# 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 7 2007 (12th to 18th February 2007)

## Summary

During week 7 2007, influenza activity was at medium levels in Ireland, with 104 influenza-like illness (ILI) cases reported by sentinel GPs. Twenty-two specimens tested by the NVRL were positive for influenza A virus during week 7.

## Background

This is the seventh 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-seven 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*

One hundred and four ILI cases were reported from sentinel GPs during week 7 2007, corresponding to an ILI consultation rate of 72.3 per 100,000 population, an increase from the updated rate of 53.2 in week 6 (figure 1).

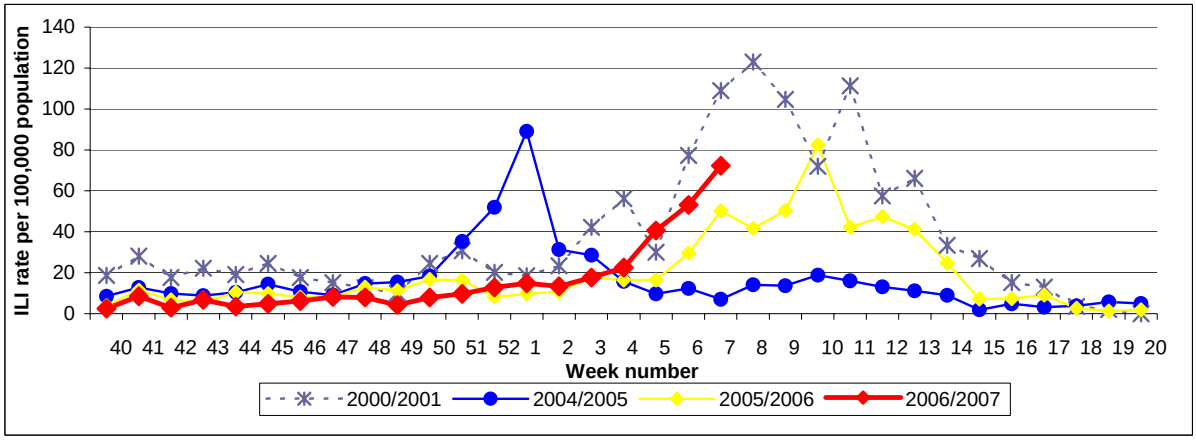


**Figure 1:** GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

** Highest recorded levels of ILI activity since initiation of sentinel surveillance.*

## Results (continued)

Nine cases were in the 0-4 year age group (88.2 per 100,000 population), twelve cases in 5-14 year age group (59.4 per 100,000 population), 78 cases were in the 15-64 year age group (80 per 100,000 population) and five cases were in the 65 years or older age group (31.2 per 100,000 population) as shown in figure 2. Thirty-nine of the 47 (79%) sentinel general practices reported during week 7 2007, with 31 reporting ILI.

