

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 August and the first week of September 2016**. Available data over this period indicate:

- The 2016 winter influenza season continued in August with a steep increase and peak in weekly notifications. During the first week of September, influenza remained at increased levels across Tasmania.
- A corresponding increase in laboratory testing occurred during this time.
- Influenza-related hospitalisations at the Royal Hobart Hospital increased during August.
- Influenza A virus was the most common cause of laboratory confirmed Influenza. The strains circulating during August 2016 were A(H3N2) and A(H1N1)pdm09. The 2016 annual vaccine covers these strains.
- Syndromic surveillance of influenza-like illness by General Practice and *FluTracking* also indicated increasing influenza during August.

Influenza Notifications

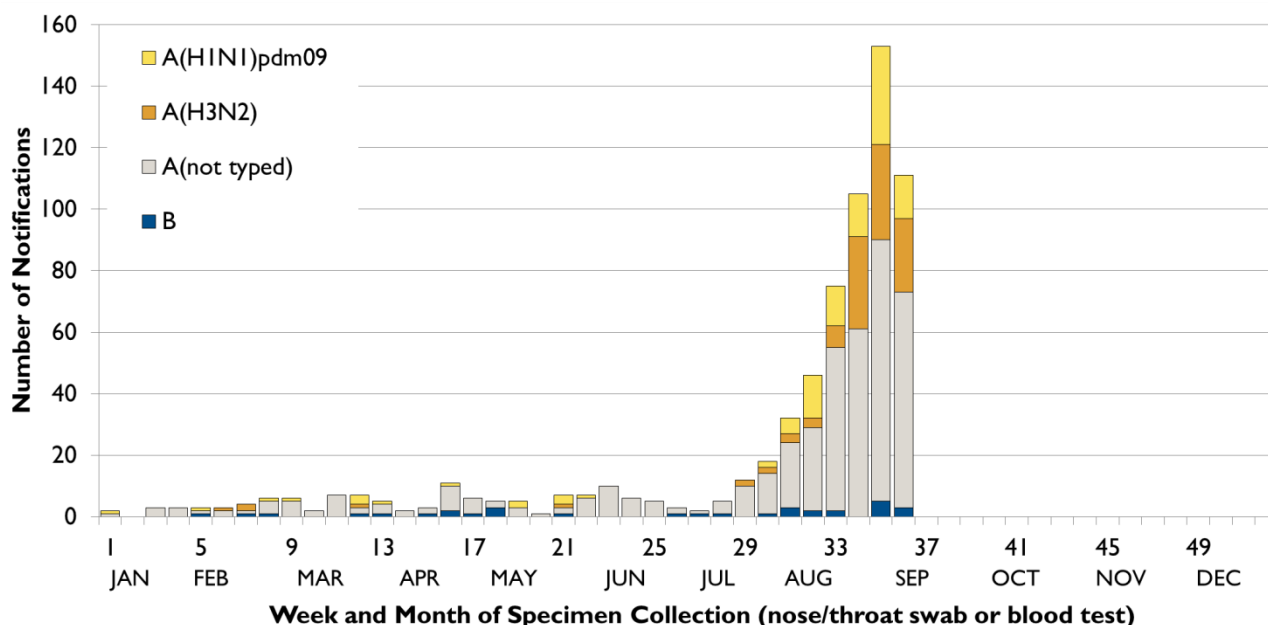
Tasmanian laboratories must notify the Director of Public Health of evidence of influenza in specimens collected from patients. These specimens are usually nose or throat swabs, less often a blood sample. The best test for influenza involves PCR¹ to detect influenza virus RNA present in a nose or throat swab.

The 2016 winter flu season commenced in late July. During August there was a significant increase in influenza notifications, with weekly counts peaking at the end of the month. Notifications declined during the first week of September but remained elevated (see figure 1).

There were 339 notifications of influenza during August and a further 183 during the first week of September. A total of 682 influenza notifications have been received since the start of 2016. The 499 notifications up to the end of August 2016 was less than the January-to-August period of 2015 (833 notifications) and around the average for the five years 2011-15 (536 notifications).

¹ Polymerase Chain Reaction

Figure 1: Weekly influenza notifications by subtype, weeks 1 to 36 (ending Sunday 11 September 2016).



Influenza increased in all Tasmanian regions during August and the first week of September (see Table 1). Influenza A virus remained the most common cause of influenza in Tasmania during this time: isolated in 507 out of 522 notifications. Additional laboratory typing showed an almost-equal distribution of strains A(H1N1)pdm09 and A(H3N2). The 2016 annual influenza vaccine covers both of these strains. See *Annual Influenza Vaccine* (page 6).

