

Public Health Services produces the fluTAS Report to inform healthcare organisations and the public about the level of influenza (flu) in Tasmania. Multiple data sources are used to obtain measures of influenza activity in the community.

## Summary

This report describes influenza activity in Tasmania during **September and October 2016**. Available data over this period indicate:

- Notifications of influenza decreased during September and October 2016, following a peak in activity at the end of August.
- A corresponding decrease in activity was observed across laboratory testing, hospital admissions and syndromic surveillance systems. Collectively, these indicate that the 2016 winter influenza season is ending.
- Influenza A virus continued to be the most common cause of laboratory confirmed influenza. The predominant Influenza A subtype in circulation during this time was A(H3N2).
- The recommended formulation of Australian influenza vaccines for 2017 was determined during October, and includes a change to the particular Influenza A(H1N1) component.

## Influenza Notifications

Tasmanian laboratories must notify the Director of Public Health of evidence of influenza in specimens collected from patients. These specimens are usually nose or throat swabs, less often a blood sample. The best test for influenza involves PCR<sup>1</sup> to detect influenza virus RNA present in a nose or throat swab.

Notifications of influenza decreased during September and October 2016 (see Figure 1). There were 471 notifications of influenza during this period, with a total of 969 notifications received since the start of 2016 (see Table 1). The rate of notifications at the end of October was low and approaching the inter-seasonal baseline.

**Table 1: Monthly Influenza Notifications by Region, January to October 2016.**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
North	1	3	3	5	5	10	11	55	61	17	-	-	171
North-West	4	4	9	9	6	7	7	32	49	22	-	-	149
South	4	8	12	10	11	10	19	252	253	68	-	-	647
Visitors*	0	1	0	0	0	0	0	0	0	1	-	-	2
<b>TOTAL</b>	<b>9</b>	<b>16</b>	<b>24</b>	<b>24</b>	<b>22</b>	<b>27</b>	<b>37</b>	<b>339</b>	<b>363</b>	<b>108</b>	-	-	<b>969</b>

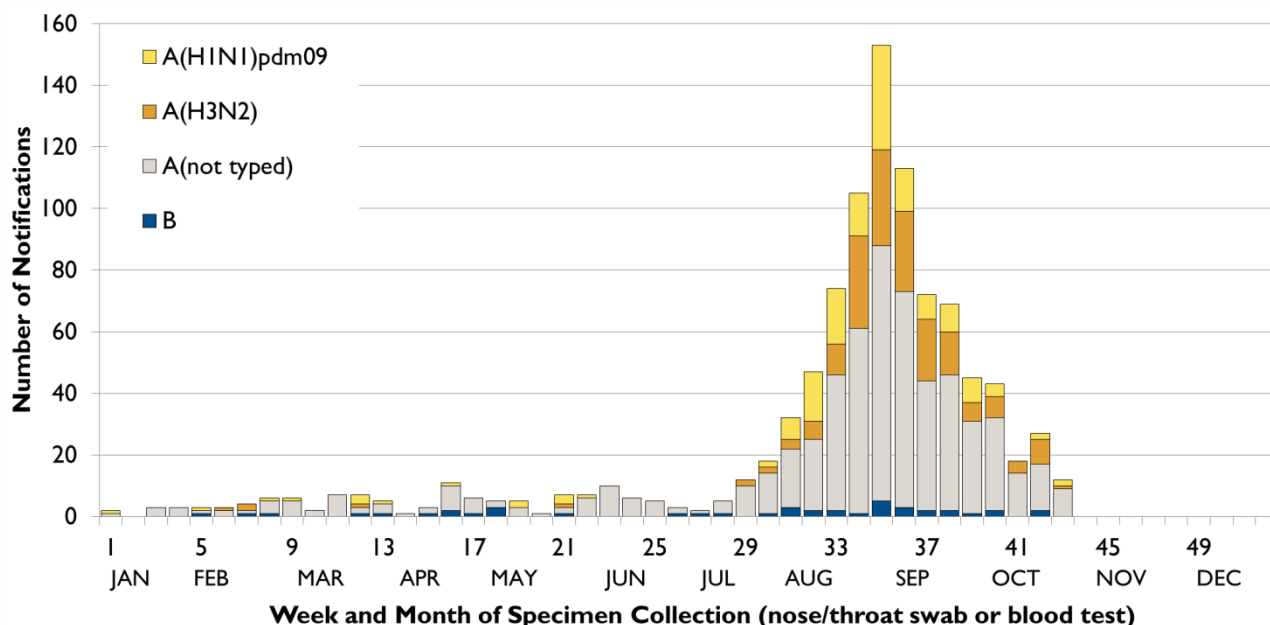
\* Overseas residents diagnosed with influenza whilst in Tasmania.

