

Influenza Monthly Epidemiology Report, NSW

Including H1N1 influenza 09

May 2010

For a summary of surveillance data please go to the January 2101 report at http://www.health.nsw.gov.au/publichealth/Infectious/reports/influenza_05022010.asp

Produced by: Population Health Division, NSW Health.

Summary

In May 2010:

- influenza like illness (ILI) presentations to selected emergency departments have increased slightly to the previous month but remained low, and were lower than the same month last year
- two cases with laboratory confirmed pandemic (H1N1) 2009 influenza were reported in NSW
- eight cases of influenza A were reported (not subtyped)
- two cases of influenza B were reported
- no known 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 28 May 2010:

- ILI presentations to selected emergency departments remained low
- 11 cases of laboratory confirmed pandemic (H1N1) 2009 influenza were reported in NSW
- 16 cases of influenza were reported in NSW
- four 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

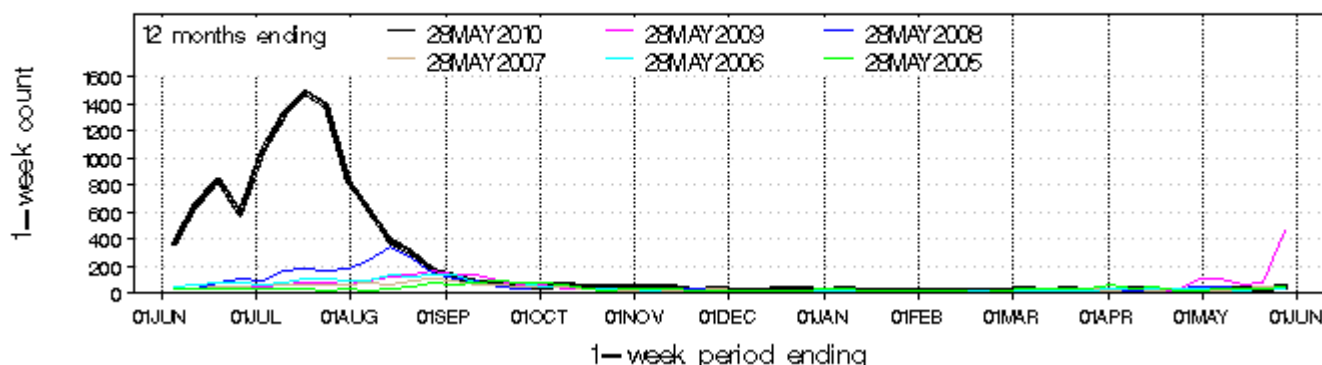
Data from 52 NSW emergency departments are included. Comparisons are made with data for the preceding six years. Recent counts are subject to change.

Presentations for influenza-like illness

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

Category: All visits with the above inclusions

Total 1-week counts



* 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 52 emergency departments. Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the NSW Emergency Department Data Collection (HOIST).

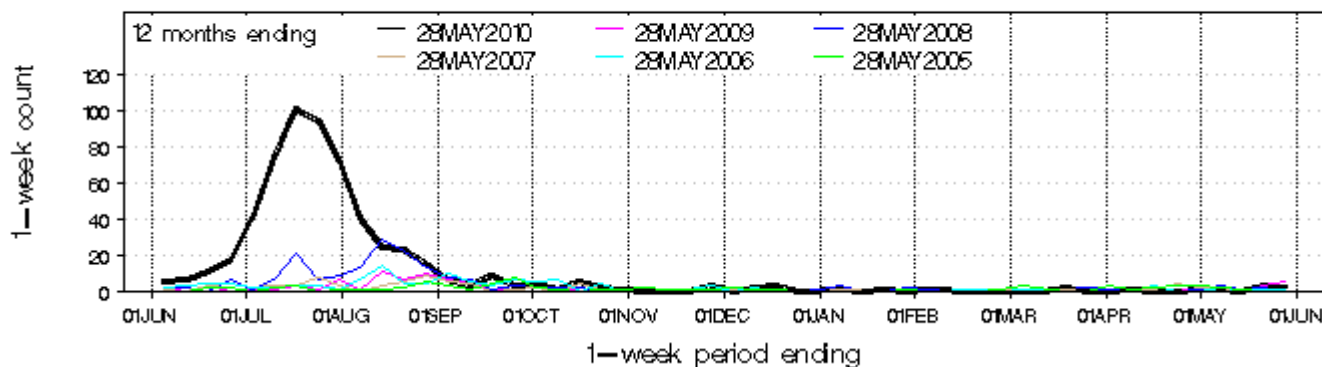
- In May 2010 there were 181 presentations with influenza-like illness. This is higher than the previous month (April 150 presentations), but is lower than the count of 915 for the month of May in 2009 and similar to May totals for 2005-2008.
- Presentations to emergency departments for influenza-like 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*.

