

# 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 11 2006 (13<sup>th</sup> to 19<sup>th</sup> March 2006)**

## Summary

During week 11 2006, influenza activity decreased in Ireland, with 55 influenza-like illness (ILI) cases reported by sentinel GPs. ILI rates decreased in all age groups during week 11 2006. Thirteen positive influenza specimens were detected by the NVRL during week 11 2006, seven influenza A and six influenza B. The latest information on avian influenza is available on the [HPSC website](#).

## Background

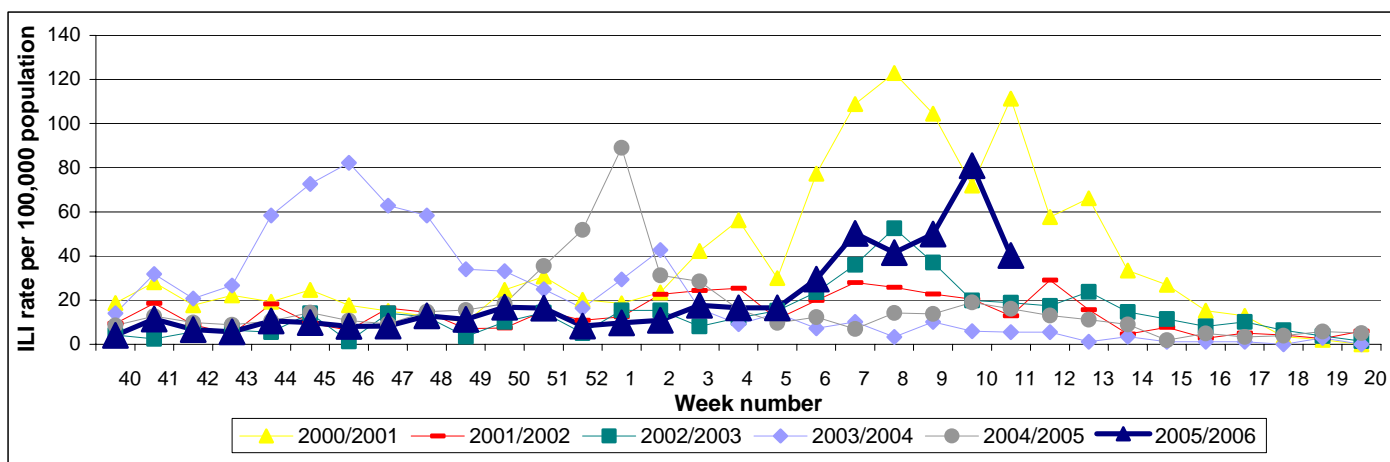
This is the sixth season of influenza surveillance using computerised sentinel general practices in Ireland. The Health Protection Surveillance Centre (HPSC) is working in collaboration with the Irish College of General Practitioners (ICGP), the National Virus Reference Laboratory (NVRL) and the Departments of Public Health on this sentinel surveillance project. Forty-four 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 & hospital admissions data.