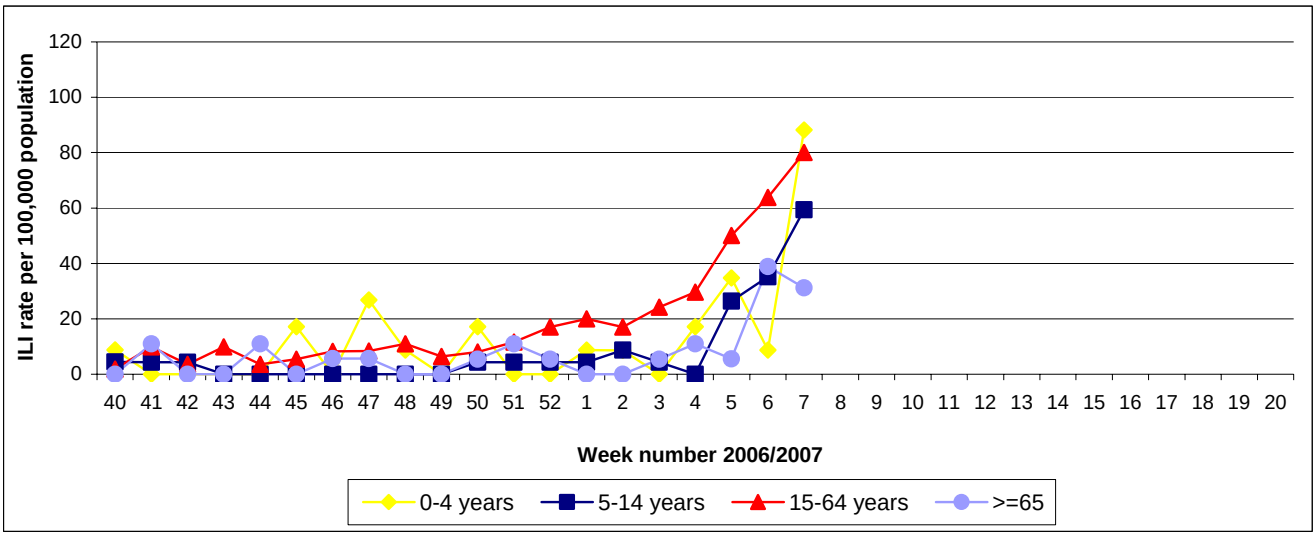


**Figure 2:** Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. **Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national age distribution.*

### *Virological Data from the National Virus Reference Laboratory (NVRL)*

The NVRL tested 42 specimens taken by sentinel GPs during week 7 2007, 18 of which were positive for influenza A unsubtyped. The NVRL also tested 38 non-sentinel specimens taken during week 7 2007, mainly from hospitalised paediatric cases. Three non-sentinel specimens were positive for respiratory syncytial virus (RSV) and four were positive for influenza A unsubtyped (table 1). During the 2006/2007 season to date, 87 influenza A viruses and one influenza B virus has been detected. Of the 87 influenza A viruses, two have been subtyped as A(H1) and 27 have been subtyped as A(H3). Influenza positive specimens have been detected in all of the eight HSE-Areas so far this season (table 2). Table 3 shows influenza positive specimens detected by the NVRL by age group (in years) for week 7 2007 and for the 2006/2007 season to date. 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 2005/2006 and 2006/2007 influenza seasons.

**Table 1:** Number of sentinel and non-sentinel* respiratory specimens and positive results for week 7 2007 and the 2006/2007 season to date

| Week Number | Specimen Type | Total Specimens | No. Influenza Positive | % Influenza Positive | Influenza A | Influenza B | RSV |
|---|---|---|---|---|---|---|---|
| **7 2007** | Sentinel | 42 | 18 | 42.9 | 18 | 0 | NA |
| | Non-Sentinel | 38 | 4 | 10.5 | 4 | 0 | 3 |
| | **Total** | **80** | **22** | **27.5** | **22** | **0** | **3** |
| **40 2006 - 7 2007** | Sentinel | 241 | 67 | 27.8 | 66 | 1 | NA |
| | Non-Sentinel | 1230 | 21 | 1.7 | 21 | 0 | 307 |
| | **Total** | **1471** | **88** | **6.0** | **87** | **1** | **307** |

**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 7 2007 and the 2006/2007 season to date

| | Week 7 2007 | | | Season to date | | |
|---|---|---|---|---|---|---|
| | Flu A | Flu B | Total | Flu A | Flu B | Total |
| HSE-ER | 9 | 0 | **9** | 30 | 0 | **30** |
| HSE-MA | 2 | 0 | **2** | 4 | 0 | **4** |
| HSE-MWA | 1 | 0 | **1** | 7 | 0 | **7** |
| HSE-NEA | 1 | 0 | **1** | 3 | 0 | **3** |
| HSE-NWA | 1 | 0 | **1** | 11 | 0 | **11** |
| HSE-SEA | 6 | 0 | **6** | 10 | 1 | **11** |
| HSE-SA | 2 | 0 | **2** | 14 | 0 | **14** |
| HSE-WA | 0 | 0 | **0** | 8 | 0 | **8** |
| **Total** | **22** | **0** | **22** | **87** | **1** | **88** |

