



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; GP Sentinel influenza-like illness (ILI) Surveillance; emergency department (ED) presentations for ILI; ILI-related absenteeism and call centre calls; 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, ICU admissions and deaths from sentinel systems; 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 genetic drift or shift from laboratory surveillance.

Summary

- Levels of influenza and influenza-like illness (ILI) in the community are continuing to show signs of increasing through all surveillance systems.
- There have been 362 laboratory confirmed notifications of influenza during this reporting period, including 248 pandemic (H1N1) 2009 cases. Notifications of laboratory confirmed influenza were highest in VIC, SA and QLD during the current reporting period.
- Results from sentinel laboratory surveillance systems for this reporting period show that 14% of the respiratory tests conducted over this period were positive for influenza, which is similar to the last reporting period (15%). In 2010, a total of 448 specimens have been positive for influenza (of 9,275 specimens tested), of which 66% were pandemic (H1N1) 2009 and 16% were A/H3N2. The most common respiratory viruses diagnosed by sentinel laboratories this reporting period were respiratory syncytial virus (RSV) in WA, RSV and rhinovirus in NSW, and picornavirus in VIC.
- Of the 2,833 confirmed cases of influenza diagnosed during 2010 up to 20 August, 1,066 (38%) have been sub-typed as pandemic (H1N1) 2009. A total of 38,702 confirmed cases of pandemic (H1N1) 2009 have occurred in Australia since May 2009.
- Sentinel hospitals have reported ten hospitalisations for influenza in this reporting period, including seven for pandemic (H1N1) 2009. ANZICS reported ten ICU admissions for influenza during this period. APSU have reported 4 cases of influenza complications in children aged 15 years and under since 1 July 2010.
- The WHO has advised that the world is no longer in phase 6 of influenza pandemic alert, and will now move into the post pandemic period. As at 1 August 2010, over 18,449 deaths worldwide have been reported associated with the pandemic virus. WHO are currently reporting transmission remains locally intense in parts of India and New Zealand.

1. Influenza activity in Australia

Geographic spread of influenza and ILI – Jurisdictional Surveillance

In the fortnight ending 20 August 2010, influenza and ILI activity as reported by state and territory Health Departments indicated that there was 'sporadic' activity in TAS, 'local' activity in the ACT, 'regional' activity in NT, WA, QLD and NSW and 'widespread' activity in SA and Vic (Figure 1). Definitions of these activity levels are provided in the Data Considerations section of this report.

Figure 1. Map of influenza and ILI activity, by state and territory, during fortnight ending 20 August 2010

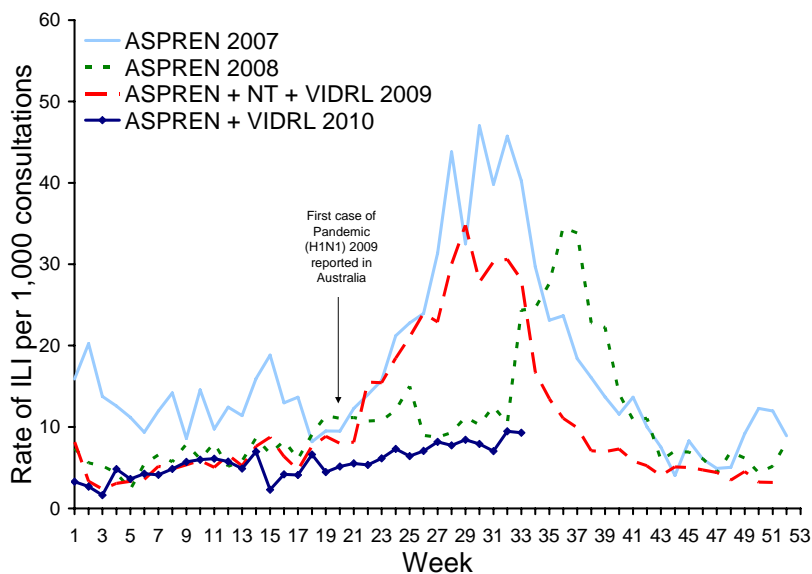


Influenza-Like Illness

Sentinel General Practice Surveillance

In the week ending 15 August 2010, national ILI consultation rates to sentinel GPs was approximately 9 cases per 1,000 consultations (Figure 2). Although the rate in 2010 has had a slight upward trend since the beginning of the year, the consultation rate is still below previous years and has remained relatively stable over the past few weeks.

Figure 2. Weekly rate of ILI reported from GP ILI surveillance systems from 1 January 2007 to 15 August 2010*



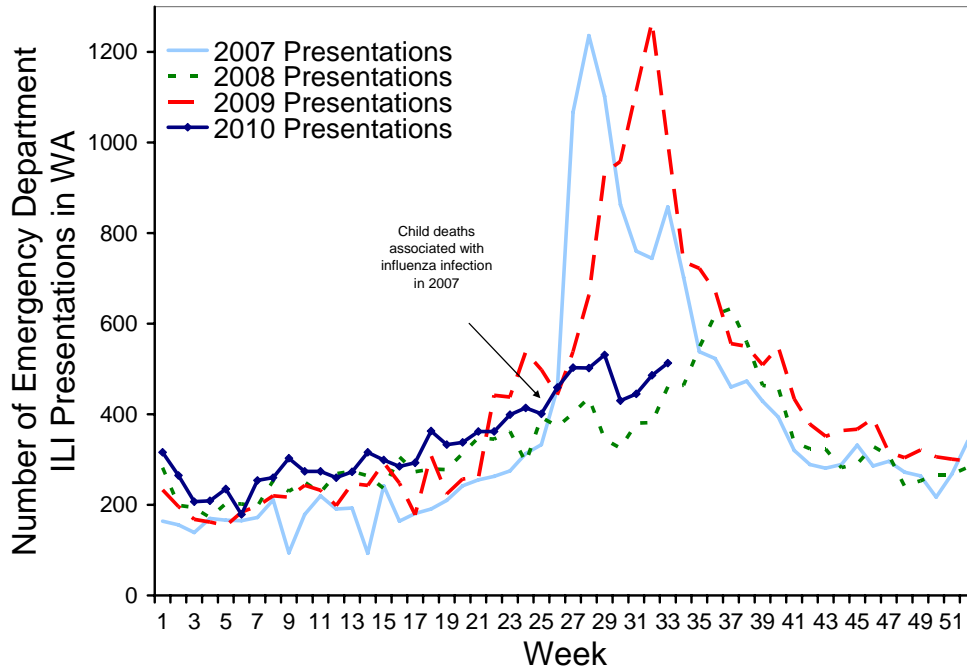
* Delays in the reporting of data may cause data to change retrospectively. As data from the VIDRL surveillance system is combined with ASPREN data for 2010, rates may not be directly comparable across 2007, 2008 and 2009.

