

Influenza Monthly Epidemiology Report, NSW

Including H1N1 influenza 09

April 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 April 2010:

- presentations to selected emergency departments increased slightly 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.
- no patients with laboratory confirmed pandemic (H1N1) 2009 influenza were reported to have been admitted to NSW hospitals.
- no deaths to date in association with confirmed pandemic (H1N1) 2009 influenza were reported in NSW.

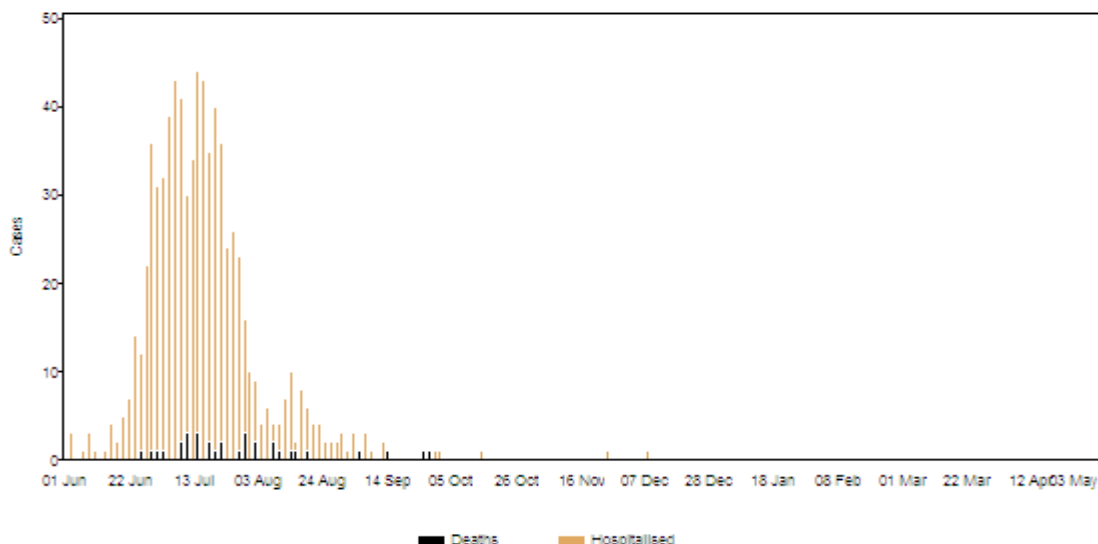
Respiratory syncytial virus (RSV) was the most common respiratory virus diagnosed by sentinel laboratories in April.

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 30 April 2010:

- presentations to selected emergency departments remained low
- nine cases of laboratory confirmed pandemic (H1N1) 2009 influenza were reported in NSW
- one patient with laboratory confirmed pandemic (H1N1) 2009 influenza was reported to have been admitted to a NSW hospital
- no deaths were reported in association with confirmed pandemic (H1N1) 2009 influenza in NSW.

Figure 1: Hospitalisations and deaths associated with laboratory confirmed pandemic (H1N1) 2009 influenza, 1 June to 30 April 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 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

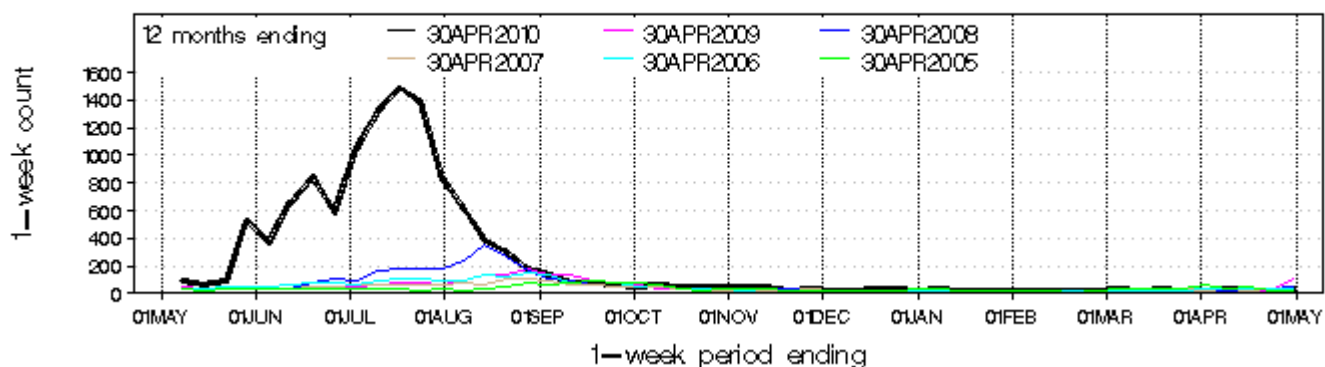
Data from 52 NSW emergency departments are included. Comparisons are made with data for the preceding six years. Recent counts are subject to change.

