



Public 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 July 2017.

## July 2017 update

- The 2017 influenza season commenced at the end of June.
- July was a period of increasing seasonal flu activity, being driven by both Influenza A (188 notifications) and Influenza B (131 notifications). Influenza A(H3N2) remains the most commonly detected subtype.
- During July, influenza hospital admissions increased. Community influenza-like illness surveillance indicated low to early seasonal activity.
- To date the 2017 influenza vaccine is a good match for circulating virus strains in Australia.

## Influenza Notifications

There were 319 notifications of laboratory-confirmed influenza during July 2017 (Table 1). This was greater than June 2017 (63 notifications) and the five-year July average of 184 notifications. Notifications since the start of 2017 indicate that the winter influenza season commenced in Tasmania towards the end of June, with July being a period of increasing seasonal activity. The commencement of the 2017 season is approximately one-month earlier than recent seasons (Figure 1).

There have been a total of 557 influenza notifications since the start of 2017.

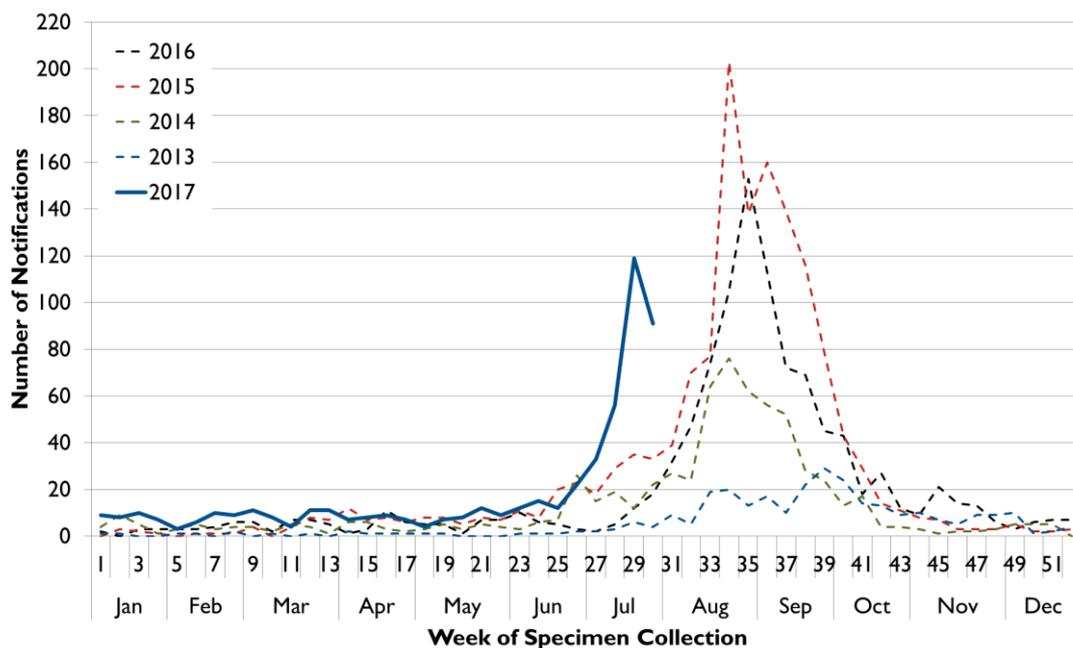


Figure 1: Notifications of influenza in Tasmania, by week, to Sunday 30 July 2017

Table 1: Notifications of influenza in Tasmania by subtype and month, 1 January to 31 July 2017

