

# 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 1 2008 (31<sup>st</sup> December 2007 – 6<sup>th</sup> January 2008)**

## Summary

During week 1 2008, influenza activity increased significantly in Ireland. Influenza-like illness (ILI) consultation rates increased and are at higher levels than normally observed at this time of year (with the exception of the 2004/2005 season). Twelve influenza positive specimens were detected by the NVRL during week 1 2008, the majority of which were influenza A. The use of antiviral drugs for the prevention or treatment of influenza in at risk groups is now recommended, as per the National Institute of Clinical Excellence (NICE) guidelines, UK (2003).

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.

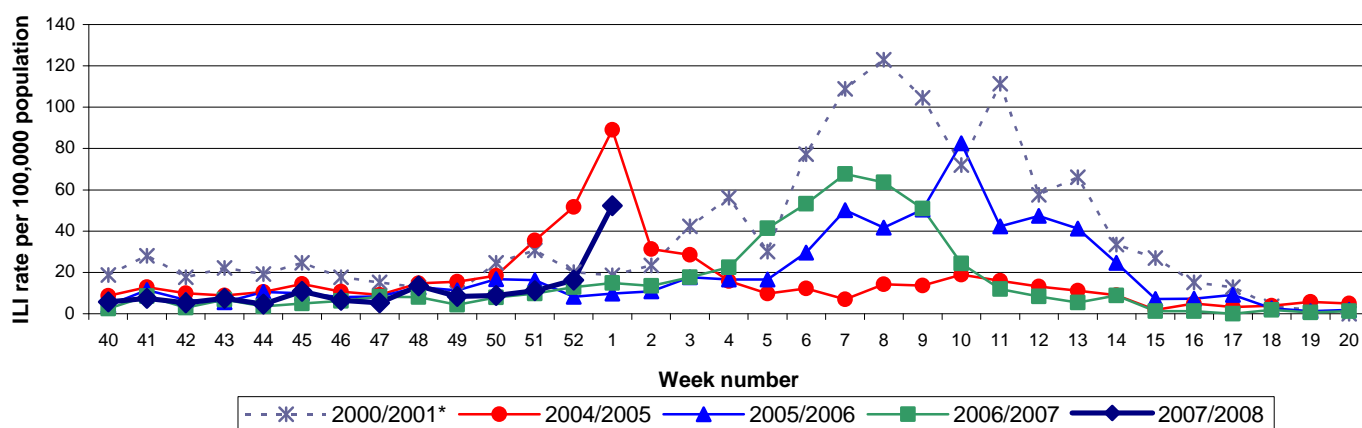
## Background

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 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

## Results

### Clinical Data

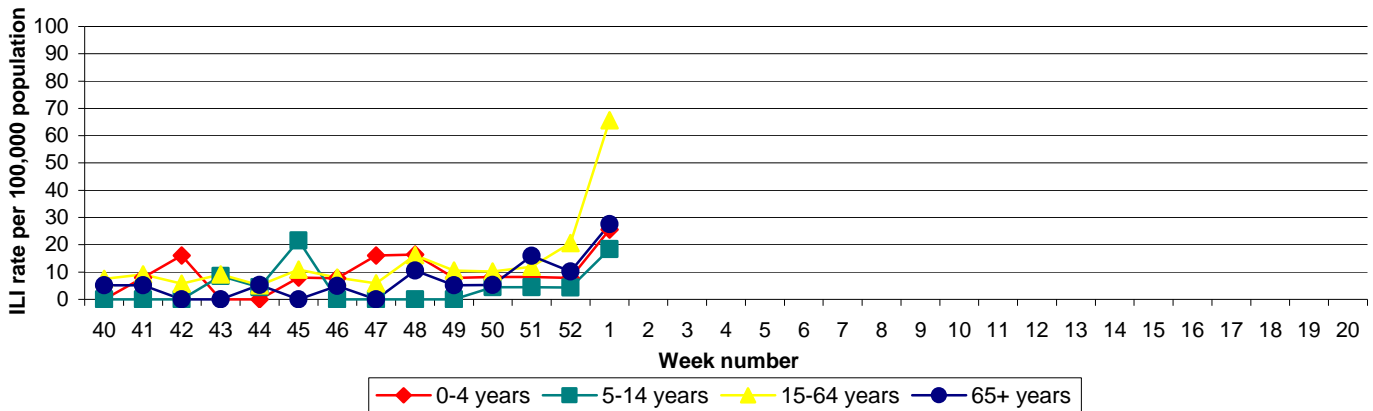
Sentinel GPs reported 86 ILI cases during week 1 2008, corresponding to ILI consultation rates of 52.4 per 100,000 population, a significant increase from the updated rate of 16.3 per 100,000 in week 52 2007 (figure 1). ILI rates for week 1 2008 are at a higher level than normally observed for this time of year (with the exception of the 2004/2005 season). Forty-two (84.0%) sentinel practices reported during week 1 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 1 2008, ILI rates increased in all age groups, with the highest increases observed in the 15-64 year age group. Three ILI cases were reported in the 0-4 year age group (25.6 per 100,000 population), four cases in the 5-14 year age group (18.4 per 100,000 population), 74 cases in the 15-64 year age group (65.7 per 100,000 population) and five cases in those aged 65 year or older (27.6 per 100,000 population) during week 1 2008, 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.

