

# 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 6 2006 (6<sup>th</sup> to 12<sup>th</sup> Feb 2006)

## Summary

During week 6 2006, influenza activity was at increased levels in Ireland, with 41 influenza-like illness cases reported by sentinel GPs. The increased ILI activity during week 6 mainly affected 5-14 year olds. The increase in ILI rates in 5-14 year olds was also reported in England, Norway, Spain and Switzerland during week 5. Four positive influenza specimens were detected by the NVRL during week 6, two influenza A and two influenza B. Influenza activity in Europe remains low but is gradually increasing. The latest information on avian influenza is available on the HPSC website [www.hpsc.ie](http://www.hpsc.ie).

ILI is defined as the sudden onset of symptoms with a temperature of 38°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.

## 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.

## Results

### Clinical Data

During week 6 2006, 41 ILI cases were reported by sentinel GPs, corresponding to an ILI consultation rate of 31.9 per 100,000 population, an increase from the updated rate of 17.2 per 100,000 during week 5 2006 (figure 1).

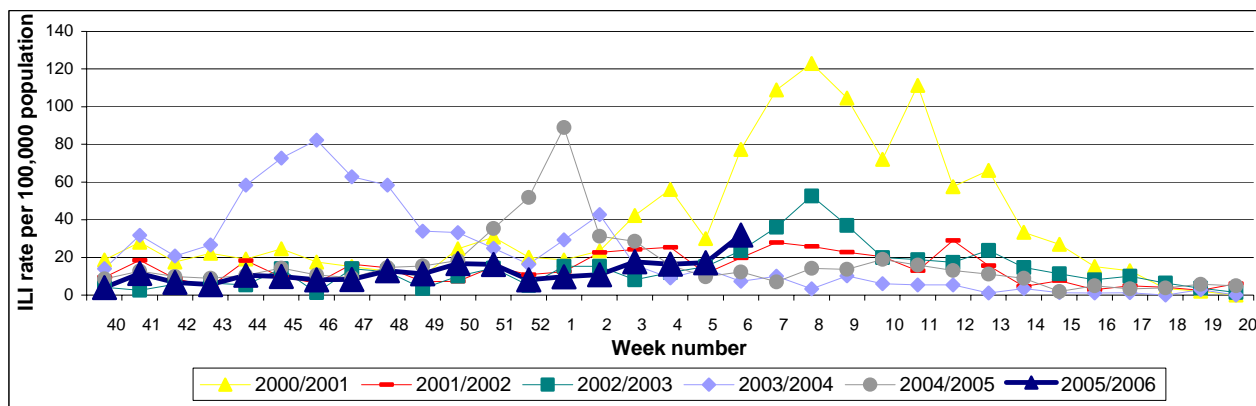
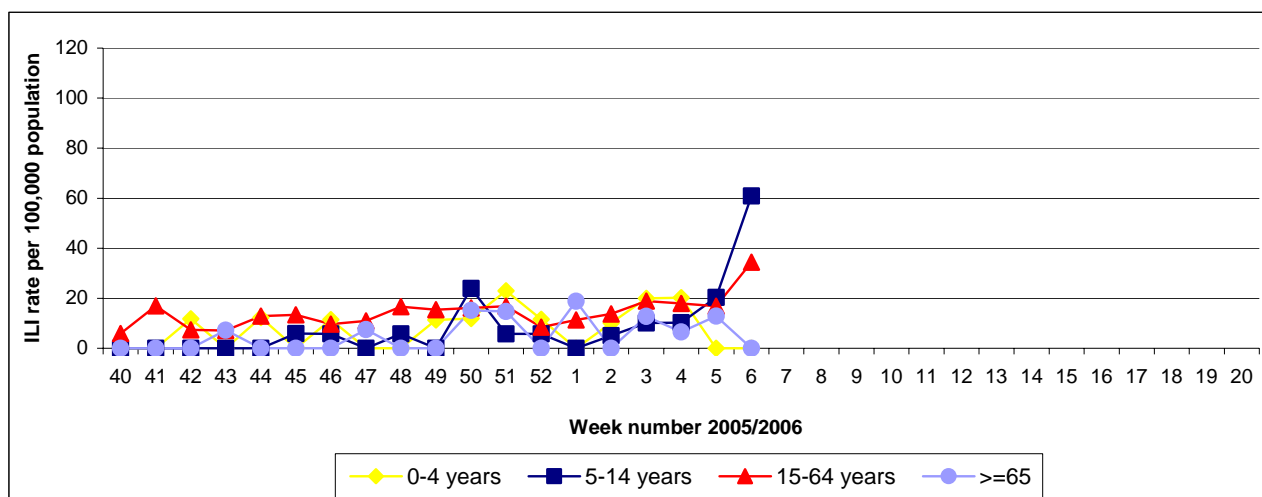


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005 & 2005/2006 influenza seasons.

