

# 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 8 2006 (20<sup>th</sup> to 26<sup>th</sup> Feb 2006)**

## Summary

During week 8 2006, influenza activity remained at increased levels in Ireland, with 58 influenza-like illness cases reported by sentinel GPs. Sixteen positive influenza specimens were detected by the NVRL during week 8, six influenza A and ten influenza B. The latest information on avian influenza is available on the [HPSC website](#).

## Background

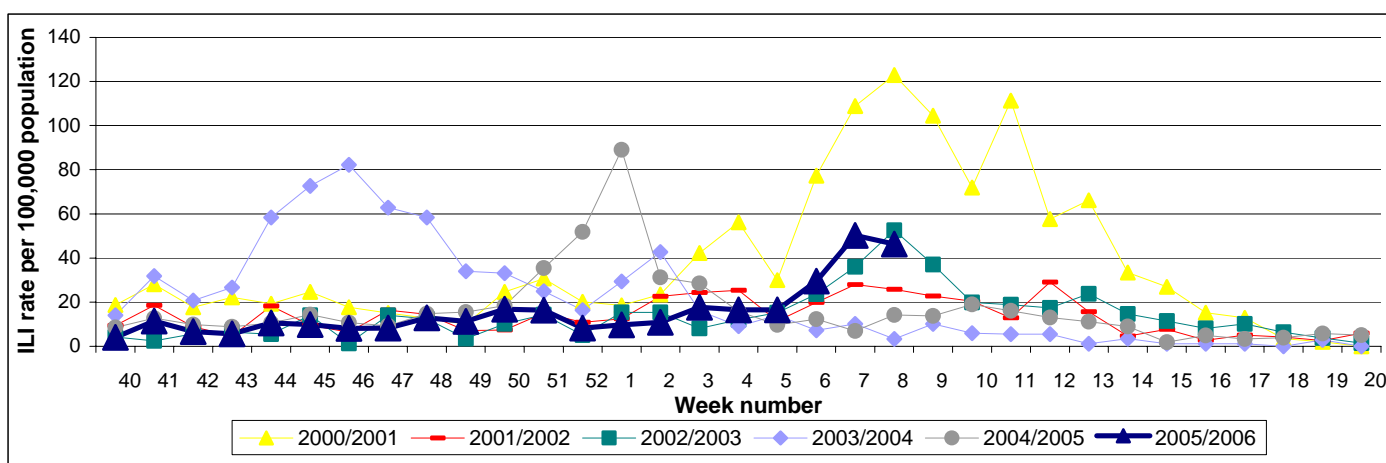
This is the sixth season of influenza surveillance using computerised sentinel general practices in Ireland. The Health Protection Surveillance Centre (HPSC) is working in collaboration with the Irish College of General Practitioners (ICGP), the National Virus Reference Laboratory (NVRL) and the Departments 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