Category: All visits with the above inclusions

Total 1-week counts



* 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 52 emergency departments. Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDSS) and the NSW Emergency Department Data Collection (HOIST).

- There were 14 admissions to hospital following presentation to emergency departments with influenza-like illness in May 2010. This was higher than the previous month (five admissions), and similar to May 2009, when 15 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 including pandemic (H1N1) 2009 influenza)

Influenza laboratory diagnoses are reported by South Eastern Area Laboratory Services (SEALS), Institute of Clinical Pathology and Medical Research (ICPMR), Sydney South West Pathology Services (SSWPS), Pacific Laboratory Medicine Services (PaLMS), Hunter Area Pathology Services (HAPS), Children’s Hospital at Westmead (CHW) Royal Prince Alfred Hospital (RPAH), Nepean, Douglas Hanley Moir (DHM), Laverty and Viral Diagnostic Referral Laboratory (VDRLab).

In May 2010:

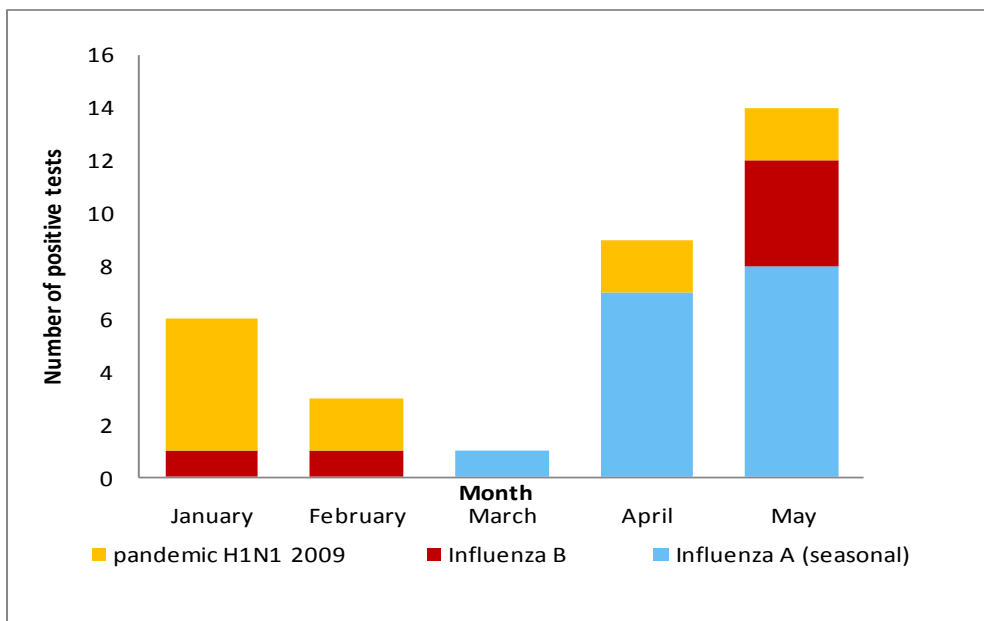
- 1,945 tests for respiratory viruses were performed at sentinel NSW laboratories
- ten specimens tested positive for influenza A - two of these have tested positive for pandemic (H1N1) 2009 influenza, the remainder have not been subtyped
- two cases of influenza B were reported

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

From 1 January to 28 May 2010:

