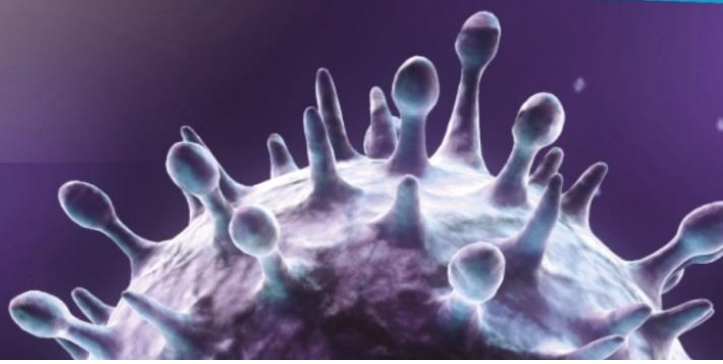
PUBLIC HEALTH SERVICES

fluTAS REPORT



Issue 1 | 9 May 2016

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 the first four months of 2016**. Available data over this period indicate:

- Influenza activity between January and April 2016 has remained low (baseline).
- The 2016 winter flu season has not commenced.
- General Practices participating in the surveillance of influenza-like illness reported minimal activity during this period.

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

There have been 65 notifications of influenza detected in specimens collected from the start of 2016 up to and including Sunday 24 April 2016. Similar numbers of notifications were received for specimens collected during the identical January-to-April periods of 2014 (65 notifications) and 2015 (63 notifications).

The low rate of notification during this period – an average of four per week – is consistent with the expected low activity during the period between winter influenza seasons (see Figures 1 and 2).

Influenza has been notified in residents from all regions of Tasmania (see Table 1). One overseas visitor was diagnosed with influenza whilst in Tasmania.

Influenza A virus was identified as the main cause of influenza during this period (see Table 2). Additional laboratory typing was performed on 12 influenza A samples. Eight samples were identified as being belonging to the A(H1N1)pdm09 strain while the remaining four were related to A(H3N2).

[1] Polymerase Chain Reaction

Table 1: Monthly Influenza Notifications by Region, 24 April 2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
North	1	3	3	5	-	-	-	-	-	-	-	-	**12**
North-West	4	4	9	7	-	-	-	-	-	-	-	-	**34**
South	4	8	11	5	-	-	-	-	-	-	-	-	**28**
'Visitors'*	0	1	0	0	-	-	-	-	-	-	-	-	**1**
TOTAL	**9**	**16**	**23**	**17**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**65**

* Overseas residents diagnosed with influenza whilst in Tasmania.

Figure 1: Weekly influenza notifications by subtype, 2015.