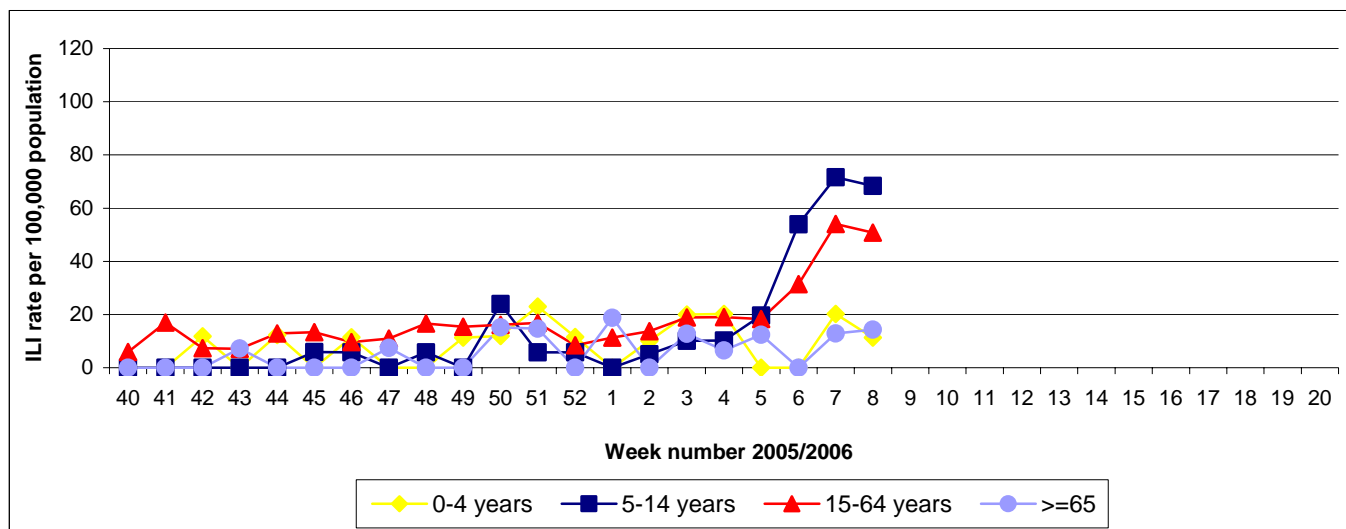
During week 8 2006, 58 ILI cases were reported by sentinel GPs, corresponding to an ILI consultation rate of 46.4 per 100,000 population, a slight decrease from the updated rate of 50.2 per 100,000 during week 7 2006 (figure 1).



**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 8 2006, ILI rates peaked in those aged 5-14 years, with 12 cases reported, corresponding to an ILI rate of 68.4 per 100,000 population. One ILI case was reported in the 0-4 year age group, corresponding to an ILI consultation rate of 11.3 per 100,000 population. Forty-three ILI cases were reported in the 15-64 year age group (50.8 per 100,000 population) and two ILI cases were reported in those aged 65 years or older (14.4 per 100,000 population) during week 8 2006 (figure 2). Thirty-seven of 44 (84.1%) sentinel general practices reported during week 8 2006, with 22 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 22 specimens taken by sentinel GPs during week 8 2006, three were positive for influenza A and nine were positive for influenza B. The NVRL also tested 58 non-sentinel specimens, taken during week 8 2006, mainly from hospitalised paediatric cases, three were positive for influenza A and one was positive for influenza B. To date this season, the NVRL has detected 57 positive influenza specimens, 23 influenza A (8 A H3 & 15 A untyped) and 34 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. Five non-sentinel specimens tested positive for respiratory syncytial virus (RSV) during week 8 2006 (figure 4). The percentage of RSV positive respiratory specimens peaked in week 50 2005. RSV causes respiratory symptoms similar to influenza, and is a frequent cause of bronchiolitis in children.

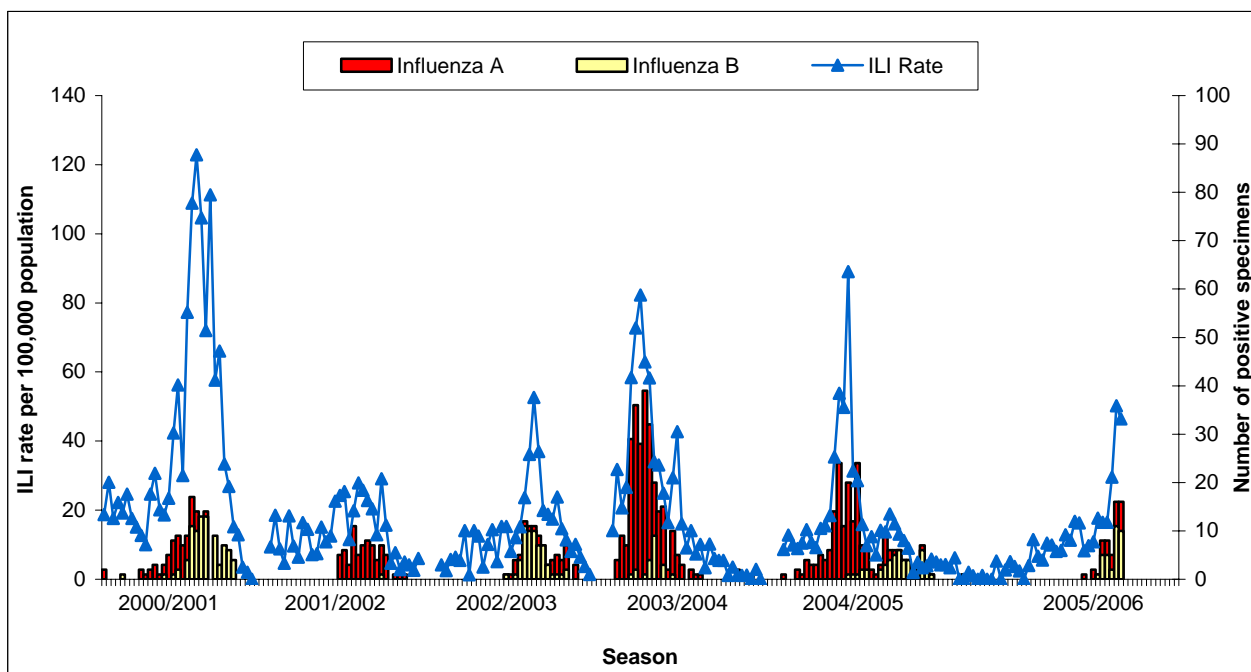
**Table 1:** Total number of sentinel and non-sentinel\* respiratory specimens and positive results for week 8 2006 and the 2005/2006 season to date.