** 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 7 2007 and the 2006/2007 season to date

| | Week 7 2007 | | | Season to date | | |
|---|---|---|---|---|---|---|
| | Flu A | Flu B | Total | Flu A | Flu B | Total |
| **0-4 years** | 3 | 0 | **3** | 17 | 0 | **17** |
| **5-14 years** | 3 | 0 | **3** | 9 | 0 | **9** |
| **15-64 years** | 15 | 0 | **15** | 59 | 1 | **60** |
| **65 years and older** | 1 | 0 | **1** | 1 | 0 | **1** |
| **Age group unknown** | 0 | 0 | **0** | 1 | 0 | **1** |
| **Total** | **22** | **0** | **22** | **87** | **1** | **88** |

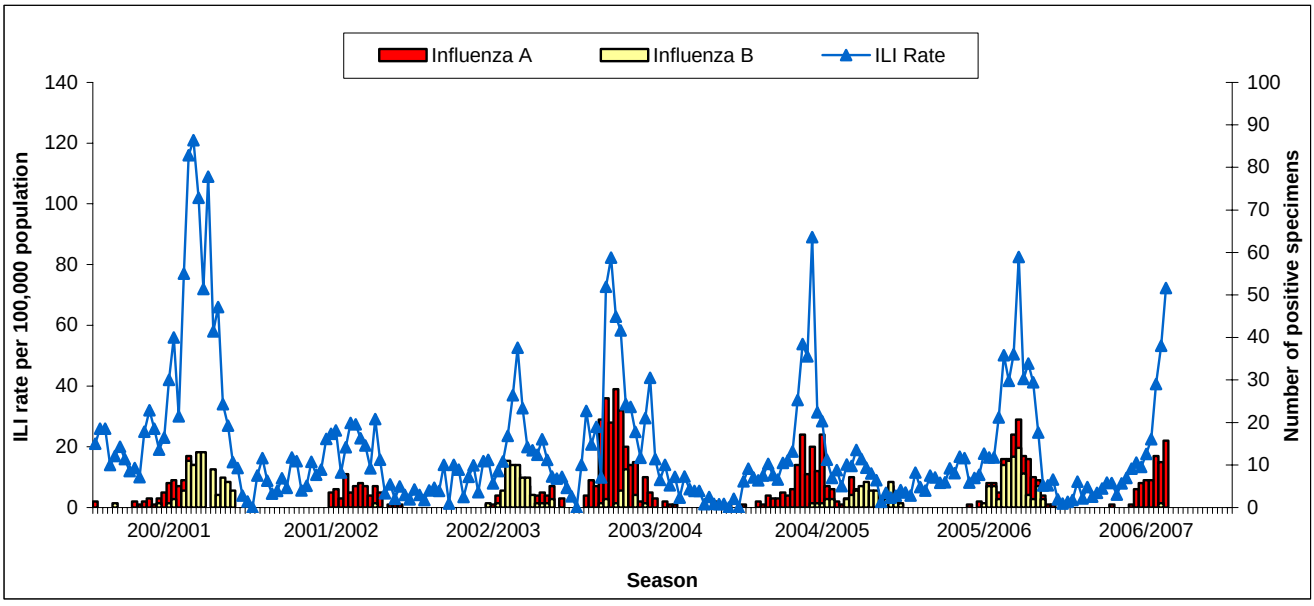


**Figure 3:** ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

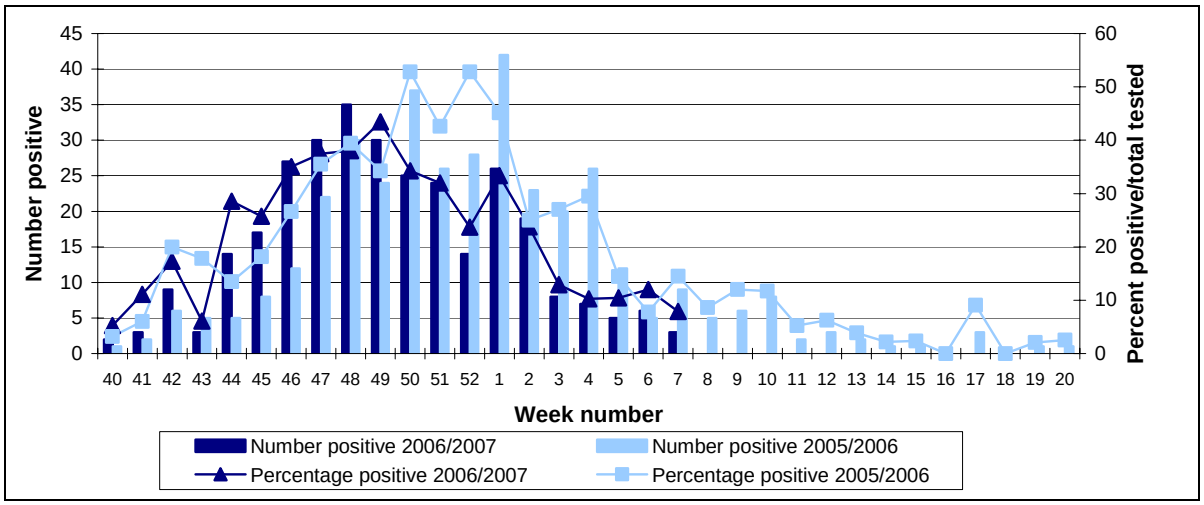


**Figure 4.** Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

## *Weekly Influenza Notifications*

Ten influenza cases were notified to HPSC during week 7 2007. Influenza cases notified to HPSC during the summer of 2006 and during the 2006/2007 influenza season are shown in figure 5 and compared to ILI consultation rates.

