

Influenza Monthly Epidemiology Report, NSW

Including pandemic (H1N1) 2009 influenza

January 2010

Produced by: Population Health Division, NSW Health.

Summary

From 1 May to 31 December 2009:

- Presentations to emergency departments peaked mid July with on average 1300 presentations per week
- 5381 cases with laboratory confirmed pandemic (H1N1) 2009 influenza reported in NSW.
- 1430 patients with laboratory confirmed pandemic (H1N1) 2009 influenza reported have been admitted to NSW hospitals.
- 54 deaths to date in association with confirmed pandemic (H1N1) 2009 influenza in NSW.

For weekly updates please see the communicable disease weekly report at

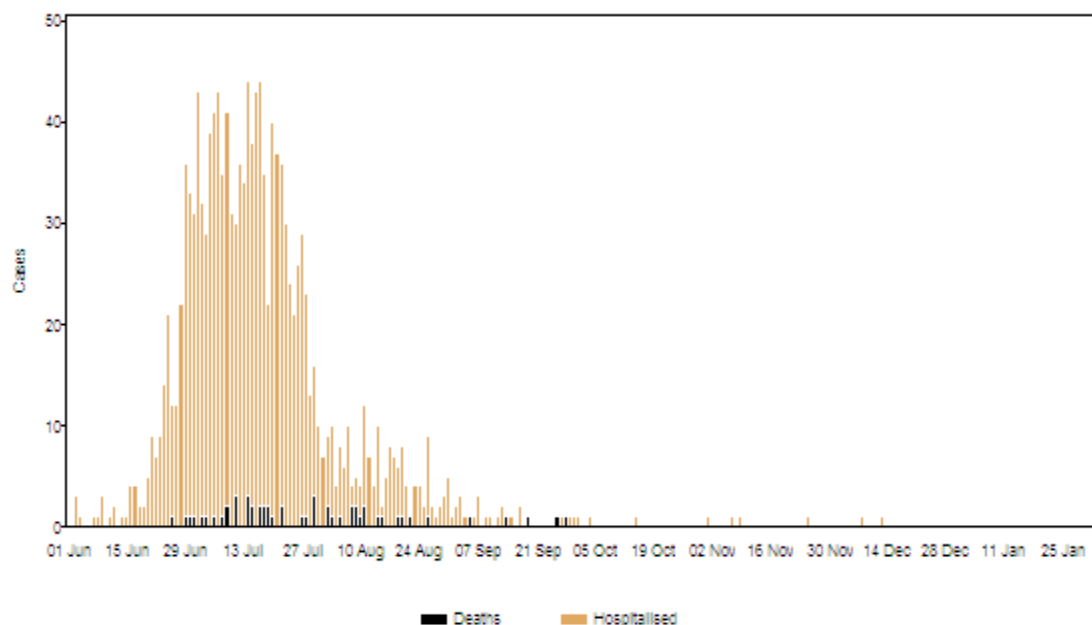
<http://www.health.nsw.gov.au/publichealth/infectious/index.asp>

From 1 to 31 January 2010:

- Presentations to selected emergency departments for ILI were low, and are similar to the same month last year
- 7 cases with laboratory confirmed pandemic (H1N1) 2009 influenza reported in NSW.
- No patients with laboratory confirmed pandemic (H1N1) 2009 influenza reported to have been admitted to NSW hospitals.
- No deaths were reported in association with confirmed pandemic (H1N1) 2009 influenza in NSW

Respiratory syncytial virus and rhinovirus were the most common respiratory viruses diagnosed by sentinel laboratories in January

Figure 1: Hospitalisations and deaths associated with laboratory confirmed H1N1 influenza 09, 1 June to 31 January 2010 by date of hospitalisation or death.



Introduction

A novel influenza A virus (pandemic (H1N1) 2009 influenza -previously called human swine influenza) was identified in April 2009 in the United States and Mexico. Since then, widespread community transmission of the virus has been confirmed in other continents including Australia.

