

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 August 2017.

August 2017 update

- The 2017 influenza season commenced at the end of June and notifications have increased in both July and August.
- Influenza activity continued to increase in August with notifications of both influenza A (844) and influenza B (384). Notifications peaked in the third week of August, with 380 notified cases.
- During August hospital admissions in Tasmania due to influenza increased, however admissions directly to ICU were below the national average.
- To date the 2017 influenza vaccine is a moderate to good match for circulating virus strains in Australia.

Influenza Notifications

There were 1 228 notifications of laboratory-confirmed influenza during August 2017 (Table 1), an increase from 321 reported in July. This is significantly higher than the five-year August average of 294 notifications (Figure 1). Notifications peaked in the third week of August (week 34), with 380 cases of influenza notified.

From 1 January to 31 August, there was a total of 1 787 influenza notifications.

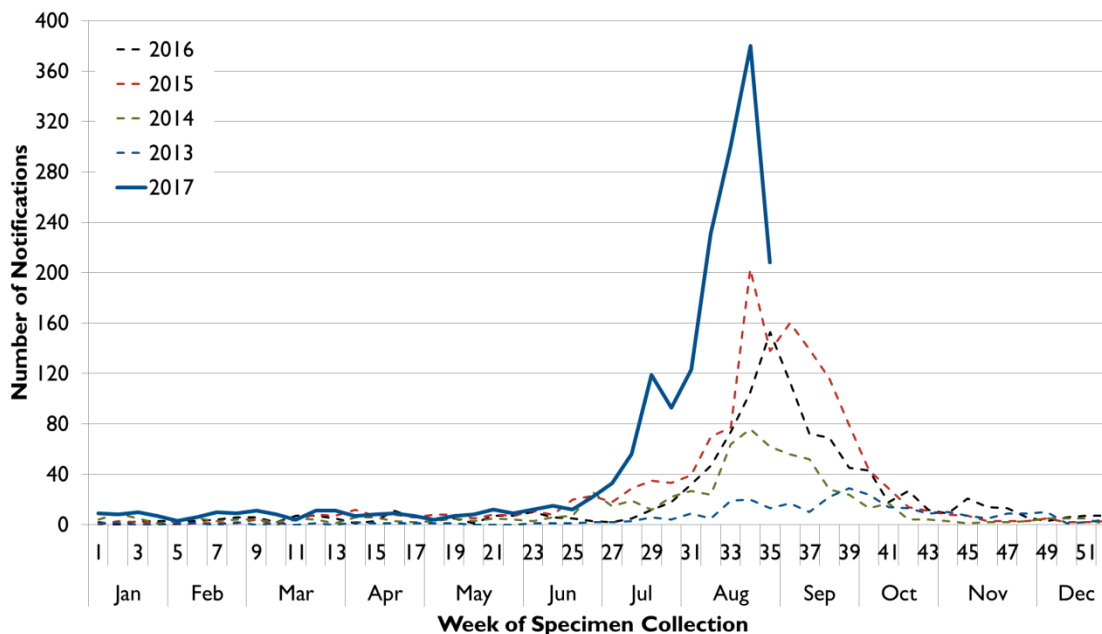


Figure 1: Notifications of influenza in Tasmania, by week, to Sunday 31 August 2017

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

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	2017 YTD
Influenza A	34	29	34	23	29	35	190	844	1 218
<i>A(H1N1)</i>	3	1	1	0	1	2	2	42	52
<i>A(H3N2)*</i>	10	11	8	5	5	10	94	250	393
<i>A (not typed)</i>	21	17	25	18	23	23	94	552	773
Influenza B	1	4	7	8	7	28	131	384	569
<i>B/Victoria lineage</i>	0	0	1	0	0	0	0	0	1
<i>B/Yamagata lineage</i>	0	0	0	0	0	0	0	0	0
<i>B (not typed)</i>	1	3	6	8	7	28	131	384	568
Total Influenza	35	32	41	31	36	63	321	1 228	1 787

*Five samples have been confirmed as A(H3N2) and 388 samples have been typed as A(H3). It is likely these are A(H3N2).

