Influenza Monthly Epidemiology Report, NSW

Including H1N1 influenza 09

June 2010

For a summary of surveillance data please go to the January 2010 report at
http://www.health.nsw.gov.au/publichealth/Infectious/reports/influenza_05022010.asp

Produced by: Population Health Division, NSW Health.

Summary

In June 2010:

- influenza like illness (ILI) presentations to selected emergency departments have similar to that of the previous month but remained low, and were lower than the same month last year
- three cases with laboratory confirmed pandemic (H1N1) 2009 influenza were reported in NSW
- a further seven cases of influenza A (not yet subtyped) were reported
- no cases of influenza B were reported
- no deaths to date in association with confirmed pandemic (H1N1) 2009 influenza were reported in NSW.

Respiratory syncytial virus (RSV) was the most common respiratory virus diagnosed by sentinel laboratories in May.

For weekly updates please see the communicable disease weekly report at
http://www.health.nsw.gov.au/publichealth/infectious/index.asp

From 1 Jan to 25 June 2010:

- ILI presentations to selected emergency departments remained low
- 14 cases of laboratory confirmed pandemic (H1N1) 2009 influenza were reported in NSW
- 23 cases of influenza were reported in NSW
- six cases of influenza B were reported in NSW
- no known deaths were reported in association with confirmed pandemic (H1N1) 2009 influenza in NSW.

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 mild, but severe in some, and broadly similar to seasonal influenza. Features of pandemic (H1N1) 2009 influenza 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.

Most people in the community were initially susceptible to the pandemic (H1N1) 2009 influenza virus. This means that despite the generally mild profile of the illness, the impact of the virus was substantial, particularly as community transmission became established in Australia last winter.

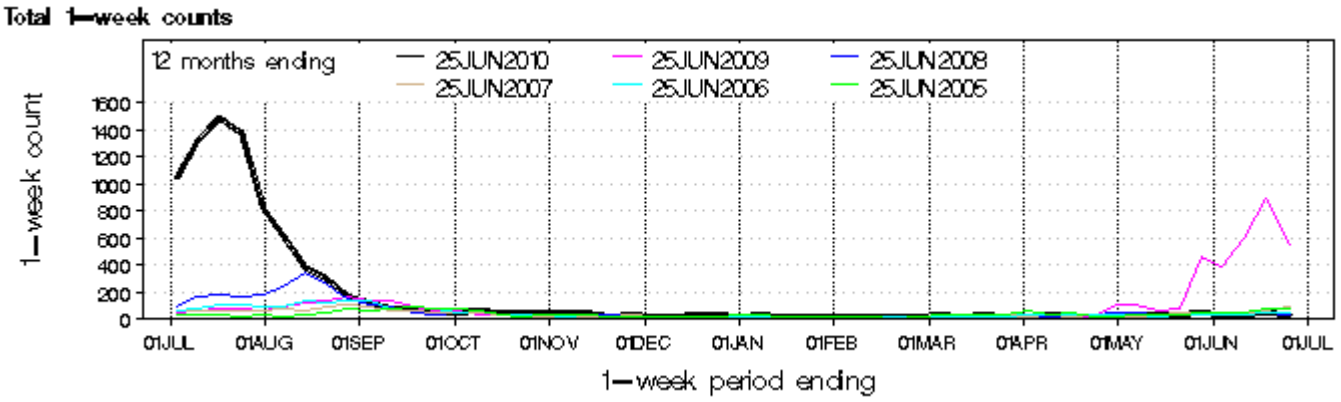
This report provides a summary of the surveillance for influenza, including pandemic (H1N1) 2009 influenza, undertaken by NSW Health to date. This includes data from a range of surveillance systems.

