

15 November 2010

1. Influenza Notifications and ASPREN Influenza Like Illness

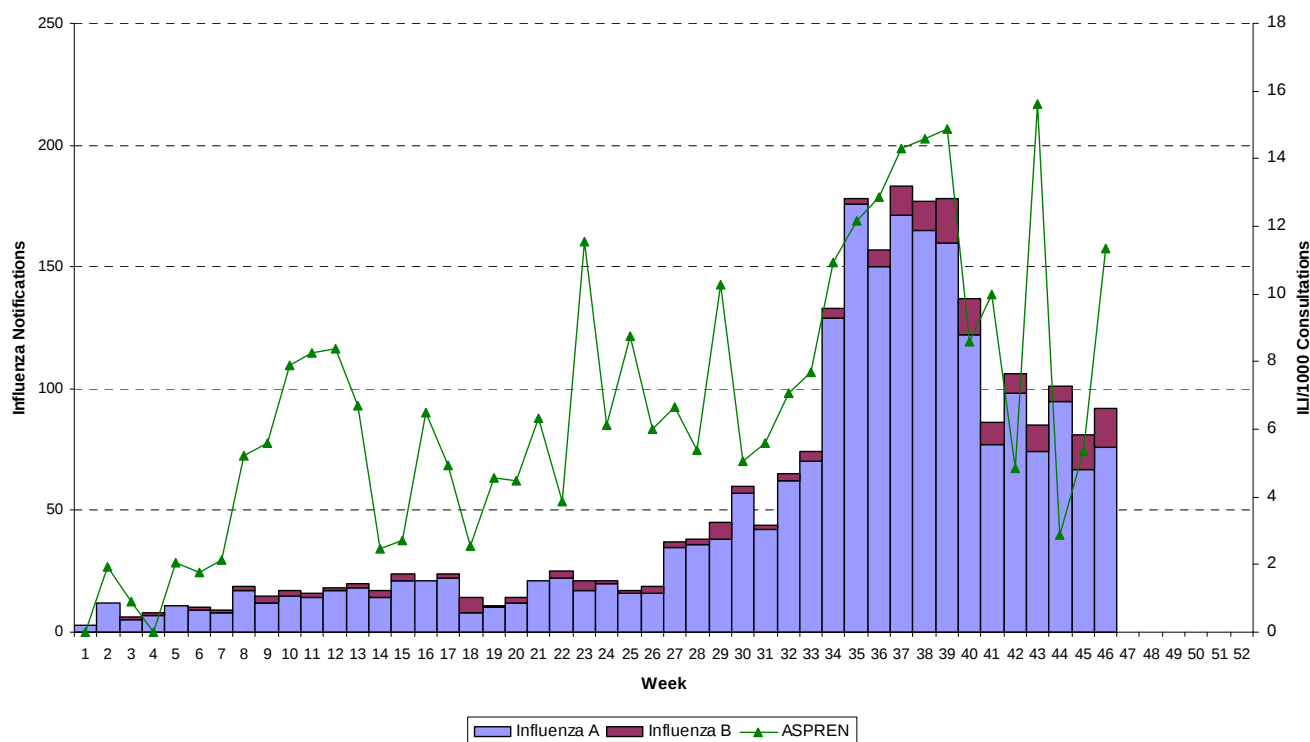


Figure 1: Laboratory confirmed influenza notifications in Queensland from 1st January 2010 to 14th November 2010, by onset week and type. Also, Consultation rates for influenza like illness in Queensland reported to the ASPREN sentinel network 1st January 2010 to 14th November 2010.

Data Sources: Queensland Health Notifiable Conditions Register 16/11/2010 and ASPREN website 16/11/2010

<https://www.dmac.adelaide.edu.au/aspren/asprenMISServlet?page=index>

Influenza Notifications

Year to date 2474 cases of influenza (2268 type A, 202 type B and 4 untyped) have been notified to Queensland Health. 1011 of the influenza A notifications are confirmed as pandemic (H1N1) 2009 infection while 102 have been H3N2. Figure 1 shows notifications for influenza A and B by week of onset. An increasing trend in notifications is noted from around week 29. The number of laboratory confirmed cases appears to have reached its peak in week 37. There was a small increase in week 42 and week 44. The recent week's (46) data may be incomplete.

