Public Health Services

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Summary

Public Health Services produces the fluTAS Report to inform healthcare organisations and the public about the current 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 **28 June 2015**. Available data over this period indicate:

- Increased flu in the South of the State indicated that the 2015 winter flu season has started
- Flu notifications and the amount of testing increased during June.
- Tasmanian *FluTracking* participants increasingly reported Influenza-like Illness (ILI) during June.
- Influenza A virus is responsible for the majority of recent influenza infections.

Flu Notifications

Tasmanian laboratories are required to notify the Director of Public Health of evidence of influenza infection (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 61 notifications of laboratory-diagnosed flu in Tasmanian residents have been notified to the Director of Public Health. A **total of 160 notifications of flu** have been notified since the start of 2015.

Notifications of flu increased during June indicating the commencement of the winter flu season (see Figure 1). Of the 61 notifications since the last fluTAS Report, 41 were during the fortnight ending Sunday 28 June. This increase in flu has been limited to the south of the State (see Table 1).

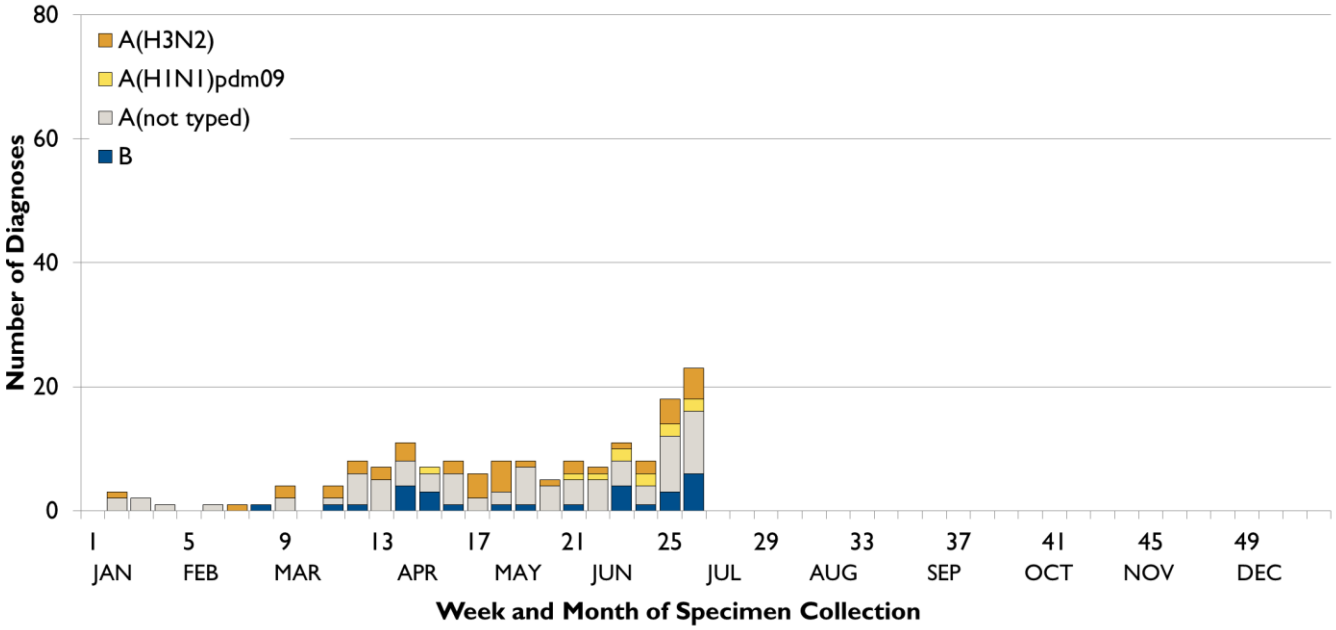
Table 1: Flu Notifications by Region of Tasmania, 28 June 2015

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
North	1	1	3	5	10	8	-	-	-	-	-	-	28
North-West	2	2	2	5	10	7	-	-	-	-	-	-	28
South	3	4	19	22	11	45	-	-	-	-	-	-	104

Taking into account the age-distribution of the Tasmanian population, the rate of flu notification since the start of the 2015 has been greater in older Tasmanians. Persons aged 65 years or older account for 17% of the Tasmanian population but 31% of flu (50 notifications).

[1] Polymerase Chain Reaction.

Figure 1: Laboratory-diagnosed Influenza by subtype and week of specimen collection up to 28 June 2015 (week 26)



Of the 61 flu notifications since the last fluTas report, the majority (47) 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 June period of previous years this amount is greater than the 2010-14 average (21 flu) but equal to the amount in 2012 (47 flu). The 14 Influenza B notifications since the last report is an amount higher than usually reported. The five-year average for the same June period is 3 notifications.