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
<b>8 2006</b>	Sentinel	22	12	54.5	3	9	NA
	Non-Sentinel	58	4	6.9	3	1	5
	<b>Total</b>	<b>80</b>	<b>16</b>	<b>20.0</b>	<b>6</b>	<b>10</b>	<b>5</b>
<b>40 2005 – 8 2006</b>	Sentinel	197	42	21.3	12	30	NA
	Non-Sentinel	1254	15	1.2	11	4	350
	<b>Total</b>	<b>1451</b>	<b>57</b>	<b>3.9</b>	<b>23</b>	<b>34</b>	<b>350</b>

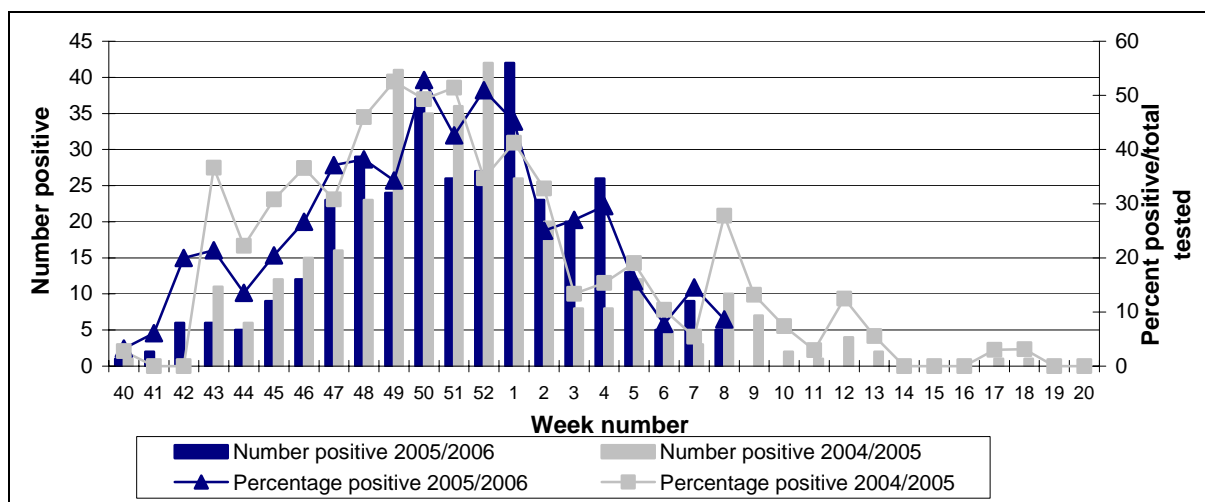
\*Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case.