SOURCE: ASPREN, and VIDRL GP surveillance system.

WA Emergency Departments

Respiratory viral presentations reported in Western Australian EDs have increased over the past two weeks, and an overall upward trend has been observed since the beginning of 2010 (Figure 3). In the week ending 15 August 2010 there were 513 respiratory viral presentations, including 30 admissions, a slight increase from 486 in the previous reporting week.

Figure 3. Number of respiratory viral presentations to Western Australia EDs from 1 January 2007 to 15 August 2010 by week

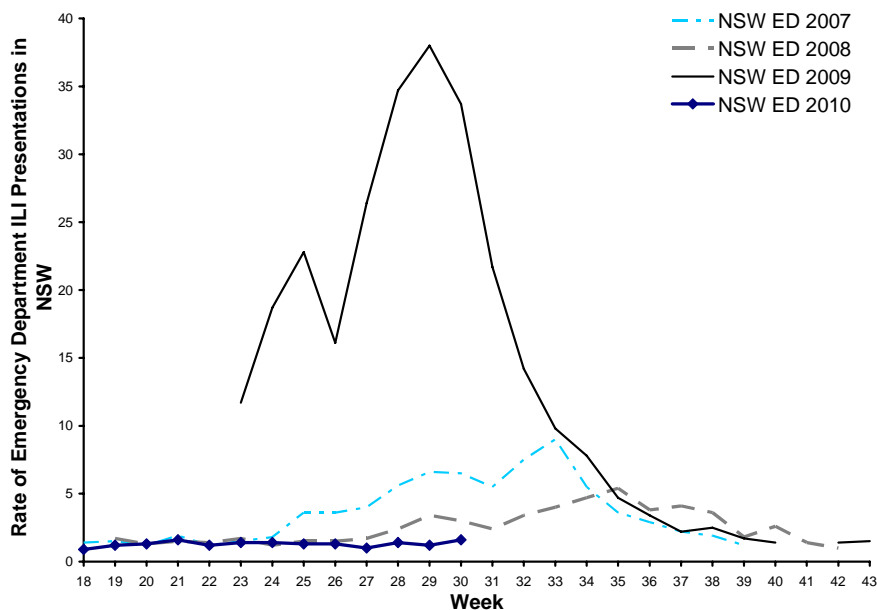


Source: WA 'Virus Watch' Report

NSW Emergency Departments

In the week ending 13 August 2010, ILI presentations to NSW EDs remained low and stable (Figure 4). In July 2010, there were 13 admissions to hospital following presentation to emergency departments with ILI.

Figure 4: ILI presentations to NSW EDs from 2007-2010, by week

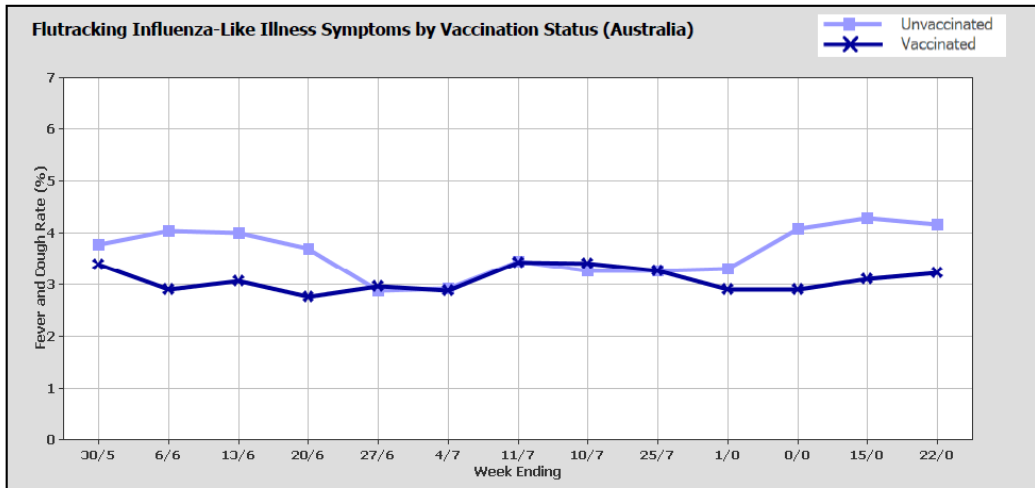


Source: NSW Health 'Influenza Weekly Epidemiology Report

Flutracking

Flutracking, a national online system for collecting data on ILI in the community, reported that in the week ending 22 August 2010, ILI levels continued at low levels (Figure 5), with fever and cough reported at a slightly higher rate amongst unvaccinated participants (4.2% compared to 3.2% in vaccinated participants).

Figure 5. Rate of ILI symptoms among Flutracking participants by week, from week ending 30 May 2010 to week ending 22 August 2010



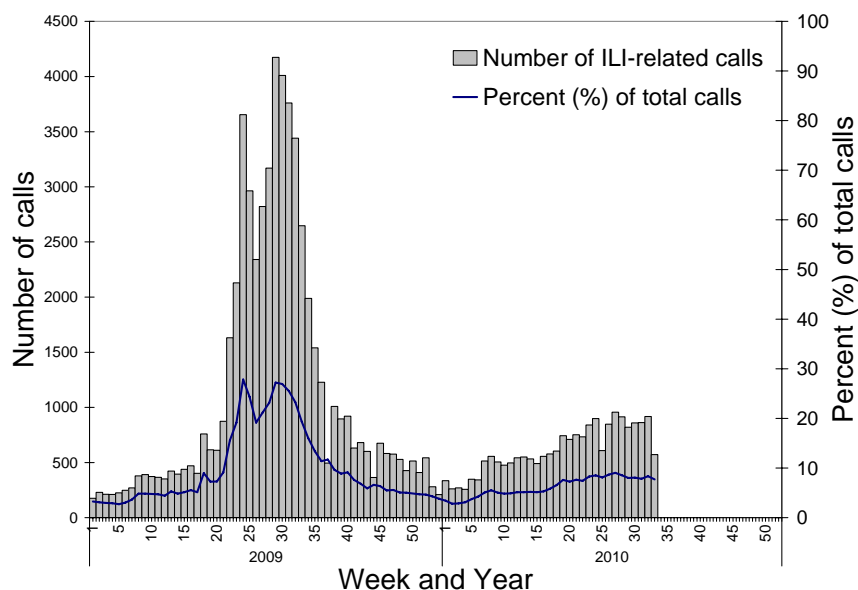
Source: Flutracking Interim Weekly Report

National Health Call Centre Network

The number of calls to the National Health Call Centre Network (NHCCN) in this reporting period was lower than the past few weeks (Figure 6).

