

Influenza Monthly Epidemiology Report, NSW

Including pandemic H1N1 2009 influenza

November 2009

Produced by: Population Health Division, NSW Health.

Summary

From 1 May to 30 November 2009 in NSW:

- Presentations to selected emergency departments with influenza like illness (ILI) peaked mid July with on average 1300 per week
- 5213 cases with laboratory confirmed pandemic H1N1 2009 influenza were reported.
- 1296 patients with laboratory confirmed pandemic H1N1 2009 influenza were admitted to hospital.
- 53 deaths were reported associated with confirmed pandemic H1N1 2009 influenza.

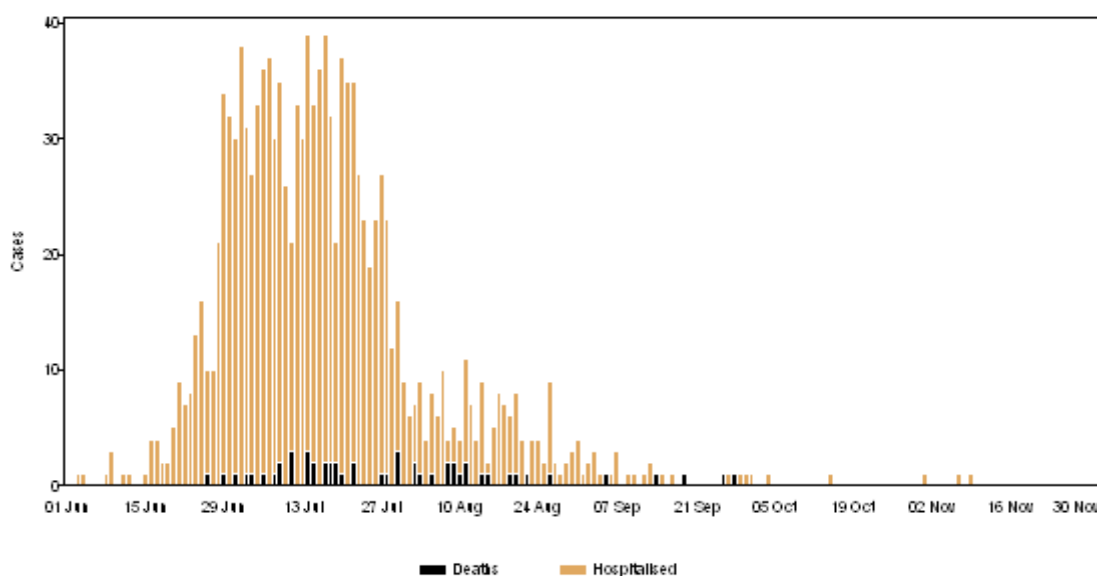
For weekly updates please see the Communicable Disease weekly report at <http://www.health.nsw.gov.au/publichealth/infectious/index.asp>

In November 2009 in NSW:

- Presentations to selected NSW emergency departments for ILI were low, and similar to the same month last year
- 17 cases with laboratory confirmed influenza were reported, including 14 that tested positive to pandemic H1N1 2009 influenza.
- 3 patients with laboratory confirmed pandemic H1N1 2009 influenza reported to have been admitted to hospital.
- No deaths were reported in association with confirmed pandemic H1N1 2009 influenza.

Parainfluenza was the most common respiratory virus diagnosed by sentinel laboratories in November.

Figure 1: Hospitalisations and deaths associated with laboratory confirmed pandemic H1N1 2009 influenza, 1 June to 30 November 2009 by date of hospitalisation or death.



Introduction

A novel influenza A virus, (pandemic H1N1 2009 influenza) was identified in April 2009 in the United States and Mexico. Since then, widespread community transmission of the virus has been confirmed world wide.

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 largely susceptible to the 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.

