

## Summary

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 flu activity in the community.

This report describes flu activity in Tasmania up to Sunday **30 August 2015**. Available data over this period indicate:

- The 2015 winter flu season continued in August with a steep increase and peak in weekly flu notifications.
- To date three-quarters of flu notifications have been from the south of the state.
- Influenza A virus has been the most frequently detected cause of flu, and there has also been more Influenza B virus than usual circulating.
- Laboratories in Tasmania reported an increase in flu testing during August. General practitioners participating in flu monitoring reported an increase in patients presenting with an Influenza-like Illness (ILI).
- Influenza-like Illness (ILI) reports from Tasmanian FluTracking participants also peaked during August.

## Influenza Notifications

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

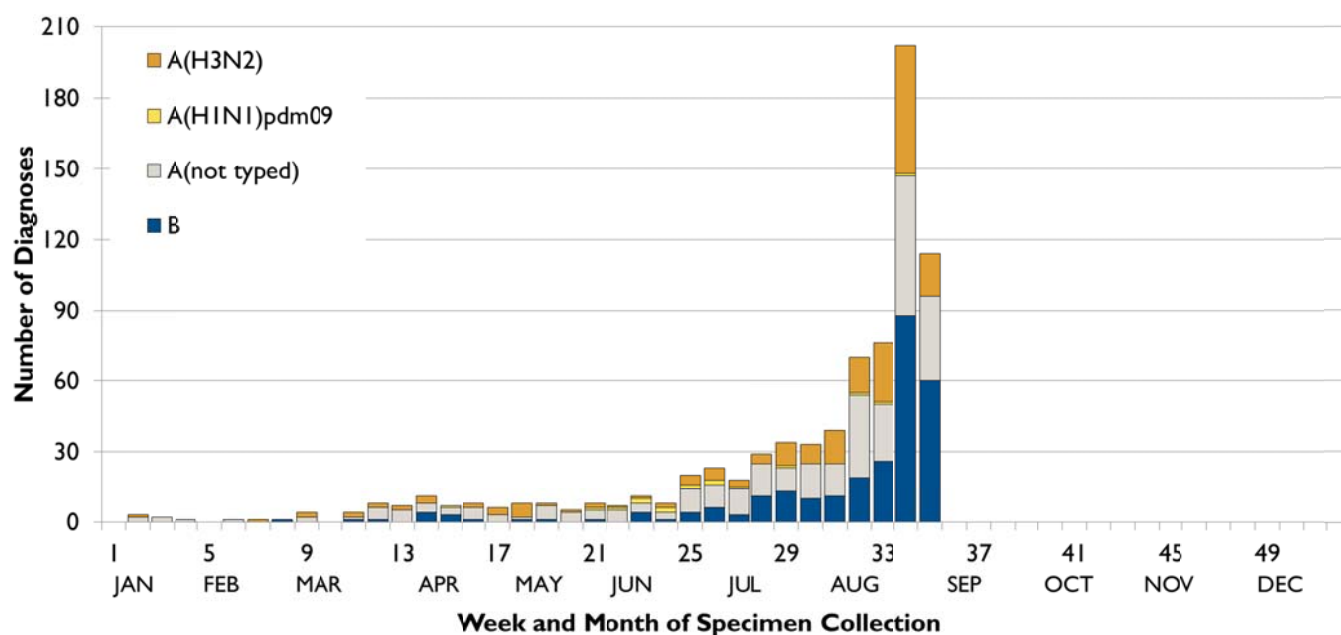
Since the fluTAS Report of 10 August 2015, 470 notifications of laboratory-diagnosed flu in Tasmanian residents have been notified to the Director of Public Health. A **total of 777 notifications** of flu have been notified since the start of 2015. Most notifications relate to residents in the south of the state (see Table 1).

Notifications peaked during the week ending Sunday 23 August 2015 (see Figure 1). The 470 notifications received since the last fluTAS report account for 61 per cent of the total for the year to date. There were more flu notifications during the four weeks ending 30 August 2015 (462) than during the same period last year (226 notifications), and more than the average of that period during the five years 2010-14 (120 notifications).