Although ILI-related calls have been increasing gradually since the start of 2010, the number of ILI calls and percent of total calls are only slightly above levels seen in late 2009. Call numbers cannot be compared between early 2009 and early 2010 as not all call centres were online in early 2009. The difference in operating call centre numbers accounts for this apparent increase in recorded ILI calls (and baseline levels) between the two years.

Figure 6. Number of calls to the NHCCN related to ILI and percentage of total calls, Australia, 1 January 2009 to 20 August 2010

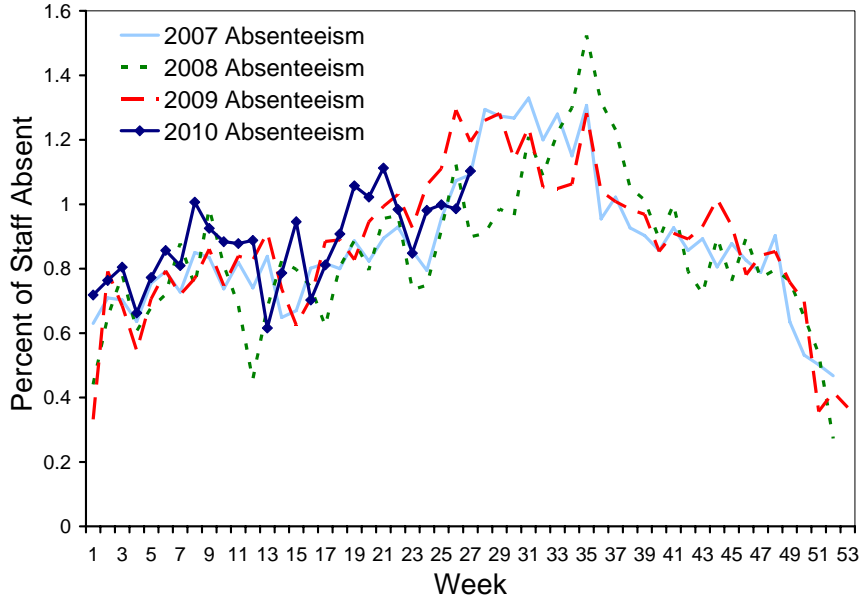


Note: national data does not include QLD and VIC
Source: NHCCN data

Absenteeism

In the week ending 14 July 2010, absenteeism increased to 1.1% (Figure 7). Overall there has been a gradual increasing trend since the beginning of 2010. Please note, due to system changes, this data has not been updated for four weeks.

Figure 7. Rates of absenteeism (greater than 3 days absent on sick leave), national employer, from 28 January 2007 to 14 July 2010, by week



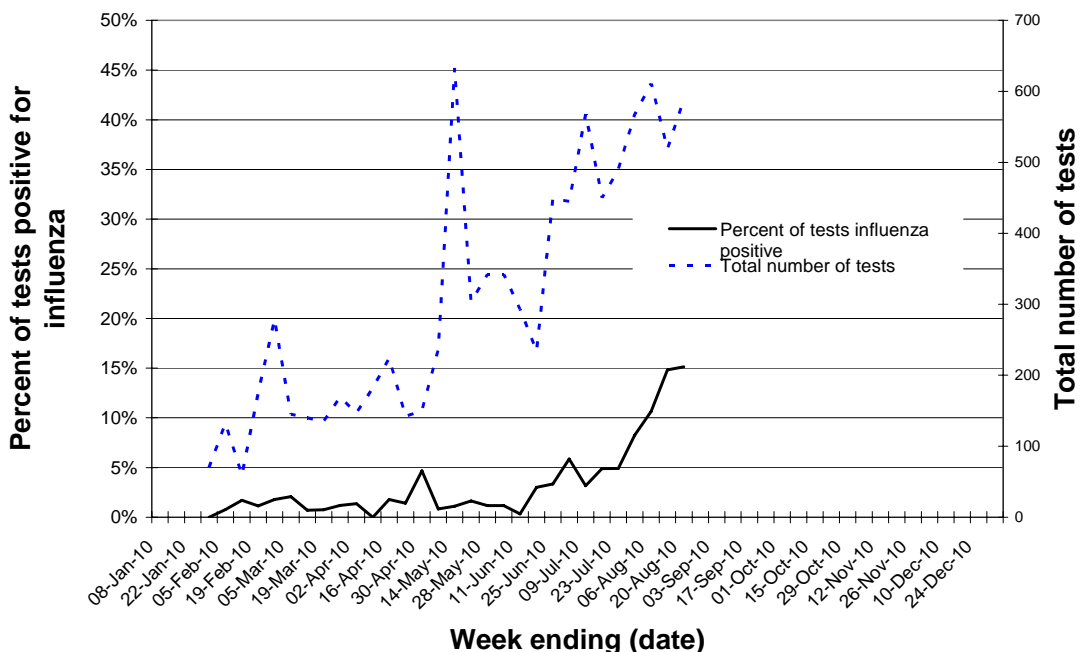
SOURCE: Absenteeism data

Laboratory confirmed influenza

Sentinel Laboratory Surveillance

Results from sentinel laboratory surveillance systems for this reporting period show that 14% (91/642) of the respiratory tests conducted over this period were positive for influenza, which is similar to the last reporting period (15%) (Figure 8).

Figure 8. Total number of specimens tested by sentinel laboratories, and proportion positive, 1 January 2010 to 20 August 2010, by week



SOURCE: Sentinel laboratory data from ASPREN, NSW NIC, WA NIC, VIC NIC & TAS Labs

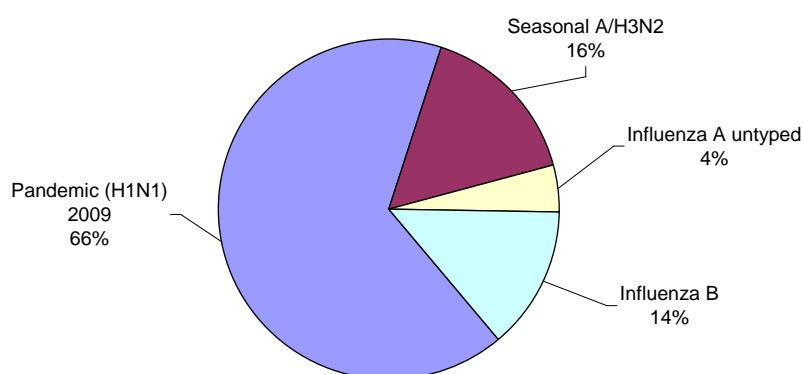
Sentinel laboratories reported 91 specimens positive for influenza during this reporting period, of which 59 were pandemic (H1N1) 2009, 8 were A/H3N2, 1 was influenza A untyped and 23 were influenza B (Table 1).

