Influenza Monthly Epidemiology Report, NSW

Including H1N1 influenza 09

November 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.

Please note influenza reports will now only be produced on a monthly basis until May 2011, unless unusual activity becomes apparent over the summer months

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

Summary

In November 2010:

- the rate of influenza like illness (ILI) presentations to selected emergency departments was low
- 26 cases with laboratory confirmed pandemic (H1N1) 2009 influenza were reported in NSW
- 14 cases of influenza A (not yet subtyped) and one case with influenza A (H3) were reported
- 2 cases of influenza B were reported
- no cases with confirmed pH1N1 influenza were admitted to intensive care units (ICU)
- no deaths in association with confirmed pandemic (H1N1) 2009 influenza was reported in NSW.

Rhinovirus was the most common respiratory virus identified by sentinel laboratories testing in November.

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

From 1 January to 26 November 2010:

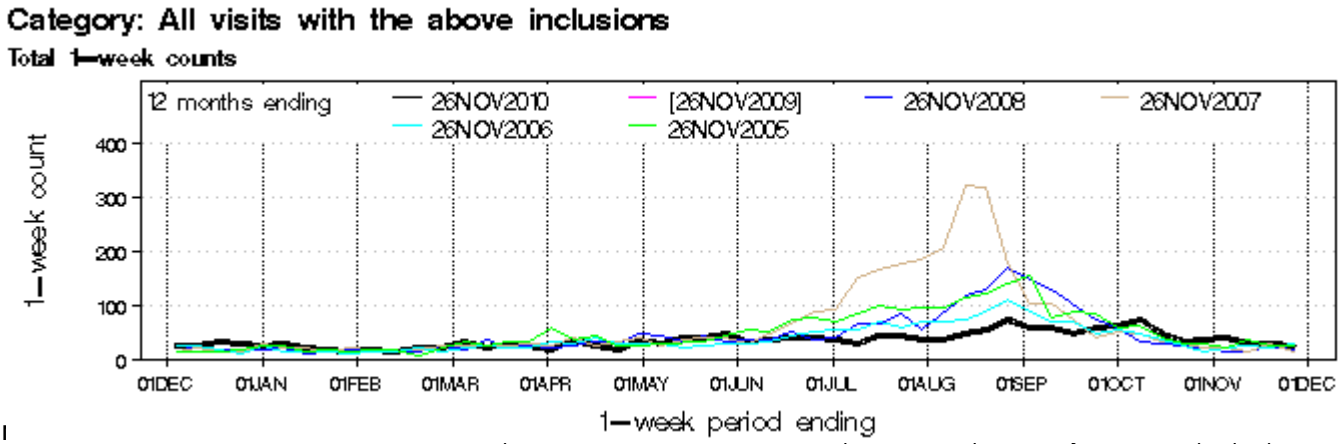
- ILI presentations to selected emergency departments remained low
- 509 cases of laboratory confirmed pandemic (H1N1) 2009 influenza were reported in NSW
- 15 cases of influenza A (H3) were reported in NSW
- 154 cases of influenza (not subtyped) were reported in NSW
- 82 cases of influenza B were reported in NSW
- 66 cases with confirmed influenza have been admitted to intensive care units (ICU)
- eight deaths were reported in association with confirmed pandemic (H1N1) 2009 influenza in NSW.