Emergency Department (ED) presentations

Data from 56 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 1: Comparison of weekly influenza-like illness presentations to NSW emergency departments, 2005-2010*

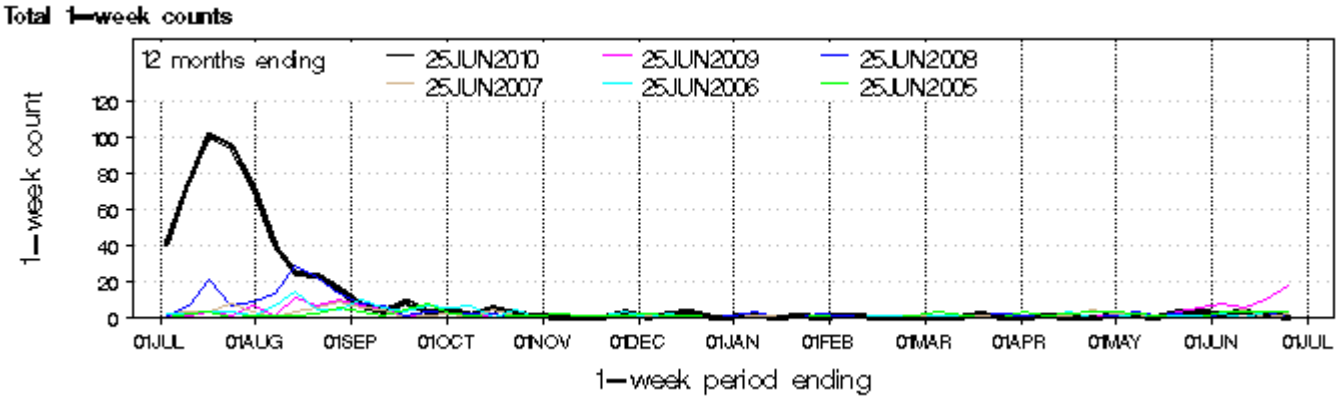


Note: In 2009 some people presenting to NSW emergency departments were referred to an influenza clinic without being recorded in the regular ED information system. (Under-reporting of influenza-related ED presentations will occur in this situation.) Includes data from 56 emergency departments. Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the NSW Emergency Department Data Collection (HOIST).

- In June 2010 there were 184 presentations with influenza-like illness (rate 1.3 per 1,000 presentations). This is similar to the previous month (May 181 presentations, rate 1.3 per 1,000 presentations), but is lower than the count of 2498 for the month of May in 2009 and similar to May totals for 2005-2008.
- Presentations to emergency departments for influenza-like illness were highest in mid July 2009 at around 1,300 presentations per week. The July peak was approximately three times the previous highest peak of 2007.

Admissions to hospital from emergency departments for influenza-like illness

Figure 2: Weekly counts of admissions to hospital for influenza-like illness from NSW emergency departments, 2005-2010*.



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- There were 13 admissions to hospital following presentation to emergency departments with influenza-like illness in May 2010. This was similar to the previous month (14 admissions), but lower than that of June 2009, when 44 persons were admitted with ILI.
- Admissions from emergency departments to hospital for influenza-like illness were highest in mid July 2009 and peaked at around 110 admissions.

Laboratory testing summary for influenza

In June 2010:

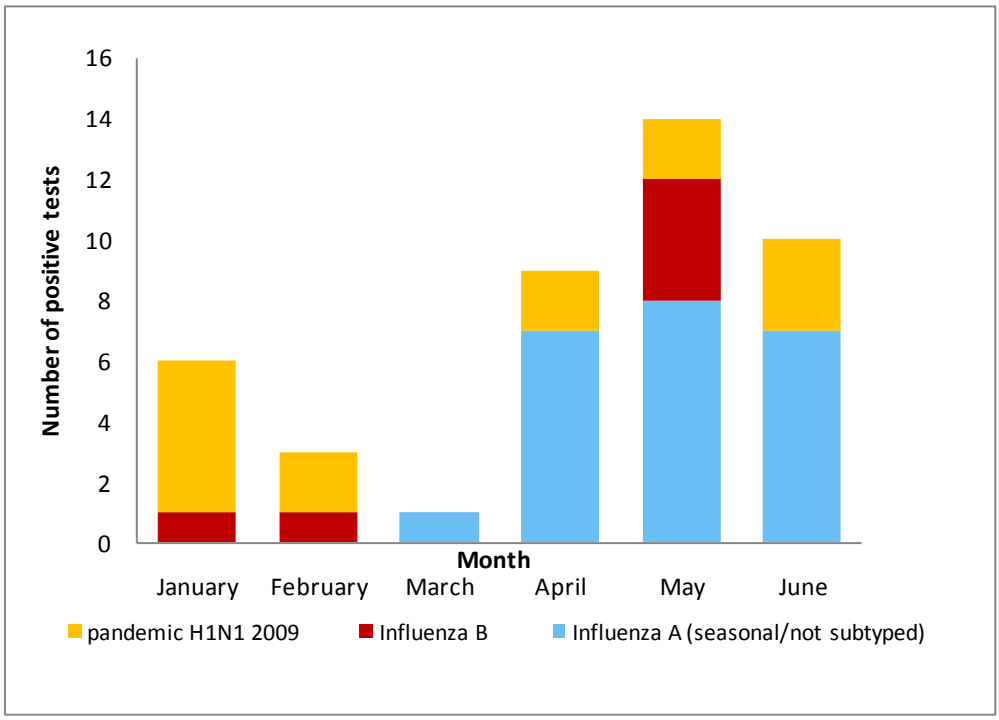
- 2,284 tests for respiratory viruses were performed at sentinel NSW laboratories
- 10 specimens tested positive for influenza A - three of these have tested positive for pandemic (H1N1) 2009 influenza, one was H3 and the remainder have not yet been subtyped
- no cases of influenza B were reported.