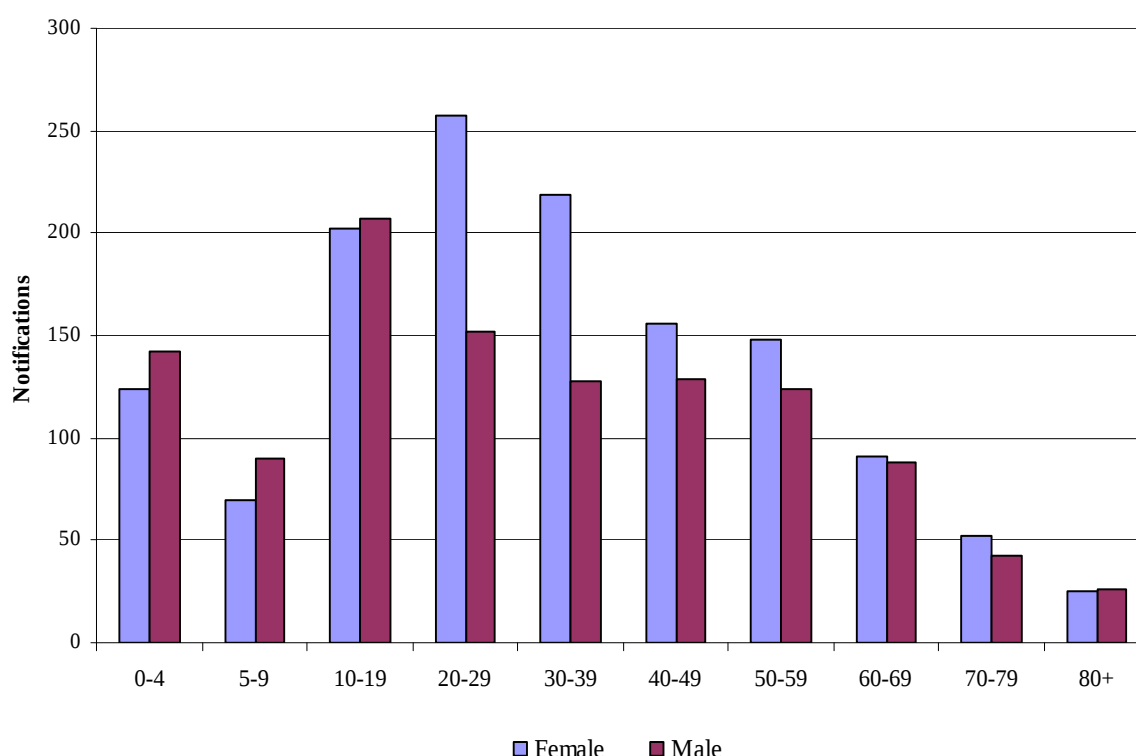


Figure 2: Age and gender profile of Influenza notifications in Queensland (2010) to 14th November

Data Source: Queensland Health Notifiable Conditions Register 16/11/2010

Figure 2 shows 2010 laboratory confirmed influenza notifications by age group and gender. Notifications are highest in the 10– 19 and 20 – 29 year age groups for males and females respectively.

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. There is rising trend from week 30 to 39 which is consistent with the rise in laboratory confirmed influenza notifications. A decreasing trend is noted from week 39 followed by a sharp rise in week 43. Fluctuations in consultation rates between weeks 43 and 46 may be an artefact of waning GP participation as the season draws to a close. The recent week (46) shows a rate of 11.3 ILI per 1000 consultations but may be incomplete.