### **NEWS: Recommendations on the use of antiviral drugs**

The use of antiviral drugs for the prevention or treatment of influenza in at risk groups is now recommended, as per the National Institute of Clinical Excellence (NICE) guidelines, UK (2003). When ILI rates increase to levels observed during week 1 2008 and when influenza is known to be circulating in the community, it is recommended that antiviral drugs be used in at-risk groups. Further information on the use of antiviral neuraminidase inhibitors, oseltamivir and zanamivir for the treatment of influenza in at-risk groups and the NICE algorithm for prescribing oseltamivir for the prophylaxis of influenza are available on the HPSC website. <http://www.ndsc.ie/hpsc/>

### **Virological Data from the NVRL**

The NVRL tested 19 specimens taken by sentinel GPs during week 1 2008, ten of which were positive for influenza: 8 A (unsubtyped) and 2 B. Fifty-three percent of sentinel specimens were positive for influenza virus during week 1 2008, the highest proportion of positive specimens this season. The NVRL also tested 67 non-sentinel specimens taken during week 1 2008, mainly from hospitalised paediatric cases, two (3.0%) of which were positive for influenza: one influenza A and one influenza B. To date this season, 32 (2.8%) specimens have tested positive for influenza from sentinel and non-sentinel sources: 24 A (unsubtyped), 1 A (H3) and 7 B viruses. Twenty-six non-sentinel specimens were positive for respiratory syncytial virus (RSV) during week 1 2008 (table 1). NVRL detections of RSV from non-sentinel sources peaked during week 47 2007 (figure 4). To date this season, the NVRL has detected the following positive specimens from non-sentinel sources: one influenza A, one influenza B, 384 RSV, 5 Adenovirus, 2 parainfluenza virus (PIV) type-1, 1 PIV-2 and 8 PIV-3. Influenza positive specimens by HSE-Area and age group (in years) for week 1 2008 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 for week 1 2008 and the 2007/2008 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV	% RSV Positive
<b>1 2008</b>	Sentinel	19	10	52.6	8	2	-	-
	Non-Sentinel	67	2	3.0	1	1	26	38.8
	<b>Total</b>	<b>86</b>	<b>12</b>	<b>14.0</b>	<b>9</b>	<b>3</b>	<b>26</b>	<b>30.2</b>
<b>Season to date</b>	Sentinel	122	29	23.8	24	5	-	-
	Non-Sentinel	1018	3	0.3	1	2	384	37.7
	<b>Total</b>	<b>1140</b>	<b>32</b>	<b>2.8</b>	<b>25</b>	<b>7</b>	<b>384</b>	<b>33.7</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

