

# 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 5 2006 (30<sup>th</sup> Jan to 5<sup>th</sup> Feb 2006)**

## Summary

During week 5 2006, influenza activity remained at low levels in Ireland, with 22 influenza-like illness cases reported by sentinel GPs. Eight positive influenza specimens (3 A & 5 B) were detected by the NVRL during week 5. Influenza activity in Europe remains low but is gradually increasing.

The WHO has confirmed highly pathogenic H5N1 avian influenza in domestic birds in northern Nigeria, marking the further geographical spread of this virus. Further information on avian influenza is available on the HPSC website [www.hpsc.ie](http://www.hpsc.ie).

## 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-three 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 5 2006, 22 ILI cases were reported by sentinel GPs, corresponding to an ILI consultation rate of 16.1 per 100,000 population, remaining unchanged from the updated rate of 16.3 per 100,000 during week 4 2006 (figure 1).

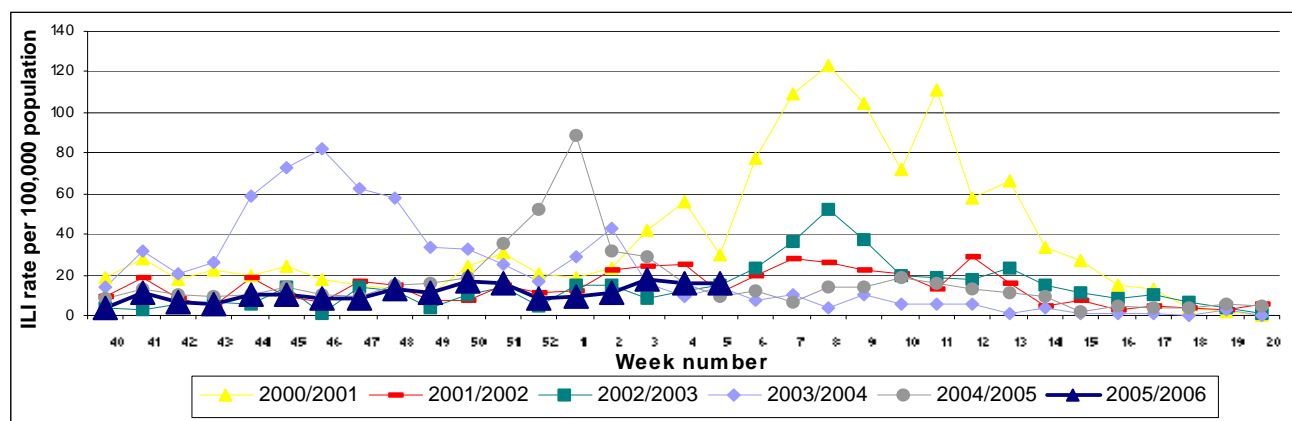
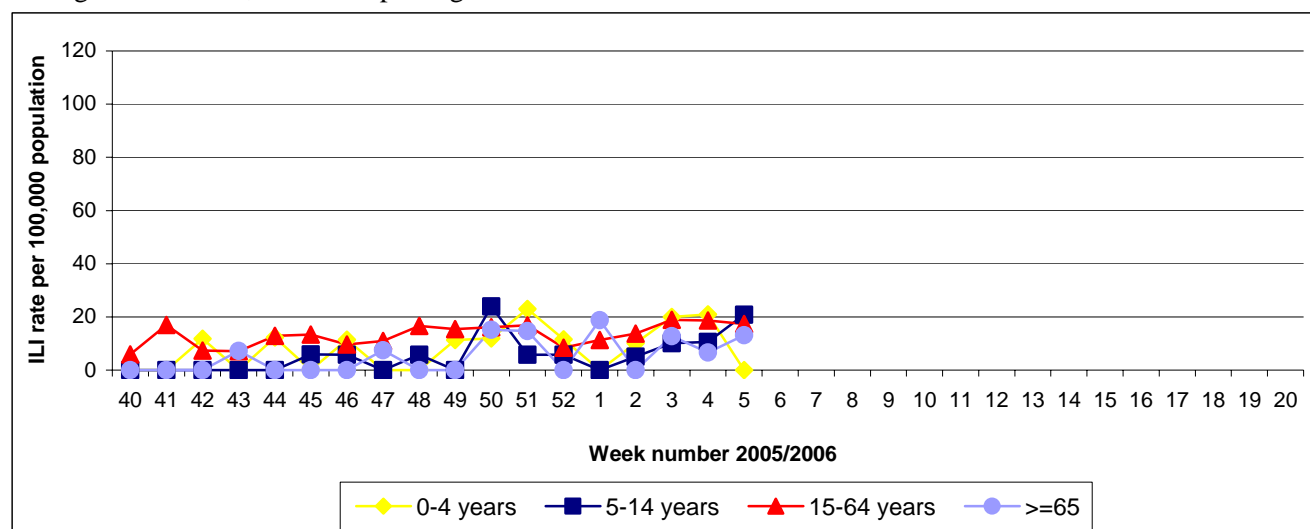


