



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 September 2017.

## September 2017 update

- The 2017 influenza season peaked during the first week of September.
- Influenza activity is declining but still above baseline levels.
- Influenza hospital admissions peaked during September. Community influenza-like illness surveillance is also indicating decreasing seasonal activity.

## Influenza Notifications

There were 1 376 notifications of laboratory-confirmed influenza during September 2017 (Table 1). This exceeded the August 2017 total (1 260 notifications). There have been a total of 3 193 influenza notifications since the start of 2017.

The 2017 peak in laboratory-confirmed influenza occurred during the first week of September (week 36) with 474 cases notified. Influenza notifications decreased during the remainder of September (Figure 1). The number of influenza notifications at the end of September remained high compared to the Tasmanian inter-seasonal baseline.

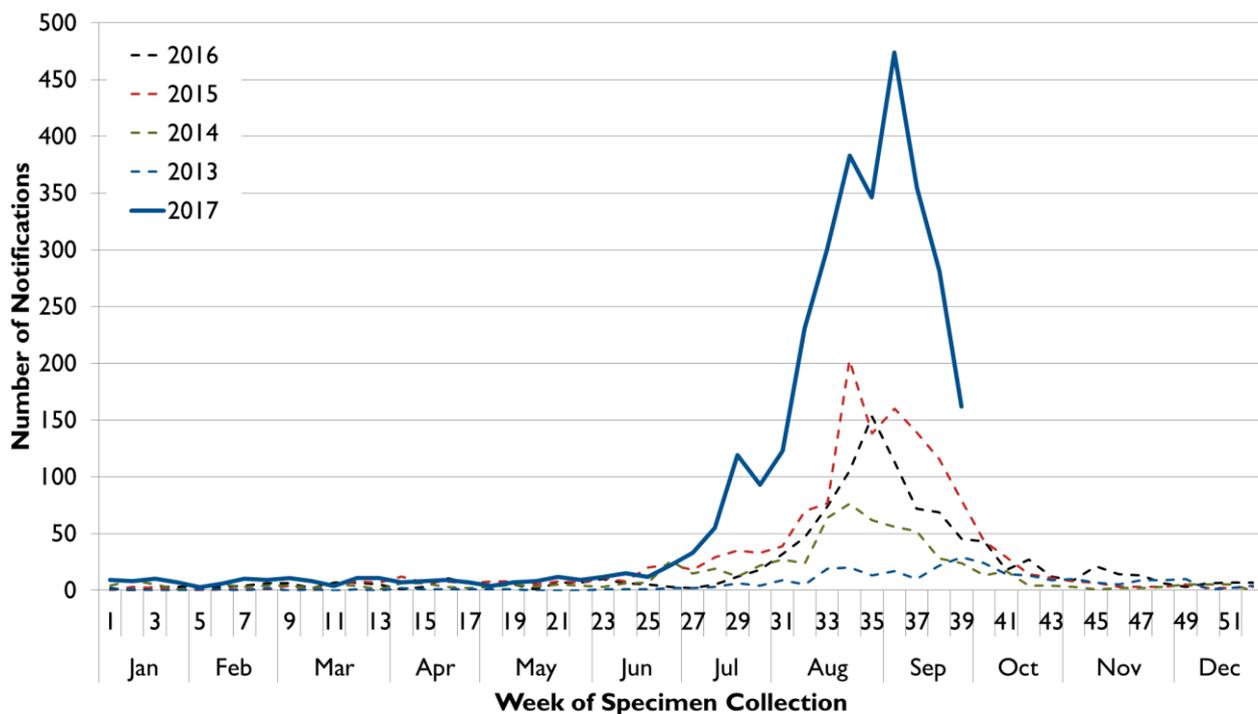


Figure 1: Notifications of influenza in Tasmania, by week, to Sunday 1 October 2017

Table 1: Notifications of influenza in Tasmania by subtype and month, 1 January to 30 September 2017

