup> 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)

