

Population Health Services produce the fluTAS Report to provide information about the level of influenza (flu) in Tasmania. Multiple surveillance data sources are used to obtain measures of influenza activity in the community.

This surveillance report describes influenza activity in Tasmania during the period 1 January to 30 April 2019.

2019 summary: January to April

- Community syndromic surveillance in Tasmanian suggests a decrease in influenza-like illness activity over the month of April 2019.
- Laboratory-confirmed influenza notifications during this four-month period were higher than previous years in Tasmania.
- Weekly influenza notifications increased steadily from mid-February onwards, peaking in week 15 (mid-April).
- The number of influenza tests being conducted was twice as high as the same period in 2018.
- The proportion of tests positive for influenza is higher than previous years during the same period.
- Forty-two patients have been admitted to the Royal Hobart Hospital with influenza between 1 April and 3 May 2019.
- Similar higher than usual influenza activity was reported by other States and Territories during the first-quarter of 2019.

Influenza activity

The influenza season is different almost every year. This is related to many factors including: the influenza strains and subtypes that are circulating, the population groups most affected, the susceptibility of the population, and changes that may occur to the viruses during the year. Our surveillance systems at a state and national level help us to understand influenza activity and severity.

Influenza-like illness

FluTracking (Community Syndromic Surveillance)

FluTracking is a national, 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 the University of Newcastle, Hunter New England Population Health and the Hunter Medical Research Institute. *FluTracking* information is available at www.flutracking.net and on Facebook www.facebook.com/Flutracking

FluTracking recommenced on Monday 8 April 2019; three weeks earlier than usual due to increased influenza activity across Australia. An average of 3 700 Tasmanians participated each week, an increase on 2018 participation (3 150 Tasmanians per week).

Influenza-like illness (fever plus cough) was reported by 3.3 per cent of Tasmanian participants during the week ending Sunday 7 April 2019. Of these participants, 75 per cent also reported absenteeism from normal duties.

The number of participants reporting a new episode of influenza-like illness decreased from 3.3 per cent to 1.3 per cent during the four weeks ending Sunday 28 April 2019 (Figure 1), to levels similar to those at the same time of year in 2018.