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*



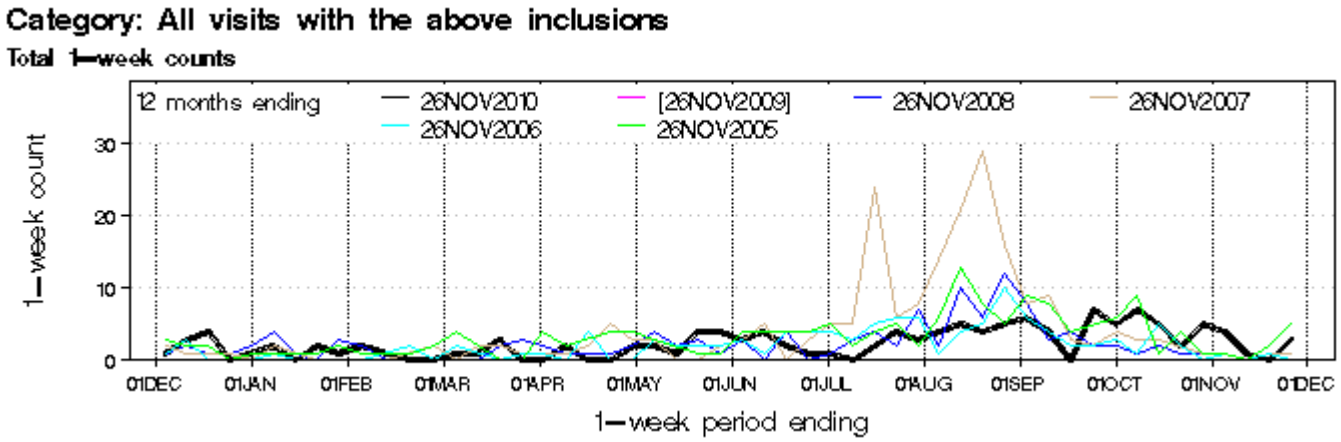
I g to NSW emergency departments have been referred to an influenza clinic without being recorded in the regular ED information system. (Under-reporting of influenza-related ED presentations will occur in this situation.) Includes data from 56 emergency departments. Source: NSW Health Public Health Real-time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

- In November 2010 there were 147 presentations with influenza-like illness (rate 1.3 per 1,000 presentations). This is lower than the previous month (October - 287 presentations, rate 1.9 per 1,000 presentations), lower than the count of 164 (rate 1.1 per 1,000 presentations) for the month of November in 2009, and similar to November totals for 2005-2008.

- In 2010, presentations to emergency departments for influenza-like illness were highest in mid October 2010 at around 76 presentations per week. The October 2010 peak was the lowest annual peak in the last eight years of reporting.

Admissions to hospital from emergency departments for influenza-like illness

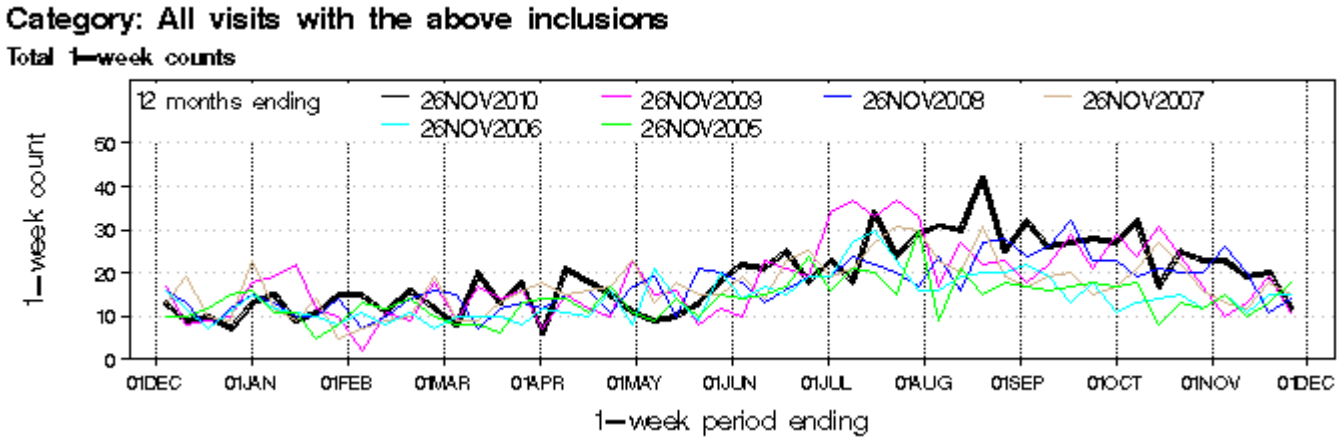
Figure 2: Weekly counts of admissions to hospital for influenza-like illness from NSW emergency departments, 2005-2010*.



Note: As for figure 1.

- There were nine admissions to hospital following presentation to emergency departments with influenza-like illness in November 2010. This was lower than the previous month (22 admissions), and similar to that of November 2009 when there were eight admissions with ILI.
- IN 2010, admissions from emergency departments to hospital for influenza-like illness were highest during September and October, and peaked at around seven admissions per week.