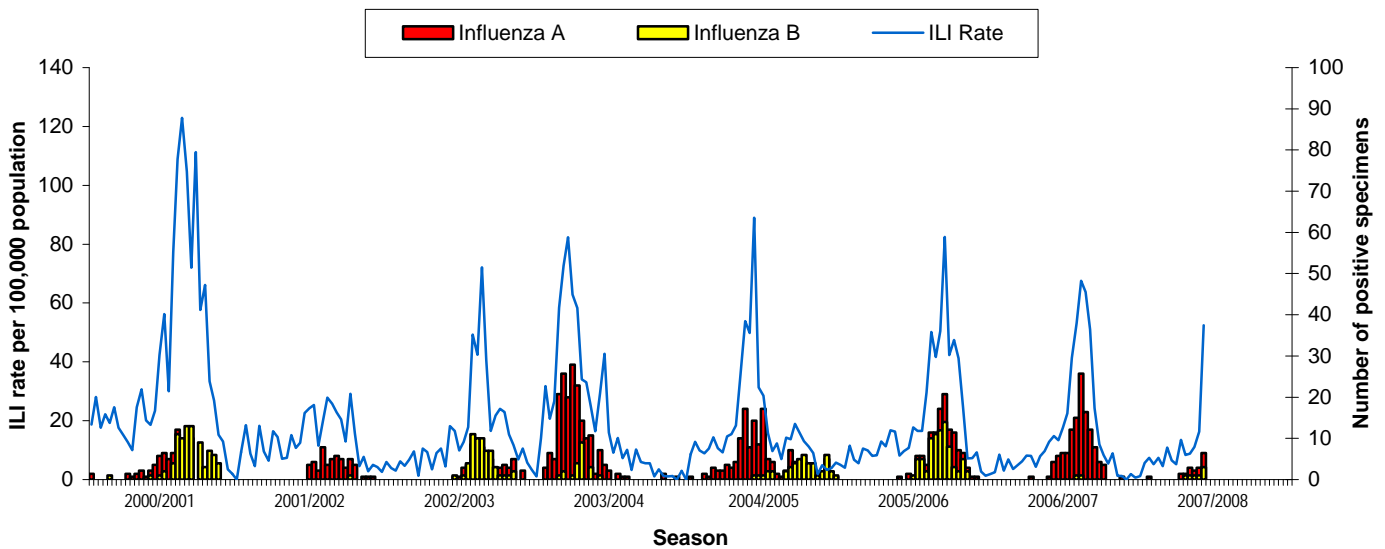
**Table 2:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by HSE-Area for week 1 2008 and the 2007/2008 season to date

	Week 1 2008			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-E	0	1	1	5	2	7
HSE-M	2	0	2	2	0	2
HSE-MW	1	0	1	1	0	1
HSE-NE	2	1	3	5	2	7
HSE-NW	0	0	0	0	0	0
HSE-SE	2	1	3	5	2	7
HSE-S	2	0	2	7	0	7
HSE-W	0	0	0	0	1	1
<b>Total</b>	<b>9</b>	<b>3</b>	<b>12</b>	<b>25</b>	<b>7</b>	<b>32</b>

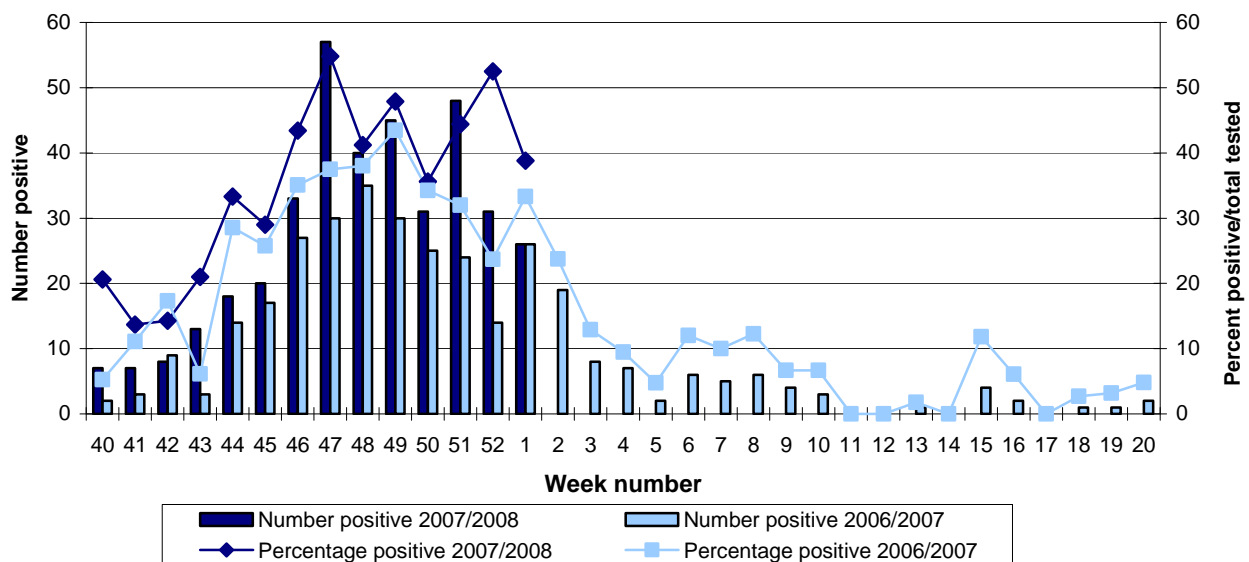
\* Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case

