

# 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 20 2008 (12<sup>th</sup> – 18<sup>th</sup> May 2008)

## Summary

During week 20 2008, GP consultation rates for influenza-like illness (ILI) remained at low levels. No influenza positive specimens were detected by the National Virus Reference Laboratory (NVRL) during this period. This is the last influenza surveillance report of the 2007/2008 season. Influenza activity will be monitored throughout the summer period and reported upon monthly.

## Background

This is the eighth 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. Fifty-two 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°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 during the influenza season. This report includes data on ILI cases reported by sentinel GPs, influenza test results from the NVRL, influenza notifications, registered deaths attributed to influenza, and regional influenza activity reported by the Departments of Public Health.

## Results

### Clinical Data

Sentinel GPs reported five ILI cases during week 20 2008, corresponding to an ILI consultation rate of 2.9 per 100,000 population, a slight increase from the updated rate of 2.1 per 100,000 in week 19 2008 (figure 1). Forty-two (80.8%) sentinel practices reported during week 20 2008.

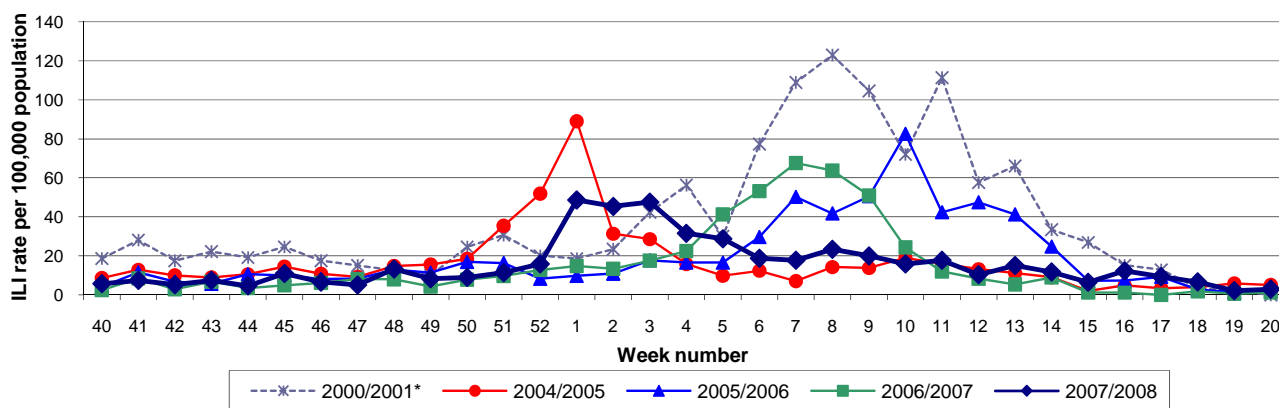
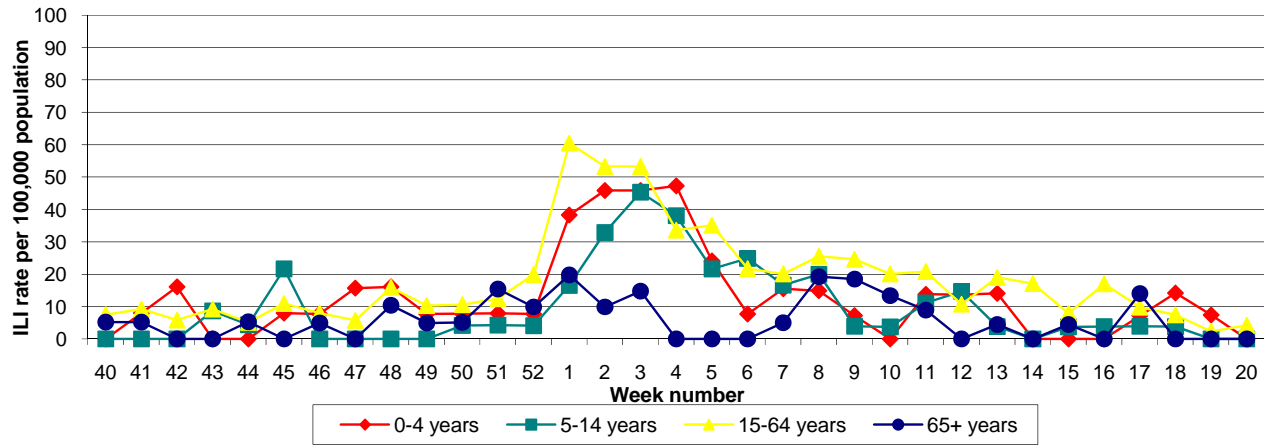


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001\*, 2004/2005, 2005/2006, 2006/2007 & 2007/2008 influenza seasons \*Highest recorded levels of ILI activity since initiation of sentinel surveillance

## Results (continued)

During week 20 2008, no ILI cases were reported in the 0-4, 5-14 and 65+ year age groups. Five ILI cases were reported in the 15-64 year age group (4.2 per 100,000 population), as shown in figure 2.



