

# 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 11 2007 (12<sup>th</sup> to 18<sup>th</sup> March 2007)

## Summary

During week 11 2007, influenza activity was at low levels in Ireland, with 20 influenza-like illness (ILI) cases reported by sentinel GPs. Three specimens tested by the NVRL were positive for influenza A virus during week 11.

## Background

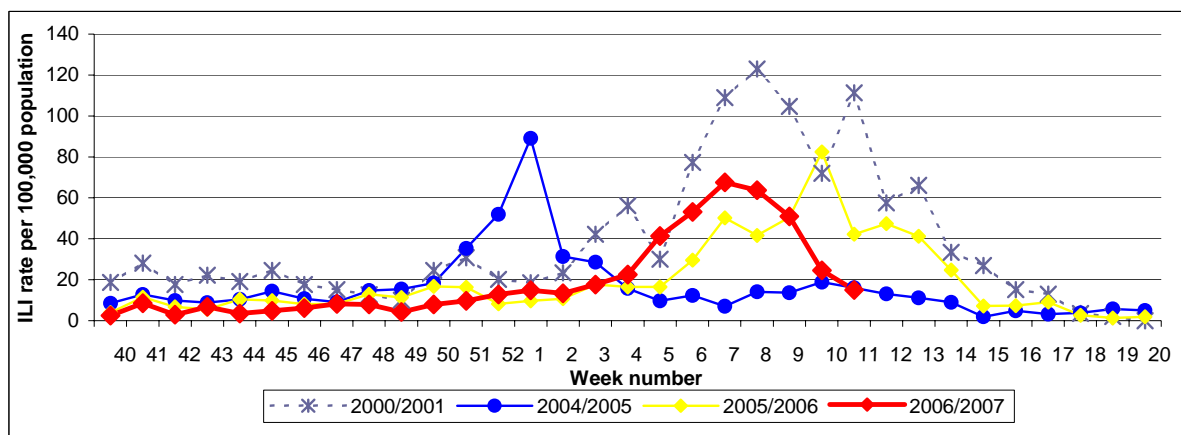
This is the seventh season of influenza surveillance using computerised sentinel general practices in Ireland. The Health Protection Surveillance Centre (HPSC) is working in collaboration with the Irish College of General Practitioners (ICGP), the National Virus Reference Laboratory (NVRL) and the Departments 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

Twenty ILI cases were reported from sentinel GPs during week 11 2007, corresponding to an ILI consultation rate of 15 per 100,000 population, a marked decrease from the updated rate of 24.6 in week 10 (figure 1).

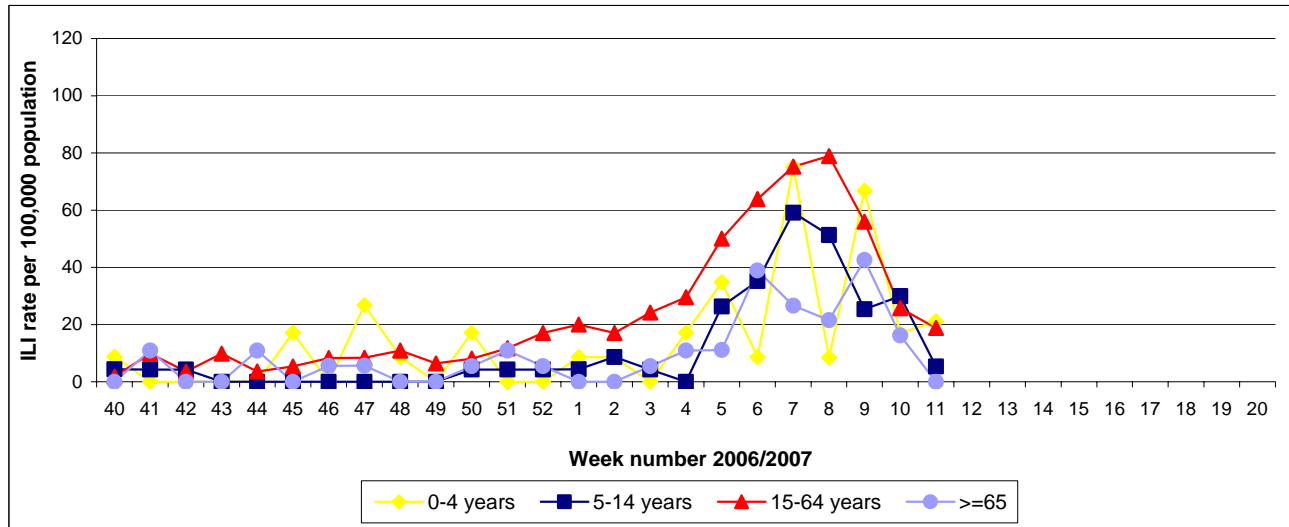


**Figure 1:** GP consultation rate for ILI per 100,000 population by week, during the 2000/2001\*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

