



AUSTRALIAN INFLUENZA SURVEILLANCE SUMMARY REPORT

**No.3, 2010, REPORTING PERIOD:
16 January 2010 – 22 January 2010**

The Department of Health and Ageing acknowledges and greatly appreciates the providers of the many sources of data used to collate this report and to inform public health decisions regarding influenza.

Summary

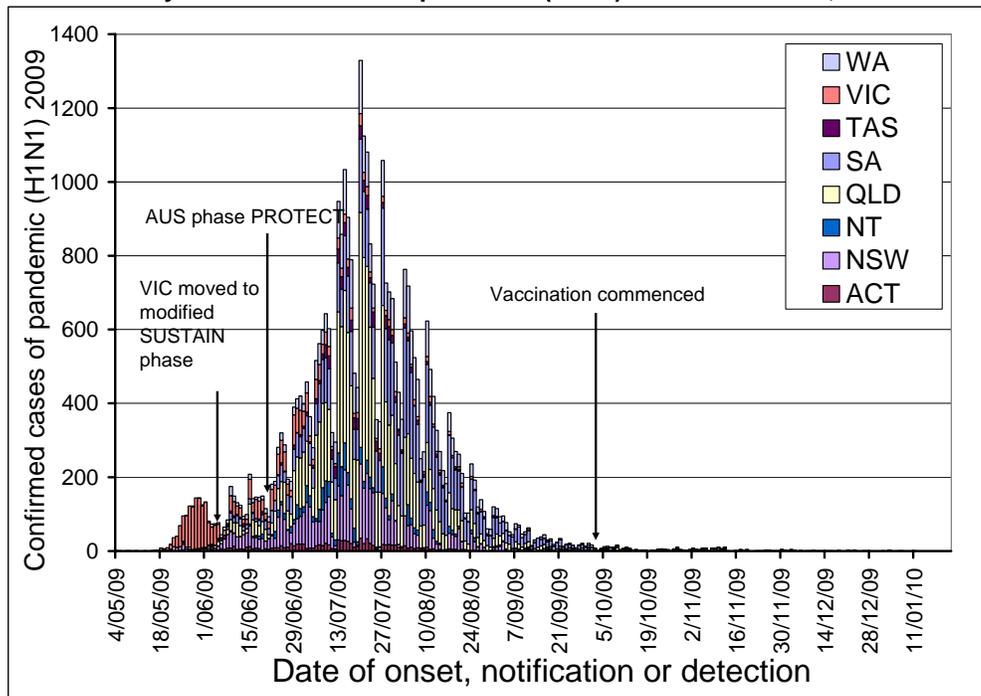
- As at 22 January 2010, there have been 37,584 confirmed cases of pandemic (H1N1) 2009 and 191 deaths reported in Australia.
- National influenza activity remains low.
 - Influenza-like illness (ILI) presentation rates to General Practitioners at a national level are low and are below levels usually seen at this time of the year.
 - ILI presentations to emergency departments (EDs) remained steady, and slightly above background levels.
 - FluTracking surveillance for the week ending 22 January 2010 indicated that ILI activity remained at low levels in all participating jurisdictions.
 - Enquiries to the National Health Call Centre Network (NHCCN) regarding ILI remained stable and were at low levels.
 - Absenteeism rates remained similar to levels seen at the end of 2007 and 2008.
- As at 17 January 2010, the WHO Regional Offices reported at least 14,142 deaths associated with pandemic (H1N1) 2009 worldwide. The overall situation is largely unchanged since last week. Pandemic influenza transmission continues in many parts of the world though is declining and has passed its peak except in some focal areas. The most intense transmission of pandemic influenza virus continues to occur in North Africa, South Asia, and in limited areas of Eastern Europe. Overall pandemic influenza activity in the northern hemisphere peaked between late October and late November 2009 and has continued to decline since. In the southern hemisphere, sporadic cases of pandemic influenza continued to be reported without evidence of sustained community transmission. To date, WHO reported that 206 oseltamivir resistant pandemic (H1N1) 2009 viruses had been detected and characterised worldwide. All of these isolates showed the same H275Y mutation but all were sensitive to zanamivir.