**Table 3:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by age group (in years) for week 1 2008 and the 2007/2008 season to date

	Week 1 2008			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
<b>0-4 years</b>	1	1	2	1	1	2
<b>5-14 years</b>	0	0	0	1	0	1
<b>15-64 years</b>	8	2	10	23	5	28
<b>65 years and older</b>	0	0	0	0	1	1
<b>Age group unknown</b>	0	0	0	0	0	0
<b>Total</b>	<b>9</b>	<b>3</b>	<b>12</b>	<b>25</b>	<b>7</b>	<b>32</b>



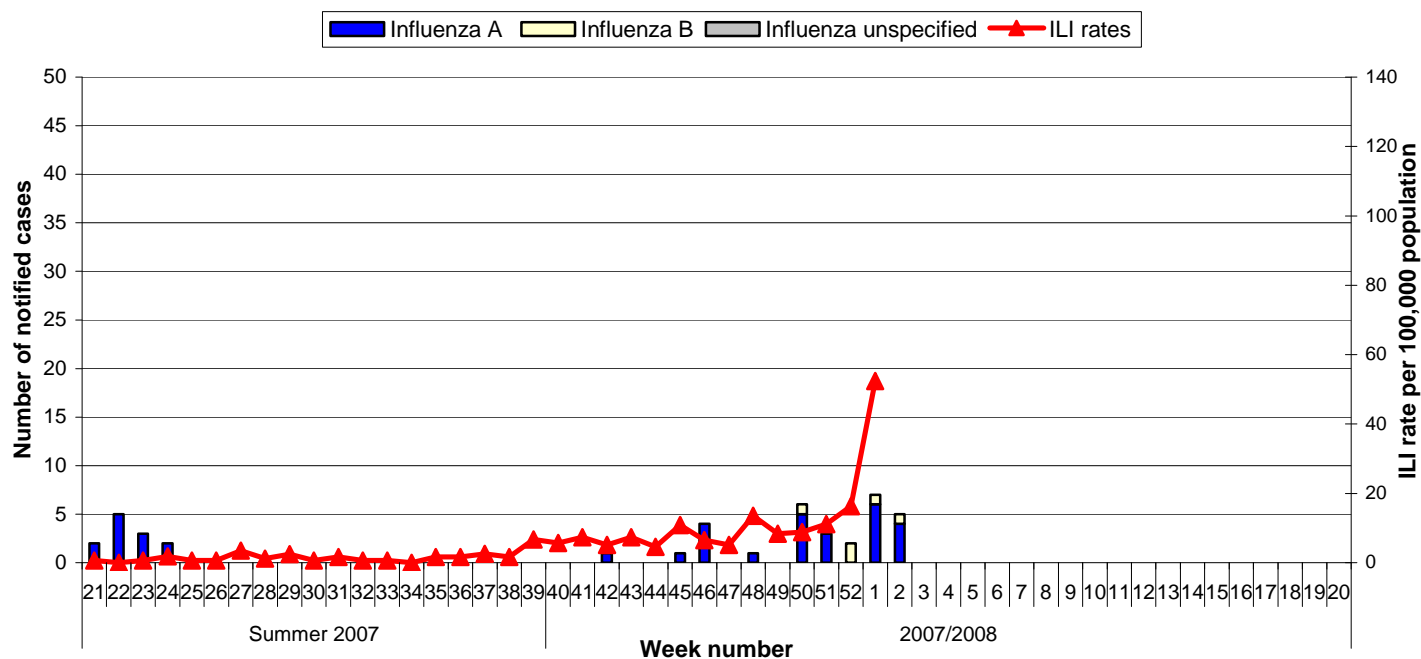
**Figure 3:** GP ILI consultation rate per 100,000 population and the number of positive influenza specimens detected by the NVRL by week and season, 2000/2001 - 2007/2008



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

### **Weekly Influenza Notifications**

Six influenza A and one influenza B cases were notified to HPSC during week 1 2008, two from HSE-NE, one from HSE-SE and four from HSE-S. Four influenza A and one influenza B cases were notified during week 2 2008, three from HSE-E, one from HSE-M and one from HSE-S. 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.