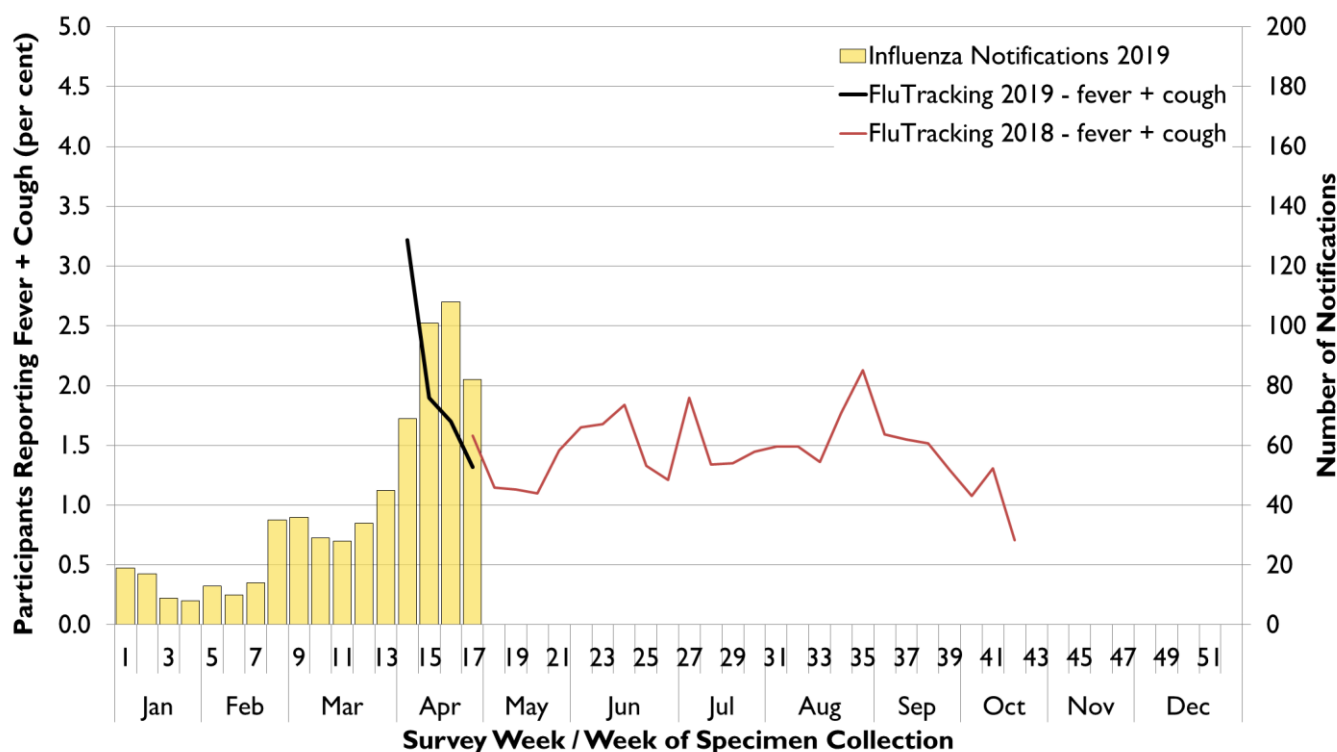


Figure 1: Percentage of Tasmanian *FluTracking* participants reporting fever and cough, week ending Sunday 28 April 2019.

ASPREN (General Practice Syndromic Surveillance)

The Australian Sentinel Practices Research Network (ASPREN) includes registered sentinel General Practices (GPs) across Australia who report fortnightly on the number of patients presenting with influenza-like illness (ILI). Five GPs participate in Tasmania. ASPREN is a joint initiative of the Royal Australian College of General Practitioners and the University of Adelaide. Further information is available at aspren.dmac.adelaide.edu.au

For the fortnight ending Sunday 21 April 2019, ASPREN reported that in Tasmania, the average level of ILI activity was less-than 4 out of 1 000 consultations. This was described as ‘baseline’ activity.

Notifications of laboratory-confirmed Influenza to Public Health Services

Influenza notifications are based on positive laboratory tests. Many people with influenza-like illness choose not to attend medical care, or are not tested when they attend for a variety of reasons. Notifications represent a small proportion of the total influenza cases in the community.

There were 681 influenza notifications in Tasmania between 1 January and 30 April 2019. Between 2015 and 2018 an average of 87 cases of influenza were notified during this period (between 1 January and 30 April). Weekly influenza case numbers increased steadily from mid-February onwards. The number of influenza cases peaked during week 16 in April (Figure 2).

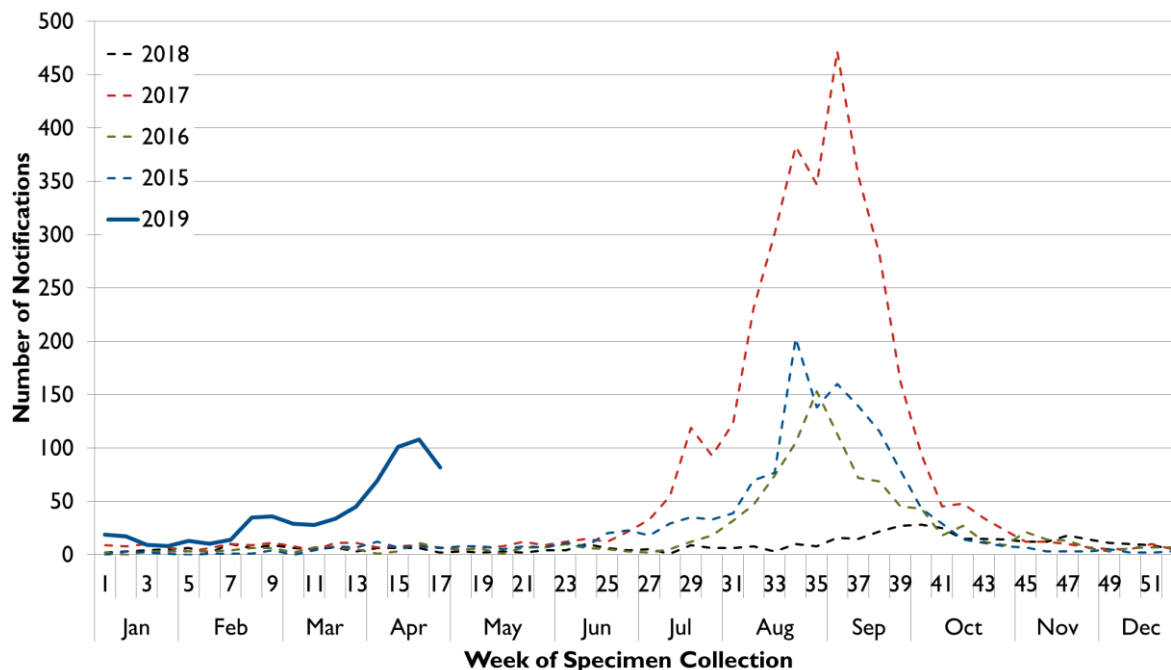


Figure 2: Notifications of influenza in Tasmania, by week, 1 January 2015 to Sunday 28 April 2019