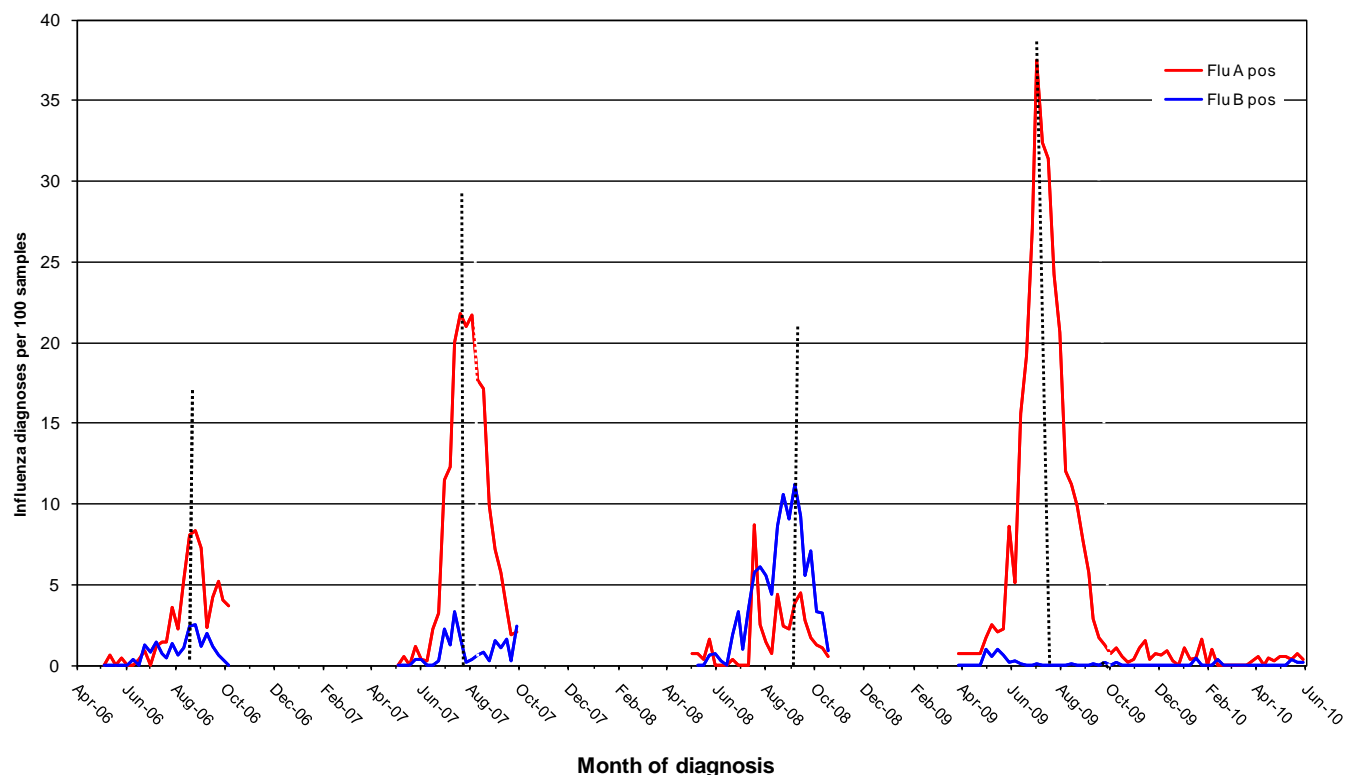
- 7,067 tests for respiratory viruses were performed at sentinel NSW public hospital and private laboratories - slightly higher than previous years for this time of year.
- 27 tests were positive for influenza A, and six positive for influenza B.
 - eleven influenza A were also positive for pandemic (H1N1) 2009 influenza, and the remaining 16 specimens were not further subtyped

Figure 3: Number of positive laboratory tests for influenza by month ending 28 May 2010



Note: Influenza A (seasonal) includes all influenza A not subtyped. 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), 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 – 28 May 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 28 May 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
Week ending									
07/05/2010	392	2 (0.5%)	1 (50%)	0	7	9	57	34	0
14/05/2010	498	2 (0.4%)	1 (50%)	2 (0.4%)	3	9	72	39	0
21/05/2010	537	4 (0.7%)	0	1 (0.2%)	7	8	92	40	7
28/05/2010	518	2 (0.4%)	0	1 (0.2%)	3	3	83	63	13

* Equals a five week period

** HMPV = Human metapneumovirus

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.

Deaths associated with pneumonia or influenza

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.