Figure 3: Weekly counts of admissions to hospital critical care units for influenza-like-illness and pneumonia from NSW emergency departments, 2005-2010*.



Note: Data is preliminary and is subject to change in later weeks. 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).

- Pneumonia and influenza presentations admitted to a critical care ward decreased further and are now below the usual range for the time of year.
- In November 2010 there were no admissions to ICUs with confirmed pH1N1 2009 influenza.

Laboratory testing summary for influenza

In November 2010:

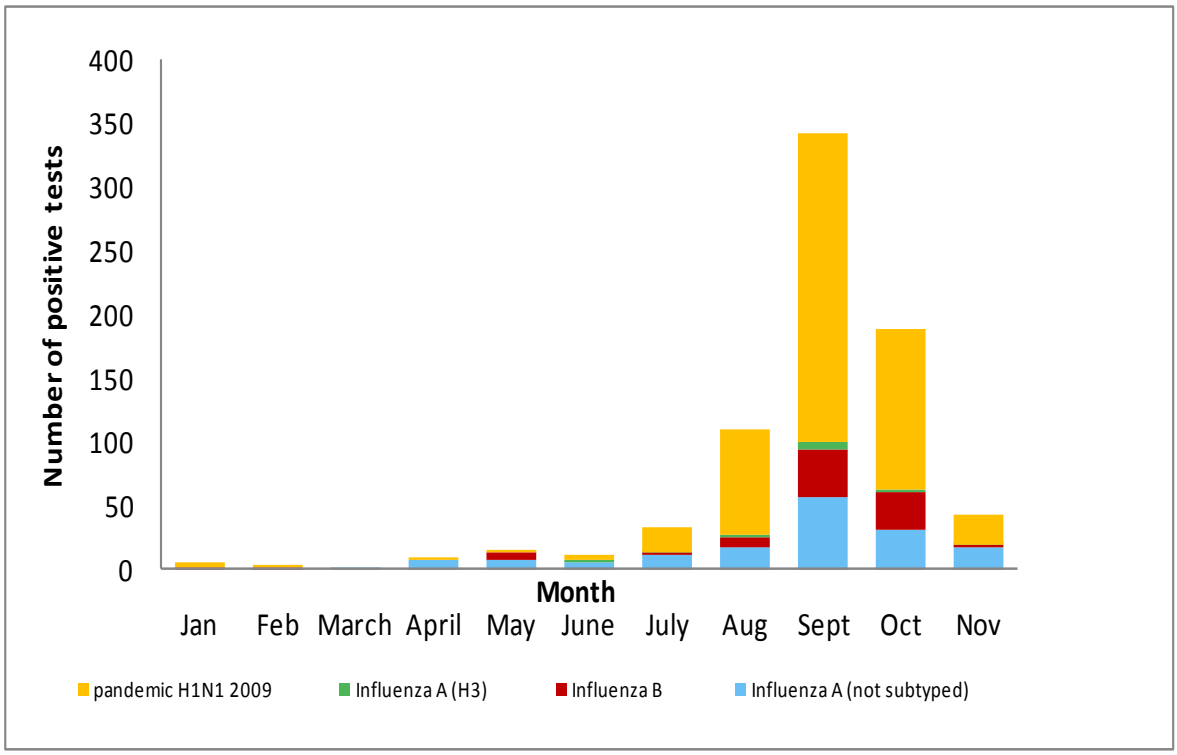
- 2535 tests for respiratory viruses were performed at sentinel NSW laboratories
- 41 specimens tested positive for influenza A - 26 of these have tested positive for pandemic (H1N1) 2009 influenza, one was H3 and the remainder (14) had not yet been subtyped
- 2 cases of influenza B were reported
- the number of tests positive for influenza in November was lower than the previous month (October) and overall influenza activity remained low.

Influenza appears to have peaked in the third week of September and only sporadic cases are now occurring. Other respiratory viruses have circulated at higher levels than influenza during November, including rhinovirus, parainfluenza, human metapneumovirus, and adenovirus.