**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 10/01/2008 at 11:36

#### **Mortality Data**

No influenza associated deaths were registered with the GRO and reported to HPSC to date this season.

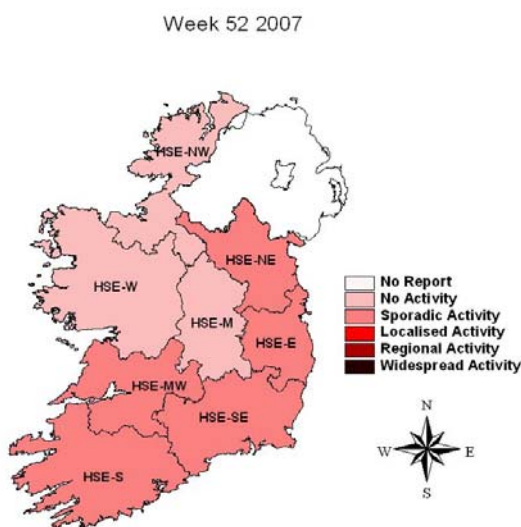
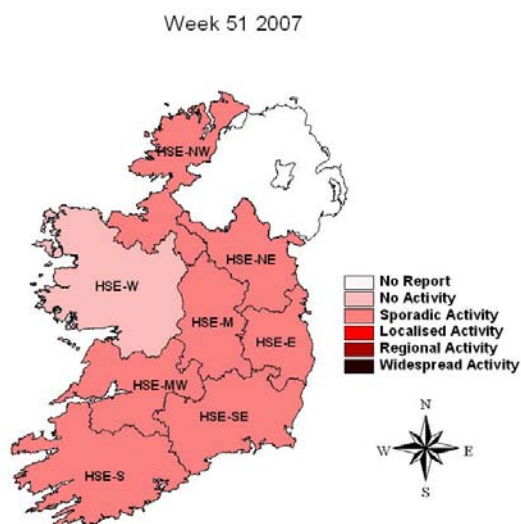
#### **Outbreak Reports**

No ILI/influenza outbreaks have been reported to HPSC to date this season.

#### **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.

Increases in respiratory admissions were reported in sentinel hospitals in HSE-E, NW, -SE and -W during week 52 2007. The Christmas and New Year holiday period resulted in reduced reporting from some sentinel hospitals. Increased absenteeism was reported from several sentinel schools for week 51 2007; however this was most likely due to the Christmas holiday period. Schools were closed for weeks 52 2007 and 1 2008. Sporadic influenza activity was reported in seven HSE-Areas during week 51 2007 and in five HSE-Areas during week 52 2007 (figure 6). Localised, regional or widespread influenza activity has not been reported from any HSE-Areas this season. During week 1 2008, ILI consultation rates increased in all HSE-Areas. To date this season, influenza positive specimens have now been detected in all HSE-Areas, with the exception of HSE-NW.



**Figure 6:** Map of influenza activity by HSE area for weeks 51 and 52 2007

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

During week 1 2008, 21 cases of clinical influenza and 35 ILI cases were reported in Northern Ireland, corresponding to a combined rate of 50.5 per 100,000 population, an increase from the updated rate of 18.7 per 100,000 for week 52 2007. One sentinel and 65 non-sentinel specimens were tested during week 1 2008, none of which were positive for influenza virus. <http://www.cdscni.org.uk>

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

During week 1 2008, influenza activity increased above baseline levels in England and increased in Scotland and Wales, but remained at baseline levels. ILI episode incidence rates increased in England, from 20.3 per 100,000 population in week 52 2007 to 31.4 per 100,000 during week 1 2008. In Scotland, ILI consultation rates increased from 34.0 per 100,000 in week 52 2007 to 41.0 per 100,000 in week 1 2008. In Wales, GP ILI consultation rates increased from 2.0 per 100,000 in week 52 2007 to 8.5 per 100,000 in week 1 2008. Of the samples referred to the Centre for Infections' Respiratory Virus Unit during week 1 2008, 45 tested positive for influenza A(H1), one for A(H3), five for B and one for RSV. There were twice the number of influenza positives in week 1 2008 than week 52 2007. The most recent surveillance data available in the UK indicates that the overall rate of influenza reports has exceeded the threshold at which the NICE guidelines on the use of antiviral drugs are triggered. Much of the

activity is due to influenza A (H1). The use of antiviral drugs for the prevention or treatment of influenza is now recommended. <http://www.hpa.org.uk/infections/topics%5Faz/influenza/seasonal/flureports0708.htm>

