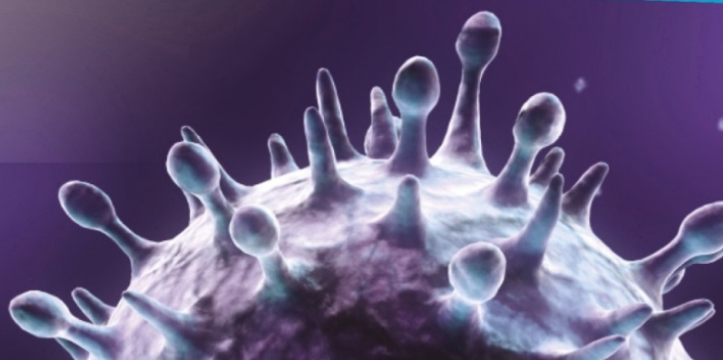
PUBLIC HEALTH SERVICES

fluTAS REPORT



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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 **2 August 2015**. Available data over this period indicate:

- Since the start of the 2015 winter flu season in June, flu notifications have further increased in all regions of the State. The level of flu is unremarkable compared to previous flu seasons.
- Influenza A virus is responsible for most of recent flu infections.
- Laboratories in Tasmania report an increase in flu testing. General Practitioners participating in flu monitoring are reporting an increase in patients presenting with an Influenza-like Illness (ILI).
- Influenza-like Illness (ILI) reports from Tasmanian FluTracking participants declined slightly during July.

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[1] to detect influenza virus RNA present in a nose or throat swab.

Since the last fluTAS Report, 147 notifications of laboratory-diagnosed flu in Tasmanian residents have been notified to the Director of Public Health. A **total of 307 notifications** of flu have been notified since the start of 2015.

Notifications of flu increased during June indicating the start of the winter flu season (see Figure 1). Notifications increased during early July, then levelled out towards the end of July. During the six weeks ending Sunday 2 August, 168 notifications were received, representing 55 per cent of the notification since the start of the year. This rate of flu notification is unremarkable when compared to the same period of past flu seasons.

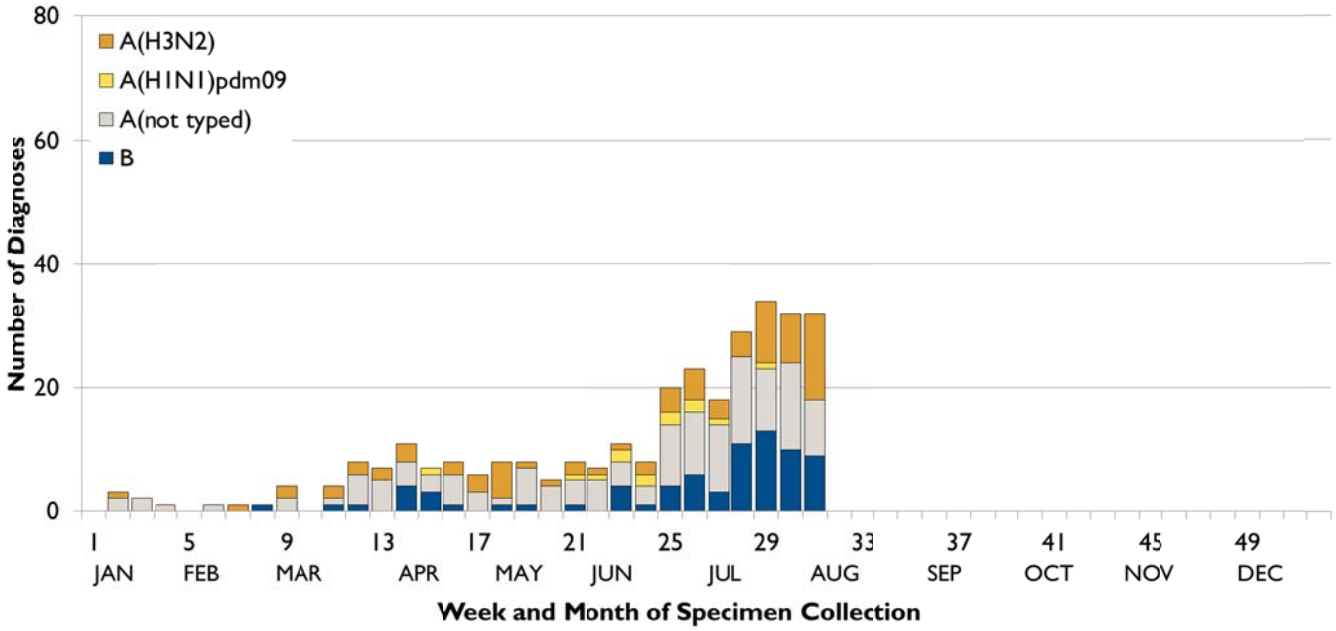
Table 1: Flu Notifications by Region of Tasmania, 2 August 2015