	Jan	Feb	Mar	Apr	May	Jun	Jul	2017 YTD
<b>Influenza A</b>	<b>34</b>	<b>29</b>	<b>34</b>	<b>23</b>	<b>29</b>	<b>35</b>	<b>188</b>	<b>372</b>
<i>A(H1N1)</i>	3	1	1	0	1	2	2	10
<i>A(H3N2)</i>	6	10	8	5	5	10	93	137
<i>A (not typed)</i>	25	18	25	18	23	23	93	225
<b>Influenza B</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>8</b>	<b>7</b>	<b>28</b>	<b>131</b>	<b>185</b>
<i>B/Victoria lineage</i>	0	0	1	0	0	0	0	1
<i>B/Yamagata lineage</i>	0	0	0	0	0	0	0	0
<i>B (not typed)</i>	1	3	6	8	7	28	131	184
<b>Total Influenza</b>	<b>35</b>	<b>32</b>	<b>41</b>	<b>31</b>	<b>36</b>	<b>63</b>	<b>319</b>	<b>557</b>

Table 2: Notification rates of influenza by Region, Tasmania

	North	North-West	South	TASMANIA
<b>1 to 31 July 2017</b>				
Number of notifications	105	18	196	319
<b>Notification Rate (per 100,000 persons)</b>	<b>73</b>	<b>16</b>	<b>75</b>	<b>61</b>
<b>1 January to 31 July 2017</b>				
Number of notifications	177	40	338	555
<b>Notification Rate (per 100,000 persons)</b>	<b>123</b>	<b>35</b>	<b>130</b>	<b>107</b>

During July the North and South of Tasmania experienced a similar notification rate after accounting for differences in population size (see Table 2). Subtyping has been reported for 95 out of 188 Influenza A notifications diagnosed by PCR; 93 notifications were A(H3N2) and two were A(H1N1).

Two institutional outbreaks of influenza have been notified since the start of 2017: one hospital and one aged-care facility. Influenza A(H3N2) was identified in both outbreaks.

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 laboratory notifications under-represent the burden 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 (ILI). The best test for influenza is a PCR test, which detects influenza virus genetic material (RNA) in a nose or throat swab. The number of influenza PCR tests being performed by Tasmanian laboratories can indicate the level of respiratory illness in the community.