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	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>189</b>	<b>867</b>	<b>947</b>	<b>2,187</b>
<i>A(H1N1)</i>	3	1	1	0	1	2	2	45	42	97
<i>A(H3N2)</i>	10	11	8	5	5	10	96	269	314	728
<i>A (not typed)</i>	21	17	25	18	23	23	91	553	591	1,362
<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>393</b>	<b>429</b>	<b>1,007</b>
<i>B/Victoria lineage</i>	0	0	1	0	0	0	0	0	0	1
<i>B/Yamagata lineage</i>	0	0	0	0	0	0	2	6	0	8
<i>B (not typed)</i>	1	3	6	8	7	28	129	387	429	998
<b>Total Influenza</b>	<b>35</b>	<b>32</b>	<b>41</b>	<b>31</b>	<b>36</b>	<b>63</b>	<b>320</b>	<b>1,260</b>	<b>1,376</b>	<b>3,194</b>

Table 2: Notification rates of influenza by Region, Tasmanian residents only.

	North	North-West	South	TASMANIA
<b>September 2017</b>				
Number of notifications	409	243	724	1,376
<b>Notification Rate (per 100,000 persons)</b>	<b>284</b>	<b>214</b>	<b>277</b>	<b>265</b>
<b>1 January to 30 September 2017</b>				
Number of notifications	889	466	1,837	3,192
<b>Notification Rate (per 100,000 persons)</b>	<b>616</b>	<b>410</b>	<b>704</b>	<b>615</b>

The majority of notifications were due to Influenza A (69 per cent), similar to previous months (Table 1).

Year to date, notification rates have been highest in the South, closely followed by the North. During September the North of Tasmania experienced a similarly high notification rate compared to the South (Table 2).

Twenty four new institutional outbreaks of influenza were notified during September. Since the start of 2017 a total of 43 outbreaks have been reported; 35 age-care facilities, six hospitals and two other facilities providing residential care. Influenza was detected in 37 of the 43 outbreaks, with Influenza A(H3N2) the most commonly reported subtype (in 14 out of 37 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.

Of the 3,192 notifications of influenza between January and September 2017, 2,943 (78 per cent) were tested using a PCR test and 249 (8 per cent) were tested using a serology test.

PCR testing for influenza peaked during the first week of September with 1,006 tests conducted. Influenza was detected in 42 per cent of tests during that same week (number 36); the largest proportion positive for influenza since the start of 2017.

Testing and the proportion of tests with influenza detected declined during the remainder of September. Testing activity during the last week of September remained above the inter-seasonal baseline level (Figure 2).