Table 1. Laboratory respiratory tests that tested positive for influenza

	ASPREN – national	NSW NIC	WA NIC	VIDRL	Tas	NT (Reported by WA NIC)
Total specimens tested	37	109	273	169	54	N/A
Positive Influenza A	3	1	38	22	4	0
<i>Pandemic (H1N1) 2009</i>	2	1	34	21	1	0
<i>Seasonal A/H1N1</i>	0	0	0	0	0	0
<i>Seasonal A/H3N2</i>	0	0	4	1	3	0
<i>Influenza A untyped</i>	1	0	0	0	0	0
Positive Influenza B	1	0	20	1	1	0
The most common respiratory virus detected	Rhinovirus	RSV and Rhinovirus	RSV	Picornavirus	Not reported	N/A

In 2010, a total of 448 specimens have been positive for influenza (5% of 9,275 specimens tested), of which 66% were pandemic (H1N1) 2009 and 16% were A/H3N2 (Figure 9). Sentinel laboratory data are used in addition to National Notifiable Diseases Surveillance System (NNDSS) data to understand the strains circulating in Australia, as approximately 52% of NNDSS notifications are reported as influenza A (untyped).

Figure 9. Percentage of specimens tested by sentinel laboratories influenza positive, 1 January 2010 to 20 August 2010, by subtype



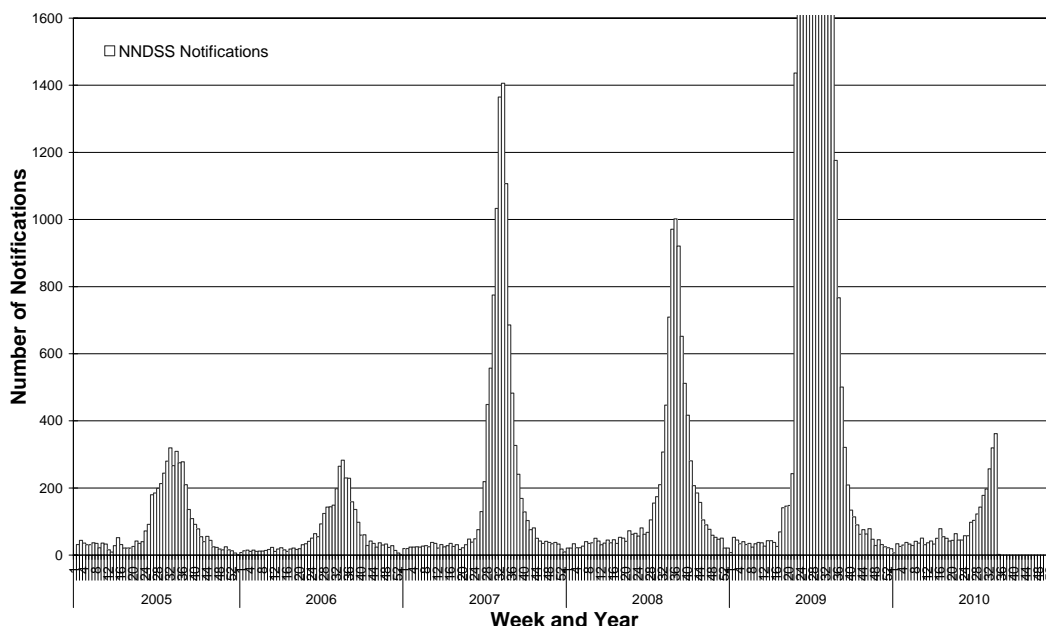
SOURCE: Sentinel laboratory data from ASPREN, NSW NIC, WA NIC, VIC NIC & TAS Labs

Laboratory Confirmed Cases Notified to Health Departments

During this reporting period, 362 confirmed cases of influenza were notified (3 in the ACT, 5 in NT, 13 in NSW, 51 in WA, 75 in VIC, 90 in SA, 5 in Tas and 120 in QLD). They included 248 cases of pandemic (H1N1) 2009, 74 of influenza A (not sub-typed), 1 of type A+B, 21 of influenza B, and 15 untyped.

There have been 2,833 confirmed cases of influenza of all types diagnosed during 2010 up to 20 August (Figure 10). Of these, 1066 (38%) have been sub-typed as pandemic (H1N1) 2009, 1,466 (52%) as influenza type A not sub-typed, 54 (2%) as A/H3N2 and 11 (<1%) as type A&B. A further 204 (7%) have been characterised as influenza type B, and 32 (1%) were untyped.

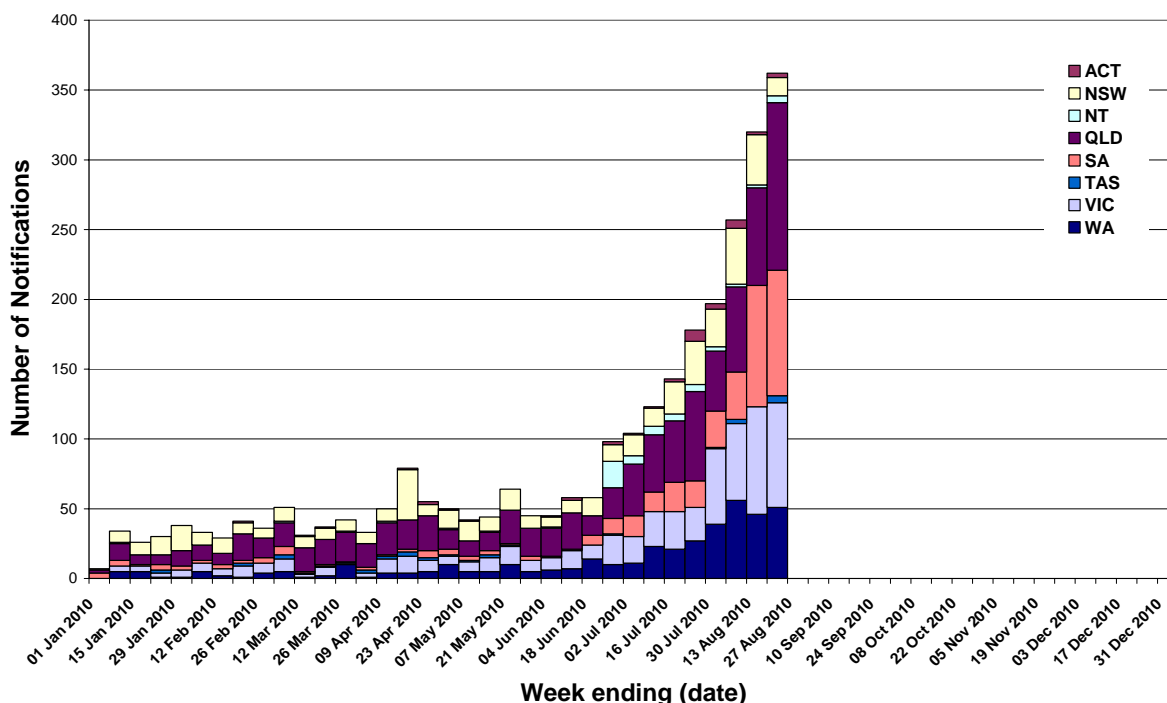
Figure 10. Laboratory confirmed cases of influenza in Australia, 1 January 2005 to 20 August 2010



Source: NetEpi (2009; NSW 2010) and NNDSS (2010)
 Note: The scale in this figure has been limited to 1600 notifications per week to allow for comparison between 2010 and previous years. In 2009, notifications peaked at approximately 8,300 in Week 30.