From 1 January to 26 November 2010:

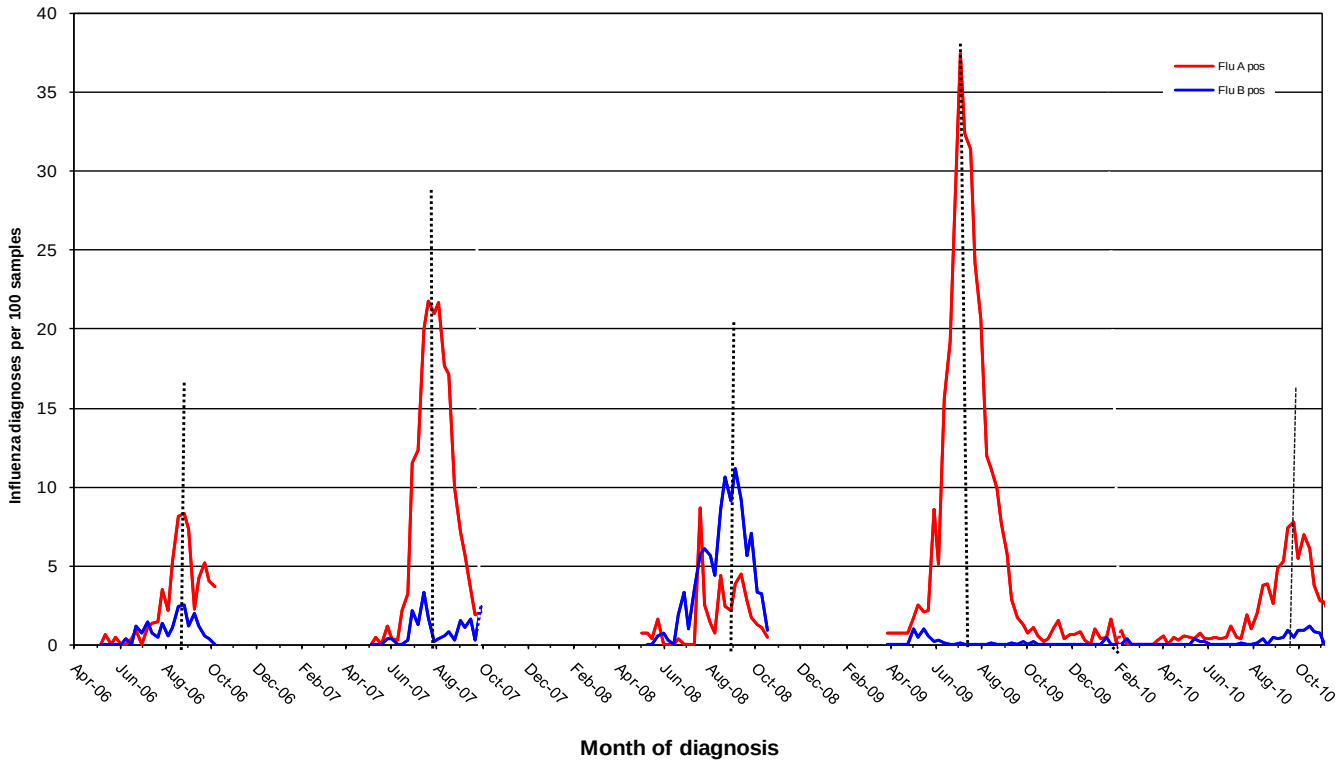
- 26,608 tests for respiratory viruses were performed at sentinel NSW public hospital and private laboratories
- 678 tests were positive for influenza A, and 82 positive for influenza B.
    - 509 of the confirmed influenza A samples positive for pandemic (H1N1) 2009 influenza, 15 samples were H3, and 154 were not subtyped.

Figure 4: Number of positive laboratory tests for influenza by month ending 26 November 2010



Note: Data is provided by laboratories on a weekly basis. 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 5: Percent of laboratory tests positive for influenza A and influenza B, 1 January 2005 – 26 November 2010, New South Wales.



