



The Department of Health and Ageing acknowledges the providers of the many sources of data used in this report and greatly appreciates their contribution.

Key Indicators

Influenza activity and severity in the community is monitored using the following indicators and surveillance systems:

Is the situation changing?	Indicated by trends in: <ul style="list-style-type: none"> laboratory confirmed cases reported to the National Notifiable Diseases Surveillance System (NNDSS); general practitioner (GP) consultations for influenza-like illness (ILI); emergency department (ED) presentations for ILI; ILI-related call centre calls and community level surveys of ILI; and sentinel laboratory test results.
How severe is the disease, and is severity changing?	Indicated by trends in: <ul style="list-style-type: none"> hospitalisations, intensive care unit (ICU) admissions and deaths; and clinical severity in hospitalised cases and ICU admissions.
Is the virus changing?	Indicated by trends in: <ul style="list-style-type: none"> drug resistance; and antigenic drift or shift of the circulating viruses.

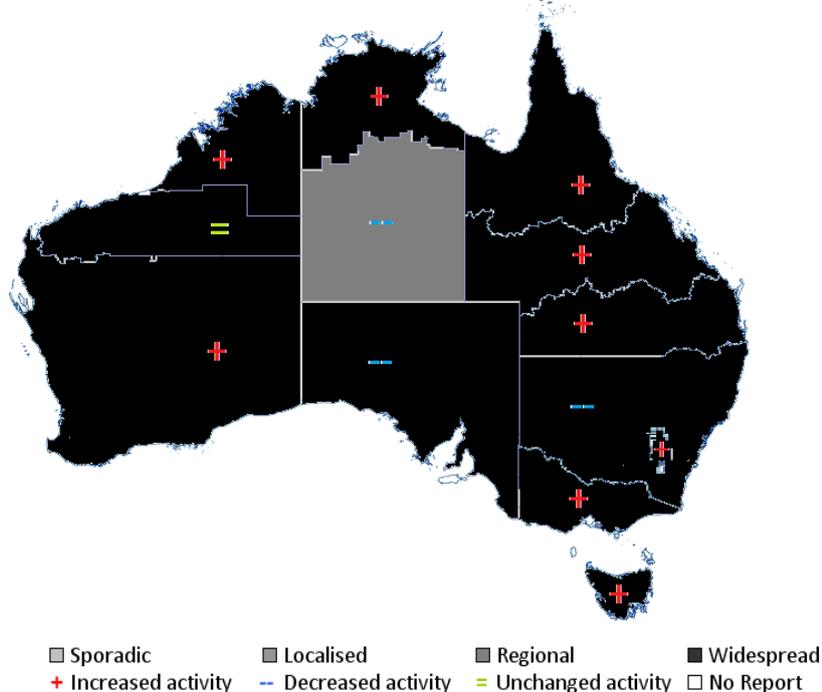
Summary

- Nationally across most surveillance systems influenza activity started to decrease this fortnight.
- Almost all jurisdictions have reported widespread activity above baseline levels. South Australia, New South Wales and parts of the Northern Territory and Western Australia, have reported either a decrease or no change in activity.
- Influenza-like illness (ILI) activity has started to decrease. Seasonal activity started slightly earlier than in previous years (excluding 2009). Currently ILI activity levels are above the seasonal peaks reported in 2010 and 2011.
- During this fortnight there were 5,995 laboratory confirmed notifications of influenza, with a slight decrease in the most recent week. Although there continues to be increases in Queensland, Western Australia and Tasmania, notifications across all other jurisdictions have either remained stable or started to decrease.
- Nationally, influenza A(H3N2) remains the predominant circulating virus with some co-circulation of influenza B, however this varies by jurisdiction. So far in 2012 there have been very few notifications of pandemic (H1N1) 2009.
- As at 20 July 2012, there have been 16,897 confirmed cases of influenza reported. Excluding 2009, notifications of influenza in 2012 started their seasonal increase slightly earlier compared with previous years.
- Influenza associated hospitalisations have continued to increase this fortnight. Almost 20% of hospitalisations have been associated with influenza B infections, mostly reported from the Northern Territory and Queensland; amongst other jurisdictional sites, influenza A is more common. Known medical co-morbidities have been reported in almost 75% of hospitalised cases. There is a bimodal age distribution trend in hospitalisations, with peaks among those aged 0-9 years and over 70 years.
- The WHO has reported that the influenza season has started in the temperate countries of the southern hemisphere. Influenza A(H3N2) viruses have been the most commonly detected in recent weeks in the southern hemisphere temperate region; however, significant numbers of influenza B were also reported in South Africa. Although there have been very few reports of pandemic (H1N1) 2009 in the southern hemisphere temperate region, pandemic (H1N1) 2009 is currently the most commonly detected virus in some counties of central and tropical South America.

1. Geographic Spread of Influenza Activity in Australia

In the fortnight ending 20 July 2012, the geographic spread of influenza activity reported by state and territory Health Departments was 'widespread' across all states and territories, except in the Central region of the Northern Territory where activity was reported as 'localised' (figure 1). During this period Queensland, the Northern Territory, Tasmania, Victoria, and Western Australia had evidence of an increase in ILI via syndromic surveillance systems. Definitions of these activity levels are provided in the *Data Considerations* section of this report.

Figure 1. Map of influenza activity by state and territory during the fortnight ending 20 July 2012



2. Influenza-like Illness Activity

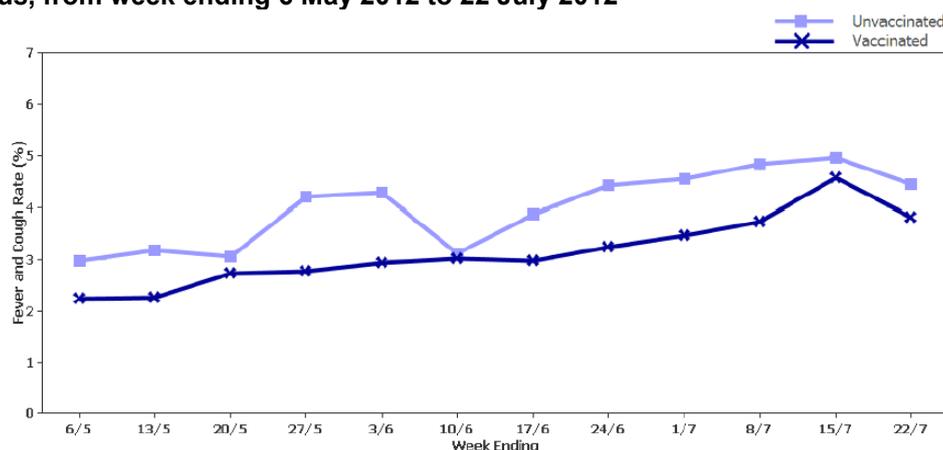
Community Level Surveillance

FluTracking

FluTracking, a national online system for collecting data on ILI in the community, noted that in the week ending 22 July 2012 fever and cough was reported by 3.8% of vaccinated participants and 4.5% of unvaccinated participants (figure 2).¹ Fever, cough and absence from normal duties was reported by 2.6% of vaccinated participants and 2.8% of unvaccinated participants. Current rates of ILI among FluTracking participants are trending slightly higher compared with previous years, excluding 2009. In the most recent fortnight there has been a decline in the reported rates of ILI (figure 3).