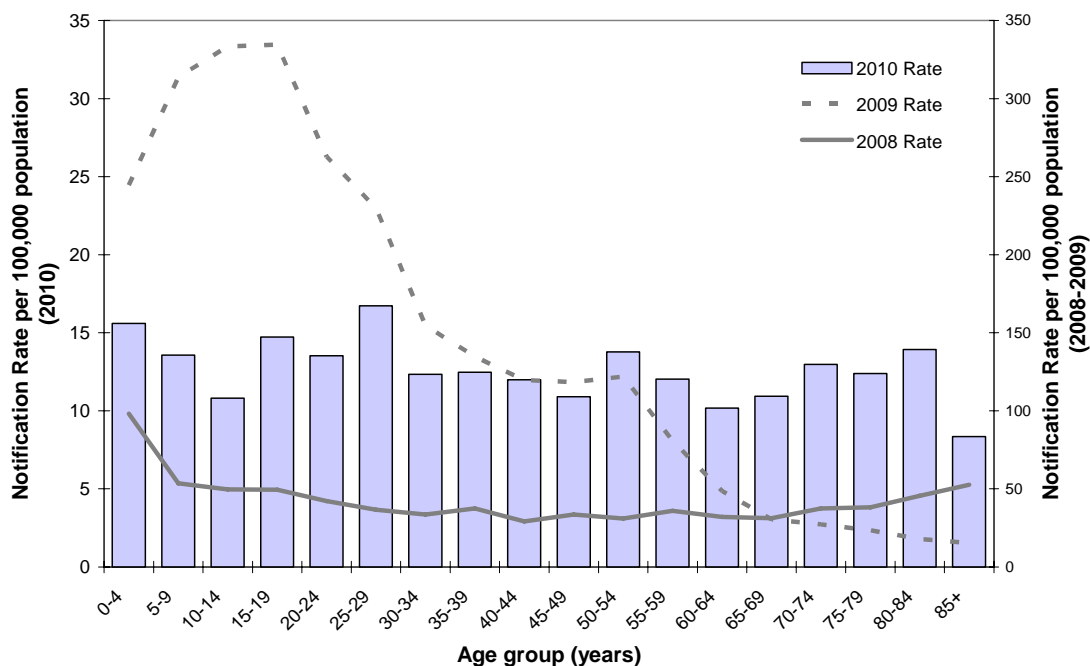
In 2010 up to 20 August, 894 cases were notified in QLD, 479 in NSW, 546 in VIC, 402 in WA, 385 cases in SA. There were a further 60 cases in the NT, 40 in the ACT and 34 cases in TAS (Figure 11).

Figure 11. Laboratory confirmed cases of influenza in Australia, 1 January to 20 August 2010, by state, by week.



In 2010, the distribution of influenza notifications is reasonably consistent across age groups and similar to distributions observed in 2008 (Figure 12). In 2009 the distribution of influenza notifications tended to occur in persons aged less than 55 years, with substantially higher rates observed in persons aged less than 30 years, compared to older age groups.

Figure 12. Laboratory confirmed cases of influenza (pandemic (H1N1) 2009 and seasonal) in Australia, 1 January 2008 to 20 August 2010, by age group



Source: NNDSS and NetEpi (NSW).

2. Influenza severity to 7 August 2010 ¹

Pandemic (H1N1) 2009

While pandemic (H1N1) 2009 is generally considered a mild disease at the community level, it has had serious consequences for some who experience it. Figures of hospitalisations, ICU admissions and deaths are currently used as indicators of the severity of the disease in Australia (Table 2).

Pandemic (H1N1) data for 2009 are currently being finalised through cleaning and validation processes. It is possible that these processes will result in some changes in the data presented here. Validated data will be progressively reported as these steps are completed.

Since the first case of pandemic (H1N1) 2009 in Australia in May 2009, there have been a total of 38,702 confirmed cases of pandemic (H1N1) 2009 in Australia as at 20 August 2010. Of these, 37,636 cases were reported in 2009 and 1,066 cases were reported in 2010. A total of 195 pandemic influenza-associated deaths have been reported, with 4 deaths occurring in 2010.

¹ Note that while the analysis of severity is on-going, updates are presented as required when there are significant changes detected. With the current low levels of pandemic (H1N1) 2009 influenza activity in Australia it is anticipated that the indicators of pandemic associated severity will not vary significantly.

Table 2. Summary of severity indicators of pandemic (H1N1) in Australia, 2009 and 2010 (up to 20 August 2010)

	2009 [#]				2010 ^a	
	Confirmed pandemic (H1N1) 2009 cases	Hospitalised cases	ICU cases	Deaths	Confirmed (H1N1) 2009 cases	Deaths
Total number	37,636	13% (4,992/37,636) confirmed cases)	14% (681/4,992 hospitalisations)	191	1066	4^b
Crude rate per 100,000 population	172.1	22.8	3.1	0.9	4.9	n/a
Median age (years)	21	31	44	53	26	38
Females	51% (19,139/37,636)	51% (2,528/4,992)	53% (364/681)	44%	49% (519/1066)	75% (3/4)
Vulnerable groups (Indigenous persons, pregnant women & individuals with at least 1 co-morbidity)	n/a	58% (2,892/4,992)	74% (504/681)	67%	n/a	n/a
Indigenous people~	11% (3,877/34,750)	20% (808/4,048)	19% (102/533)	13%	6% (33/568)	n/a
Pregnant women*	n/a	27% (287/1,056 hospitalised females aged 15-44 years)	16% (47/289) hospitalised pregnant women)	4%	n/a	0%
Cases with at least 1 co-morbidity	n/a	46% (2,303/4,992)	67% (457/681)	62%	n/a	n/a

^aData for 2009 from NetEpi, Data for 2010 from NNDSS and NetEpi (NSW).