Influenza testing

There were 2 927 PCR tests for influenza conducted between 1 January and Sunday 28 April 2019; this was almost double the amount of testing conducted during the same period in 2018 (1 485 tests). The highest number of influenza tests occurred during April 2019, with a peak in the second week of April: week 15 (Figure 3).

Proportion of tests positive for influenza

The percentage of positive tests increased over the four-month period to reach a peak of 32 per cent in week 16 (Figure 3).

The weekly proportion of tests positive for influenza during this period was higher than previous years. During 2014 to 2018, on average, five per cent of weekly influenza tests were positive (range 0 to 17 per cent positive).

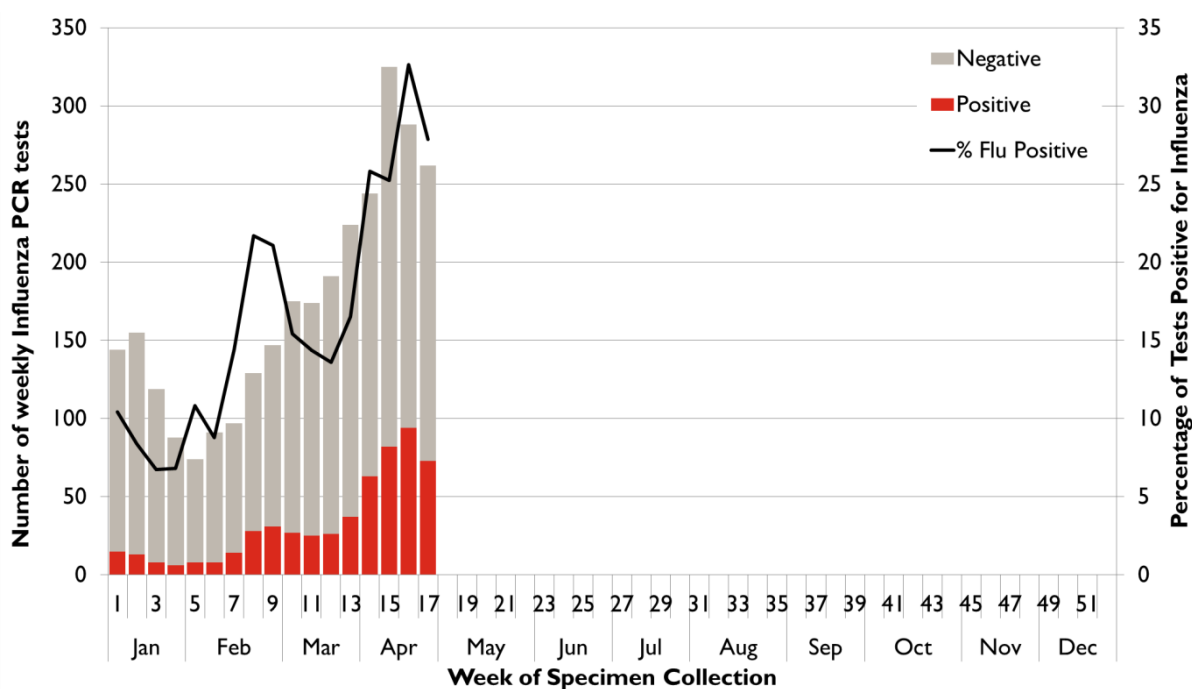


Figure 3: Statewide Influenza PCR testing, 1 January to Sunday 28 April 2019

Other circulating respiratory illness

Many viruses cause the ‘common cold’ and ‘influenza-like illnesses’. The Royal Hobart Hospital (RHH) laboratory performs a PCR test that detects influenza A and B viruses, as well as seven other respiratory pathogens commonly associated with respiratory illness. Most individuals tested were from emergency department presentations and hospitalised patients to the RHH.

There were 1 516 PCR tests performed during January to April 2019; this was almost double the amount of testing during the same four-month period of 2018 (753 tests).