2. Hospital Admissions in Queensland

Table 1: Hospital admissions in Queensland due to confirmed pandemic (H1N1) 2009 cases by Health Service District, from 1st January to 14th November, 2010

Health Service District	Cumulative Admissions (since 01/01/2010)	Currently Admitted (14/11/2010)	Cumulative ICU Admissions (since 01/01/2010)	Currently in ICU (14/11/2010)
Cairns and Hinterland	15	1	6	0
Cape York	0	0	0	0
Central Queensland	4	0	0	0
Central West	0	0	0	0
Children's Health Services	27	1	11	1
Darling Downs-West Moreton	30	0	8	0
Gold Coast	33	1	1	0
Mackay	3	0	0	0
Metro North	52	3	17	2
Metro South	32	4	9	0
Mt Isa	2	0	1	0
South West	1	0	0	0
Sunshine Coast-Wide Bay	11	0	1	0
Torres Strait-Northern Peninsula	0	0	0	0
Townsville	10	2	4	1
Private Hospitals§	15	0	10	0
Total	235	12	68	4

*data extracted from Epilog at 08:24am 16/11/2010 and were correct at time of extract

†accuracy of counts from public hospitals depends on the timeliness of data entry and may underestimate admission depending on the time of data extract.

§ Private hospital data last updated 16/11/2010

Epilog is a web based application which is used to store data related hospitalisation due to pandemic (H1N1)2009 infection in Queensland public hospitals and selected private hospitals. Analysis and reporting of data helps to inform strategies for optimizing health services and providing the best possible care for hospitalised cases.

Cumulative and current confirmed pandemic (H1N1) 2009 influenza admissions to hospital generally, and ICU specifically, are summarized in Table 1 by Health Service District (HSD).

Forty-eight percent (100/208) of patients admitted to public hospitals (overall) were male compared with 54% (27/50) admitted to ICU. The number of hospitalisations is highest in the 0-4 age group. Hospitalisation of females in the 20-29 year age group was approximately four times higher than males in the same group. Males above forty years show a higher frequency of hospitalisation compared with females of similar age (Figure 3).

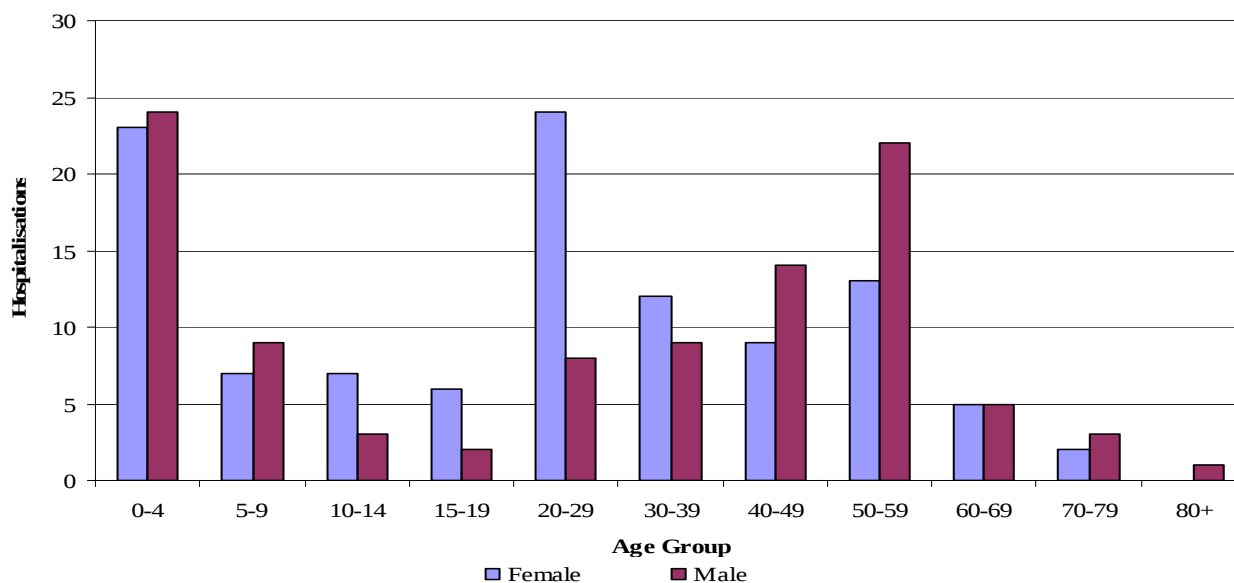


Figure 3: Age and gender profile of confirmed pandemic (H1N1) 2009 influenza cases admitted to public hospitals in Queensland 1st January to 14th November 2010