Illness in most people has been generally mild, and broadly similar to seasonal influenza. Features that are unusual include the younger age of cases, the relative sparing of the over 60 year old age group, and the out-of-season timing of the epidemic in the northern hemisphere.

The community was initially generally susceptible to a novel influenza virus. This means that despite the generally mild profile of the illness, the impact of the virus has been substantial, particularly as community transmission became established in Australia during the winter.

This report provides a summary of the surveillance for influenza, including pandemic (H1N1) 2009 influenza, undertaken by NSW Health to date. This includes data from a range of surveillance systems.

Emergency Department (ED) presentations

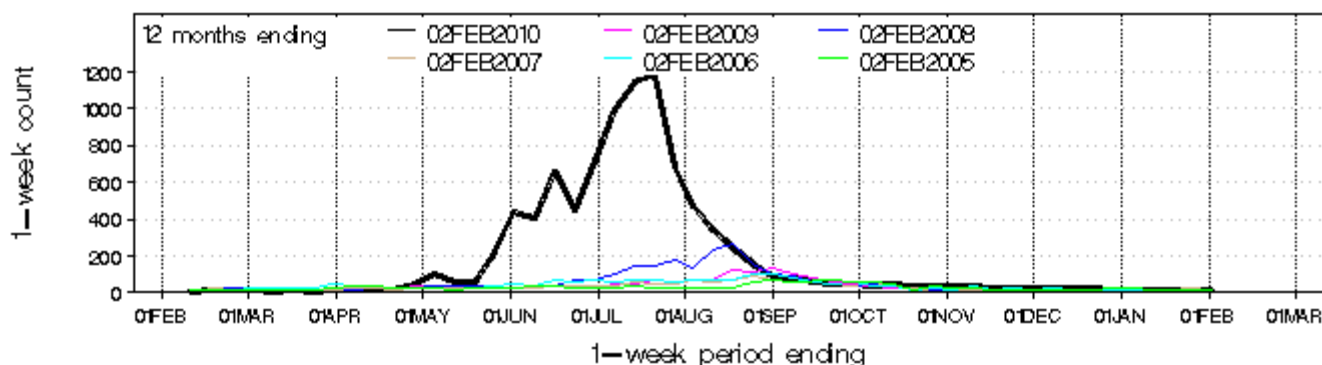
Data from 52 NSW emergency departments are included. Comparisons are made with data for the preceding six years. Recent counts are subject to change.

Presentations for influenza-like illness

Figure 2: Comparison of weekly influenza-like illness presentations to NSW emergency departments, 2003-2010*

Category: All visits with the above inclusions

Total 1-week counts



* Some people presenting to NSW emergency departments have been referred to an influenza clinic without being recorded in the regular ED information system. (Under-reporting of influenza-related ED presentations will occur in this situation.) Includes data from 49 emergency departments. Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the NSW Emergency Department Data Collection (HOIST).