The most commonly detected respiratory pathogens during 1 January to 30 April 2019 were Rhinovirus (37 per cent), Influenza A virus (26 per cent) and Respiratory Syncytial Virus (RSV) (11 per cent).

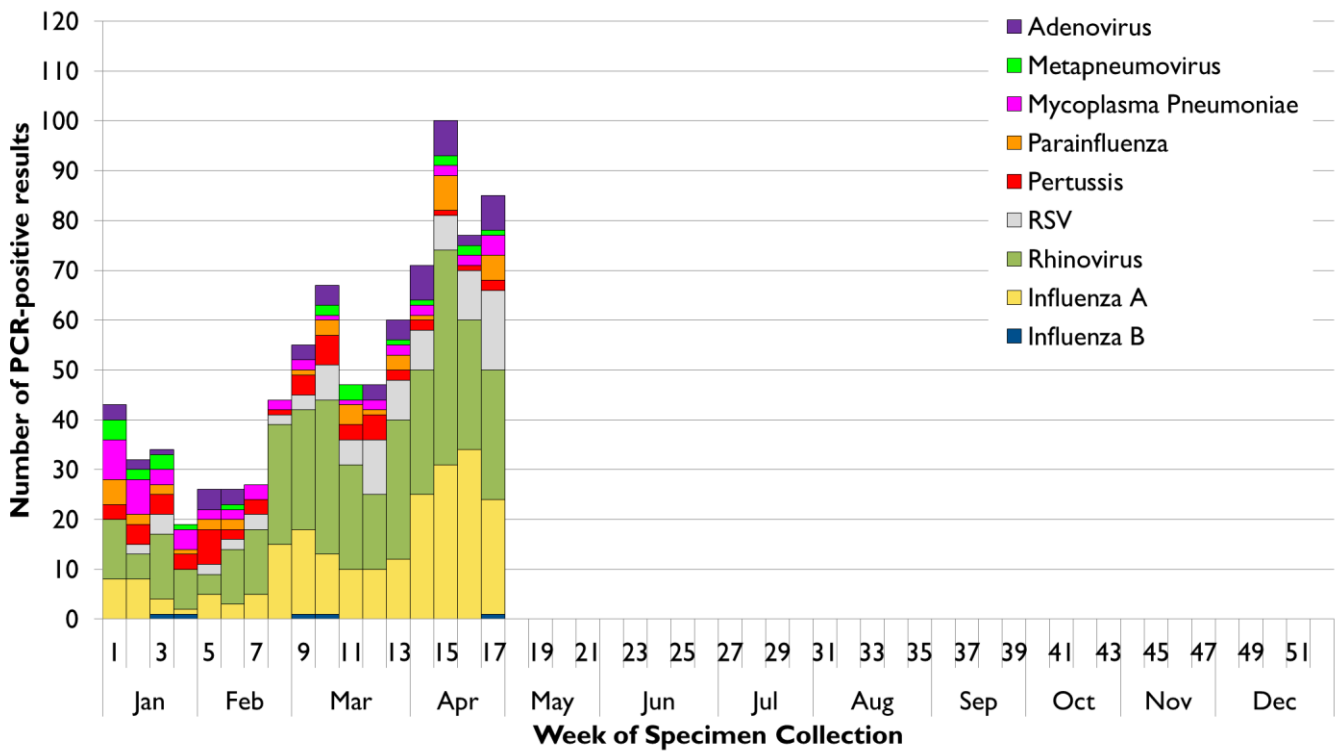


Figure 4: Respiratory pathogen detections, 1 January to Sunday 28 April 2019.

Geographical distribution of activity

Most cases (550 cases, 82 per cent) were reported in the South. There were 74 cases (11 per cent) in the North and 43 cases (six per cent) in the North-West. Three overseas visitors were diagnosed with influenza in Tasmania during this period.

Virology

Most cases (663 cases, 97 per cent) were due to the Influenza A virus. A small proportion of Influenza A viruses undergo further subtyping. Seventy-seven per cent of those subtyped were Influenza A(H3N2). The H3N2 strain is associated with greater morbidity and mortality in older adults. The remaining 18 cases (three per cent) of influenza were due to Influenza B virus.

Influenza Severity

FluCAN (Influenza cases admitted to a Hospital)

The Influenza Complications Alert Network (FluCAN) reports on influenza-related hospitalisations and complications in sentinel hospitals Australia-wide during each influenza season. This system aims to provide an indication of severity of the influenza season and identify groups at higher risk of influenza-related hospital admission. The details of recent FluCAN activity are published in the Australian Influenza Surveillance Report (see *Interstate Activity*).

