

# Influenza Weekly Surveillance Report



**A REPORT BY THE HEALTH PROTECTION SURVEILLANCE CENTRE IN COLLABORATION WITH THE IRISH COLLEGE OF GENERAL PRACTITIONERS, THE NATIONAL VIRUS REFERENCE LABORATORY & THE DEPARTMENTS OF PUBLIC HEALTH.**

**Week 13 2006 (27<sup>th</sup> March to 2<sup>nd</sup> April 2006)**

## Summary

During week 13 2006, influenza activity decreased in Ireland, with 58 influenza-like illness (ILI) cases reported by sentinel GPs. Ten positive influenza specimens were detected by the NVRL during week 13 2006, eight influenza A and two influenza B. Influenza activity peaked for the 2005/2006 season during week 10 2006. The latest information on avian influenza is available on the [HPSC website](#).

## Background

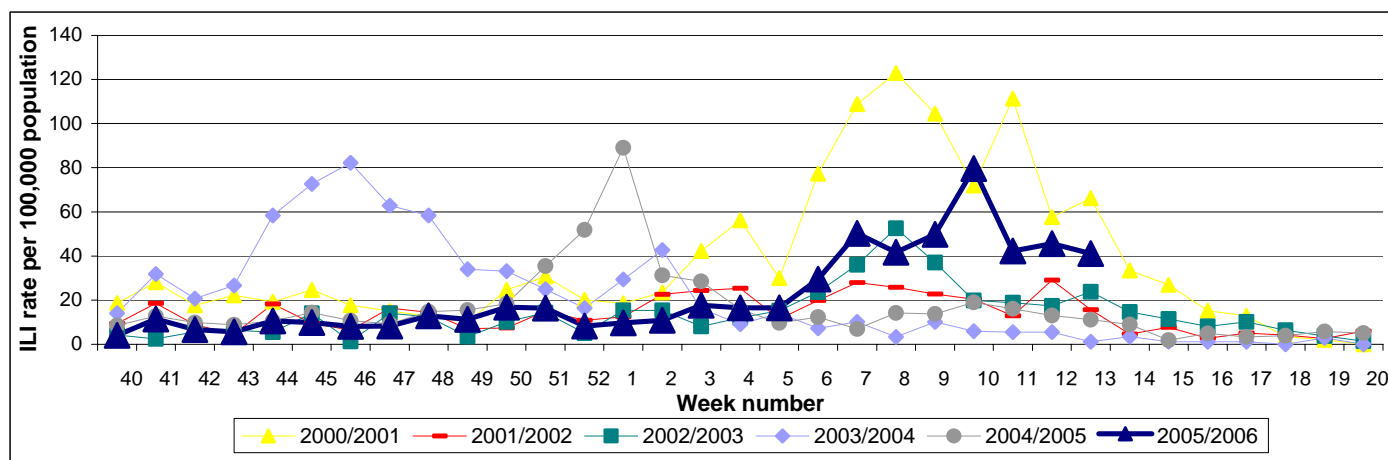
This is the sixth season of influenza surveillance using computerised sentinel general practices in Ireland. The Health Protection Surveillance Centre (HPSC) is working in collaboration with the Irish College of General Practitioners (ICGP), the National Virus Reference Laboratory (NVRL) and the Departments of Public Health on this sentinel surveillance project. Forty-six sentinel general practices have been recruited to report on the number of patients with ILI on a weekly basis.

ILI is defined as the sudden onset of symptoms with a temperature of 38<sup>0</sup>C or more, with two or more of the following: headache, sore throat, dry cough and myalgia. Sentinel GPs send a combined nasal and throat swab, to the NVRL, on at least one patient per week where a clinical diagnosis of ILI is made. This report includes data on ILI cases reported by sentinel GPs, influenza test results from the NVRL, influenza notifications, registered deaths attributed to influenza reported from the General Register's Office (GRO), regional influenza activity reported by the Departments of Public Health and sentinel school absenteeism and hospital admissions data.