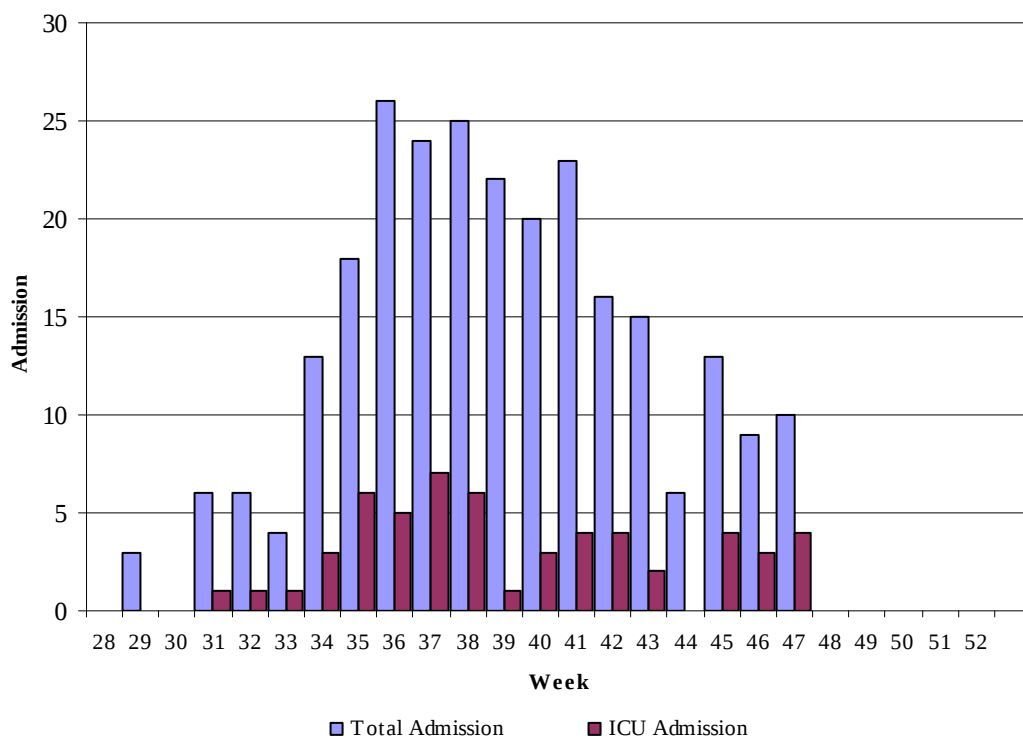


Figure 4: Confirmed pandemic (H1N1) 2009 influenza cases admitted to public hospitals in Queensland by week of admission 1st July to 14th November 2010

Compiled by the Epidemiology, Surveillance and Research Unit
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Pandemic (H1N1) 2009 influenza admissions have been steadily increasing since week 34. A decreasing trend is apparent from week 39, although numbers increased slightly in week 41. ICU admissions show a similar pattern to admissions overall (Figure 4). There have been two deaths attributed to Pandemic (H1N1) 2009 influenza since 1st January 2010.