During August the notification rates of influenza increased across all three regions in Tasmania (see Table 2). All three regions reported the highest monthly notification rate seen in the year to date.

Table 2: Notification rates of influenza in Tasmania by Region, 1 January to 31 August 2017

	North	North-West	South	TASMANIA
August 2017				
Number of notifications	290	181	755	1 227
Notification Rate (per 100,000 persons)	201	159	289	236
1 January to 31 August 2017				
Number of notifications	469	221	1 093	1 786
Notification Rate (per 100,000 persons)	325	194	419	344

Since 1 January 2017, 28 institutional outbreaks of influenza like illness (ILI) have been notified. Of these, 16 have been confirmed as influenza, one as metapneumovirus and the rest are either unknown or have results pending.

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.

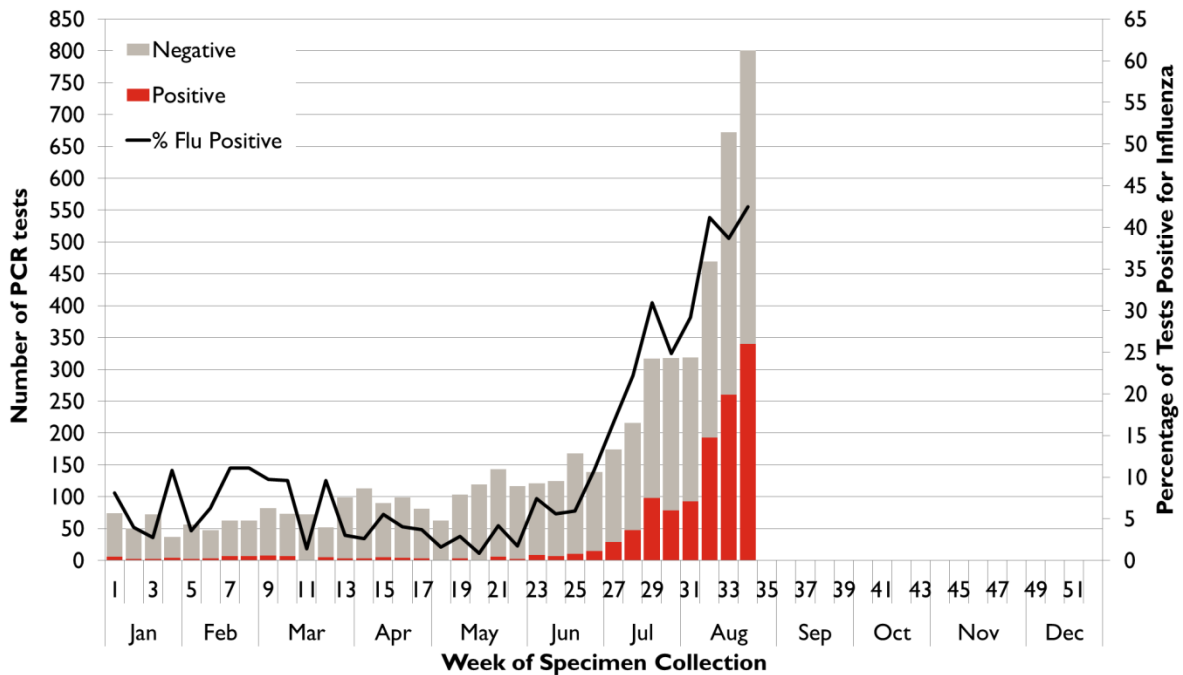


Figure 2: Influenza PCR testing in Tasmania, by week, to Sunday 27 August 2017

Of the 1 787 notifications of influenza between 1 January and 31 August 2017, 1600 were diagnosed using PCR (90 per cent), 184 with serology (10 per cent) and three with antigen testing or another method (<1 per cent).