## Results

### Clinical Data

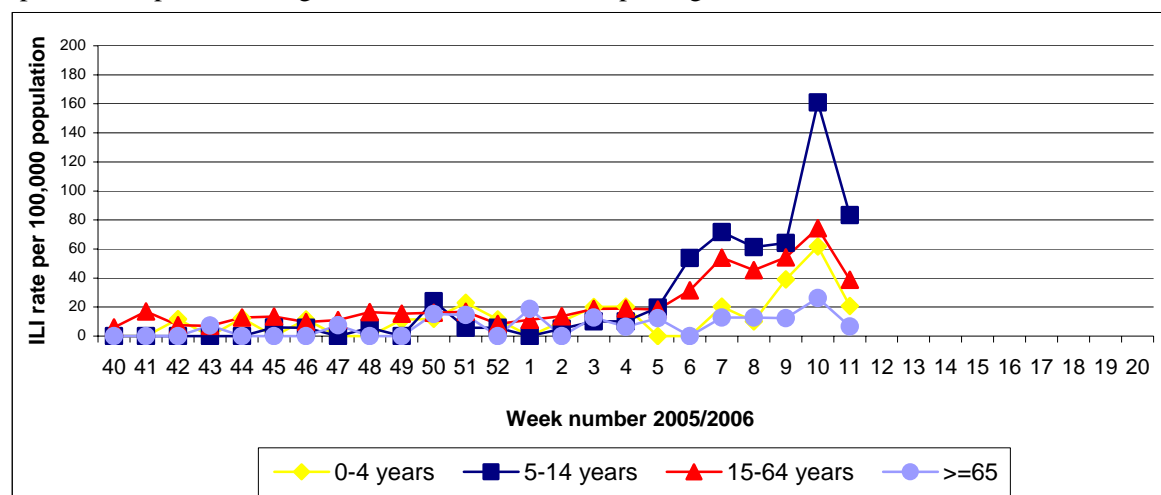
During week 11 2006, 55 ILI cases were reported by sentinel GPs, corresponding to an ILI consultation rate of 40.2 per 100,000 population, a significant decrease from the updated rate of 81.0 per 100,000 during week 10 2006 (figure 1).



**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 11 2006, ILI rates decreased in all age groups. ILI rates peaked in those aged 5-14 years, with 16 cases reported, corresponding to an ILI rate of 83.4 per 100,000 population. Two ILI cases were reported in the 0-4 year age group, corresponding to an ILI consultation rate of 20.6 per 100,000 population. Thirty-six ILI cases were reported in the 15-64 year age group (38.9 per 100,000 population) and one ILI case was reported in those aged 65 years or older (6.6 per 100,000 population) during week 11 2006 (figure 2). Thirty-eight of 44 (86.4%) sentinel general practices reported during week 11 2006, with 19 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 29 specimens taken by sentinel GPs during week 11 2006, seven were positive for influenza A and six were positive for influenza B. The NVRL also tested 37 non-sentinel specimens, taken during week 11 2006, mainly from hospitalised paediatric cases, none were positive for influenza virus. To date this season, the NVRL has detected 120 positive influenza specimens, 54 influenza A (14 A H3 & 40 A untyped) and 66 influenza B (table 1). 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 11 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.

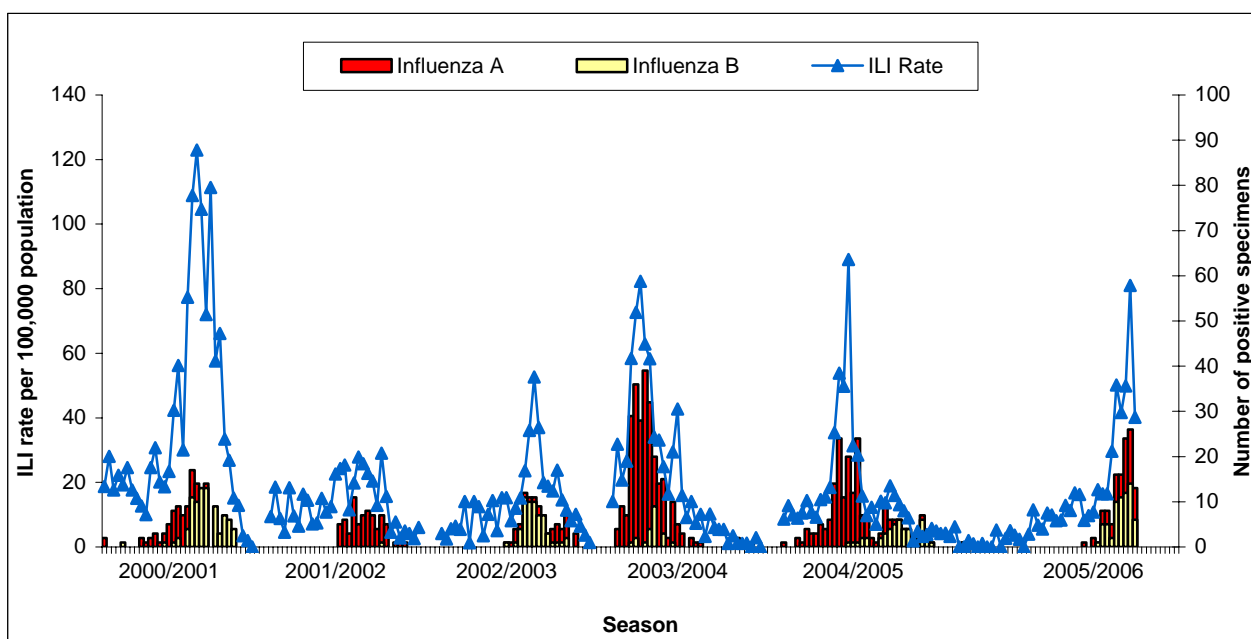
**Table 1:** Total number of sentinel and non-sentinel\* respiratory specimens and positive results for week 11 2006 and the 2005/2006 season to date.