1. Influenza activity in Australia

Laboratory Confirmed Cases

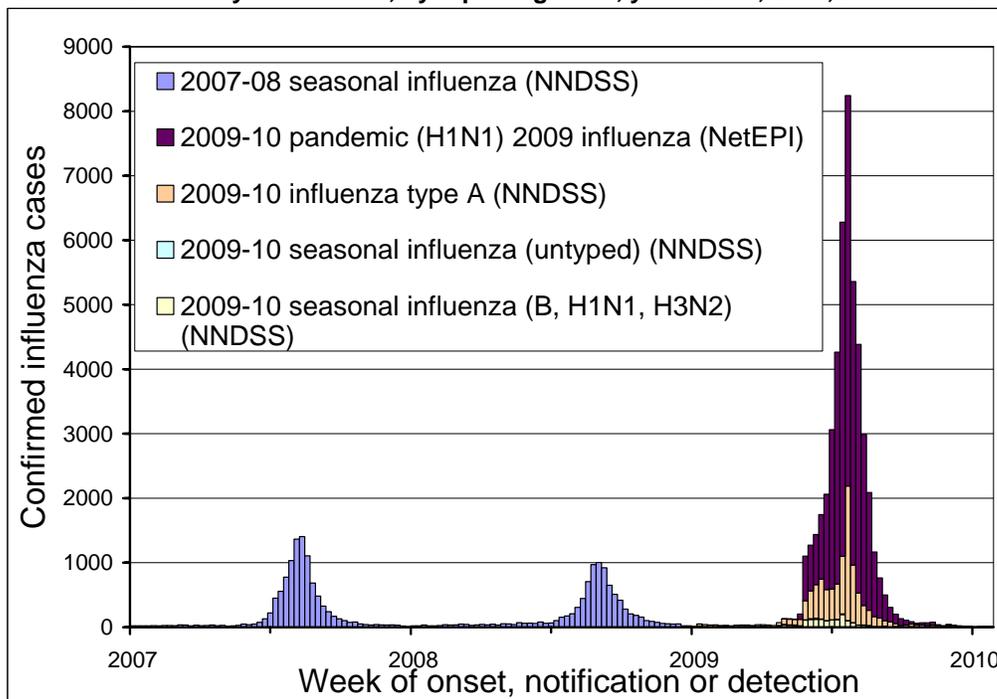
There have been 15 new laboratory confirmed pandemic (H1N1) 2009 notifications reported this reporting period. As of 22 January 2010 there were 37,584 confirmed cases of pandemic (H1N1) 2009 in Australia, including 191 pandemic influenza-associated deaths.

Figure 1. Laboratory confirmed cases of pandemic (H1N1) 2009 in Australia, to 22 January 2010



Source: NetEPI database

Figure 2. Influenza activity in Australia, by reporting week, years 2007, 2008, 2009* and 2010*



* Data on pandemic (H1N1) 2009 cases is extracted from NetEPI; data on seasonal influenza is extracted from NNDSS.