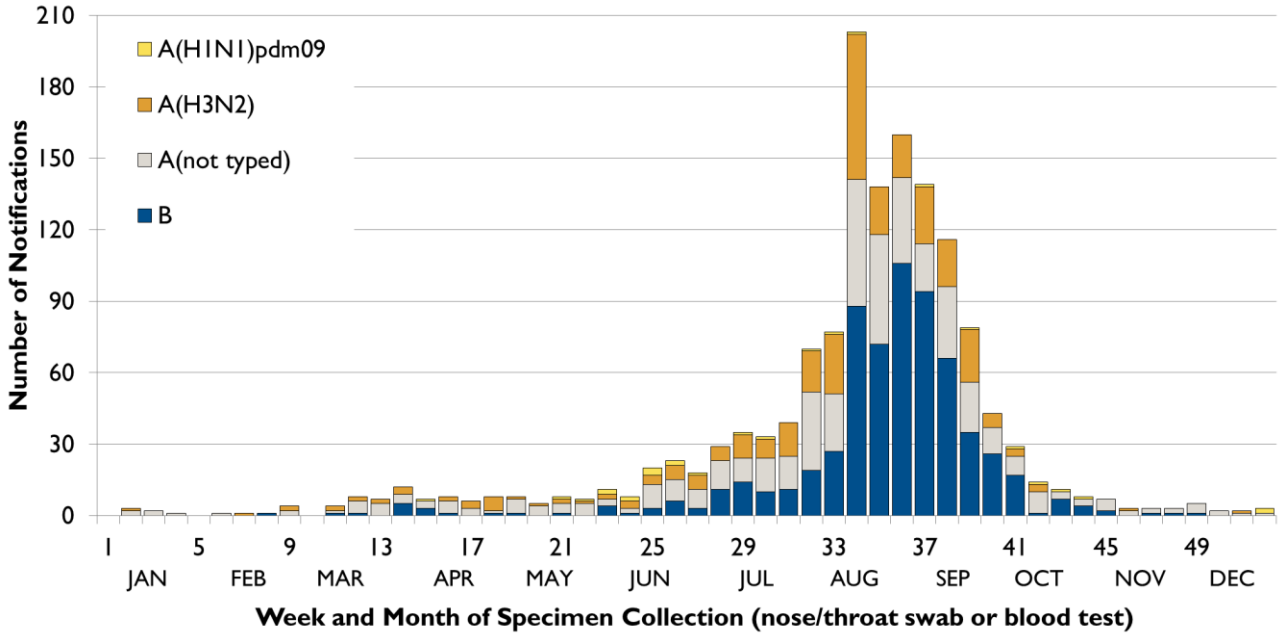
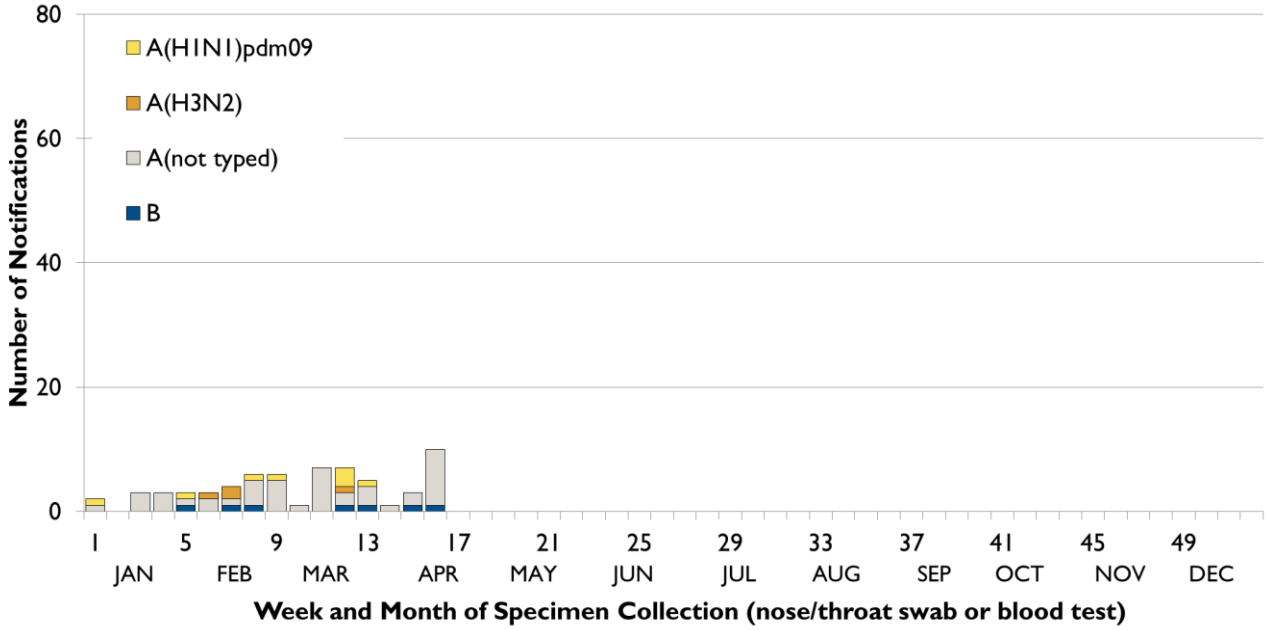


Figure 2: Weekly influenza notifications by subtype up to 24 April 2016 (week 16).

Please note the smaller vertical scale when comparing to Figure 1.



The 2015 influenza season in Tasmania presented with a large number of influenza detections being notified by laboratories. A total of 1 430 notifications were received in Tasmanian residents (see Table 2). Of particular significance was the unexpectedly large amount of Influenza B virus in circulation. The strain A(H3N2) was the dominant strain of Influenza A virus in circulation and led to several outbreaks of influenza in aged care facilities.