## Results

### Clinical Data

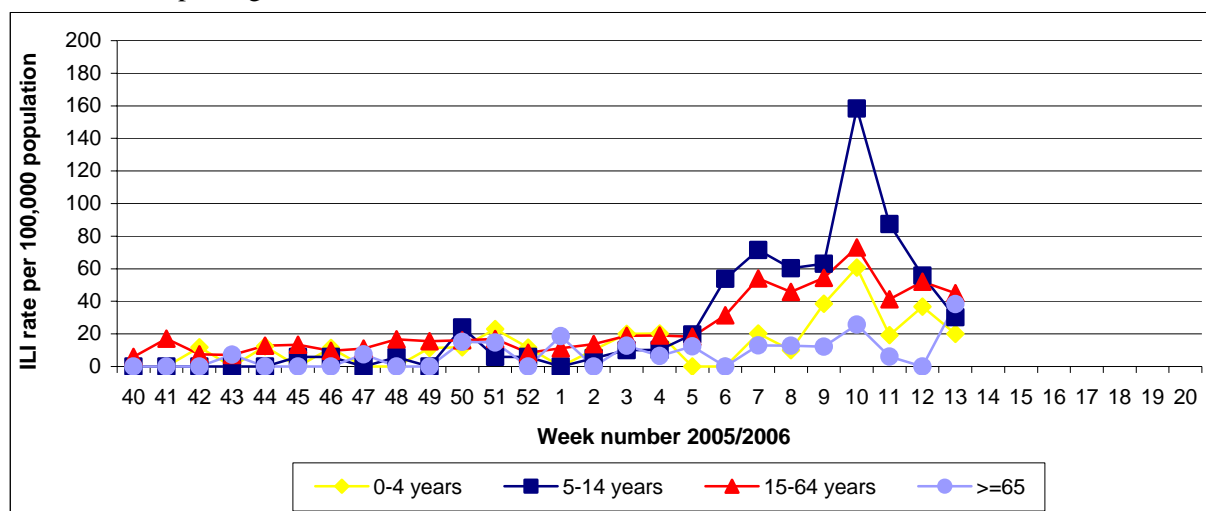
During week 13 2006, 58 ILI cases were reported by sentinel GPs, corresponding to an ILI consultation rate of 41.1 per 100,000 population, a slight decrease from the updated rate of 45.6 per 100,000 during week 12 2006 (figure 1).



**Figure 1:** GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005 & 2005/2006 influenza seasons.

## Results (continued)

During week 13 2006, ILI rates peaked in the 15-64 year age group with 43 ILI cases reported, corresponding to an ILI rate of 45.0 per 100,000 population. Two ILI cases were reported in 0-4 year olds, corresponding to an ILI rate of 20.0 per 100,000 population. Six ILI cases were reported in the 5-14 year age group (30.3 per 100,000 population) and six ILI cases were reported in those aged 65 years or older (38.2 per 100,000 population) during week 13 2006. ILI rates increased significantly in those aged 65 years and older and decreased in all other age groups during week 13 2006 (figure 2). Thirty-nine of 46 (84.8%) sentinel general practices reported during week 13 2006, with 23 reporting ILI.



**Figure 2:** Age specific GP consultation rate\* for ILI per 100,000 population by week during the 2005/2006 influenza season. \*Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national age distribution.

### Virological Data from the National Virus Reference Laboratory (NVRL)

The NVRL tested 20 specimens taken by sentinel GPs during week 13 2006, seven were positive for influenza A and two were positive for influenza B. The NVRL also tested forty-nine non-sentinel specimens, taken during week 13 2006, mainly from hospitalised paediatric cases, one was positive for influenza A. To date this season, the NVRL has detected 154 positive influenza specimens: 81 influenza A (14 A H3 & 67 A unsubtype) and 73 influenza B (table 1). Influenza positive specimens peaked in week 10 2006, coinciding with the peak in ILI consultation rates. Influenza positive specimens have been detected in all HSE-Health Areas this season (table 2). Figure 3 compares the ILI consultation rates by season and the number of positive influenza specimens tested by the NVRL. Two non-sentinel specimens tested positive for respiratory syncytial virus (RSV) during week 13 2006 (figure 4). The percentage of RSV positive respiratory specimens peaked in week 50 2005.