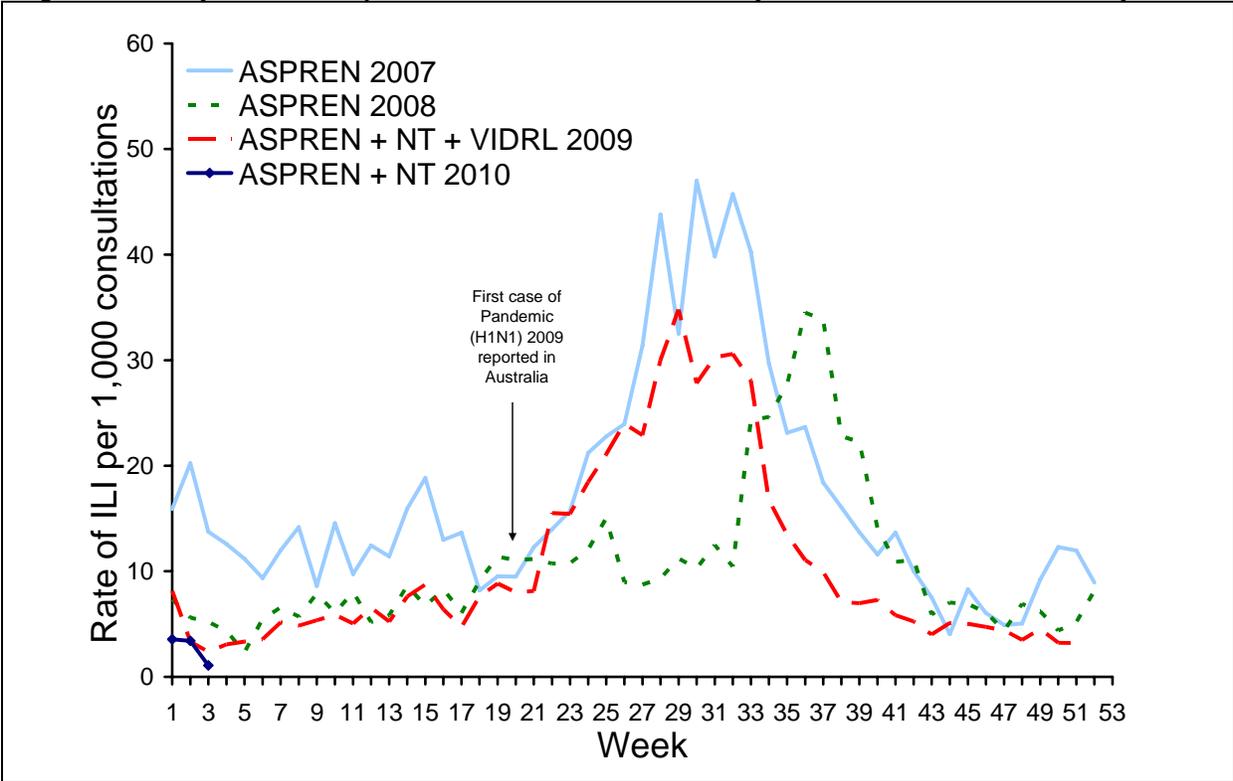
Influenza-Like Illness ^a

Sentinel General Practice Surveillance

Combined data available from the Australian Sentinel Practices Research Network (ASPREN) and the Northern Territory GP surveillance system, up until 17 January 2010, show that nationally, influenza like illness (ILI) consultation rates are low and below levels usually seen at this time of the year (Figure 3).

In the last week, the presentation rate to sentinel GPs in Australia was approximately 1 case per 1,000 patients seen.

Figure 3. Weekly rate of ILI reported from GP ILI surveillance systems from 2007 to 17 January 2010*