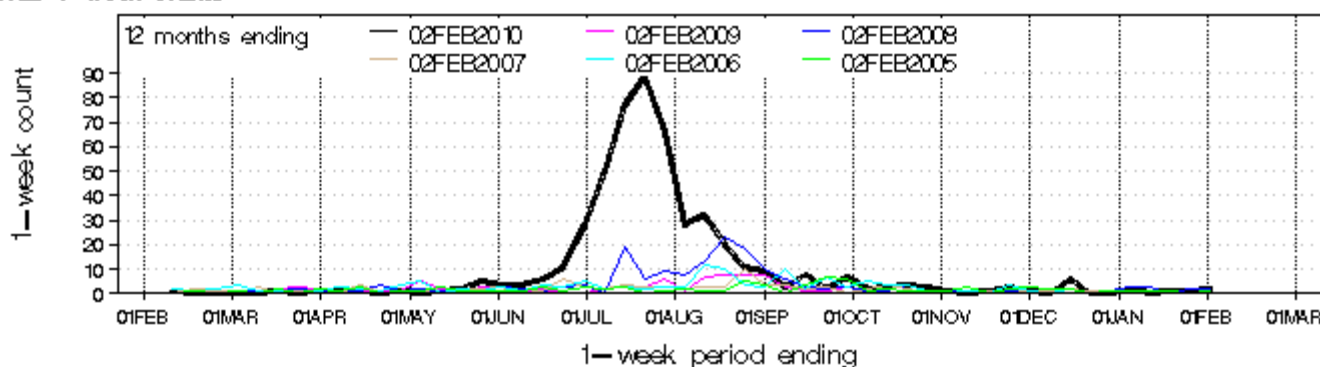
- Presentations to emergency departments for influenza-like illness peaked in mid July 2009 at around 1300 presentations per week. The July 2009 peak was approximately three times the previous highest peak of 2007.
- In January 2010, there were 95 presentations with influenza-like illness. This is less than the previous month (December 151 presentations), but is greater than the count of 65 for the month of January in 2009

Admissions to hospital from emergency departments for influenza-like illness

Figure 3: Weekly counts of admissions to hospital for influenza-like illness from NSW emergency departments, 2003-2010*.

Category: All visits with the above inclusions

Total 1-week counts



* Some people presenting to NSW emergency departments have been referred to an influenza clinic without being recorded in the regular ED information system. (Under-reporting of influenza-related ED presentations will occur in this situation.) Includes data from 49 emergency departments. Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the NSW Emergency Department Data Collection (HOIST).

- Admissions from emergency departments to hospital for influenza-like illness peaked in mid July 2009 at around 110 admissions.
- There were 6 admissions to hospital following presentation to emergency departments with influenza-like illness in the past month. This is lower than the previous month (December 12 admissions), but greater than January 2009 when no people were admitted with ILI.

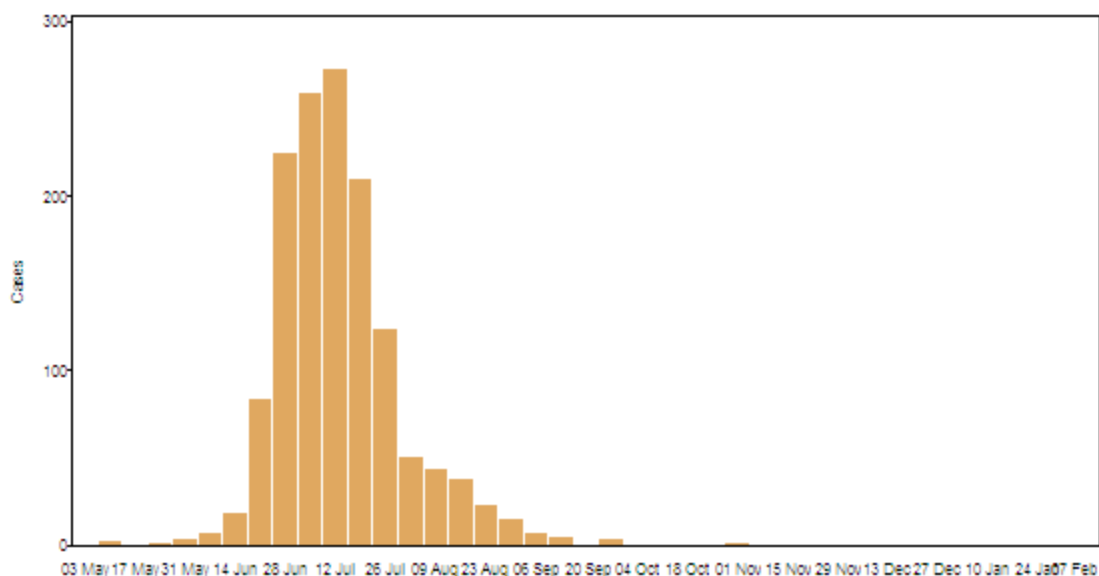
Laboratory confirmed cases of pandemic (H1N1) 2009 influenza

Hospitalisations

From 1 May to 31 January 2010 there have been

- 1430 patients with laboratory confirmed pandemic (H1N1) 2009 influenza reported to have been admitted to NSW hospitals (Figure 5). This figure is higher than the previous 1280 patients reported in December due to extensive data cleaning and database merging.