**Figure 2:** Age specific GP consultation rate\* for ILI per 100,000 population by week during the 2007/2008 influenza season  
\*Please note the denominator used in the age specific consultation rate is from the 2006 census data; this assumes that the age distribution of the sentinel general practices is similar to the national age distribution.

### *Oseltamivir Resistance in Ireland*

Results from the National Virus Reference Laboratory (NVRL) on antiviral drug susceptibility among seasonal influenza viruses circulating in Ireland have revealed that some of the A (H1N1) viruses in circulation this winter are resistant to the antiviral drug, oseltamivir (also known by the brand name Tamiflu). The NVRL conducted nucleotide sequencing on specimens taken by sentinel GPs between December 2007 and February 2008. Five of 55 specimens (9.1%) tested by the NVRL have shown resistance to oseltamivir. To date, oseltamivir resistant viruses have been detected in 15 European countries (including Ireland), the USA, Canada, Australia and Hong Kong.

Experts from the European Centre for Disease Prevention and Control (ECDC), the European Commission, the European Influenza Surveillance Scheme (EISS) and the World Health Organization (WHO) are currently assessing the significance of this information. An interim risk assessment has been published by ECDC.

Latest information on oseltamivir resistance in Europe: <http://ecdc.europa.eu/>

ECDC Report on Interim risk assessment: [http://www.ecdc.europa.eu/pdf/080127\\_os.pdf](http://www.ecdc.europa.eu/pdf/080127_os.pdf)

### *Virological Data from the NVRL*

The NVRL tested one specimen taken by sentinel GPs during week 20 2008, which was negative for influenza. The NVRL also tested 31 non-sentinel specimens<sup>1</sup> taken during week 20 2008, all of which were negative for influenza.

During the 2007/2008 season, 212 (8.3%) specimens tested positive for influenza from sentinel and non-sentinel sources (n=2549): 29 A (unsubtyped), 75 A (H1), 7 A (H3) and 101 B viruses. Of the 111 influenza A positive specimens detected this season, influenza A (H1) accounts for 91.5% of subtyped (n=82) specimens. Based on genetic characterisation of 66 viruses this season, 59 were A/Solomon Islands/3/2006 (H1N1)-like and seven were A/Wisconsin/67/2005 (H3N2)-like. A/Solomon Island/3/2006-like virus and A/Wisconsin/67/2005 (H3N2)-like virus are both included in the 2007/2008 influenza vaccine.

NVRL detections of RSV from non-sentinel sources peaked during week 47 2007 (figure 4). All non-sentinel specimens tested negative for RSV during week 20 2008. During the 2007/2008 season, the NVRL has detected the

<sup>1</sup> 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.

following positive specimens from non-sentinel sources: 32 influenza A, 29 influenza B, 463 RSV, 11 Adenovirus, 2 parainfluenza virus (PIV) type-1, 13 PIV-2 and 23 PIV-3. Influenza positive specimens by HSE-Area and age group (in years) for the current week and the 2007/2008 season to date are shown in tables 2 and 3, respectively. Figure 3 compares the ILI consultation rates by season and the number of positive influenza specimens tested by the NVRL. Figure 4 compares the number and percentage of non-sentinel RSV positive specimens detected during the 2006/2007 and 2007/2008 influenza seasons.