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005 & 2005/2006 influenza seasons.

## Results (continued)

During week 5 2006, ILI rates peaked in those aged 5-14 years, with four cases reported, corresponding to an ILI rate of 20.9 per 100,000 population. No ILI cases were reported in the 0-4 year age group. Sixteen ILI cases were reported in the 15-64 year age group (17.3 per 100,000 population) and two in those aged 65 years or older (13.2 per 100,000 population) during week 5 2006 (figure 2). Forty of 43 (93.0%) sentinel general practices reported during week 5 2006, with 14 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 eight specimens taken by sentinel GPs during week 5 2006, six were positive for influenza: one influenza A (unsubtyped) and five influenza B. The NVRL also tested 73 non-sentinel specimens, taken during week 5 2006, mainly from hospitalised paediatric cases, two were positive for influenza A (unsubtyped). To date this season, the NVRL has detected 20 positive influenza specimens, nine influenza A (5 A H3 & 4 A unsubtyped) and 11 influenza B (table 1). To date this season, influenza positive specimens have been detected in all HSE-Health Areas, with the exception of the North-Eastern Area (table 2).

Figure 3 compares the ILI consultation rates by season and the number of positive influenza specimens tested by the NVRL. Eleven non-sentinel specimens tested positive for respiratory syncytial virus (RSV) during week 5 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 5 2006 and the 2005/2006 season to date.