Note: Data is provided by laboratories on a weekly basis. 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 26 November 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
31/07/2010	3389	32 (1.0%)	20 (59%)	1 (0.03%)	68	43	609	193	21
27/08/2010	3292	102 (3.0%)	83 (81%)	8 (0.2%)	72	59	222	118	73
01/10/2010*	4915	306 (6.2%)	242 (79%)	36 (0.7%)	99	120	176	147	148
29/10/2010	3126	160 (5.1%)	126 (78%)	29 (0.9%)	56	121	50	79	77
26/11/2010	2535	41 (1.6%)	18 (63%)	2 (0.1%)	50	99	25	147	64
Week ending									
05/11/2010	672	18 (2.7%)	11 (61%)	0	10	20	11	22	17
12/11/2010	726	12 (1.7%)	6 (85%)	0	9	25	6	31	20
19/11/2010	619	7 (1.1%)	4 (57%)	1 (0.5%)	15	22	3	42	12
29/11/2010	518	4 (0.8%)	3 (75%)	1 (0.2%)	16	32	5	52	15

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

Note: Data is provided by laboratories on a weekly basis . 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 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.

In October 2010:

- public Health Units reported there were no deaths with confirmed pandemic H1N1
- death registration data show that as of 12 November 2010, there were 97 pneumonia or influenza deaths per 1000 deaths in NSW, which is below the seasonal threshold of 130 per 1,000 deaths.

Interpreting death data

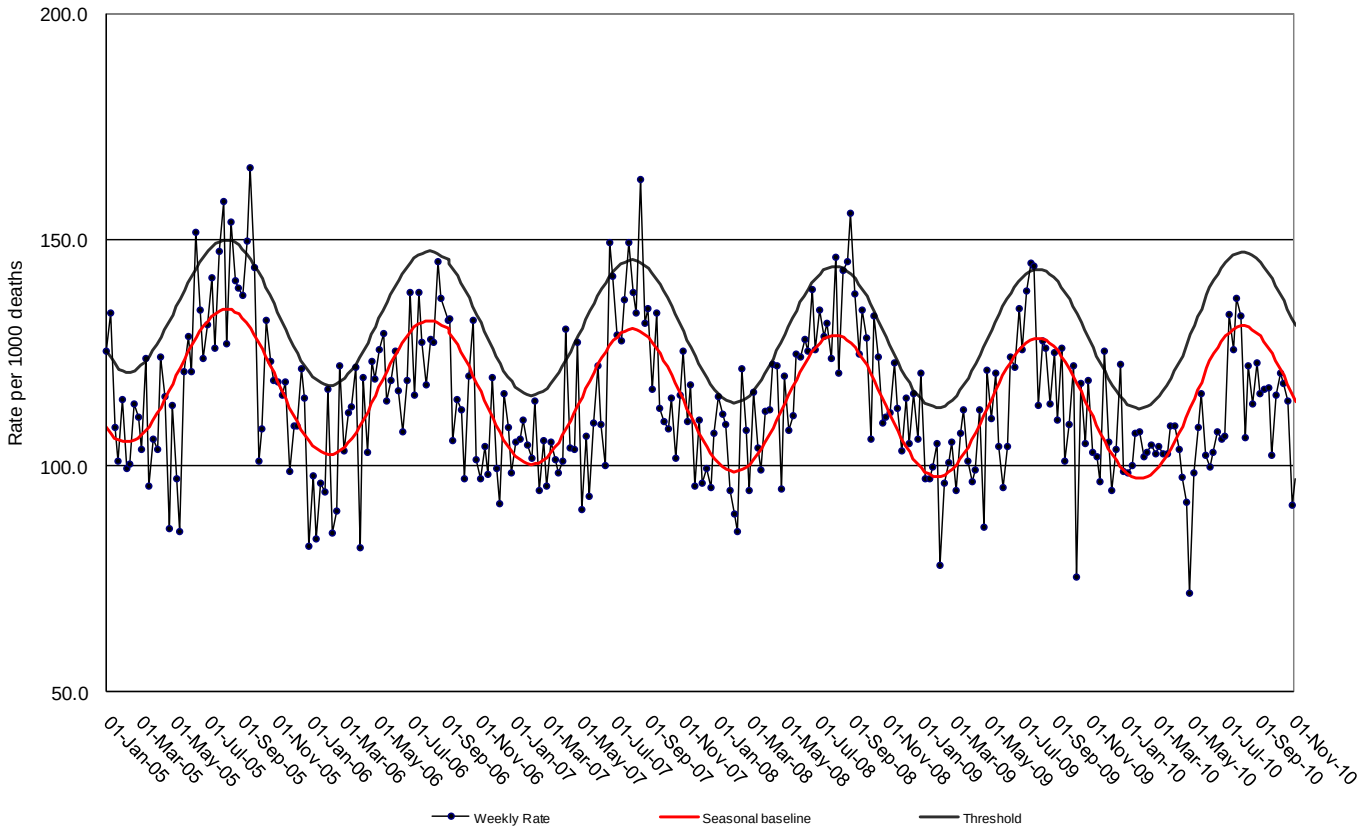
Note: Deaths referred to a coroner during the reporting period may not be available for analysis. Deaths in younger people may be more likely to require a coronial inquest. Therefore influenza-related deaths in younger people may be under-represented in these data. Influenza deaths confirmed by serology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

