



AUSTRALIAN INFLUENZA SURVEILLANCE SUMMARY REPORT

No.27, 2009, REPORTING PERIOD:
7 November 2009 – 13 November 2009

Key Indicators

The counting of every case of pandemic influenza is not feasible in the PROTECT phase. Influenza activity and severity in the community is instead monitored by the surveillance systems listed below.

| | |
|---|--|
| Is the situation changing? | Indicated by: laboratory confirmed cases reported to NetEpi/NNDS; Sentinel syndromic surveillance systems GP Sentinel ILI Surveillance; and ED presentations of ILI at sentinel hospitals (NSW and WA). Laboratory data are used to determine the proportion of influenza and pandemic (H1N1) 2009 circulating in the community. |
| How severe is the disease, and is severity changing? | Indicated by: number of hospitalisations, ICU admissions and deaths |
| Is the virus changing? | Indicated by: emergence of drug resistance or gene drift/shift from laboratory surveillance. |

Key Items

- As of 13 November 2009, there had been 37,196 confirmed cases of pandemic (H1N1) 2009 and 190 deaths reported in Australia. Victoria has reported a death associated with the pandemic (H1N1) 2009 infection of a female with several comorbidities which occurred in mid October.

| | Cum Hosp (indigenous) | Cum ICU (indigenous) | Cum Deaths (indigenous) |
|-----|--------------------------|-------------------------|----------------------------|
| ACT | 61 (0) | 1 (0) | 2 (0) |
| NSW | 1289 (101) | 251 (0) | 53 (5) |
| NT | 379 (319) | 48 (36) | 6 (5) |
| Qld | 1243 (166) | 169 (0) | 41 (7) |
| SA | 502 (44) | 78 (9) | 29 (5) |
| Tas | 108 (2) | 9 (0) | 7 (0) |
| Vic | 514 (4) | 118 (0) | 25 (0) |
| WA | 863 (165) | 78 (7) | 27 (3) |
| Aus | 4959 (801) | 752 (52) | 190 (25) |

NOTE: Numbers in brackets, eg (0), indicate Indigenous numbers
Victoria is no longer reporting current hospitalisations

SOURCE: Jurisdictions

- The World Health Organization (WHO) reports that the winter influenza season, which began unusually early across much of the Northern Hemisphere, shows early signs of peaking in parts of North America but is intensifying across much of Europe and Central and Eastern Asia.
- Despite early reports of an unusually severe pandemic outbreak in Ukraine, WHO has reported that the numbers of severe cases do not appear to be excessive when compared to the experiences of other countries and do not suggest any change in the transmission or virulence of the virus. Testing of clinical samples collected in Ukraine have indicated that there are no significant changes in the pandemic (H1N1) 2009 virus and that it remains similar to the one used to make pandemic H1N1 vaccines, reconfirming the efficacy of current vaccines.

Summary

Is the situation changing?

As of 13 November 2009:

- There were 37,196 confirmed cases of pandemic (H1N1) 2009 in Australia.
- There have been 20 new laboratory confirmed pandemic (H1N1) 2009 notifications in the previous reporting week, with 3 jurisdictions reporting no new notifications
- Victoria has reported a death associated with the pandemic (H1N1) 2009 infection of a female with several comorbidities which occurred in mid October.
- National influenza activity continued to decrease.
 - Influenza-like illness (ILI) presentation rates to General Practitioners at a national level were below the baseline levels reached at the end of the 2007 and 2008 influenza seasons. Rates remained stable in most jurisdictions although some reported rates were slightly above background levels.
 - FluTracking surveillance for the week ending 8 November 2009 indicated that ILI activity remained at low levels in all jurisdictions.
 - Enquiries to the National Health Call Centre Network (NHCCN) regarding ILI continued to drop and were at low levels.
 - Absenteeism rates increased in the last week and were above levels seen at the same time period in 2007.

The number of respiratory tests positive for influenza A and pandemic (H1N1) 2009 remained low. Type A influenza is the predominant seasonal influenza type reported by all jurisdictions and the pandemic A/H1N1 2009 strain has almost replaced the current seasonal H1N1 strain. Of the seasonal influenza A notifications, influenza A/H3N2 remains the predominant strain reported by most jurisdictions.

How severe is the disease? ^a

Analysis of data to 23 October 2009 indicated that:

- The number of people with pandemic (H1N1) 2009 requiring hospitalisation continued to decrease. In total, 4,833 people had been hospitalised, with 13% admitted to Intensive Care Units. Of the hospitalisations for which Indigenous status is known, 803 (21%) have been Indigenous Australians. Pregnant women represented 27% of all hospitalisations for pandemic (H1N1) 2009 of women aged between 15 and 44 years.
- Of the 186 fatal cases associated with pandemic (H1N1) 2009, 3 (4% of female deaths) were pregnant women and 24 (13%) were Indigenous Australians.

Is the virus changing?

- In Australia, 2 of 347 pandemic (H1N1) 2009 viral isolates tested by NA enzyme inhibition assay were resistant to oseltamivir, and the H275Y resistance mutation was found in 5 of 152 clinical specimens tested.
- To date, the WHO has received formal notification of 42 cases of oseltamivir resistance pandemic (H1N1) 2009 viruses worldwide.

International influenza surveillance

- The number of human cases of pandemic (H1N1) 2009 continues to increase in many countries. As at 8 November 2009, the WHO reported over 503,536 confirmed cases and at least 6,260 deaths associated with pandemic (H1N1) 2009 worldwide.
- The winter influenza season, which began unusually early across much of the Northern Hemisphere, shows early signs of peaking in parts of North America but is intensifying across much of Europe and Central and Eastern Asia. In the temperate region of the Southern Hemisphere low pandemic influenza activity has been reported in recent weeks, although one new cluster of pandemic influenza cases has been reported in Argentina in the capital area.