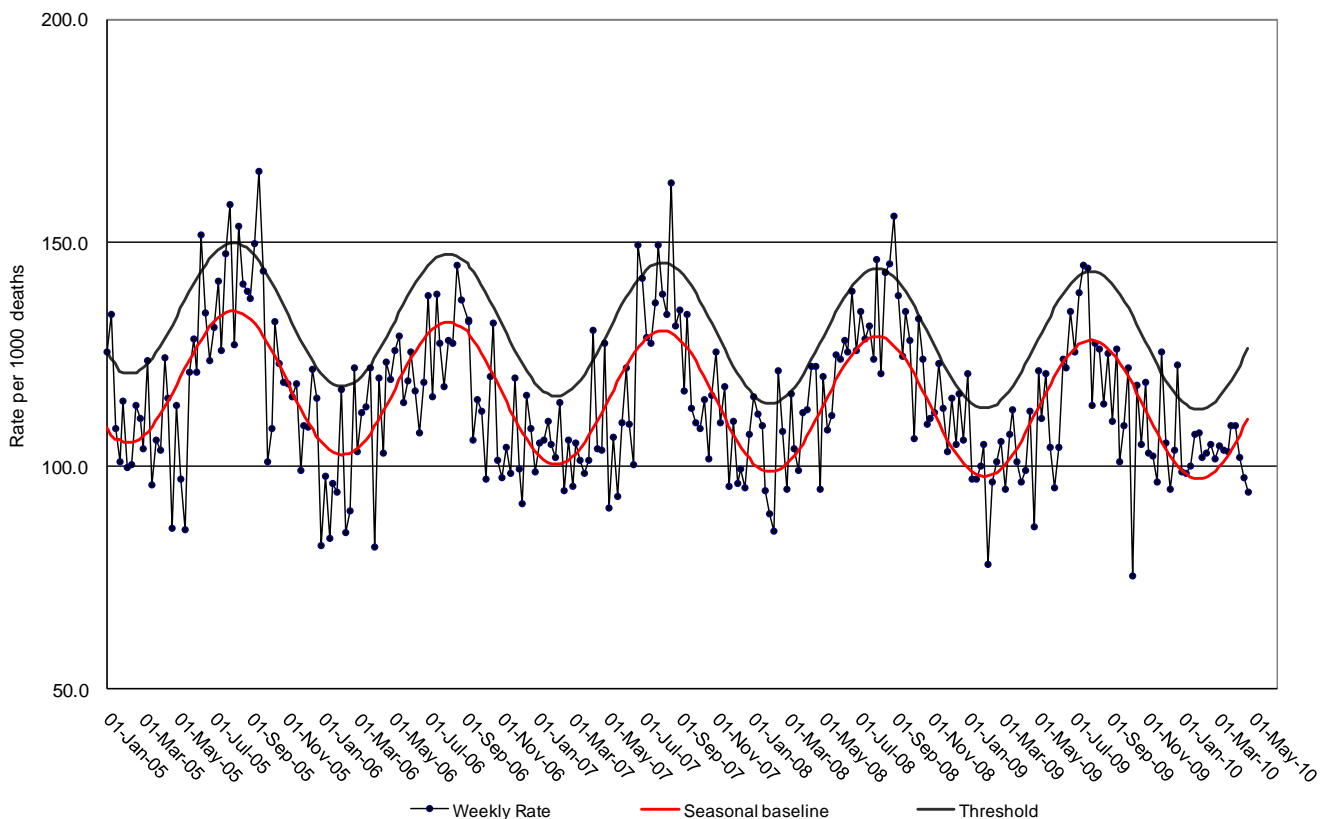
The predicted seasonal baseline estimates the predicted rate of influenza or pneumonia deaths in the absence of influenza epidemics. If deaths exceed the epidemic threshold, then it may be an indication that influenza is circulating widely.

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.

From 1 January to 14 May 2010.

Death registration data show that as of 14 May 2010, there were 71 pneumonia or influenza deaths per 1000 deaths in NSW, which is below the seasonal threshold of 114 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.

Community impact

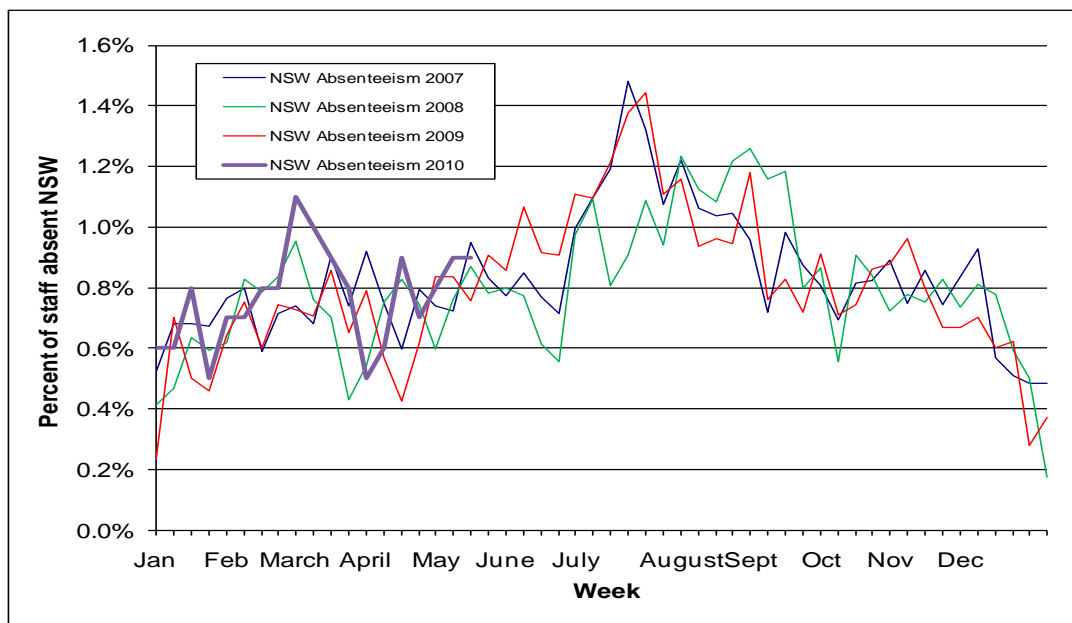
Workplace absenteeism is an indicator of the level of influenza activity in the community. One major Australian employer with more than 10,000 NSW employees, has provided data on the proportion of their employees absent from work due to illness for more than 3 consecutive days. Data are available to the week ending 19 May 2010 (Figure 6).