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
<b>11 2006</b>	Sentinel	29	13	44.8	7	6	NA
	Non-Sentinel	37	0	0.0	0	0	2
	<b>Total</b>	<b>66</b>	<b>13</b>	<b>19.7</b>	<b>7</b>	<b>6</b>	<b>2</b>
<b>40 2005 – 11 2006</b>	Sentinel	303	93	30.7	36	57	NA
	Non-Sentinel	1409	27	1.9	18	9	366
	<b>Total</b>	<b>1712</b>	<b>120</b>	<b>7.0</b>	<b>54</b>	<b>66</b>	<b>366</b>

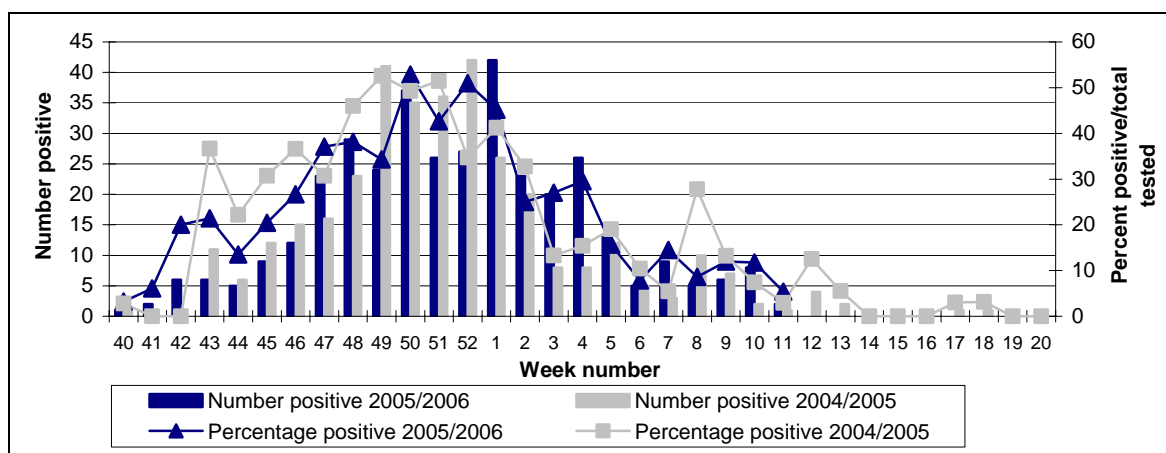
\*Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case.

**Table 2:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by HSE-Health Area for week 11 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 11 2006			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	2	3	5	32	27	59
HSE-MA	1	0	1	1	2	3
HSE-MWA	1	0	1	4	7	11
HSE-NEA	1	0	1	3	3	6
HSE-NWA	0	0	0	5	4	9
HSE-SEA	1	1	2	5	11	16
HSE-SA	0	2	2	3	7	10
HSE-WA	1	0	1	1	5	6
<b>Total</b>	<b>7</b>	<b>6</b>	<b>13</b>	<b>54</b>	<b>66</b>	<b>120</b>