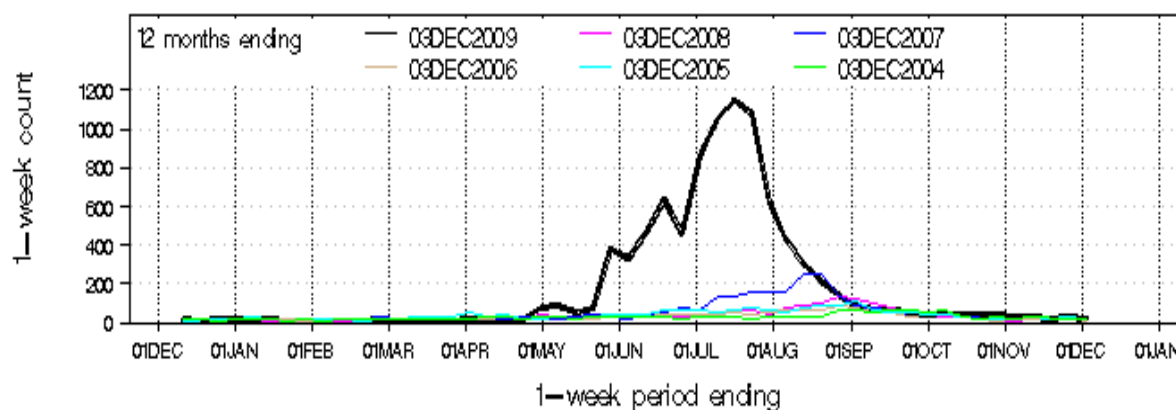
This report provides a summary of the surveillance for influenza, including pandemic H1N1 2009 influenza, undertaken by NSW Health to date. This includes data from a range of surveillance systems.

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, 2003-2009*

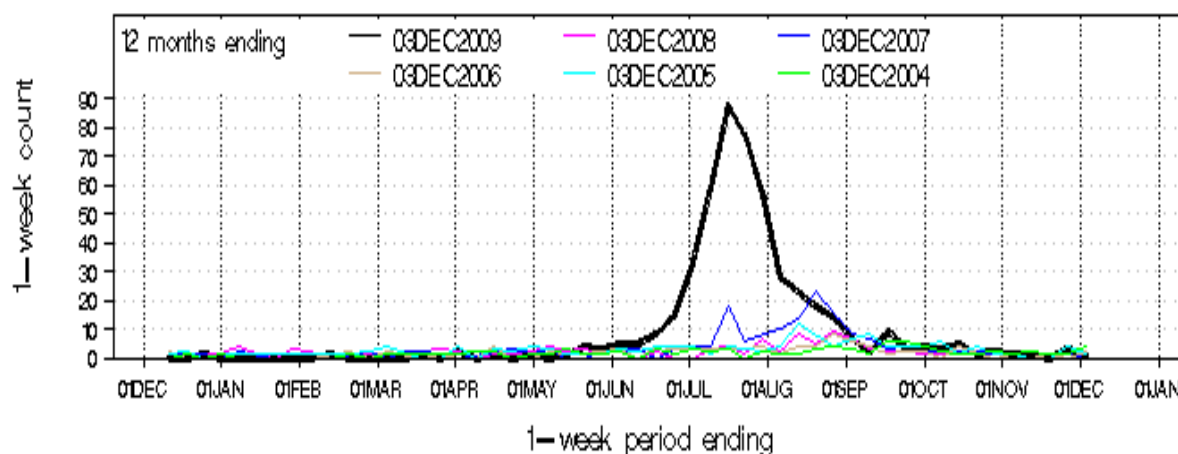


* During winter some people presenting to NSW emergency departments were referred to an influenza clinic without being recorded in the regular ED information system. (Under-reporting of influenza-related ED presentations will occur in this situation.) Includes data from 49 emergency departments. Source: 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 at around 1300 presentations per week. The July peak was approximately three times the previous recorded highest peak of 2007.
- In November 2009, there were 152 presentations with influenza-like illness. This is less the previous month (October 244 presentations), but is greater than the count of 75 for the month of November in 2008

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, 2003-2009*.



* 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 at around 110 admissions.
- In November, there were 9 admissions to hospital following presentation to emergency departments with influenza-like illness. This is less than in October (15 admissions), but greater than November 2008 (3 admissions).