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
North	1	1	3	5	10	8	29	2	-	-	-	-	59
North-West	2	2	2	5	10	9	17	3	-	-	-	-	50
South	3	4	19	22	11	51	87	1	-	-	-	-	198

[1] Polymerase Chain Reaction

The rate of flu notification since the start of the 2015 has been greatest in older Tasmanians. Persons aged 65 years or older comprise 17 per cent of the Tasmanian population but a greater proportion (27 per cent) of flu notifications.

Figure 1: Laboratory-diagnosed Influenza by subtype and week of specimen collection up to 2 August 2015 (week 31)



Of the 147 flu notifications since the last fluTas report, most (101 notifications) have been 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). Compared to the same July period of previous years this amount is less than the 2010-14 average but greater than in 2012. The 46 Influenza B notifications since the last report are more than the 2010-14 average for that period.

Some flu laboratory isolates undergo further testing to identify subtypes. To date 80 Influenza A notifications have been identified as being an A(H3N2) subtype[2] while 13 have been identified as the A(H1N1) subtype[3].

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

	2007	2008	2009	2010	2011	2012	2013	2014	2015[4]
Influenza A	389	208	1,294	95	189	1,008	206	590	232
Influenza B	26	176	1	12	174	85	90	81	75
Total Influenza	**415**	**384**	**1,295**	**107**	**363**	**1,093**	**296**	**671**	**307**
Predominant subtype of Influenza A	unknown	unknown	H1N1	H1N1	H1N1	H3N2	H1N1	H1N1 & H3N2	H3N2

[2] Where the Influenza Neuraminidase ("N") typing of an A(H3) isolate is not reported this is assumed to be N2 i.e. A(H3N2).
[3] This subtype was first associated with the 2009 swine influenza pandemic. It continues to circulate globally as a typical seasonal influenza subtype.
[4] Current number of diagnoses up to and including 2 August 2015