[#]Data are extracted from a number of sources depending on the availability of information. Figures used in the analysis have been provided in parentheses. Data are not always complete for each summarised figure.

~The denominator for this row is the number of confirmed cases for which Indigenous status is known. In 2010, 498 cases had Indigenous status unknown.

*Includes women in the post-partum period.

^bThe number of deaths is most likely under-reported and representative of hospital related death notifications only.

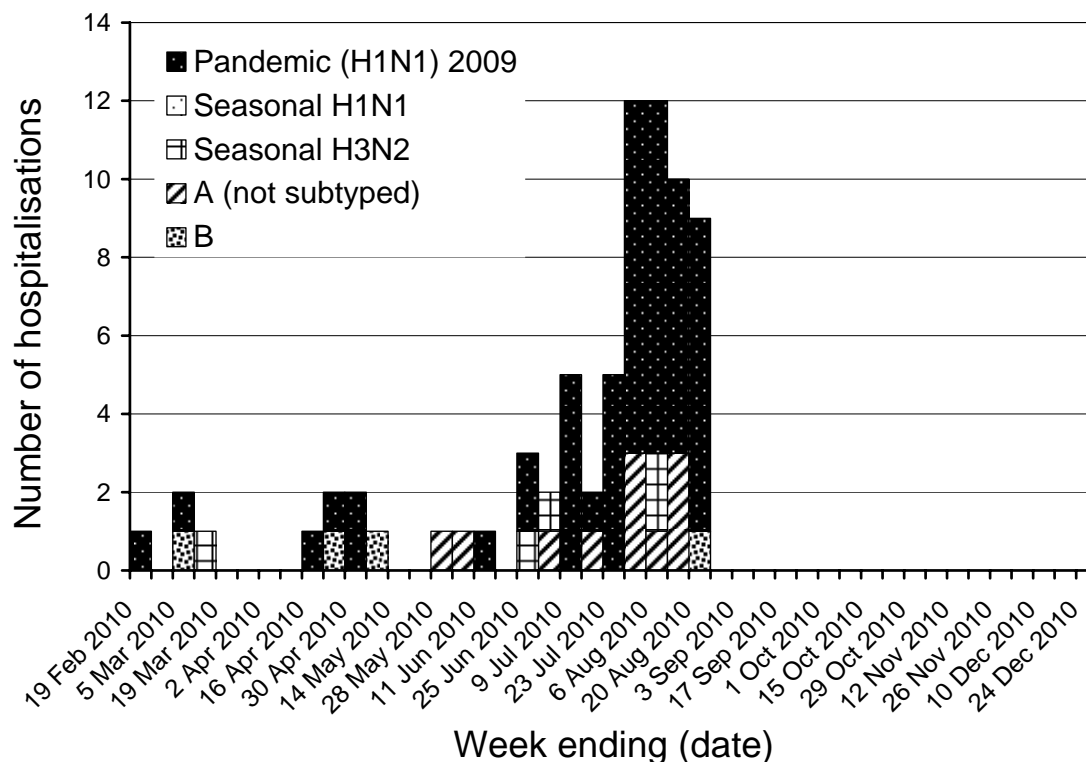
n/a - No data collected or available.

Influenza Hospitalisations

Influenza Complications Alert Network (FluCAN)

The Influenza Complications Alert Network (FluCAN) reported nine pandemic (H1N1) 2009 hospitalisations and one influenza B hospitalisation from sentinel hospitals in the week ending 20 August 2010. For the period of 1 March to 20 August 2010, FluCAN has reported a total of 78 influenza associated hospitalisations (Figure 12). Of these hospitalisation, 56 have been associated with pandemic (H1N1) 2009, including 19 with ICU admission.

Figure 13. Number of influenza hospitalisations, sentinel hospitals, Australia, 1 March to 20 August 2010



Source: Influenza Complications Alert Network (FluCAN). Data from 14 sentinel hospitals from all jurisdictions.

Australian Paediatric Surveillance Unit (APSU)

A survey of admissions of children aged 15 years and under to Intensive Care Units (ICUs) around Australia following complications due to influenza infection is conducted through the Australian Paediatric Surveillance Unit (APSU). Details of admissions are reported on a weekly basis.

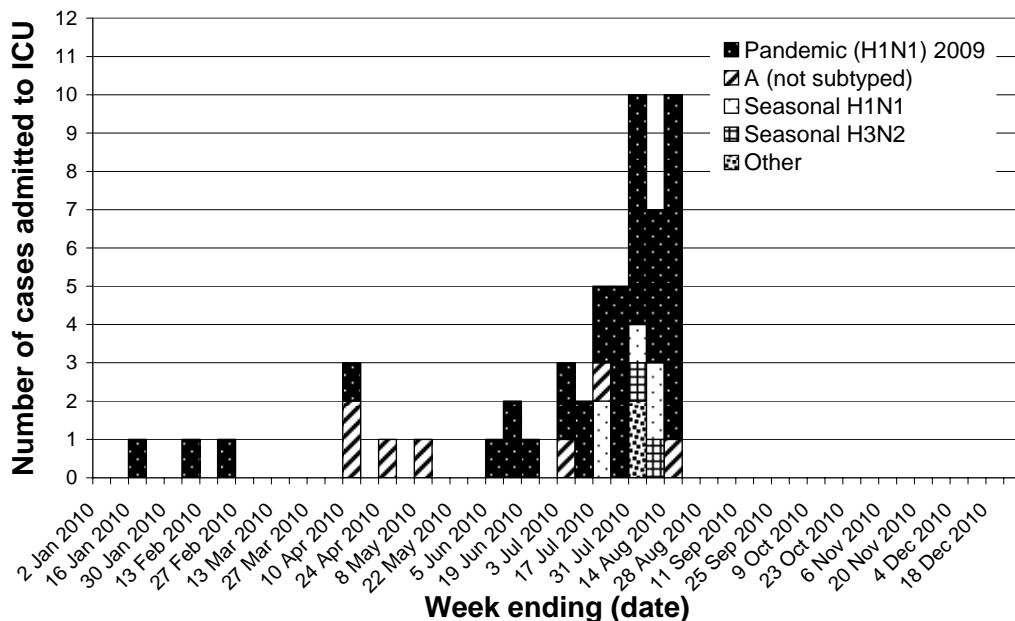
Since 1 July 2010, four cases of hospitalisations related to complications due to influenza infection have been reported in children aged 15 years and under. Three cases have been associated with pandemic (H1N1) 2009, of which one was admitted to ICU. The fourth case was associated with Influenza A (not further subtyped). One of the cases associated with pandemic (H1N1) 2009 had an underlying chronic condition.