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<sup>1</sup> Polymerase Chain Reaction

**Figure 1: Laboratory-diagnosed Influenza by subtype and week of specimen collection up to 30 August 2015 (week 35)**



**Table 1: Flu Notifications by Region of Tasmania, 30 August 2015**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
North	1	1	3	5	10	8	34	48	-	-	-	-	110
North-West	2	2	2	5	10	9	17	41	-	-	-	-	88
South	3	4	19	22	11	51	90	379	-	-	-	-	579

Of the 470 flu notifications since the last fluTas report, 59 per cent (276 notifications) were due to infections with the Influenza A virus. Influenza A virus is the most commonly detected virus responsible for flu in Tasmania (see Table 2). There were more notifications this year than the recent average. The 196 Influenza B notifications since the last report is a significantly more than for the comparable period in previous years.

Some flu laboratory isolates undergo further testing to identify subtypes. To date 193 Influenza A notifications have been identified as being an A(H3N2) subtype<sup>2</sup> while 16 have been identified as the A(H1N1) subtype<sup>3</sup>. Three influenza B isolates were type identified as B/Victoria lineage and a further three as B/Yamagata lineage.

During August 2015 five flu outbreaks were reported in aged-care facilities. Of the residents and staff affected, 45 had laboratory-confirmed flu; Influenza A(H3N2) was the strain identified in all five outbreaks.

<sup>2</sup> Where the Influenza Neuraminidase (“N”) typing of an A(H3) isolate is not reported this is assumed to be N2 i.e. A(H3N2).

<sup>3</sup> This subtype was first associated with the 2009 swine influenza pandemic. It continues to circulate globally as a typical seasonal influenza subtype.

**Table 2: Laboratory-diagnosed Influenza, Tasmania, 30 August 2015**

	2007	2008	2009	2010	2011	2012	2013	2014	2015 <sup>(4)</sup>
Influenza A	389	208	1 294	95	189	1 008	206	590	507
Influenza B	26	176	1	12	174	85	90	81	270
<b>Total Influenza</b>	<b>415</b>	<b>384</b>	<b>1 295</b>	<b>107</b>	<b>363</b>	<b>1 093</b>	<b>296</b>	<b>671</b>	<b>777</b>
Predominant subtype of Influenza A	unknown	unknown	H1N1	H1N1	H1N1	H3N2	H1N1	H1N1 & H3N2	H3N2

Circulating flu strains appear to have affected age-groups differently. Influenza A(H3N2) notification rates were highest among older Tasmanians, whereas Influenza B notification rates were highest among children aged five to nine years.

## 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 flu 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 2015 most flu (92 per cent) has been diagnosed by PCR tests.

Flu PCR testing and flu detections increased sharply during August 2015. The proportion of tests positive for flu increased and peaked at 49 per cent (see Figure 2). Testing and positivity levels during August are similar to the peak period of past winter flu seasons in Tasmania.

### Other Respiratory Pathogens

The Royal Hobart Hospital performs 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. The monitoring of non-influenza respiratory pathogen activity can help the interpretation of testing activity and syndromic surveillance trends.

Respiratory pathogen testing increased sharply during late August (data not shown). Detections of Influenza A and B increased, exceeding detections of Respiratory Syncytial Virus (RSV) which was previously the most frequently detected pathogen (see Figure 3).

<sup>4</sup> Current number of diagnoses up to and including 30 August 2015

Figure 2: Influenza tests via PCR by week during 2015 (at 30 August)