## Results (continued)

During week 6 2006, ILI rates peaked in those aged 5-14 years, with 11 cases reported, corresponding to an ILI rate of 60.9 per 100,000 population. No ILI cases were reported in the 0-4 year age group or in those aged 65 years or older. Thirty ILI cases were reported in the 15-64 year age group (34.4 per 100,000 population) during week 6 2006 (figure 2). Forty-one of 43 (95.3%) sentinel general practices reported during week 6 2006, with 18 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 16 specimens taken by sentinel GPs during week 6 2006, two were positive for influenza A and two were positive for influenza B. The NVRL also tested 62 non-sentinel specimens, taken during week 6 2006, mainly from hospitalised paediatric cases, none were positive for influenza. To date this season, the NVRL has detected 24 positive influenza specimens, 11 influenza A (5 A H3 & 6 A untyped) and 13 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. Five non-sentinel specimens tested positive for respiratory syncytial virus (RSV) during week 6 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 6 2006 and the 2005/2006 season to date.

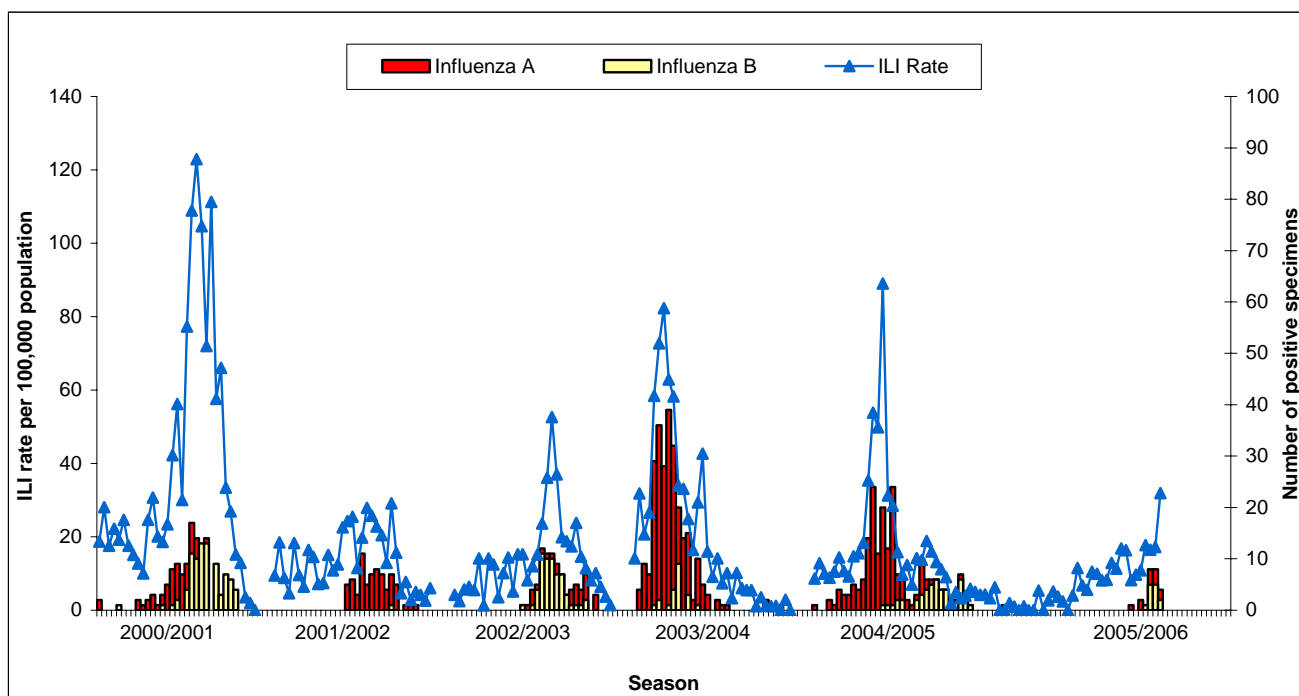
Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
6 2006	Sentinel	16	4	25.0	2	2	NA
	Non-Sentinel	62	0	0.0	0	0	5
	<b>Total</b>	<b>78</b>	<b>4</b>	<b>5.1</b>	<b>2</b>	<b>2</b>	<b>5</b>
40 2005 – 6 2006	Sentinel	153	16	10.5	6	10	NA
	Non-Sentinel	1132	8	0.7	5	3	336
	<b>Total</b>	<b>1285</b>	<b>24</b>	<b>1.9</b>	<b>11</b>	<b>13</b>	<b>336</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.