There were 2 261 PCR tests for influenza performed in Tasmania from 31 July to 27 August. This was a significant increase on the previous reporting period (Monday 3 July and Sunday 30 July) with 1 025 PCR tests reported as performed (Figure 2).

During August there was also an increase in the proportion of tests positive. Positivity increased from a peak of 31 per cent during the previous reporting period to 42 per cent, during the third week of August. (Figure 2). This coincided with the peak week of notifications.

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.

From 1 to 27 August 2017, there was a total of 853 PCR tests performed at the RHH; a 46 per cent increase on the number of tests performed during June (586 tests). From 1 January to 27 August 2017 a total of 2 635 tests have been performed.

Detections of Influenza A virus and Influenza B virus increased during August (Figure 3). Influenza A virus was the most commonly detected pathogen (39 per cent), this was an increase from 18 per cent of detections in July. In August, influenza B was the second most commonly detected pathogen (15 per cent), followed by Rhinovirus (11 per cent).

The proportion of tests with no pathogen detected remained stable at 39 per cent (from 41 per cent in July).

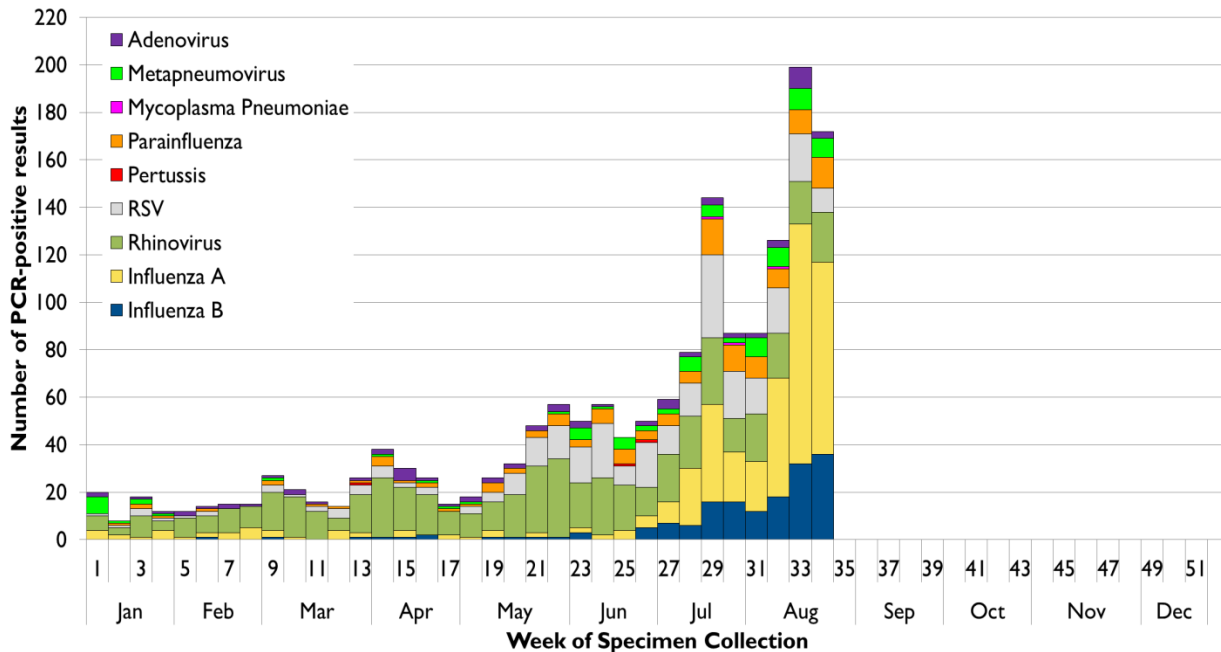


Figure 3: Respiratory pathogen detections in Tasmania, by week, to Sunday 27 August 2017

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 1 September 2017 there were 2 016 hospital admissions of confirmed influenza reported by sentinel hospitals Australia-wide. Of these, nine per cent (161 admissions) were admitted directly to ICU. In the same period in Tasmania, there were 170 influenza admissions in the one participating Tasmanian hospital (Royal Hobart Hospital), of which four (2 per cent) were admitted directly to ICU.