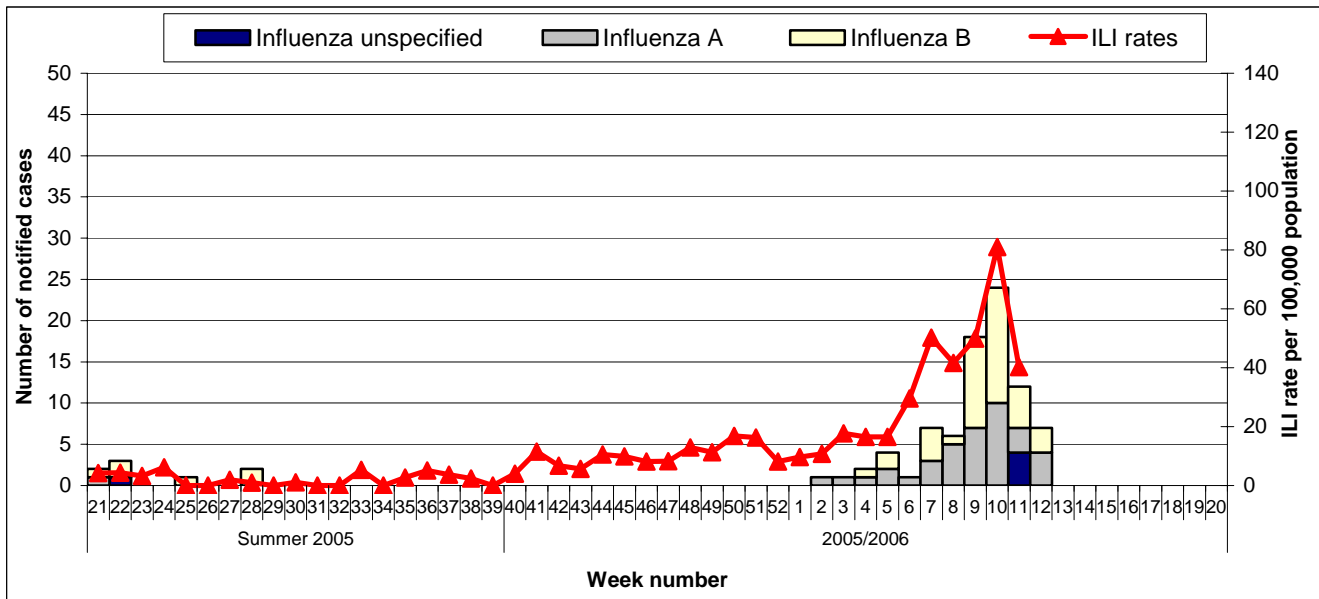
**Figure 3:** ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005 seasons, summer 2005 and the 2005/2006 season.



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

### Weekly Influenza Notifications

Three influenza A cases (one from HSE-NWA, one from HSE-SEA and one from HSE-SA), five influenza B cases (one from HSE-NEA, one from HSE-SEA and three from HSE-SA) and four influenza cases with type unspecified (from HSE-MA) were notified to HPSC during week 11 2006. Four influenza A cases (one from HSE-MA, one from HSE-SEA and two from HSE-SA) and three influenza B cases (one from HSE-SEA and two from HSE-SA) were notified to HPSC during week 12 2006. 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 23/03/2006 at 02:14 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