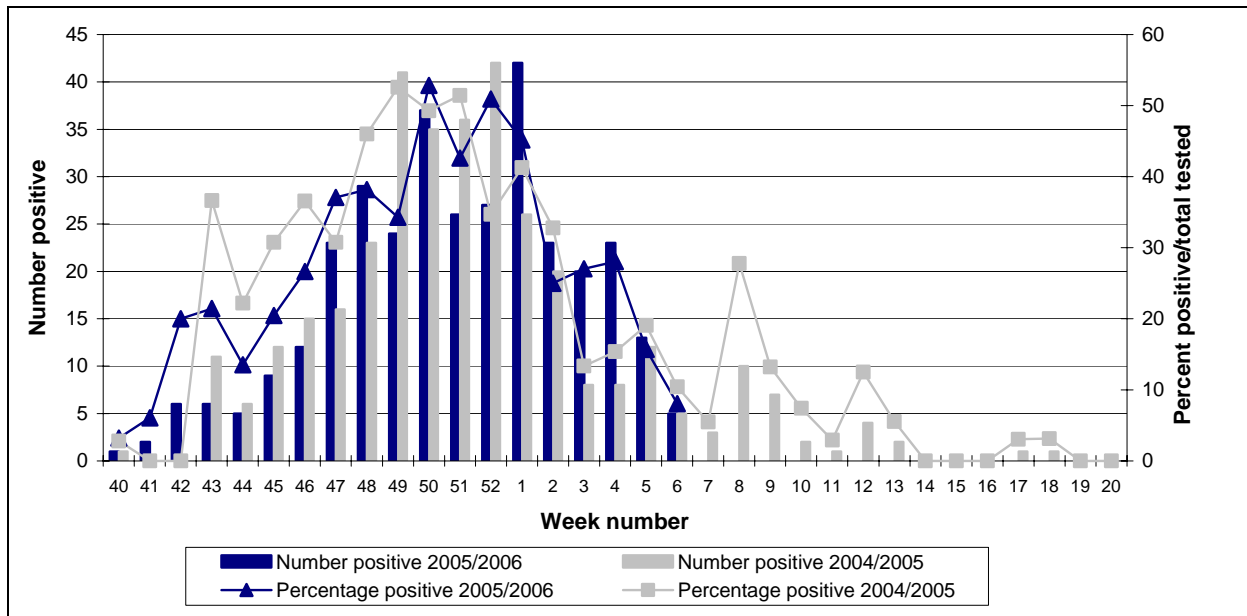
**Table 2:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by HSE-Health Area for week 6 2006 and the 2005/2006 season to date

	Week 6 2006			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	2	1	3	6	6	12
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	1	1	4	3	7
HSE-SEA	0	0	0	0	1	1
HSE-SA	0	0	0	1	0	1
HSE-WA	0	0	0	0	1	1
<b>Total</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>11</b>	<b>13</b>	<b>24</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.