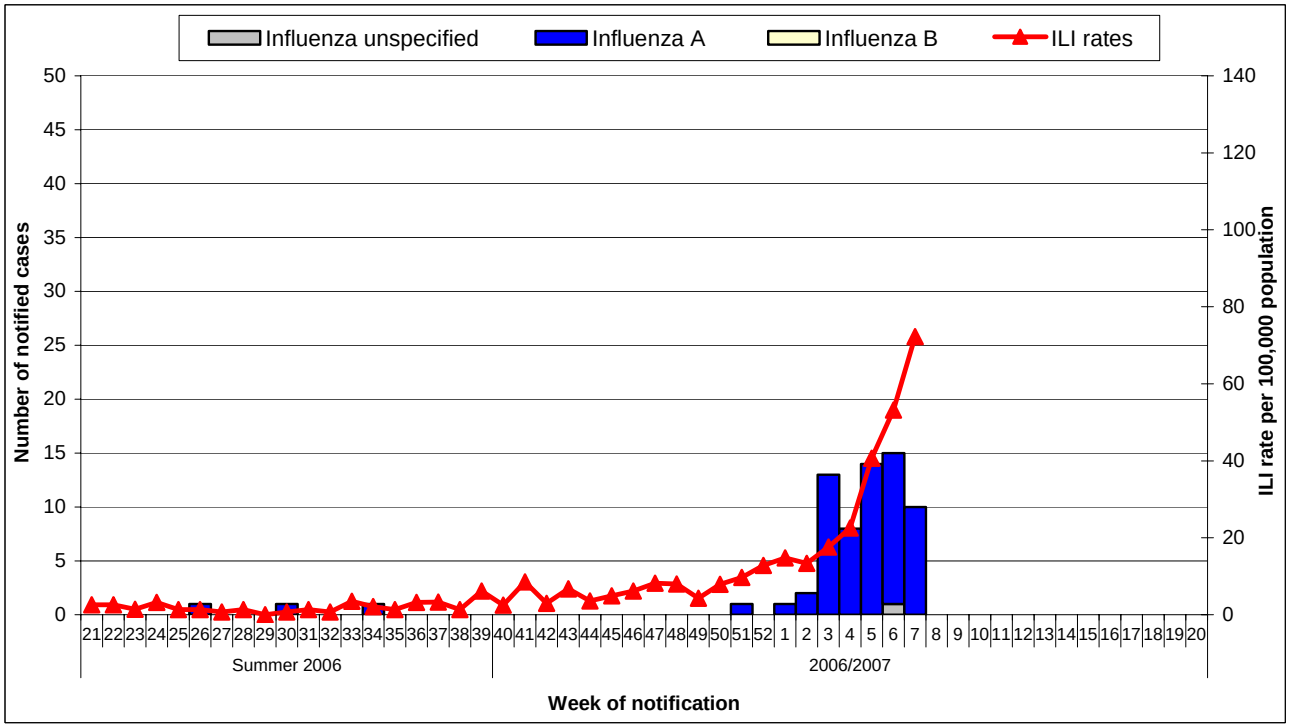


**Figure 5:** Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.
**Notification data are provisional and were extracted from CIDR on the 20/02/2007 at 17.25*

### *Mortality Data*
No influenza associated deaths were registered during week 7 2007.

### *Outbreak Reports*
No influenza/ILI outbreaks were reported to HPSC during week 7 2007.

### *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. 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. During week 6, sporadic influenza activity based on isolated cases of ILI and influenza virus isolations was reported by HSE-MA, -MWA, -NEA, -NWA, -SEA and -SA. Localised activity was reported from HSE-ER and -WA during week 6 2007 (figure 6). During week 6, elevated levels of absenteeism were reported by one secondary school each in HSE-ER and -SEA and two primary schools in HSE-WA. An increase in respiratory admissions was also reported by a sentinel hospital in HSE-SEA.

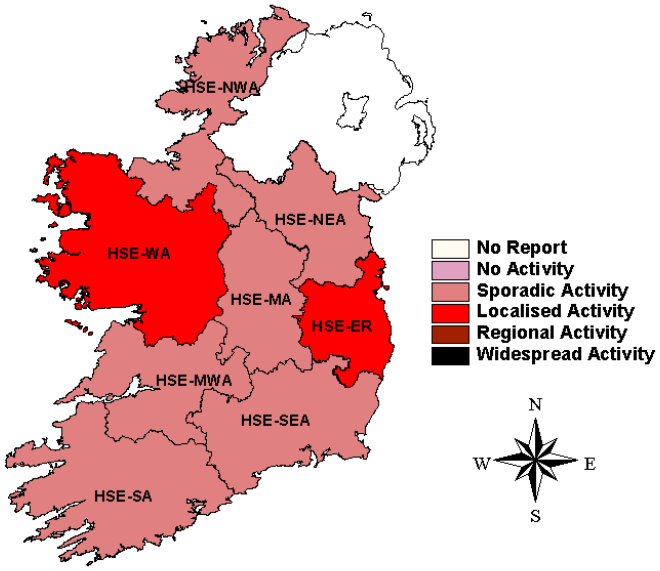


**Figure 6:** Map of influenza activity by HSE-Health Area during week 6 2007

### *Influenza Activity in Northern Ireland*
One hundred and ninety-two ILI cases and nine cases of clinical influenza were reported from sentinel GPs in Northern Ireland during week 7 2007, corresponding to a combined rate of 194.6 per 100,000 population, a slight decrease from the updated rate of 196.3 per 100,000 population during week 6. Influenza A viruses were detected in 11 non-sentinel swabs from hospitalised patients and from seven sentinel swabs.
http://www.cdscni.org.uk