- Absenteeism peaked in the week ending 22 July 2009, 1.4% of their NSW employees took sick leave of more than three consecutive days.

From 1 January to 19 May 2010

- In 2010, absenteeism was highest in week ending 10 March, 1.1% of their NSW employees took sick leave for more than 3 consecutive days.
- In the week ending 19 May 2010, 0.6% of their NSW employees took sick leave of more than 3 consecutive days.

Figure 6: Weekly proportion of employees of a national employer taking more than 3 consecutive days sick leave, NSW, to 19 May 2010 with comparison to 2007-2009*.



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

Immunisation for pandemic (H1N1) 2009 influenza

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

Indicator	Group	Nov-09				Dec-09				Feb-10				Mar-10				Apr-10				May-10			
		N	%	LCI	UCI	N	%	LCI	UCI	N	%	LCI	UCI	N	%	LCI	UCI	N	%	LCI	UCI	N	%	LCI	UCI
Overall Swine flu vaccination		515	16.1	12.9	19.3	515	23.3	19.6	27.0	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
Swine flu vaccination by age group	<10 years	NA	NA	NA	NA	NA	NA	NA	NA	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
	10 to 19	50	10.0	1.7	18.3	50	10.0	1.7	18.3	65	15.4	6.6	24.2	129	14.0	8.0	19.9	104	14.4	7.7	21.2	101	69.3	60.3	78.3
	20 to 64	299	12.0	8.3	15.7	304	14.1	10.2	18.1	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
	65 years and older	166	25.3	18.7	31.9	161	44.7	37.0	52.4	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
Swine flu vaccination by sex	Males	205	17.6	12.3	22.8	211	20.4	14.9	25.8	299	24.4	19.5	29.3	612	27.6	24.1	31.2	409	30.8	26.3	35.3	469	61.4	57.0	65.8
	Females	310	15.2	11.2	19.2	304	25.3	20.4	30.2	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
Overall Swine flu vaccination by AHS	Sydney South West	40	10.0	0.7	19.3	43	20.9	8.8	33.1	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
	South Eastern Sydney & Illawarra	46	26.1	13.4	38.8	53	20.8	9.8	31.7	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
	Sydney West	54	5.6	0.0	11.7	73	26.0	16.0	36.1	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
	Northern Sydney & Central Coast	64	17.2	7.9	26.4	71	18.3	9.3	27.3	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
	Hunter & New England	88	25.0	15.9	34.1	74	24.3	14.5	34.1	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
	North Coast	78	16.7	8.4	24.9	70	31.4	20.5	42.3	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
	Greater Southern	68	13.2	5.2	21.3	70	24.3	14.2	34.3	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
	Greater Western	77	11.7	4.5	18.9	61	18.0	8.4	27.7	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
Swine flu vaccination by location	GP	85.5	77.9	93.1		90.8	85.6	96.0		88.4	84.0	92.8		87.1	84.0	90.1		87.1	83.8	90.5		87.6	84.7	90.4	
	Other location	14.5	6.9	22.1		9.2	4.0	14.4		11.6	7.2	16.0		12.9	9.9	16.0		12.9	9.5	16.2		12.4	9.6	15.3	

* note that all data is unweighted (therefore figures are for those people who responded to the survey not the population as a whole).

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 pandemic (H1N1) 2009 influenza vaccination has increased over time since data became available in November to 42.7% (CI 33.4-39.2%) in May 2010.
- Vaccination rates vary across the AHS's from 37.3% in Greater Southern to 50.4% in Hunter and New England for the month of May, and an increase can be seen in all AHS from November 2009 to May 2010 across all AHS.
- The majority of people are having their vaccination at their GP surgery.