Laboratory Testing

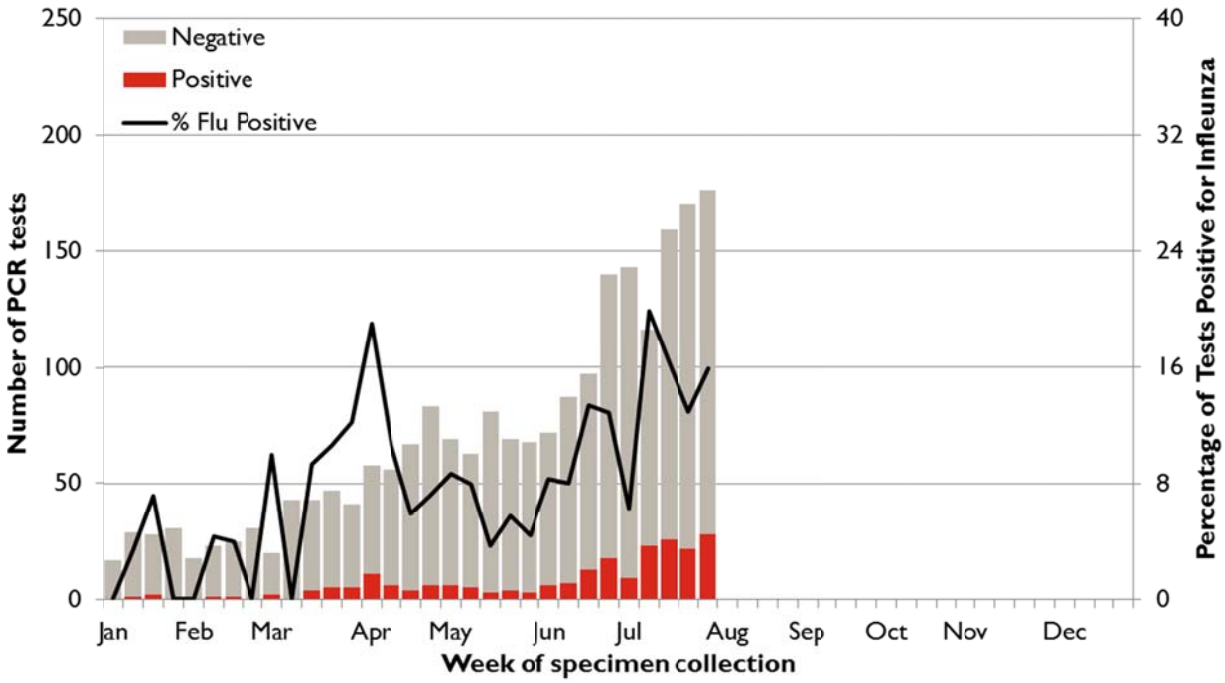
Laboratory Testing Effort

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 has been diagnosed by PCR tests (85 per cent).

Flu PCR testing and flu detections increased during July 2015. The proportion (percentage) of tests positive for flu while variable also increased (see Figure 2). Testing and positivity levels during July are similar to the early period of past winter flu seasons in Tasmania.

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

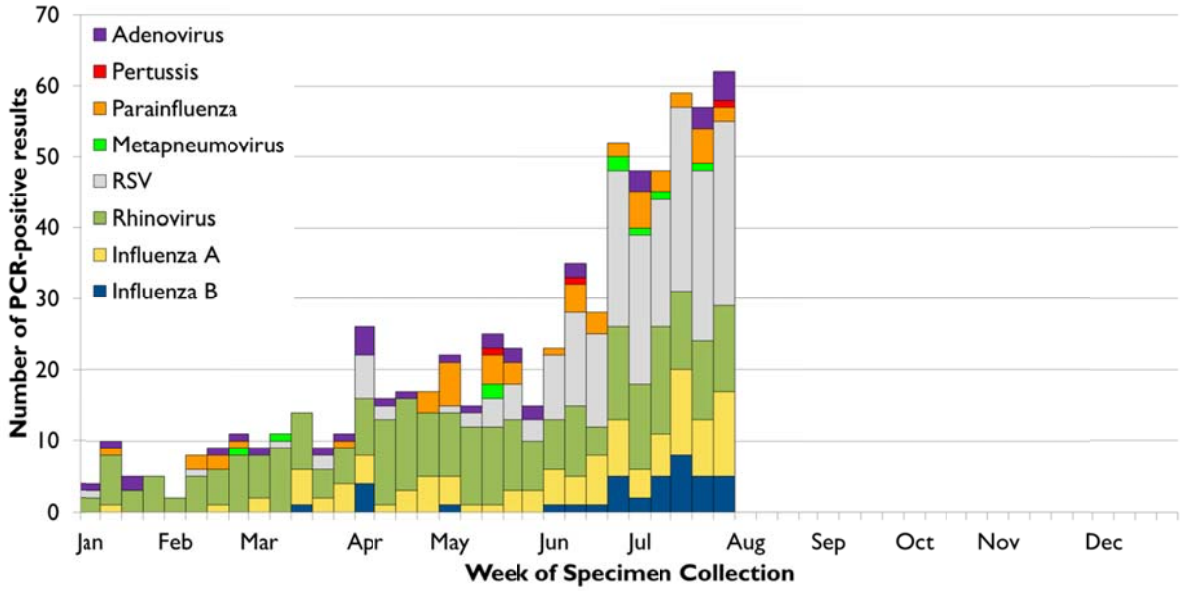


Other Respiratory Pathogens

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 assist the interpretation of testing activity and syndromic surveillance trends.

Respiratory pathogen testing continued to increase during July (data not shown). Detections of Influenza A and B increased while Respiratory Syncytial Virus remained the most frequently detected pathogen (see Figure 3).