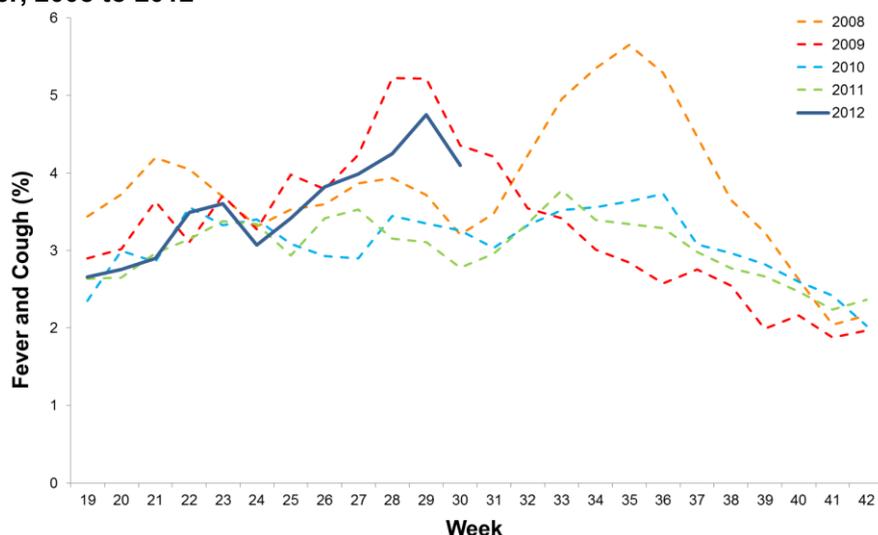
Up to 22 July 2012, 53.4% of participants reported having received the seasonal vaccine so far. Of the 2,670 participants who identified as working face-to-face with patients, 73.3% have received the vaccine.

Figure 2. Proportion of cough and fever among Flutracking participants by week and vaccination status, from week ending 6 May 2012 to 22 July 2012



Source: FluTracking¹

Figure 3. Proportion of fever and cough among FluTracking participants by week, between May and October, 2008 to 2012

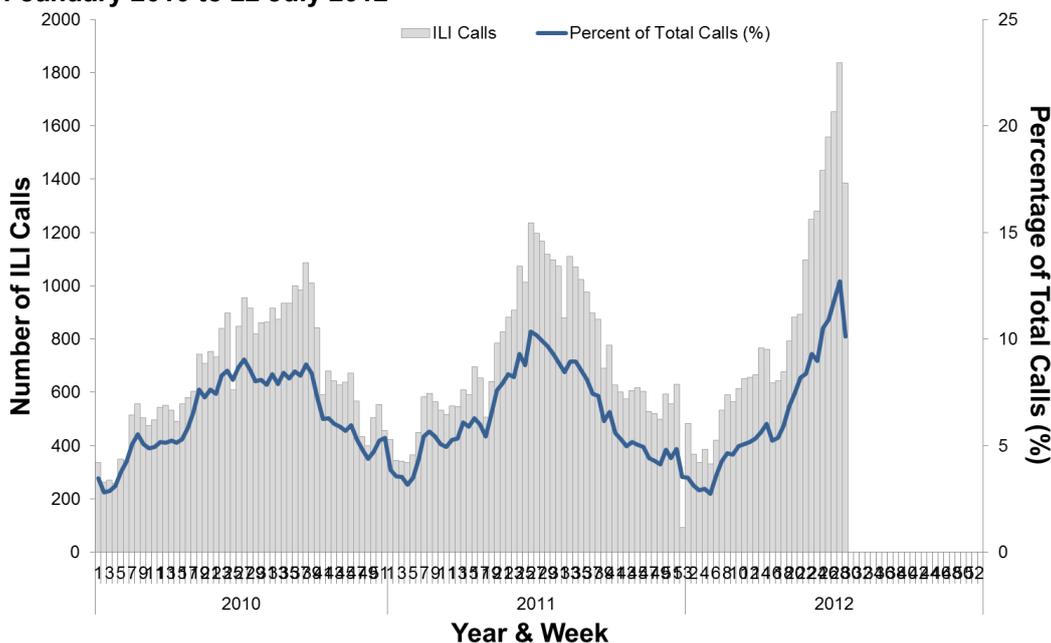


Source: FluTracking¹

National Health Call Centre Network

In the week ending 22 July 2012, the number of ILI related calls to the National Health Call Centre Network (NHCCN) decreased to 1,386, following a peak of 1,836 calls. The proportion of total calls which were ILI related also decreased to 10.1%, following a peak in the previous week of 12.7%. The number and proportion of ILI weekly related calls to the NHCCN in 2012 have been higher than the peaks experienced in 2010 and 2011 (figure 4).

Figure 4. Number of calls to the NHCCN related to ILI and percentage of total calls, Australia, 1 January 2010 to 22 July 2012

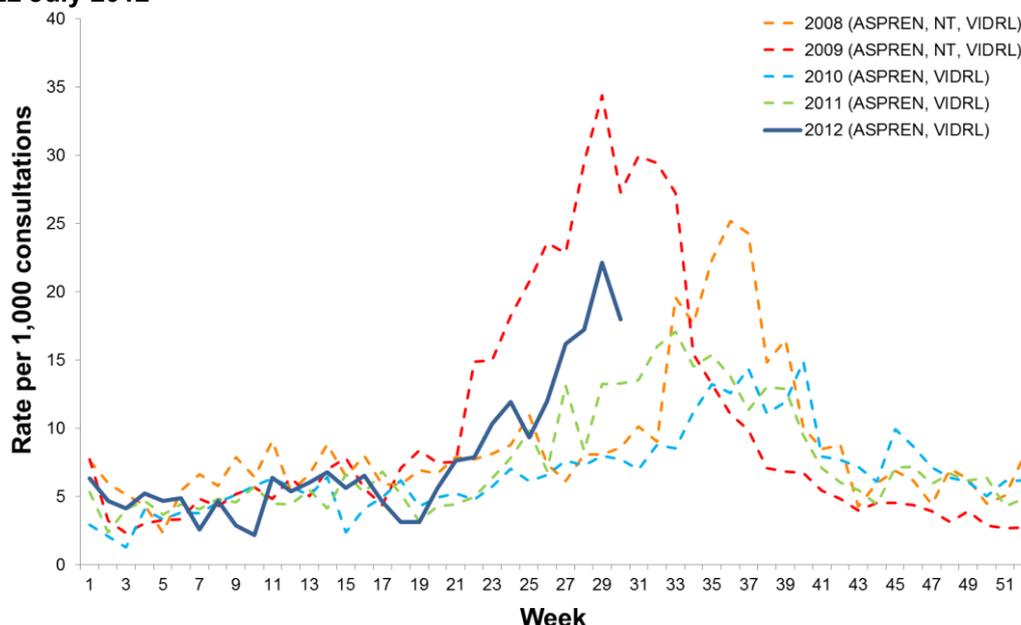


Note: NHCCN data do not include Queensland and Victoria
Source: NHCCN data

Sentinel General Practice Surveillance

In the week ending 22 July 2012, sentinel general practitioner ILI consultation rates decreased to 18.0 cases per 1,000 consultations, following an apparent peak in the previous fortnight of 22.1 (figure 5). Compared with previous years (excluding 2009), there has been an earlier increase in ILI consultation rates and rates are higher than the seasonal peaks reported in 2010 and 2011.

Figure 5. Weekly rate of ILI reported from GP ILI surveillance systems from 1 January 2008 to 22 July 2012*



* Delays in the reporting of data may cause data to change retrospectively. As data from the previous Northern Territory surveillance system was combined with ASPREN and VIDRL surveillance data for 2008 and 2009, rates may not be directly comparable with 2010-2012. SOURCE: ASPREN and VIDRL² GP surveillance system.

In the fortnight ending 22 July 2012, specimens were collected from around half of ASPREN ILI patients. Of these patients, 57% were positive for influenza, up from 50% in the previous fortnight. Over forty per cent were positive for influenza type A, with the majority likely to be attributed to A (H3N2); and the remaining 16% were influenza type B (figure 6 and table 1). Around 13% per cent of specimens collected were positive for other respiratory viruses this fortnight, with the majority of these being either rhinovirus or RSV.