**Table 2:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by HSE-Health Area for week 8 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 8 2006			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	6	6	12	17	15	32
HSE-MA	0	0	0	0	1	1
HSE-MWA	0	1	1	0	3	3
HSE-NEA	0	0	0	0	1	1
HSE-NWA	0	1	1	4	4	8
HSE-SEA	0	0	0	1	5	6
HSE-SA	0	1	1	1	2	3
HSE-WA	0	1	1	0	3	3
<b>Total</b>	<b>6</b>	<b>10</b>	<b>16</b>	<b>23</b>	<b>34</b>	<b>57</b>



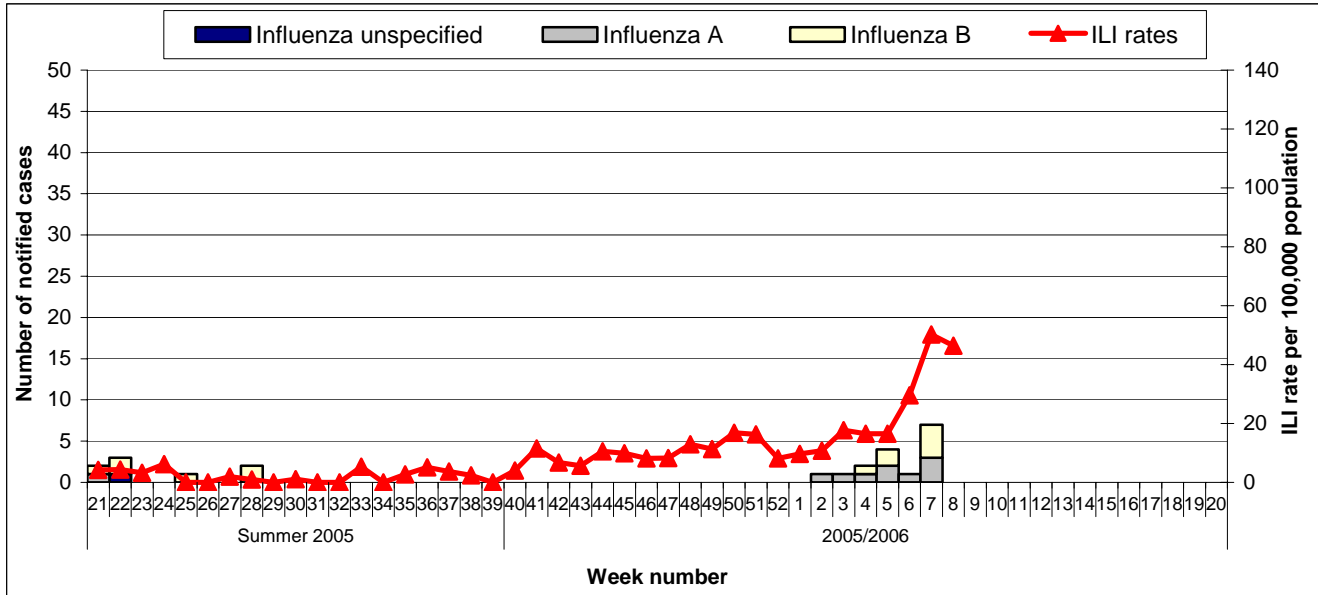
**Figure 3:** ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005 seasons, summer 2005 and the 2005/2006 season.



**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 (from HSE-ER) and four influenza B cases (two from HSE-ER, one from HSE-MA and one from HSE-MWA) were notified to HPSC during week 7 2006. It should be noted that influenza notifications reported through the weekly notification system may also be reported by the NVRL. 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 01/03/2006 at 09:57 GMT.

### Mortality Data

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

### Outbreak Reports

One ILI outbreak was reported to HPSC during week 4 2006 in a nursing home in HSE-NEA. The main symptoms experienced were headache, malaise, nasal symptoms and fever. All residents had received the 2005/2006 influenza vaccine. This is the only ILI/influenza outbreak reported to HPSC to date this season.