**Table 1:** Number of sentinel and non-sentinel respiratory specimens and positive results reported by the NVRL for week 20 2008 and the 2007/2008 season

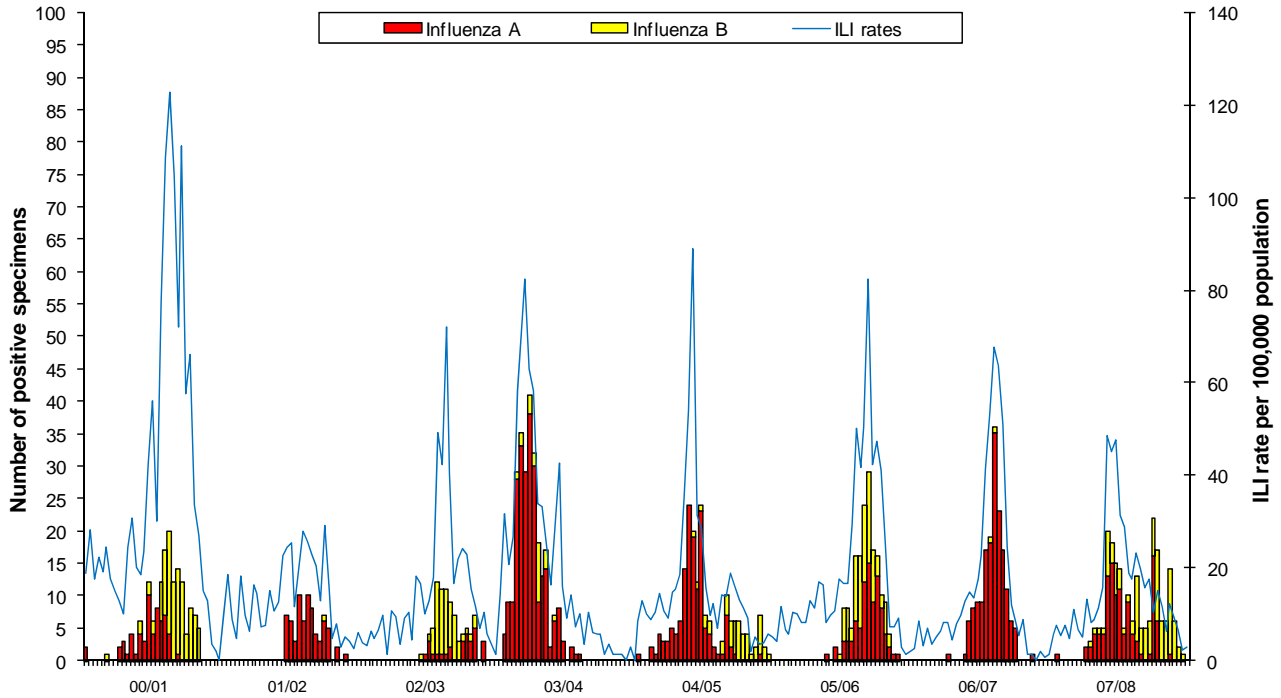
Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV	% RSV Positive
<b>20 2008</b>	Sentinel	1	0	0.0	0	0	-	-
	Non-Sentinel	31	0	0.0	0	0	0	0.0
	<b>Total</b>	<b>32</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
<b>2007/2008 Season</b>	Sentinel	344	151	43.9	79	72	-	-
	Non-Sentinel	2205	61	2.8	32	29	463	21.0
	<b>Total</b>	<b>2549</b>	<b>212</b>	<b>8.3</b>	<b>111</b>	<b>101</b>	<b>463</b>	<b>18.2</b>

**Table 2:** Total number of sentinel and non-sentinel influenza A and B positive specimens by HSE-Area, reported by the NVRL for week 20 2008 and the 2007/2008 season

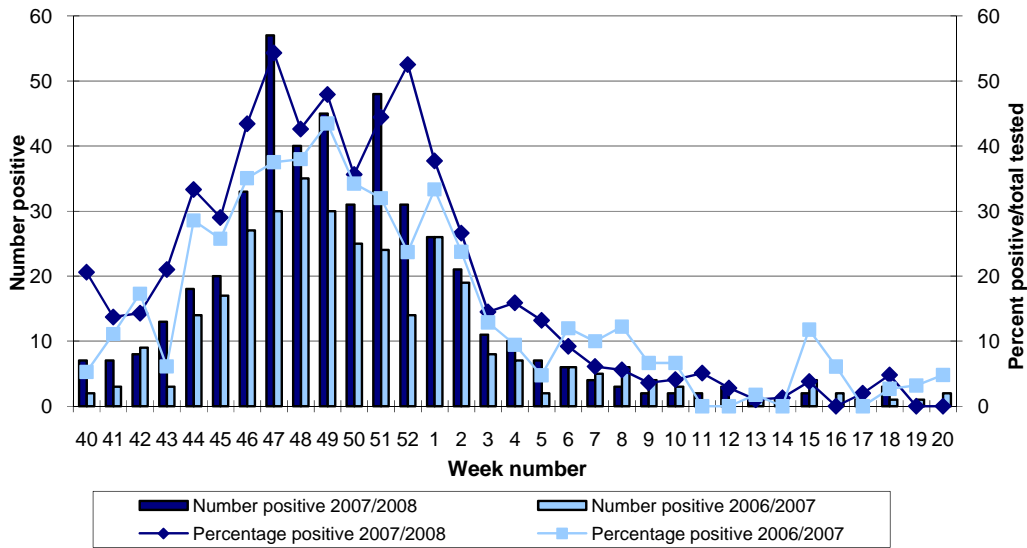
	Week 20 2008			2007/2008 Season		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-E	0	0	0	42	40	82
HSE-M	0	0	0	8	1	9
HSE-MW	0	0	0	6	11	17
HSE-NE	0	0	0	13	16	29
HSE-NW	0	0	0	2	11	13
HSE-SE	0	0	0	13	7	20
HSE-S	0	0	0	17	11	28
HSE-W	0	0	0	10	4	14
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>111</b>	<b>101</b>	<b>212</b>