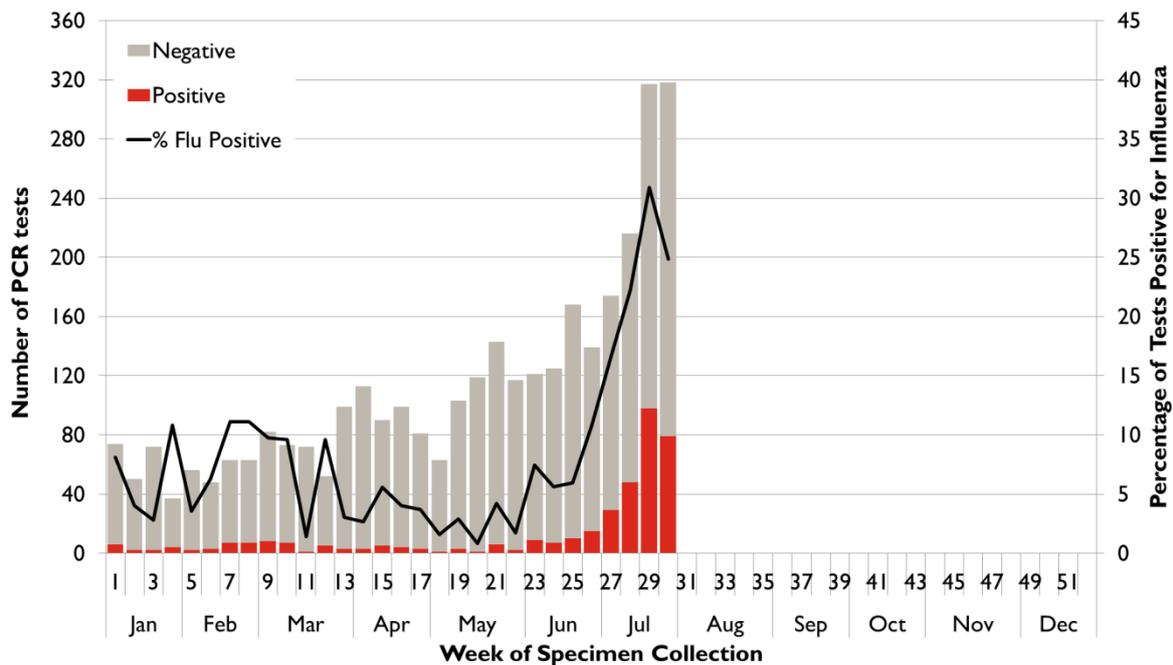


Figure 2: Influenza PCR testing in Tasmania, by week, to Sunday 30 July 2017

Of the 557 notifications of influenza between January and July 2017, 123 (22 per cent) were tested using a serology test and 434 (78 per cent) were tested using a PCR test.

PCR testing for influenza increased significantly during the four weeks between Monday 3 July and Sunday 30 July (Figure 2). A total of 1 025 PCR tests were conducted during this time; an 85 per cent increase on testing conducted during the preceding four-week period of June (553 tests, 5 June to 2 July).

The increase in testing during July was accompanied by an increase in the proportion of tests positive for influenza. Positivity increased from 11 per cent during the last week of June to a peak of 31 per cent during the third week of July (Figure 2). The combined increase in testing and detection of influenza during July indicated a period of increasing seasonal activity.

### 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 a total of 586 PCR tests performed at the RHH during July; an 89 per cent increase on the number of tests performed during June (310 tests). From January to June 2017 a total of 1 782 tests have been performed.

Detections of Influenza A virus and Influenza B virus increased during July (Figure 3). Influenza A virus was the most commonly detected pathogen (18 per cent). Rhinovirus was the second most commonly detected pathogen (17 per cent), followed by Respiratory Syncytial Virus (RSV) (16 per cent).

There was an increase in the proportion of tests with no pathogen detected, from 38 per cent in June to 41 per cent in July.