Respiratory syncytial virus (RSV) was the most common respiratory virus diagnosed by sentinel laboratories in June.

From 1 January to 25 June 2010:

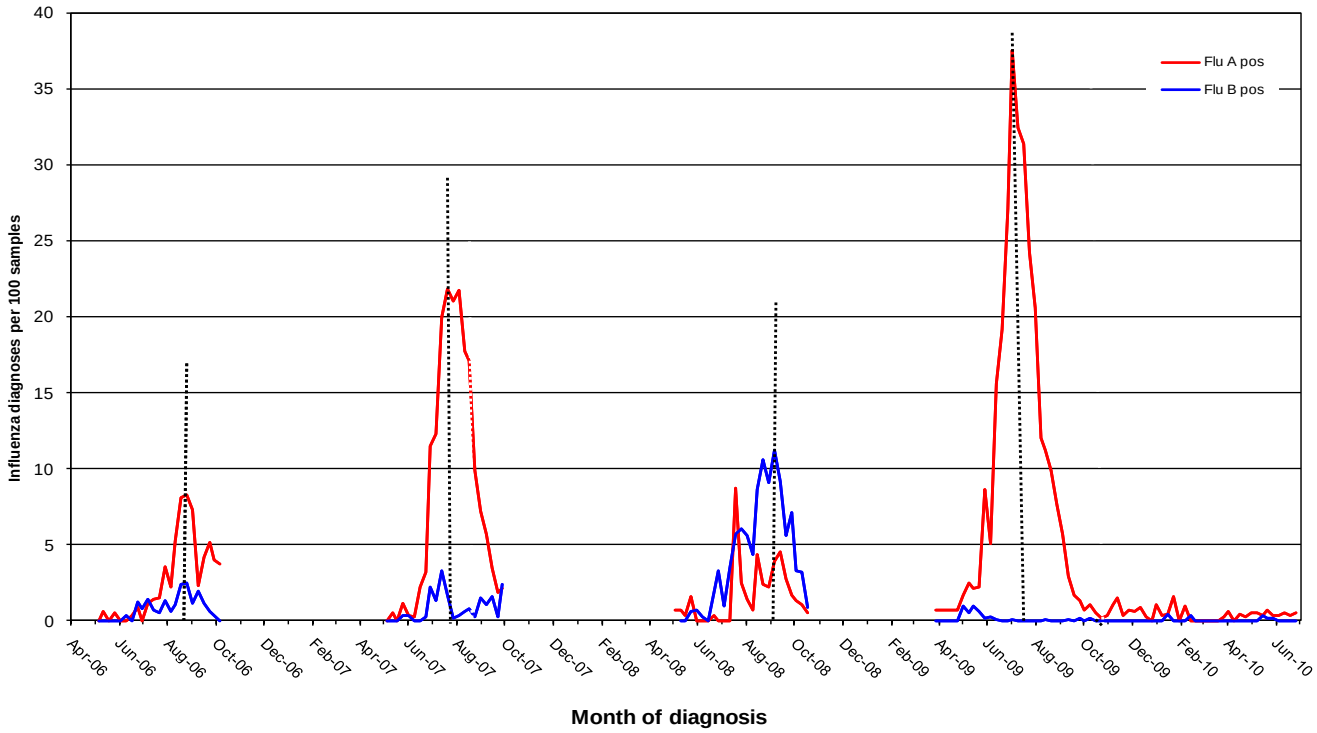
- 9,351 tests for respiratory viruses were performed at sentinel NSW public hospital and private laboratories - slightly higher than previous years for this time of year.
- 37 tests were positive for influenza A, and six positive for influenza B.
    - 14 influenza A were also positive for pandemic (H1N1) 2009 influenza, one sample was H3, six are awaiting subtyping and six were unable to be subtyped