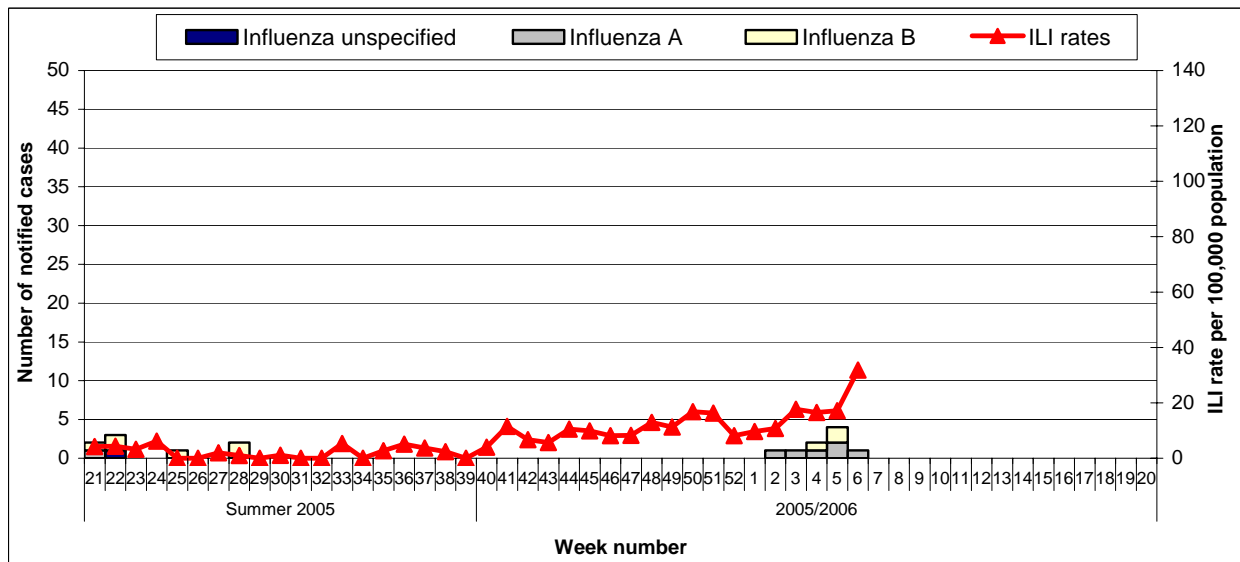
**Figure 3:** ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005 seasons, summer 2005 and the 2005/2006 season.



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

**Weekly Influenza Notifications**

One influenza A case was notified from HSE-SA to HPSC during week 6 2006. During week 5 2006, two influenza A cases and two influenza B cases were notified to HPSC. One influenza A case and two influenza B cases were notified from HSE-ER and one influenza A case was notified from HSE-NWA during week 5 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 15/02/2006 at 10.40 GMT.

**Mortality Data**

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

### ***Outbreak Reports***

One ILI outbreak during week 4 2006 in a nursing home in HSE-NEA was reported to HPSC. 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***

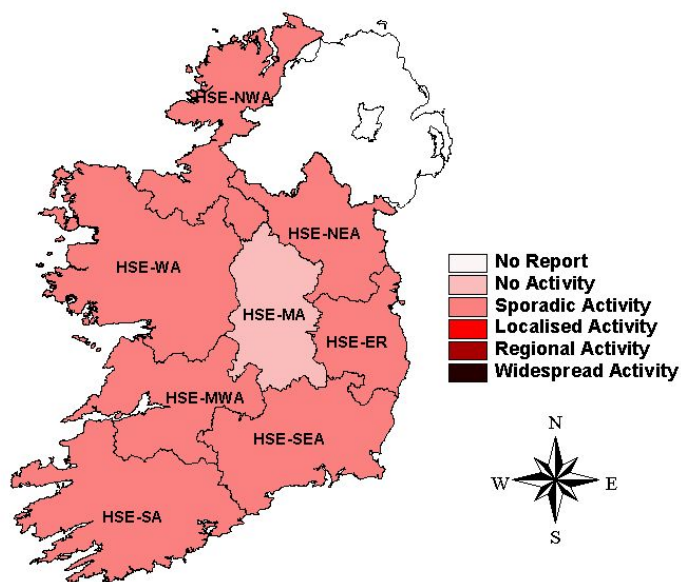
Each Department of Public Health has established one sentinel hospital in each HSE-Health Area, to report total hospital admissions, accident and emergency admissions and respiratory admissions data on a weekly basis. A slight increase in total hospital admissions in a sentinel hospital in HSE-ER was reported for week 5 2006. No increases in respiratory admissions were reported from sentinel hospitals during week 5 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. Two sentinel primary schools in HSE-ER reported increased school absenteeism during week 6. Increased absenteeism was also reported in sentinel secondary schools in HSE-ER and HSE-NEA during week 6 and in HSE-SEA during week 5 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-ER and -MWA during week 6 2006. Seven HSE-Health Areas/Region reported sporadic influenza activity and HSE-MA reported no influenza activity during week 5 2006 (figure 6).



**Figure 6:** Map of influenza activity by HSE-Health Area during week 5 2006

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

The sentinel GP consultation rate in Northern Ireland was approximately 45 per 100,000 population during week 6 2006, a slight increase from the rate of 43.3 per 100,000 in week 5 2006. Two GP sentinel specimens were positive for influenza B and one was positive for influenza A during week 6 2006. No influenza was detected from hospital samples and no outbreaks in schools were reported during Week 6 2006.