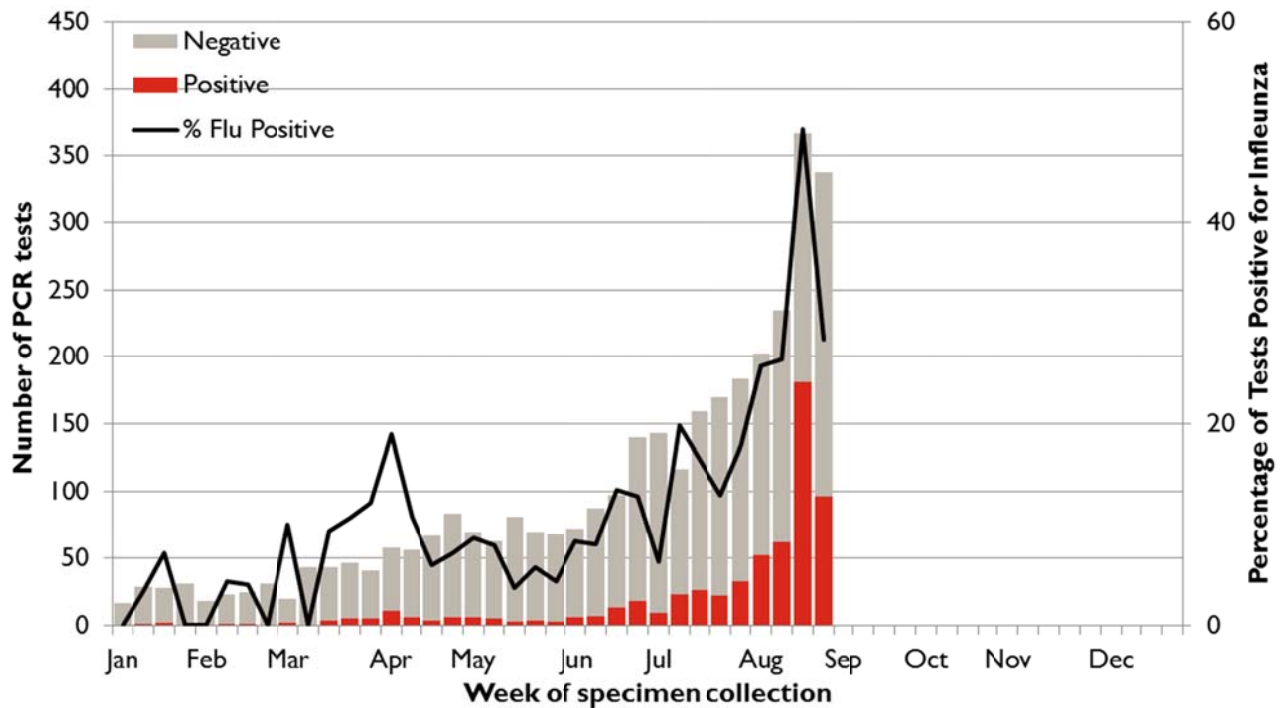
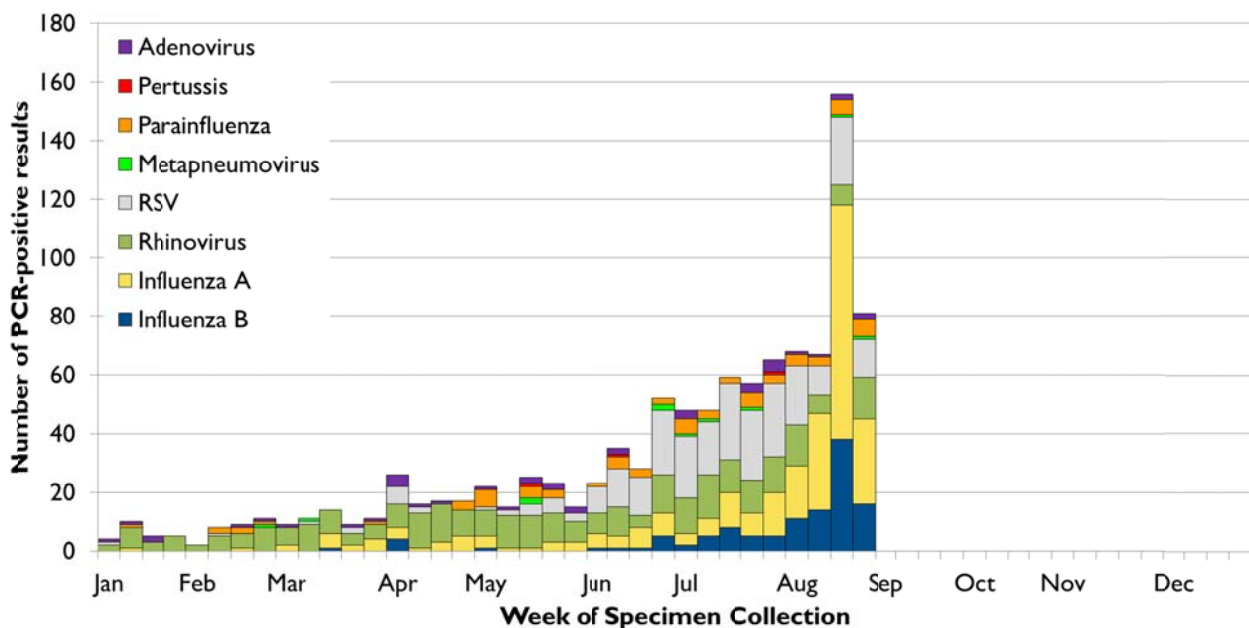


Figure 3: Respiratory pathogen detections, 2015 (at 30 August)