Figure 4: Hospitalisations associated with laboratory pandemic (H1N1) 2009 influenza, 1 June to 31 January 2010, by hospitalisation date.



- There have been no hospital admissions for confirmed pandemic (H1N1) 2009 influenza in January 2010
- Hospital admissions were highest in July 2009, at about 35 cases per day, and decreased further in August and September 2009. Note that delays in reporting may mean that the recent numbers are under-reported.

Deaths

Deaths associated with pandemic (H1N1) 2009 influenza

From May to 31 December 2009 there were:

- 54 deaths to date in association with confirmed pandemic (H1N1) 2009 influenza in NSW. Of these, 49 had underlying chronic conditions and 5 did not have evidence of underlying illness.
- Deaths in association with pandemic (H1N1) 2009 influenza have occurred in people aged 9-88 years.

From 1 to 31 January there have been no deaths associated with pandemic (H1N1) 2009 influenza.

Table 1: Age distribution of deaths in association with confirmed (H1N1) 2009 influenza, 1 May to 31 January 2010

Age group	Number of cases	Percent of cases
Under 40	7	13.0
40-49	9	16.7
50-59	18	33.3
60-69	8	14.8
70+	12	22.2
TOTAL	54	100.0

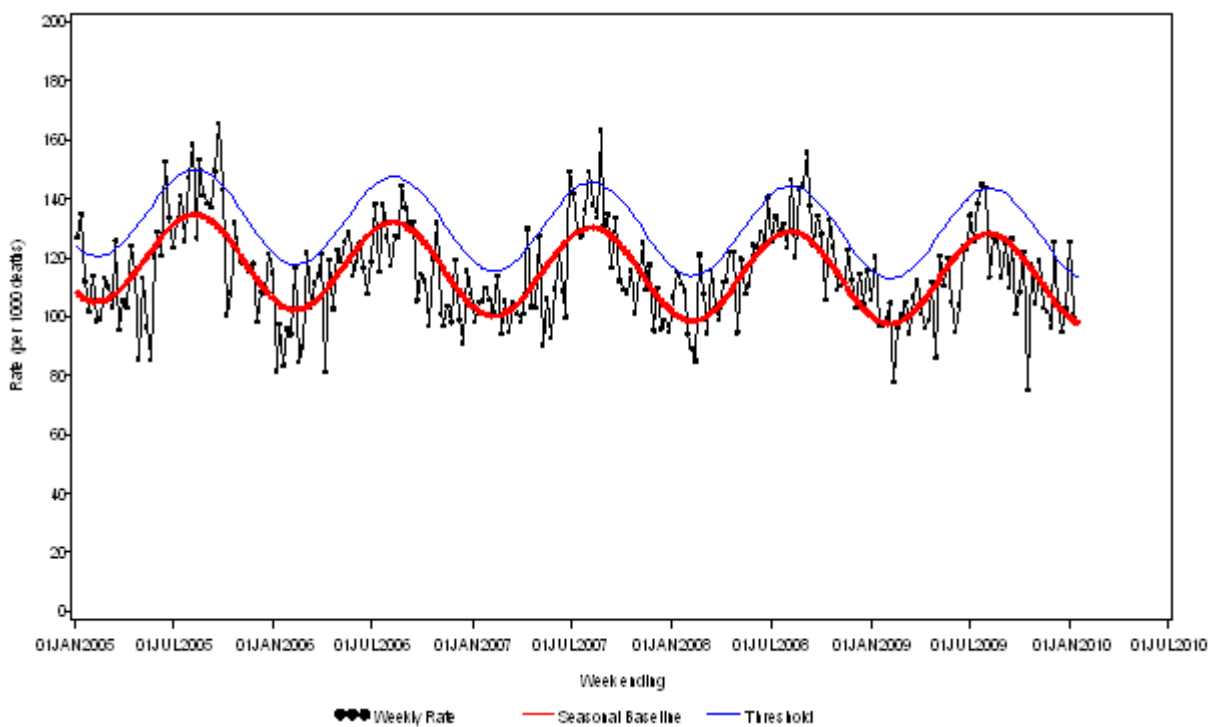
Table 2: Deaths in association with confirmed (H1N1) 2009 influenza, 1 May to 31 January 2010