Table 2: Yearly influenza notifications by virus type, 24 April 2016 – Tasmanian residents only.

	2009	2010	2011	2012	2013	2014	2015	2016[2]
Influenza A	1 294	95	189	1 008	207	589	787	57
Influenza B	1	12	174	85	90	81	643	8
Total Influenza	**1 295**	**107**	**363**	**1 093**	**297**	**670**	**1 430**	**65**
Predominant subtype of Influenza A	H1N1	H1N1	H1N1	H3N2	H1N1	H1N1 & H3N2	H3N2	-

Laboratory Testing

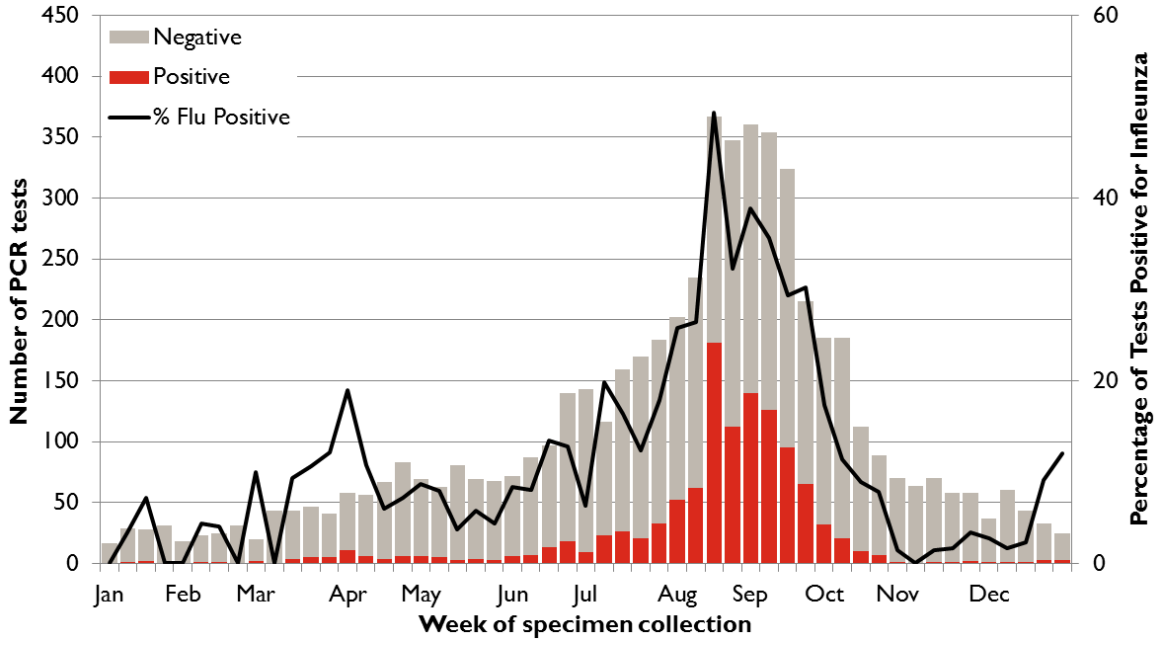
Laboratory Testing Effort

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 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.

For the first four months of 2016 there have been equal proportions of influenza diagnosed via PCR (nose and throat swabs) and influenza diagnosed through serology (blood tests).