## Influenza-like Illnesses (Syndromic Surveillance)

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

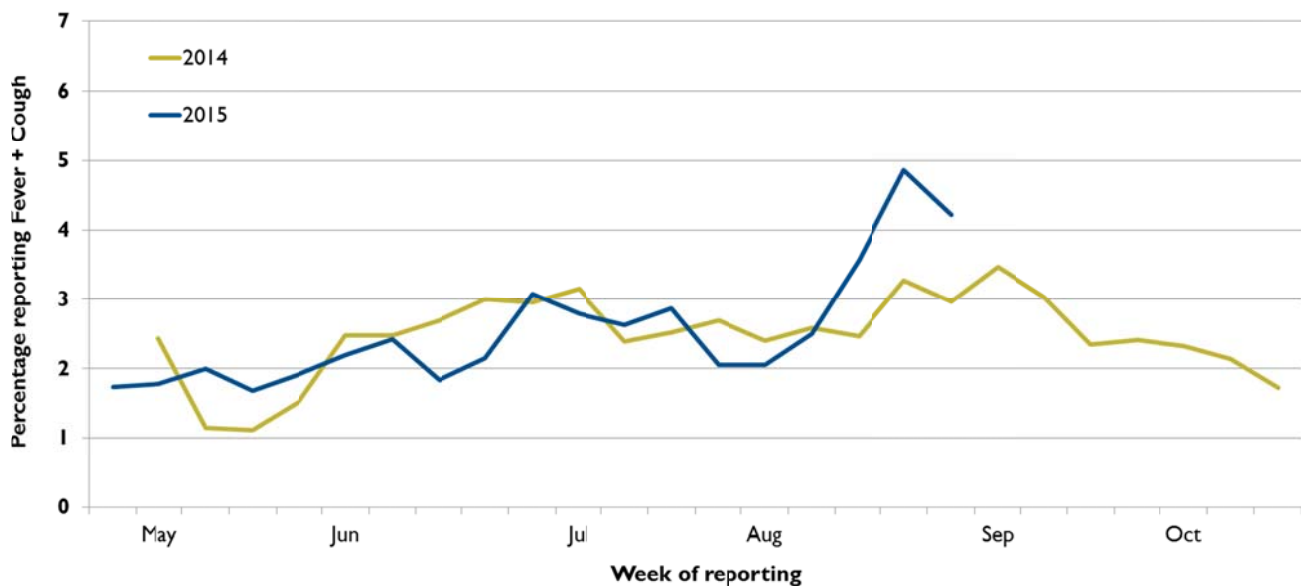
## FluTracking

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 at [www.flutracking.net](http://www.flutracking.net).

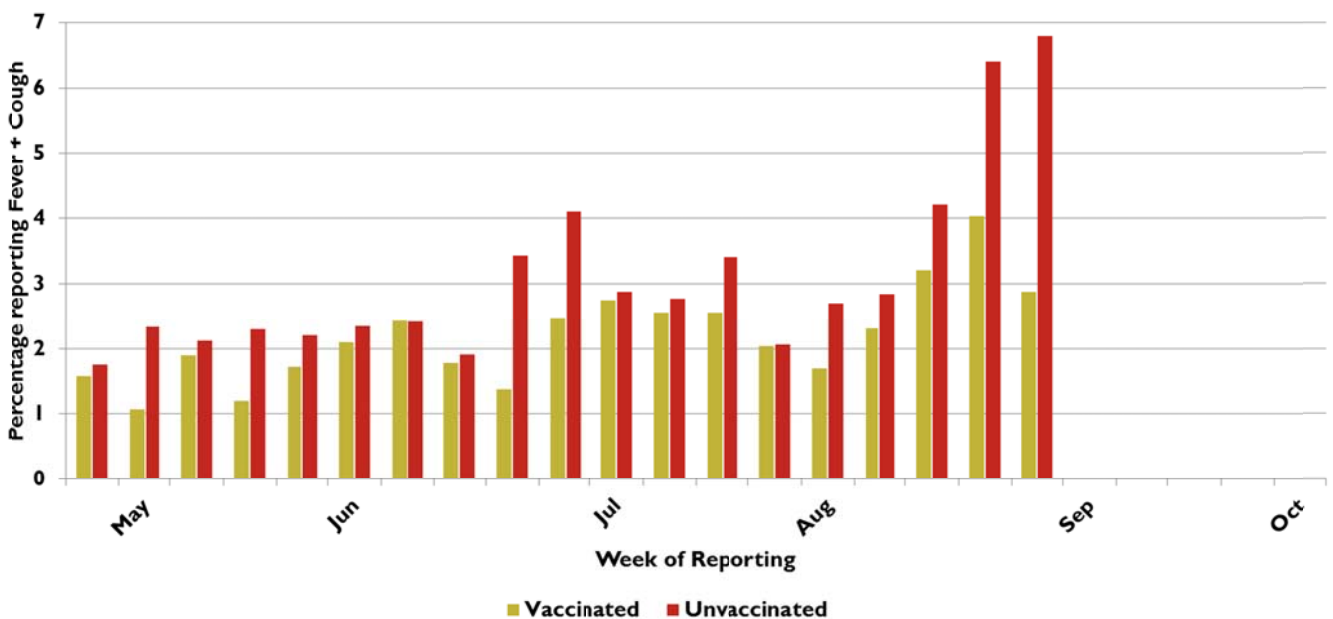
During 2015 around 2 300 Tasmanians have participated in FluTracking each week.