<sup>1</sup> Polymerase Chain Reaction

Influenza A virus remained the most common cause of influenza in Tasmania; isolated in 455 out of 471 notifications during September and October. Additional laboratory typing was conducted on 133 notifications from this period, with 65 per cent being the A(H3N2) subtype. The 2016 annual influenza vaccine covers both of these subtypes (see *Annual Influenza Vaccine*, page 6).

Since the start of 2016 there have been nine outbreaks of influenza A reported in six residential care facilities and three hospital wards across two hospitals.

**Figure 1: Weekly influenza notifications by subtype, weeks 1 to 43 (ending Sunday 30 October 2016).**



**Table 2: Yearly influenza notifications by virus type.**

	2009	2010	2011	2012	2013	2014	2015	2016 <sup>(2)</sup>
Influenza A	1 294	95	189	1 008	207	592	788	926
Influenza B	1	12	174	85	90	81	646	43
<b>Total Influenza*</b>	<b>1 295</b>	<b>107</b>	<b>363</b>	<b>1 093</b>	<b>297</b>	<b>673</b>	<b>1 434</b>	<b>969</b>
Predominant subtype of Influenza A	H1N1	H1N1	H1N1	H3N2	H1N1	H1N1 & H3N2	H3N2	H3N2

\* Including overseas residents diagnosed with influenza whilst in Tasmania.

<sup>2</sup> Influenza notifications from 1 January to 31 October 2016.