## Results (continued)

Two cases were in the 0-4 year age group (21.2 per 100,000 population), one case was in the 5-14 year age group (5.3 per 100,000 population) and 17 cases were in the 15-64 year age group (18.8 per 100,000 population) as shown in figure 2. Thirty-six of the 47 (77%) sentinel general practices reported during week 11 2007, with 13 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 3 specimens taken by sentinel GPs during week 11 2007, none of which were positive for influenza. The NVRL also tested 53 non-sentinel specimens taken during week 11 2007, mainly from hospitalised paediatric cases. Three non-sentinel specimens were positive for influenza A untyped and none were positive for respiratory syncytial virus (RSV) (table 1). During the 2006/2007 season to date, 158 influenza A viruses and two influenza B viruses have been detected. Of the 158 influenza A viruses, two have been subtyped as A(H1) and 98 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 11 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 11 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
<b>11 2007</b>	Sentinel	3	0	0.0	0	0	NA
	Non-Sentinel	53	3	5.7	3	0	0
	<b>Total</b>	<b>56</b>	<b>3</b>	<b>5.4</b>	<b>3</b>	<b>0</b>	<b>0</b>
<b>40 2006 - 11 2007</b>	Sentinel	329	121	36.8	119	2	NA
	Non-Sentinel	1449	39	2.7	39	0	319
	<b>Total</b>	<b>1778</b>	<b>160</b>	<b>9</b>	<b>158</b>	<b>2</b>	<b>319</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.

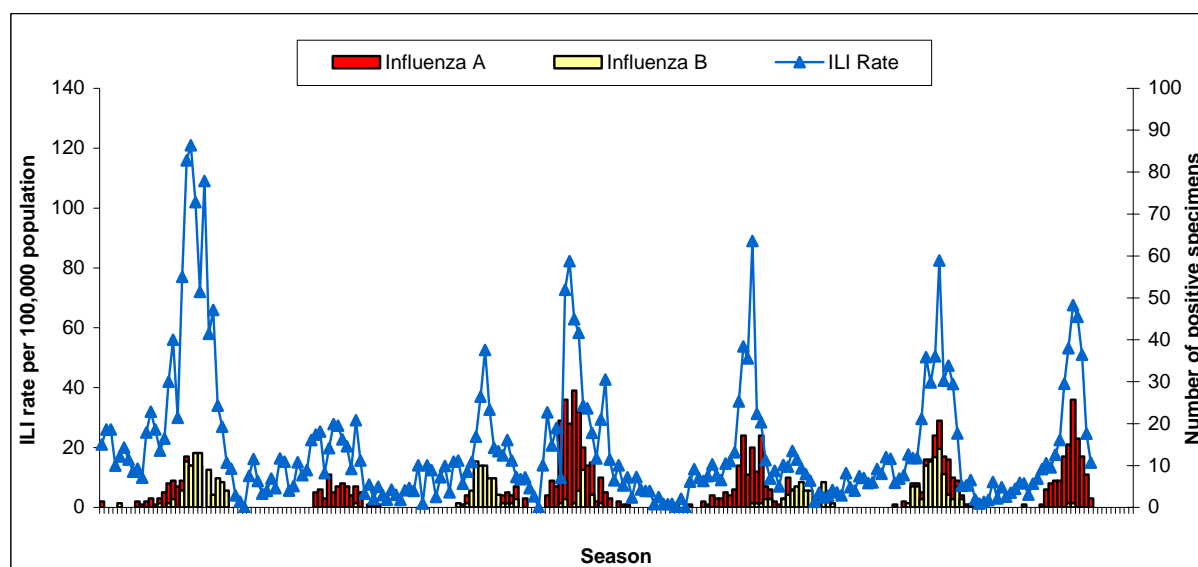
**Table 2:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by HSE-Area for week 11 2007 and the 2006/2007 season to date