Presentations for influenza-like illness

Figure 2: Comparison of weekly influenza-like illness presentations to NSW emergency departments, 2005-2010*

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

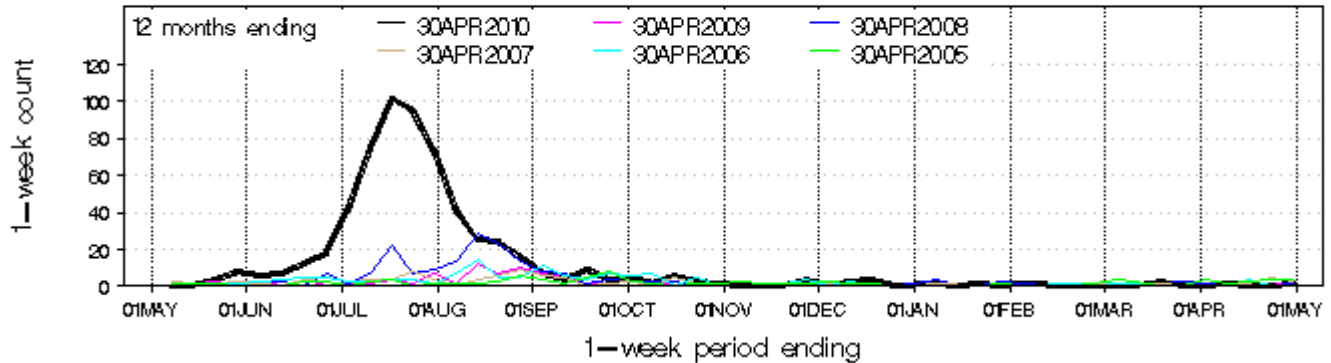
- In April 2010, there were 120 presentations with influenza-like illness. This is higher than the previous month (March 90 presentations), but is lower than the count of 181 for the month of April in 2009
- Presentations to emergency departments for influenza-like illness were highest in mid July 2009 at around 1300 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 3: 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