Since the start of 2016 there have been four outbreaks of influenza A reported in three residential care facilities and one hospital ward.

Table 1: Monthly Influenza Notifications by Region, 1 January to 11 September 2016.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
North	1	3	3	5	5	10	11	55	30	-	-	-	123
North-West	4	4	9	9	6	7	7	31	15	-	-	-	92
South	4	8	12	11	11	10	19	253	138	-	-	-	466
Visitors*	0	1	0	0	0	0	0	0	0	-	-	-	1
TOTAL	9	16	24	25	22	27	37	339	183	-	-	-	682

* Overseas residents diagnosed with influenza whilst in Tasmania.

Table 2: Yearly influenza notifications by virus type.

	2009	2010	2011	2012	2013	2014	2015	2016 ⁽²⁾
Influenza A	1 294	95	189	1 008	207	592	788	649
Influenza B	1	12	174	85	90	81	646	33
Total Influenza*	1 295	107	363	1 093	297	673	1 434	682
Predominant subtype of Influenza A	H1N1	H1N1	H1N1	H3N2	H1N1	H1N1 & H3N2	H3N2	-

* Including overseas residents diagnosed with influenza whilst in Tasmania.

² Influenza notifications from 1 January to 11 September 2016.

Laboratory Testing

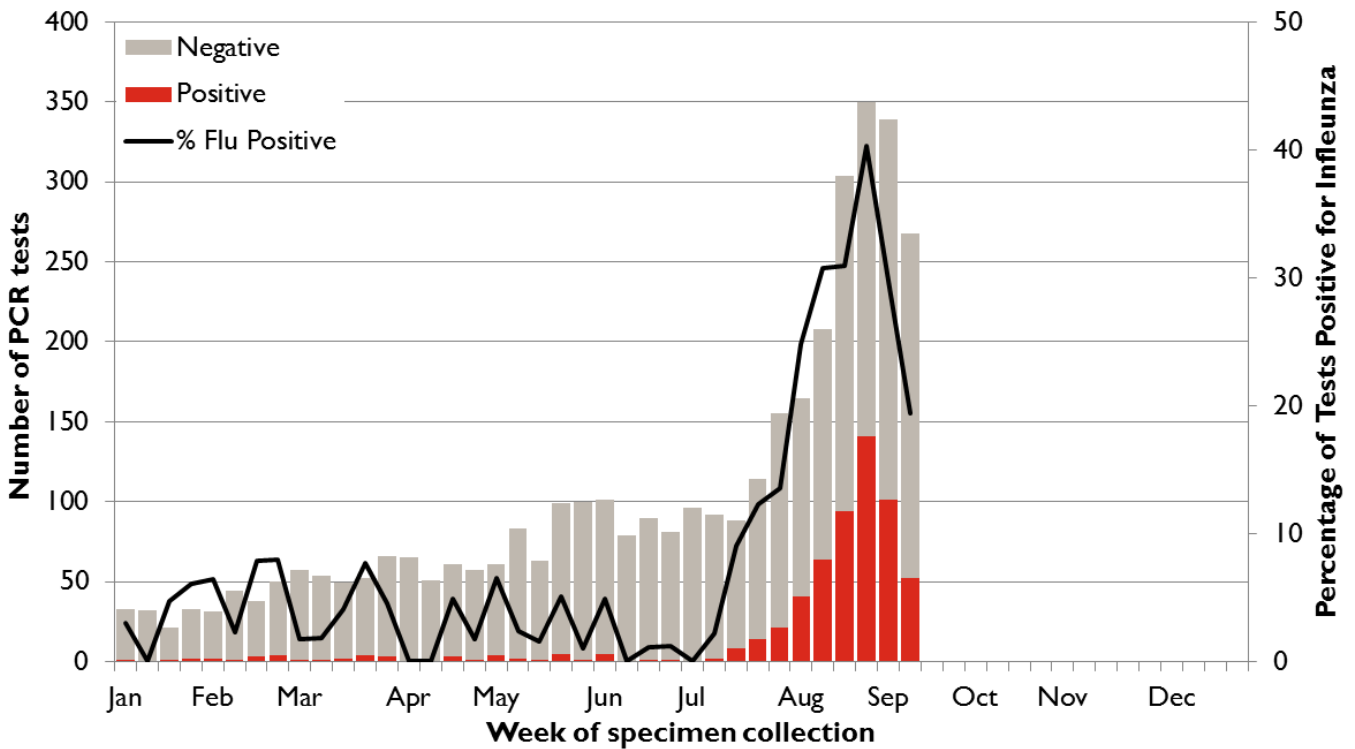
Laboratory Testing Effort

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, 86 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 increased significantly during August 2016. The number of weekly tests peaked at the end of the month (350 tests) and remained high during the first week of September. The proportion of tests positive for influenza also peaked during the last week of August (40 per cent) (see Figure 2). The combined increase in overall testing and the proportion of positive tests is typical of the winter influenza season.