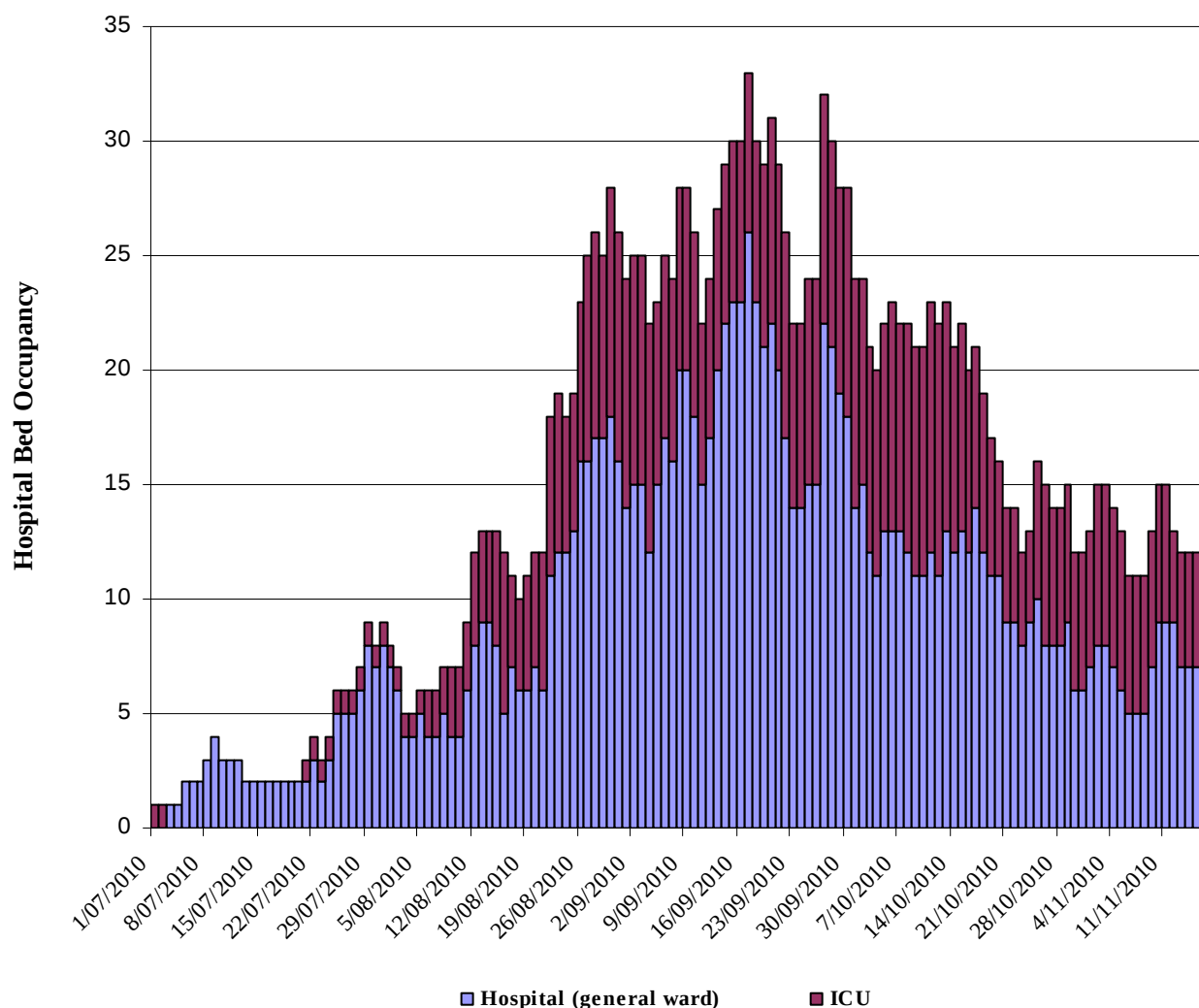


Figure 5: Hospital Bed occupancy of confirmed pandemic (H1N1) 2009 influenza cases admitted to public hospitals in Queensland 1st July to 14th November 2010

Total bed occupancy, due to confirmed pandemic (H1N1) 2009 influenza, showed 2 similar peaks on 17th and 27th September followed by a plateau in early October to mid October. The graph shows some fluctuation in the early November data; however there is now an overall decreasing trend (Figure 5).