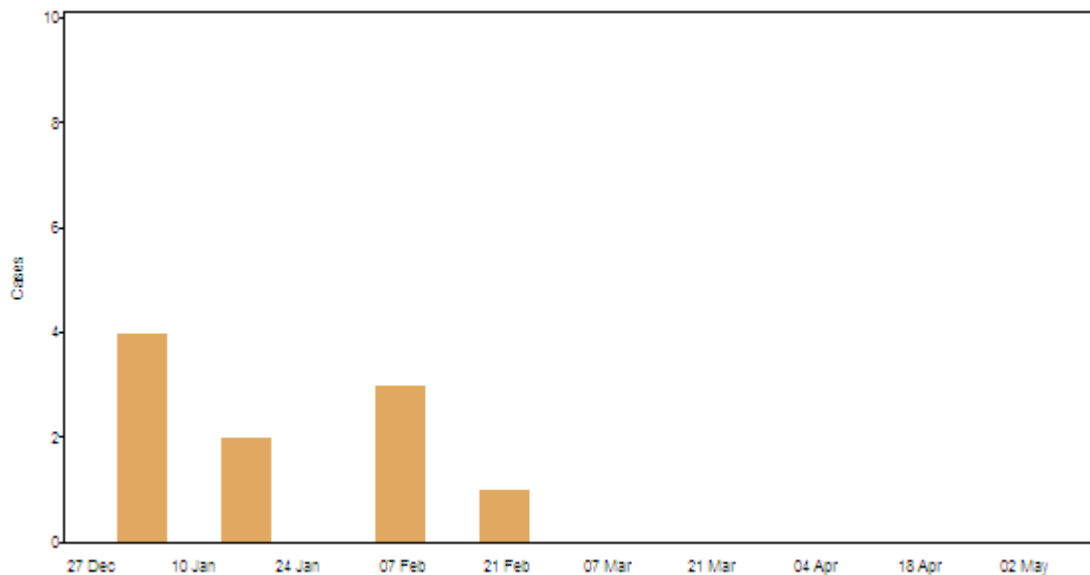


* Some people presenting to NSW emergency departments have been referred to an influenza clinic without being recorded in the regular ED information system. (Under-reporting of influenza-related ED presentations will occur in this situation.) Includes data from 52 emergency departments. Source: NSW Health Public Health Real-time Emergency Department Surveillance System (PHREDS) and the NSW Emergency Department Data Collection (HOIST).

- There were three admissions to hospital following presentation to emergency departments with influenza-like illness in April 2010. This was lower than the previous month (five admissions), and fewer than in April 2009, when six 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 confirmed cases of pandemic (H1N1) 2009 influenza

Figure 4: Notifications of cases of laboratory confirmed (H1N1) 2009 influenza, 29 December 2009 to 30 April 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.

Hospitalisations

In January 2010 was one hospital admission for confirmed pandemic (H1N1) 2009 influenza. There have been no admissions since this time.

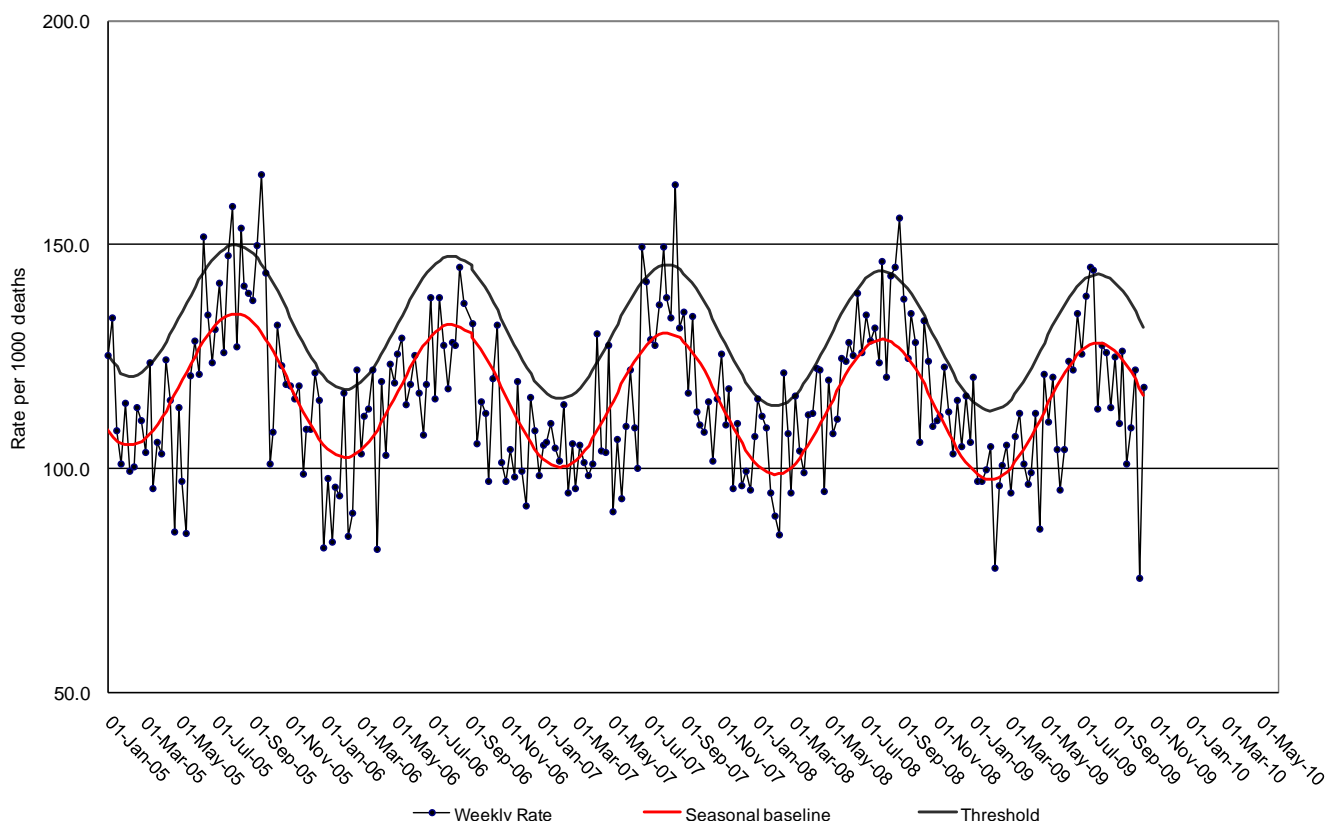
Deaths associated with pandemic (H1N1) 2009 influenza