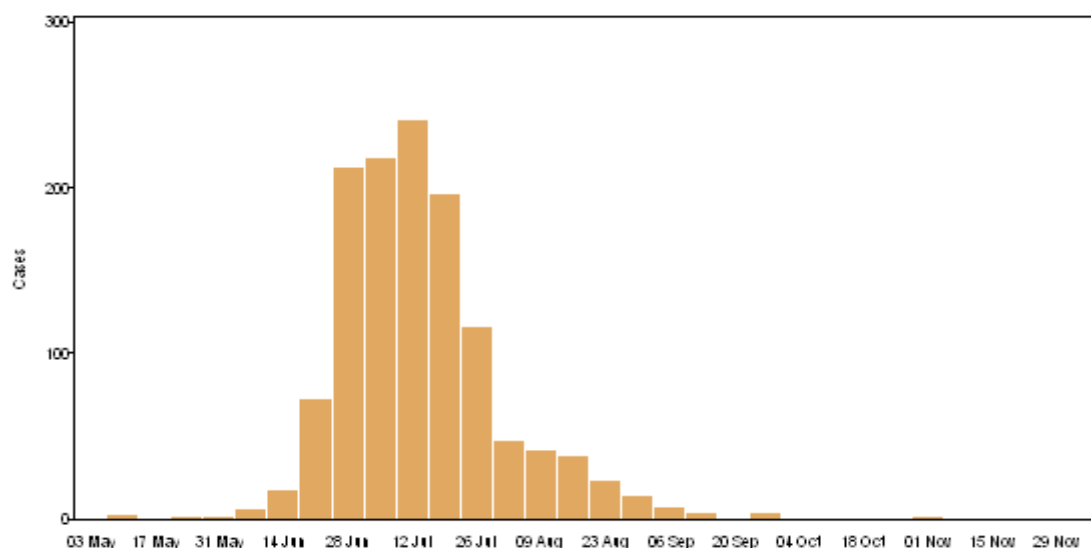
Pandemic H1N1 2009 influenza

Hospitalisations

From 1 May to 30 November 2009 there were:

- 1296 patients with laboratory confirmed pandemic H1N1 2009 influenza reported to have been admitted to NSW hospitals (Figure 4).

Figure 4: Hospitalisations associated with laboratory confirmed pandemic H1N1 2009 influenza, 1 June to 30 November 2009, by hospitalisation date.



- Hospital admissions for patients with confirmed pandemic H1N1 2009 influenza peaked in July, at about 35 cases per day, and decreased further in August and September. Note that delays in reporting may mean that the recent numbers are under-reported.
- In November, three cases were admitted to hospital.

Deaths

Deaths associated with pandemic H1N1 2009 influenza

From 1 May to 30 November 2009 there were:

- 53 deaths to date in association with confirmed pandemic H1N1 2009 influenza in NSW. Of these, 49 had underlying chronic conditions and 4 had no obvious risk factors.
- Deaths in association with pandemic H1N1 2009 influenza have occurred in people aged 9-88 years (table 1a).

Table 1a: Age distribution of deaths associated with confirmed pandemic H1N1 2009 influenza, 1 May to 30 November 2009

Age group	Number of cases	Percent of cases
Under 40	6	11.3
40-49	9	17.0
50-59	18	34.0
60-69	8	15.1
70+	12	22.6
TOTAL	53	100.0

Table 1b: Deaths associated with confirmed pandemic H1N1 2009 influenza, 1 May to 30 November 2009