Figure 2: Influenza tests via PCR by week during 2016 (to week ending 11 September)

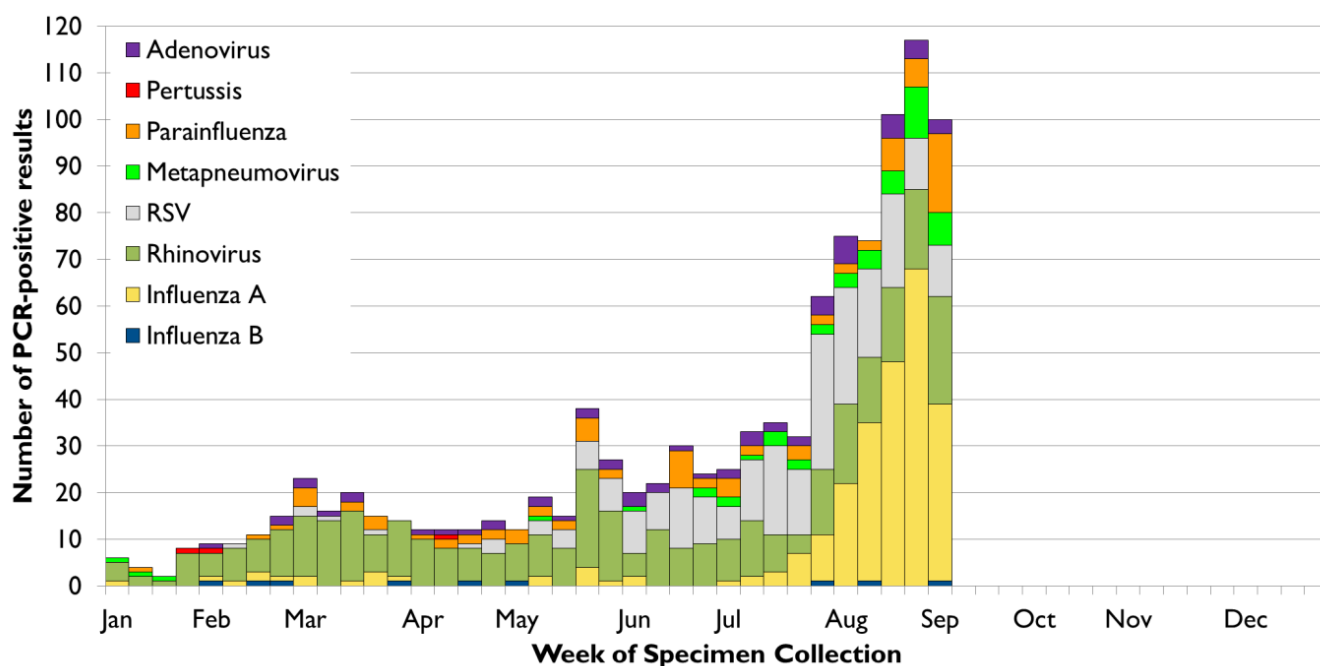


Other Respiratory Pathogens

The monitoring of non-influenza respiratory pathogen activity can help the interpretation of testing activity and syndromic surveillance trends. The Royal Hobart Hospital performs an extended range of PCR tests on nose and throat swabs that detect influenza and multiple non-influenza respiratory pathogens that cause illness. These specimens have been collected statewide mostly from emergency department and hospitalised patients.

Detections of respiratory pathogens increased during August 2016 and remained high at the end of the first week of September. Influenza A virus accounted for the majority of detections during this time (42 per cent). Respiratory Syncytial Virus (RSV) and Rhinovirus were the second and third most commonly detected pathogens (22 per cent and 19 per cent respectively). An overall peak in positive tests occurred during the last week of August and this coincided with a peak in Influenza A detections (see Figure 3).

Figure 3: Respiratory pathogen detections, 2016 (to week ending 11 September).



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.

The most recent data up to 14 August 2016 (Report No. 16) indicated increasing influenza-like illness (ILI) consultations at participating Tasmanian practices. Participating urban practices reported 31 out of 1 000 consultations as being related to ILI; an increase from 4 out of 1 000 consultations in July 2016. Rural practices reported a slightly lower rate; 12 out of 1 000 consultations, which is an increase on July activity (8 out of 1 000 consultations).