From 1 January to 30 April 2010.

- There have been no deaths reported associated with pandemic (H1N1) 2009 influenza

Deaths with influenza or pneumonia reported on the death certificate

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.

- 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.
- 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 9 April 2010, there were 62 pneumonia or influenza deaths per 1000 deaths in NSW, which is below the seasonal threshold of 105 per 1000.

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

In April 2010:

- 1742 tests for respiratory viruses were performed at NSW laboratories

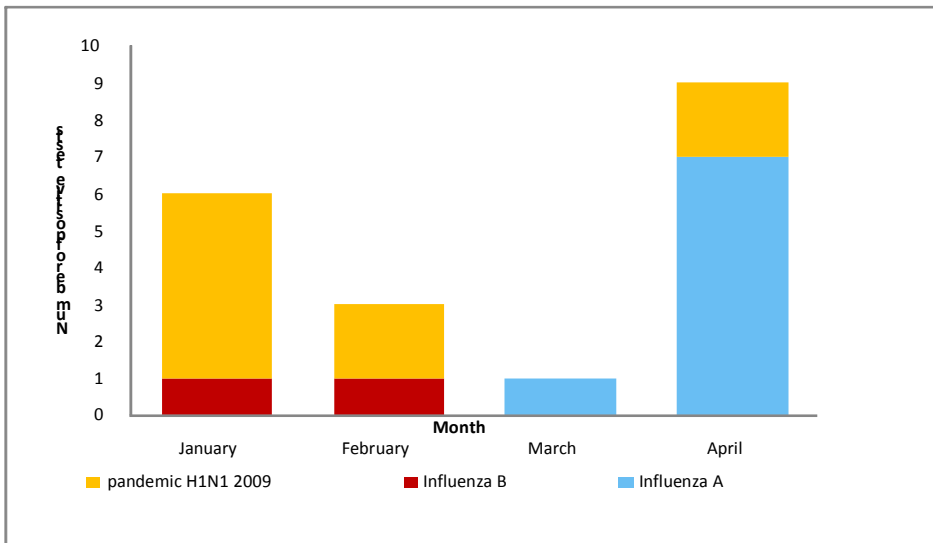
- Seven specimens tested positive for influenza A, two of these tested positive for pandemic (H1N1) 2009 influenza.

RSV is the most common respiratory virus circulating

From 1 January to 30 April 2010:

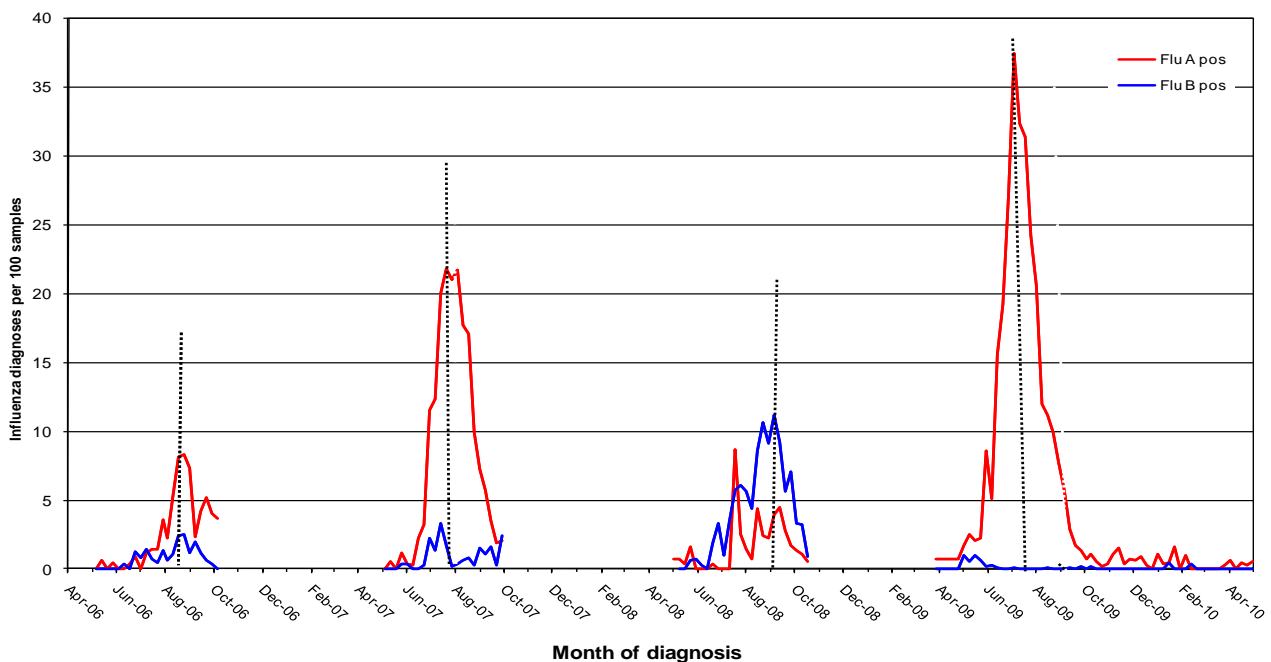
- The number of tests (5122) for respiratory viruses performed at NSW public hospital and private laboratories is slightly higher than previous years for this time of year.
- 15 of these tests were positive for influenza A .
- Nine of those positive for influenza A were also positive for pandemic (H1N1) 2009 influenza, the remaining six have not had subtyping

Figure 6: Number of positive laboratory tests for influenza for 4 week periods ending 30 April 2010



Note: Influenza a (seasonal includes all influenza A not subtyped). Excludes point of care tests, there is no data available for Sydney Adventist Hospital. 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.

Figure 7: Percent of laboratory tests positive for influenza A and influenza B, 1 January 2005 – 30 April 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 30 April 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
29/01/2010	853	5 (0.6%)	1	5 (100%)	20	28	52	52	6
26/02/2010	1071	2 (0.2%)	1	2 (100%)	9	32	61	78	3
26/03/2010	1456	1 (0.06%)	0	0	14	54	113	100	8
30/04/2010 *	1742	7 (0.4%)	0	2 (28.6%)	22	59	244	103	5
Week ending									
02/04/2010	307	2 (0.7%)	0	0	5	13	28	18	0
09/04/2010	307	0	0	0	4	16	38	21	0
16/04/2010	369	2 (0.5%)	0	1 (50%)	6	11	66	17	2
23/04/2010	392	1 (0.3%)	0	0	5	9	52	23	0
30/04/2010	367	2 (0.5%)	0	1 (50%)	2	10	60	24	3