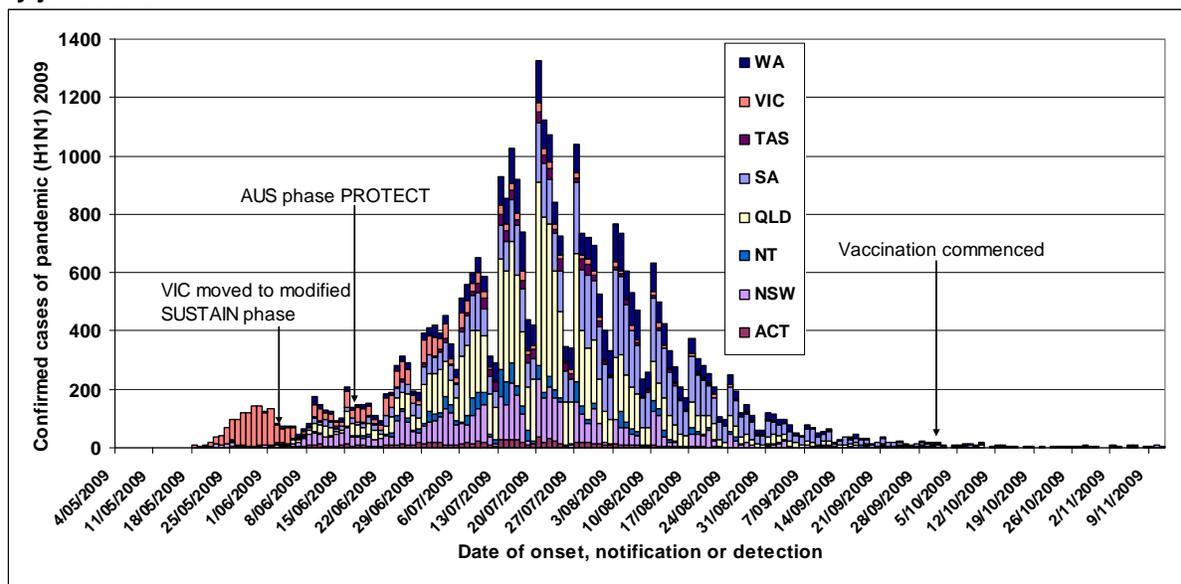
^a Note that the while the analysis of severity is on-going, updates are only reported every four weeks unless there are significant changes detected. With the current low levels of pandemic (H1N1) 2009 activity in Australia it is anticipated that the indicators of pandemic severity will not vary significantly.

1. Influenza activity in Australia

Laboratory Confirmed Cases

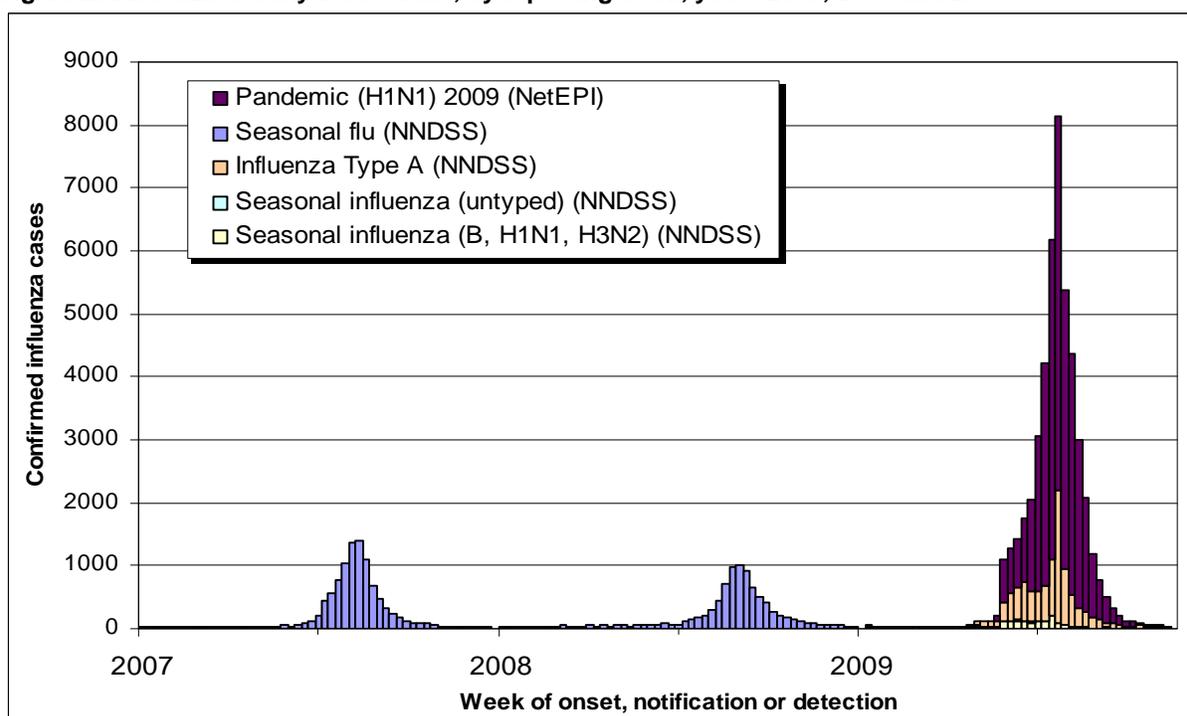
There have been 20 new laboratory confirmed pandemic (H1N1) 2009 notifications in the previous reporting week, with 3 jurisdictions reporting no new notifications. As of 13 November 2009 there were 37,196 confirmed cases of pandemic (H1N1) 2009 in Australia, including 190 pandemic influenza-associated deaths.