Month	Number of cases	Percent of cases
May	0	0.0
June	3	5.6
July	29	53.7
August	17	31.5
September	5	9.3
October	0	0.0
November	0	0.0
December	0	0.0
January	0	0.0
February	0	0.0
TOTAL	54	100.0

Deaths with influenza or pneumonia reported on the death certificate

- While pneumonia has many causes, a well-known marker 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 (Figure 5)
- 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 circulating widely.
- Deaths referred to a coroner are not yet available for analysis. Deaths in younger people may be more likely to require a coronial inquest. Therefore influenza-related deaths in younger people may be under-represented in these data.
- Death registration data show that as of 8 January 2010 there were 101 pneumonia or influenza deaths per 1000 deaths in NSW, which is below the seasonal threshold of 135 per 1000.

Figure 5: Rate of deaths classified as influenza and pneumonia as per NSW Registered Death Certificates, 2005-2010



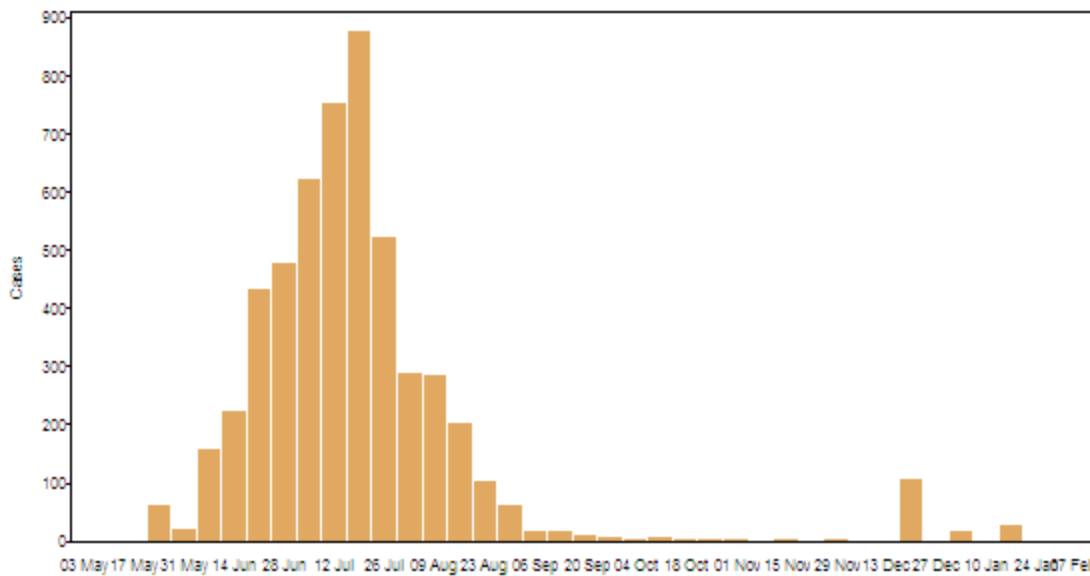
Source: NSW Registry of Births, Deaths and Marriages.