Some flu laboratory isolates undergo further testing to identify subtypes. To date 42 Influenza A notifications have been identified as being an A(H3N2) subtype[2] while 11 have been identified as the A(H1N1) subtype[3].

Table 2: Laboratory-diagnosed Influenza, Tasmania, 28 June 2015

	2007	2008	2009	2010	2011	2012	2013	2014	2015[4]
Influenza A	389	208	1,294	95	189	1,008	206	590	132
Influenza B	26	176	1	12	174	85	90	81	28
Total Influenza	**415**	**384**	**1,295**	**107**	**363**	**1,093**	**296**	**671**	**160**
Predominant subtype of Influenza A	unknown	unknown	H1N1	H1N1	H1N1	H3N2	H1N1	H1N1 & H3N2	H3N2

Laboratory Testing

Laboratory Testing Effort

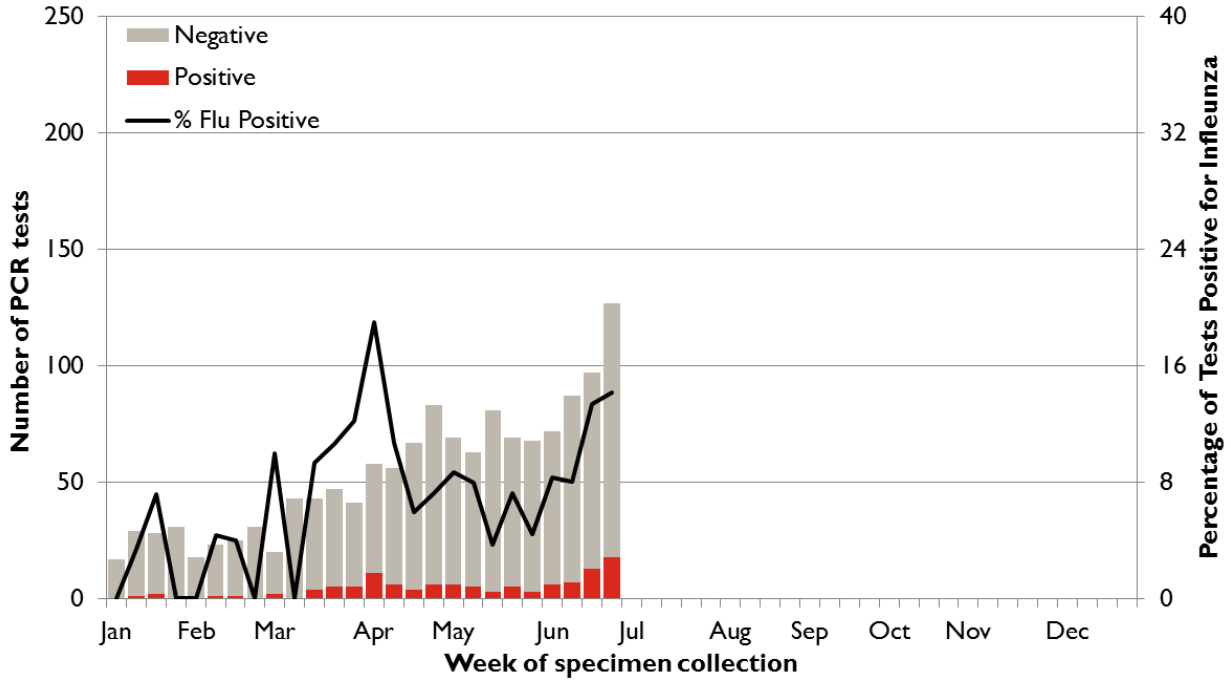
A wide range of pathogens (mostly viruses) commonly cause winter coughs, colds and influenza-like illnesses. Some people with these symptoms will visit their doctor. The decision whether to test someone for influenza rests with their treating doctor, and depends on their symptoms. The best test for flu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

[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 28 June 2015.

Since the start of 2015 the majority of flu has been diagnosed by PCR tests (80%).

Flu PCR testing increased during June 2015 as did the proportion (percentage) of tests positive for flu which reached 14% positive (see Figure 2). This combined increase in testing and positive results suggests the commencement of the winter flu season.