3. Antiviral Courses Dispensed (from the National Stockpile) by Community Pharmacies

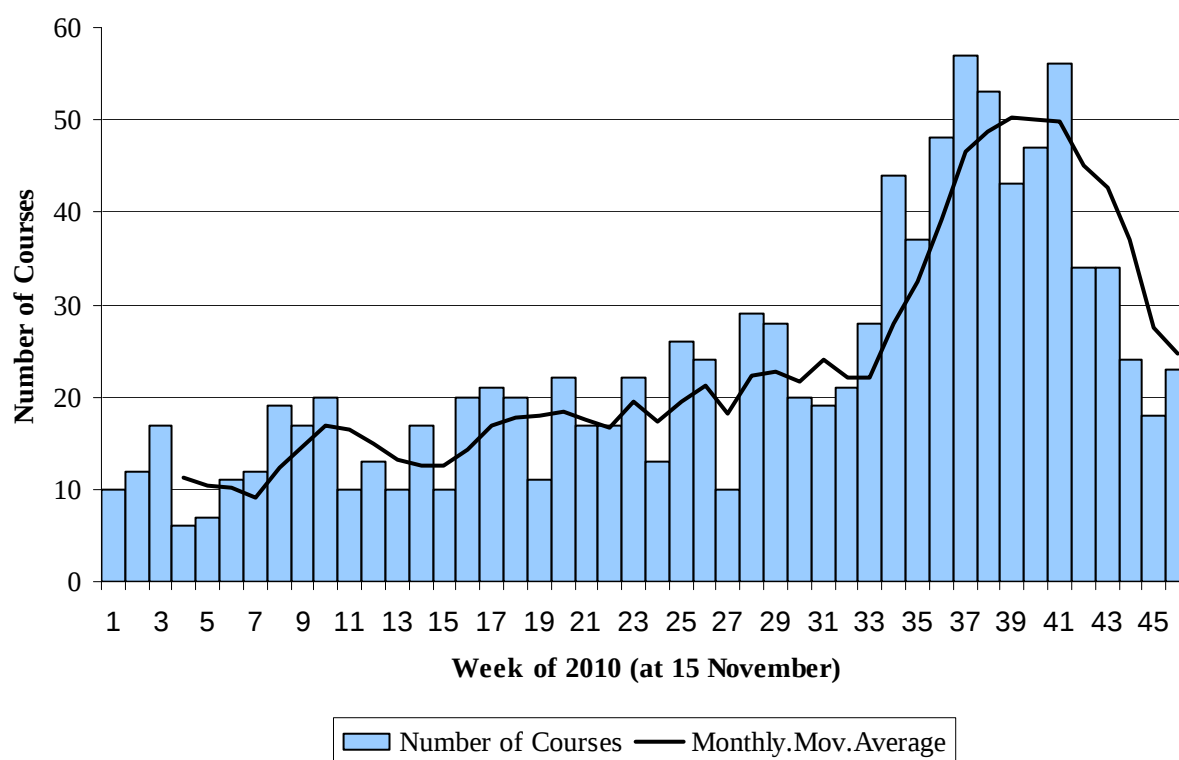


Figure 6: Weekly courses of oseltamivir (Tamiflu®) dispensed by community pharmacies from 1st January to 15th November, 2010, with monthly moving average.

Source: Pharmacy Guild of Queensland 15/11/2010

Figure 6 shows a sharp rise in the number of weekly courses of oseltamivir dispensed by community pharmacies between week 33 and week 37, followed by decreasing trend during weeks 38 and 39. The number of courses dispensed increased again in weeks 40 and 41. The number of courses dispensed in weeks 42 and 43 shows a plateau followed by a decline in the recent week (week 46). The monthly moving average shows a downward trend from week 41.

4. Influenza Activity in Australia (reporting period 30th October to 5th November, 2010)

- Levels of influenza-like illness (ILI) in the community remained low through all surveillance systems this reporting period. Sporadic, regional or widespread activity was reported within jurisdictions. The number of laboratory confirmed notifications continued to decline.
- There were 162 laboratory confirmed notifications of influenza during this reporting period, including 67 pandemic (H1N1) 2009 cases. Queensland and South Australia continued to report the highest number of notifications.
- Results from sentinel laboratory surveillance systems for this reporting period show that 13% of the respiratory tests conducted over this period were positive for influenza, although this is slightly higher than the previous reporting period (11%), it is similar to previous weeks. During

this period a third of the positive influenza specimens were influenza type B with the majority from WA and the remainder from the NT.

- In 2010, a total of 1,419 specimens have been positive for influenza (of 15,704 specimens tested by sentinel laboratories), of which 64% were pandemic (H1N1) 2009, 25% were influenza B, 9% were A/H3N2 and 2% were influenza A untyped. The majority of influenza B positive specimens have been from WA.
- As at 5 November 2010, there have been 11,317 confirmed cases of influenza reported to the National Notifiable Diseases Surveillance System (NNDSS) in 2010. A total of 44,403 confirmed cases of pandemic (H1N1) 2009 have occurred in Australia since May 2009, including 6,767 in 2010.
- ANZICS reported no ICU admissions for influenza this reporting period.