The WHO Influenza Reference Laboratory at the National Institute for Medical Research, Mill Hill, London has antigenically characterised two influenza specimens from Ireland this season. One influenza A (H3) isolate was antigenically similar to A/Hong Kong/4443/05. One influenza B isolate was closely related to the recent B/Victoria-lineage reference virus B/Hong Kong/45/05.

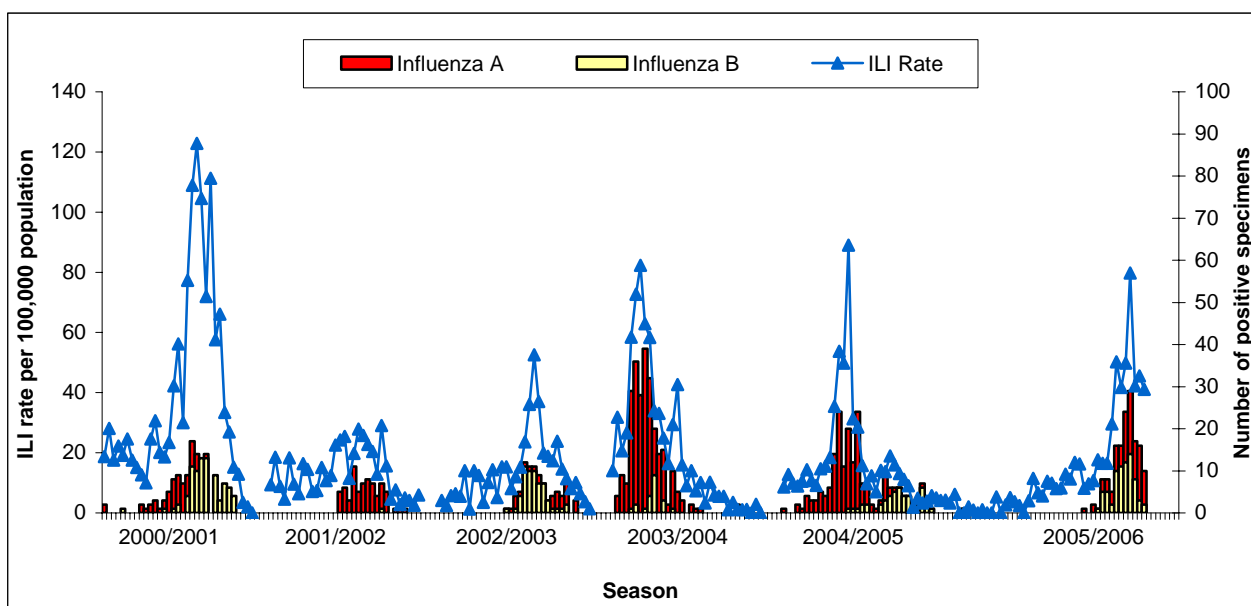
**Table 1:** Total number of sentinel and non-sentinel\* respiratory specimens and positive results for week 13 2006 and the 2005/2006 season to date.

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
13 2006	Sentinel	20	9	45.0	7	2	NA
	Non-Sentinel	49	1	2.0	1	0	2
	<b>Total</b>	<b>69</b>	<b>10</b>	<b>14.5</b>	<b>8</b>	<b>2</b>	<b>2</b>
40 2005 – 13 2006	Sentinel	345	121	35.1	57	64	NA
	Non-Sentinel	1507	33	2.2	24	9	371
	<b>Total</b>	<b>1852</b>	<b>154</b>	<b>8.3</b>	<b>81</b>	<b>73</b>	<b>371</b>