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

During week 7, clinical influenza activity increased in England and Wales but decreased in Scotland. In England, the ILI episode incidence rate has increased to 44.8 per 100,000 in week 7 from 38.4 per 100,000 in week 6 . This is above the baseline activity threshold of 30 per 100,000 persons and is now said to be normal seasonal activity. In Scotland, GP consultation rates for ILI decreased to 29 consultations per 100,000 in week 7 from 30 per 100,000 in week 6. Both these rates are beneath the Scottish baseline threshold of 50 consultations per 100,000. In Wales, GP consultations for ILI have increased to 17.8 per 100,000 in week 7 compared to 8.5 per 100,000 in week 6. Both rates are below the baseline threshold of 25 consultations per 100,000. Eighty-three samples referred to the Centre for Infections' Respiratory Virus Unit (RVU) tested positive for influenza A.
http://www.hpa.org.uk/infections/topics%5Faz/influenza/seasonal/activity0607/flureport.htm

### *Influenza Activity in Europe*

During week 6 2007, for the intensity indicator, national network levels of ILI and/or acute respiratory infection (ARI) were high in Luxembourg and Switzerland, medium in 21 countries and low in Denmark, Latvia and Sweden. Although the intensity of clinical influenza activity is still low in Denmark, Latvia and Sweden, the consultation rate for ILI in these countries is increasing. For the geographical spread indicator, widespread activity was reported in 11 countries. Four countries (Germany, Latvia, Romania and Slovakia) reported regional activity, five local and seven sporadic. In most countries the consultation rates for ILI/ARI started to increase around mid-January. In Greece the rate is on the decline after peaking in week 3. By week 6, 23 countries reported increased levels of ILI/ARI this winter. The total number of respiratory specimens collected by sentinel physicians was 1946, of which 862 (44.3%) were positive for influenza virus. Of these, 841 (98%) specimens tested positive for influenza A and 21 (2%) for influenza B. In addition, 757 specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) tested positive for influenza virus; 750 (99%) were influenza A and 7 (1%) were influenza B. Based on subtyping data of all influenza virus detections (N=6569; sentinel and non-sentinel data), 3916 (60%) were type A unsubtyped, 1109 (17%) were A(H3), 1124 (17%) were A(H3N2), 236 (4%) A(H1), 59 (1%) were A(H1N1) and 125 (2%) type B. Based on antigenic and/or genetic characterisation of 680 viruses, 388 were A/Wisconsin/67/2005 (H3N2)-like, 186 A/California/7/2004 (H3N2)-like [a strain of the A(H3N2) virus that emerged during the 2004-2005 season, circulated during the 2005-2006 season, and is closely related to the A/Wisconsin/67/2005 (H3N2) reference virus], 51 A/New Caledonia/20/99 (H1N1)-like, 54 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage) and one B/Jiangsu/10/2003-like (the B/Yamagata/16/88 lineage)
http://www.eiss.org/index.cgi

### *Influenza Activity in Canada*

During week 6, influenza activity in Canada continued to increase with all indicators of influenza activity having increased from the previous week. Widespread influenza activity was reported in Toronto, Ontario and in the Interior and Fraser regions of British Columbia, while localised activity was reported in 20 other regions across the country, mostly in Ontario, Quebec, New Brunswick and British Columbia. Sporadic influenza activity was reported in various regions across Canada, while the rest reported no activity. In week 6, the percent of specimens that tested positive for influenza virus was 12.9% (430/3,346). Of the influenza virus detections to date this season, 97% (2,240/2,310) were influenza A viruses. In week 6, the ILI consultation rate was 28 per 1,000 patient visits, which is below the expected range for this week. The rate was highest among the 0 to 4 year olds and the sentinel response rate was 73% for week 6. During week 6, 36 new outbreaks were reported; 11 influenza outbreaks in long term care facilities, two in hospitals, one in another type of facility and 22 outbreaks of ILI in schools. The National Microbiology Laboratory (NML) has characterised 370 influenza viruses for the 2006-2007 influenza season: 125 A/New Caledonia/20/1999(H1N1)-like, 224 A/Wisconsin/67/05(H3N2)-like, 4 B/Malaysia/2506/2004-like, and 15 B/Shanghai/361/2002-like. All but the B/Shanghai/361/2002-like strain are included in the composition of the 2006-2007 Canadian influenza vaccine.
http://www.phac-aspc.gc.ca/fluwatch/index.html