Figure 3: Respiratory pathogen detections, 2015 (at 2 August)



Influenza-like Illnesses (Syndromic Surveillance)

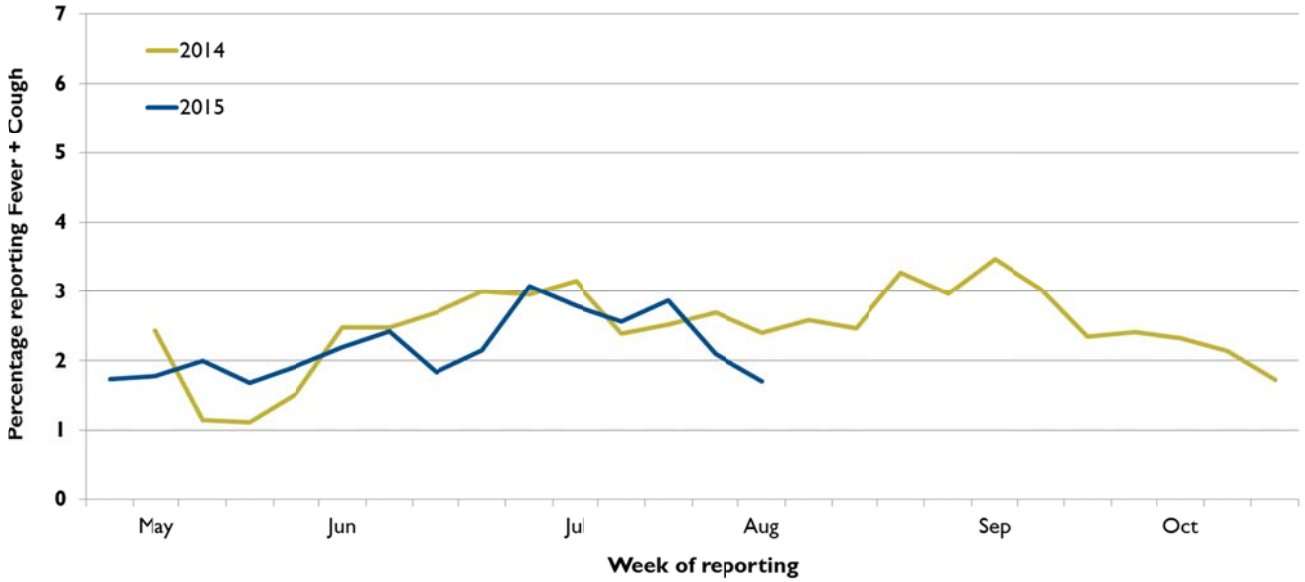
Influenza-like illness (ILI) is much more common than laboratory-diagnosed flu. For much of the year, common colds and other respiratory illnesses make up most of the ILI in the community. During the annual flu season, the proportion of the population experiencing symptoms of ILI who have influenza usually 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 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.

There was a slight decline in fever and cough reported by Northern and Southern Tasmanian participants during July (see Figure 4). Reports of ILI from participants in the North-West of Tasmania increased. Unvaccinated participants continued to report ILI more frequently than vaccinated participants.

Figure 4: Percentage of Tasmanian FluTracking participants reporting fever and cough, 2 August 2015



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.

The latest Tasmanian data from participating general practices showed a continuing trend of increasing influenza-like illness (ILI) consultations. During the fortnight ending 26 July 2015, 47 out of 1 000 consultations at urban practices were ILI related. At rural practices this level was 15 out of every 1 000 consultations. ASPREN reported this ILI activity within Tasmania as 'High'. The consultation rates are similar to previous years during the start of 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 3 August 2015 FluCAN reported 'High mid-season influenza activity'. During the fortnight ending July 31 a further five Tasmanian hospitalisations were reported. A total of seven 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/internet/main/publishing.nsf/content/cda-surveil-ozflu-flucurr.htm.

The report for the fortnight ending 17 July indicated the 2015 influenza season was well underway. Flu activity was continuing to increase across most of Australia. In contrast with Tasmania, Influenza B continued to be the predominant virus in circulation 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.

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