From 1 January to 26 November 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 29 people with laboratory confirmed influenza have died up to 26 November. All cases underlying illness, 27/29 (93%) were aged 55 years and over. For twenty-one cases laboratory confirmation was by serology. However eight cases have been diagnosed by **polymerase chain reaction** (PCR) testing.

Figure 6: Rate of deaths classified as influenza and pneumonia as per NSW Registered Death Certificates, 2005-2010



Source: NSW Registry of Births, Deaths and Marriages.

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 2009 and for children less than 10 years on the 8 December 2009. The NSW Population Survey indicates that:

- Uptake of H1N1 vaccination has increased over time since data became available in November 2009 to 44.9% in November 2010.
- Vaccination rates vary across the AHS's from 39.5% in Greater Western to 53.2% in Hunter & New England for the month of November 2010, and an increase can be seen in all AHS from November 2009 to November 2010 (table 2).
- the majority of people reported having their influenza vaccination at their GP.

Table 3: Swine Flu Immunisation in NSW population health survey respondents from November 2009 - November 2010

Indicator	Group	Nov-09				Dec-09				Feb-10				Mar-10				Apr-10				May-10				Jun-10			
		N=	%	LCI	UCI	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	1109	36.5	33.7	39.4	1207	42.7	39.9	45.5	661	40.8	37.1	44.6
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	94	19.1	11.2	27.1	95	22.1	13.8	30.5	64	18.8	9.2	28.3
	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	107	14.0	7.4	20.6	101	30.7	21.7	39.7	63	28.6	17.4	39.7
	20 to 64	299	12.0	8.3	15.7	304	14.1	10.2	18.1	416	17.8	14.1	21.5	865	25.9	23.0	28.8	584	31.5	27.7	35.3	636	34.3	30.6	38.0	358	35.2	30.2	40.1
	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	324	58.0	52.6	63.4	375	65.3	60.5	70.2	176	64.8	57.7	71.8
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	612	27.6	24.1	31.2	422	30.8	26.4	35.2	469	38.6	34.2	43.0	264	38.3	32.4	44.1
	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	687	40.0	36.4	43.7	738	45.3	41.7	48.9	397	42.6	37.7	47.4
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	109	40.4	31.2	49.6	133	42.1	33.7	50.5	119	42.9	34.0	51.8
	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	120	39.2	30.4	47.9	115	40.0	31.0	49.0	106	41.5	32.1	50.9
	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	123	33.3	25.0	41.7	136	38.2	30.1	46.4	99	36.4	26.9	45.8
	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	115	47.8	38.7	57.0	123	50.4	41.6	59.2	99	38.4	28.8	48.0
	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	170	41.8	34.3	49.2	172	50.0	42.5	57.5	68	50.0	38.1	61.9
	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	168	26.8	20.1	33.5	175	38.9	31.6	46.1	51	45.1	31.4	58.8
	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	160	31.9	24.7	39.1	166	37.3	30.0	44.7	67	38.8	27.1	50.5
	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	144	35.4	27.6	43.2	187	44.4	37.3	51.5	52	34.6	21.7	47.6
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		86.9	83.6	90.2		87.6	84.7	90.4		85.6	81.4	89.8
	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		13.1	9.8	16.4		12.4	9.6	15.3		14.4	10.2	18.6

Table 3: Swine Flu Immunisation in NSW population health survey respondents from November 2009 - November 2010 (continued)