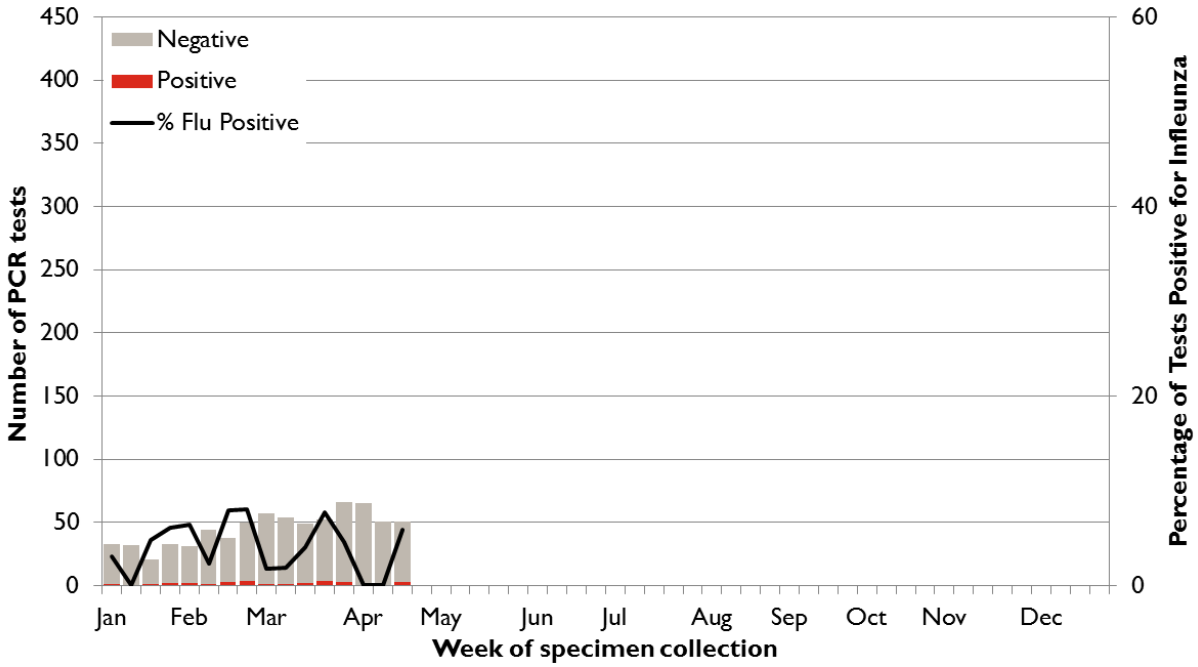
The total number of PCR (nose and throat swab) tests during the first 16 weeks of 2015 was 26 per cent larger than the same 16-week period of 2015. The average weekly proportion of PCR tests positive for influenza during 2016 was slightly smaller than 2015. Low numbers of weekly tests together with a low proportion positive for influenza is consistent with the low influenza activity expected during the period between influenza seasons (see Figures 1 and 2).

Figure 3: Influenza tests via PCR by week during 2015



[2] Current number of influenza notifications up to and including 24 April 2016

Figure 4: Influenza tests via PCR by week during 2016 (at 24 April)



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.

Testing during the first four months of 2016 was low, with fewer than 30 people tested per week. A similar level of testing was observed during 2015 (see Figures 5 and 6). The seasonal nature of respiratory illness results in lower activity outside of the winter months.

Rhinovirus was the most commonly detected pathogen (69 per cent) during the January-to-April 2016 period, followed by Parainfluenza (9 per cent) and Influenza A virus (7 per cent).

In 2015 respiratory pathogen testing confirmed the occurrence of the winter influenza season with high numbers of Influenza A and Influenza B detections during the second and third quarters of the year. Testing also indicated increased circulation of Respiratory Syncytial Virus (RSV) during the early influenza season and Metapneumovirus from the late season until the end of 2015 (see Figure 5).

Figure 5: Respiratory pathogen detections, 2015.

