

Summary of influenza in Tasmania 2011

The Communicable Diseases Prevention Unit this year published **fluTAS**, a weekly state-wide influenza and influenza-like illness surveillance report. This report was posted at www.dhhs.tas.gov.au/peh to inform interested organisations and the public about levels of disease activity in Tasmania.

Multiple data sources are used to obtain some measure of influenza disease activity in the community:

1. Reporting of influenza-like illness through FluTracking and ASPREN
2. Influenza laboratory testing
3. Laboratory influenza notifications.

1. Reporting of influenza-like illness

FluTracking

FluTracking is an online system of enrolled participants, recruited from the general public and including many Department of Health and Human Services employees, to report the experience of 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.

During 2011 reports were issued weekly from the beginning of May until early November. About 1300 Tasmanians reported each week during the influenza season.

Reporting in 2011 showed:

- a peak of 3.4 per cent of Tasmanian participants reporting fever and cough in week 27 (4–10 July). This peak was earlier, though of a similar magnitude, to reports in 2010.
- a sharp increase in the proportion of participants reporting fever and cough at the very end of the reporting period in early November. There was no corresponding increase in notifications of influenza. We concluded that the increase in self-reported respiratory tract infection was likely due to non-influenza respiratory viruses.
- overall the proportion of people reporting fever and cough during the 2011 influenza season was similar to most recent years.

ASPREN

ASPREN is network of registered sentinel GPs throughout the state who report the number and proportion of presentations of patients with fever, cough and fatigue. It is a joint initiative of the RACGP and University of Adelaide.

During 2011 reports were issued fortnightly throughout the year.

Reporting showed a peak of 33 presentations with fever, cough and fatigue per 1000 consultations in the fortnight 8–21 August. This rate of presentation is typical of that seen during annual peaks in influenza activity.

2. Influenza laboratory testing

The number of influenza PCR tests performed provides another indicator of respiratory illness. This measure depends upon both the rate of presentation with respiratory disease, and the testing behaviour of doctors.

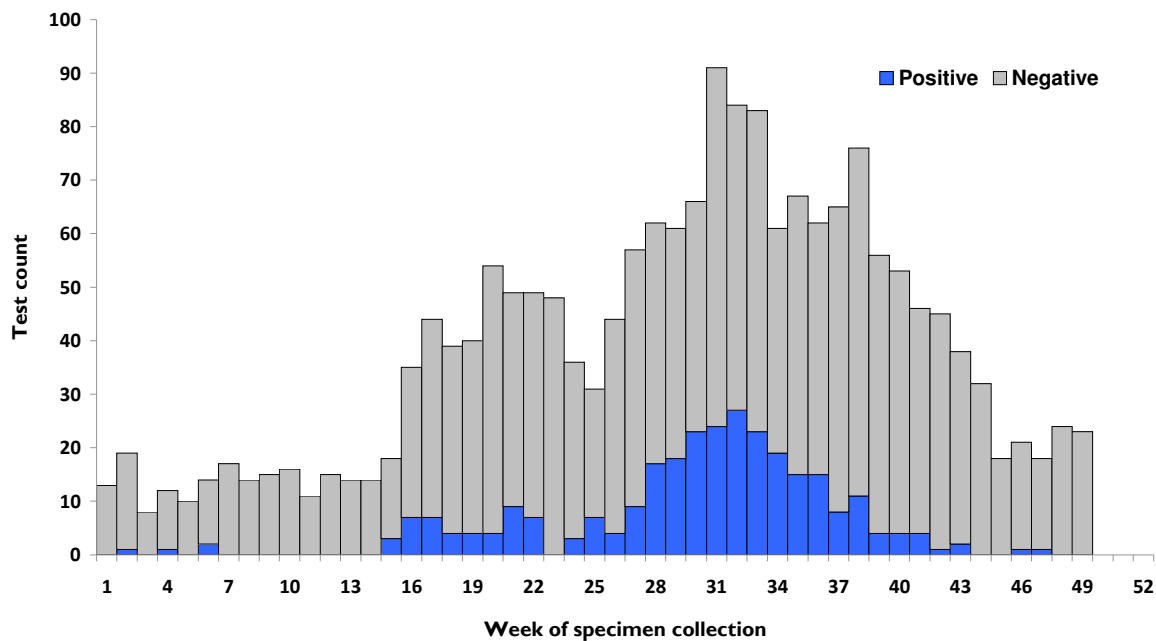
The count of influenza PCR tests per week peaked twice during 2011, in:

- week 20 (16–22 May) at 54 tests.
- week 31 (1–7 August) at 91 tests.

This was much earlier than in 2010, when influenza PCR tests peaked at 69 tests in week 36 (6–12 September).

In 2011, the proportion of influenza PCR tests that were positive peaked at 35 per cent in week 30 (25–31 July). Again, this was much earlier than 2010 when positivity peaked at 21 per cent in week 40 (4–10 October).

2011 Influenza PCR testing effort and positivity



Graph updated 08 December 2011

3. Laboratory influenza notifications

Influenza type trends (PCR and serology)

This account of laboratory influenza notification comprises reports of influenza diagnoses based on either PCR-based detection (nose/throat tests) or serology (blood tests). Detailed information about the influenza strain is only possible from PCR-based diagnoses.