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

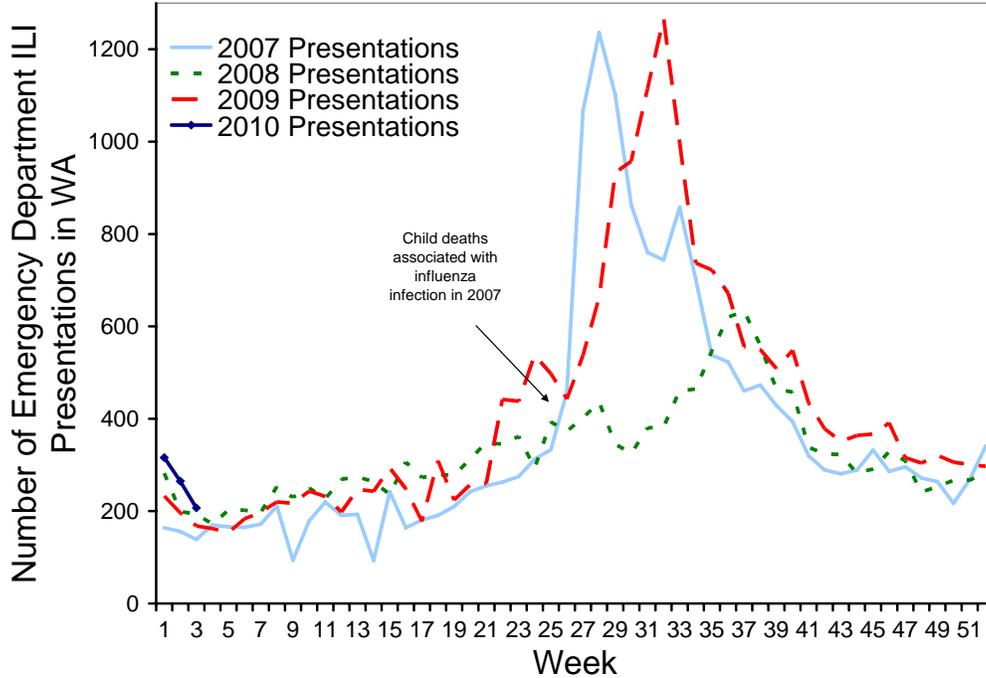
SOURCE: ASPREN, NT

^a As the counting of every case is not feasible in the PROTECT phase, influenza activity, including Influenza Like Illness (ILI) activity in the community is instead monitored by surveillance systems including: GP Sentinel ILI surveillance; Emergency Department presentations of ILI at sentinel hospitals (NSW and WA); and Absenteeism rates. Laboratory data are used to determine the proportion of pandemic (H1N1) 2009 circulating in the community.

WA emergency departments

The number of ILI presentations reported in Western Australian EDs declined and is similar to levels seen in previous years (Figure 4).

Figure 4. Number of Emergency Department presentations due to ILI in Western Australia from 1 January 2007* to 17 January 2009 by week



* In early July 2007 (week 26), several deaths associated with influenza infection were reported in children from Western Australia. The public response to these deaths could account for the sudden increase in ILI presentations to Perth EDs in 2007.

Source: WA 'Virus Watch' Report

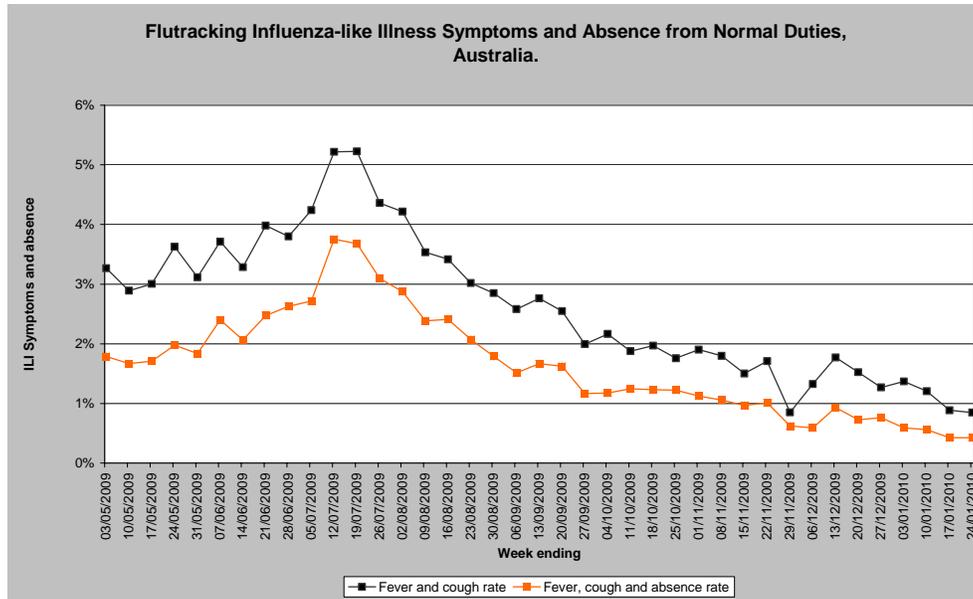
NSW emergency departments

In December 2009, there were 88 presentations to NSW EDs with ILI. This is below levels seen in November 2009 (116 presentations) but higher than in December 2008 (75 presentations).

Flutracking

Flutracking, a national online tool for collecting data on ILI, reported that activity remained at low levels both nationally and at the State level in the week ending 24 January 2010 (figure 5).