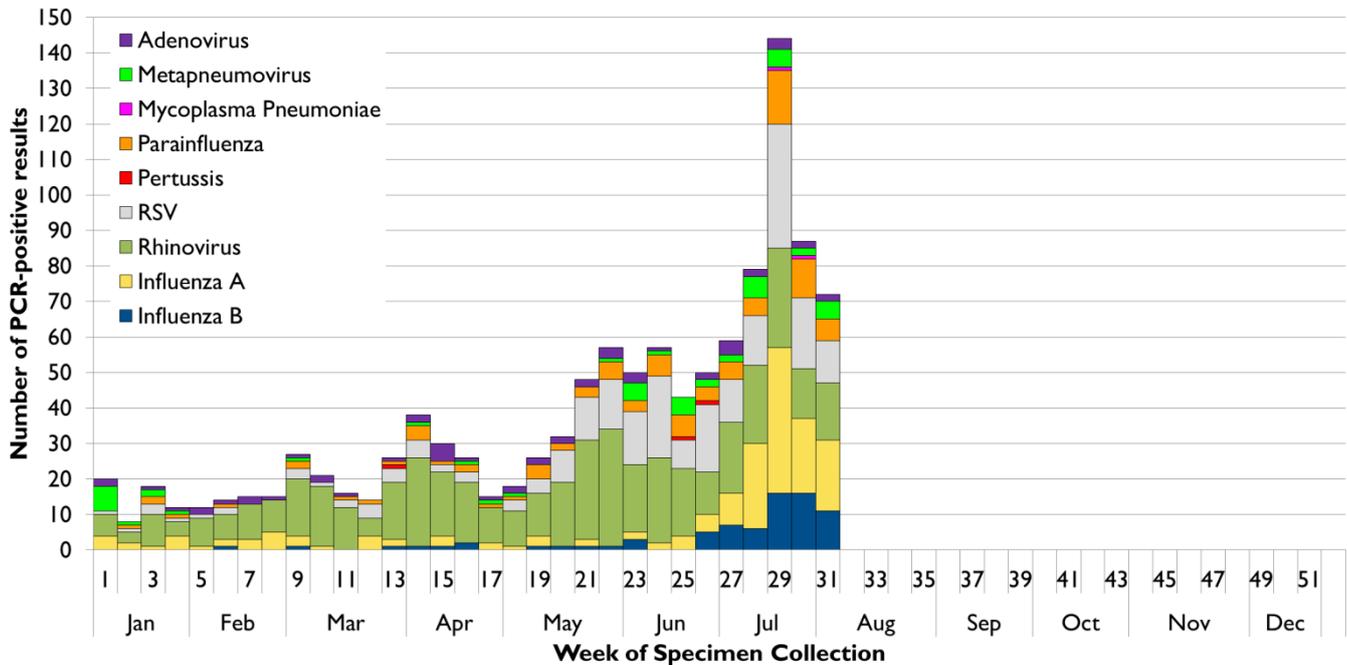


Figure 3: Respiratory pathogen detections in Tasmania, by week, to Sunday 30 July 2017

## National surveillance systems

### FluCAN (Influenza Hospital Admissions)

The Influenza Complications Alert Network (FluCAN) reports on influenza-related hospitalisations and complications in sentinel hospitals Australia-wide during 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 4 August 2017 there were 995 hospital admissions of confirmed influenza reported by sentinel hospitals Australia-wide. Seven percent of these (69 admissions) were admitted to ICU. Of the 995 admissions reported, 69 occurred within the one participating Tasmanian hospital (Royal Hobart Hospital).

During the fortnight ending 4 August 2017 FluCAN described the seasonal status as 'intense mid-seasonal activity'.

### 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 on the World Wide Web at [www.flutracking.net](http://www.flutracking.net) and on Facebook: [www.facebook.com/Flutracking](https://www.facebook.com/Flutracking).

*FluTracking* commenced reporting on 1 May 2017. On average more than 2 600 Tasmanians currently participate in this system each week.

During the period from 3 July to 30 July 2017, new episodes of ILI (fever plus cough) increased to a peak of 2.5 per cent in Tasmanian participants (Figure 4). Of these episodes, 69 per cent included absenteeism from normal duties due to illness.