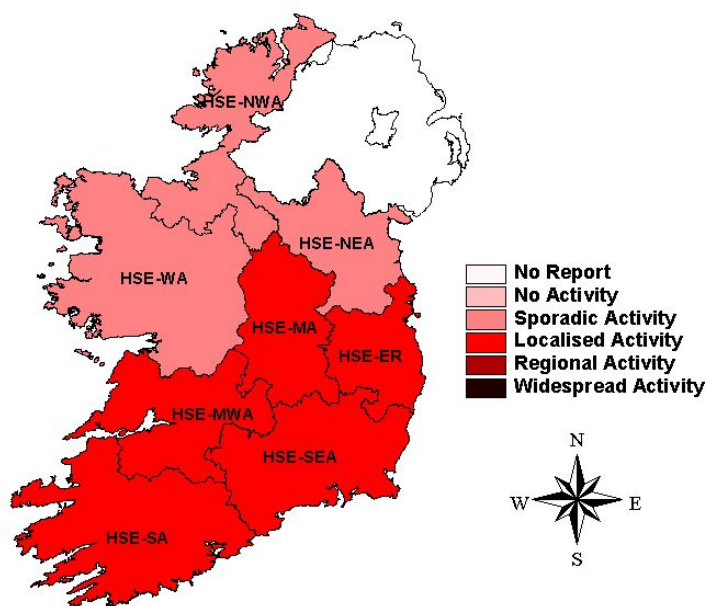
Each Department of Public Health has established one sentinel hospital in each HSE-Health Area, to report total hospital admissions, accident and emergency admissions and respiratory admissions data on a weekly basis. Increased respiratory admissions were reported from a sentinel hospital in HSE-ER during week 10 2006. Total hospital admissions were at increased levels in sentinel hospitals in HSE-NEA during week 10 2006 and in HSE-SEA during weeks 9 and 10 2006. Increased accident and emergency admissions were reported from a sentinel hospital in HSE-WA during week 10 2006.

### 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 one sentinel secondary school in HSE-ER and one sentinel primary school in HSE-NEA during week 11 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. Five HSE-Health Areas/Region (HSE-ER, -MA, -SEA, -SA and -MWA) reported localised influenza activity and three HSE-Health Areas (HSE-WA, -NWA and -NEA) reported sporadic influenza activity during week 10 (figure 6).



**Figure 6:** Map of influenza activity by HSE-Health Area during week 10 2006

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

The combined ILI and clinical influenza consultation rate in Northern Ireland during week 11 2006 was 109.4 per 100,000 population, an increase from the updated rate of 96.8 per 100,000 in week 10 2006. One influenza A positive sentinel specimen and four influenza A and two influenza B positive non-sentinel specimens were detected during week 11 2006. <http://www.cdscni.org.uk>

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

Data for week 11 2006 was not available at the time of publication of this report. ILI consultation rates continued to decrease from the updated rate of 24.2 per 100,000 in week 9 2006 to 22.0 per 100,000 in week 10 2006, according to data reported from 74 GP practices in England and Wales representing a population of 650,000. GP consultation rates for ILI in Scotland increased slightly from 13.8 in week 9 2006 to 17.5 per 100,000 in week 10 2006. Consultation rates for influenza in Wales decreased from 6.2 per 100,000 in week 9 2006 to 2.76 per 100,000 in week 10 2006. To date this season, 692 ILI outbreaks have been reported to the HPA Centre for Infections at Colindale in London. During week 10 2006, the Centre for Infections Respiratory Virus Unit (RVU) reported 10 influenza A and one influenza B positive detections. Since week 40 2005, 346 influenza viruses have been further characterised by RVU; 22 influenza A/New Caledonia/20/1999 (H1N1)-like, 15 influenza A/California/7/2004 (H3N2)-like, one influenza A/Wellington/1/04(H3N2)-like; 305 influenza B viruses antigenically similar to influenza B/Hong Kong/330/2001 and three 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***