Laboratory testing summary for (influenza including pandemic (H1N1) 2009 influenza)

From 1 May to 31 December there were:

- 5381 people with lab confirmed pandemic (H1N1) 2009 influenza reported in NSW

Figure 6: Notifications of cases of laboratory confirmed H1N1 influenza 09, 1 June to 31 January 2010, by notification date*.



* Note that with the start of the 'Protect' phase on 17 June, 2009, efforts were focused on early detection and treatment of influenza-like illness in those considered at risk of severe illness and laboratory testing was generally confined to this group.

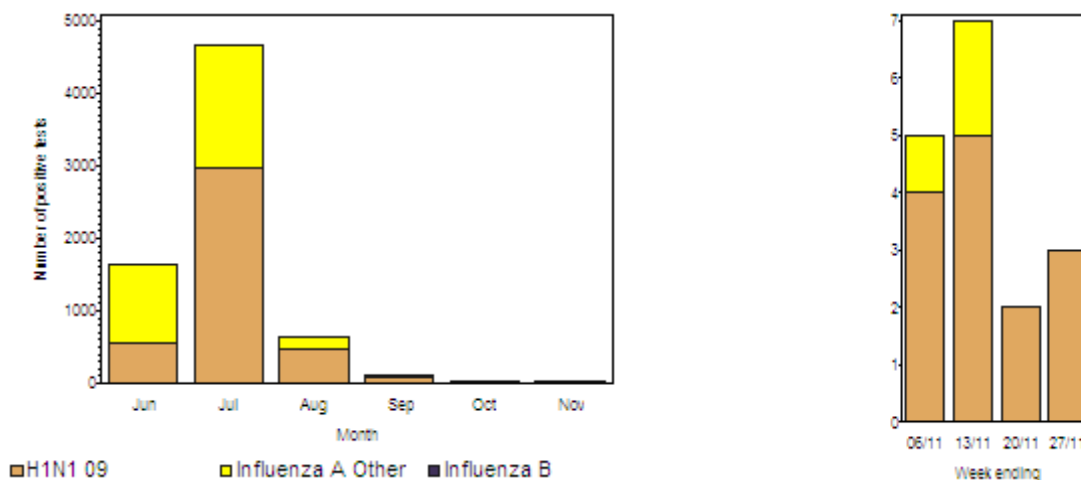
- Notifications of confirmed cases were highest in the middle weeks of July, and have since decreased.

From 1 to 29 January 2010

- 815 tests for respiratory viruses were performed at NSW public hospital laboratories
- Three (0.6%) of these tests were positive for influenza A.
- Two were positive for pandemic (H1N1) 2009 influenza
- One test was positive for influenza B