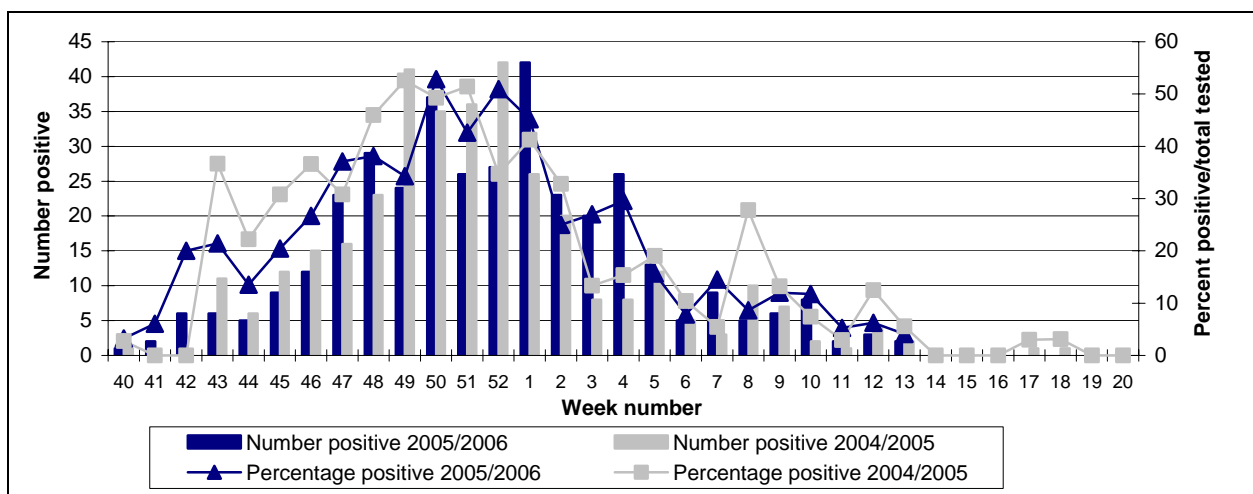
\*Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case.

**Table 2:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by HSE-Health Area for week 13 2006 and the 2005/2006 season to date \* Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case.

	Week 13 2006			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	1	1	2	40	28	68
HSE-MA	0	0	0	2	2	4
HSE-MWA	2	0	2	7	7	14
HSE-NEA	2	0	2	8	4	12
HSE-NWA	1	0	1	7	4	11
HSE-SEA	2	1	3	11	14	25
HSE-SA	0	0	0	5	8	13
HSE-WA	0	0	0	1	6	7
<b>Total</b>	<b>8</b>	<b>2</b>	<b>10</b>	<b>81</b>	<b>73</b>	<b>154</b>