Figure 1. Laboratory confirmed cases of pandemic (H1N1) 2009 in Australia, to 6 November 2009 by jurisdiction



Source: NetEPI database

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



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

Sources: NNDSS and NetEPI databases

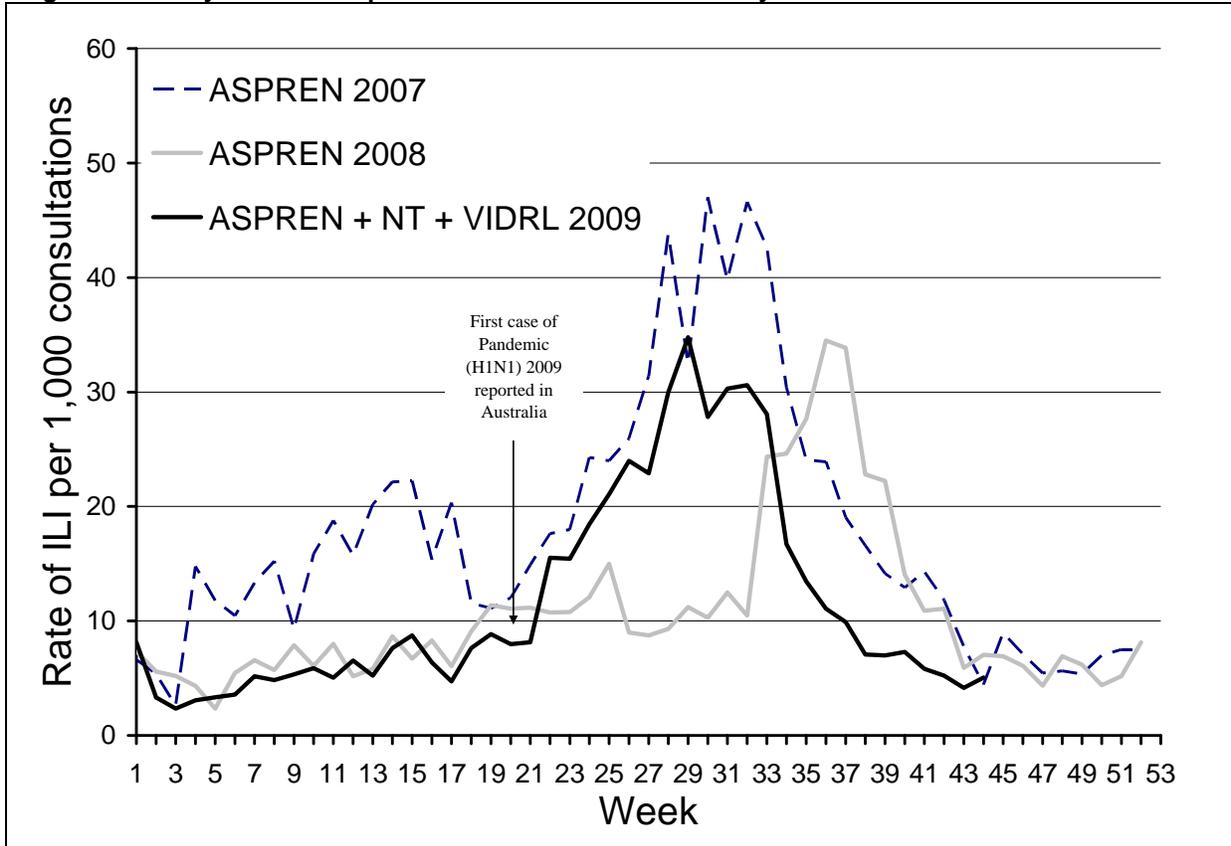
Influenza-Like Illness ^b

Sentinel General Practice Surveillance

Combined data available from the Australian Sentinel Practices Research Network (ASPREN), the Northern Territory GP surveillance system and VIDRL, up until 8 November 2009, show that nationally, influenza like illness (ILI) consultation rates remained stable this reporting period and were below levels seen at the end of the 2007 and 2008 seasons (Figure 3).

In the last week, the presentation rate to sentinel GPs in Australia was approximately 5 cases per 1,000 patients seen.

Figure 3. Weekly rate of ILI reported from GP ILI surveillance systems from 2007 to 8 November 2009*