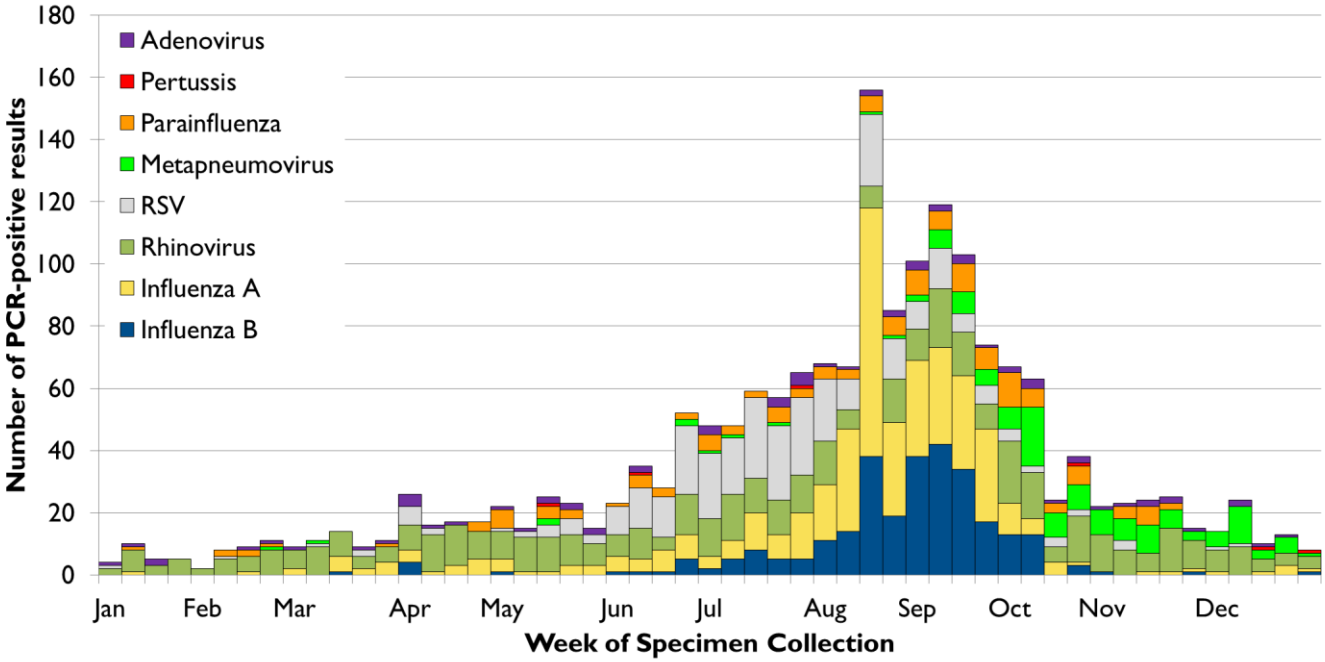
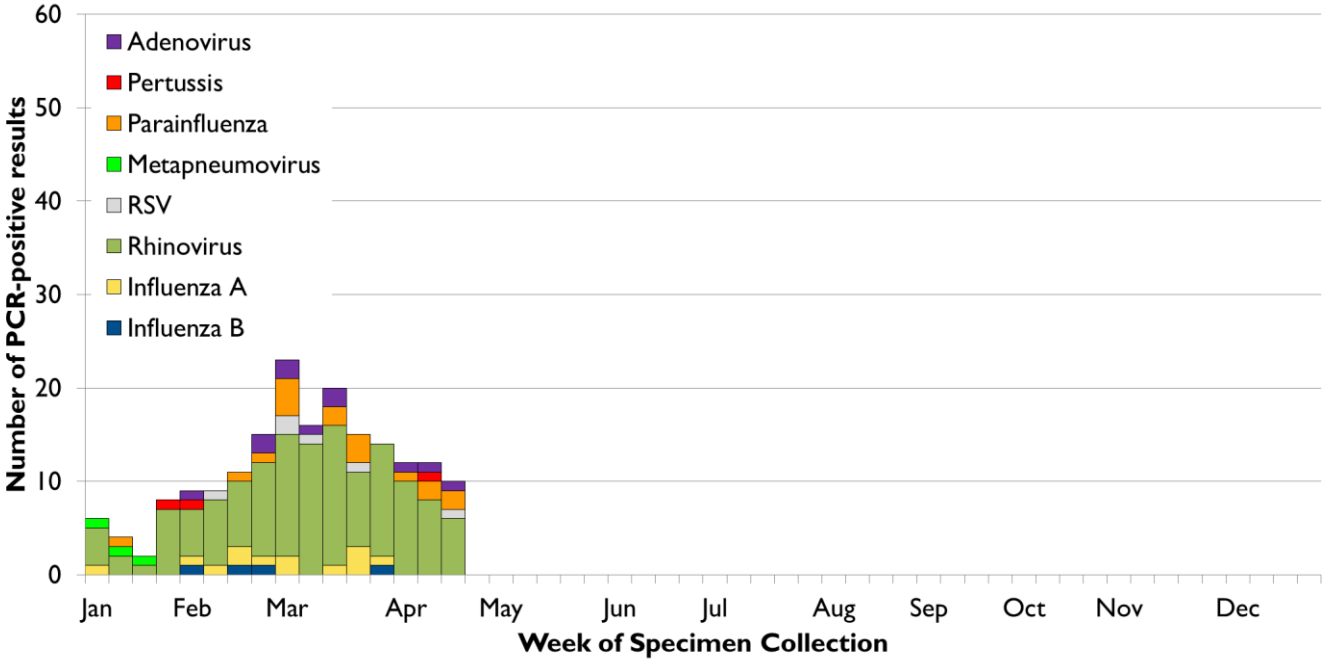


Figure 6: Respiratory pathogen detections, 2016 (up to 24 April).