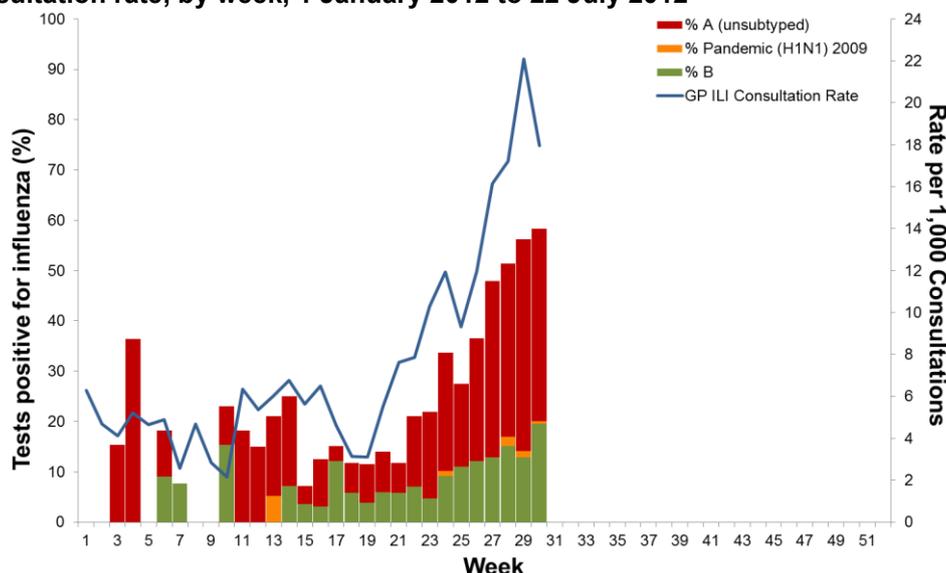
Table 1. ASPREN laboratory respiratory viral test results of ILI consultations, 1 January 2012 to 22 July 2012.

	Fortnight (9 July – 22 July 2012)	YTD (1 January – 22 July 2012)
Total specimens tested	439	1,715
Total Influenza Positive (%)	57.2	37.1
Influenza A (%)	41.2	26.2
<i>Pandemic (H1N1) 2009 (%)</i>	0.9	0.6
<i>Influenza A (unsubtyped) (%)</i> #	40.3	25.7
Influenza B (%)	15.9	10.9
Other Resp. Viruses (%) *	12.5	20.8

The majority of type A(unsubtyped) notifications are likely to be attributed to A(H3N2)

* Other respiratory viruses include RSV, parainfluenza, adenovirus and rhinovirus.

Figure 6. Proportion of respiratory viral tests positive for influenza in ILI patients and GP ILI consultation rate, by week, 1 January 2012 to 22 July 2012



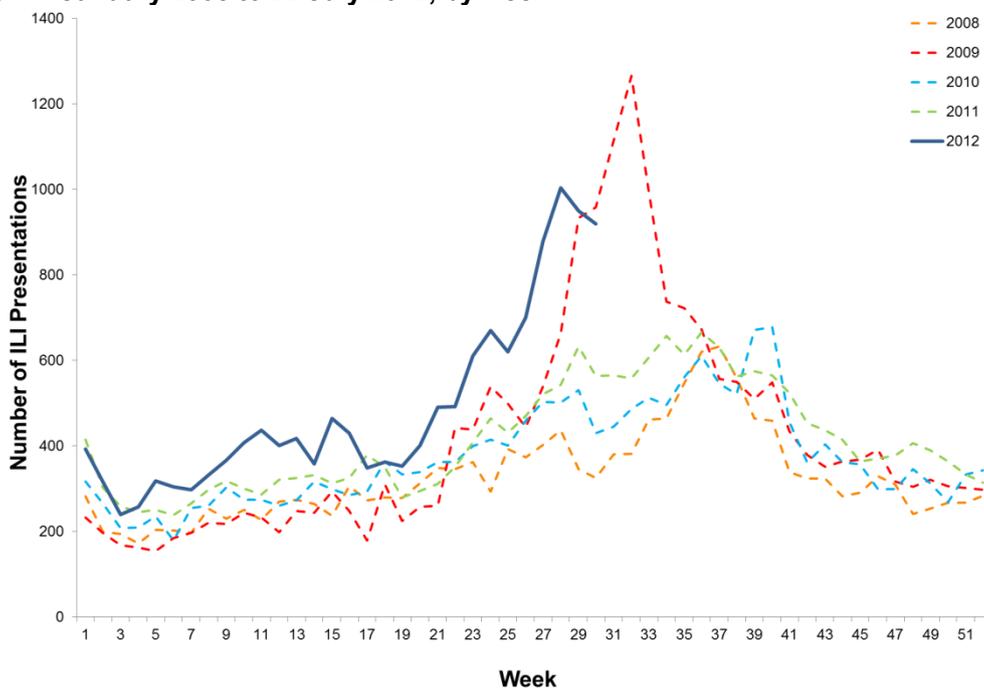
SOURCE: ASPREN and WA SPN

Sentinel Emergency Department Surveillance

Western Australia Emergency Departments

In the fortnight ending 22 July 2012, respiratory viral presentations to Perth emergency departments decreased, but remain higher than the peak levels experienced in previous years (excluding 2009) (figure 7). Over this period there were 1,869 presentations, including 128 admissions. The proportion of presentations requiring admission to hospital over this period remained stable at 6.8%.

Figure 7. Number of respiratory viral presentations to Western Australia emergency departments from 1 January 2008 to 22 July 2012, by week

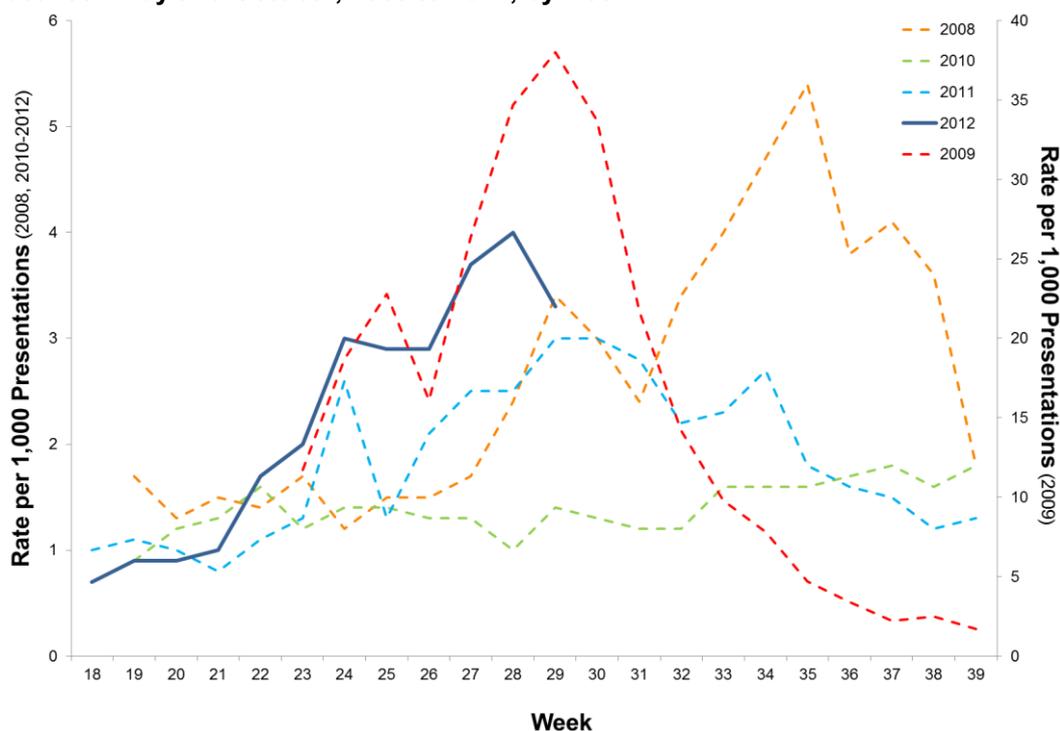


Source: WA 'Virus Watch' Report³

New South Wales Emergency Departments

In the week ending 20 July 2012 the number of patients presenting to NSW emergency departments decreased (figure 8). Emergency department presentations are considered to be within the usual range for this time of year; however presentations in the over 65 years age group remain higher than the usual range. Total admissions from emergency departments to critical care units for ILI and pneumonia decreased this week, but remain well above peak levels in recent years (excluding 2009), especially in the over 65 years age group.⁴

Figure 8. Rate of influenza-like illness presentations to New South Wales emergency departments, between May and October, 2008 to 2012, by week*