Figure 3: Number of positive laboratory tests for influenza by month ending 25 June 2010



Note: Influenza A (seasonal) includes all influenza A not subtyped. Excludes culture and 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), Douglas Hanley Moir (DHM), VDRlab from 5 March 2010 and Laverty and Nepean from 1 April 2010. There is no data available for Sydney Adventist Hospital.

Figure 4: Percent of laboratory tests positive for influenza A and influenza B, 1 January 2005 – 25 June 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 , VDRLab from 5 March 2010 and Laverty and Nepean from 1 April 2010.

Table 1: Summary of testing for respiratory viruses and influenza at NSW public hospital laboratories, 1 January to 25 June 2010.

Four week period ending	Virology specimens tested	Influenza A (total pos) (%)	H1N1** influenza 09 (total pos) (%)	Influenza B (total pos) (%)	Adenovirus	Parainfluenza 1, 2 & 3	RSV	Rhinovirus	HMPV***
29/01/2010	853	5 (0.6%)	5 (100%)	1 (0.1%)	20	28	52	52	6
26/02/2010	1071	2 (0.2%)	2 (100%)	1 (0.1%)	9	32	61	78	3
26/03/2010	1456	1 (0.06%)	0	0	14	54	113	100	8
30/04/2010*	1742	9 (0.5%)	2 (22.2%)	0	22	59	244	103	5
28/05/2010	1945	10 (0.5%)	2 (20%)	4 (0.2%)	20	29	304	176	20
25/06/2010	2284	10 (0.4%)	3 (33%)	0	28	23	515	174	2
Week ending									
04/06/2010	523	2 (0.4%)	1 (50%)	0	8	6	92	32	2
11/06/2010	557	3 (0.5%)	0	0	8	7	133	49	0
18/06/2010	549	2 (0.4%)	1 (50%)	0	3	8	150	49	0
25/06/2010	655	3 (0.5%)	1 (33%)	0	9	2	140	44	0

* Equals a five week period ** Subset of influenza A cases *** HMPV = Human metapneumovirus

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Deaths with pneumonia or influenza reported on the death certificate

Deaths registration data is routinely reviewed for deaths attributed to pneumonia or influenza. While pneumonia has many causes, a well-known indicator 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.

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.

June 2010

- death registration data show that as of 18 June 2010, there were 93 pneumonia or influenza deaths per 1000 deaths in NSW, which is below the seasonal threshold of 122 per 1,000.
- death registration data cross matched with laboratory notified cases of influenza show one person with laboratory confirmed influenza had died.