A larger proportion of Tasmanian participants reported ILI during August compared to previous months (see Figure 4). This increase occurred when there were a large number of flu notifications in Tasmania. Participants across the state reported more ILI. Unvaccinated participants continued to report more ILI than vaccinated<sup>5</sup> participants (see Figure 5).

**Figure 4: Percentage of Tasmanian FluTracking participants reporting fever and cough, 30 August 2015**



**Figure 5: Percentage of Vaccinated and Unvaccinated participants reporting fever and cough, 30 August 2015**



<sup>5</sup> FluTracking participants are asked if they have received the 2015 influenza vaccine.

## General Practice Surveillance

ASPREN is a network of registered sentinel GPs throughout the state 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 latest Tasmanian data from participating general practices showed a continuing trend of increasing influenza-like illness (ILI) consultations. During the fortnight ending 9 August 2015, 53 out of 1 000 consultations at urban practices were ILI related. At rural practices this level was 10 out of every 1 000 consultations.

ASPREN reported this ILI activity within Tasmania as 'High'. The consultation rates are similar to past winter flu-seasons.

## Other Measures of Flu Activity

### FluCAN

The Influenza Complications Alert Network (FluCAN) reports on flu-related hospitalisations and complications in sentinel hospitals in each state including Tasmania. On 31 August 2015 FluCAN reported 'High mid-season influenza activity' nationally. A total of 45 adult flu hospitalisations have been reported to FluCAN from the single participating Tasmanian hospital since 1 April 2015.

### Interstate activity

The Australian Influenza Surveillance Report is compiled from a number of data sources including laboratory-confirmed notifications to NNDSS, sentinel flu-like illness reporting from general practitioners and emergency departments, workplace absenteeism and laboratory testing. The current national report is available at [www.health.gov.au/flureport](http://www.health.gov.au/flureport).

The report for the fortnight ending 14 August 2015 provided an update on the current flu season. With the exception of Western Australia flu activity was continuing to increase across Australia.

In contrast with Tasmania, Influenza B continued to be the predominant virus circulating in most mainland jurisdictions. Flu viruses circulating throughout Australia appear to be a good match with the 2015 seasonal trivalent (three strain) and quadrivalent (four strain) flu vaccines.

About one-quarter of influenza B viruses tested are related to the strain contained in the quadrivalent vaccine only.

## Annual Flu Vaccine

The contents of the annual flu vaccine are reviewed late each year, aiming to produce vaccines for the following year that provide protection from flu strains likely to be common during winter. Advice on the formulation of annual flu vaccines is provided by the Australian Influenza Vaccine Committee:

[www.tga.gov.au/committee/australian-influenza-vaccine-committee-aivc](http://www.tga.gov.au/committee/australian-influenza-vaccine-committee-aivc). The formulation of the 2015 vaccine is described at <http://www.tga.gov.au/aivc-recommendations-composition-influenza-vaccine-australia>.

Annual vaccination is recommended in the National Immunisation Program and is free\* for Tasmanians at risk of severe flu, including:

- anyone aged 65 and over
- Indigenous children aged six months to five years
- Indigenous people aged 15 years or over
- pregnant women
- any person six months of age and over with a chronic condition predisposing to severe flu illness that needs regular medical follow-up or hospitalisation such as: cardiac disease, respiratory disease including severe asthmatics, kidney disease, diabetes, impaired immunity, neuromuscular disease.

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



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

Alongside routine surveillance of diseases in Tasmania, the report combines multiple data sources to obtain a measure of flu 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.