

## ACT 2017 Influenza Season Summary

### Overview

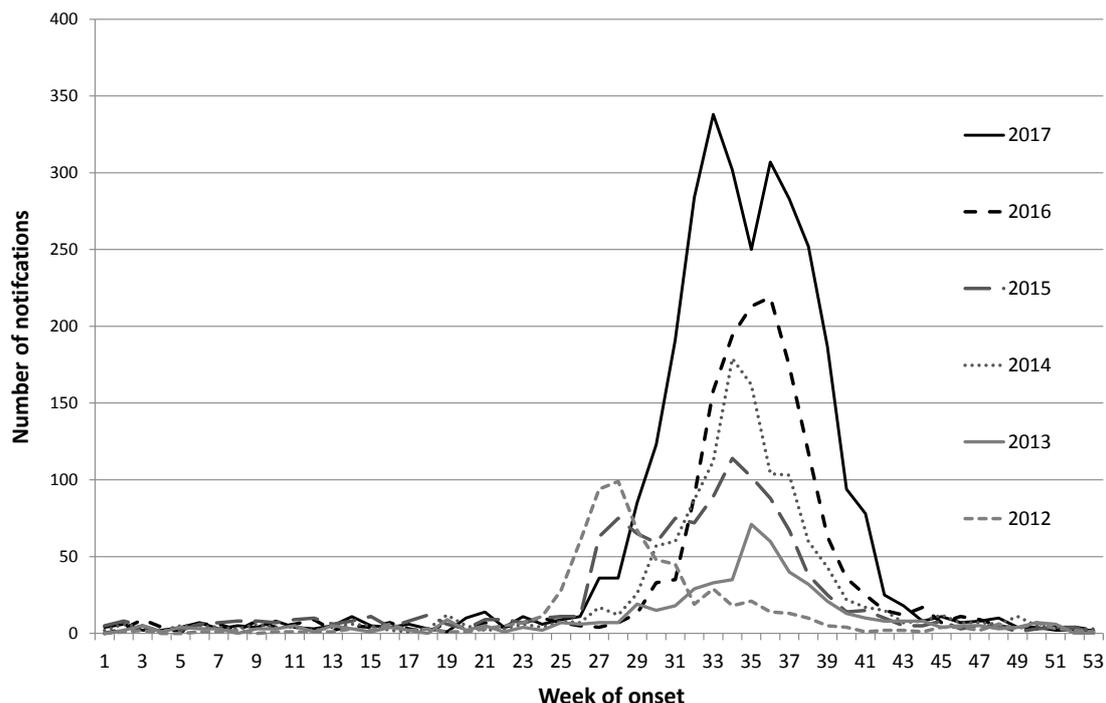
In the ACT, the 2017 influenza season was larger and more sustained than any influenza season in the previous five years. The season peaked twice, first due to influenza A (presumably A/H3) activity and subsequently due to influenza B activity. The increase in influenza notifications in 2017 may be associated with an earlier season onset, increased health-seeking behaviour, increased laboratory testing and the increased use of rapid tests. Despite high activity, the clinical severity of influenza cases in the ACT was similar to previous years. Although there was increased influenza activity in the community, outbreaks of influenza-like illness (ILI) in ACT Aged Care Facilities (ACFs) were similar in 2017 compared to 2016, in terms of both the overall number of outbreaks reported as well as the number of residents affected.

### Influenza notifications

The 2017 influenza season in the ACT was larger and lasted longer than any influenza season in the previous five years (Figure 1). Between 1 January and 31 December 2017, there were 3,099 notifications of influenza reported to ACT Health. There were approximately twice as many notifications in 2017 compared to the same period in 2016 (n=1,603) and three times the average number of cases reported during the same period in the previous 5 years (2012-2016; average n=1,058).

Generally, notified cases represent only a small proportion of cases of influenza occurring in the community, as cases must present to a health professional, be tested for influenza, and have a positive test result, in order to be notified to ACT Health. It is possible that the large increase in cases during 2017 was associated with an earlier season onset, increased health-seeking behaviour, increased laboratory testing, increased use of rapid tests, lower vaccine effectiveness (VE), or a combination of these factors.