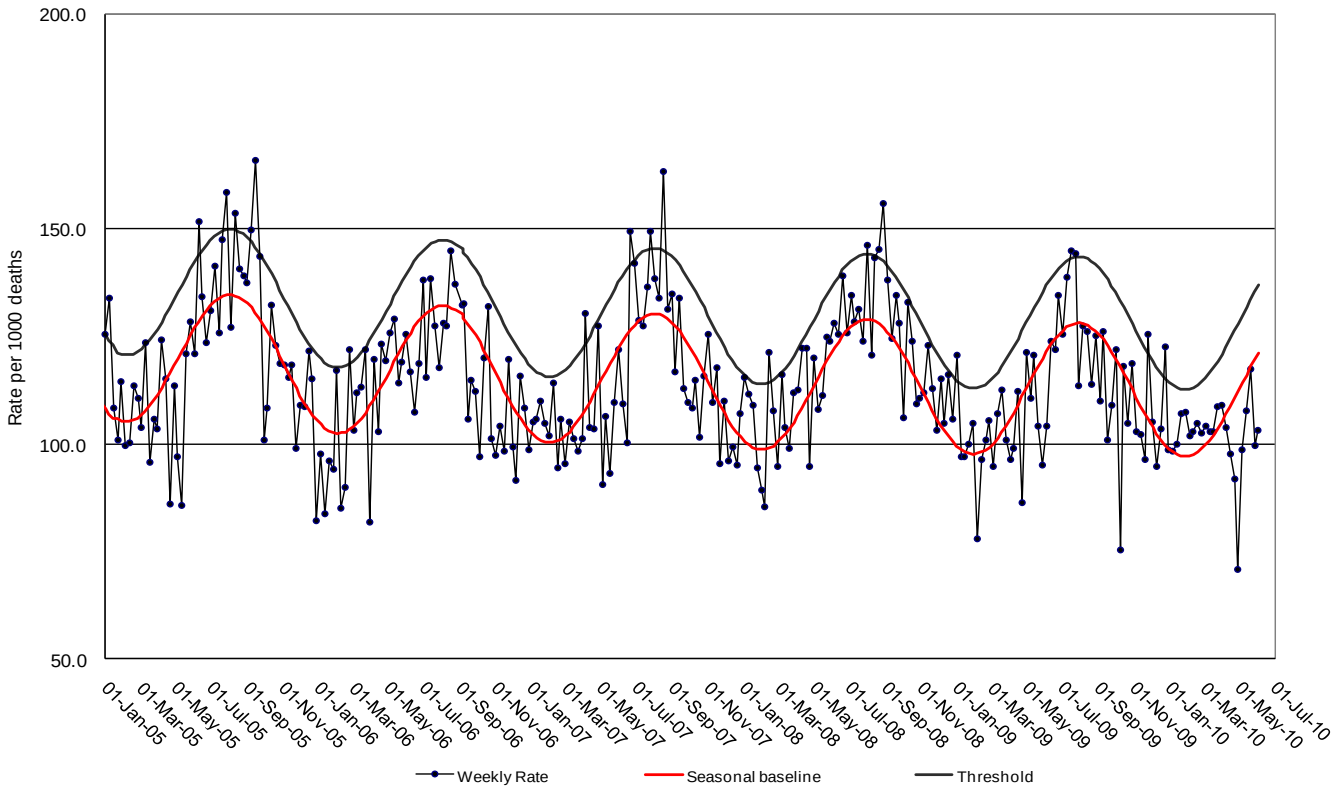
Interpreting death data
Note: Deaths referred to a coroner are not yet available for analysis. Deaths in younger people may be more likely to require a coronial inquest. Therefore influenza-related deaths in younger people may be under-represented in these data. Influenza deaths confirmed by serology need to be viewed with caution as positive tests may also indicate past vaccination or previous infection .

From 1 January to 25 June 2010.

Death registration data have been cross matched with laboratory notified cases of influenza:

- death registration data cross matched with laboratory notified cases of influenza show eight people with laboratory confirmed influenza have died up to 25 June. All eight case had multiple co-morbidities, were aged 50 years and over and laboratory confirmation was by serology.