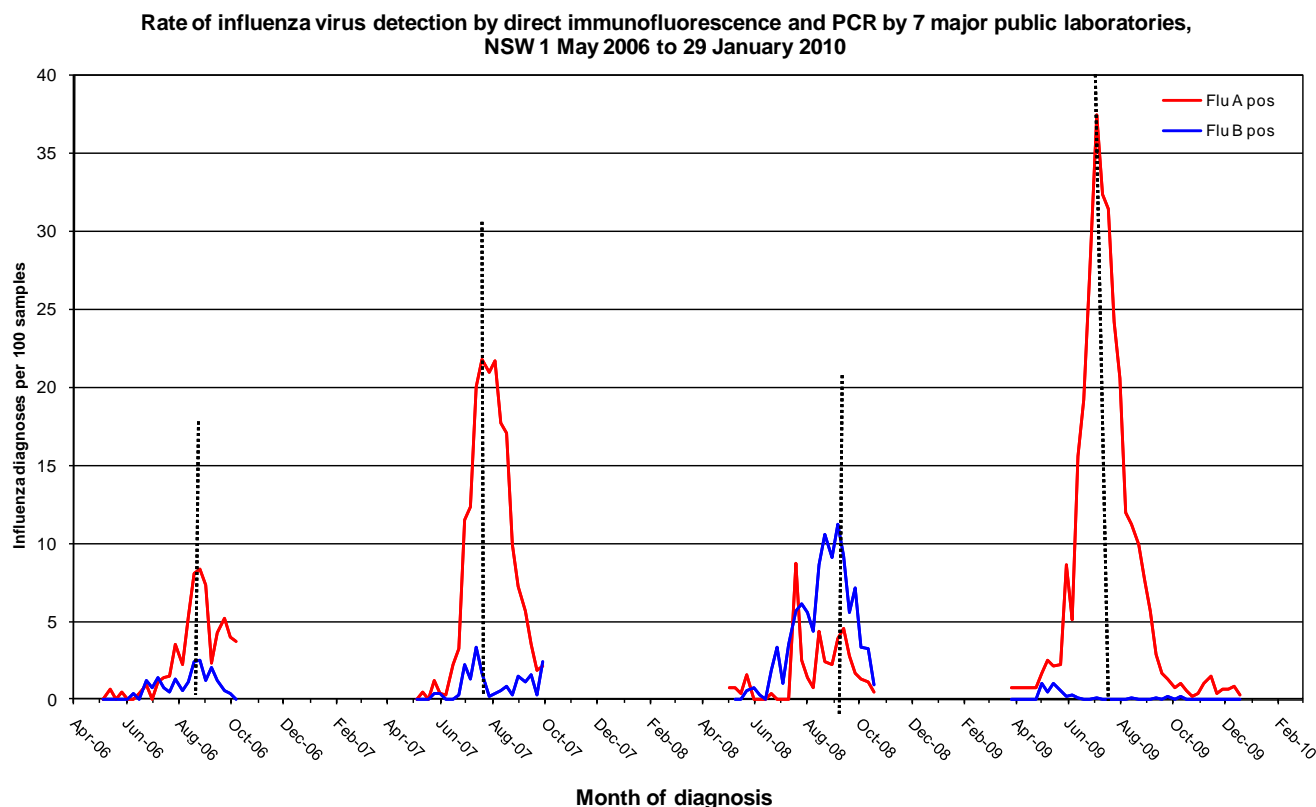
Respiratory syncytial virus and rhinovirus were the most common respiratory viruses detected in the period.

Figure 7: Number of positive laboratory tests for influenza for four week periods ending 31 January 2010.



Note: Excludes point of care tests. Influenza laboratory diagnoses using virology are reported by South Eastern Area Laboratory Services (SEALS), Institute of Clinical Pathology and Medical Research (ICPMR), The Children's Hospital at Westmead (CHW), South West Area Pathology Services (SWAPS), Pacific Laboratory Medicine Services (PaLMS), Royal Prince Alfred Hospital (RPAH), Hunter Area Pathology Services (HAPS), Nepean up to 1 October, Douglas Hanley Moir (DHM) from 21 August and St Vincent's Hospital (SYDPATH).

Figure 8: Percent of laboratory tests positive for influenza A and influenza B, 1 January 2006-2010, New South Wales



Note: Excludes point of care tests. Influenza laboratory diagnoses using virology are reported by South Eastern Area Laboratory Services (SEALS), Institute of Clinical Pathology and Medical Research (ICPMR), The Children’s Hospital at Westmead (CHW), South West Area Pathology Services (SWAPS), Pacific Laboratory Medicine Services (PaLMS), Royal Prince Alfred Hospital (RPAH), Hunter Area Pathology Services (HAPS), Nepean-up to 1 October, Douglas Hanley Moir (DHM) from 21 August and St Vincent’s Hospital (SYDPATH).

Table 3: Summary of testing for respiratory viruses and influenza at NSW public hospital laboratories, 1 June 2009 to 29 January 2010.