Figure 5. Rate of ILI symptoms and absence from regular duties among Flutracking participants by week, from week ending 3 May 2009 to week ending 24 January 2010

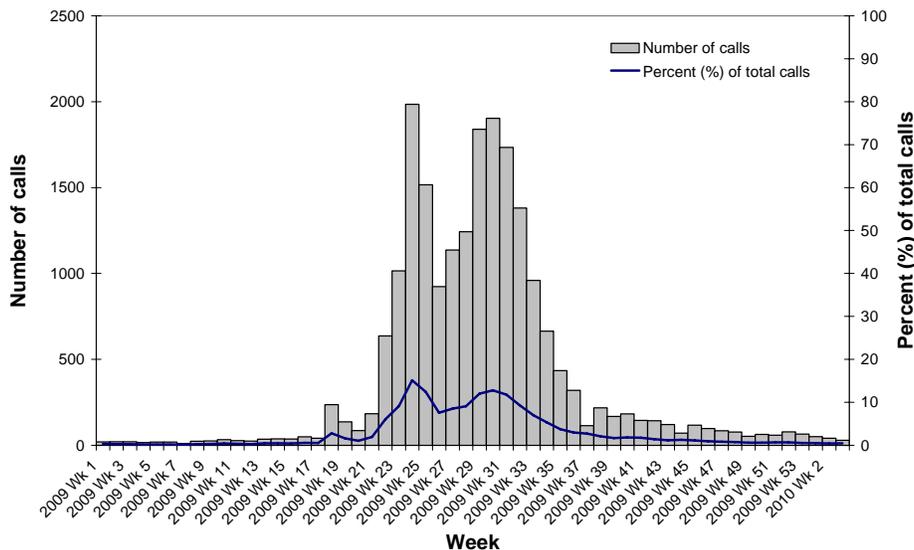


Source: Flutracking Interim Weekly Report

National Health Call Centre Network

The number of calls related to ILI to the National Health Call Centre Network (NHCCN) remained stable, with 30 calls in the week ending 22 January 2010. At the peak of the 2009 season, the NHCCN received approximately 1900 ILI-related calls per week. The number of calls is currently at baseline levels (Figure 6).

Figure 6. Number of calls to the National Health Call Centre Network (NHCCN) related to ILI, Australia, 1 January 2009 (Wk1) to 22 January 2010 (Wk2)*



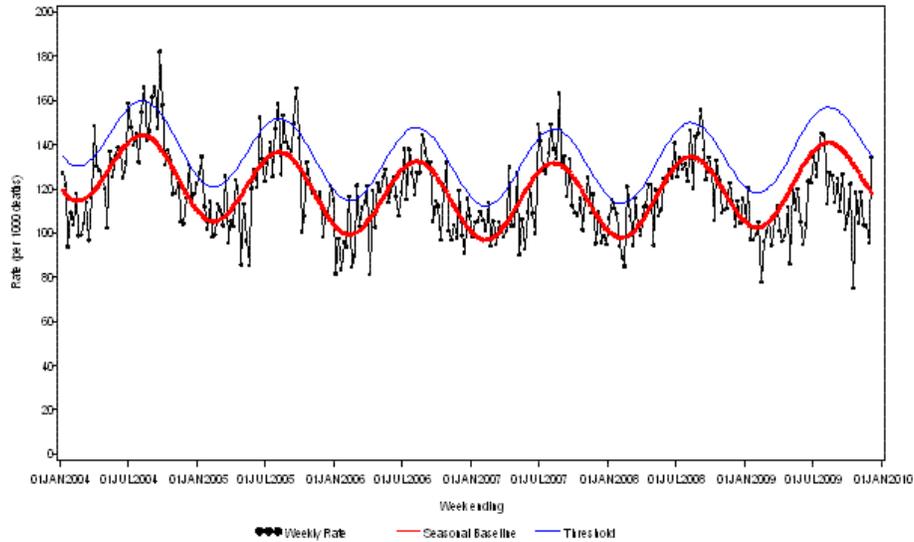
*Data in the most recent week are incomplete and will update retrospectively.