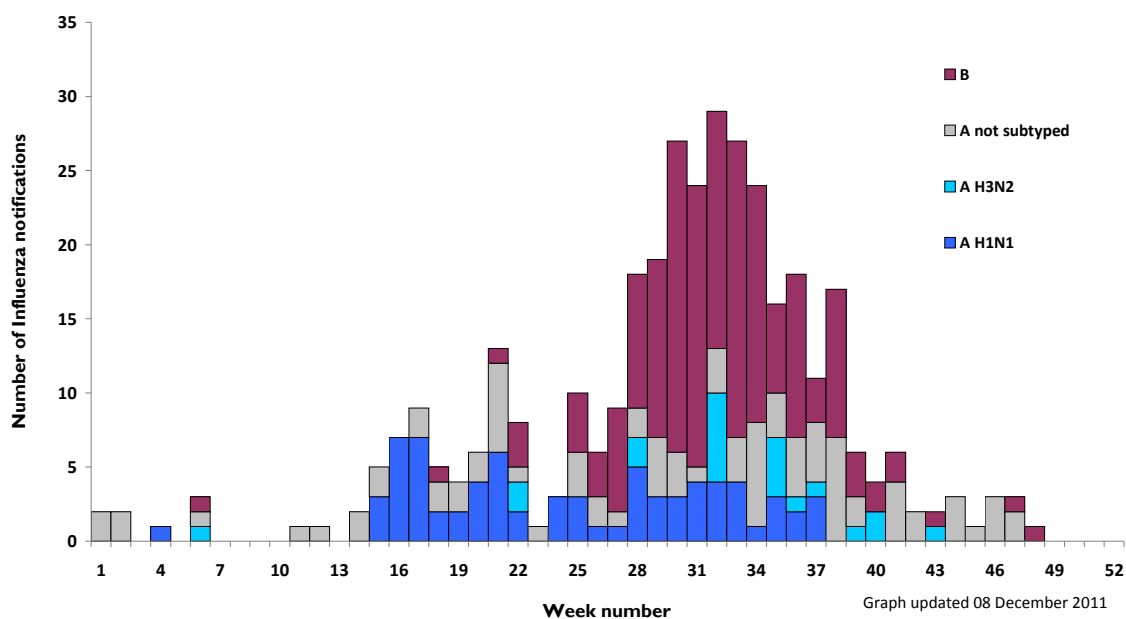
During 2011:

- a total of 359 notifications of influenza were received from 1 January to 30 November.
- influenza notifications peaked in weeks 30 to 34 (25 July–28 August) at approximately 26 notifications received per week.
- Influenza A was responsible for 52 per cent of the total notifications (133 by PCR and 51 by serology). Of the PCR-based detections, 97 were sub-typed with:
 - 78 per cent H1N1.
 - 22 per cent H3N2.
- Influenza B was responsible for 48 per cent of the notifications (156 by PCR and 16 by serology).
- an outbreak of Influenza B was notified from a northern residential-care facility in August.
- an outbreak of Influenza A (not further typed) was notified from a southern residential-care facility in August.

There were significant differences in the strains of influenza virus causing disease in Tasmania as the season evolved.

During the early part of the 2011 season (mid-April to late-June) the predominant influenza strain was H1N1 (A). Notifications of Influenza B began to increase in early June, and predominated during the peak of the 2011 season (early-July to late-September), and notifications of H1N1 (A) also continued. As the 2011 season concluded, (early-October to early-November) notifications of both H1N1 (A) and Influenza B declined. A small number of H3N2 (A) notifications were received throughout the season.

2011 Influenza notifications received by DHHS



By comparison, a total of 105 notifications of influenza were received in 2010. Influenza A was responsible for a much greater proportion (88 per cent) of the total notifications (these were predominantly H1N1). Influenza B was responsible for only 12 per cent of the notifications. Influenza notifications peaked in later in 2010 (weeks 36 to 38, 6–29 September) than in 2011. Testing at the World Health Organization Regional Reference Laboratory of a sample of Tasmanian specimens of the pandemic H1N1 virus during 2011 detected no resistance to oseltamivir.

Age group trends

During 2011 influenza was a primarily a disease of younger and middle-aged persons. There were few cases of influenza notified in persons younger than five and older than 50 years of age. The age distribution of H1N1 and Influenza B cases was similar.

Conclusions

The pattern of influenza in Tasmania during 2011 was characterised by the early dominance of the H1N1 strain and then co-circulation with Influenza B at the seasonal peak during mid-winter. The H3N2 strain occurred sporadically throughout the year. All three influenza strains identified during the year were contained in the 2011 seasonal trivalent influenza vaccine. The level of 'herd immunity' to influenza in Tasmania depends on both past experience of influenza infection, and recent vaccination. This was not formally evaluated during 2011.

There was an increase in the number of influenza cases notified in Tasmania during 2011 compared with 2010. This may be attributable to a number of factors.

The two influenza 'waves' during 2011 in Tasmania involved an initial wave of Influenza A H1N1 then a later second wave of H1N1 co-circulating with substantially more Influenza B than has occurred in recent years. This second wave was more sustained and involved more cases than the initial wave in 2011, or the single wave during 2010. These characteristics of the 2011 influenza season may have contributed to more cases presenting for medical assessment.

While there was only slightly more influenza testing performed during 2011, more judicious testing may also have contributed to greater confirmation of cases than in 2010.

The number of notified cases in 2011 was similar to the two pre-pandemic years 2007 and 2008. These years are probably useful comparators, but the interpretation of surveillance data is complicated as:

- there have been changes to influenza virus characteristics (the 2009 pandemic)
- influenza surveillance activities have increased since 2009
- the behaviour of doctors and persons with influenza-like illness may have changed due to heightened awareness of influenza.

With this slightly longer-term perspective in mind, and based upon notifications, testing effort and syndromic surveillance systems, the 2011 Tasmanian flu season appeared to be fairly typical.