Indicator	Group	Jul-10				Aug-10				Sep-10				Oct-10				Nov-10				Total (Nov 09 - Nov 10)			
		N=	%	LCI	UCI	N=	%	LCI	UCI	N=	%	LCI	UCI	N=	%	LCI	UCI	N=	%	LCI	UCI	N=	%	LCI	UCI
Overall Swine flu vaccination		1241	43.4	40.6	46.1	1081	43.4	40.4	46.3	986	43.8	40.7	46.9	1031	42.6	39.6	45.6	1201	44.9	42.1	47.7	11913	37.6	36.8	38.5
Swine flu vaccination by age group	<10 years	92	16.3	8.8	23.9	100	26.0	17.4	34.6	78	21.8	12.6	31.0	75	22.7	13.2	32.1	91	30.8	21.3	40.3	875	20.8	18.1	23.5
	10 to 19	121	24.8	17.1	32.5	84	23.8	14.7	32.9	93	38.7	28.8	48.6	92	39.2	29.1	49.1	103	35.9	26.7	45.2	1058	24.7	22.1	27.3
	20 to 64	643	34.7	31.0	38.4	554	35.2	31.2	39.2	559	34.0	30.1	37.9	551	33.0	29.1	37.0	633	37.3	33.5	41.1	6401	30.2	29.0	31.3
	65 years and older	385	70.1	65.6	74.7	343	66.5	61.5	71.5	256	73.8	68.4	79.2	313	65.2	59.9	70.5	374	63.6	58.8	68.5	3579	58.9	57.3	60.5
Swine flu vaccination by sex	Males	511	40.9	36.6	45.2	435	36.8	32.2	41.3	387	39.8	34.9	44.7	417	40.5	35.8	45.2	504	42.7	38.3	47.0	4736	34.6	33.3	36.0
	Females	730	45.1	41.5	48.7	646	47.8	44.0	51.7	599	46.4	42.4	50.4	614	44.0	40.0	47.9	697	46.5	42.8	50.2	7177	39.6	38.5	40.7
Overall Swine flu vaccination by AHS	Sydney South West	110	39.1	30.0	48.2	132	42.4	34.0	50.9	114	38.6	29.7	47.5	100	35.0	25.7	44.3	214	43.9	37.3	50.6	1352	37.4	34.8	39.9
	South Eastern Sydney & Illawarra	123	44.7	35.9	53.5	121	44.6	35.8	53.5	146	50.0	41.9	58.1	102	48.0	38.3	57.7	213	44.1	37.5	50.8	1422	39.2	36.7	41.8
	Sydney West	152	35.5	27.9	43.1	139	44.6	36.3	52.9	119	43.7	34.8	52.6	122	41.0	32.3	49.7	198	46.5	39.5	53.4	1481	35.4	33.0	37.9
	Northern Sydney & Central Coast	174	43.1	35.7	50.5	131	51.1	42.6	59.7	116	37.9	29.1	46.8	93	47.3	37.1	57.5	232	47.0	40.6	53.4	1511	40.6	38.2	43.1
	Hunter & New England	128	50.0	38.1	61.9	132	48.5	40.0	57.0	116	52.6	43.5	61.7	149	53.0	45.0	61.0	94	53.2	43.1	63.3	1508	43.6	41.1	46.1
	North Coast	271	41.7	35.8	47.6	165	36.4	29.0	43.7	110	36.4	27.4	43.4	159	34.6	27.2	42.0	88	39.8	29.5	50.0	1700	33.3	31.1	35.5
	Greater Southern	132	47.0	38.5	55.5	123	42.3	33.5	51.0	130	45.4	36.8	53.9	170	40.0	32.6	47.4	81	40.7	30.0	51.4	1454	35.1	32.7	37.6
	Greater Western	151	47.0	39.1	55.0	138	39.1	31.0	47.3	135	43.7	35.3	52.1	136	43.4	35.1	51.7	81	39.5	28.9	50.2	1485	36.8	34.3	39.2
Swine flu vaccination by location	GP		88.1	85.3	90.8		87.2	84.1	90.2		85.8	82.6	89.1		86.5	83.3	89.7		85.2	82.2	88.2		87.0	86.0	88.0
	Other location		11.9	9.2	14.7		12.8	9.8	15.9		14.2	10.9	17.4		13.5	10.3	16.7		14.8	11.8	17.8		13.0	12.0	14.0