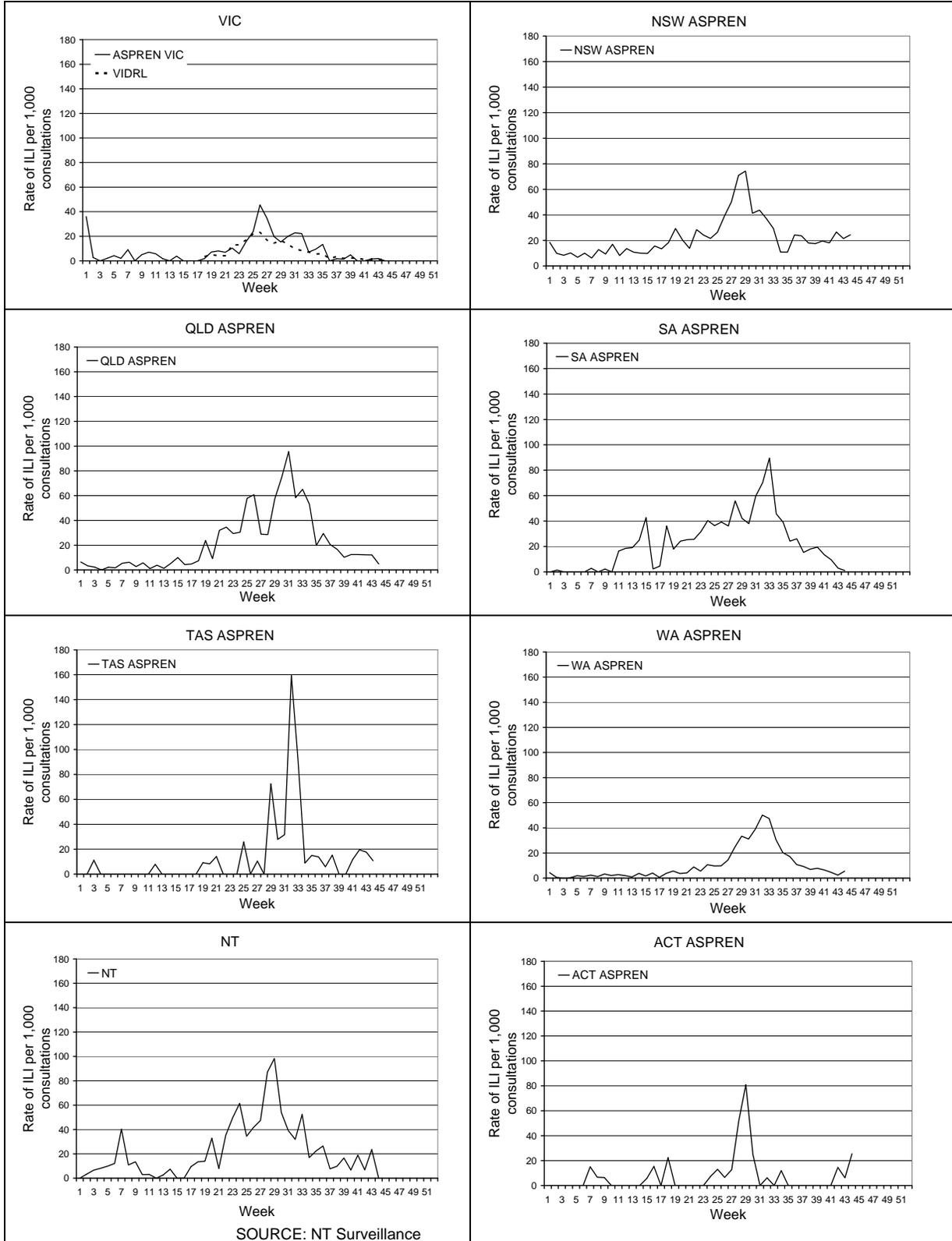
* Delays in the reporting of data may cause data to change retrospectively. As data from the NT and the VIDRL surveillance systems are combined with ASPREN data, rates may not be directly comparable across 2007, 2008 and 2009.

SOURCE: ASPREN, NT, VIDRL

Further analysis of the ILI data during this period indicates that levels remained stable or decreased in most jurisdictions; however this is above background levels in some jurisdictions (Figure 4). An increase was observed in the Australian Capital Territory.

^b As the counting of every case is no longer 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.

Figure 4. Weekly rate of ILI reported from ASPREN, VIDRL and NT by State from January 2009 to 8 November 2009 *