	Week 11 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	2	0	2	53	0	53
HSE-MA	0	0	0	7	0	7
HSE-MWA	0	0	0	13	0	13
HSE-NEA	0	0	0	25	0	25
HSE-NWA	0	0	0	5	0	5
HSE-SEA	0	0	0	20	2	22
HSE-SA	1	0	1	22	0	22
HSE-WA	0	0	0	12	0	12
HSE Not Known	0	0	0	1	0	1
<b>Total</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>158</b>	<b>2</b>	<b>160</b>

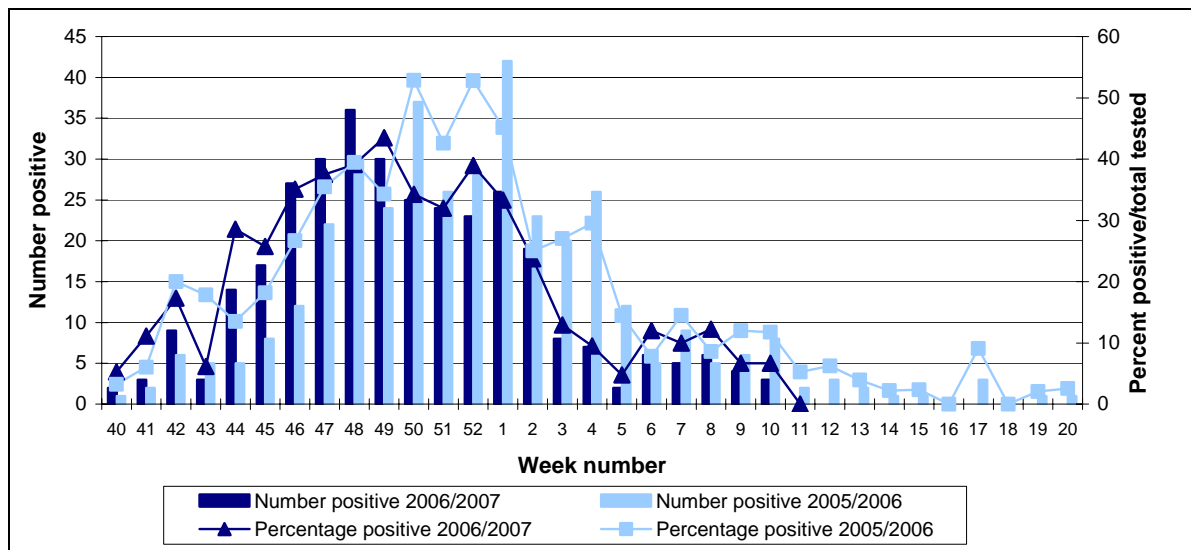
\* Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case.

**Table 3:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by age group (in years) for week 11 2007 and the 2006/2007 season to date

	Week 11 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
0-4 years	2	0	2	32	0	32
5-14 years	0	0	0	17	0	17
15-64 years	1	0	1	105	2	107
65 years and older	0	0	0	3	0	3
Age group unknown	0	0	0	1	0	1
<b>Total</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>158</b>	<b>2</b>	<b>160</b>