<http://www.cdscni.org.uk>

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

Influenza activity has continued to increase and is above the baseline levels in England and Wales for week 6 2005. GP consultations for ILI have increased slightly from 37.1 per 100,000 in week 5 2006 to 42.3 per 100,000 in week 6 2006. The increase in RCGP consultation rates are particularly marked in children and young adults. In Wales the GP consultation rates for ILI increased significantly, from 7.2 per 100,000 in Week 5 2006 to 16.1 per 100,000 in Week 6 2006. GP consultation rates for ILI in Scotland decreased slightly from 23 per 100,000 in week 5 2006 to 20 per 100,000 in week 6 2006. Up to week 6 2006, more than 480 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***

Several countries in Europe reported increasing clinical influenza activity, mainly caused by influenza B, in week 5 2006. In particular, there was a sharp increase in the ILI consultation rate in England. Widespread influenza activity was reported in the Netherlands and Norway and in regions of France and England. However, in most countries the intensity of activity is still low, possibly because the dominant virus in Europe is influenza B and influenza B virus is known to cause milder infections than influenza A. In England, Norway, Spain and Switzerland the increases in consultation rates for ILI were mainly in the 5-14 year age group. The total number of respiratory specimens collected by sentinel physicians in week 5 2006 was 917, of which 132 (14%) were positive for influenza virus; 96 (73%) B and 36 (27%) A. In addition, 1,543 non-sentinel specimens were analysed and 241 (16%) tested positive for influenza virus: 195 (81%) B and 46 (19%) A. Based on (sub)typing data of all influenza virus detections from sentinel and non-sentinel sources up to week 5 2006 (N=1,345), 937 (70%) were influenza B and 408 (30%) were influenza A [(272 (67%) A (unsubtyped), 72 (18%) A(H3) [26 A(H3N2)] and 64 (16%) A(H1) [17 A(H1N1)]]. Based on the characterisation data of all influenza virus detections up to week 5 2006, 132 have been antigenically and/or genetically characterised: 20 were A/New Caledonia/20/99 (H1N1)-like, 23 were A/California/7/2004 (H3N2)-like, 69 were B/Malaysia/2506/2004-like (B/Victoria/2/87-lineage) and 20 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 and is currently used in the vaccine). <http://www.eiss.org/index.cgi>

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

During week 5 2006, widespread influenza activity was reported in British Columbia and Ontario. Localised activity was reported in ten influenza surveillance regions: one in the Yukon, three in Alberta, two in Saskatchewan, two in Manitoba and two in Ontario. Sporadic activity was reported in parts of British Columbia, Saskatchewan, Manitoba, Ontario, Quebec, Nova Scotia, Prince Edward Island, Newfoundland and the Northwest Territories. During week 5, the Public Health Agency of Canada received 2816 reports of laboratory tests for influenza, with 128 influenza A and 97 influenza B detections. The ILI consultation rate was calculated as 20 per 1000 patient visits in week 5, which is below the expected range for this week. To date this season, 100% of the influenza A strains characterised have matched those included in the 2005/2006 Canadian vaccine. However, only 3% of the influenza B characterisations have matched current vaccine strain. The remaining 97% 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 5 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. Nine states and New York City reported widespread influenza activity; 21 states reported regional influenza activity; 13 states and the District of Columbia reported localised influenza activity; and six states and Puerto Rico reported sporadic influenza activity. During week 5, WHO and NREVSS laboratories reported 2,401 specimens tested for influenza viruses, 333 (13.9%) of which were positive: 96 A (H3N2), 2 A (H1N1), 211 A (unsubtyped) and 24 B viruses. CDC has antigenically characterised 169 influenza viruses this season. Of the 149 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 7 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. 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 5 2006, widespread influenza activity was reported in Tunisia (7 A H1, 2 A H3 & 1 B). Sporadic activity was reported in China (47 A H1, 4 A H3, 4 A untyped & 62 B) and Israel (1 A H1, 4 A untyped & 2 B). No influenza activity was reported in Argentina during week 5. Three influenza A H1 and one B positive specimens were detected in Iran and 12 A H1, 49 A H3 and 2 B positive specimens were detected in Japan during week 5 2006. <http://gamapserver.who.int/GlobalAtlas/home.asp>

### ***Avian Influenza***

To date there have been 169 confirmed human cases of A/(H5N1) infection and 91 fatalities reported to WHO. Avian influenza has been reported by the World Organisation for Animal Health (OIE) in the following European countries; Bulgaria, Croatia, Greece, Italy, Romania, Slovenia and Turkey. Initial reports of avian influenza in Austria and Germany have still to be confirmed by the OIE.

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**

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