Clinical influenza activity increased during week 10 2006 compared to week 9 2006 in Denmark, Germany, Ireland, Poland and Spain. In England, France, Latvia, Lithuania, Luxembourg, the Netherlands and Norway, clinical influenza activity continued to decline in week 10 2006. A number of countries (Austria, Estonia, Hungary, Portugal, Romania, Slovakia, Slovenia and Wales) have reported very low levels of clinical influenza activity so far this season. The highest consultation rates for ILI or acute respiratory infection were reported in the 0-4 and 5-14 age groups. Belgium, Denmark, France, the Netherlands, Norway and Switzerland reported widespread influenza activity during week 10 2006. Germany and Spain reported regional activity, seven countries reported local activity and nine countries reported sporadic activity. The total number of respiratory specimens collected by sentinel physicians in week 10 2006 was 1146, of which 302 (26%) were positive for influenza virus: 137 (45%) A and 165 (55%) B. In addition, 334 non-sentinel specimens tested positive for influenza virus: 114 (34%) A and 220 (66%) B. Based on (sub)typing data of all influenza virus detections from sentinel and non-sentinel sources up to week 10 2006 (N=5628), 1877 (33%) were influenza A and 3751 (67%) were influenza B. Of the total influenza A virus detections (N=1877), 1263 (67%) were A (unsubtyped), 322 (17%) were A (H1) and 292 (16%) were A (H3). Based on the characterisation data of all influenza virus detections up to week 10 2006, 829 have been antigenically and/or genetically characterised: 220 were A/New Caledonia/20/99 (H1N1)-like, 87 were A/California/7/2004 (H3N2)-like, 440 were B/Malaysia/2506/2004-like (B/Victoria/2/87-lineage) and 82 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 10 2006, overall influenza activity in Canada increased slightly from the previous week. Widespread influenza activity was reported in parts of Ontario, Alberta and British Columbia and localised activity was reported in some regions of the Atlantic Provinces, the Prairies, Ontario and British Columbia. In week 10 2006, the ILI consultation rate was calculated as 33 per 1000 patient visits which decreased from the previous week and is within the expected range for this week. ILI consultations were highest among the 5-19 year-olds in most of the regions reporting ILI activity. During week 10 2006, 3087 specimens were tested for influenza of which 521 (17%) were positive for influenza virus. In the current season to date, a mix of influenza A (53%) and influenza B (47%) viruses has been detected in Canada. To date, 100% of the influenza A strains characterised have matched those included in the 2005/2006 Canadian vaccine. However, only 2% of the influenza B characterisations have matched the current vaccine strain. The remaining 98% of the influenza B strains characterised have been B/Hong Kong/330/2001-like and B/Malaysia/2506/2004-like viruses, which belong to a separate lineage of viruses not covered by this year's vaccine. <http://www.phac-aspc.gc.ca/fluwatch/index.html>

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

During week 10 2006, influenza activity increased in the United States. The proportion of patient visits to sentinel providers for ILI was above the national baseline. The proportion of deaths attributed to pneumonia and influenza was below the baseline level. Twenty-five states reported widespread influenza activity; 16 states reported regional influenza activity; 3 states, New York City, and the District of Columbia reported local influenza activity; and 6 states and Puerto Rico reported sporadic influenza activity. During week 10, WHO and NREVSS laboratories reported 3,548 specimens tested for influenza viruses, 917 (25.8%) of which were positive: 223 A (H3N2), 43 A (H1N1), 430 A unsubtyped and 221 B viruses. CDC has antigenically characterised 395 influenza viruses since October 1 2005. Of the 325 influenza A (H3N2) viruses, 261 were characterised as A/California/07/2004-like, which is the influenza A (H3N2) component recommended for the 2005/2006 influenza vaccine, and 64 viruses showed reduced titers with antisera produced against A/California/07/2004. Of the 64 low-reacting viruses, 38 were tested with antisera produced against A/Wisconsin/67/2005 (the H3N2 component selected for the 2006/2007 vaccine), and 34 are A/Wisconsin-like. The hemagglutinin proteins of 16 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 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 Israel (1 A H1, 4 A H3, 2 A untyped & 11 B) and Tunisia (3 A H1 & 1 B) and sporadic activity was reported in China (83 A H1, 4 A H3, 5 A untyped & 60 B), Madagascar (5 A H3) and Mongolia during week 10 2006. No influenza activity was reported in the Philippines during week 10 2006. Eleven influenza A (H1), four influenza A (H3) and three influenza B virus detections were reported from Japan during week 10 2006. <http://gamapserver.who.int/GlobalAtlas/home.asp>

## ***Avian Influenza***

As of March 21<sup>st</sup>, there have been 184 confirmed human cases of influenza A (H5N1) and 103 fatalities 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 eleven EU countries: Austria, 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**