1. Influenza Notifications in Queensland

Figure 1: Influenza notifications in Queensland by type and week of onset from 1st January 2011 to 29th May 2011 and influenza like illness (ILI) presentation rates per 1000 consultations reported to the ASPREN sentinel network 1st January 2011 to 29th May 2011.

Data Sources: Queensland Health Notifiable Conditions Register 30/05/2011 and ASPREN website 30/05/2011 https://www.dmac.adelaide.edu.au/aspren/asprenMISServlet?page=index

Influenza Notifications

Year to date (YTD) there have been 1774 notifications of influenza in Queensland. Subtype is recorded for 754 of the 1604 notifications of influenza A, comprising 441 pandemic (H1N1)2009 and 313 H3N2. There have been 168 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 6.7 times the five year mean for the same period. The trend is difficult to interpret given the unseasonably high activity in the early weeks of 2011 and the expectation that a seasonal increasing trend in Queensland notifications would be seen from around the end of May. Data should be interpreted with caution at this stage. The reason for the unusually high activity earlier in the year is not clear but it does not appear to be an artefact of increased testing.
Recent week notification data will usually be underestimated in data presented by date of disease onset.

Figure 2: Age and gender profile of Influenza notifications in Queensland (2011) to 29th May

Data Sources: Queensland Health Notifiable Conditions Register 30/05/2011

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 32 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 29th May 2011

Data Sources: Queensland Health Notifiable Conditions Register 30/05/2011

Compiled by the Epidemiology, Surveillance and Research Unit
Communicable Diseases Branch
Health Protection Directorate
Division of the Chief Health Officer
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30 May 2011
YTD 2011, influenza notifications ranged from 508(29 %) in the Townsville PHU area to 57(3%) in Wide Bay PHU areas. Cairns, Townsville, Rockhampton and Wide Bay, together, accounted for 757 (43 %) of notifications.

![Influenza notification rates per 100,000 population in Queensland by Health Service District (HSD) in geographical order from north (left) to south (right), 1st January to 29th May 2011](image)

Data Sources: Queensland Health Notifiable Conditions Register 30/05/2011
*The Estimated Resident Population – (ERP), 2009 was used

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 1.0 times higher than 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 (per 1000 consultations) for presentations to Queensland GPs participating in the ASPREN program. The pattern is erratic at the moment and activity appears to be quite low. A decreasing trend is noted from week 20 followed by a sharp rise in week 21. The recent week’s (22) shows a rate of 1.23 ILI per 1000 consultations but data may be incomplete.
2. Influenza Activity in Australia (reporting period 30th April to 13th May, 2011)\(^1\)

Last updated 23 May

- The level of influenza-like illness (ILI) in the community remains low based on the majority of ILI surveillance systems during this reporting period.
- All jurisdictions have reported unusually high numbers of laboratory confirmed influenza notifications over the summer months. However there has been a decline in the number of notifications in most jurisdictions during recent weeks.
- During this reporting period there were 225 laboratory confirmed notifications of influenza, including 147 cases of influenza A untyped, 33 cases of pandemic (H1N1) 2009, 44 cases of influenza B and 1 case of influenza A & B. Queensland reported the highest number of notifications.
- As at 29 April 2011, there have been 3,434 confirmed cases of influenza reported to the National Notifiable Diseases Surveillance System (NNDSS) in 2011, compared with 810 for the same period in 2010.

3. International Influenza Activity (reporting period 30th April to 13th May, 2011)\(^1\)

The WHO has reported that worldwide influenza activity is low and activity in the Northern Hemisphere temperate regions has returned to baseline or pre-seasonal levels. In countries in the tropical zone, influenza activity is generally low with some transmission reported in countries of Sub-Saharan Africa. Reports from National Influenza Centres from 68 countries report that from 9 April –23 April 2011, 39% of specimens reported as influenza positive were influenza type A and 61% were influenza type B. Of the sub-typed influenza A viruses, 47% were pandemic (H1N1) 2009 and 53% were influenza A(H3N2).

4. Virology\(^1\)

_Typing and antigenic characterisation - WHO Collaborating Centre for Reference & Research on Influenza (WHO CC) in Melbourne_

From 1\(^{st}\) January to 15\(^{th}\) May 2011, there were 429 Australian influenza isolates processed by the WHO CC, with 85% (366/429) type A and 15% (63/429) type B. Subtyping of influenza A isolates indicated that 55% (202/366) were pandemic (H1N1) 2009 and 45% (164/366) were A/H3N2 (Table 1).

<table>
<thead>
<tr>
<th>Type/Subtype</th>
<th>ACT</th>
<th>NSW</th>
<th>NT</th>
<th>QLD</th>
<th>SA</th>
<th>TAS</th>
<th>VIC</th>
<th>WA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pandemic (H1N1) 2009</td>
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<td>28</td>
<td>127</td>
<td>0</td>
<td>2</td>
<td>15</td>
<td>22</td>
<td>202</td>
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<tr>
<td>A(H3N2)</td>
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<td>48</td>
<td>102</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>8</td>
<td>164</td>
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<tr>
<td>B</td>
<td>0</td>
<td>3</td>
<td>32</td>
<td>21</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>63</td>
</tr>
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<td>108</td>
<td>250</td>
<td>0</td>
<td>3</td>
<td>22</td>
<td>34</td>
<td>429</td>
</tr>
</tbody>
</table>

Please note: There may be up to a month delay on reporting of samples
Isolates tested by the WHO CC are not necessarily a random sample of all those in the community

Antigenic characterisation indicates that influenza isolates are a close match with the composition of the 2011 southern hemisphere influenza vaccine.
**Antiviral Resistance**

The WHO Collaborating Centre in Melbourne has reported that from 1 January 2011 to 15 May 2011, one isolate (out of 706 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**