* Equals a five week period

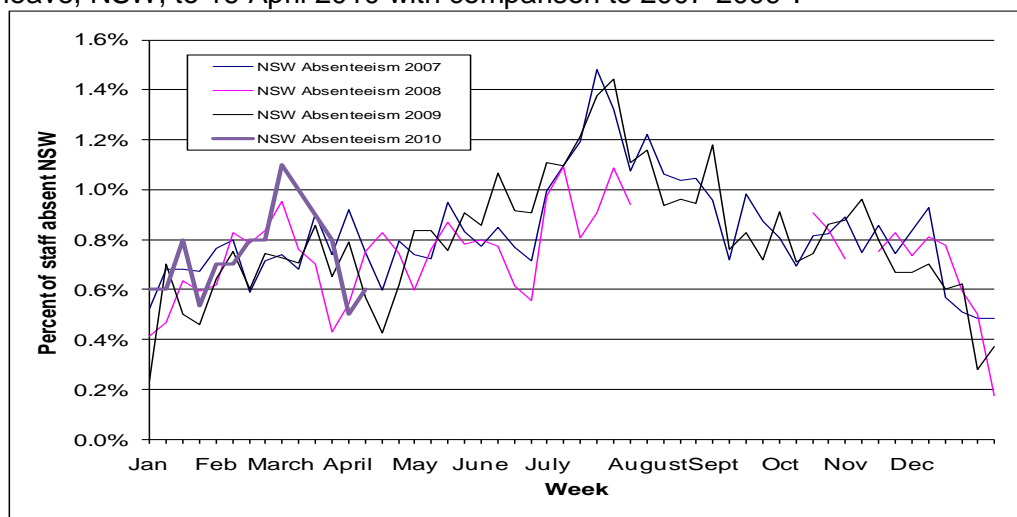
** HMPV = Human metapneumovirus

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.

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 April 2010.
- Absenteeism peaked in the week ending 22 July 2009, 1.4% of their NSW employees took sick leave of more than three consecutive days.
- In the week ending 16 April 2010, 0.6% of their NSW employees took sick leave of more than 3 consecutive days.

Figure 8: Weekly proportion of employees of a national employer taking more than 3 consecutive days sick leave, NSW, to 16 April 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 3: Pandemic (H1N1) 2009 influenza immunisation in NSW population health survey respondents from November 2009 - April 2010

Indicator	Group	Nov-09				Dec-09				Feb-10				Mar-10			
		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	1467	29.9	27.5	32.2
Swine flu vaccination by age group	<10 years	NA	NA	NA	NA	NA	NA	NA	NA	70	8.6	2.0	15.1	107	16.8	9.7	23.9
	10 to 19	50	10.0	1.7	18.3	50	10.0	1.7	18.3	65	15.4	6.6	24.2	118	14.4	8.1	20.7
	20 to 64	299	12.0	8.3	15.7	304	14.1	10.2	18.1	416	17.8	14.1	21.5	811	26.3	23.2	29.3
	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	431	44.1	39.4	48.8
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	572	27.6	24.0	31.3
	Females	310	15.2	11.2	19.2	304	25.3	20.4	30.2	505	26.5	22.7	30.4	895	31.3	28.2	34.3
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	135	29.6	21.9	37.3
	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	183	26.8	20.4	33.2
	Sydney West	54	5.6	0.0	11.7	73	26.0	16.0	36.1	92	27.2	18.1	36.3	160	23.1	16.6	29.7
	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	199	32.2	25.7	38.7
	Hunter & New England	88	25.0	15.9	34.1	74	24.3	14.5	34.1	109	21.1	13.4	28.8	198	41.9	35.0	48.8
	North Coast	78	16.7	8.4	24.9	70	31.4	20.5	42.3	129	25.6	18.0	33.1	218	26.6	20.7	32.5
	Greater Southern	68	13.2	5.2	21.3	70	24.3	14.2	34.3	108	22.2	14.4	30.1	170	25.3	18.8	31.8
	Greater Western	77	11.7	4.5	18.9	61	18.0	8.4	27.7	110	26.4	18.1	34.6	204	31.4	25.0	37.7
Swine flu vaccination by location	GP		85.5	77.9	93.1		90.8	85.6	96.0		88.4	84.0	92.8		87.9	84.8	91.0
	Other location		14.5	6.9	22.1		9.2	4.0	14.4		11.6	7.2	16.0		12.1	9.0	15.2

* 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 30 September and 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 36.3% (CI 33.4-39.2%) in April 2010.
- Vaccination rates vary across the AHSs from 28% in North Coast to 46% in Northern Sydney and Central Coast for the month of April, and an increase can be seen in all Area Health Services from November 2009 to April 2010.
- The majority of people are having their vaccination at their GP surgery.