SOURCE: NHCCN data

Deaths associated with influenza and pneumonia

Death registration data show that as of 4 December 2009, there were 134 pneumonia or influenza deaths per 1,000 deaths in NSW, which is higher than previous weeks and is at the threshold of levels expected at this time of year (Figure 7).

Figure 7: Rate of deaths classified as influenza and pneumonia as per NSW Registered Death Certificates, 2004 – 2009

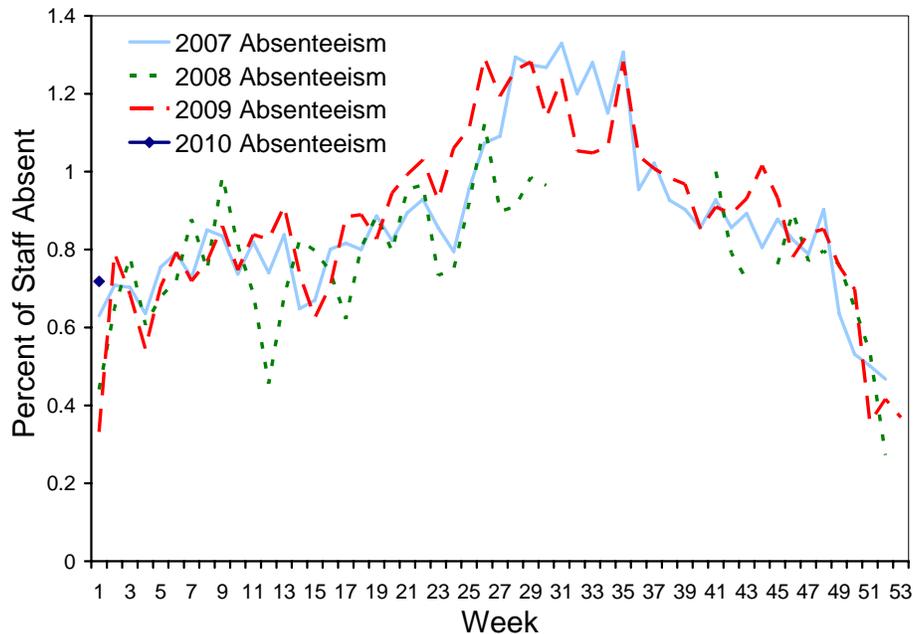


Source: NSW 'Influenza Monthly Epidemiology Report'

Absenteeism

The most recent available data indicates that in the first week of 2010 (ending 13 January), absenteeism rates nationally were consistent those seen at the beginning of previous years (Figure 8).

Figure 8. Rates of absenteeism of greater than 3 days absent, National employer, 1 January 2007 to 13 January 2010, by week.



SOURCE: Absenteeism data (Employer not disclosed)

2. Overview of pandemic (H1N1) 2009 severity - to 15 January 2010 ^b

While pandemic (H1N1) 2009 is generally considered a mild disease at the community level, it has had serious consequences at the acute end of the disease. Figures of hospitalisations, ICU admissions and deaths are currently used as indicators to provide evidence on the severity of the disease in Australia (Table 1).

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. Validated data will be progressively reported as these steps are completed.

Table 1. Summary of severity indicators of pandemic (H1N1) in Australia, to 15 January 2010

	Confirmed pandemic (H1N1) 2009 cases	Hospitalised cases	ICU cases	Deaths
Total number	37,569	13% (4,912/37,569 confirmed cases)	14% (674/4,912 hospitalisations)	191
Crude rate per 100,000 population	175.8	23.0	3.2	0.9
Median age (years)	21	31	44 [^]	53 [^]
Females	51% (19,112/37,569)	51% (2,494/4,912)	53% (360/674)	44%
Vulnerable groups (Indigenous, pregnant & individuals with at least 1 co-morbidity)	n/a	57% (2,787/4,912)	67% (451/674)	67%
Indigenous people~	11% (3,864/34,656)	20% (799/3,958)	20% (102/523)	13%
Pregnant women*	n/a	27% (279/1,045 hospitalised females aged 15-44 years)	15% (42/279 hospitalised pregnant women)	4%
Cases with at least 1 co-morbidity	n/a	45% (2,206/4,912)	63% (425/674)	62%

[#]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 is not always complete for each summarised figure.