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



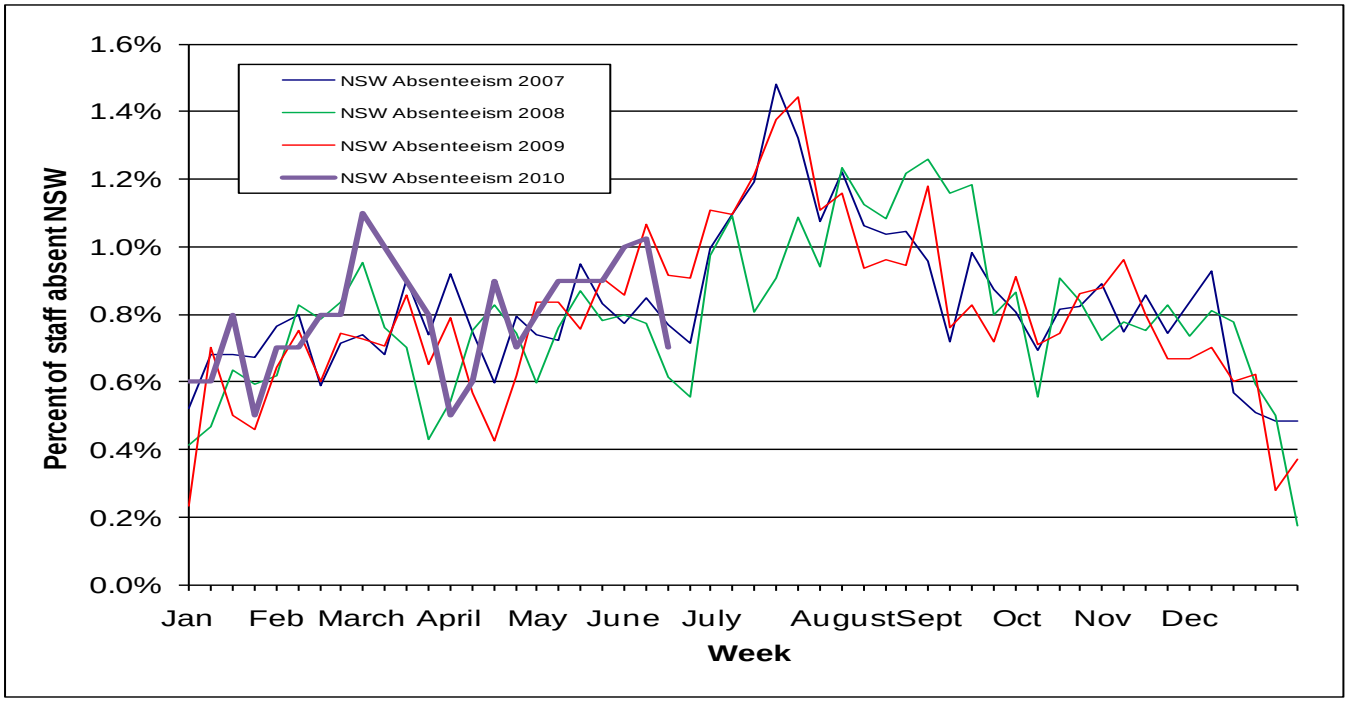
Source: NSW Registry of Births, Deaths and Marriages.

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 16 June 2010 (Figure 6).

- In the week ending 16 June 2010, 0.7% of NSW employees from a major Australian company took sick leave of more than 3 consecutive days.
- Absenteeism peaked in the week ending 22 July 2009 when 1.4% of their NSW employees took sick leave of more than three consecutive days.

Figure 6: Weekly proportion of employees of a national employer taking more than 3 consecutive days sick leave, NSW, to 16 June 2010 with comparison to 2007-2009*.



Note: 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.

Immunisation for pandemic (H1N1) 2009 influenza

The New South Wales Population Health Survey is an ongoing telephone survey of state residents that is one of the main mechanisms through which NSW Health monitors population health and reports on performance indicators. Its objectives are to:

- monitor changes over time in self-reported health behaviours, health status, health service use, satisfaction with health services, and other factors that influence health;
- support the planning, implementation, and evaluation of health services;
- collect health information that is not available from other sources;
- respond quickly to emerging needs for health information;
- promote research.

Vaccination for pandemic (H1N1) 2009 influenza became available for adults on the 30 September and for children less than 10 years on the 8 December 2009.

- Uptake of H1N1 vaccination has increased over time since data became available in November to 40.8% in June 2010 (Table 2).
- Vaccination rates vary across the AHS's from 34.6% in Greater Western to 50.0% in Hunter and New England for the month of June, and an increase can be seen in all AHS from November 2009 to June 2010 across all AHS.
- The majority of people are having their vaccination at their GP.