During the fortnight ending 1 September 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 and on Facebook: 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 31 July to 27 August, new episodes of ILI (fever plus cough) increased to a peak of 3.4 per cent in Tasmanian participants (Figure 4). Of those with fever and cough, 80 per cent reported absenteeism from normal duties due to illness.

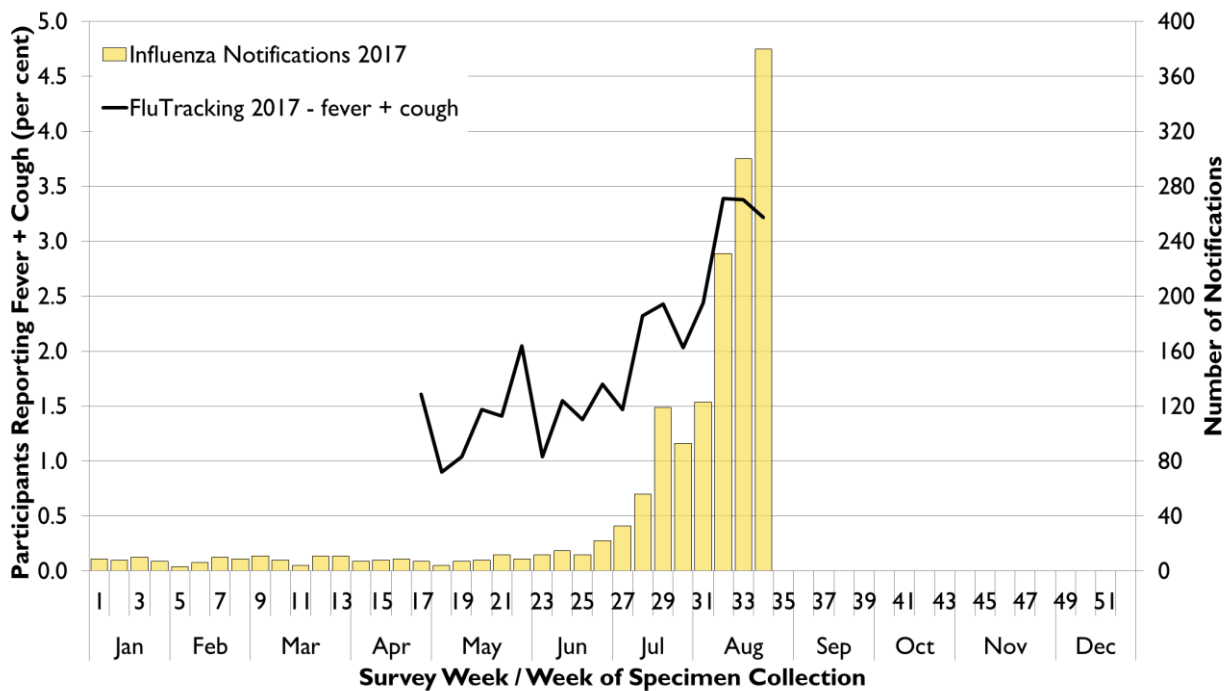


Figure 4: Percentage of Tasmanian *FluTracking* participants reporting fever and cough, week ending Sunday 27 August 2017

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.

No new report has been produced by ASPREN since July. 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 ILI in 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.

The latest Surveillance Report (No. 7) for the fortnight ending 18 August 2017 described the influenza activity as continuing to increase with many systems comparable to or exceeding the 2016 season.

National data to date is indicating that the seasonal influenza vaccines appear to be a moderate to 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.

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.

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[#] 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.

[#] Please note there may be a consultation fee for the health care provider to administer the vaccine.