~The denominator for this row is the number of confirmed cases for which Indigenous status is known.

* Includes women in the post-partum period.

[^] Validation of data has identified anomalies in ages of ICU cases and deaths affecting median ages for ICU cases and deaths in reports #28-33 2009 and report #1 2010. Correction has resulted in a change in the median ages of ICU cases and deaths in reports #2 & 3, 2010.

^b 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 activity in Australia it is anticipated that the indicators of pandemic severity will not vary significantly.

3. International Influenza Surveillance ^c

As at 17 January 2010, the WHO Regional Offices reported at least 14,142 deaths associated with pandemic (H1N1) 2009 worldwide. As many countries have stopped counting individual cases, particularly of milder illness, the global case count is likely to be significantly lower than the actual number of cases that have occurred. (1)

According to WHO, pandemic influenza transmission continues in many parts of the world though is declining and has passed its peak except in some focal areas. The overall situation is largely unchanged since last week. The most intense transmission of pandemic influenza virus continues to occur in North Africa, South Asia, and in limited areas of Eastern Europe. Overall pandemic influenza activity in the northern hemisphere peaked between late October and late November 2009 and has continued to decline since. In the southern hemisphere, sporadic cases of pandemic influenza continued to be reported without evidence of sustained community transmission. (1)

North America – peak influenza activity occurred during October in Mexico, the United States, and Canada.

- In the US, during week 2 (up to 16 January 2010), influenza activity continued to decrease. The proportion of outpatient visits for influenza-like illnesses (ILI) was below the national baseline. About 98% of subtyped influenza A viruses reported to CDC were pandemic (H1N1) 2009 influenza viruses. (2)
- In Canada, during week 2 (up to 16 January 2010), all influenza indicators continued to be either at baseline level or considerably under the expected level for this time of the year. The national ILI consultations rate increased slightly but was significantly below the expected range for this time of the year. Only 0.6% of the specimens tested were positive for influenza compared to 16.6% for the respiratory syncytial virus. The pandemic (H1N1) 2009 strain still accounted for 100% of the positive influenza A subtyped specimens during this reporting period while only one specimen tested positive for influenza B. (3)

Europe – the epidemiological pattern shows a declining incidence of morbidity and mortality in Europe. During week 2, only Bulgaria, Malta, Poland and Romania reported medium ILI or severe acute respiratory infection activity. Of the 684 sentinel samples tested, 18.1% were positive for influenza, of which more than 99% were pandemic (H1N1) 2009 influenza. (4)

- Pandemic influenza activity is generally decreasing across the UK during week 3. The weekly ILI consultation rate decreased across the UK. An decrease in respiratory syncytial virus detections has been observed recently. The main influenza virus circulating in the UK continues to be the pandemic (H1N1) 2009 strain, with few influenza H1 (non-pandemic), H3 and B viruses detected. The majority of pandemic influenza cases continue to be mild. (5)
- In Ireland, influenza activity remained stable during week 2 (ending 17 January). The sentinel GP ILI consultation rate decreased to 15.9 per 100,000 population during this period. The highest sentinel GP age-specific ILI consultation rates occurred in the 0-4 year age group. The number of laboratory confirmed cases of pandemic (H1N1) 2009 and hospitalisations continued to decrease and there were 3 ICU admissions. Pandemic (H1N1) 2009 was the only influenza virus circulating in week 2. (6)

^c When possible, information in this section is collated from reports available within the current reporting period.