Table 2: Pandemic (H1N1) 2009 influenza immunisation in NSW population health survey respondents from November 2009 - June 2010

		Feb-10				Mar-10				Apr-10				May-10				Jun-10				Total Nov09 to Jun10			
Indicator	Group	N	%	LCI	UCI	N	%	LCI	UCI	N	%	LCI	UCI	N	%	LCI	UCI	N	%	LCI	UCI	N	%	LCI	UCI
Overall Swine flu vaccination		804	25.7	22.7	28.8	1563	29.8	27.5	32.0	1072	36.3	33.4	39.2	1207	42.7	54.5	60.1	661	40.8	37.1	44.6	6383	32.4	31.3	33.58
	<10 years	70	8.6	2.0	15.1	116	19.0	11.8	26.1	90	20.0	11.7	28.3	95	22.1	13.8	30.5	64	18.8	9.2	28.3	439	18	14.4	21.59
	10 to 19	65	15.4	6.6	24.2	129	14.0	8.0	19.9	104	14.4	7.7	21.2	101	30.7	21.7	39.7	63	28.6	17.4	39.7	568	18.1	15	21.3
	20 to 64	416	17.8	14.1	21.5	865	25.9	23.0	28.8	565	31.2	27.3	35.0	636	34.3	30.6	38.0	358	35.2	30.2	40.1	3467	26.2	24.7	27.65
	65 years and older	253	46.2	40.1	52.4	453	44.4	39.8	48.9	313	57.5	52.0	63.0	375	65.3	60.5	70.2	176	64.8	57.7	71.8	1909	51.3	49.1	53.58
Swine flu vaccination by sex	Males	299	24.4	19.5	29.3	612	27.6	24.1	31.2	409	30.8	26.3	35.3	469	38.6	34.2	43.0	264	38.3	32.4	44.1	2487	29.6	27.8	31.43
	Females	505	26.5	22.7	30.4	951	31.1	28.2	34.1	663	39.7	35.9	43.4	738	45.3	41.7	48.9	397	42.6	37.7	47.4	3896	34.2	32.7	35.7
Overall Swine flu vaccination by AHS	Sydney South West	91	26.4	17.3	35.4	147	30.6	23.2	38.1	108	40.7	31.5	50.0	133	42.1	33.7	50.5	119	42.9	34.0	51.8	683	34.3	30.7	37.82
	South Eastern Sydney & Illawarra	85	27.1	17.6	36.5	192	26.0	19.8	32.3	113	36.3	27.4	45.2	115	40.0	31.0	49.0	106	41.5	32.1	50.9	717	32.5	29.1	35.93
	Sydney West	92	27.2	18.1	36.3	174	22.4	16.2	28.6	113	33.6	24.9	42.4	136	38.2	30.1	46.4	99	36.4	26.9	45.8	753	28.7	25.5	31.92
	Northern Sydney & Central Coast	80	32.5	22.2	42.8	213	32.9	26.6	39.2	113	46.0	36.8	55.2	123	50.4	41.6	59.2	99	38.4	28.8	48.0	768	35.9	32.5	39.33
	Hunter & New England	109	21.1	13.4	28.8	208	40.4	33.7	47.1	166	42.8	35.2	50.3	172	50.0	42.5	57.5	68	50.0	38.1	61.9	890	38	34.8	41.17
	North Coast	129	25.6	18.0	33.1	236	25.0	19.5	30.5	163	27.6	20.7	34.5	175	38.9	31.6	46.1	51	45.1	31.4	58.8	907	29	26	31.95
	Greater Southern	108	22.2	14.4	30.1	180	26.7	20.2	33.1	158	31.6	24.4	38.9	166	37.3	30.0	44.7	67	38.8	27.1	50.5	821	29.1	26	32.22
	Greater Western	110	26.4	18.1	34.6	213	32.9	26.6	39.2	138	34.8	26.8	42.7	187	44.4	37.3	51.5	52	34.6	21.7	47.6	844	32.1	29	35.26
Swine flu vaccination by location	GP		88.4	84.0	92.8		87.1	84.0	90.1		87.1	83.8	90.5		87.6	84.7	90.4		85.6	81.4	89.8		87.3	85.9	88.73
	Other location		11.6	7.2	16.0		12.9	9.9	16.0		12.9	9.5	16.2		12.4	9.6	15.3		14.4	10.2	18.6		12.7	11.3	14.15

Note: All data is unweighted (therefore figures are for those people who responded to the survey not the population as a whole).