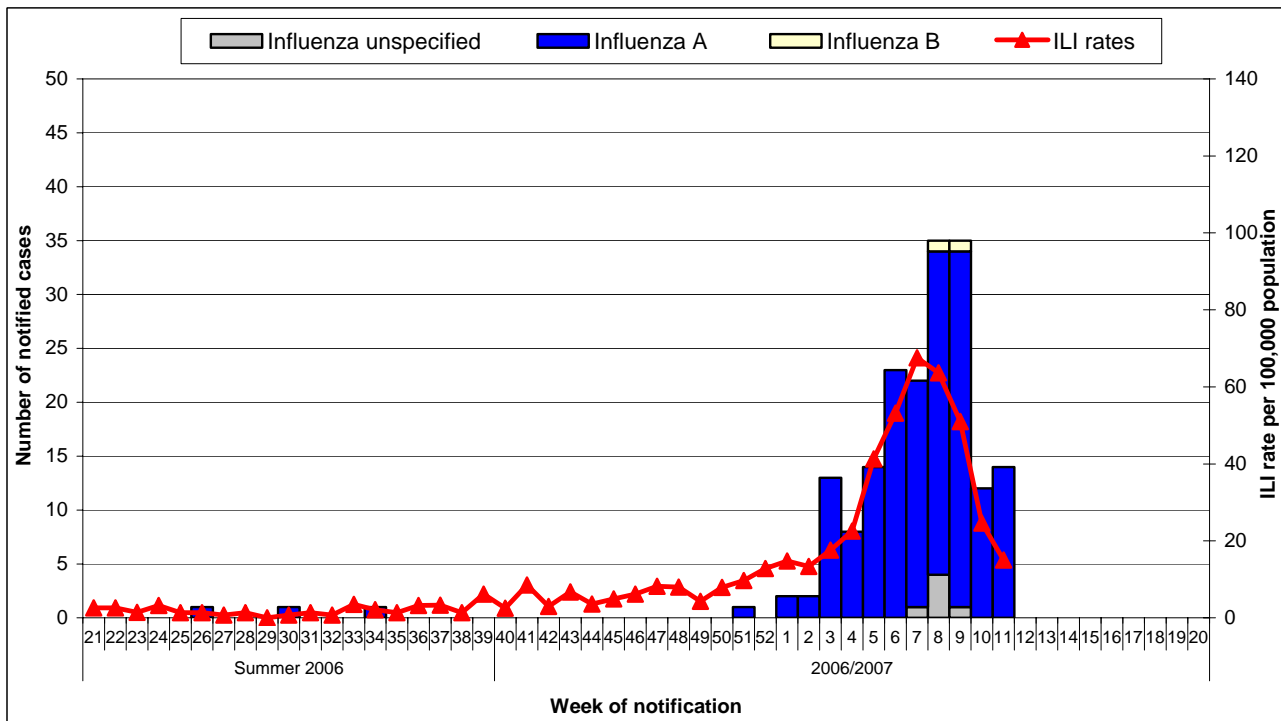
**Figure 3:** ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.



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

### Weekly Influenza Notifications

Fourteen influenza cases were notified to HPSC during week 11 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 21/03/2007 at 14.20

### Mortality Data

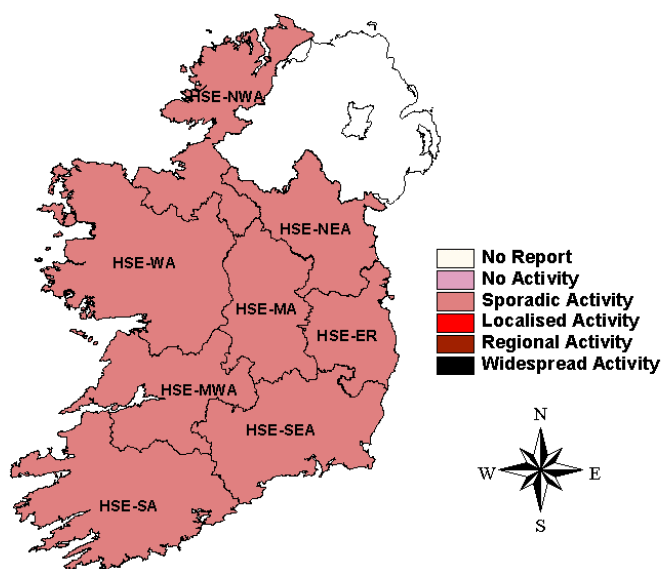
No influenza associated deaths were registered with the GRO during week 11 2007.

### ***Outbreak Reports***

No influenza/ILI outbreaks were reported to HPSC during week 11 2007. The HPSC would welcome any documented reports of ILI/influenza outbreak investigations.

### ***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 10, sporadic influenza activity based on isolated cases of ILI and/or influenza virus isolations was reported by all HSE Areas (figure 6). During week 10, an increase in respiratory admissions was reported by one sentinel hospital in HSE-ER.



**Figure 6:** Map of influenza activity by HSE-Health Area during week 10 2007

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

During week 10 2007, the combined ILI and clinical influenza sentinel GP consultation rate was 117.6 per 100,000 population in Northern Ireland, a decrease from the updated rate of 155.6 per 100,000 population during week 9. No influenza viruses were detected from sentinel or non-sentinel swabs during week 10 2007.