INTERNATIONAL UPDATES

The Global Influenza Surveillance Network (GISN) is monitoring the global circulation of influenza viruses, including pandemic, seasonal and other influenza viruses infecting, or with the potential to infect, humans including seasonal influenza. Globally, since the beginning of the pandemic on 19 April 2009 to 16 January 2010, cumulatively 153 countries shared a total of 23,527 specimens (18,299 clinical samples and 5,228 virus isolates) with WHO CCs. (1)

For the reporting week 27 December 2009 to 2 January 2010, pandemic A (H1N1) accounted for 98.1% of all subtyped influenza A viruses detected in many of the countries reporting influenza activity in both northern and southern hemispheres. One of the exceptions was China where the pandemic (H1N1) 2009 virus accounted for 90.2% of all specimens tested positive for influenza A viruses. Furthermore, in China, influenza B accounted for 12.6% among the specimens tested positive for influenza viruses. Sporadic detections of seasonal A(H1N1), A(H3N2) and influenza B viruses were reported from a few countries including some European countries. (7)

ANTIVIRAL RESISTANCE

Pandemic (H1N1) 2009

To date, WHO reported that 206 oseltamivir resistant pandemic (H1N1) 2009 viruses had been detected and characterised worldwide. All of these isolates showed the same H275Y mutation but all were sensitive to zanamivir. (1)

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 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.

NetEpi

All jurisdictions except QLD are reporting pandemic (H1N1) 2009 cases using NetEpi, a web-based outbreak case reporting system. Data from jurisdictional systems are being imported into NetEpi by VIC, NSW, WA, TAS and SA, and the remainder are entering directly into NetEpi. QLD ceased reporting hospitalisations into NetEpi on 6 July 2009.

Analyses of Australian cases are based on clinical onset date, if this information is available. Where an onset date is not available, notification date has been used. Victorian cases use a calculated onset date which is the earliest available date calculated from specimen date, onset date, notification date or detection date. This assumption was made for all calculations and data on which the figures are based.

National Notifiable Diseases Surveillance System (NNDSS)

NNDSS comprises of notifications from jurisdictions of laboratory-confirmed influenza cases. Laboratory confirmed influenza is notifiable in all jurisdictions in Australia. Confirmed pandemic (H1N1) 2009 cases are being received from all jurisdictions through NNDSS except for Victoria and New South Wales. NSW is also unable to send seasonal influenza notifications data.

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 is conducted on combined NetEpi and QLD hospitalisation data.

Sentinel General Practice Surveillance

The Australian Sentinel Practices Research Network (ASPREN) has Sentinel GPs who report influenza-like-illness (ILI) presentation rates in NSW, 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 2009 may be different from that of previous years. ASPREN data are sent to the Surveillance Branch on a weekly basis. Northern Territory GP surveillance data are sent to the Surveillance Branch on a weekly basis. VIDRL influenza surveillance data are sent to the Surveillance Branch on a weekly basis.

Sentinel Emergency Department (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 8 Perth Emergency Departments (EDs).

NSW - ED surveillance data are extracted from the 'Influenza Monthly Epidemiology Report, NSW'. This report is provided monthly. The New South Wales Influenza Surveillance Program collects data from 49 EDs across New South Wales.

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.

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 season.

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.

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- 1 WHO Pandemic (H1N1) 2009 - Update 84 & Virological Surveillance Weekly Update. Available from <http://www.who.int/csr/don/en/>. Accessed 27 January 2010.
 - 2 CDC FluView Weekly report, Week 2 ending 16 January 2010. Available from: <http://www.cdc.gov/flu/weekly/>. Accessed 27 January 2010.
 - 3 Canada FluWatch Weekly report, week 2 ending 16 January 2010. Available from: <http://www.phac-aspc.gc.ca/fluwatch/09-10/index-eng.php>. Accessed 27 January 2010.
 - 4 ECDC pandemic update. Available from: <http://ecdc.europa.eu/en/healthtopics/Documents/Forms/AllItems.aspx>. Accessed 27 January 2010.
 - 5 HPA weekly pandemic flu media update week 3, ending 21 January 2010. Available from: <http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1240732817665?p=1240732817665>. Accessed 27 January 2010.
 - 6 Influenza Surveillance in Ireland - Weekly Update. Influenza week 2, ending 17 January 2010. Available from: <http://www.ndsc.ie/hpsc/A-Z/EmergencyPlanning/AvianPandemicInfluenza/SwineInfluenza/Surveillance%20Reports/>. Accessed 27 January 2010.
 - 7 WHO Pandemic (H1N1) 2009 - Update 83 & Virological Surveillance Weekly Update. Available from <http://www.who.int/csr/don/en/>. Accessed 27 January 2010.