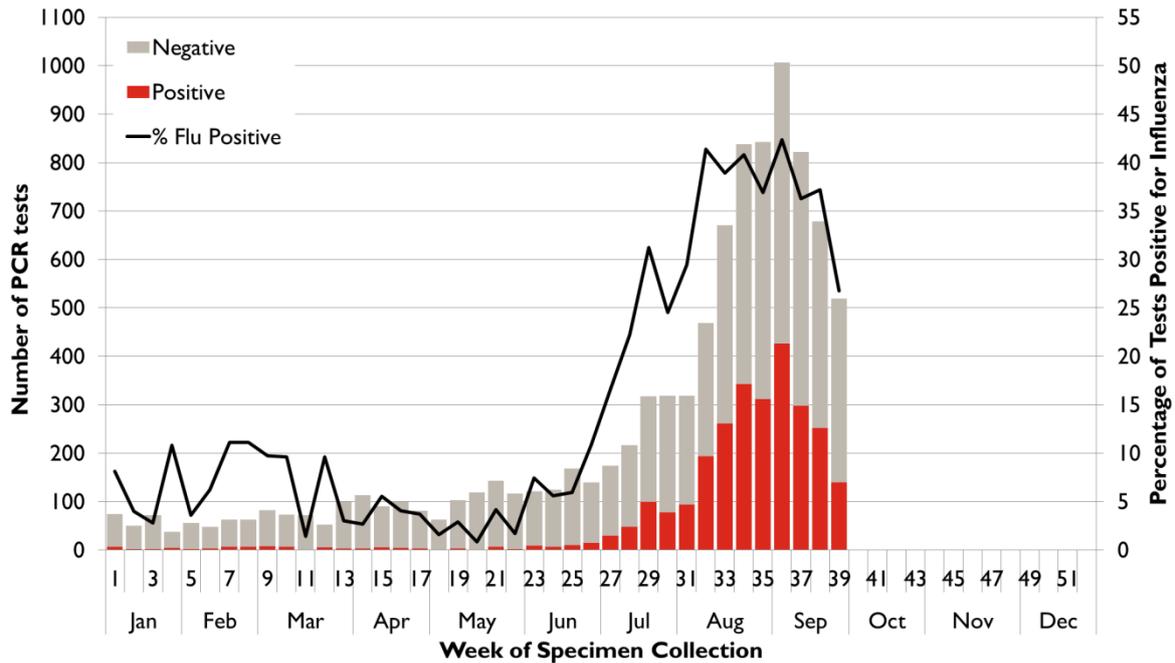


Figure 2: Influenza PCR testing in Tasmania, by week, to Sunday 1 October 2017

### 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.

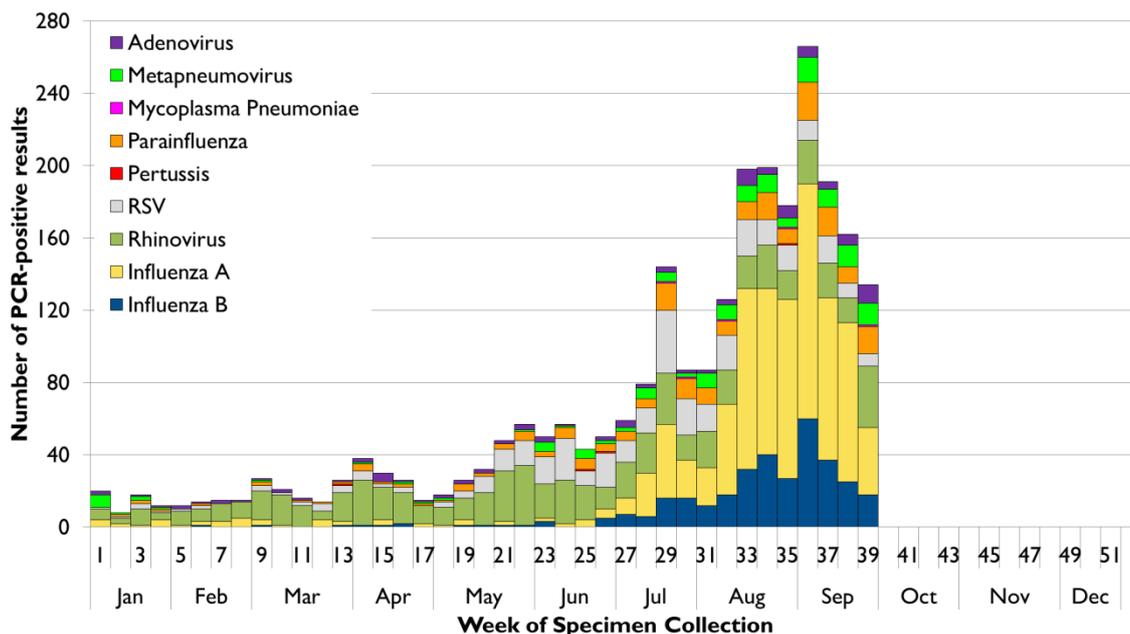


Figure 3: Respiratory pathogen detections in Tasmania, by week, to Sunday 1 October 2017

There were a total of 1 238 PCR tests performed at the RHH during September; a 14 per cent increase on the number of tests performed during August (1 088 tests). From January to September 2017 a total of 4 108 tests have been performed.

Influenza A virus was the most commonly detected respiratory pathogen during September (40 per cent). Influenza B virus was the second most commonly detected pathogen (16 per cent), followed by Rhinovirus (10 per cent). Detections of Influenza A and B viruses decreased during September (Figure 3).

## 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 29 September 2017 there were 3 424 hospital admissions of confirmed influenza reported by sentinel hospitals Australia-wide. Eight percent of these (271 admissions) were admitted to ICU.

The Royal Hobart Hospital, the participating Tasmanian hospital, reported 301 admissions over this period. Of the admissions, 10 were to ICU.