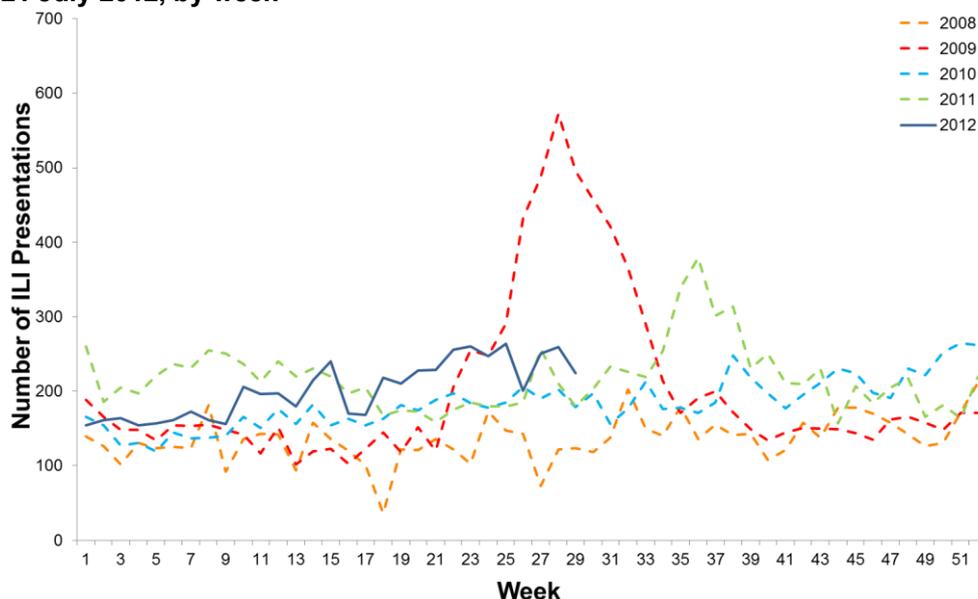


Source: NSW Influenza Weekly Epidemiology Report⁴

Northern Territory Emergency Departments

In the fortnight ending 21 July 2012, the number of patients presenting with ILI to emergency departments across the Northern Territory was 483, which is slightly above the number of presentations observed in previous years over the same period (excluding 2009) (figure 9).

Figure 9. Number of ILI presentations to Northern Territory emergency departments, 1 January 2008 to 21 July 2012, by week



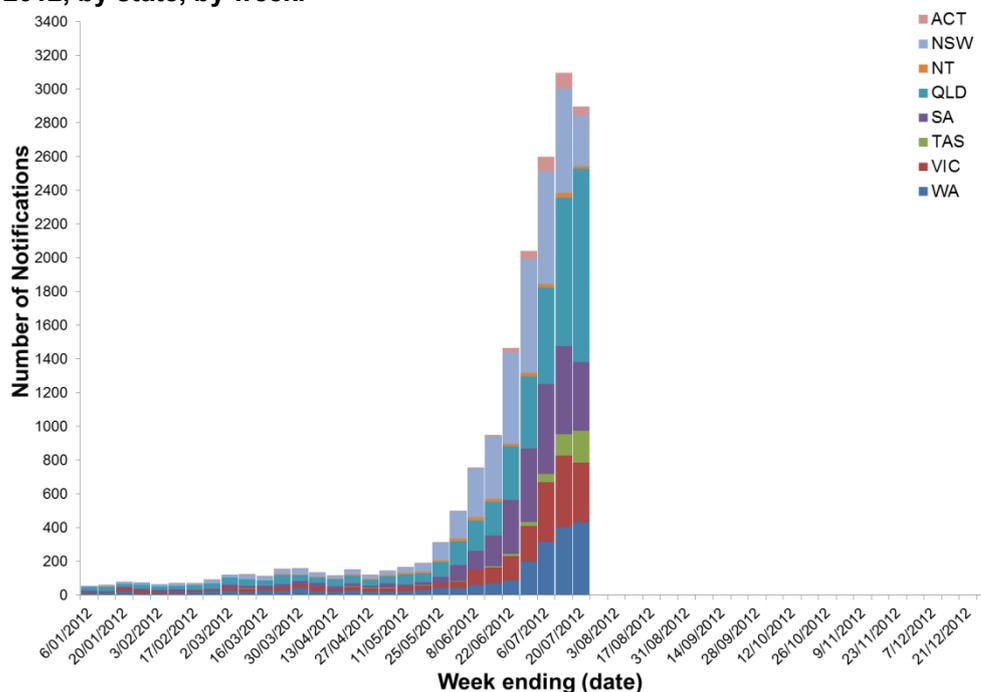
Source: Centre for Disease Control, Department of Health, Northern Territory Government

3. Laboratory Confirmed Influenza Activity

Notifications of Influenza to Health Departments

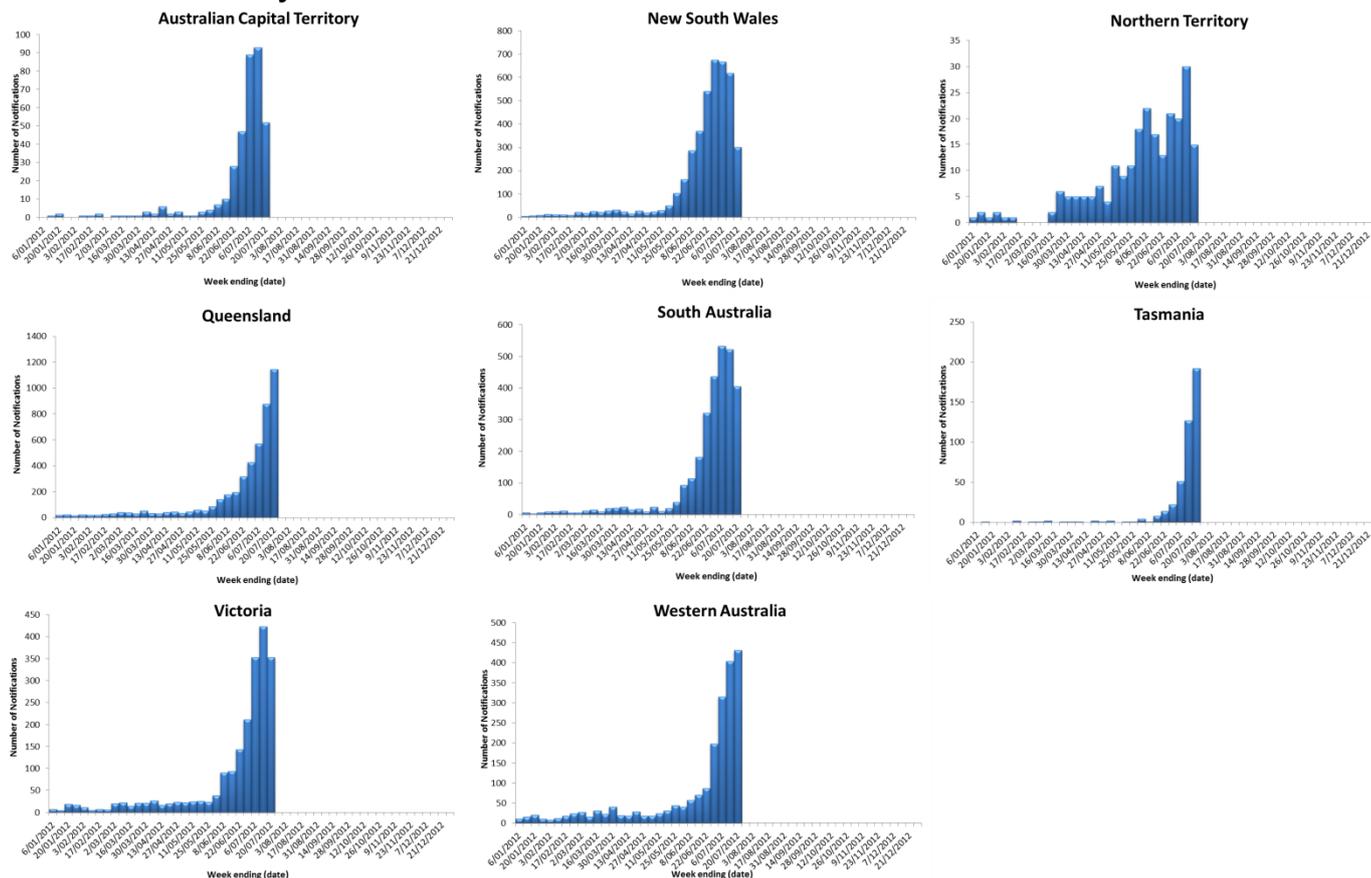
During the reporting period there were 5,995 laboratory confirmed influenza notifications reported to the NNDSS, with a slight decrease in the most recent week. Although the number of notifications were higher than the previous fortnight (4,642), the rate of increase has slowed in comparison to recent weeks (figure 10). Notifications for this fortnight were highest in Queensland (2,025); followed by South Australia (928), New South Wales (921), Western Australia (835), Victoria (777), Tasmania (319), the ACT (145) and the NT (45). A weekly breakdown of trends by state and territory highlights that although there continues to be increases in Queensland, Western Australia and Tasmania, notifications across all other jurisdictions have either remained stable or started to decrease over the past fortnight (figure 11).