The Royal Hobart Hospital participates in FluCAN.

From 1 April to 3 May 2019 there were 201 hospital admissions of laboratory-confirmed influenza reported by sentinel hospitals Australia-wide. Fourteen (seven per cent) were admissions to an intensive care unit (ICU). During the week ending 3 May, FluCAN described activity across participating hospitals as 'moderate influenza activity'.

Forty-two patients with influenza were admitted to the Royal Hobart Hospital. Of the 42 admissions, three were admitted to the ICU (seven per cent).

Vaccine effectiveness

Influenza viruses are continually changing, making the targeting of an effective vaccine an annual challenge. Nationally interim vaccine effectiveness estimates are determined using GP presentation and hospitalisation data (for example FluCAN, ASPREN and VicSPIN data). Vaccine effectiveness data is not yet available.

Preliminary vaccine effectiveness (VE) estimates are based on incomplete data and may change once all data from the season are collated. Final estimates are produced after the season has returned to baseline levels and are more reliable.

The estimated effectiveness of the vaccine may depend on several factors – the outcome being measured, the age group predominantly affected (vaccine effectiveness is generally lower in older people than in younger adults and children), and the match between vaccine and circulating influenza strains (generally protection against infection A/H1N1 is greater than against A/H3N2).

Interstate activity

The Australian Influenza Surveillance Report is compiled from several data sources including laboratory-confirmed notifications to National Notifiable Diseases Surveillance System, 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 key messages from the report describing national activity for the period 22 April to 5 May 2019 were:

- **Activity** – Currently, influenza and influenza-like illness (ILI) activity are high for this time of year compared to previous years. At the national level, notifications of laboratory-confirmed influenza have decreased in the past fortnight, however it is likely these figures will be revised upwards due to backlogs in data entry. Influenza A was the most common respiratory virus detected in patients presenting with ILI to sentinel general practices this fortnight.
- **Severity** – There is no indication of the potential severity of the 2019 season at this time.
- **Impact** – There is no indication of the potential impact on society of the 2019 season at this time.
- **Virology** – In the year to date and in the past fortnight, the majority of confirmed influenza cases reported nationally were influenza A (93 per cent). Where subtyping data were available, influenza A(H3N2) was the dominant influenza A subtype in the past fortnight.

Annual Influenza Vaccine

Composition of 2019 influenza vaccines

The annual influenza vaccine is 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 (TGA) by the Australian Influenza Vaccine Committee (AIVC): www.tga.gov.au/committee/australian-influenza-vaccine-committee-aivc

The AIVC met on 10 October 2018 to recommend the influenza viruses to be used in influenza vaccines for 2019. The TGA accepted the recommendations of the AIVC.

This year there is a new A strain (H3N2) and a new strain for the B Victoria lineage. Influenza virus strains included in the 2019 seasonal influenza vaccines are:

- A (H1N1): an A/Michigan/45/2015 (H1N1)pdm09 like virus
- A (H3N2): an A/Switzerland/8060/2017 (H3N2) like virus
- B: a B/Colorado/06/2017 like virus (not included in the trivalent vaccine)
- B: a B/Phuket/3073/2013 like virus

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

Is vaccination recommended?

Annual influenza vaccination is recommended for anyone over the age of six months who wishes to reduce the likelihood of influenza and its complications. Annual vaccination can help to reduce the spread of influenza and protect vulnerable members of the community.

Influenza vaccines in 2019 are free[#] in Tasmania for people at greater risk of contracting and developing severe complications from influenza. Free vaccine is available through General Practitioners for the following people:

- All children aged from six months to under five years (state funded)
- All Aboriginal and Torres Strait Islander people aged 6 months and over
- Adults aged 65 and over
- Pregnant women at any stage in their pregnancy
- Adults and children aged from 6 months with chronic medical conditions such as heart, lung, liver or kidney diseases, asthma, diabetes, cancer, impaired immunity and neuromuscular conditions

For more information see flu.tas.gov.au or beta.health.gov.au/topics/immunisation

[#] Please note there may be a consultation fee for the healthcare provider to administer the vaccine.

Further Information

For the latest information on influenza in Tasmania visit flu.tas.gov.au

Past fluTAS reports are available at dhhs.tas.gov.au/publichealth/communicable_diseases_prevention_unit