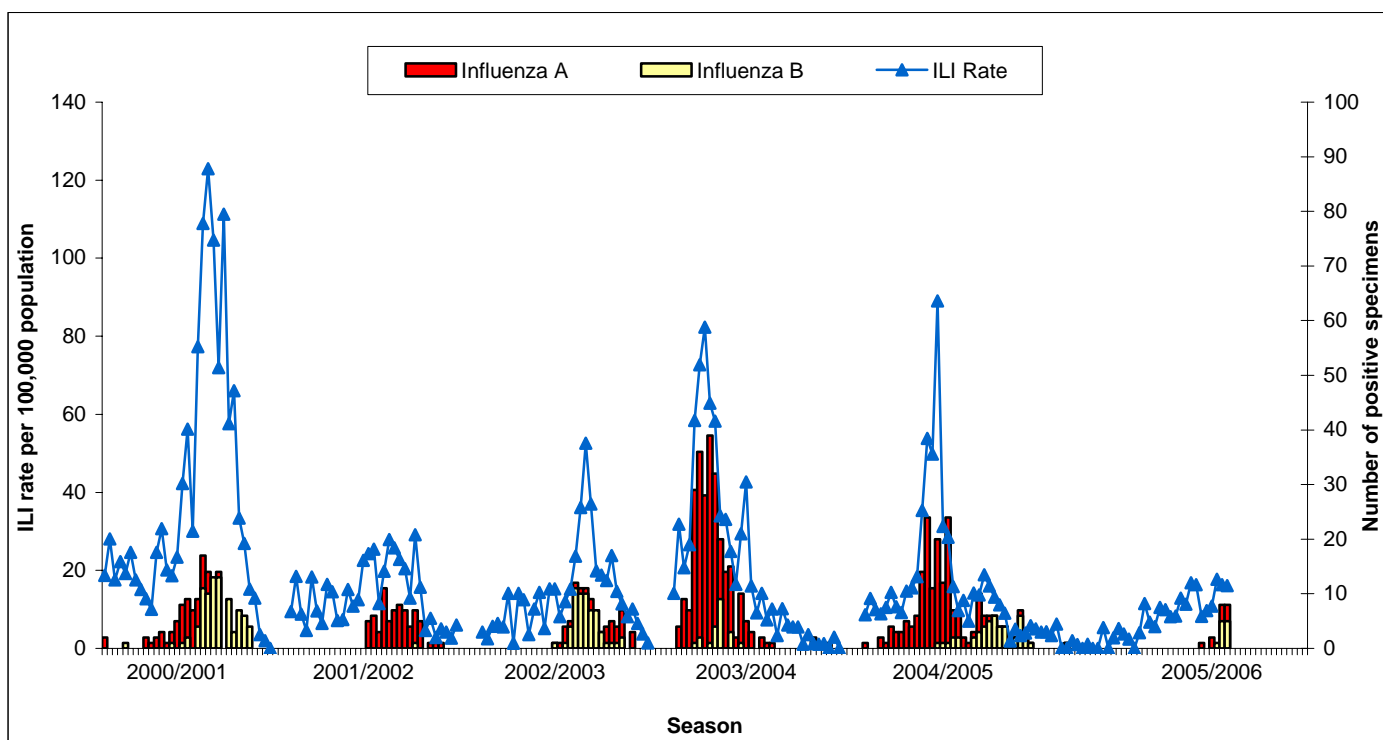
Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
<b>5 2006</b>	Sentinel	8	6	75.0	1	5	NA
	Non-Sentinel	73	2	2.7	2	0	11
	<b>Total</b>	<b>81</b>	<b>8</b>	<b>9.9</b>	<b>3</b>	<b>5</b>	<b>11</b>
<b>40 2005 – 5 2006</b>	Sentinel	140	12	8.6	4	8	NA
	Non-Sentinel	1060	8	0.8	5	3	329
	<b>Total</b>	<b>1200</b>	<b>20</b>	<b>1.7</b>	<b>9</b>	<b>11</b>	<b>329</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.

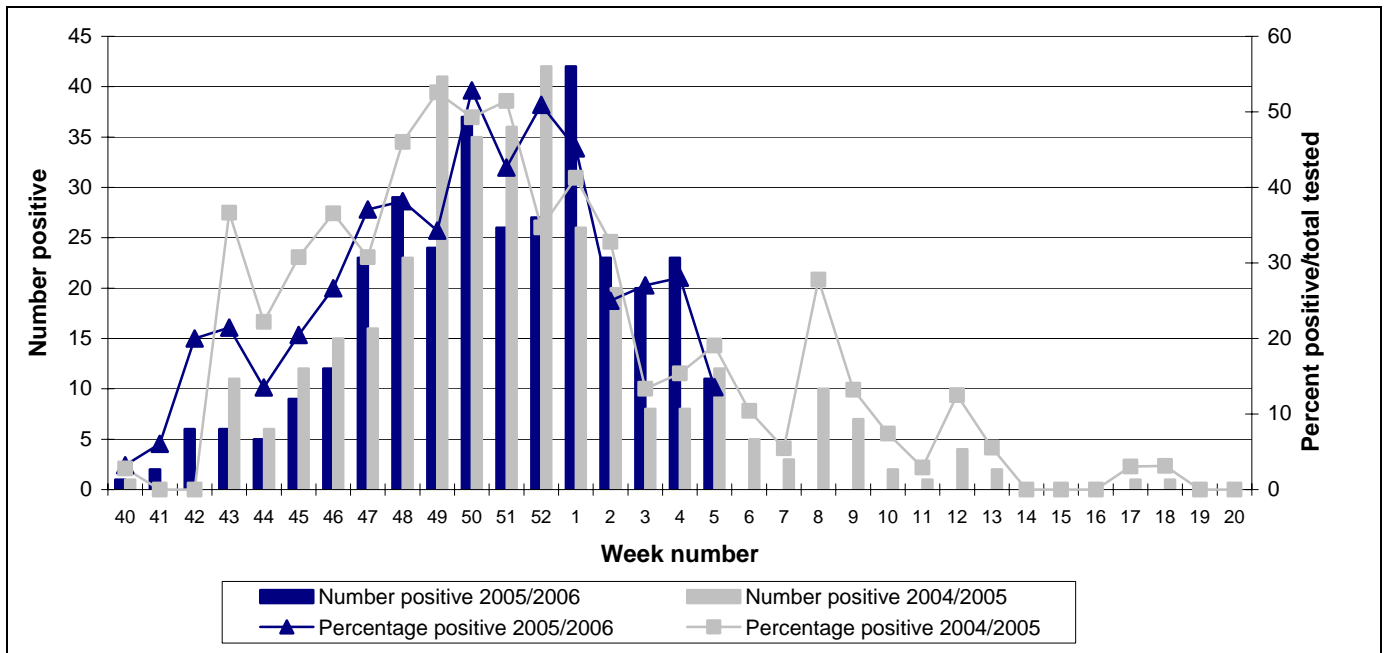
**Table 2:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by HSE-Health Area for week 5 2006 and the 2005/2006 season to date