### *Influenza Activity in the United States*

During week 6, influenza activity continued to increase in the United States. Among specimens tested by the U.S. World Health Organization (WHO) and the National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories for influenza, 26.9% were positive. ILI data was above baseline for week 6. Nineteen states reported widespread influenza activity, 14 states reported regional influenza activity, 12 states and New York City reported local influenza activity, five states and the District of Columbia reported sporadic influenza activity and two states did not report. The reporting of widespread or regional influenza activity increased from 28 states for week 5 to 33 states for week 6. The percent of deaths due to pneumonia and influenza remained below baseline level. During week 6, WHO and NREVSS laboratories reported 3,986 specimens tested for influenza viruses, 1,071 (26.9%) of which were positive; 76 influenza A(H1) viruses, 12 influenza A(H3) viruses, 793 influenza A viruses that were not subtyped and 190 influenza B viruses. Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 91,873 specimens for influenza viruses and 8,321 (9.1%) were positive. Among the 8,321 influenza viruses, 6,943 (83.4%) were influenza A viruses and 1,378 (16.6%) were influenza B viruses. One thousand nine hundred eighteen (27.6%) of the 6,943 influenza A viruses have been subtyped: 1,692 (88.2%) were influenza A(H1) viruses and 226 (11.8%) were influenza A(H3) viruses.
http://www.cdc.gov/flu/

### *Influenza Activity Worldwide*

During week 6 2007 the following influenza isolates were reported; China 105 (3 A(H1), 87 A(H3), 6 A unsubtyped and 9 B), Japan 19 (1 A(H1), 6 A(H3) and 12 B) and Tunisia 7 (1 A(H1), 5 A(H3) and 1 influenza unspecified). China and Mongolia reported sporadic levels of ILI while Tunisia reported a regional outbreak of ILI.
http://gamapserver.who.int/GlobalAtlas/home.asp

### *Avian Influenza*

As of the 21st February 2007, 274 confirmed human cases and 167 (61%) deaths from avian influenza A (H5N1) have been reported to the WHO from Azerbaijan, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Thailand, Turkey and Vietnam.

The Egyptian Ministry of Health and Population has announced a new human case of avian influenza A(H5N1) virus infection. The case was confirmed by the Egyptian Central Public Health Laboratory and by the US Naval Medical Research Unit No.3 (NAMRU-3). The 5-year-old boy from Sharkia Governorate was admitted to hospital with symptoms on 14th February, and his condition remains stable. The boy was exposed to sick birds one week prior to the onset of symptoms. Contacts of the boy remain healthy and have been placed under close observation.

The Egyptian Ministry of Health and Population announced a new human case of avian influenza A(H5N1) virus infection on 15th February. The case was confirmed by the Egyptian Central Public Health Laboratory and by the US Naval Medical Research Unit No.3 (NAMRU-3). The 37-year-old female from Fayyoum Governorate was admitted to hospital with symptoms on 12th February 2007 and died on 16th February. She was involved in the slaughter and de-feathering of sick birds one week prior to the onset of illness.

Of the 22 cases confirmed to date in Egypt, 13 have been fatal.

Further information on avian influenza is available on the following websites:
WHO 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/

### *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[a;]
- a B/Malaysia/2506/2004-like virus[b]

Candidate vaccine viruses include:

[a]A/Wisconsin/67/2005 (H3N2) and A/Hiroshima/52/2005

[b]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 Sarah Jackson & Dr. Margaret Fitzgerald, HPSC**