During week 11, 35 non-sentinel swabs were tested and influenza A viruses were detected in 3 hospitalised patients. No influenza viruses were detected in sentinel swabs during week 11 2007. No clinical data were available for week 11 2007 from Northern Ireland but this data will be included in the week 12 2007 HPSC influenza report.

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

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

During week 11, clinical influenza activity within the UK has decreased or remained at similar levels. All countries in the UK with baseline activity thresholds are now below this level. In England, the ILI episode incidence rate has decreased from 18.8 per 100,000 persons in week 10 to 12.7 per 100,000 in week 11. The rate for week 11 is below the baseline activity threshold of 30 per 100,000. In Scotland, GP consultation rates for ILI were similar at 14 consultations per 100,000 in week 10 and 13 per 100,000 in week 11. These rates are below the Scottish baseline threshold of 50 consultations per 100,000. In Wales, GP consultations for influenza remain low and stable at 4.9 per 100,000 in week 11 compared to 6.3 per 100,000 in week 10. Both rates are below the baseline threshold of 25 consultations per 100,000. Eight samples referred to the Centre for Infections' Respiratory Virus Unit (RVU) tested positive for influenza A (H3) during week 11 2007.

<http://www.hpa.org.uk/infections/topics%5Faz/influenza/seasonal/activity0607/flureport.htm>

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

During week 10 2007, for the intensity indicator, the national network levels of ILI and/or acute respiratory infection (ARI) were high in the Scandinavian countries and Baltic States, medium in five countries and low in 15 countries. A substantial increase over last week's rates was reported in Denmark, whilst rates in Estonia and Sweden continued to level off. In Germany, Latvia, Lithuania, the Netherlands and Poland rates have started to decline. For the geographical spread indicator, widespread activity was reported in nine countries, regional in three, local in four, sporadic in nine and no activity in two. This winter, the consultation rates for ILI and/or ARI started to increase around New Year in Greece and Spain, for most other countries in the South-West of Europe around mid January 2007 and in large parts of Central and North-East Europe in February. By week 10 2007, influenza activity has returned to levels seen outside the winter period or is decreasing in most countries. The total number of respiratory specimens collected by sentinel physicians was 1291, of which 434 (34%) were positive for influenza virus: 428 (99%) influenza A and six (1%) influenza B. In addition, among 645 specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) positive for influenza virus, 641 (99%) were influenza A and four (1%) influenza B. Based on subtyping data of all influenza virus detections (N=14366; sentinel and non-sentinel data), 8142 (57%) were type A untyped; 3108 (22%) were A(H3), 2587 (18%) were A(H3N2), 171 (1%) were A(H1), 120 (1%) were A(H1N1) and 238 (2%) type B. In Romania, 42% of viruses were influenza B. Based on the antigenic and/or genetic characterisation of 1 980 influenza viruses, 1 453 were A/Wisconsin/67/2005 (H3N2)-like; 299 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]; 123 A/New Caledonia/20/99 (H1N1)-like; 100 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage); and five B/Jiangsu/10/2003-like (the B/Yamagata/16/88 lineage). Overall there is a good match between the 2006-2007 vaccine virus strains and the reported virus strains