	Week 5 2006			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	3	1	4	4	5	9
HSE-MA	0	0	0	0	1	1
HSE-MWA	0	0	0	0	1	1
HSE-NEA	0	0	0	0	0	0
HSE-NWA	0	2	2	4	2	6
HSE-SEA	0	1	1	0	1	1
HSE-SA	0	0	0	1	0	1
HSE-WA	0	1	1	0	1	1
<b>Total</b>	<b>3</b>	<b>5</b>	<b>8</b>	<b>9</b>	<b>11</b>	<b>20</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.



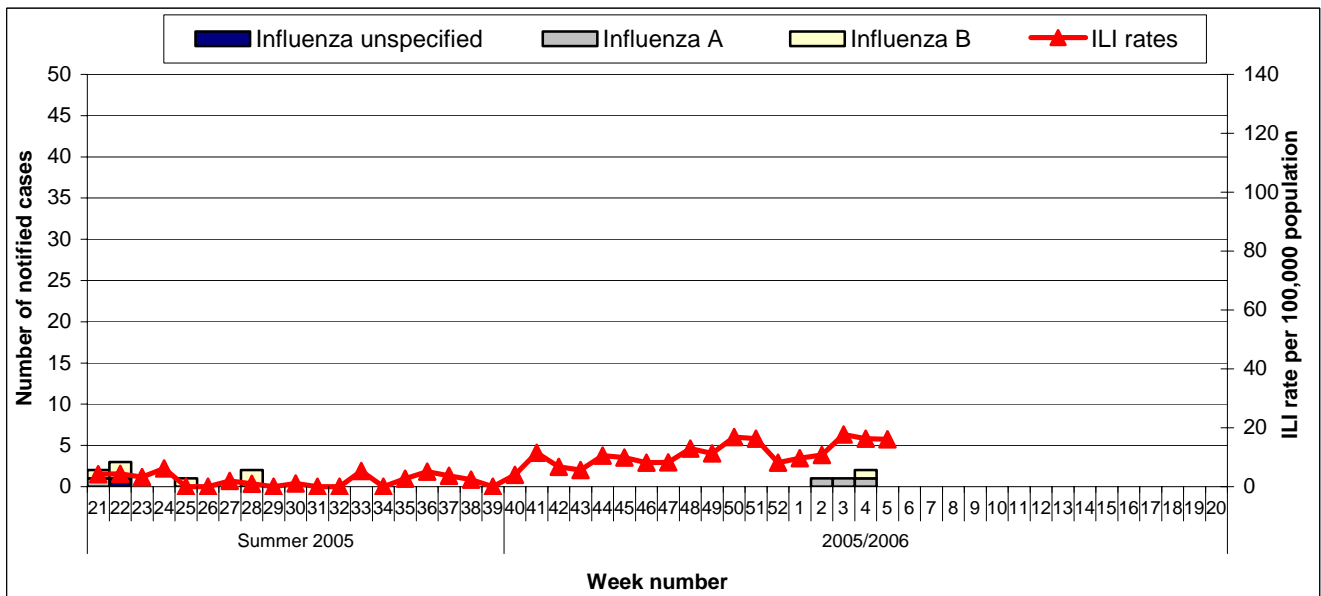
**Figure 3:** ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005 seasons, summer 2005 and the 2005/2006 season.