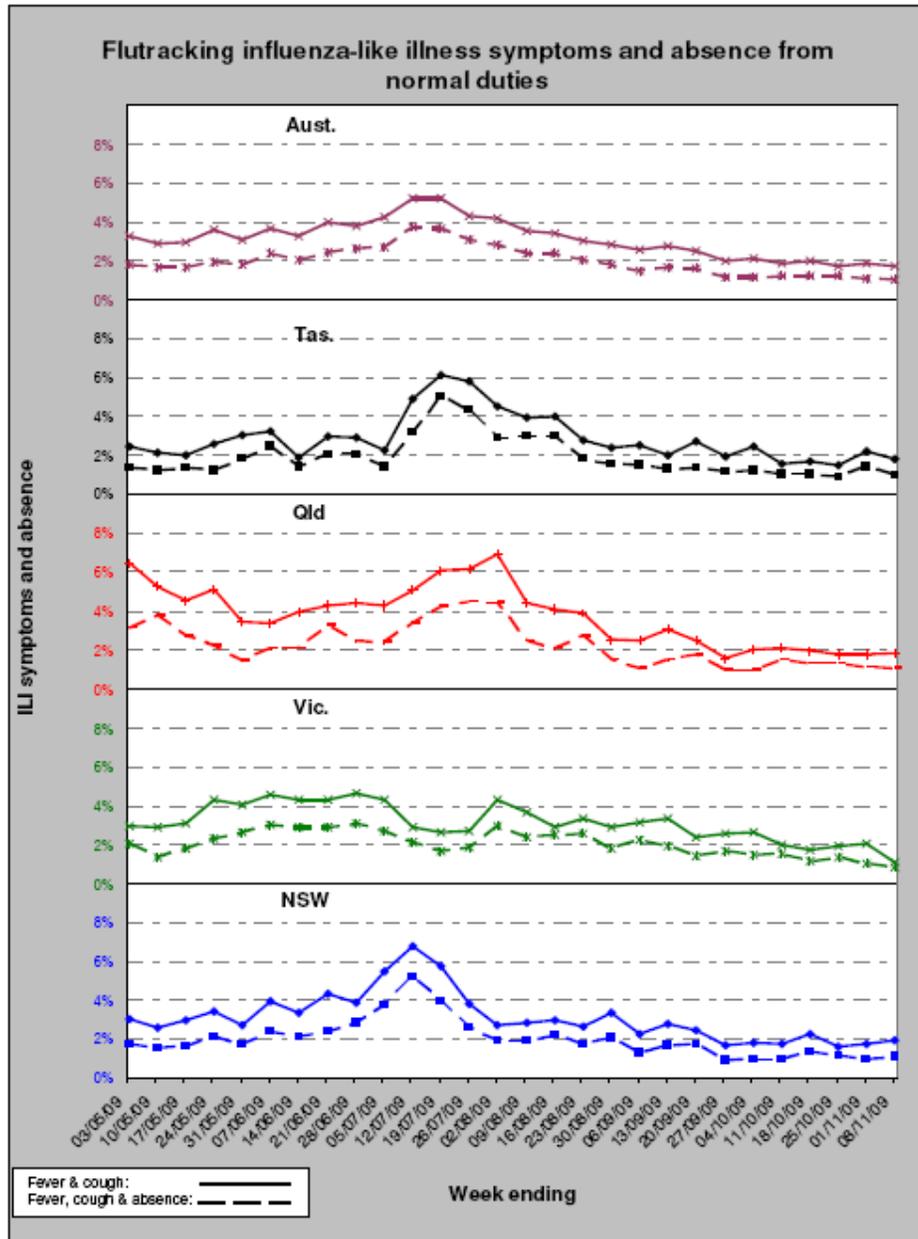


*Care should be taken when interpreting graphs due to lags in reporting in some instances and small numbers being reported from jurisdictions. The last data point may be modified in future reports.

FluTracking

FluTracking, a national online tool for collecting data on ILI, reported that activity remained at low levels nationally and in the four States with sufficient data for reporting in the week ending 8 November 2009 (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 8 November 2009

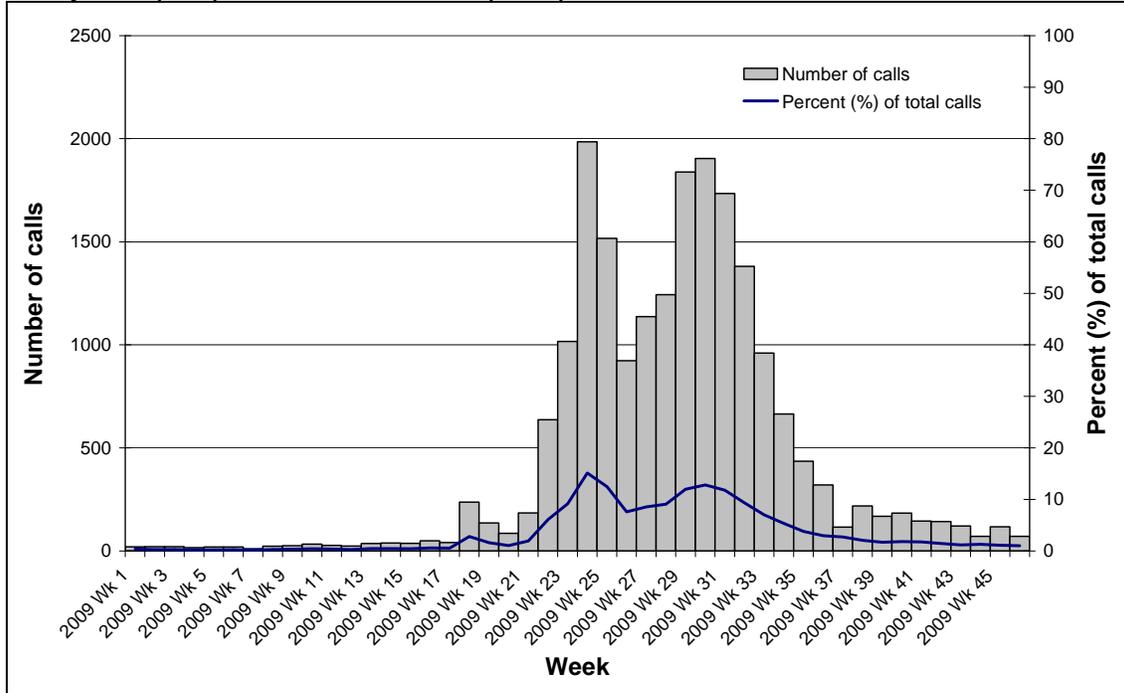


Source: Flutracking Interim Weekly Report

National Health Call Centre Network

The number of calls related to ILI to the National Health Call Centre Network (NHCCN) remained stable, with 71 calls in the week ending 13 November 2009. At the peak, the NHCCN received approximately 1900 ILI-related calls per week. The number of calls currently being received is low but not yet at pre-pandemic 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 13 November 2009 (Wk46)