### Hospital Admissions

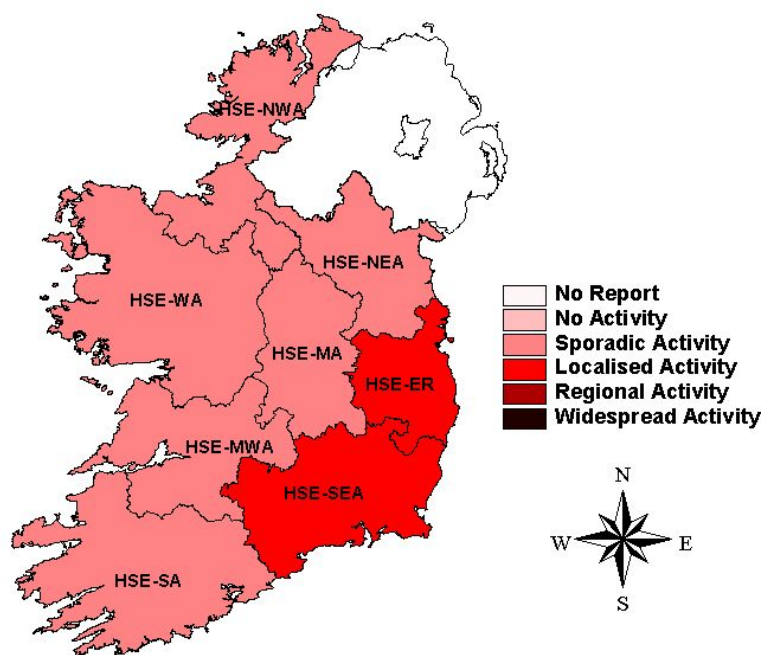
Each Department of Public Health has established one sentinel hospital in each HSE-Health Area, to report total hospital admissions, accident and emergency admissions and respiratory admissions data on a weekly basis. There was a slight increase in respiratory admissions in a sentinel hospital in HSE-NEA during week 7 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 some sentinel primary schools in HSE-ER and -SEA during week 7. Most schools were on their midterm holidays during week 7 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, laboratory confirmed influenza cases and influenza/ILI outbreaks. HSE-ER and HSE-SEA reported localised influenza activity during week 7 and the remaining six HSE-Health Areas reported sporadic influenza activity (figure 6).



**Figure 6:** Map of influenza activity by HSE-Health Area during week 7 2006

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

The combined ILI and clinical influenza consultation rate in Northern Ireland during week 8 2006 was 105.8 per 100,000 population, an increase from the rate of 93.0 per 100,000 in week 7 2006. Three influenza B positive sentinel specimens, one influenza B positive non-sentinel specimen and 30 RSV positive non-sentinel specimens were detected during week 8 2006. <http://www.cdscni.org.uk>

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

In England, ILI consultation rates started to decrease from the updated rate of 42.2 per 100,000 in week 7 2006 to 30.2 per 100,000 in week 8 2006. These rates only just remain within the level of 'normal seasonal' activity range between 30-200 per 100,000 population. ILI rates decreased significantly in every age group. In Wales, the consultation rate for influenza decreased from 14.0 per 100,000 in week 7 2006 to 19.4 per 100,000 in week 8 2006. GP consultation rates for ILI in Scotland remained unchanged at 13.3 in week 8 2006 compared to 12.9 per 100,000 in week 7 2006. To date this season, 649 ILI outbreaks have been reported to the UK HPA Centre for Infections (CfI), these outbreaks were associated with schools (primary and secondary), colleges, nurseries and other institutions throughout England and Wales. The number of new outbreaks continues to decline. Forty-six outbreaks have been confirmed with influenza B infections. During week 8 2006, 25 samples referred to the CfI Respiratory Virus Unit (RVU) from community sources tested positive for influenza B and 11 samples for influenza A. Since week 40 2005, 181 influenza viruses have been further characterised by RVU; nine influenza A/New Caledonia/20/1999 (H1N1)-like, seven influenza A/California/7/2004 (H3N2)-like; 163 influenza B

viruses antigenically similar to influenza B/Hong Kong/330/2001 and two influenza B/Shanghai/361/2002-like virus. [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***