## Laboratory Testing

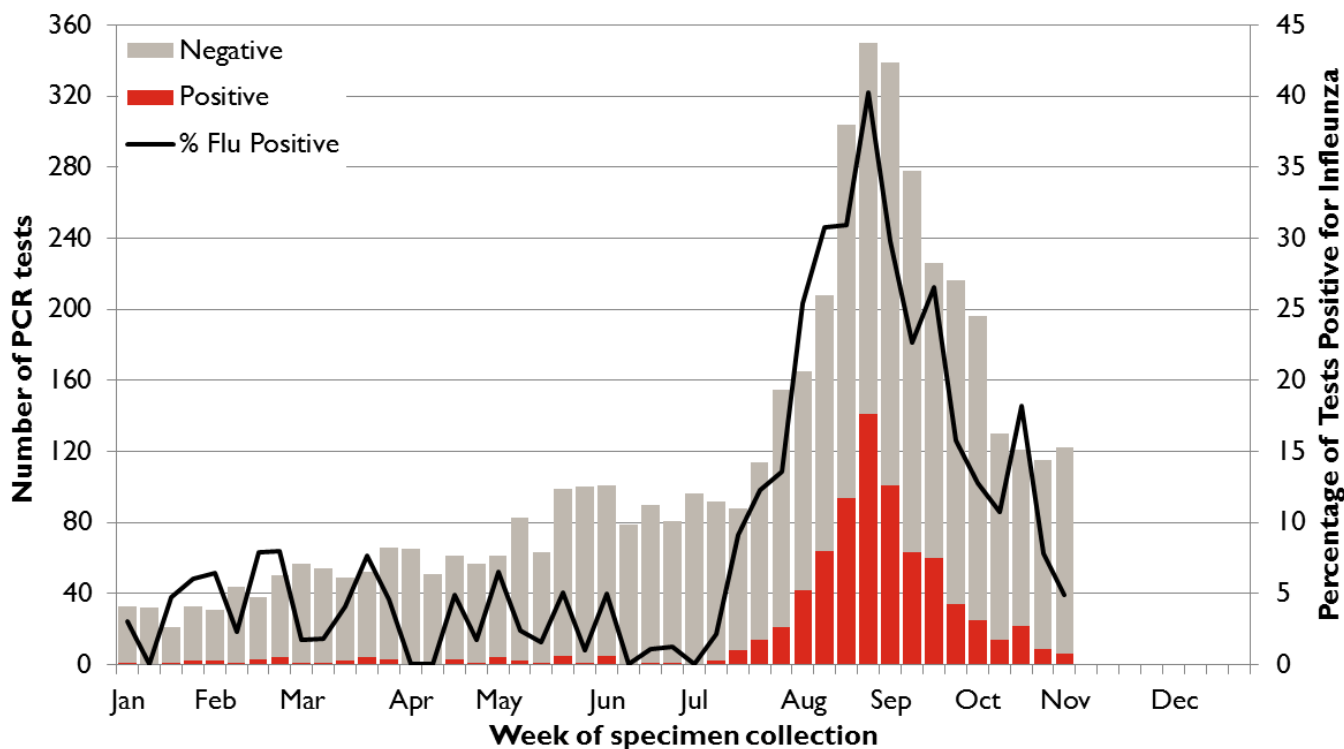
### Laboratory Testing Effort

A wide range of pathogens (mostly viruses) commonly cause winter coughs, colds and influenza-like illnesses. Some people with these symptoms will visit their doctor. The decision whether to test someone for influenza rests with their treating doctor, and depends on their symptoms. The best test for influenza is a PCR test, which detects influenza virus RNA in a nose or throat swab. The number of these tests being performed by Tasmanian laboratories is a useful indicator of the level of respiratory illness in the community.

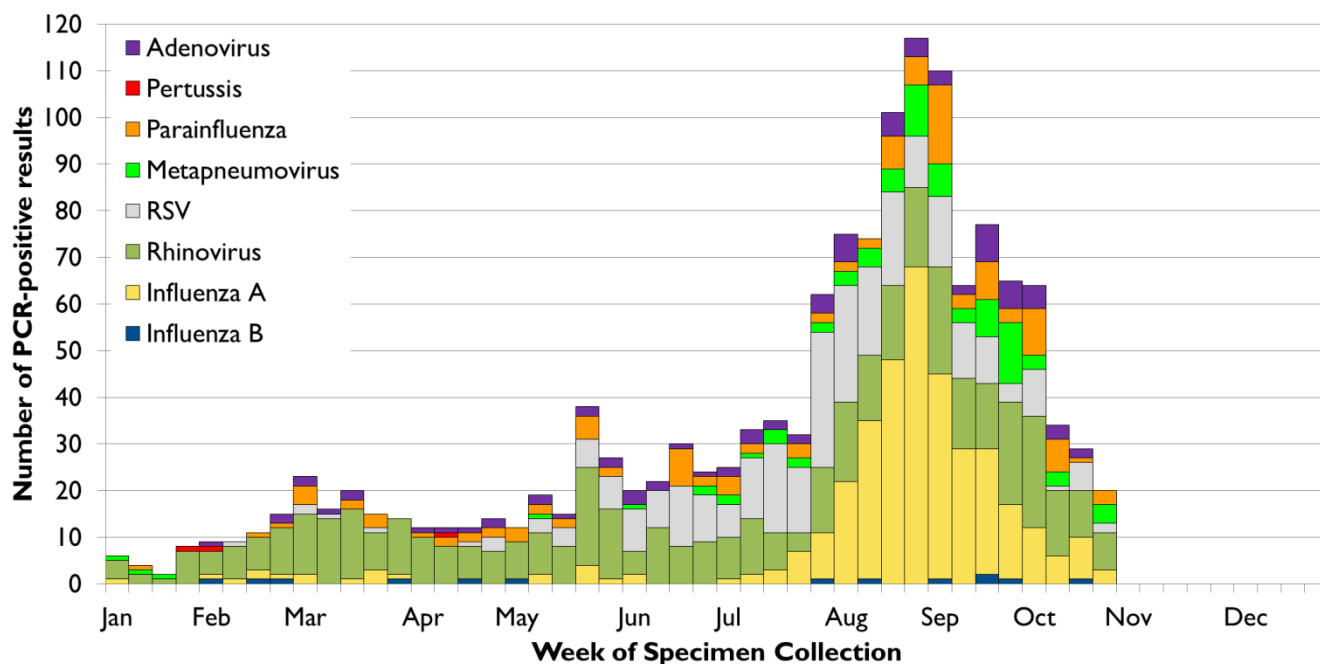
Since the start of 2016, 87 per cent of notified influenza was diagnosed by PCR (nose and throat swabs). The remaining cases were diagnosed by a blood test (serology).