Figure 10. Notifications of laboratory confirmed cases of influenza in Australia, 1 January to 20 July 2012, by state, by week.



Source: NNDSS

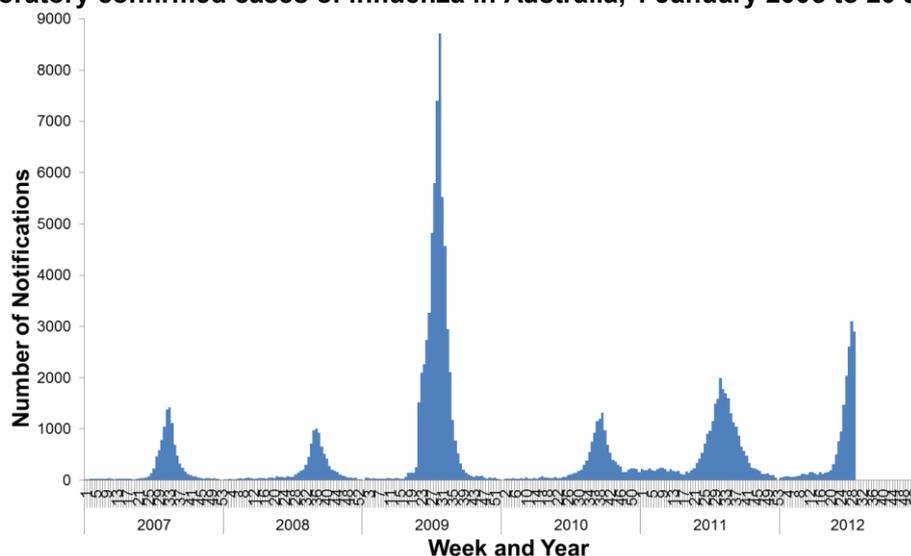
Figure 11. Notifications of laboratory confirmed cases of influenza, 1 January to 20 July 2012, by state or territory and week



Source: NNDSS

Up to 20 July, there have been 16,897 laboratory confirmed notifications of influenza diagnosed during 2012 (figure 12). Of these notifications, there have been 4,646 in Queensland, 4,153 in New South Wales, 2,908 in South Australia, 2,082 in Victoria, 2,076 in Western Australia, 436 in Tasmania, 362 in the ACT and 234 in the Northern Territory.

Figure 12. Laboratory confirmed cases of influenza in Australia, 1 January 2008 to 20 July 2012



Source: NNDSS

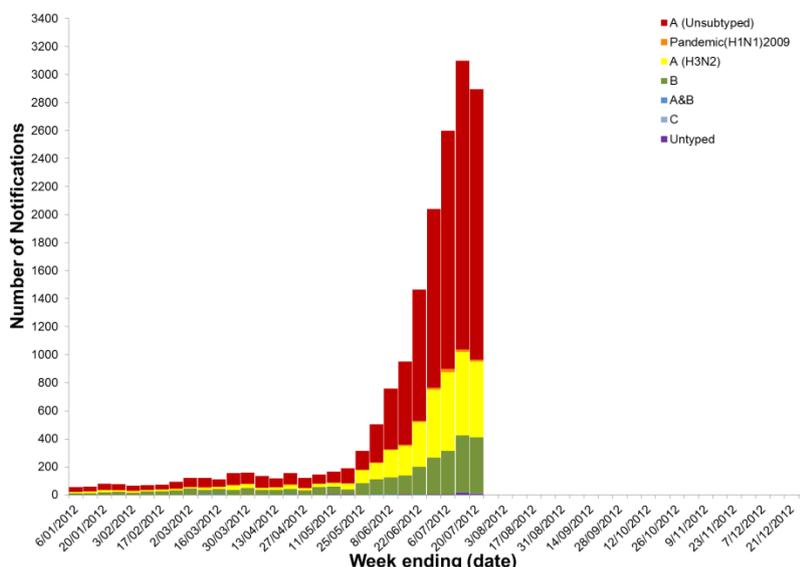
Of the 5,995 influenza notifications reported to the NNDSS this reporting period, 5,158 were influenza A (3,993 were influenza A (unsubtyped), 1,135 were A(H3N2) and 30 were pandemic (H1N1) 2009), 811 were influenza B and 26 notifications were reported as A&B, C or untyped (figure 13). The majority of type A (unsubtyped) notifications are likely to be attributed to A(H3N2).

Nationally, influenza A(H3N2) continues to be the predominant circulating strain with some co-circulation of influenza B. Influenza A(H3N2) is predominant across most states and territories, however influenza B represents around a third of notifications in the Northern Territory and Western

Australia, with this proportion steadily decreasing. So far in 2012 there have been very few notifications of pandemic (H1N1) 2009 reported.

So far in 2012, 14,169 (84%) cases were reported as influenza A (62% influenza A (unsubtyped), 21% A(H3N2) and 1% pandemic (H1N1) 2009) and 2,657 (15%) were influenza B. A further 32 (<1%) were influenza type A&B, 1 (<1%) was influenza C, and 38 (<1%) were untyped (figure 13).

Figure 13. Laboratory confirmed cases of influenza in Australia, 1 January to 20 July 2012, by subtype and week



Source: NNDSS

Sentinel Laboratory Surveillance

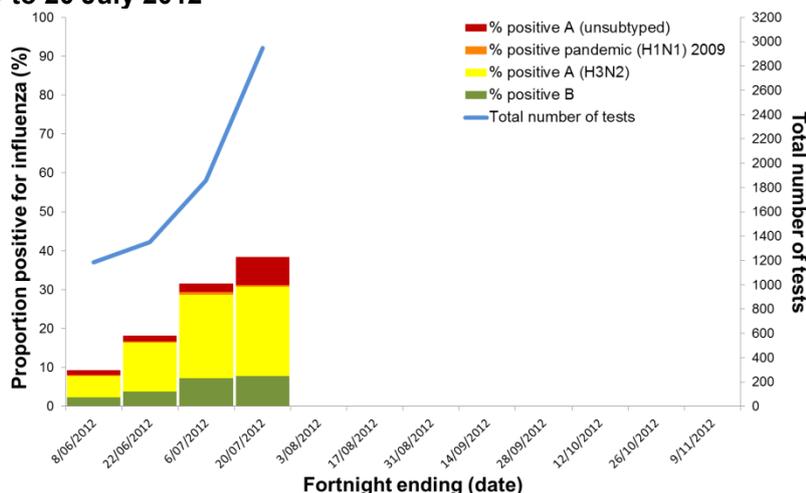
Results from sentinel laboratory surveillance systems for this reporting period show that 38.4% of the respiratory viral tests conducted over this period were positive for influenza, an increase from 31.5% in the previous fortnight (table 2). Influenza A(H3N2) was the predominant influenza virus reported. A breakdown of subtypes within this positive proportion by fortnight is highlighted in figure 14.