**Figure 1. Number of influenza notifications, by week and year of onset, 1 January 2012 to 31 December 2017, Australian Capital Territory.**

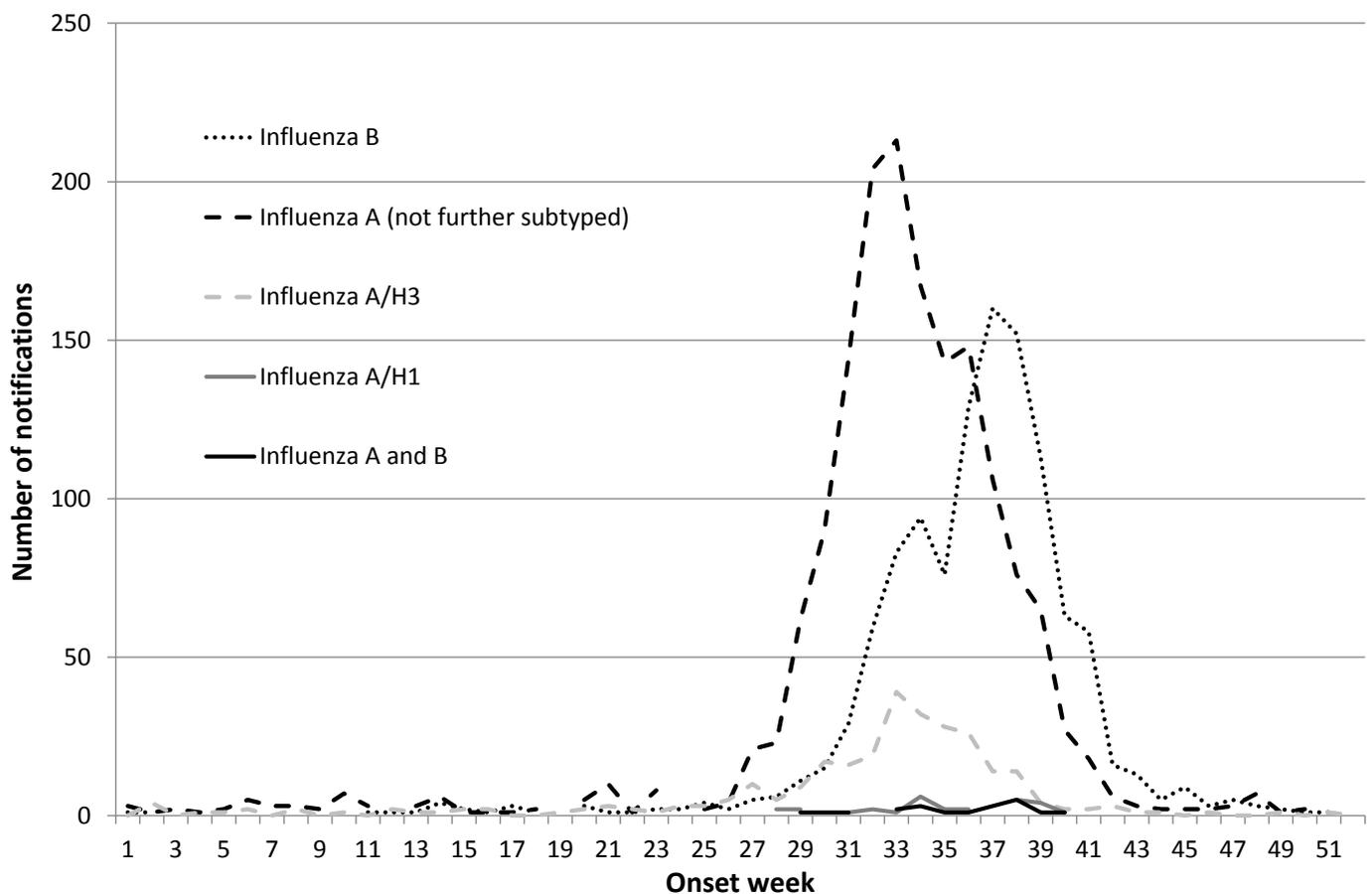


In the ACT, influenza notifications began to increase above background (inter-seasonal) levels in the week beginning 2 July 2017 (week 27), which was approximately three weeks earlier than in 2016 (Figure 1). Influenza notifications continued to increase over the following six weeks, until they peaked at 338 notifications in week 33 (13-19 August 2017). Although notifications declined over the subsequent two weeks, there was a secondary peak in week 36 (3-9 September, n=306), after which there was a steady decline in notifications over seven weeks until notifications had returned to background (inter-seasonal) levels.