Intensive care admissions

The Australian and New Zealand Intensive Care Society (ANZICS) has reported a total of 54 ICU admissions for influenza in 2010, of which 10 occurred during this reporting period. In total, 38 ICU admissions have been associated with pandemic (H1N1) 2009, 7 with influenza A (not subtyped), 2 with seasonal A/H3N2, 5 with seasonal H1N1 (these may be pandemic cases, yet to be confirmed) and 2 with influenza not typed (Figure 14).

Of the 38 pandemic (H1N1) 2009 ICU admissions in 2010, 31 had known co-morbidities and the median age at admission was 51 years (range 6-80).

Figure 14. Number of ICU admissions for influenza, ANZICS, Australia, 1 January to 20 August 2010



Source: Australian and New Zealand Intensive Care Society (ANZICS) data base

Deaths associated with influenza and pneumonia

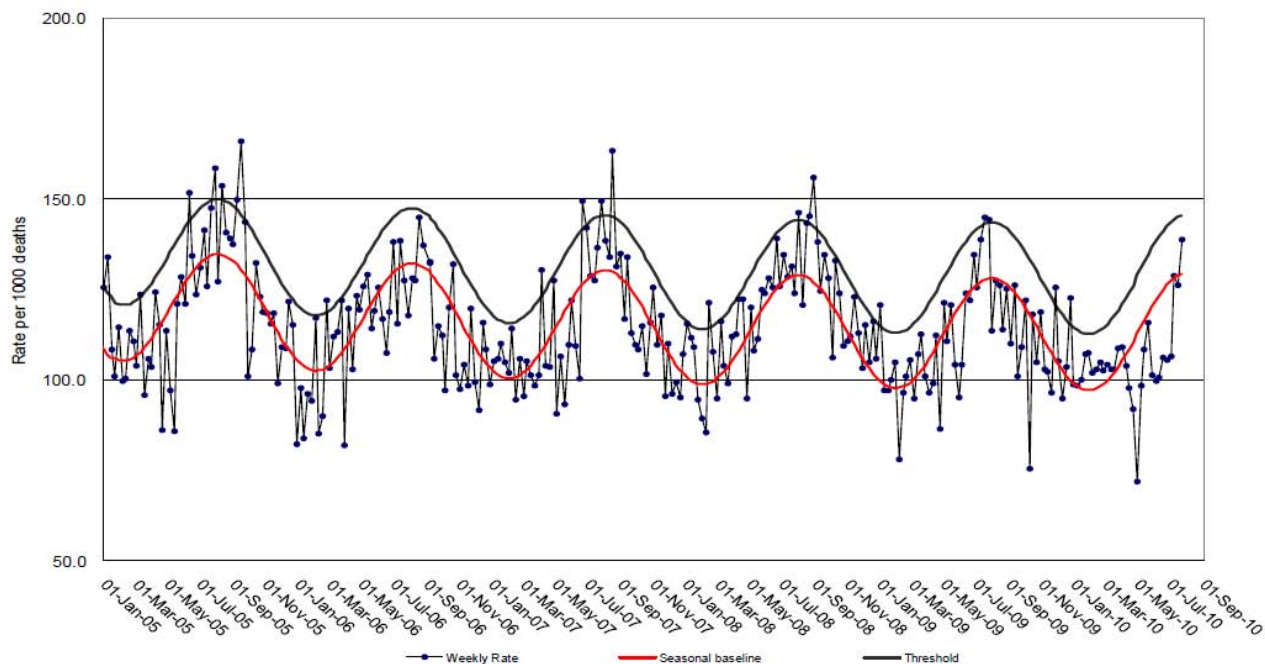
Nationally reported pandemic (H1N1) 2009 deaths

In 2010, four pandemic influenza related deaths have been notified to the NNDSS. The deaths occurred in late May, July and August, with a median age of 38 years. All cases were reported as having underlying risk factors.

NSW

Death registration data show that for the week ending 30 July 2010, there were 139 pneumonia or influenza associated deaths per 1,000 deaths in NSW, which is above the seasonal threshold of 129 per 1,000 deaths (Figure 15).

Figure 15. Rate of deaths classified as influenza and pneumonia from the NSW Registered Death Certificates, 2005 to 30 July 2010



Source: NSW 'Influenza Monthly Epidemiology Report'

3. Virology

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

From 1 January to 15 August 2010, there were 207 Australian influenza isolates subtyped by the WHO CC (Table 3).

Table 3. Typing of influenza isolates from the WHO Collaborating Centre, from 1 January 2010 to 22 August 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	1	1	55	37	0	1	50	33	178
A(H3N2)	1	0	0	3	0	0	5	6	15
B	0	2	0	0	0	0	11	1	14
Total	2	3	55	40	0	1	66	40	207

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 91 pandemic (H1N1) 2009 isolates has shown 90 to be the A/California/7/2009-like strain and 1 a low reactor version of this strain. Antigenic characterisation of 11 type A/H3N2 isolates has shown 1 to be the A/Perth/16/2009-like and 10 to be the A/Perth/16/2009-like low reactor versions of the strain. One isolate was antigenically characterised as a low-reactor version of B/Florida/4/2006-like.

International Virology

In the week ending 7 August 2010, based on FluNet reporting by National Influenza Centres from 23 countries, 19% of positive specimens were typed as influenza B and 81% were typed as influenza A. Co-circulation of pandemic, A/H3N2 and influenza B viruses was reported from Australia, China, India, Mauritius, South Africa and Singapore. Sporadic influenza B activity is reported from some countries.

In China, influenza B accounted for 55.5% of all influenza viruses detected in the week to 18 July 2010. From 1 January 2010 to 18 July 2010, 3224 influenza B viruses have been antigenically characterised. Of those, 2,792 (86.6%) were B/Victoria viruses, including 46.8% (1307) related to B/Malaysia/2506/2004-like and 53.9% (1485) related to B/Brisbane/60/2008 (included in 2010 Southern Hemisphere seasonal influenza vaccine). The remaining 432 (13.4%) were B/Yamagata viruses related to B/Florida/4/2006-like.¹

Antiviral Resistance – Pandemic (H1N1) 2009

Up to 18 August 2010, the WHO has reported a total of 304 oseltamivir resistant pandemic (H1N1) 2009 viruses since May 2009. All of these isolates except one showed the same H275Y mutation and all remain sensitive to zanamivir. One isolate had an amino acid mutation at position 223 in the neuraminidase and was determined to have reduced susceptibility to zanamivir and oseltamivir.²

The WHO Collaborating Centre in Melbourne has reported that from 1 January 2010 to 15 August 2010, no isolates (out of 109 tested) have shown resistance to oseltamivir or zanamivir by enzyme inhibition assay (EIA) and two isolates (out of 41 tested) have shown the H275Y mutation known to confer resistance to oseltamivir.