Table 2. Sentinel laboratory respiratory virus testing results, 7 July to 20 July 2012

	NSW NIC	WA NIC	VIC NIC	TAS (PCR Testing Data)
Total specimens tested	559	1,335	393	659
Total Influenza Positive	109	636	88	297
Positive Influenza A	96	422	86	296
<i>Pandemic (H1N1) 2009</i>	<i>0</i>	<i>6</i>	<i>7</i>	<i>0</i>
<i>A (H3N2)</i>	<i>96</i>	<i>415</i>	<i>79</i>	<i>86</i>
<i>A (unsubtyped)</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>210</i>
Positive Influenza B	13	214	2	1
<i>Proportion Influenza Positive (%)</i>	<i>19.5%</i>	<i>47.6%</i>	<i>22.4%</i>	<i>45.1%</i>
Most common respiratory virus detected	Influenza A	Influenza A	Influenza A	Influenza A

Source: National Influenza Centres (WA, Vic, NSW) and Tasmanian laboratories (PCR testing)

Figure 14. Proportion of sentinel laboratory tests positive for influenza, by subtype and fortnight, 26 May to 20 July 2012



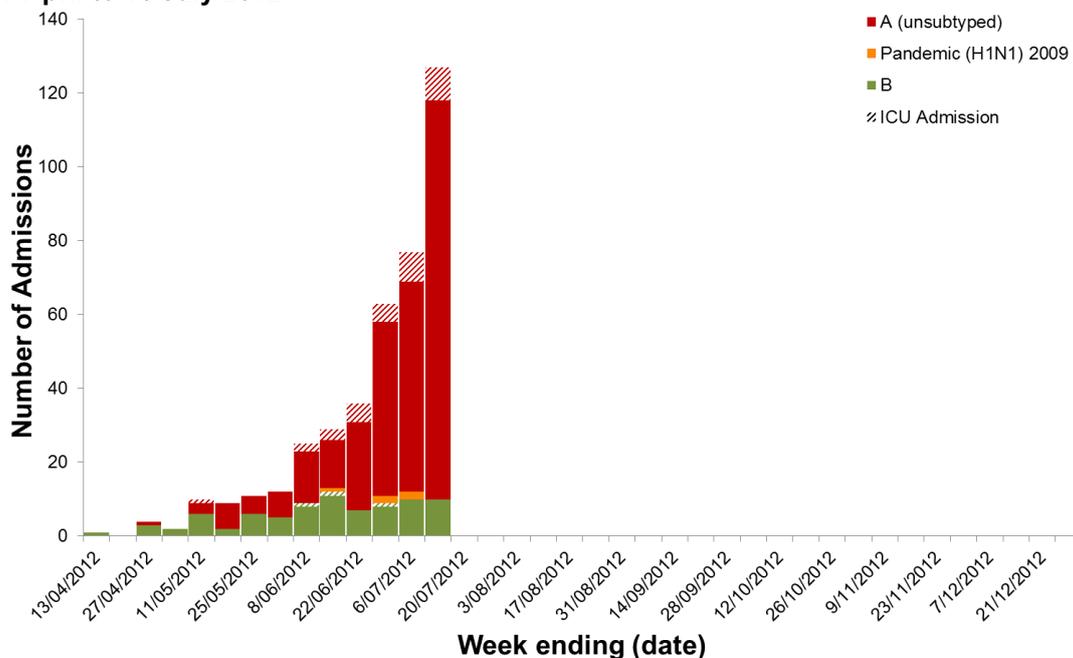
Source: National Influenza Centres (WA, Vic, NSW) and Tasmanian laboratories (PCR testing)

Hospitalisations

Influenza Complications Alert Network (FluCAN)

The Influenza Complications Alert Network (FluCAN) sentinel hospital surveillance system has reported that there has been a continued increase in the number of cases in the last fortnight, particularly in Victoria and South Australia. Since 7 April 2012, nine percent of influenza patients have been admitted directly to ICU. Overall, 20% of cases have been due to influenza B (figure 15), however most of these presentations are from the Northern Territory, with influenza A more common in other states. Around 45% of the cases are aged 65 years and over (median age 59 years) and almost 75% of all cases have known medical co-morbidities.

Figure 15. Number of influenza hospitalisations at sentinel hospitals, by week and influenza subtype, 7 April to 13 July 2012

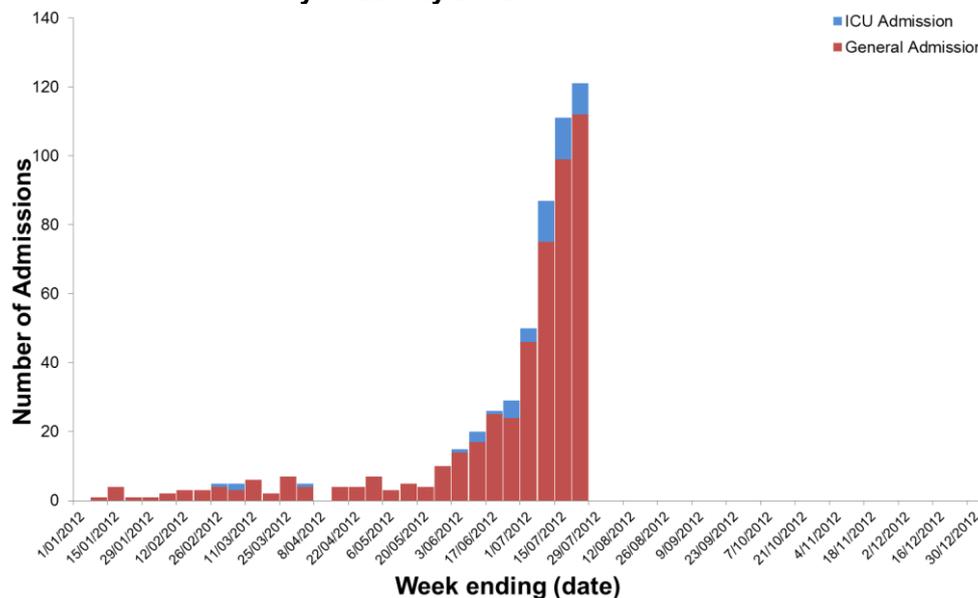


Source: FluCAN Sentinel Hospitals

Queensland Public Hospital Admissions (EpiLog)

Admissions to public hospitals in Queensland of confirmed influenza are detected through the EpiLog system. Up to 22 July 2012, there have been 541 admissions of confirmed influenza, including 51 to intensive care units. In the most recent fortnight hospital admission have continued to increase and accounted for almost 40% of the total admissions so far in 2012 (232/541) (figure 16). The age distribution of confirmed influenza admissions in 2012 shows a bimodal distribution peaking in the 0-9 year age group and also in those aged over 70 years.

Figure 16. Number of influenza admissions to Queensland public hospitals, by week and type of admission, with onset from 1 January to 22 July 2012



Source: Queensland Health EpiLog data

Paediatric Severe Complications of Influenza

The Australian Paediatric Surveillance Unit conducts seasonal surveillance of children aged 15 years and under who are hospitalised with severe complications of influenza. Between 1 July and 23 July 2012, there have been six hospitalisations associated with severe complications of influenza, including 3 ICU admissions. The majority of these hospitalisations were associated with influenza A(unsupported) and almost all cases had an underlying chronic condition.

Deaths associated with influenza and pneumonia

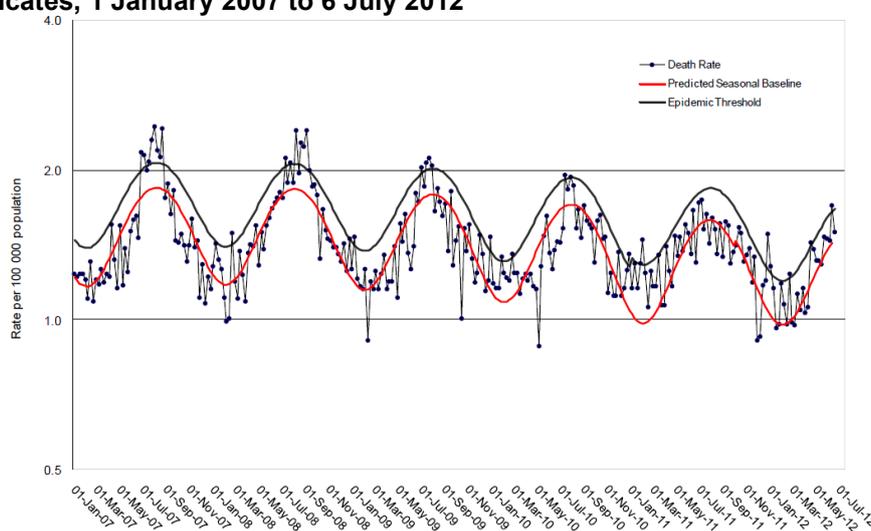
Nationally Notified Influenza Associated Deaths

So far in 2012, 19 influenza associated deaths have been notified to the NNDSS, with a median age of 73 years. All cases were reported as having influenza A(unsupported) and are likely to be attributable to A(H3N2) infections. The number of influenza associated deaths reported to the NNDSS are reliant on the followup of cases to determine the outcome of their infection and most likely do not represent the true mortality impact associated with this disease.