**Table 3:** Total number of sentinel and non-sentinel influenza A and B positive specimens by age group (in years) reported by the NVRL for week 20 2008 and the 2007/2008 season

	Week 20 2008			2007/2008 Season		
	Flu A	Flu B	Total	Flu A	Flu B	Total
<b>0-4 years</b>	0	0	0	5	4	9
<b>5-14 years</b>	0	0	0	9	4	13
<b>15-64 years</b>	0	0	0	77	87	164
<b>65 years and older</b>	0	0	0	15	6	21
<b>Age group unknown</b>	0	0	0	5	0	5
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>111</b>	<b>101</b>	<b>212</b>



**Figure 3:** GP ILI consultation rate per 100,000 population and the number of positive influenza specimens detected by the NVRL by week and season, 2000/2001 - 2007/2008

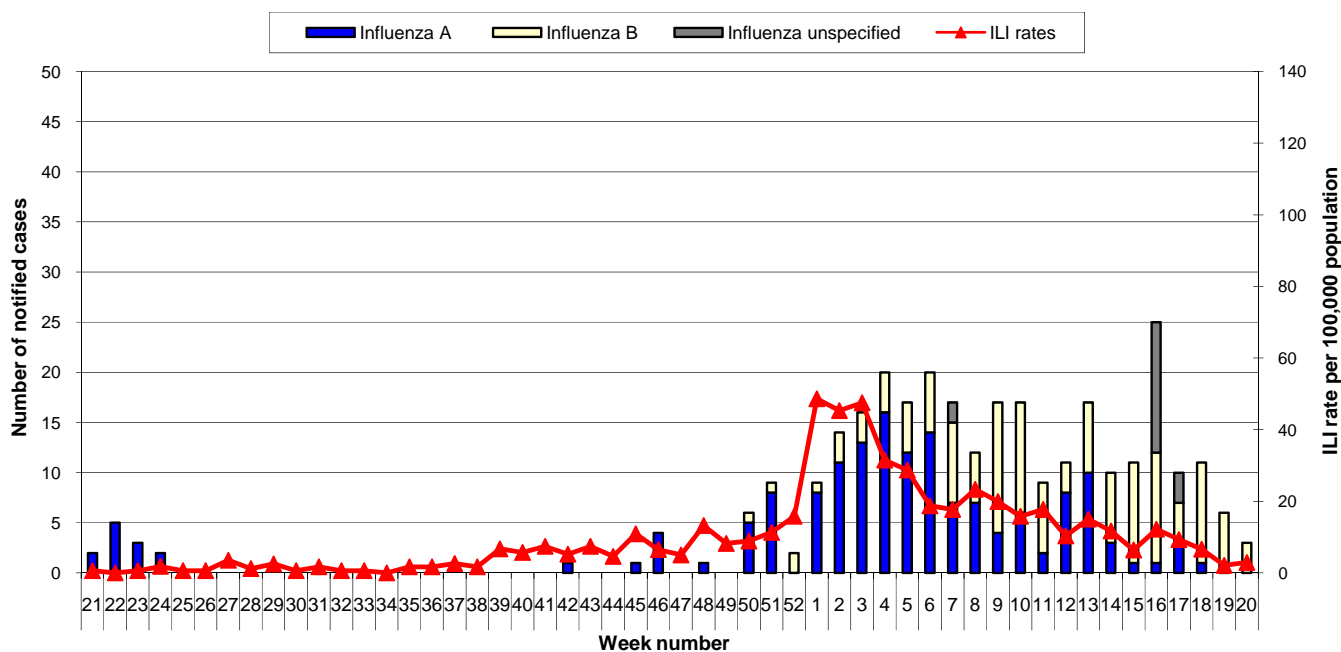


**Figure 4.** Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2006/2007 and 2007/2008 influenza seasons

**Weekly Influenza Notifications**

Six influenza B cases were notified to HPSC during week 19 2008: two from HSE-NE, two from HSE-NW and two from HSE-S. One influenza A and two influenza B cases were notified to HPSC during week 20 2008, from HSE-NW (2 B) and HSE-S (1 A). Influenza cases notified to HPSC during the summer of 2007 and during the 2007/2008 influenza season are shown in figure 5 and compared to GP ILI consultation rates.

It should be noted that 14 influenza (type unspecified) cases notified to HPSC during week 16 2008 were possible cases (i.e. clinical cases with no laboratory confirmation) that were late GP notifications from HSE-E for the period January – April 2008.



**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 2007 and the 2007/2008 influenza season  
 \*Notification data are provisional and were extracted from [CIDR](#) on the 22/05/2008 at 09:40.

### Mortality Data

During the 2007/2008 influenza season, two deaths attributed to influenza have been registered with the General Register Office (GRO). These deaths were both in adults over 65 years of age, one in HSE-NW registered in week 8 2008 and one in HSE-S registered in week 14 2008. It should be noted that the death registered in HSE-S was not a laboratory confirmed case of influenza.

### Outbreak Reports

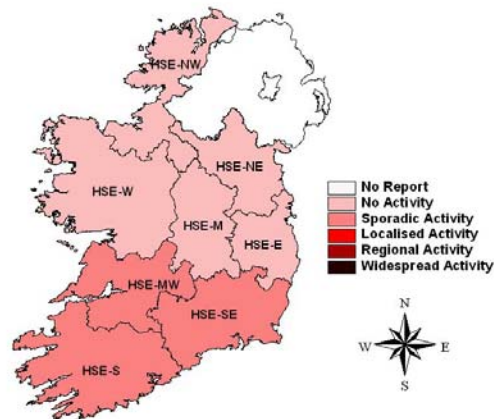
Two ILI/influenza outbreaks have been reported to HPSC this season, both reported from HSE-E, one during week 12 2008 and one during week 16 2008.