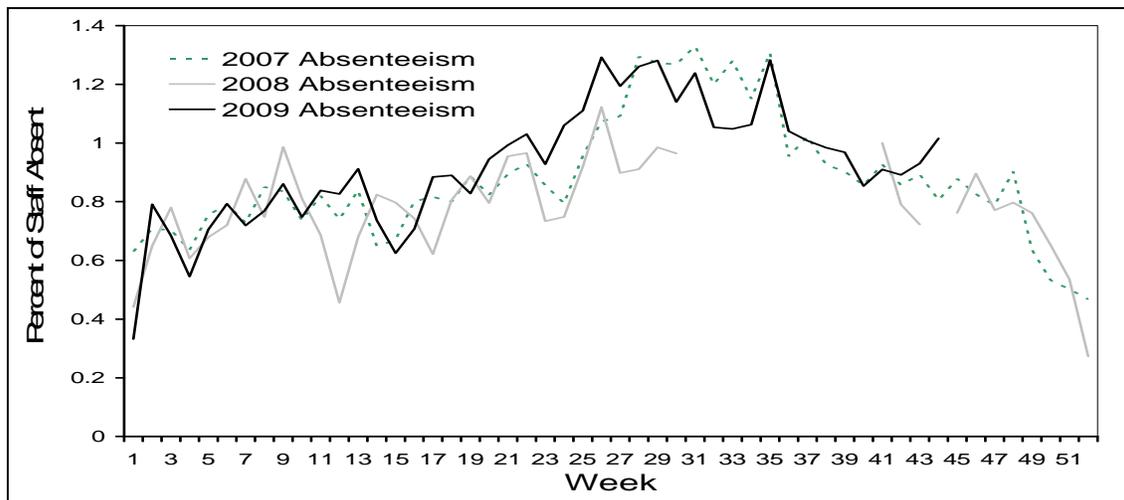


SOURCE: NHCCN data

Absenteeism

The most recent available data indicates that in the week ending 4 November 2009, absenteeism rates nationally increased significantly (Figure 7). It is difficult to compare current rates to previous years as no data is available for 2008.

Figure 7. Rates of absenteeism of greater than 3 days absent, National employer, 1 January 2007 to 4 November 2009, by week.



SOURCE: Absenteeism data (Employer not disclosed)

Sentinel Laboratory Surveillance - confirmed influenza notifications

- Results from sentinel laboratory surveillance systems continued to show very few samples are being confirmed positive for Influenza A virus, but of those that were positive the majority were further subtyped as pandemic (H1N1) 2009 strains (Table 1).

Table 1. Laboratory Respiratory tests that tested positive for influenza A and pandemic (H1N1) 2009

| | ASPREN* - national | VIDRL^ | WA NIC | NT (reported by WA NIC) |
|--|-----------------------|-------------------|------------------|----------------------------|
| Latest report | | | | |
| Number of specimens tested | 6 | 135 (at 13/11) | 148 (at 3/11) | 148 (at 3/11) |
| Number tested which were Influenza A | 0 | 3 | 4 | 1 |
| Number tested which were pandemic (H1N1) 2009 | 0 | 3 | 4 | 1 |
| Previous report | | | | |
| Number of specimens tested | 10 | n/a | 185 (at 7/11) | 185 (at 7/11) |
| Number tested which were Influenza A | 0 | n/a | 4 | 2 |
| Number tested which were pandemic (H1N1) 2009 | 0 | n/a | 2 | 2 |

*ASPREN tests are collected every Tuesday. Results are reported for a rolling fortnight as data changes retrospectively.

From 1 January to 13 November 2009, type A was the predominant seasonal influenza type reported by all jurisdictions. Of the type A notifications for which there was subtyping information in NNDSS, the ratio of seasonal H1N1 to H3N2 was 1:2.3.

2. Overview of pandemic (H1N1) 2009 severity - to 23 October 2009^c

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 2).

Of particular note is the difference in the age distribution of the novel influenza virus to seasonal influenza and the increasing median age as the severity of the disease progresses: 21 years for all confirmed cases; 31 years for hospitalised cases; 45 years for ICU cases; and 54 years for deaths.

The disease has also had a differential impact upon Indigenous Australians, who are ten times more likely to be hospitalised with the disease than non-Indigenous Australians. Pregnant women are also over-represented in the more severe cases with pregnancy being a risk factor in 27% of women aged 15 to 44 years who require hospitalisation for the disease.

Table 2. Summary of severity indicators of pandemic (H1N1) in Australia, to 23 October 2009^f

| | Confirmed pandemic (H1N1) 2009 cases | Hospitalised cases | ICU cases | Deaths |
|---|--------------------------------------|---|--|-------------------------|
| Total number | 37,149 | 13% (4,833/37,149 confirmed cases) | 13% (650/4,833 hospitalisations) | 186 |
| Crude rate per 100,000 population | 173.1 | 22.6 | 3.2 | 0.8 |
| Median age (years) | 21 | 31 | 45 | 54 |
| Females | 51% (18,125/37,029) | 51% (2,455/4,833) | 53% (347/650) | 42% (78/186) |
| Vulnerable groups (Indigenous, pregnant & individuals with at least 1 co-morbidity) | n/a | 57% (2,755/4,833) | 74% (484/650) | 67% (125/186) |
| Indigenous people~ | 11% (3,822/34,344) | 20% (803/3,908) | 20% (100/499) | 13% (24/186) |
| Pregnant* | n/a | 27% (278/1,030 hospitalised females aged 15-44 years) | 17% (47/278 hospitalised pregnant women) | 4% (3/78 female deaths) |
| Cases with at least 1 co-morbidity | n/a | 49% (2,382/4,833) | 71% (460/650) | 65% (120/186) |

^fData 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

^c Note that while the analysis of severity is on-going, updates are only reported every four weeks unless 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. Virology

Antigenic characteristics - WHO Collaborating Centre for Reference & Research on Influenza (WHO CC) in Melbourne

In 2009 up to 13 November 2009, 1,274 Australian influenza isolates have been subtyped by the WHO CC (Table 3). Of these, 628 influenza isolates have been antigenically characterized, with 62% confirmed as pandemic A/H1N1 2009 (A/California/7/2009-like).