4. International Influenza Surveillance

The WHO has advised that the world is no longer in phase 6 of influenza pandemic alert, and will now move into the post pandemic period.² The WHO have reported that as of 1 August 2010 there have been over 18,449 deaths associated with pandemic (H1N1) 2009 influenza worldwide since April 2009. Up to 20 August, WHO has reported that pandemic (H1N1) 2009 virus transmission remains locally intense in parts of India and New Zealand³.

- Northern Hemisphere
 - In India, community transmission of H1N1 (2009) remained active and moderately intense in several states, but the epidemic appears to have stabilised or begun to decline in several others. Seasonal influenza B viruses are also circulating in India, although at lower levels than H1N1 (2009) viruses.
- Southern Hemisphere
 - Except in South Africa and New Zealand, overall influenza activity and rates of respiratory disease remained low in other countries of the temperate southern hemisphere.
 - In New Zealand, the national consultation rate for ILI increased sharply in the first week of August 2010³. Influenza activity is continuing to increase, particularly in areas that weren't severely affected last year.

5. 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 and improve, this report will be refined and additional information will be included.

This report aims to increase awareness of pandemic (H1N1) 2009 and seasonal influenza 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 Team through flu@health.gov.au.

On 17 June 2009 Australia commenced the transition to a new response phase called PROTECT, in which laboratory testing is directed towards people with moderate or severe illness; those more vulnerable to severe illness; and those in institutional settings. This means that the number of confirmed cases does not reflect how many people in the community have acquired pandemic (H1N1) 2009 infection.

Geographic spread of influenza and ILI – Jurisdictional Surveillance

Jurisdictions report activity levels (in line with the definitions below) on a fortnightly basis, based on laboratory-confirmed notifications, various syndromic surveillance systems, outbreak reporting and rumour surveillance.

Activity level	Definitions:
No activity	No influenza or ILI activity
Syndromic only	an increase in syndromic surveillance systems with no laboratory confirmed cases
Sporadic	small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak during the reporting period, but no increase in cases in syndromic surveillance systems
Local	outbreaks of influenza or increases in cases in syndromic surveillance systems and recent laboratory-confirmed influenza in a single region of the state
Regional	outbreaks of influenza or increases in cases in syndromic surveillance systems and a recent laboratory confirmed influenza in at least two but less than half the regions of the state
Widespread	outbreaks of influenza or increases in cases in syndromic surveillance systems and recent laboratory-confirmed influenza in at least half the regions of the state.

Sentinel General Practice Surveillance

The Australian Sentinel Practices Research Network (ASPREN) has Sentinel GPs who report ILI presentation rates in NSW, NT, SA, ACT, VIC, QLD, TAS and WA. As jurisdictions joined ASPREN at different times and the number of GPs reporting has changed over time, the representativeness of ASPREN data in 2010 may be different from that of previous years. ASPREN data and VIDRL influenza surveillance data are sent to the Surveillance Branch on a weekly basis. Further information on Sentinel GPs' Influenza Surveillance and ASPREN activities are available at www.dmac.adelaide.edu.au/aspren.

Sentinel ED data

WA - ED surveillance data are extracted from the 'Virus Watch' Report. This report is provided weekly. The Western Australia Influenza Surveillance Program collects data from eight Perth EDs. NSW - ED surveillance data are extracted from the 'Weekly Influenza Report, NSW'. The New South Wales Influenza Surveillance Program collects data from 56 EDs across New South Wales.

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. Data have been provided weekly and have been presented in this report to show the pattern of self reported ILI in the community over the 2009 season.

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

National Health Call Centre Network

A national organisation provides call centre data for calls relating to ILI or influenza. Data are provided daily and are collated weekly and have been presented in this report to show the pattern of calls to this Call Centre over the 2009 and 2010 season. Data is available for all jurisdictions other than QLD and VIC.

Absenteeism

A national organisation provides data on the number of employees who have been on sick leave for a continuous period of more than three days. These data are not influenza or ILI specific and absenteeism may be a result of other illnesses.

Sentinel Laboratory Surveillance data

Laboratory testing data are provided weekly directly from PathWest (WA & NT), VIDRL (VIC), ICPMR (NSW), sentinel Tasmanian laboratories, and ASPREN (national).

National Notifiable Diseases Surveillance System (NNDSS)

Laboratory confirmed influenza (all types) is notifiable in all jurisdictions in Australia. Confirmed cases of influenza are notified through NNDSS by all jurisdictions except NSW. NSW data are sourced from NetEpi.

NetEpi

In 2009, NetEpi, a web-based outbreak case reporting system for pandemic (H1N1) 2009, was used as the primary source of enhanced data on confirmed cases, hospitalisations and ICU admissions in all jurisdictions. In 2010, only data for NSW are sourced from NetEpi.

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

Data Analysis

Analysis of confirmed influenza cases is conducted on combined NetEpi and NNDSS data. Analysis of morbidity (hospitalisations and ICU admissions) and mortality data in 2009 has been conducted on combined NetEpi and QLD hospitalisation data.

FluCAN

The Influenza Complications Network (FluCAN) collects detailed clinical information on all hospitalised cases of influenza and pneumonia from a sample of 15 sentinel hospitals across Australia. The data for this reporting period are sourced only from 14 hospitals.

APSU

The Australian Paediatric Surveillance Unit collects clinical information on hospitalised cases of children aged 15 years and under with complications due to influenza infection. Approximately 1300 (80% of total) Paediatric clinicians registered with the Paediatrics and Child Health Division of the Royal College of Physicians, respond to APSU report cards. These report cards seek information regarding hospitalisations relating to 12 diseases or conditions, including influenza.

Australian and New Zealand Intensive Care Society data (ANZICS data)

The Australian and New Zealand Intensive Care Society provide data from a 'near real time' registry of patients admitted to Australian ICUs. This documents the key factors influencing mortality, as well as the need for hospitalisation and mechanical ventilation. Information collected includes person characteristics and information on relevant co-morbidities, nature of the clinical syndrome associated with pandemic (H1N1) 2009, major therapeutic interventions from which organ failure outcomes can be imputed, vaccination status and vital status at time of ICU discharge and hospital discharge.

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

Data are provided weekly to the Surveillance Branch from the WHO CC.

Deaths associated with influenza and pneumonia

Nationally reported pandemic (H1N1) 2009 deaths are notified by jurisdictions to the Commonwealth Department of Health and Ageing as they occur.

NSW influenza and pneumonia deaths data are collected from the NSW Registry of Births, Deaths and Marriages. Figure 14 is extracted from the 'Weekly Influenza Report, NSW'

6. References

¹ Chinese National Influenza Centre Influenza Weekly Report 18 July 2010. Available from: <http://www.cnic.org.cn/eng/> Accessed 25 August 2010.

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