### Regional Influenza Activity by HSE-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 ILI/influenza outbreaks. Each Department of Public Health has established one sentinel hospital in each HSE area, to report total hospital admissions, accident and emergency admissions and respiratory admissions data on a weekly basis. Sentinel primary and secondary schools were also established in each HSE-Area in close proximity to the sentinel GPs, reporting absenteeism data on a weekly basis.

No increases in hospital respiratory admissions were reported from sentinel hospitals during week 19 2008. School absenteeism increased in four sentinel secondary schools in week 19 2008 (in HSE-MW, HSE-NW, HSE-SE and HSE-W) and in one sentinel secondary school (in HSE-S) during week 20 2008.

During week 19 2008, no influenza activity was reported in HSE-E, -M, -NE and -W and sporadic activity was reported in the remaining HSE-Areas (figure 6). Regional or widespread influenza activity has not been reported from any HSE-Area this season. During the 2007/2008 season, influenza positive specimens have been detected in all HSE-Areas.



**Figure 6:** Map of influenza activity by HSE-Area for week 19 2008

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

During week 20 2008, the influenza/ILI GP consultation rate increased slightly in Northern Ireland from 18.2 per 100,000 population in week 19 2008 to 20.9 per 100,000 in week 20 2008. No positive influenza specimens were reported during week 19 2008. <http://www.cdscni.org.uk>

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

During weeks 18 and 19 2008, influenza activity decreased in England and remained at approximately the same level in Scotland and Wales. Activity is still at baseline levels in England, Scotland and Wales. Of the samples referred to the Centre for Infections' Respiratory Virus Unit during weeks 18 and 19 2008, a total of four were positive for influenza A (H3) and six were positive for influenza B. During these weeks, two outbreaks of laboratory confirmed influenza B were reported. Of the influenza viruses characterised this season, there have been 325 A/Solomon Island/3/2006 (H1 and H1N1)-like viruses, 20 A/Wisconsin/67/05 (H3N2)-like viruses and 178 B/Florida/4/2006-like viruses. <http://www.hpa.org.uk/infections/topics%5Faz/influenza/seasonal/flureports0708.htm>