New South Wales Influenza and Pneumonia Death Registrations

Death registration data for the week ending 6 July 2012 show that there were 1.2 pneumonia or influenza associated deaths per 100,000 population in NSW, which is below the epidemic threshold of 1.7 per 100,000 NSW population for this period (Figure 17).⁴

Figure 17. Rate of deaths classified as influenza and pneumonia from the NSW Registered Death Certificates, 1 January 2007 to 6 July 2012



Source: NSW 'Influenza Weekly Epidemiology Report'⁴

4. Virological Surveillance

Typing and Antigenic Characterisation

WHO Collaborating Centre for Reference & Research on Influenza (WHO CC), Melbourne

From 1 January to 23 July 2012, there were 507 Australian influenza viruses subtyped by the WHO CC with over half being influenza A(H3N2) and 40% influenza B. So far this year, very few viruses have been pandemic (H1N1) 2009 (table 3).

Table 3. Australian Influenza viruses typed by HI or PCR from the WHO Collaborating Centre, from 1 January 2012 to 23 July 2012

Type/Subtype	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	TOTAL
Pandemic (H1N1) 2009	0	0	1	2	1	0	10	5	19
A(H3N2)	5	37	0	57	44	15	119	12	289
B	2	8	43	49	25	2	34	36	199
Total	7	45	44	108	70	17	163	53	507

SOURCE: WHO CC

Note: There may be up to a month delay on reporting of samples.

Viruses tested by the WHO CC are not necessarily a random sample of all those in the community.

The WHOCC has analysed some of the currently circulating influenza viruses. Whilst almost all of the influenza A(H3N2) viruses are of a more recent strain that differs from the A(H3N2) strain in the 2012 Southern Hemisphere seasonal influenza vaccine, it is expected that the vaccine will still offer significant protection. Additionally there is some co-circulation of the two influenza B lineages. The

majority of influenza B viruses are of the B/Victoria lineage and are similar to the strain in the current vaccine. Some cross-protection against influenza B viruses of the other (B/Yamagata) lineage is expected in adults, though less so for children. The next northern hemisphere vaccine (2012-13) will include a B/Yamagata lineage virus instead of the current B/Victoria lineage virus.

Antiviral Resistance

The WHO CC has reported that from 1 January to 23 July 2012, one influenza virus (out of 370 tested) has shown resistance to the neuraminidase inhibitor oseltamivir. This virus was a pandemic (H1N1) 2009 virus with H275Y mutation in the neuraminidase gene, which is known to confer resistance to oseltamivir.

2012/13 Northern Hemisphere Vaccine

In February 2012 the WHO recommended that vaccines for the 2012-2013 influenza season (northern hemisphere winter) contain the following:

- an A/California/7/2009 (H1N1)pdm09-like virus;
- an A/Victoria/361/2011 (H3N2)-like virus;
- a B/Wisconsin/1/2010-like virus⁵

In comparison to the current 2012 southern hemisphere vaccine, the recommended A(H3N2) and B viruses have been changed. The WHO notes in their recommendations that⁵:

- the majority of recent A(H3N2) viruses were antigenically and genetically distinguishable from the current southern hemisphere vaccine virus (A/Perth/16/2009) and were more closely related to A/Victoria/361/2011-like reference viruses.
- the proportion of B/Yamagata/16/88 lineage viruses increased in many parts of the world but B/Victoria/2/87 lineage viruses predominated in some countries. The majority of recent B/Victoria/2/87 lineage viruses were antigenically and genetically closely related to the current southern hemisphere vaccine virus (B/Brisbane/60/2008). Most recently isolated B/Yamagata/16/88 lineage viruses were antigenically distinguishable from the previous vaccine virus B/Florida/4/2006 and were closely related to B/Wisconsin/1/2010-like viruses.

5. International Influenza Surveillance

The WHO⁶ has reported that as at 20 July 2012 the influenza season is largely finished in the temperate countries of the northern hemisphere. A detailed review of the recent northern hemisphere season is available at: <http://www.who.int/wer/2012/wer8724/en/>. The influenza season has commenced in most temperate countries of the southern hemisphere, although influenza remains nearly undetectable in Argentina.

In New Zealand⁷, for the week ending 22 July 2012, the national weekly rate of ILI consultations are currently 108.5 per 100,000 patient population and are well above baseline activity levels (50 per 100,000 patient population). Six of the twenty district health boards were above the national average weekly consultation rate. Virological surveillance through both sentinel and non-sentinel laboratories shows that so far this year 67% have been influenza A(H3N2) viruses, 10% influenza B viruses and 14% were pandemic (H1N1) 2009 virus detections, with the remainder being influenza A (unsubtyped). It is noted that currently influenza A(H3N2) viruses remain the predominant virus in many regions.

In the southern hemisphere temperate region, influenza A(H3N2) viruses have been the most commonly reported type/subtype in Chile, South Africa and Australia; however, significant numbers of influenza B were also reported in South Africa and to a lesser extent, Australia. Although there have been very few reports of pandemic (H1N1) 2009 in the southern hemisphere temperate region, pandemic (H1N1) 2009 is currently the most commonly detected virus in Paraguay and some countries in Central and tropical South America.⁶ National Influenza Centres and laboratories in 67 countries, areas or territories, have reported that for the period 24 June to 7 July 2012, a total of 2,265 specimens were reported as positive for influenza viruses, with 84% being influenza A and 16% influenza B. Of the sub-typed influenza A viruses, 92% were influenza A(H3N2) and 8% were pandemic (H1N1) 2009. Of the characterised influenza B viruses, 83% belong to the B/Yamagata lineage and 17% to the B/Victoria lineage.⁸

6. Data Considerations

The information in this report is reliant on the surveillance sources available to the Department of Health and Ageing. As access to sources increase as the season progresses, this report will be updated with the additional information.

This report aims to increase awareness of influenza activity in Australia by providing an analysis of the various surveillance data sources throughout Australia. While every care has been taken in preparing this report, the Commonwealth does not accept liability for any injury or loss or damage arising from the use of, or reliance upon, the content of the report. Delays in the reporting of data may cause data to change retrospectively. For further details about information contained in this report please contact the Influenza Surveillance Team through flu@health.gov.au.

Geographic Spread of Influenza Activity Influenza Activity Levels

Activity level	Laboratory notifications		Influenza outbreaks
Sporadic	Small no of lab confirmed influenza detections (not above expected background level) ⁺	AND	No outbreaks
Localised	Recent increase in lab confirmed influenza detections above background level ⁺⁺ in less than 50% of the influenza surveillance regions ^{**} within the state or area	OR	Single outbreak only
Regional	Significant ^{***} recent increase in lab confirmed influenza detections above baseline in less than 50% of the influenza surveillance regions within the state or area	OR	> 1 outbreaks occurring in less than 50% of the influenza surveillance regions within the state or area ⁺⁺⁺
Widespread	Significant recent increase in lab confirmed influenza detections above baseline in equal to or greater than 50% of the influenza surveillance regions within the state or area	OR	> 1 outbreaks occurring in equal to or greater than 50% of the influenza surveillance regions within the state or area

⁺ Small no of lab detections = not above expected background level as defined by state epidemiologists.

⁺⁺ Increase in lab confirmed influenza detections = above expected threshold as defined by state epidemiologists.

^{**} Influenza surveillance region within the state/area as defined by state epidemiologists.

^{***} Significant increase is a second threshold to be determined by the state epidemiologists to indicate level is significantly above the expected baseline.