**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 4 2006, one influenza A case and one influenza B case were notified from HSE-ER to HPSC. 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 09/02/2006 at 02.21 GMT.

**Mortality Data**

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

**Outbreak Reports**

No influenza/ILI outbreaks were 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. A small increase in total hospital admissions in sentinel hospitals in HSE-MWA and HSE-MA were reported for week 4 2006.

### ***School Absenteeism***

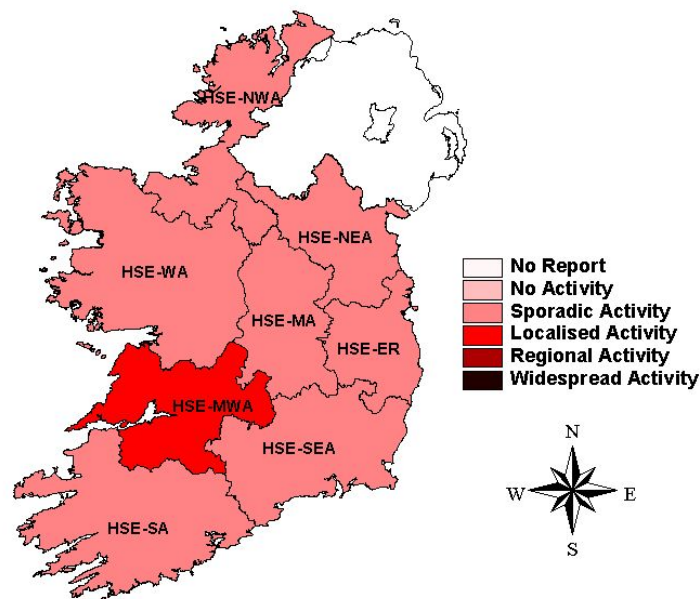
Sentinel primary and secondary schools have been established in each HSE-Health Area in close proximity to the sentinel GPs, reporting absenteeism data on a weekly basis. No significant increases in sentinel schools were reported to HPSC during week 4 2006.

### ***Nursing Homes***

Twenty-four ILI cases in a nursing home in HSE-NEA were reported during week 4 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. ILI activity increased significantly in HSE-MWA during week 4, with activity remaining at low levels in all other HSE-Health Areas. Seven HSE-Health Areas/Region reported sporadic influenza activity and HSE-MWA reported localised influenza activity during week 4 (figure 6).



**Figure 6:** Map of influenza activity by HSE-Health Area during week 4 2006

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

Fifty cases of ILI and eight cases of clinical influenza were reported by sentinel GPs in Northern Ireland during week 5 2006, corresponding to a combined rate of 43.3 per 100,000 population, a decrease from the updated rate of 54.1 per 100,000 in week 4 2006. Two sentinel specimens were positive for influenza B during week 5 2006. Sixty

non-sentinel specimens were tested during week 5, one was positive for influenza A (unsubtyped) and two were positive for influenza B. All three cases were hospitalised children under 14 years of age. <http://www.cdscni.org.uk>

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

Influenza activity has increased and is now above baseline levels in England and Wales for week 5 2006. GP consultations for ILI have increased from the updated rate of 17.9 per 100,000 in week 4 2006 to 38.2 per 100,000 in week 5 2006. The increase in RCGP consultation rates are particularly marked in children and young adults. In Wales and Scotland, the GP consultation rates for ILI only increased slightly, with levels remaining below baseline in Scotland. Up to week 5 2006, more than 320 outbreaks of ILI associated with schools and colleges throughout England and Wales have been reported to the HPA Centre for Infections. The majority of those affected were children, with few members of staff being affected. In those outbreaks where nasal and throat swabs were taken, influenza B was isolated. Further typing of isolates has shown that the majority of isolates were influenza B/HongKong/330/2001-like, which although drifted from the Shanghai strain in the current vaccine, is likely to be close enough to provide worthwhile protection for those who have been immunised. [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***