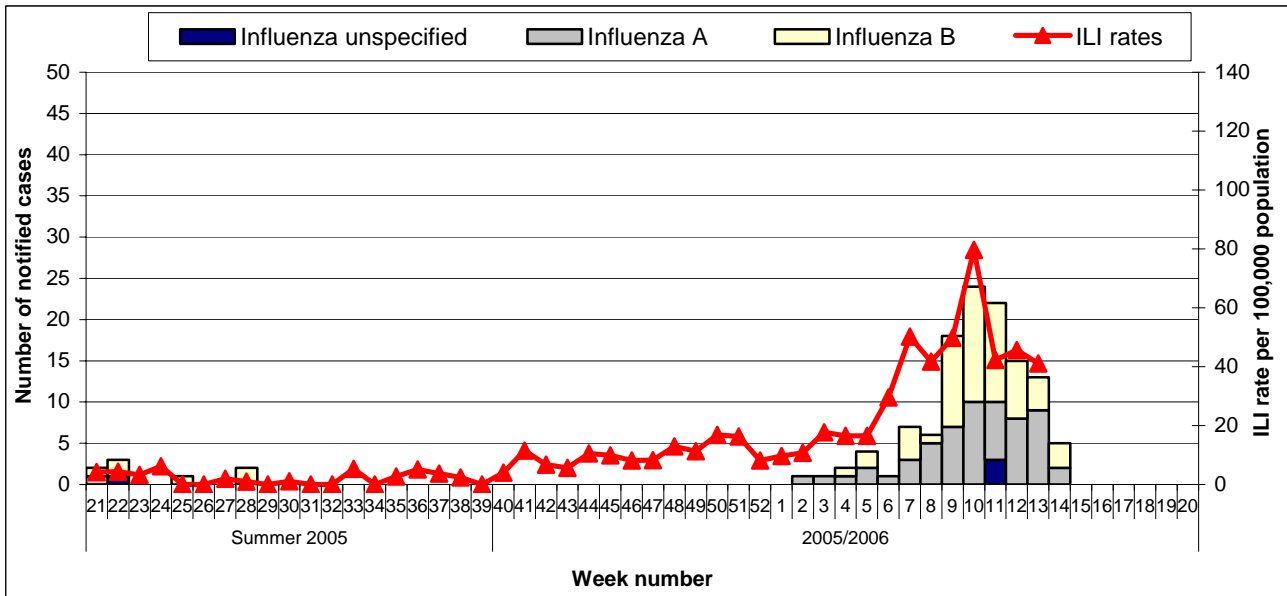
**Figure 3:** ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005 seasons, summer 2005 and the 2005/2006 season.



**Figure 4.** Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2004/2005 influenza seasons.

### Weekly Influenza Notifications

During week 14 2006, two influenza A (one from HSE-NEA and one from HSE-SEA) and three influenza B (from HSE-SEA) cases were notified to HPSC. During week 13 2006, nine influenza A (four from HSE-NEA, three from HSE-SEA and two from HSE-SA) and four influenza B (one from HSE-NEA, one from HSE-NWA, one from HSE-SEA and one from HSE-SA) cases were notified to HPSC. It should be noted that influenza notifications reported through the weekly notification system may also be reported by the NVRL (table 1). Influenza cases notified to HPSC during the summer of 2005 and during the 2005/2006 influenza season are shown in figure 5, and compared to ILI consultation rates.



**Figure 5:** Number of notifications\* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2005 and the 2005/2006 influenza season. \*Notification data are provisional and were extracted from [CIDR](#) on the 05/04/2006 at 02:46 GMT.

### Mortality Data

No deaths registered with the GRO to date this season were attributed to influenza.

### Outbreak Reports

Four ILI/influenza outbreaks have been reported to HPSC to date this season, three outbreaks occurred in schools and one in a nursing home.

### Hospital Admissions

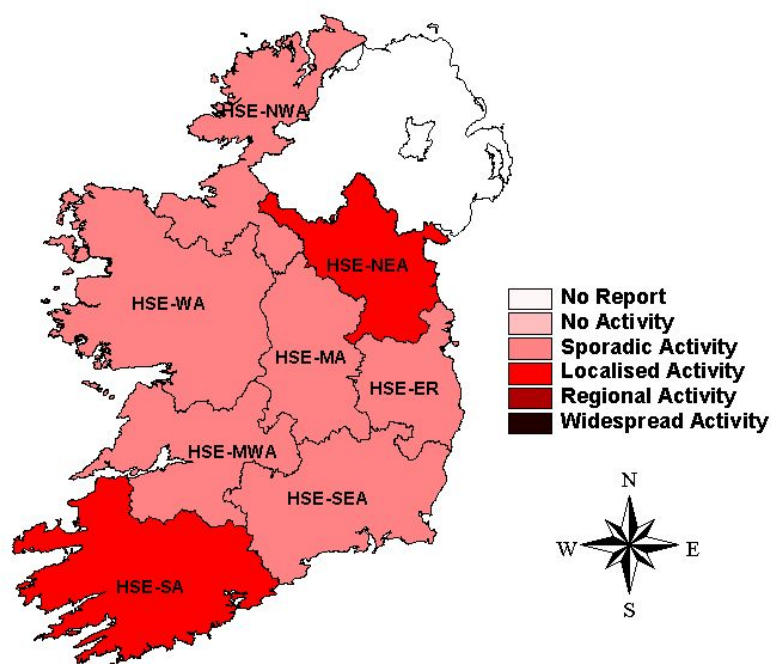
Each Department of Public Health has established one sentinel hospital in each HSE-Health Area, to report total hospital admissions, accident and emergency admissions and respiratory admissions data on a weekly basis. Increased respiratory admissions were reported from a sentinel hospital in HSE-MA and increased total admissions were reported from a sentinel hospital in HSE-NEA during week 13 2006. Increased accident and emergency admissions were reported from HSE-WA during week 12.