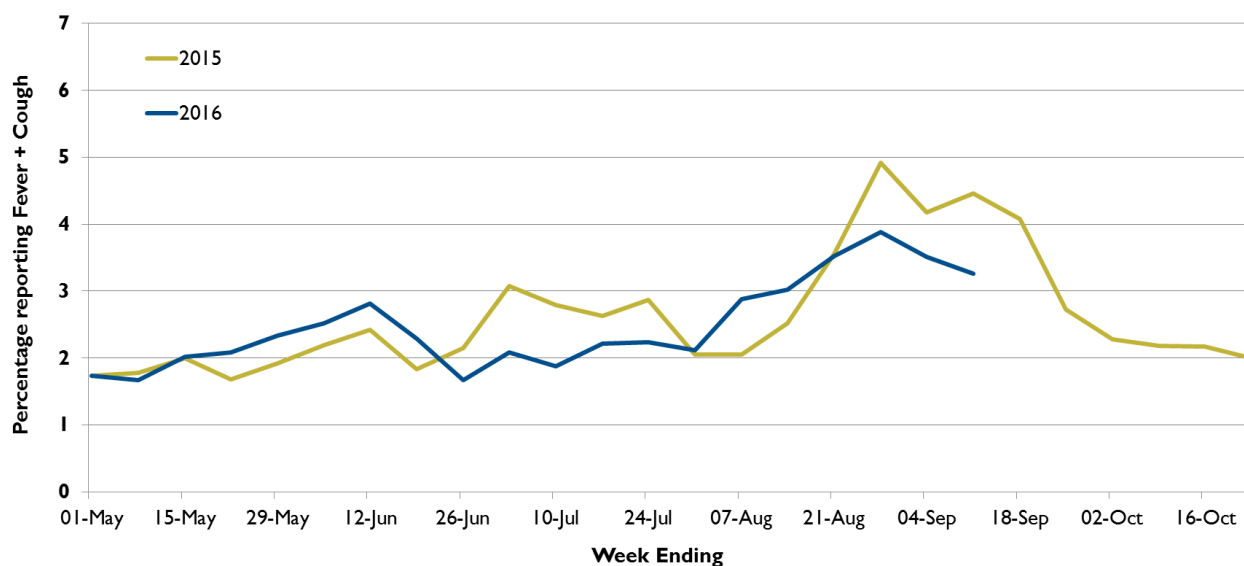
FluTracking

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 and on Facebook: www.facebook.com/Flutracking.

An average of approximately 2 600 Tasmanians have participated in *FluTracking* each week.

The proportion of Tasmanian participants reporting recent fever and cough increased from two to four per cent during the six weeks from 1 August to 11 September 2016 (see figure 4). Of these ill individuals, two-thirds reported absenteeism from their normal duties as a result of their illness. ILI at the end of this period remained above baseline.

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*).

For the fortnight ending 9 September, FluCAN described the national (influenza) hospital admissions activity as ‘peaking seasonal activity’. During that fortnight there were 313 admissions in participating hospitals nationally, with a total of 1 200 admissions reported since 1 April 2016. Ten per cent of the 1 200 admissions reported during 2016 were to High Dependency or Intensive Care units.

The single Tasmanian hospital participating in FluCAN reported 29 admissions during the fortnight ending 9 September. A total of 82 admissions have been reported since April 2016, with 10 per cent being to a High Dependency or Intensive Care unit.

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 report for the fortnight ending 2 September 2016 reported increasing influenza activity at the national level, with most regions of Australia reporting widespread and increasing activity. The most recent indicators of influenza-like illness suggested that the 2016 influenza season was close to peaking. Overall, influenza A(H3N2) was the most common strain in circulation. The highest rates of influenza were observed in adults aged 85 years and older, with a secondary peak observed in children aged less than 5 years.

Annual Influenza Vaccine

The 2016 influenza vaccine

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.

The AIVC met in October 2015 to recommend the influenza viruses to be used in influenza vaccines for 2016. The committee recommended the following:

- Trivalent (three-strain) vaccines should contain the following
 - **A (H1N1)**: an A/California/7/2009 (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.

Further information on 2016 influenza vaccines is available at www.tga.gov.au/aivc-recommendations-composition-influenza-vaccine-australia-2016.

The AIVC is due to meet in October 2016 to develop advice for influenza vaccines during 2017.

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.

* 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 or call the Public Health Hotline – Tasmania on 1800 671 738.