Please note the smaller vertical scale when comparing to Figure 5.



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.

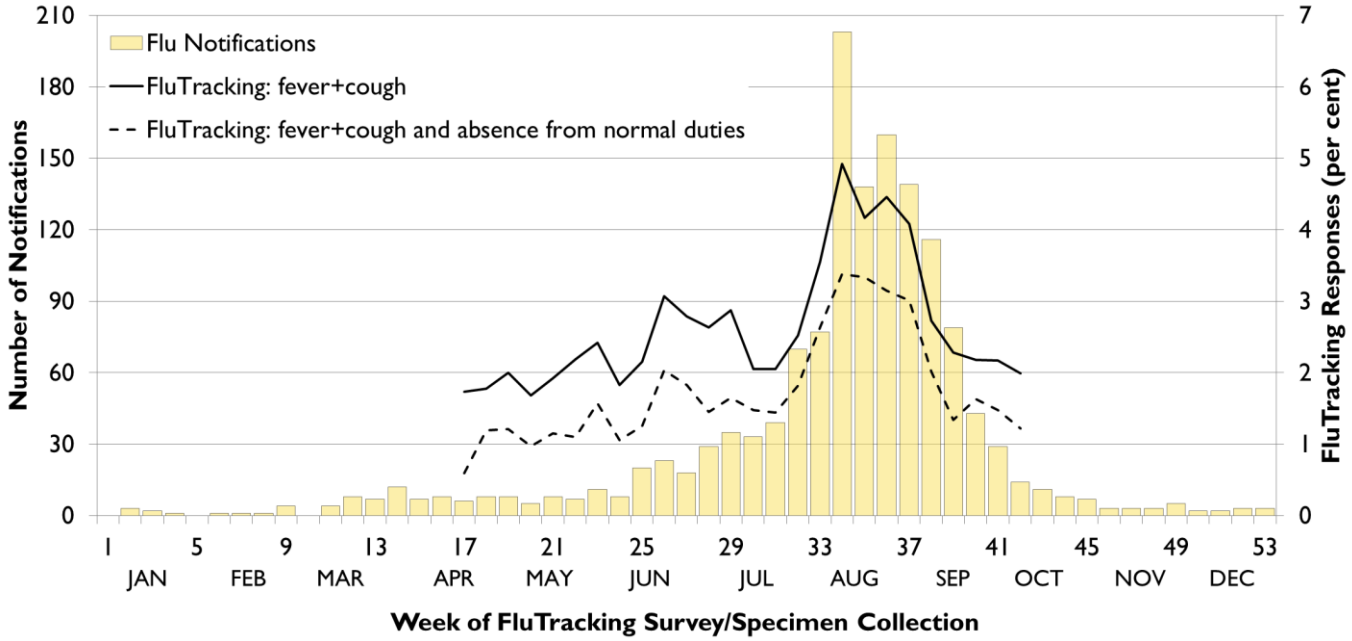
FluTracking

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.

FluTracking recommenced on 2 May 2016.

During 2015 around 2 300 Tasmanians participated in FluTracking each week. The timing of changes in participants reporting fever-plus-cough appeared to be consistent with observed changes in influenza notification rates (see Figure 7).

Figure 7: Tasmanian FluTracking participants reporting 'fever and cough' compared with weekly influenza notifications, 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 report of 2016 (No. 7) described influenza-like illness (ILI) consultations in Tasmania as 'No activity'. No ILI consultations were reported by participating urban and rural practices during the fortnight ending 3 April 2016.

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 first report for 2016 described the level of national hospital admissions related to influenza as 'low pre-season activity'. Surveillance at the single participating Tasmanian hospital commenced on 2 May 2016.

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.

Reporting for 2016 has not commenced. Reports on the 2015 influenza season as well as previous years are available at www.health.gov.au/flureport.

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.

The Therapeutic Goods Administration accepted the recommendations of the AIVC.

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

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 medical 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.