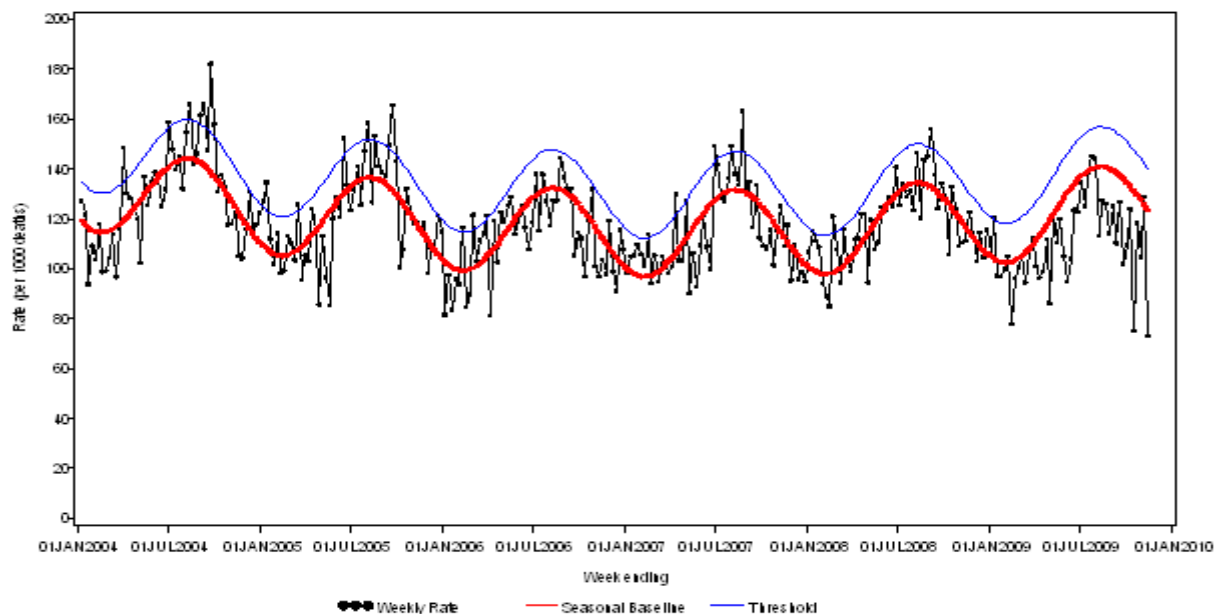
Month	Number of cases	Percent of cases
May	0	0.0
June	2	3.8
July	29	54.7
August	17	32.1
September	5	9.4
October	0	0.0
November	0	0.0
TOTAL	53	100.0

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 6)
- The predicted seasonal baseline estimates the predicted rate of influenza or pneumonia deaths in the absence of influenza epidemics.
- When deaths exceed the epidemic threshold, 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 13 November 2009, there were 73 pneumonia or influenza deaths per 1000 deaths in NSW, as expected for this time of year.

Figure 5: Rate of deaths classified as influenza and pneumonia as per NSW Registered Death Certificates, 2004-2009



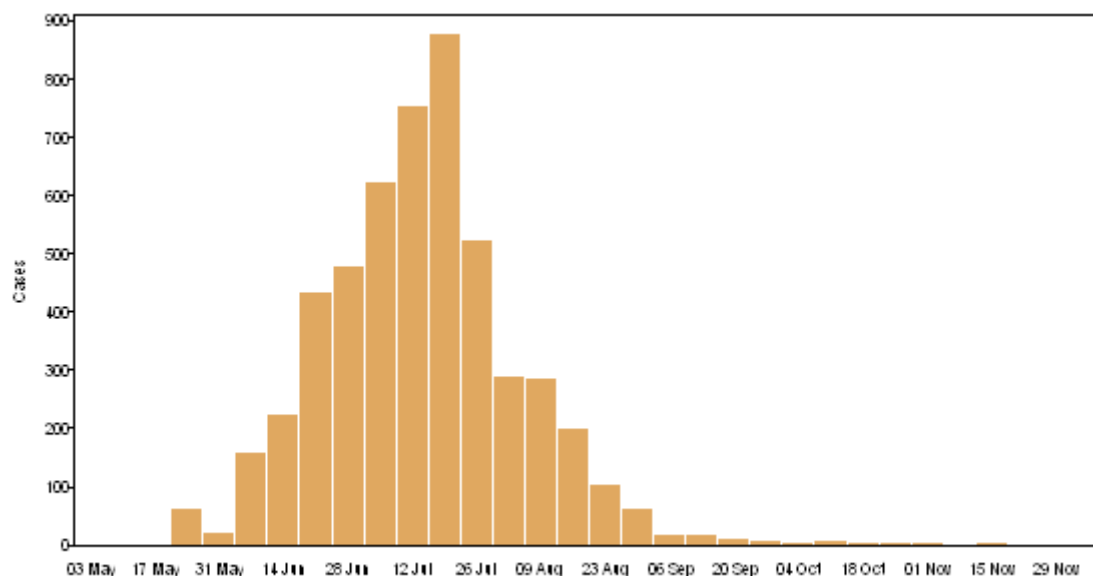
Source: NSW Registry of Births, Deaths and Marriages.