The two distinct peaks in influenza activity during the 2017 season were due to changes in the circulating influenza virus halfway through the season (Figure 2). The initial peak (week 33) was due to circulation of influenza A (presumably A/H3). As influenza A activity began to decline, influenza B activity increased resulting in a second seasonal peak in week 36.

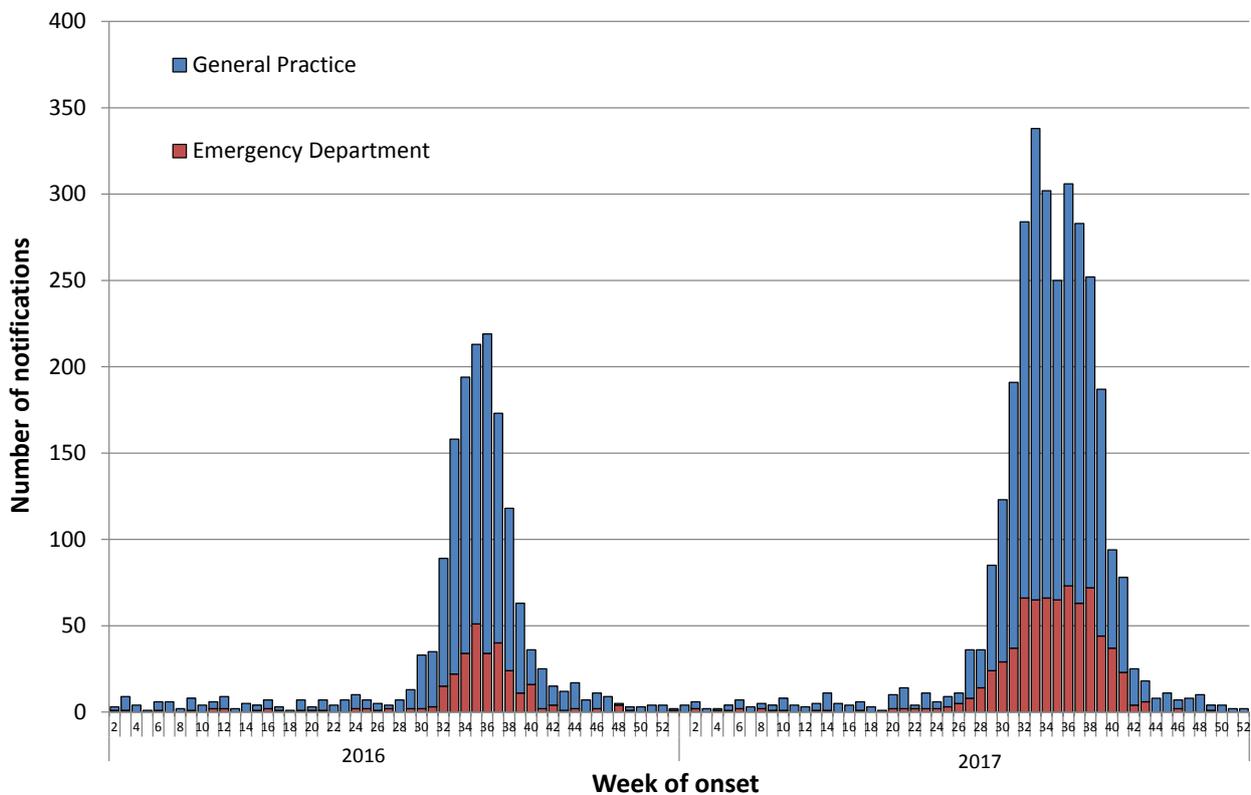
Overall, 62.2% (n=1,929) of notifications were influenza A and 37.0% (n=1,147) were influenza B (Table 1). There were 23 notifications of cases co-infected with influenza A and B. Of the 316 influenza A notifications with subtype information available, 32 (10.1%) were H1N1 and 284 (89.9%) were H3 (presumed H3N2).