### School Absenteeism

Sentinel primary and secondary schools have been established in each HSE-Health Area in close proximity to the sentinel GPs, reporting absenteeism data on a weekly basis. Increased absenteeism was reported in a primary and a secondary sentinel school in HSE-ER during week 13 2006. Increased absenteeism was also reported in a primary sentinel school in HSE-MA during week 13 2006 and in a secondary sentinel school in HSE-SEA during week 12 2006.

### ***Regional Influenza Activity by HSE-Health Area***

Influenza activity is reported on a weekly basis from the Departments of Public Health. Influenza activity is based on sentinel GP ILI consultation rates, NVRL laboratory confirmed influenza cases and influenza/ILI outbreaks. Localised influenza activity was reported in HSE-NEA and HSE-SA and the remaining HSE-Health Areas reported sporadic activity during week 12 2006 (figure 6).



**Figure 6:** Map of influenza activity by HSE-Health Area during week 12 2006

### ***Influenza Activity in Northern Ireland***

The combined ILI and clinical influenza consultation rate in Northern Ireland during week 13 2006 was 69.2 per 100,000 population, a slight increase from the updated rate of 67.6 per 100,000 in week 12 2006. Four influenza A and two influenza B viruses were detected during week 13 2006. <http://www.cdscni.org.uk>

### ***Influenza Activity in England, Scotland & Wales***

ILI consultation rates remained low at 21.3 per 100,000 population in week 12 2006 compared to 23.9 in week 11 2006 and 22.0 in week 10 2006 according to data reported from 75 GP practices in England and Wales representing a population of 699,000. The rates remained below the baseline level of 30 per 100,000 population for all age groups. GP consultation rates for ILI in Scotland remained low at 16.7 per 100,000 in week 11 2006 and 15.5 per 100,000 in week 12 2006. Consultation rates for influenza in Wales have also decreased from 4.2 in week 11 2006 to 3.6 in week 12 2006. During weeks 11 and 12 2006, six samples referred to the Centre for Infections Respiratory Virus Unit (RVU) from community sources tested positive for influenza B, respectively, and 21 samples for influenza A, respectively. Since week 40 2005, 411 influenza viruses have been further characterised by RVU; 29 influenza A/New Caledonia/20/1999 (H1N1)-like, 20 influenza A/California/7/2004 (H3N2)-like, two influenza A/Wellington/1/04(H3N2)-like; 377 influenza B viruses antigenically similar to influenza B/Hong Kong/330/2001 and five influenza B/Shanghai/361/2002-like viruses.

[http://www.hpa.org.uk/infections/topics\\_az/influenza/seasonal/flureports0506.htm](http://www.hpa.org.uk/infections/topics_az/influenza/seasonal/flureports0506.htm)