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

From 1 May to 30 November 2009 there were:

- 5213 people with lab confirmed pandemic H1N1 2009 influenza

Figure 6: Notifications of cases of laboratory confirmed pandemic H1N1 2009 influenza, 1 June to 30 November 2009, by notification date*.



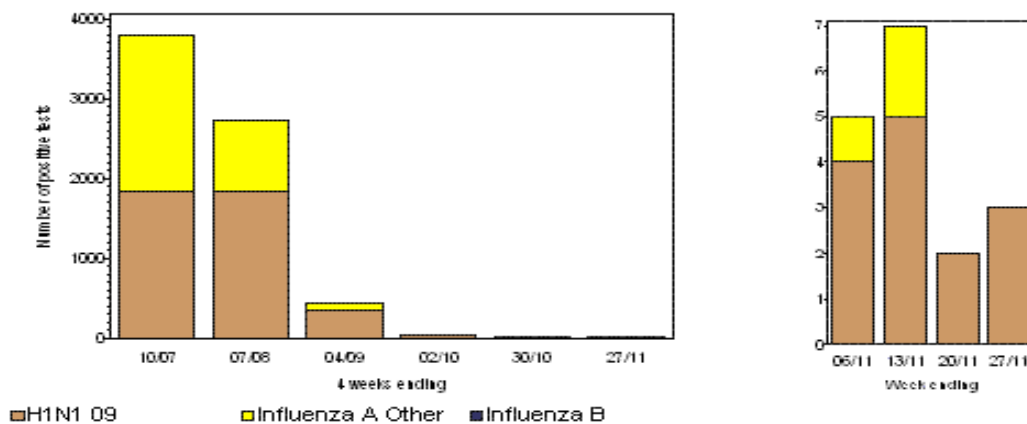
* Note that with the start of the 'Protect' phase on 17 June, 2009, efforts were focused on early detection and treatment of influenza-like illness in those considered at risk of severe illness and laboratory testing was generally confined to this group.

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

During November 2009:

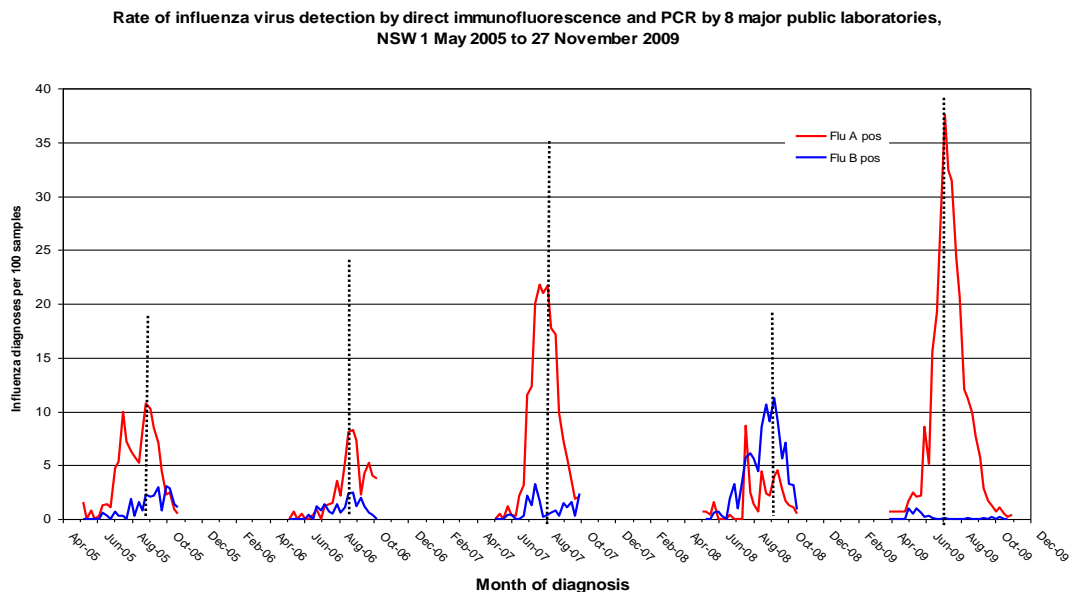
- 1905 tests for respiratory viruses were performed at NSW public hospital laboratories in the 4 weeks 4 to 27 November 2009.
- 1% of these tests were positive for influenza A
- 82% of those positive for influenza A were also positive for pandemic H1N1 2009 influenza09
- parainfluenza was the most common respiratory virus detected in the 4 weeks ending 27 November 2009