During the fortnight ending 29 September 2017 FluCAN described the seasonal status as 'intense late-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.

New episodes of ILI (fever plus cough) increased in Tasmanian participants during August and early September. A larger proportion of unvaccinated participants reported ILI (Figure 4).

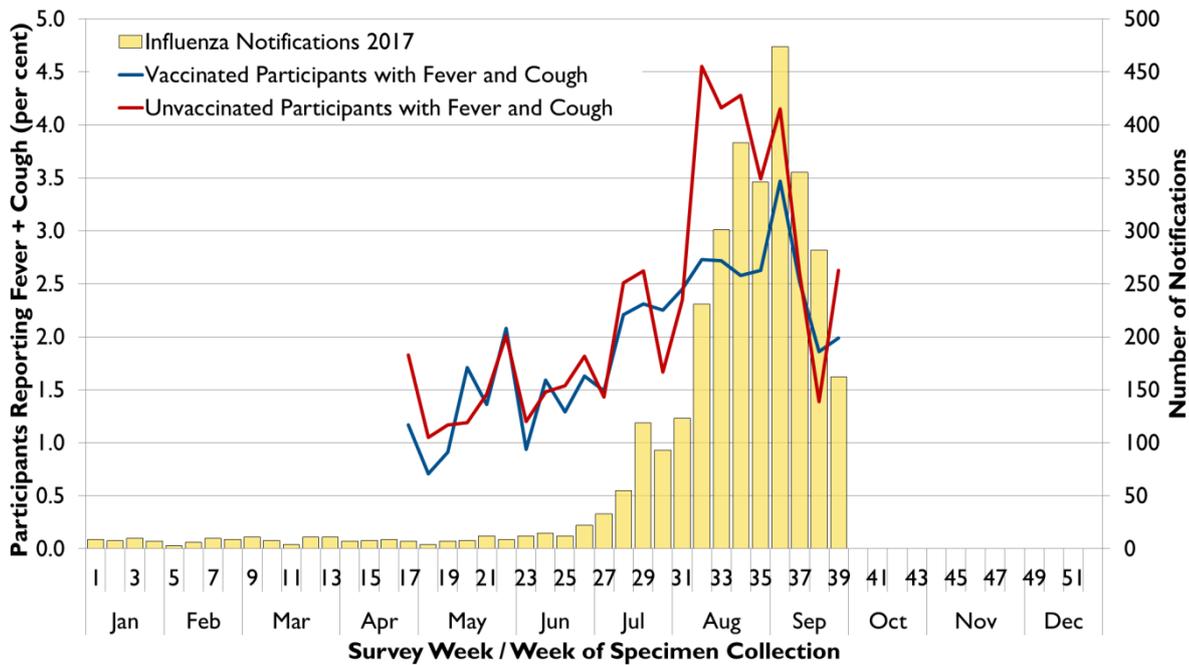


Figure 4: Percentage of Tasmanian *FluTracking* participants reporting fever and cough, week ending Sunday 1 October 2017

### 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 (fever, cough and fatigue). 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).

The latest ASPREN report (No. 19) described national ILI consultation rates as having decreased from 23 to 19 per 1 000 consultations during the fortnight ending 10 September. Tasmanian Urban ASPREN practices (4 in the Greater Hobart region) during this period reported ILI in 16 out of every 1,000 consultations. The one participating rural practice in the North West reported ILI in 53 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).

The latest Surveillance Report (No. 10) indicated that national influenza activity had continued to decline during the fortnight ending 29 September, following a peak in mid-August. Despite the national decline, high levels of activity continued to be reported across the country.

Clinical severity for the 2017 season to date, as measured through the proportion of patients admitted directly to ICU, and deaths attributed to pneumonia or influenza, was described as low to moderate.

The report indicated that to date, based on antigenic characterisation of circulating influenza viruses, the seasonal influenza vaccines appeared to be a moderate to good match for circulating virus strains, depending on the strain.

# 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 is scheduled to meet on 11 October 2017 to prepare advice to the TGA on the composition of 2018 influenza vaccines.

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.