### ***Influenza Activity in Europe***

Seasonal influenza epidemics have started late in Europe during the 2005/2006 season. In week 12 2006, ILI consultation rates continued to increase in the Czech Republic, Denmark, Hungary, Slovakia and Slovenia. During week 12 2006, Belgium, Denmark, Hungary, the Netherlands, Norway and Slovenia reported widespread influenza activity. France, Germany and Spain reported regional activity, six countries reported local outbreaks, ten countries reported sporadic activity and Northern Ireland reported no activity. The highest consultation rates for ILI or ARI were reported in the 0-4 and 5-14 age groups. In week 12 2006, for the first time since week 51 2005, the weekly total number of influenza A viruses was higher than influenza B viruses for Europe as a whole. The total number of respiratory specimens collected by sentinel physicians in week 12 2006 was 1340, of which 387 (29%) were positive for influenza virus: 236 (61%) influenza B and 151 (39%) influenza A. In addition, 348 non-sentinel specimens tested positive for influenza virus: 137 (39%) influenza B and 211 (61%) influenza A. Based on (sub)typing data of all influenza virus detections from sentinel and non-sentinel sources up to week 12 2006 (N=7252), 4225 (64%) were influenza B and 2614 (36%) were influenza A. Of the total influenza A virus detections (N=2614), 1736 (66%) were influenza A unsubtype, 389 (15%) were A(H1) [143 were A(H1N1), and 2 A(H1N2)] and 489 (19%) were A(H3) [226 were A(H3N2)]. Based on the characterisation data of all influenza virus detections up to week 12 2006, 1406 have been antigenically and/or genetically characterised: 272 were A/New Caledonia/20/99 (H1N1)-like, 126 were A/California/7/2004 (H3N2)-like, 904 were B/Malaysia/2506/2004-like (B/Victoria/2/87-lineage) and 104 were B/Jiangsu/10/2003-like (B/Jiangsu/10/2003 is a B/Shanghai/361/2002-like virus from the B/Yamagata/16/88-lineage). <http://www.eiss.org/index.cgi>

### ***Influenza Activity in Canada***

During week 12, overall influenza activity in Canada remained at about the same level as the previous week, with the same number of regions reporting widespread and localised activity. The ILI consultation rate increased during week 12 2006, from the previous week and was calculated as 42 per 1000 patient visits, which is slightly above the expected range for this week. ILI consultations remained highest among children in most of the provinces and territories reporting ILI activity. In the current season to date, a mix of influenza A (53%) and influenza B (47%) viruses has been detected in Canada. Information on influenza activity in Canada to date suggests that the current season is milder than the previous two seasons. In addition, increased influenza activity presented later this season than expected. To date, 100% of the influenza A strains characterised have matched those included in the 2005/2006 Canadian vaccine. However, 98% of the influenza B strains characterised belong to the B/Victoria/02/1987 lineage and are not covered by this year's vaccine. <http://www.phac-aspc.gc.ca/fluwatch/index.html>

### ***Influenza Activity in the United States***

During week 12, influenza activity continued approximately at the same level as recent weeks in the United States. The proportion of patient visits to sentinel providers for ILI was above the national baseline. Sixteen states reported widespread influenza activity; 16 states reported regional influenza activity; 13 states, New York City, and the District of Columbia reported local influenza activity; and five states and Puerto Rico reported sporadic influenza activity. The proportion of deaths attributed to pneumonia and influenza was below the baseline level. During week 12, WHO and NREVSS laboratories reported 3,158 specimens tested for influenza viruses, 681 (21.6%) of which were positive: 77 A (H3N2), 70 A (H1N1), 347 A unsubtype and 187 B viruses. CDC has antigenically characterised 454 influenza viruses [379 A (H3N2), 23 A (H1) and 52 B] this season. Of the 379 influenza A (H3N2) viruses, 301 were characterised as A/California/07/2004-like, which is the influenza A (H3N2) component recommended for the 2005/2006 influenza vaccine, and 78 viruses showed reduced titers with antisera produced against A/California/07/2004. Of the 78 low-reacting viruses, 52 were tested with antisera produced against A/Wisconsin/67/2005 (the H3N2 component selected for the 2006/2007 vaccine), and 44 are A/Wisconsin-like. The hemagglutinin proteins of 21 influenza A (H1) viruses were similar antigenically to the hemagglutinin of the vaccine strain A/New Caledonia/20/99, and two showed reduced titers with antisera produced against A/New Caledonia/20/99. Twenty-four of the influenza B viruses that have been characterised belong to the B/Yamagata lineage. Four were similar to B/Shanghai/361/2002, the recommended influenza B component for the 2005/2006 influenza vaccine, and 20 were characterised as B/Florida/07/2004-like. B/Florida/07/2004 is a minor antigenic variant of B/Shanghai/361/2002. Twenty-eight influenza B viruses were identified as belonging to the B/Victoria lineage and all were similar to B/Ohio/1/2005, the influenza B component selected for the 2006/2007 vaccine. <http://www.cdc.gov/flu/>

