1. Influenza Notifications in Queensland

Figure 1: Influenza notifications in Queensland by type and week of onset from 1st January 2011 to 5th June 2011 and influenza like illness (ILI) presentation rates per 1000 consultations reported to the ASPREN sentinel network 1st January 2011 to 5th June 2011.

Data Sources: Queensland Health Notifiable Conditions Register 06/06/2011 and ASPREN website 06/06/2011

Influenza Notifications
Year to date (YTD) there have been 1881 notifications of influenza in Queensland. Subtype is recorded for 796 of the 1694 notifications of influenza A, comprising 480 pandemic (H1N1)2009 and 316 H3N2. There have been 184 notifications of influenza B.

Figure 1 shows notifications for influenza A and influenza B by week of onset and Influenza Like Illness (ILI) presentation rates, per 1000 consultations, by week. Please see section below for an explanation of the Australian Sentinel Practices Research Network (ASPREN).

The YTD notification count is 6.5 times the five year mean for the same period. The profile is difficult to interpret given the sustained, unseasonably high activity since the beginning of 2011. There does appear to be an increasing trend in notifications from around week 20, which may suggest the beginning of the influenza season. Notification counts over the next few weeks should assist with clearer interpretation of these data. Please note that recent week notifications will usually be under estimated in data presented by date of disease onset.
Figure 2: Age and gender profile of Influenza notifications in Queensland (2011) to 5th June
Data Sources: Queensland Health Notifiable Conditions Register 06/06/2011

Figure 2 shows 2011 influenza notifications by age group and gender. The 20-39 year age group accounted for 31% of notifications and <1 year age group accounted for 3%. The median age of notification was 31 years with an age range of <1 to 91 years. Influenza notifications were slightly higher in females (53%) than males (47%).

Figure 3: Influenza notifications in Queensland by Public Health Unit (PHU) in geographical order from north (left) to south (right) as at 5th June 2011
Data Sources: Queensland Health Notifiable Conditions Register 06/06/2011

Compiled by the Epidemiology, Surveillance and Research Unit
Communicable Diseases Branch
Health Protection Directorate
Division of the Chief Health Officer
EPI@health.qld.gov.au
6 June 2011
YTD 2011, influenza notifications ranged from 519 (28%) in the Townsville PHU area to 58 (3%) in Wide Bay PHU areas. Cairns, Townsville, Rockhampton and Wide Bay, together, accounted for 777 (41%) of notifications.

YTD 2011, influenza notification rates by HSD ranged from 196.1 per 100,000 in Cape York to 16.3 per 100,000 in the Central West. The notification rates in Cape York are approximately 12.0 times higher than the rate in Central West and approximately the same as Townsville. Comparison of crude rates can be misleading due to differences in underlying population structures in the areas being compared. Please interpret data cautiously.

**ASPREN**

ASPREN is a national syndromic surveillance program co-ordinated by the Discipline of General Practice at the University of Adelaide and The Royal Australian College of General Practitioners. One of the conditions under surveillance is influenza like illness (ILI).

General practitioners (GP) participating in the ASPREN program contribute data on the proportion of consultations which are ILI related. Currently there are 20 Queensland GPs participating in the program, although not all may participate each week.

Figure 1 shows ILI rates, as presentations per 1000 consultations, for Queensland GPs participating in the ASPREN program. The pattern is erratic at the moment and activity appears to be low, with a rate of 18.3 per 1000 consultations for week 23. Recent week data may be incomplete.
2. Influenza Activity in Australia (reporting period 14th May to 27th May, 2011)¹

- Levels of influenza-like illness (ILI) in the community continue to remain low through the majority of ILI surveillance systems this reporting period.
- Over the summer months all jurisdictions reported higher than usual numbers of laboratory confirmed influenza notifications. In recent weeks, notifications across most jurisdictions have been stable; however South Australia has reported a large increase in notifications for this fortnight with 85% of notifications being influenza B.
- During this reporting period there were 324 laboratory confirmed notifications of influenza, with Queensland reporting the highest number of notifications. The majority of virus detections have been pandemic (H1N1) 2009, with co-circulation of influenza A/H3N2 and influenza B.
- As at 27 May 2011, there have been 3,836 confirmed cases of influenza reported to the National Notifiable Diseases Surveillance System (NNDSS) in 2011, compared with 877 for the same period in 2010.

3. International Influenza Activity (reporting period 14th May to 27th May, 2011)¹

The WHO has reported that the influenza season is largely finished in the Northern Hemisphere, with a few tropical countries experiencing low grade transmission. The influenza season has not yet started in the Southern Hemisphere. Reports from National Influenza Centres from 82 countries report that between 3 May and 17 May 2011, 35% of specimens reported as influenza positive were influenza type A and 65% were influenza type B. Of the sub-typed influenza A viruses, 54% were pandemic (H1N1) 2009 and 46% were influenza A(H3N2).

The WHO has released their recommendation for the antigen composition of 2011-2012 northern hemisphere influenza season trivalent flu vaccine. It is recommended that vaccines contain the following:
- an A/California/7/2009 (H1N1)-like virus;
- an A/Perth/16/2009 (H3N2)-like virus;
- a B/Brisbane/60/2008-like virus.

This recommended composition is the same as the 2010-2011 Northern Hemisphere and the 2011 Southern Hemisphere vaccine compositions.

4. Virology¹

**Typing and antigenic characterisation - WHO Collaborating Centre for Reference & Research on Influenza (WHO CC) in Melbourne**

From 1st January to 29th May 2011, there were 443 Australian influenza isolates processed by the WHO CC, with 85% (378/443) type A and 15% (65/443) type B. Subtyping of influenza A isolates indicated that 57% (214/378) were pandemic (H1N1) 2009 and 43% (164/378) were A/H3N2 (Table 1).
Antigenic characterisation has shown influenza isolates to be a close match with the composition of the 2011 southern hemisphere influenza vaccine with some viruses showing reduced reactivity, however there has been insufficient testing to date to determine any general trends.

**Antiviral Resistance**

The WHO Collaborating Centre in Melbourne has reported that from 1 January 2011 to 29 May 2011, one isolate (out of 748 tested) has shown resistance to oseltamivir or zanamivir by enzyme inhibition assay (EIA). One isolate out of a total of 7 pandemic H1N1 (2009) tested, have shown the H275Y mutation known to confer resistance to oseltamivir.

**Reference**