Influenza activity in Europe during week 4 2006 remained low but there are some signs that it may be increasing in France, the Netherlands and Norway. France and Norway reported regional influenza activity and an additional sixteen countries reported sporadic activity in week 4 2006. In France the dominant virus was influenza A(H1) and in Norway influenza B. Since the start of the season, more influenza B viruses (68%) have been reported than influenza A viruses (32%) for Europe as a whole, and the number of B virus detections per week is still increasing whereas the number of A virus detections per week is levelling off. The total number of respiratory specimens collected by sentinel physicians in week 4 2006 was 668, of which 62 (9.3%) were positive for influenza virus. Of these, 41 (66%) specimens tested positive for influenza B virus and 21 (34%) tested positive for influenza A virus. In addition, 1531 non-sentinel specimens were analysed and 163 (10.7%) tested positive for influenza virus. Of these, 134 (82%) were influenza B and 29 (18%) influenza A. Most of the B viruses in week 4 2006 were detected in England, Norway and Scotland. No human cases of influenza A (H5N1) virus have been reported in the 28 countries participating in the European Influenza Surveillance Scheme (EISS), which does not include Turkey. <http://www.eiss.org/index.cgi>

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

During week 4 2006, widespread influenza activity was reported in interior British Columbia and in central Alberta. Localised activity was reported in eight influenza surveillance regions: 3 in British Columbia, 2 in Alberta, and 3 in Ontario. Sporadic activity was reported in the Yukon and parts of British Columbia, Saskatchewan, Manitoba, Ontario, Quebec, Prince Edward Island and Newfoundland. The ILI consultation rate was calculated as 18 per 1000 patient visits in week 4, which is below the expected range for this week. During week 4 2006, the Public Health Agency of Canada received 2579 reports of laboratory tests for influenza, with 97 influenza A and 110 influenza B detections. To date, 100% of the influenza A strains characterised have matched those included in the 2005/2006 Canadian vaccine. However, only 5% of the influenza B characterisations have matched current vaccine strain. The remaining 95% 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 4 2006, 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. Five states reported widespread influenza activity; 21 states and New York City reported regional influenza activity; 13 states reported local influenza activity; and 11 states, the District of Columbia, and Puerto Rico reported sporadic influenza activity. During week 4, 2,854 specimens were tested for influenza viruses, 343 (12.0%) of which were positive: 117 A (H3N2), 2 A (H1N1), 212 A (unsubtyped) and 12 B viruses. CDC has antigenically characterised 166 influenza viruses [149 influenza A (H3N2), 6 influenza A (H1), and 11 influenza B viruses] this season. Of the 149 influenza A (H3N2) viruses, 123 were characterised as A/California/07/2004-like and 26 showed reduced titers with antisera produced against A/California/07/2004. The hemagglutinin proteins of 4 influenza A (H1) viruses were similar antigenically to the hemagglutinin of the vaccine strain A/New Caledonia/20/99, and 2 showed reduced titers with antisera produced against A/New Caledonia/20/99. Influenza B viruses currently circulating can

be divided into two antigenically distinct lineages represented by B/Yamagata/16/88 and B/Victoria/2/87 viruses.  
<http://www.cdc.gov/flu/>

### ***Influenza Activity Worldwide***

During week 4 2006, widespread influenza activity was reported in Japan (4 A H1 & 22 A H3). Localised activity was reported in Mongolia and sporadic activity was reported in Brazil, China (23 A H1, 2 A H3, 1 A untyped, & 25 B), Israel (1 A untyped) and Thailand (2 B). Two influenza A H1 positive specimens were detected in Iran and one influenza A H1 and one influenza A H3 positive specimens were detected in Madagascar during week 4 2006. <http://gamapserver.who.int/GlobalAtlas/home.asp>

### ***Avian Influenza***

The confirmation of highly pathogenic H5N1 avian influenza in domestic birds in northern Nigeria marks the further geographical spread of this virus. Although all evidence to date indicates that the virus does not spread easily from birds to humans, careful monitoring of the situation is warranted.

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)

**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**