**Figure 2. Number of influenza notifications, by week of onset and influenza type, 1 January 2017 to 31 December 2017, Australian Capital Territory.**



The 2017 influenza season placed a higher burden on general practitioners across the ACT, as well as on the emergency departments (EDs) at both The Canberra Hospital and Calvary Hospital compared to in 2016 (Figure 3). Between weeks 32 and 38 (6 August to 16 September 2017), coinciding with the peak of the 2017 season, there were an average of 67 influenza notifications per week from swabs collected in an emergency department (range: 63-73). As not all patients presenting with influenza-like illness (ILI) to EDs will have been tested, and not all tests would have had positive (notified) results, this is likely an underestimate of the number of ILI presentations managed by EDs in the ACT during the 2017 season.

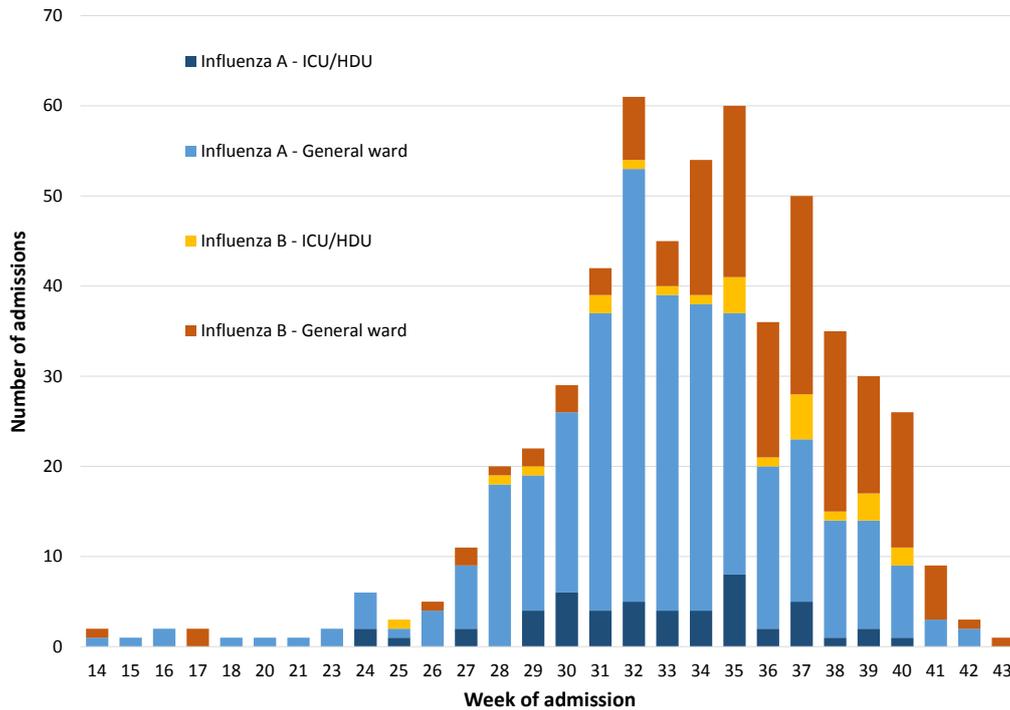
**Figure 3. Number of influenza notifications, by week and setting where test was ordered, 1 January 2016 to 1 December 2017, Australian Capital Territory.**



### Influenza hospitalisations

The Canberra Hospital and Calvary Hospital monitor severe influenza admissions and participate in a seasonal sentinel surveillance program (FluCAN – inFLUenza Complications Alert Network). Between 3 April and 24 October 2017, there were 560 people admitted to ACT public hospitals with influenza infection. Overall, 485 (86.6%) were admitted to general wards and 75 (13.4%) were admitted to the Intensive Care Unit/High Dependency Unit (ICU/HDU). The trend in hospitalisations was consistent with notifications, with influenza A responsible for the majority of earlier hospitalisations and influenza B hospitalisations increasing later during the season (Figure 4). Fewer hospitalisations for influenza were reported by FluCAN in 2016 (n=389).

**Figure 4. Number of influenza hospitalisations, by week of admission, influenza type and admission location, 3 April to 24 October 2017, Australian Capital Territory.**



The number of hospitalisations was highest in individuals aged 65 to <85 years, however the proportion of ICU/HDU admissions was highest among children aged younger than 18 years (Figure 5). The proportion of cases admitted to ICU/HDU was reasonably similar in 2017 and 2016 (13.4% vs 15.7%, respectively).

**Figure 5. Number and percentage of influenza hospitalisations, by age group and admission location, 3 April to 24 October 2017, Australian Capital Territory.**