Table 3. Typing of Influenza isolates from the WHO Collaborating Centre, 1 Jan. – 13 Nov. 2009

| Antigenic characterization | ACT | NSW | NT | QLD | SA | TAS | VIC | WA | TOTAL |
|----------------------------|-----------|------------|------------|------------|------------|-----------|------------|------------|-------------|
| A(H1N1) | 2 | 15 | 0 | 29 | 21 | 1 | 11 | 27 | 106 |
| Pandemic (H1N1) 2009 | 41 | 64 | 140 | 75 | 117 | 9 | 186 | 238 | 870 |
| A(H3) | 16 | 95 | 8 | 41 | 2 | 8 | 39 | 68 | 277 |
| B | 0 | 8 | 0 | 1 | 0 | 0 | 4 | 8 | 21 |
| Total | 59 | 182 | 148 | 146 | 140 | 18 | 240 | 341 | 1274 |

SOURCE: WHO CC

Please note: There may be up to a months delay on reporting of samples
Isolates tested by the WHO CC are not a random sample of all those in the community hence proportions of pandemic (H1N1) 2009 to seasonal are not representative of the proportions circulating. Early in the pandemic all influenza A untypeable samples were sent to the WHO CC for testing and later many pandemic (H1N1) 2009 positive samples were sent for confirmation, resulting in biases in the data.

In general, seasonal influenza A strains circulating this influenza season are the same as strains in the vaccine, with the A(H3N2) virus drifting. Influenza B strains match more closely with those in the 2009-2010 Northern Hemisphere vaccine and may be drifting.

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 19 April to October 31st 2009, a total of 81 countries reported to FluNet. The total number of specimens reportedly positive for influenza viruses by NIC laboratories was 195,005. Of these, 65 % were pandemic H1N1; 3.6% were seasonal A (H1); 10.6% were A (H3); 18.1% were A (not sub typed); and 2.5% were influenza B. Some laboratories are under pressure of the pandemic surge, and do not test for seasonal subtypes. Thus, this data should be interpreted with caution. (1)

Antiviral Resistance

Pandemic (H1N1) 2009

To 13 November 2009, WHO reported that 52 oseltamivir resistant pandemic (H1N1) 2009 viruses had been detected and characterised worldwide. (2) All of these isolates showed the same H275Y mutation (which confers resistance to oseltamivir), but all were sensitive to zanamivir. More than 10,000 other clinical specimens of the pandemic (H1N1) 2009 virus have been tested and found to be sensitive to oseltamivir.

The WHOCC in Melbourne has reported that two isolates have shown resistance to oseltamivir by enzyme inhibition assay and five clinical specimens have shown the H275Y mutation (Table 4).

Table 4. Neuraminidase resistance testing of Australian pandemic (H1N1) 2009 viruses

| Description | No. tested | EIA Resistant | H275Y mutation |
|--------------------|------------|---------------|----------------|
| Viral isolates | 347 | 2* | |
| Clinical specimens | 152 | | 5 |

*This figure represents two isolates from the same patient, both of which were also found to contain the H275Y mutation.

Seasonal Influenza

The last WHO report on resistance of seasonal strains to oseltamivir was released on 4 June 2009, during the Northern Hemisphere influenza season 2008-2009 and stated that 96% of seasonal influenza A (H1N1) isolates tested from 36 countries worldwide were resistant to oseltamivir. (3)

Table 5. Resistance Testing – Seasonal Influenza - Global

| Country | % of H1N1 viruses | % of A(H3N2) | % of B viruses |
|---|--|------------------------------------|-----------------------------------|
| Australia (since 1 January 2009) | 97.2% (36/37) resistant to oseltamivir | 0% (0/40) resistant to oseltamivir | 0% (0/6) resistant to oseltamivir |
| New Zealand (up to 8 November 2009) (4) | 100% (53/53) resistant to oseltamivir | n/a | n/a |

4. International Influenza Surveillance^d

As at 8 November 2009, the WHO Regional Offices reported over 503,536 confirmed cases and at least 6,260 deaths associated with pandemic (H1N1) 2009 worldwide.(1) 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.

The winter influenza season, which began unusually early across much of the Northern Hemisphere, shows early signs of peaking in parts of North America but is intensifying across much of Europe and Central and Eastern Asia. In the temperate region of the Southern Hemisphere, little pandemic influenza activity has been reported in recent weeks. Of note, a cluster of pandemic influenza cases been reported in Argentina in the capital area.

North America – In Canada, intense and persistent influenza transmission continues to be reported without evidence of a peak in activity. In the US, disease activity may have peaked in southern and south eastern parts which were among the first areas to be affected by the second pandemic wave but influenza activity remains high in many areas.

- The US reported a slight overall decrease in influenza activity during week 44 (week ending 7 November 2009). The proportion of outpatient visits for ILI was 6.7% above the national baseline and all regions reported ILI above region-specific baseline levels. The proportion of deaths attributed to pneumonia and influenza was above the epidemic threshold for the sixth consecutive week. Thirty-five influenza-associated paediatric deaths were reported of which 26 were associated with pandemic (H1N1) 2009 influenza A virus infection and 8 were associated with an influenza A virus for which the subtype was undetermined. Over 99% of all subtyped influenza A viruses being reported to CDC were 2009 influenza A (H1N1) viruses. (5)
- Canada reported sharp and widespread increases in rates of influenza-like-illness (100 per 1,000 visits) and in detections of pandemic H1N1 virus, and over 750 influenza outbreaks school outbreaks were reported in the preceding three weeks. Pandemic activity continued to spread west to east in the week ending 7 November 2009 (week 44). The pandemic (H1N1) 2009 strain accounted for 99.8% of the positive influenza A subtyped specimens. The intensity of Pandemic (H1N1) 2009 in the population was high, with 1,324 hospitalizations and 35 deaths reported in week 44. Numbers of new hospitalizations were four times higher than the previous week. (6)
- In Mexico, influenza activity remains geographically widespread with a significant wave of cases reported since early September, most notably from central and southern Mexico.(1) As at 11 November 2009, confirmed cases of pandemic (H1N1) 2009 in Mexico (61,633) and related deaths (482) continue to increase. (7)

Central and South America – Central America continues to report overall decreasing trends in acute respiratory disease. Central America continues to report overall decreasing trends in acute respiratory disease. Most of South America had stable or decreasing trends of acute respiratory disease, with the exception of Colombia and Peru, which reported an increasing trend. (8)

- Venezuela reported that the outbreak of acute respiratory illness in the Yanomami communities has ended (remote indigenous communities in the Amazon region near the border with Brazil).