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

During week 52 2007, levels of influenza activity remained low in most countries across Europe, at levels normally observed outside the seasonal influenza peak period. Only Spain reported a medium intensity of influenza activity (above the national baseline) in week 52 2007. Regional influenza activity was reported in Spain, localised activity in four countries, sporadic activity in nine countries and no activity was reported in eight countries. To date this season, the consultation rates for ILI and/or acute respiratory infections (ARI) have been at levels usually seen outside the seasonal influenza peak period in most countries in Europe. The total number of respiratory specimens collected by sentinel physicians in week 52 2007 was 184, of which 55 (30%) were influenza virus positive: 19 A (unsubtyped), 27 A (H1), 1 A (H3) and 8 B. In addition, 40 influenza virus detections (22 A unsubtyped, 13 A H1 and 5 B) were reported from non-sentinel sources during week 52 2007. Based on (sub)typing data of all influenza virus detections this season (N=995), 384 (39%) were A (unsubtyped), 401 (40%) were A (H1), 25 (3%) were A (H3) and 185 (19%) were B. Overall, for Europe as a whole, 81% of total virus detections this season (N=995) have been influenza A, of which 94% were of the H1 subtype. The characterisation data reported to EISS this season indicate that there seems to be a good match between the circulating A (H1) virus and the corresponding vaccine strain A/Solomon Island/3/2006 which is included in the 2007-2008 vaccine. <http://www.eiss.org/index.cgi>

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

During week 52 2007, influenza activity levels in Canada remained fairly low. Only two influenza surveillance regions reported localised influenza activity, while the rest reported either no activity (n=31) or sporadic activity (n=17). During week 52 2007, the ILI consultation rate rose to 30 per 1,000 patient visits, which is within the expected range for this week. During week 52 2007, 7.1% (90/1,257) of the specimens tested were positive for influenza, the majority of which were influenza A viruses (78%). Of the influenza detections to date, 78% were influenza A and 22% were influenza B. Based on antigenic characterisation of 48 viruses, 31 were A/Solomon Islands/3/2006 (H1N1)-like, five were A/Wisconsin/67/2005 (H3N2)-like, one was A/Brisbane/10/2007 (H3N2)-like, two were B/Malaysia/2506/2004-like and nine were B/Florida/4/2006-like. <http://www.phac-aspc.gc.ca/fluwatch/index.html>

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

During week 52 2007, influenza activity continued to increase in the United States. Five states reported regional influenza activity; nine states reported local influenza activity; 33 states, the District of Columbia, and Puerto Rico reported sporadic influenza activity; and three states reported no influenza activity. The proportion of outpatient visits for ILI and ARI was above national baseline levels. During week 52 2007, WHO and NREVSS laboratories reported 3,358 specimens tested for influenza viruses, 108 (3.2%) of which were positive: 57 A (unsubtyped), 20 A (H1), 7 A (H3) and 24 influenza B viruses. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. It is too early in the influenza season to determine which influenza viruses will predominate or how well the vaccine and circulating strains will match. <http://www.cdc.gov/flu/weekly/fluactivity.htm>

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

During week 52 2007, sporadic influenza activity was reported in China (2 A unsubtyped, 4 A H1, 9 A H3 and 39 B), Israel (3 B), Madagascar (2 A H1) and Sri-Lanka (1 B) and no influenza activity was reported in Senegal. Ten influenza A (H1) and four influenza B virus detections were reported from Iran during week 52 2007. <http://gamapserver.who.int/GlobalAtlas/home.asp>

### ***Avian Influenza***

As of January 3<sup>rd</sup> 2008, 348 confirmed human cases and 216 (62.1%) 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. The Ministry of Health and Population of Egypt has announced the death of a previously confirmed case of influenza A (H5N1) infection. The 50 year old female died on December 31<sup>st</sup> 2007. Of the 43 cases confirmed to date in Egypt, 19 have been fatal.

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/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 Islands/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>

**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 and Dr. Joan O'Donnell, HPSC**