Figure 2: Influenza tests via PCR by week during 2015 (at 28 June)

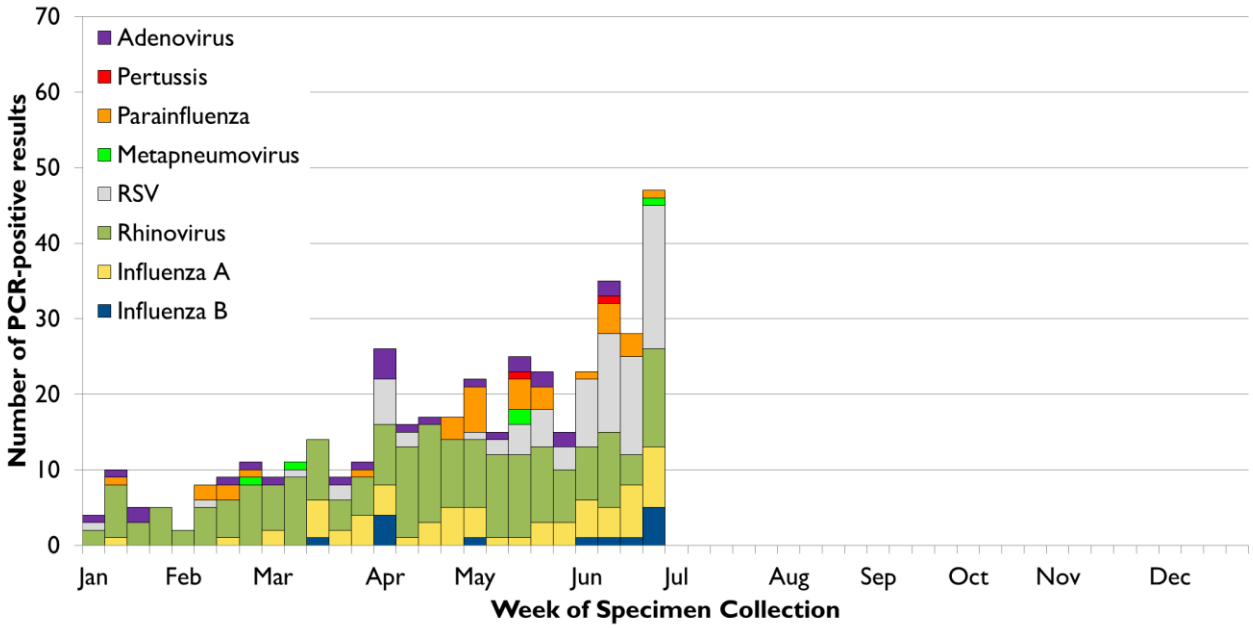


Other Respiratory Pathogens

The Royal Hobart Hospital (RHH) performs PCR tests on nose and throat swabs that detect influenza and multiple non-influenza respiratory pathogens which cause illness. These specimens have been collected state-wide 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 increased during June. Detections of Respiratory Syncytial Virus (RSV) increased during this time (see Figure 3). Influenza A and B detections increased towards the end of June.

Figure 3: Respiratory pathogen detections, 2015 (at 28 June)



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 occurring 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.

An increasing proportion of around 2,300 Tasmanian participants reported *fever and cough* during June (see Figure 4). This increase was greatest in the participants that had not received the 2015 annual influenza vaccine (see Figure 5).

Figure 4: Percentage of Tasmanian FluTracking participants reporting fever and cough, 28 June 2015