During week 7 2006, large increases in clinical influenza activity were reported in Latvia, Lithuania, the Netherlands and Norway. Whilst there was increased influenza activity in many countries during week 7, the overall situation in Europe was heterogeneous, with a number of countries reporting very low levels of clinical influenza activity or no influenza activity. Since the start of the season, more influenza B viruses (69%) have been reported than influenza A viruses (31%) for Europe as a whole. The total number of respiratory specimens collected by sentinel physicians in week 7 2006 was 1149, of which 236 (21%) were positive for influenza virus (166 influenza B and 70 influenza A). In addition, 2244 non-sentinel specimens were analysed, of which 341 (15%) tested positive for influenza virus (216 influenza B and 125 influenza A). Based on (sub)typing data of all influenza virus detections from sentinel and non-sentinel sources up to week 7 2006 (N=2777), 1903 (69%) were influenza B and 874 (31%) were influenza A. Of the total influenza A virus detections (N=874), 589 (67%) were influenza A unsubtype, 161 (18%) were A(H1) (46 were A H1N1) and 124 (14%) were A(H3) (50 were A H3N2). Based on the characterisation data of all influenza virus detections up to week 7 2006, 320 have been antigenically and/or genetically characterised: 58 were A/New Caledonia/20/99 (H1N1)-like, 43 were A/California/7/2004 (H3N2)-like, 181 were B/Malaysia/2506/2004-like (B/Victoria/2/87-lineage) and 38 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). The antigenic match between the majority of the European B virus isolates and the B virus vaccine component has therefore been poor. However, serological evidence suggests that the 2005/2006 vaccine will provide reduced but still valuable protection against B/Malaysia/2506/2004-like viruses.

<http://www.eiss.org/index.cgi>

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

During week 7, widespread influenza activity was reported in five influenza surveillance regions and localised activity was reported in 10 regions in Canada. The ILI consultation rate was calculated as 29 per 1000 patient visits in week 7, which is within the expected range for this week. During week 7, the Public Health Agency of Canada received 2928 reports of laboratory tests for influenza of which 336 (11%) were positive for influenza virus: 193 influenza A and 143 influenza B. 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 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 7, 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. Seventeen states and New York City reported widespread influenza activity; 18 states reported regional influenza activity; 10 states reported local influenza activity; 4 states and Puerto Rico reported sporadic influenza activity; and the District of Columbia reported no activity. During week 7, WHO and NREVSS laboratories reported 2,864 specimens tested for influenza viruses, 437 (15.3%) of which were positive: 116 A (H3N2) viruses, 6 A (H1N1), 288 A (unsubtyped) and 27 B viruses. CDC has antigenically characterised 253 influenza viruses (208 A H3N2, 14 A H1 & 31 B) this season. Of the 208 A (H3N2) viruses, 168 were characterised as A/California/07/2004-like, and 40 viruses showed reduced titers with antisera produced against A/California/07/2004. Of the 40 low-reacting viruses, 14 were tested with antisera produced against A/Wisconsin/67/2005 (the H3N2 component selected for the 2006/2007 vaccine), and 10 are A/Wisconsin-like. The hemagglutinin proteins of 12 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. Nineteen of the influenza B viruses that have been characterised belong to the B/Yamagata lineage. Twelve 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***

During week 7 2006, widespread influenza activity was reported in Tunisia (1 A H1 & 8 A H3). Sporadic influenza activity was reported in China (61 A H1, 6 A H3, 3 A unsubtype & 49 B) and Mongolia. Eleven influenza A



(unsubtyped) positive specimens were detected in Iran and 11 A (H1) and 8 A (H3) positive specimens were detected in Japan during week 7. No influenza activity was reported in Argentina or Chile during week 7. <http://gamapserver.who.int/GlobalAtlas/home.asp>

### ***Avian Influenza***

As of February 27<sup>th</sup>, there have been 173 confirmed human cases of influenza A (H5N1) and 93 fatalities reported to WHO. The World Organisation for Animal Health (OIE) and the European Centre for Disease Prevention and Control (ECDC) have reported influenza A (H5) in wild birds in several EU countries: Austria, France, Germany, Greece, Hungary, Italy and Slovenia. 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 Candidate vaccine viruses are being developed (for further information please see WHO update at <http://www.who.int/influenza>)*

*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**