Influenza testing decreased during September and October 2016. The proportion of tests positive for influenza also followed a similar overall trend of decline during that time (Figure 2). Tests and the proportion positive during the last week of October (115 tests/week, 8 per cent positive) remained higher than the January to June inter-seasonal period when there was an average of 60 tests per week and three per cent positive.

**Figure 2: Influenza tests via PCR by week during 2016 (to week ending 30 October)**



**Figure 3: Respiratory pathogen detections, 2016 (to week ending 30 October).**



## Influenza-like Illnesses (Syndromic Surveillance)

Influenza-like illness (ILI) is much more common than laboratory-diagnosed influenza. For much of the year, common colds and other respiratory illnesses make up most of the ILI in the community. During the annual influenza season, the proportion of the population experiencing symptoms of ILI who have influenza usually increases. It is therefore useful to monitor the proportion of people reporting ILI, regardless of the cause.

## ASPREN (General Practice Surveillance)

The Australian Sentinel Practices Research Network (ASPREN) includes registered sentinel GPs throughout Tasmania who report fortnightly on the number and proportion of presentations of patients with fever, cough and fatigue. 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).

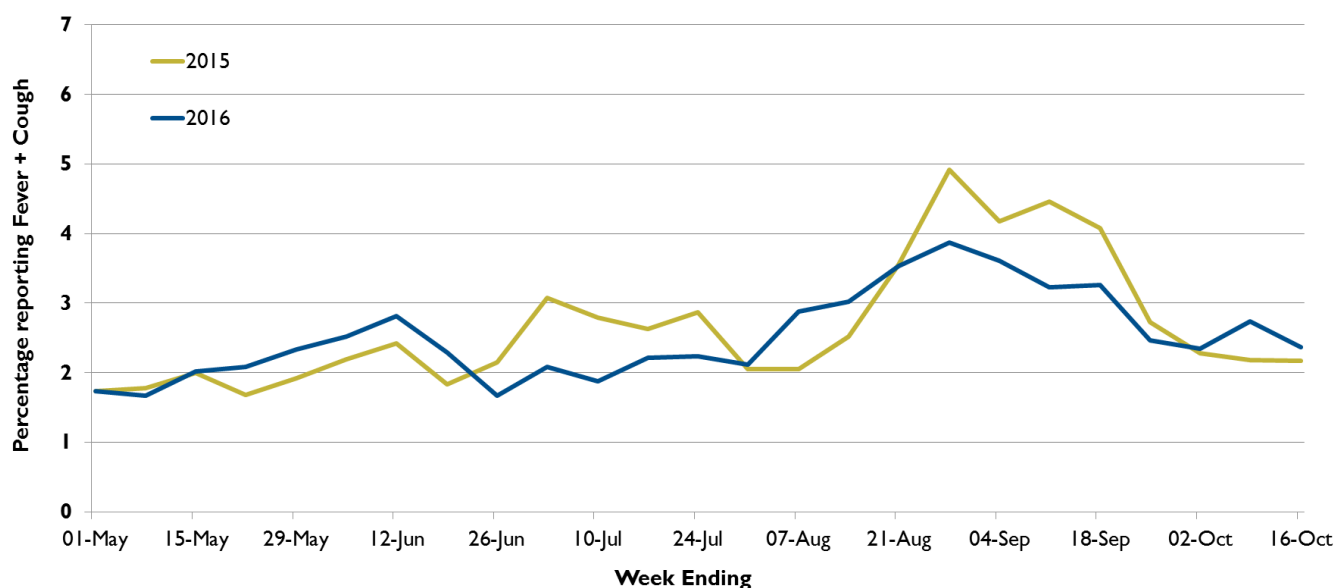
The most recent data up to 25 September 2016 (Report No. 19) indicated normal influenza-like illness (ILI) consultations at participating Tasmanian practices. Participating urban practices reported 16 out of 1 000 consultations as being related to ILI while rural practices reported a slightly lower rate; 12 out of 1 000 consultations. ILI consultations peaked during the last two weeks of August: 53 and 14 consultations out of 1 000 for urban and rural practices respectively.