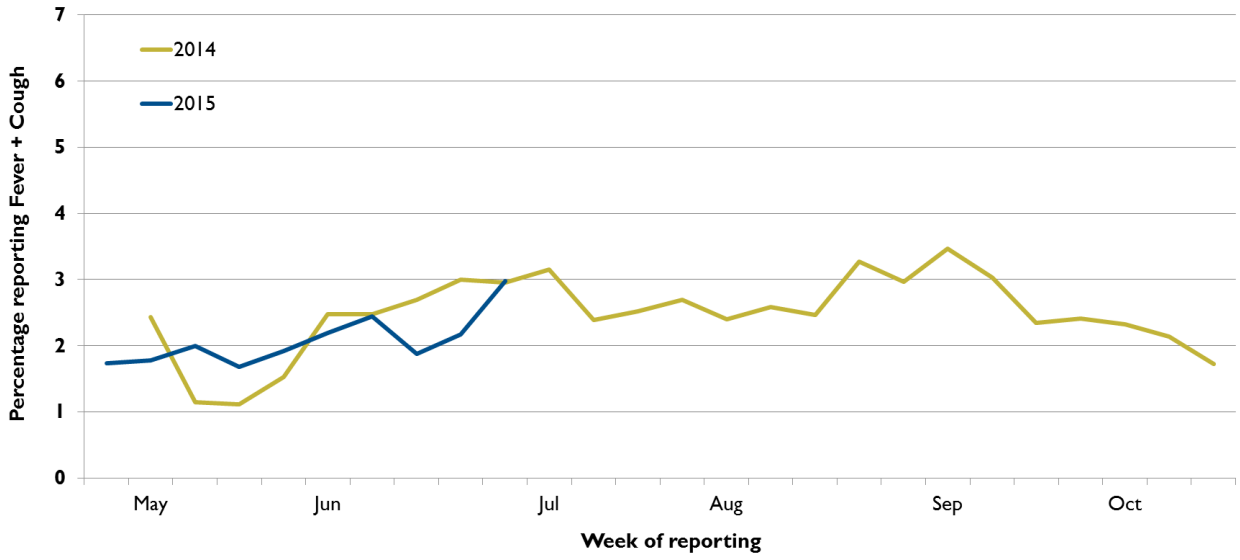
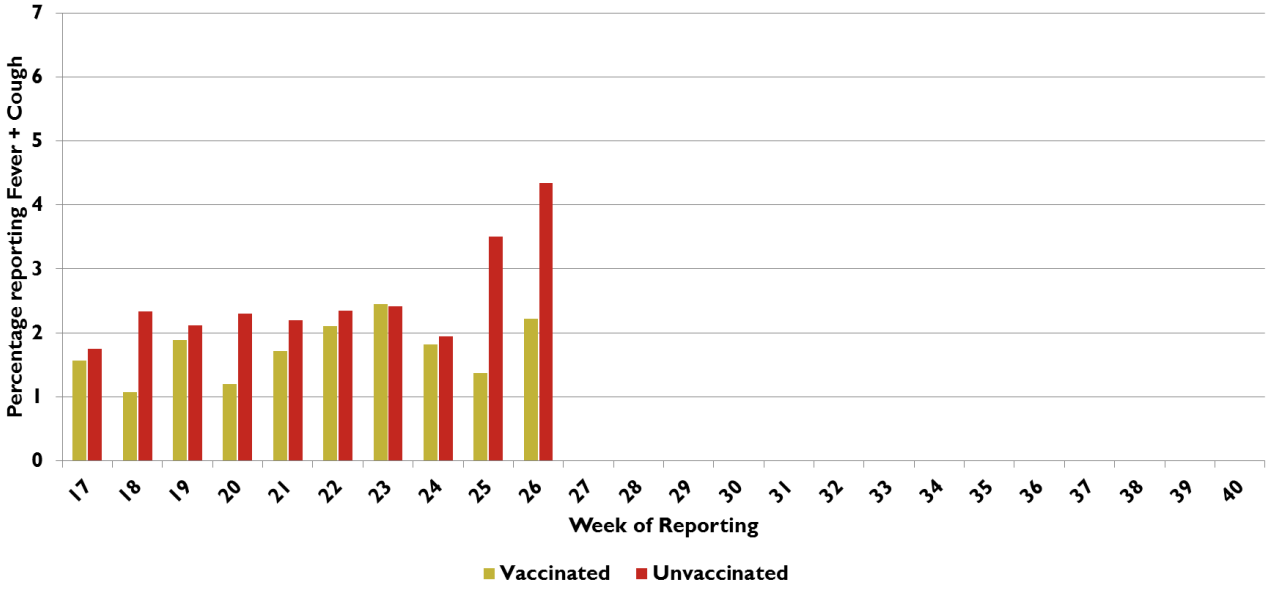


Figure 5: Percentage of Vaccinated and Unvaccinated Tasmanian FluTracking participants reporting fever and cough, 28 June 2015



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 (to 14 June 2015) from participating General Practices showed an increase in consultations due to influenza-like illness (ILI) (up to 16 per 1000) during the fortnight ending 14 June 2015. ILI consultations earlier in 2015 were low (<1% of consultations) and similar to the levels of previous years during periods outside of winter flu-seasons.

Other Measures of Flu Activity

FluCAN

The Influenza Complications Alert Network (FluCAN) reports on influenza related hospitalisations and complications in sentinel hospitals in each state including Tasmania. On 30 June 2015 FluCAN reported increasing influenza activity. There have been no Tasmanian hospitalisations reported.

Interstate activity

The Australian Influenza Surveillance Report is compiled from a number of data sources, including laboratory-confirmed notifications to NNDSS, sentinel influenza-like illness reporting from general practitioners and emergency departments, workplace absenteeism, and laboratory testing. The current national report is available at http://www.health.gov.au/internet/main/publishing.nsf/content/cda-surveil-ozflu-flucurr.htm.

The report for the week ending 19 June indicated that the 2015 influenza season is imminent. Influenza activity across the country while variable showed an overall increase. Influenza B was the predominant virus in circulation nationally during the fortnight ending 19 June. Flu viruses circulating in Australia appear to be a good match with the 2015 seasonal trivalent (three) and quadrivalent (four) flu vaccines. The currently available data is not able to indicate the potential severity of the 2015 flu season in Australia.

Annual Flu 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 flu strains likely to be common during winter. Advice on the formulation of annual influenza vaccines is provided by the 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 6 months to 5 years
- Indigenous people who are aged 15 years or over
- pregnant women
- any person six months of age and over with a chronic condition predisposing to severe influenza illness that requires 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.

To provide feedback on the fluTAS Report, email the Communicable Disease Prevention Unit or call the Public Health Hotline on 1800 671 738.