Four week period ending	Virology specimens tested	Influenza A (total pos) (%)	Influenza B (total pos) (%)	H1N1 influenza 09 (total pos) (%)	Adenovirus	Parainfluenza 1, 2 & 3	RSV	Rhinovirus	HMPV
10/07/2009	13416	3805 (28%)	3 (0.02%)	1837 (48%)	81	45	445	42	16
07/08/2009	11755	2735 (23%)	1 (<0.01%)	1838 (67%)	60	33	342	18	17
04/09/2009	4986	451 (9.0%)	2 (0.04%)	346 (77%)	45	51	190	34	14
02/10/2009	2860	51 (1.8%)	2 (0.03%)	42 (82%)	63	114	105	61	24
30/10/2009	2202	12 (0.5%)	1 (0.05%)	11(92%)	39	127	77	82	49
27/11/2009	1905	17 (0.9%)	0	14 (82%)	35	96	60	76	33
31/12/2009	1133	6 (0.5%)	0	6 (100%)	16	62	49	35	19
29/01/2010	815	3 (0.5%)	1	3 (100%)	20	28	52	52	6
Week ending									
08/01/2010	255	1 (0.4%)	0	1 (100%)	10	10	9	19	3
15/01/2010	213	1 (0.5%)	1	1 (100%)	3	8	15	28	1
22/01/2010	176	1 (0.6%)	0	1 (100%)	5	12	12	5	2
29/01/2010	171	0	0	0	2	8	16	0	0

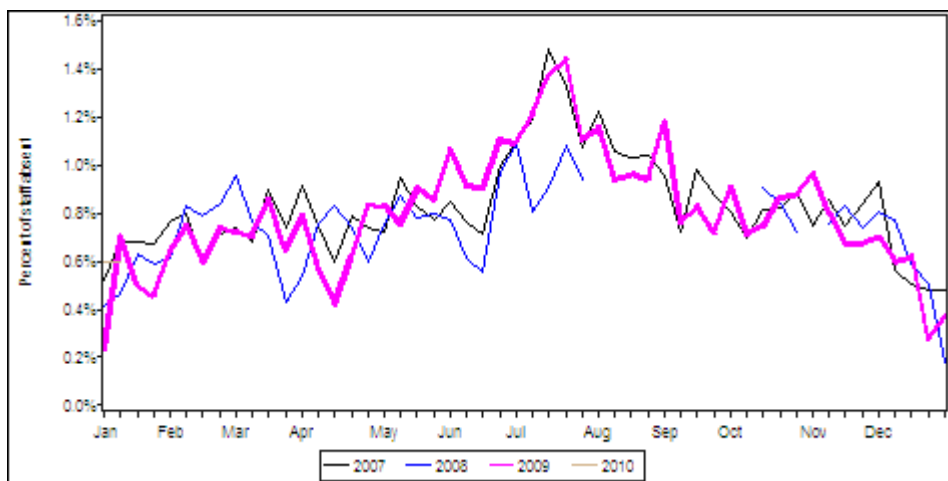
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Community impact

Workplace absenteeism is an indicator of the level of influenza activity in the community. One major Australian employer with more than 10,000 NSW employees, has provided data on the proportion of their employees absent from work due to illness for more than 3 consecutive days. Data is available to the week ending 20 January 2010. This period includes the period with the peak in emergency presentations and hospital admissions for influenza-like illness. In the week ending 22 July 2009, 1.4% of their NSW employees took sick leave of more than three consecutive days. This was the highest level so far this year and higher than the level of around 0.7% in autumn. In the week ending 20 January 2010, 0.6% of their employees took sick leave of more than 3 consecutive days.

Absenteeism this year is similar to the levels reached during the winter of 2007 when influenza incidence was also high.

Figure 9: Weekly proportion of employees of a national employer taking more than 3 consecutive days sick leave, NSW, to 20 January 2010 with comparison to 2007-2009*.



* Data were not available for some weeks in 2008. Source: Absenteeism Data.