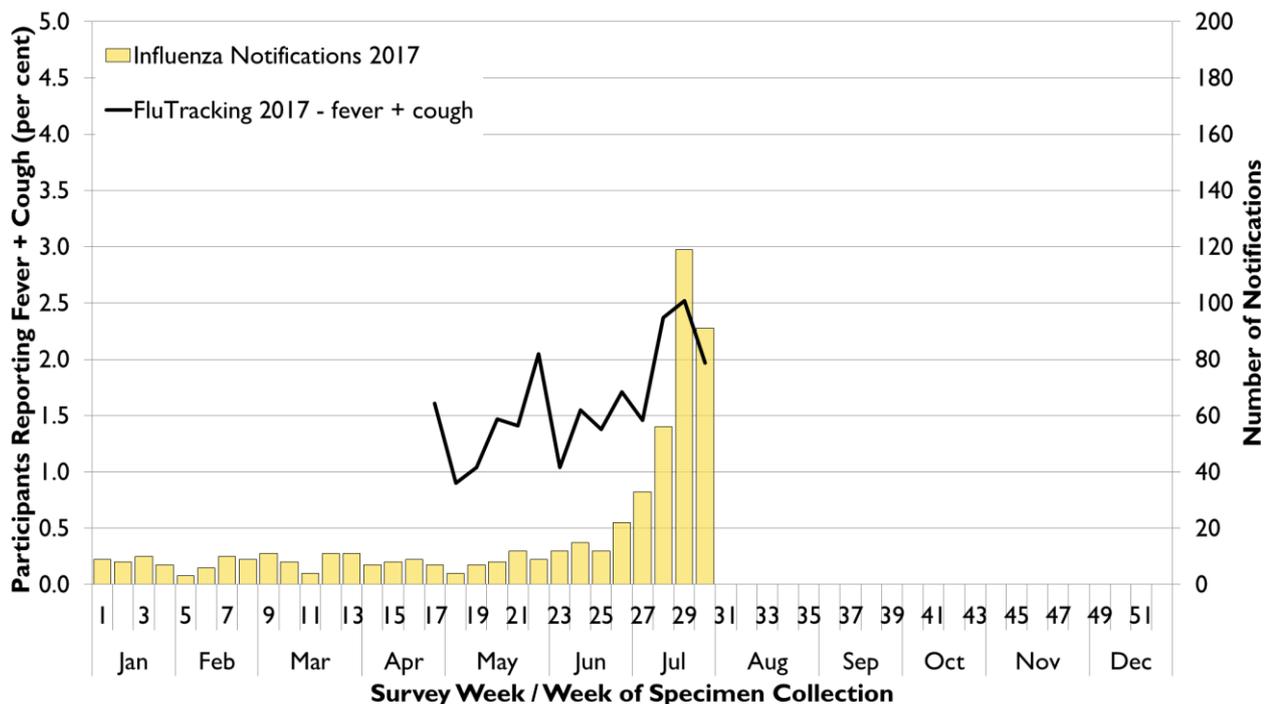


Figure 4: Percentage of Tasmanian *FluTracking* participants reporting fever and cough, week ending Sunday 30 July 2017

### ASPREN (General Practice Syndromic Surveillance)

The Australian Sentinel Practices Research Network (ASPREN) includes registered sentinel General Practitioners (GPs) across Australia who report fortnightly on the number of patients presenting with 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 [www.dmac.adelaide.edu.au/aspren](http://www.dmac.adelaide.edu.au/aspren).

During the fortnight ending 16 July, ILI (fever, cough and fatigue) activity reported in Tasmanian ASPREN practices was considered to be at normal levels. Urban practices (4 in the Greater Hobart region) reported ILI in 7 out of every 1,000 consultations, while the one participating rural practice in the North West reported 3 out of every 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 (NNDSS), 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).

National reporting for 2017 has commenced. The latest Surveillance Report (No. 5) for the fortnight ending 21 July 2017 described the influenza season as being underway in the majority of regions across Australia.

National data to date is indicating that the seasonal influenza vaccines appear to be a good match for circulating virus strains.

# Annual Influenza Vaccine

## Composition of 2017 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 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 in October 2016 to recommend the influenza viruses to be used in influenza vaccines for 2017. The committee recommended the following:

- Trivalent (three-strain) vaccines should contain the following
  - **A (H1N1)**: an A/Michigan/45/2015 (H1N1)pdm09-like virus\*
  - **A (H3N2)**: an A/Hong Kong/4801/2014 (H3N2)-like virus
  - **B**: a B/Brisbane/60/2008-like virus
- Quadrivalent (four-strain) vaccines should contain the trivalent strains listed above plus an additional B strain
  - **B**: a/Phuket/3073/2013-like virus.

\* There has been replacement of the A/California/7/2009 (H1N1)pdm09-like virus component to A/Michigan/45/2015 (H1N1)pdm09-like virus. This is the first time the recommended A(H1N1) strain has changed since 2010.

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).

All influenza vaccines included in the National immunisation Program in 2017 are quadrivalent vaccines.

## Is vaccination recommended?

Annual influenza vaccination is recommended for anyone over the age of 6 months who wishes to reduce the likelihood of influenza and its complications.

The quadrivalent vaccine is strongly recommended and available without cost<sup>#</sup> under the National Immunisation Program for Tasmanians at risk of severe influenza, including:

- People aged 65 and over
- Aboriginal and Torres Strait Islander people aged six months to less than five years
- Aboriginal and Torres Strait Islander people who are aged 15 years and over
- Pregnant women
- People aged six months and over with medical conditions such as severe asthma, lung or heart disease, low immunity or diabetes that can lead to complications from influenza.

For more information see [www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/immunise-influenza](http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/immunise-influenza).

<sup>#</sup> Please note there may be a consultation fee for the health care provider to administer the vaccine.