Source: Australian Influenza Surveillance Report No. 44, 30 October 2010 – 5 November 2010

[http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2010-jul-sep-pdf-cnt.htm/\\$File/ozflu-no44-2010.pdf](http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2010-jul-sep-pdf-cnt.htm/$File/ozflu-no44-2010.pdf)

5. International Influenza Activity (reporting period 30th October to 5th November, 2010)

The WHO has advised that the world is no longer in phase 6 of influenza pandemic alert, and has moved into the post pandemic period.³ As at 1 August 2010 there had been over 18,449 deaths associated with pandemic (H1N1) 2009 influenza worldwide since April 2009⁴.

The WHO has reported that overall influenza activity remained low, except in parts of the tropics including Southeast Asia. Influenza A/H3N2 continued to be the predominant influenza virus worldwide, although many countries have seen a co-circulation of seasonal influenza B and pandemic (H1N1) 2009. Most of the influenza A/H3N2 viruses detected are A/Perth/16/2009-like, which is the strain included in the seasonal vaccine for the Northern and Southern Hemispheres.⁴

Source: Australian Influenza Surveillance Report No. 44, 30 October 2010 – 5 November 2010

[http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2010-jul-sep-pdf-cnt.htm/\\$File/ozflu-no44-2010.pdf](http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2010-jul-sep-pdf-cnt.htm/$File/ozflu-no44-2010.pdf)

6. Virology

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

From 1 January to 7 November 2010, there were 1,277 Australian influenza isolates subtyped by the WHO CC with the majority of isolates typed as pandemic (H1N1) 2009 (Table 2).

Table 2: Typing of influenza isolates from the WHO Collaborating Centre, from 1 January to 7 November 2010

Type/Subtype	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	TOTAL
A(H1N1)	0	0	0	0	0	0	0	0	0
Pandemic (H1N1)2009	16	57	158	295	217	1	255	105	1104
A(H3N2)	2	3	0	41	3	3	13	17	82
B	0	20	0	29	5	0	20	17	91
Total	18	80	158	365	225	4	288	139	1277

SOURCE: WHO CC

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, hence proportions of pandemic (H1N1) 2009 to seasonal are not representative of the proportions circulating.

Antigenic characterisation of 881 pandemic (H1N1) 2009 isolates has shown 781 to be the A/California/7/2009-like strain and 8 a low reactor version of this strain. Antigenic characterisation of 42 type A/H3N2 isolates has shown 34 to be the A/Perth/16/2009-like and 8 to be the A/Perth/16/2009-like low reactor versions of the strain. One isolate was antigenically characterised as 15 a low-reactor version of B/Florida/4/2006-like, 47 were characterised as B/Brisbane/60/2008-like and two a low reactor version of this strain.

Source: Australian Influenza Surveillance Report No. 44, 30 October 2010 – 5 November 2010

[http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2010-jul-sep-pdf-cnt.htm/\\$File/ozflu-no44-2010.pdf](http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2010-jul-sep-pdf-cnt.htm/$File/ozflu-no44-2010.pdf)

Antiviral Resistance

Pandemic (H1N1) 2009

The WHO Collaborating Centre in Melbourne has reported that from 1 January 2010 to 7 November 2010, no isolates (out of 925 tested) have shown resistance to oseltamivir or zanamivir by enzyme inhibition assay (EIA) and two pandemic (H1N1) 2009 isolates (out of 41 tested) have shown the H275Y mutation known to confer resistance to oseltamivir.

Source: Australian Influenza Surveillance Report No. 44, 30 October 2010 – 5 November 2010

[http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2010-jul-sep-pdf-cnt.htm/\\$File/ozflu-no44-2010.pdf](http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2010-jul-sep-pdf-cnt.htm/$File/ozflu-no44-2010.pdf)

2011 Southern Hemisphere Vaccine

The WHO has recommended that the composition of vaccines for use in the 2011 influenza season (southern hemisphere winter) 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 virus²

The 2011 composition is the same as the current 2010 Southern Hemisphere influenza vaccine.

Source: Australian Influenza Surveillance Report No. 44, 30 October 2010 – 5 November 2010

[http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2010-jul-sep-pdf-cnt.htm/\\$File/ozflu-no44-2010.pdf](http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2010-jul-sep-pdf-cnt.htm/$File/ozflu-no44-2010.pdf)