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

The European Influenza Surveillance Scheme (EISS) published the last weekly electronic influenza bulletin of the 2007/2008 influenza season on the 25<sup>th</sup> April 2008. <http://www.eiss.org/index.cgi>

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

During week 19 2008, overall influenza activity in Canada continued to decline. The majority of the provinces and all of the territories reported only either sporadic activity or no activity in their regions. Nine regions reported localised activity. During this period, the ILI consultation rate was 9 per 1,000 patient visits, which is within the expected range for this week. In week 19 2008, the percentage of specimens that tested positive for influenza declined to 8.5% (219/2,575). To date this season, 58% of influenza detections in Canada were for influenza A viruses and 42% were for influenza B viruses. Based on antigenic characterisation of 1256 viruses this season, 433 were A/Solomon Islands/3/2006 (H1N1)-like, 22 were A/Brisbane/59/2007 (H1N1)-like, nine were A/Wisconsin/67/2005 (H3N2)-like, 195 were A/Brisbane/10/2007 (H3N2)-like, 15 were B/Malaysia/2506/2004-like and 582 were B/Florida/4/2006-like. <http://www.phac-aspc.gc.ca/fluwatch/index-eng.php>

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

During week 19 2008, influenza activity continued to decrease in the United States. The proportion of outpatient visits for ILI and for acute respiratory illness (ARI) were below national baseline levels. One state reported regional influenza activity; two states reported local influenza activity; 28 states and Puerto Rico reported sporadic influenza activity; and 19 states and the District of Columbia reported no influenza activity. The proportion of deaths attributed to pneumonia and influenza has been above the epidemic threshold for 18 consecutive weeks. During week 19 2008, WHO and NREVSS laboratories reported 1,237 specimens tested for influenza viruses, 35 (2.8%) of

which were positive: 15 A (unsubtyped) and 20 influenza B viruses. Antigenic characterisation data indicate similarities and differences between a sample of circulating strains and the 2007/2008 vaccine strains as determined by laboratory studies. <http://www.cdc.gov/flu/weekly/fluactivity.htm>

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

During week 19 2008, sporadic influenza activity was reported in Argentina, China, Madagascar, New Zealand (2 A unsubtyped) and Sri-Lanka (3 A unsubtyped). No influenza activity was reported in Cameroon and Uruguay. <http://gamapserver.who.int/GlobalAtlas/home.asp>

### ***Avian Influenza***

As of April 30<sup>th</sup> 2008, 382 confirmed human cases and 241 (63.1%) deaths from avian influenza A (H5N1) have been reported to the WHO from Azerbaijan, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Lao Peoples Democratic Republic, Myanmar, Nigeria, Pakistan, Thailand, Turkey and Viet Nam.

WHO [http://www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)  
HPSC <http://www.ndsc.ie/hpsc/A-Z/Respiratory/Influenza/AvianInfluenza/>  
ECDC <http://www.ecdc.eu.int/>  
HPA [http://www.hpa.org.uk/infections/topics\\_az/influenza/avian/default.htm](http://www.hpa.org.uk/infections/topics_az/influenza/avian/default.htm)

### ***Northern Hemisphere Influenza Vaccine for the 2007/2008 Season***

The members of the WHO Collaborating Centres on Influenza have recommended that influenza vaccines for the 2007/2008 influenza season in the Northern Hemisphere contain the following strains:

- an A/Solomon Island/3/2006 (H1N1)-like virus
- an A/Wisconsin/67/2005 (H3N2)-like virus<sup>a</sup>
- a B/Malaysia/2506/2004-like virus

Candidate vaccine viruses include:

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

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

### ***Northern Hemisphere Influenza Vaccine for the 2008/2009 Season***

The members of the WHO Collaborating Centres on Influenza have recommended that influenza vaccines for the 2008/2009 influenza season in the Northern Hemisphere contain the following strains:

- an A/Brisbane/59/2007 (H1N1)-like virus;
- an A/Brisbane/10/2007 (H3N2)-like virus;\*
- a B/Florida/4/2006-like virus.#

\* A/Brisbane/10/2007 is a current southern hemisphere vaccine virus.

# B/Florida/4/2006 and B/Brisbane/3/2007 (a B/Florida/4/2006-like virus) are current southern hemisphere vaccine viruses. [http://www.who.int/csr/disease/influenza/recommendations2008\\_9north/en/index.html](http://www.who.int/csr/disease/influenza/recommendations2008_9north/en/index.html)

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

### **Acknowledgements**

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