## ***Influenza Activity Worldwide***

Regional influenza activity was reported in Japan (3 A H1 & 1 B) during week 12 2006. Sporadic activity was reported in Argentina (1 A untyped), Brazil (1 A untyped), China (90 A H1, 5 A H3, 4 A untyped & 57 B), Madagascar and Tunisia (4 A H1) and no influenza activity was reported in Chile during week 12 2006.

<http://gamapserver.who.int/GlobalAtlas/home.asp>

## ***Avian Influenza***

As of April 4<sup>th</sup> 2006, there have been 191 confirmed human cases of influenza A (H5N1) and 108 fatalities in nine different countries (Azerbaijan, Cambodia, China, Egypt, Indonesia, Iraq, Thailand, Turkey and Vietnam) reported to the WHO. The World Organisation for Animal Health (OIE) and the European Centre for Disease Prevention and Control (ECDC) have reported influenza A (H5) in avian species in twelve EU countries: Austria, Czech Republic, Denmark, France, Germany, Greece, Hungary, Italy, Poland, Slovakia, Slovenia and Sweden. Developments concerning influenza A (H5N1), particularly in Europe, are being followed carefully by HPSC.

Further information on avian influenza is available on the following websites:

WHO [http://www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)

HPSC <http://www.hpsc.ie/A-Z/Respiratory/AvianInfluenza/>

ECDC <http://www.ecdc.eu.int/>

## ***Northern Hemisphere Influenza Vaccine for the 2005/2006 Season***

The members of the WHO Collaborating Centres on Influenza recommended that influenza vaccines for the 2005/2006 influenza season in the Northern Hemisphere contain the following strains:

- an A/New Caledonia/20/99(H1N1)-like virus
- an A/California/7/2004(H3N2)-like virus<sup>a</sup>
- a B/Shanghai/361/2002-like virus<sup>b</sup>

*a* A/New York/55/2004 is available as a vaccine virus

*b* The currently used vaccine viruses are B/Shanghai/361/2002, B/Jiangsu/10/2003 and B/Jilin/20/2003.

<http://www.who.int/csr/disease/influenza/vaccinerecommendations1/en/>

[www.emea.eu.int](http://www.emea.eu.int)

## ***Northern Hemisphere Influenza Vaccine for the 2006/2007 Season***

The members of the WHO Collaborating Centres on Influenza recommended that influenza vaccines for the 2006/2007 influenza season in the Northern Hemisphere contain the following strains:

- an A/New Caledonia/20/99(H1N1)-like virus;
- an A/Wisconsin/67/2005 (H3N2)-like virus<sup>a</sup>;
- a B/Malaysia/2506/2004-like virus<sup>b</sup>

Candidate vaccine viruses include:

<sup>a</sup>A/Wisconsin/67/2005 (H3N2) and A/Hiroshima/52/2005

<sup>b</sup>B/Malaysia/2506/2004 virus and B/Ohio/1/2005

<http://www.who.int/csr/disease/influenza/recommendations2007north/en/index.html>

**Further information on influenza can be found on the [HPSC website](#)**

### **Acknowledgements**

HPSC, ICGP and NVRL wish to thank the sentinel GPs who have participated in the GP sentinel surveillance system and who have contributed towards this report

**This report was produced by Dr. Lisa Domegan & Dr. Joan O'Donnell, HPSC**