## FluTracking

*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](http://www.facebook.com/Flutracking).

FluTracking has concluded for 2016. An average of approximately 2 600 Tasmanians participated in FluTracking each week. Reports of fever and cough by Tasmanian participants peaked during late August and early September. These reports subsequently declined during September and October to a level similar to 2015 (see figure 4).

**Figure 4: Tasmanian FluTracking participants reporting ‘fever and cough’– 2016 compared to 2015.**



## Other Measures of Influenza Activity

### FluCAN

The Influenza Complications Alert Network (FluCAN) reports on influenza-related hospitalisations and complications in sentinel hospitals in each state including Tasmania. The details of recent FluCAN activity are published in the Australian Influenza Surveillance Report (see *Interstate Activity*).

The final FluCAN report for 2016 described national (influenza) hospital admissions activity at the end of October as ‘declining seasonal activity’. Between 1 April and 28 October 2016 a total of 1 852 hospital admissions due to influenza were reported to FluCAN by participating hospitals Australia-wide. Hospitalisations peaked in late August and early September. Direct admissions to intensive care or high dependency units (ICU/HDU) accounted for 9.4 percent of the 1 852 Australian hospitalisations in FluCAN sites during 2016.

The single Tasmanian hospital participating in FluCAN contributed 129 admissions between 1 April and 28 October 2016. Of these admissions, 11 (8.5 per cent) were admitted directly to the ICU.

### 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 report for the fortnight ending 28 October 2016 reported that national influenza activity was returning to baseline levels, while some regions continued to observe somewhat increased activity. For most jurisdictions including Tasmania, influenza activity peaked during the fortnight ending 2 September. Activity in South Australia and the Northern Territory was reported to have peaked two and four weeks later respectively.

Influenza A virus has been the most common cause of influenza nationally during 2016. The subtype A(H3N2) was more common than A(H1N1)pdm09, particularly after July 2016.

The highest rates of influenza were in adults aged 75 years and older, with a secondary smaller peak in children aged less than 5 years.

## Annual Influenza Vaccine

### 2017 influenza vaccines

The contents of the annual influenza vaccine are 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/Phuket/3073/2013-like virus.

This recommendation introduces a new A(H1N1)pdm09 like virus strain in 2017, changing the composition of trivalent and quadrivalent vaccines for Australia which since 2009 had included an A/California/7/2009 (H1N1)pdm09-like virus.

The TGA has accepted the recommendations of the AIVC. 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 in the National Immunisation Program and is free\* 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).

\* The cost of the quadrivalent vaccine is covered for these groups; there may be a consultation fee for the health care provider to administer the vaccine.



The **fluTAS Report** is a monthly influenza season update produced by the DHHS Public Health Services to inform healthcare organisations and the public about influenza activity in Tasmania.

Alongside routine surveillance of diseases in Tasmania, the report combines multiple data sources to obtain a measure of influenza activity in the community, which can be used by our health system to prepare and respond.

To provide feedback on the fluTAS Report email [Communicable Disease Prevention Unit](mailto:Communicable.Disease.Prevention.Unit@tas.gov.au) or call the Public Health Hotline – Tasmania on 1800 671 738.