Figure 7: Number of positive laboratory tests for influenza for 4 week periods ending 27 November 2009



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 2005 to 27 November 2009, NSW.



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 2: Summary of testing for respiratory viruses and influenza at NSW public hospital laboratories, 4 week periods ending 27 November 2009

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
10/07/09	13416	3805 (28%)	3 (0.02%)	1837 (48%)	81	45	445	42	16
7/08/09	11755	2735 (23%)	1 (<0.01%)	1838 (67%)	60	33	342	18	17
4/09/09	4986	451 (9.0%)	2 (0.04%)	346 (77%)	45	51	190	34	14
2/10/09	2860	51 (1.8%)	2 (0.03%)	42 (82%)	63	114	105	61	24
30/10/09	2202	12 (0.5%)	1 (0.05%)	11(92%)	39	127	77	82	49
27/11/09	1905	17 (0.9%)	0	14 (82%)	35	96	60	76	33
Week ending									
6/11/09	471	5 (1.0%)	0	4 (80%)	11	19	15	17	10
13/11/09	463	7 (1.5%)	0	5 (71%)	6	22	18	15	9
20/11/09	538	2 (0.4%)	0	2 (100%)	8	31	14	37	10
27/11/09	433	3 (0.7%)	0	3 (100%)	10	24	13	7	4

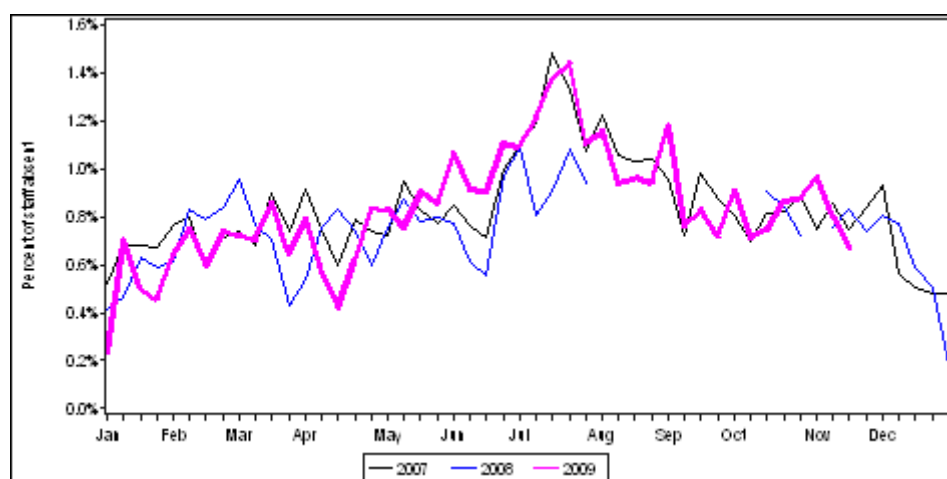
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Community impact

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 are available to the week ending 18 November 2009. In the week ending 22 July 2009 at the peak of the pandemic in NSW, 1.4% of their NSW employees took sick leave of more than three consecutive days. In the week ending 18 November 2009, 0.7% 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 18 November 2009, compared with 2007-2008*.



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