<http://www.eiss.org/index.cgi>

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

During week 9, overall influenza activity in Canada increased from the previous week, with 7 regions reporting widespread influenza activity, 31 regions reporting localised activity, 21 regions reporting sporadic activity and three regions (from Nova Scotia and Nunavut) reported no activity. (Note that final activity level information for Newfoundland and Labrador are pending; however there were 22 outbreaks reported in the province) In week 9, the percent of specimens that tested positive for influenza virus in Canada increased overall slightly from the previous week (20% or 848/4,243). Regionally, influenza detections in week 9 were similar to the previous week in most regions except in Ontario and British Columbia where influenza detections increased. Of the influenza virus detections to date this season, 96% (4,250/4,423) were influenza A viruses. The ILI consultation rate increased from 21 per 1,000 patient visits in week 8 to 51 per 1,000 in week 9. This rate is the highest observed to date this season, however it is still within the expected range for this week. The rates increased from the previous week in all age groups, however the highest rates were observed among the 20-64 and 0-4 year age groups. The sentinel response rate was 72%. During week 9, 97 new outbreaks were reported (the highest reported to date): 38 influenza outbreaks in long term care facilities, 48 outbreaks of ILI in schools and 11 in other facilities. The National Microbiology Laboratory (NML) has characterised 614 influenza viruses for the 2006-2007 influenza season: 202 A/New Caledonia/20/1999(H1N1)-like, 382 A/Wisconsin/67/05(H3N2)-like, 7 B/Malaysia/2506/2004-like, and 23 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 10, influenza activity continued to decrease in the United States. Data from the U.S., World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories indicated a decline in activity for the fourth consecutive week with 18.8% of specimens testing positive for influenza this week. ILI data was above baseline for the twelfth week this season but is declining. Nineteen states reported widespread influenza activity, 23 states reported regional influenza activity, four states, New York City and the District of Columbia reported local influenza activity, three states reported sporadic influenza activity and two states did not report. The reporting of widespread or regional influenza activity increased from 41 for week 9 to 42 for week 10. The percent of deaths due to pneumonia and influenza remained below baseline level. During week 10, WHO and NREVSS laboratories reported 4,417 specimens tested for influenza viruses, 830 (18.8%) of which were positive: 86 influenza A (H1) viruses, 29 influenza A (H3) viruses, 448 influenza A viruses that were not subtyped, and 267 influenza B viruses. Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 128,223 specimens for influenza viruses and 16,602 (12.9%) were positive. Among the 16,602 influenza viruses, 13,583 (81.8%) were influenza A viruses and 3,019 (18.2%) were influenza B viruses. Three thousand eight hundred and five (28.0%) of the 13,583 influenza A viruses have been subtyped: 3,104 (81.6%) were influenza A (H1) viruses and 701 (18.4%) were influenza A (H3) viruses.

<http://www.cdc.gov/flu/>

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

During week 10 2007 the following influenza isolates were reported; Chile one A unsubtype, China 357 (6 A(H1), 304 A(H3), 30 A unsubtype and 17 B) and Japan 20 (12 A(H3) and 8 B). Argentina reported no activity while Chile, China, Madagascar and Mongolia reported sporadic levels of ILI.

<http://gamapserver.who.int/GlobalAtlas/home.asp>

### ***Avian Influenza***

As of the 20<sup>th</sup> March 2007, 281 confirmed human cases and 169 (60%) deaths from avian influenza A (H5N1) have been reported to the WHO from Azerbaijan, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Lao Peoples Democratic Republic, Nigeria, Thailand, Turkey and Viet Nam.

The Egyptian Ministry of Health and Population has announced two new human cases of avian influenza A(H5N1) virus infection, on 19 March and 20 March. Both cases were confirmed by the Egyptian Central Public Health Laboratory and by the US Naval Medical Research Unit No.3 (NAMRU-3). The case announced on 20 March was a 2-year-old boy from Aswan Governorate who developed symptoms on 15 March. He was admitted to hospital on 16 March where he remains in a stable condition. Investigations indicate a history of contact with backyard poultry. The case announced on 19 March was a 10-year-old girl from Aswan Governorate, who was admitted to hospital with symptoms on 13 March and her condition remains stable. Investigations indicate that she had recently been exposed to sick poultry. Contacts of the girl are being kept under observation. No epidemiological link has been found between these two cases. Of the 26 cases confirmed to date in Egypt, 13 (50%) have been fatal.

The Ministry of Health in Lao People's Democratic Republic has reported a second human case of infection with the H5N1 avian influenza virus. The case was fatal. Initial testing was conducted by the National Centre for Laboratory and Epidemiology in Laos. In line with WHO policy, samples were sent to a WHO collaborating laboratory in Tokyo for diagnostic verification and further analysis. The collaborating centre has now confirmed H5N1 infection. The 42-year-old female was from Saka village, Pong Hong district in Vientiane province. She developed fever 26 February and was hospitalised in Vientiane Provincial hospital on 28 February and then transferred to Sethathirat hospital on 1 March. She died on 4 March. Tests taken during an investigation to determine the source of exposure have found a duck positive for H5 in the woman's household. Close family and hospital contacts are being monitored and to date, none has shown signs of infection. WHO continues to work closely with the Lao government to strengthen case reporting,

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.ndsc.ie/hpsc/A-Z/Respiratory/AvianInfluenza/>

ECDC <http://www.ecdc.eu.int/>

### ***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 Sarah Jackson & Dr. Suzanne Cotter, HPSC**