⁺⁺⁺ Areas to be subdivision of NT (2 regions), WA (3 regions) and QLD (3 regions) that reflect significant climatic differences within those states resulting in differences in the timing of seasonal influenza activity on a regular basis.

Recent = within the current reporting period.

Syndromic Surveillance Activity

Syndromic surveillance systems*

No evidence of increase in ILI via syndromic surveillance systems

Evidence of increase in ILI via syndromic surveillance systems

* Syndromic surveillance systems = GP sentinel surveillance, ED ILI surveillance, Flu tracking (this may be due to a variety of respiratory viruses so the report could add a note to indicate if other evidence suggests that the increase is suspected to be influenza activity or due to another respiratory pathogen). Syndromic surveillance is reported on a state wide basis only

FluTracking

FluTracking is a project of the University of Newcastle, the Hunter New England Area Health Service and the Hunter Medical Research Institute. FluTracking is an online health surveillance system to detect epidemics of influenza. It involves participants from around Australia completing a simple online weekly survey, which collects data on the rate of ILI symptoms in communities.

Further information on FluTracking is available at www.flutracking.net/index.html.

Sentinel General Practice Surveillance

The sentinel general practice ILI surveillance data between 2008 and 2012 consists of two main general practitioner schemes, the Australian Sentinel Practices Research Network (ASPREN) and a Victorian Infectious Disease Reference Laboratory (VIDRL) coordinated sentinel GP ILI surveillance program. Additionally, between 2008 and 2009 a Northern Territory surveillance scheme also operated, however this scheme has since been incorporated in to the ASPREN scheme. The national case definition for ILI is presentation with fever, cough and fatigue.

The ASPREN currently has sentinel GPs who report ILI presentation rates in NSW, NT, SA, ACT, VIC, QLD, TAS and WA. The VIDRL scheme operates in metropolitan and rural general practice sentinel sites throughout Victoria and also incorporates ILI presentation data from the Melbourne Medical Deputising Service. As jurisdictions joined ASPREN at different times and the number of GPs reporting has changed over time, the representativeness of sentinel general practice ILI surveillance data in 2012 may be different from that of previous years.

ASPREN ILI surveillance data are provided to the Department on a weekly basis throughout the year, whereas data from the VIDRL coordinated sentinel GP ILI surveillance program is provided between May and October each year.

Approximately 30% of all ILI patients presenting to ASPREN sentinel GPs are swabbed for laboratory testing. Please note the results of ASPREN ILI laboratory respiratory viral tests now include Western Australia.

Further information on ASPREN is available at www.dmac.adelaide.edu.au/aspren and information regarding the VIDRL coordinated sentinel GP ILI surveillance program is available at: <https://www.victorianflusurveillance.com.au/>.

Sentinel Emergency Department Data

Western Australia – Emergency Department ILI surveillance data are extracted from the ‘Virus Watch’ Report. This report is produced weekly. The Western Australia Influenza Surveillance Program collects data from eight Perth emergency departments.

New South Wales – Emergency Department ILI surveillance data are extracted from the ‘Weekly Influenza Report, NSW’. The New South Wales Influenza Surveillance Program collects data from 56 emergency departments across New South Wales.

Northern Territory – this sentinel program collects data from the following hospitals: Royal Darwin, Gove District, Katherine District, Tennant Creek and Alice Springs. The definition of ILI is presentation to ED in the NT with one of the following presentations: febrile illness, cough, respiratory infection, or viral illness.

National Notifiable Diseases Surveillance System (NNDSS)

Laboratory confirmed influenza (all types) is notifiable under public health legislation in all jurisdictions in Australia.

Confirmed cases of influenza are notified through the NNDSS by all jurisdictions. The national case definition is available at: http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-nndss-casedefs-cd_flu.htm.

Analyses of Australian notifications are based on the diagnosis date, which is the earliest of the onset date, specimen date or notification date.

Sentinel Laboratory Surveillance data

Laboratory testing data are provided weekly directly from PathWest (WA), VIDRL (VIC), ICPMR (NSW), and Tasmanian laboratories reporting PCR results. Additionally, approximately 30% of all ILI patients presenting to ASPREN based sentinel GPs are swabbed for laboratory testing.

Influenza Complications Alert Network (FluCAN)

The Influenza Complications Alert Network (FluCAN) sentinel hospital system monitors influenza hospitalisations at the following sites:

- Australian Capital Territory – the Canberra Hospital and Calvary Hospital;
- New South Wales – John Hunter Hospital and Westmead Hospital;
- Northern Territory – Alice Springs Hospital;
- Queensland – the Mater Hospital, Princess Alexandra Hospital and Cairns Base Hospital;
- South Australia – Royal Adelaide Hospital;
- Tasmania – Royal Hobart Hospital;
- Victoria – Geelong Hospital, Royal Melbourne Hospital, Monash Medical Centre and Alfred Hospital;
- Western Australia – Royal Perth Hospital.

Influenza counts are based on active surveillance at each site for admissions with PCR-confirmed influenza in adults. Some adjustments may be made in previous periods as test results become available. ICU status is as determined at the time of admission and does not include patients subsequently transferred to ICU.

Queensland Public Hospital Admissions (EpiLog)

EpiLog is a web based application developed by Queensland Health. This surveillance system generates admission records for confirmed influenza cases through interfaces with the inpatient information and public laboratory databases. Records are also able to be generated manually. Admissions data reported are based on date of reported onset.

Deaths associated with influenza and pneumonia

Nationally reported influenza associated deaths are notified by jurisdictions to the NNDSS, which is maintained by the Department of Health and Ageing. Notifications of influenza associated deaths are likely to underestimate the true number of influenza associated deaths occurring in the community.

NSW influenza and pneumonia deaths data are collected from the NSW Registry of Births, Deaths and Marriages. Figure 16 is extracted from the ‘Weekly Influenza Report, NSW’. NSW Registered Death Certificates are routinely reviewed for deaths attributed to pneumonia or influenza. While pneumonia has many causes, a well-known indicator of seasonal and pandemic influenza activity is an increase in the number of death certificates that mention pneumonia or influenza as a cause of death. The predicted seasonal baseline estimates the predicted rate of influenza or pneumonia deaths in the absence of influenza epidemics. If deaths exceed the epidemic threshold, then it may be an indication that influenza is beginning to circulate widely.

WHO Collaborating Centre for Reference & Research on Influenza

Data on Australian influenza viruses are provided weekly to the Department from the WHO Collaborating Centre for Reference & Research on Influenza based in Melbourne, Australia.

7. References

1 FluTracking Weekly Interim Report #12, 22 July 2012. Available from:

<http://www.flutracking.net/survey/reports/LatestReport.pdf>. Accessed 27 July 2012.

2 The 2012 Victorian Influenza Vaccine Effectiveness Audit Report #12, 22 July 2012. Available from:

www.victorianflusurveillance.com.au. Accessed 27 July 2012.

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- 3 WA Virus Watch Report, 22 July 2012. Available from:
http://www.public.health.wa.gov.au/cproot/4604/2/20120722_virus_watch.pdf. Accessed 27 July 2012.
- 4 NSW Influenza Weekly Epidemiology Report, 14 July to 20 July 2012. Available from:
- 5 WHO Recommended composition of influenza virus vaccines for use in the 2012-13 northern hemisphere influenza season. Available from:
http://www.who.int/influenza/vaccines/virus/recommendations/2012_13_north/en/index.html.
Accessed 15 June 2012.
- 6 WHO Influenza Update 164 (20 July 2012). Available from:
http://www.who.int/influenza/surveillance_monitoring/updates/2012_07_20_surveillance_update_164.pdf. Accessed 27 July 2012.
- 7 New Zealand Influenza Weekly Update, 16 to 22 July 2012. Available from:
http://www.surv.esr.cri.nz/PDF_surveillance/Virology/FluWeekRpt/2012/FluWeekRpt201229.pdf.
Accessed 27 July 2012.
- 8 WHO Laboratory confirmed data from the Global Influenza Surveillance Network – 20 July 2012.
Available from:
http://www.who.int/influenza/gisrs_laboratory/updates/summaryreport/en/index.html#. Accessed 27 July 2012.