Europe – At least 10 countries of Western Europe (Iceland, Poland, Romania, Belgium, Germany, the Netherlands, Norway, Spain, Sweden and the United Kingdom) reported that the proportion of sentinel samples testing positive for influenza exceeded 20% consistent with active circulation of pandemic influenza viruses. High to very high intensity of respiratory diseases with concurrent circulation of pandemic H1N1 2009 was also reported in the Netherlands, Italy, much of Northern Europe, Belarus, Bulgaria, and in the Russian Federation (particularly in the Urals). Disease activity may be peaking in a few countries, notably Iceland, Ireland, and parts of the UK (Northern

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

Ireland) that experienced intense transmission during early autumn. Over 99% of subtyped influenza A viruses in Europe were pandemic (H1N1) 2009 with the exception of the Russian Federation where <10% of viruses subtyped were seasonal influenza subtypes, H3N2 and seasonal H1N1. (1)

- Following a recent rise in pandemic influenza activity in Ukraine, WHO joined with the Ministry of Health to evaluate and respond. The initial WHO analysis indicated that the numbers of severe cases did not appear to be excessive when compared to the experience of other countries and did not represent any change in the transmission or virulence of the virus. Preliminary genetic analysis and sequencing shows that there have been no significant changes in the pandemic viruses isolated from Ukraine and they remain similar to the virus used for production of pandemic influenza vaccines, reconfirming the vaccine's efficacy at this time. (1)
- In the UK, the weekly influenza/ILI consultation rates decreased during week 45 (ending 8 November), though remained above the winter baseline thresholds, in England, Scotland and Northern Ireland. 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. The hospitalisation rates have increased in the under 5-year age group, but have decreased in most other age groups recently. (9)
- In Ireland, there was clear evidence of continuing widespread influenza activity, with a further decrease noted in most indices during week 45 (ending 8 November). The sentinel GP influenza-like illness (ILI) consultation rate was slightly lower than the previous week's rate, with the highest rates in the 0-4 and 5-14 year age groups. (10)

Asia - In Western Asia, increasing activity has been observed in several countries. In East Asia, very intense and increasing influenza activity continues to be reported in Mongolia with a severe impact on the healthcare system. With the exception of Nepal and Sri Lanka, overall transmission continues to decline in most parts of South and Southeast Asia. (1)

- In Israel, sharp increases in rates of ILI and pandemic virus detections have been observed over the past 3 weeks.
- In Afghanistan, the proportion of sentinel visits for acute respiratory infections (ARI) has increased over the past 3-4 weeks, but more dramatically in the last 1-2 weeks.
- In China, the proportion of sentinel hospital visits for ILI and the proportions of respiratory samples testing positive for influenza, continued to increase over the past 3-4 weeks. More than 80% of influenza viruses isolated in China were pandemic H1N1 2009.
- In Hong Kong SAR, rates of ILI returned to baseline after a recent wave of predominantly pandemic H1N1 influenza in September and October.
- In Japan, sharp increases in influenza activity continue to be reported nationally. On the northern island of Hokkaido, which to date has been the most heavily affected, disease activity may have recently peaked.

Oceania

- ILI consultation rates increased slightly in New Zealand in the week ending 8 November (week 45), with 33.2 per 100,000 population from 25.2 in the previous week. The highest ILI consultation rates have been reported among children and teenagers aged 0 to 19 years. (4)

5. Pandemic (H1N1) 2009 virus in animals

The WHO has advised that since the new pandemic (H1N1) 2009 virus emerged in April 2009, infections in different species of susceptible animals (pig, turkey, ferret, and cat) have been reported. Limited evidence suggests that these infections occurred following direct transmission of the virus from infected humans. These isolated events have had no impact on the dynamics of the pandemic, which is spreading readily via human-to-human transmission. As human infections become increasingly widespread, transmission of the virus from humans to other animals is likely to occur with greater frequency. Unless the epidemiology of the pandemic changes, these will continue to pose no special risks to human health. (11)

US Department of Agriculture researchers have reported that the pandemic (H1N1) 2009 virus does not easily infect poultry or spread among them. The researchers inoculated chickens, turkeys, ducks, and quail with the virus but most showed no sign of infection; some quail were infected but did not pass the virus to other quail. (12)

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 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 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.

Laboratory Surveillance data

Laboratory testing data are extracted from the 'NSW Influenza Report,' and the 'The 2009 Victorian Influenza Vaccine Effectiveness Audit Report' (VIDRL) 'South Australian Seasonal Influenza Report'. These reports are provided weekly.

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

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

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.

A new testing protocol introduced through ASPREN requires GPs to test all patients presenting with an ILI on one day of the week. These data should provide a cross section of age, sex and severity of patients who seek GP assistance for ILI. This system is in the early stages of implementation and will be further developed over coming weeks.

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 'NSW Influenza Surveillance Report'. This report is provided weekly. The New South Wales Influenza Surveillance Program collects data from 49 EDs across New South Wales.

SA – ED surveillance data are extracted from the 'South Australian Seasonal Influenza Report'. This report is provided weekly during the influenza season. The South Australian Influenza Surveillance Program collects data from 4 EDs in South Australia.

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.

7. References

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