

# 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 17 2007 (23<sup>rd</sup> April to 29<sup>th</sup> April 2007)

## Summary

During week 17 2007, influenza activity was at low levels in Ireland, with no influenza-like illness (ILI) cases reported by sentinel GPs. No specimens tested by the NVRL were positive for influenza virus during week 17.

## 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-eight 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

No ILI cases were reported from sentinel GPs during week 17 2007, corresponding to an ILI consultation rate of 0.0 per 100,000 population, a decrease from the updated rate of 0.6 per 100,000 population during week 16 (figure 1).

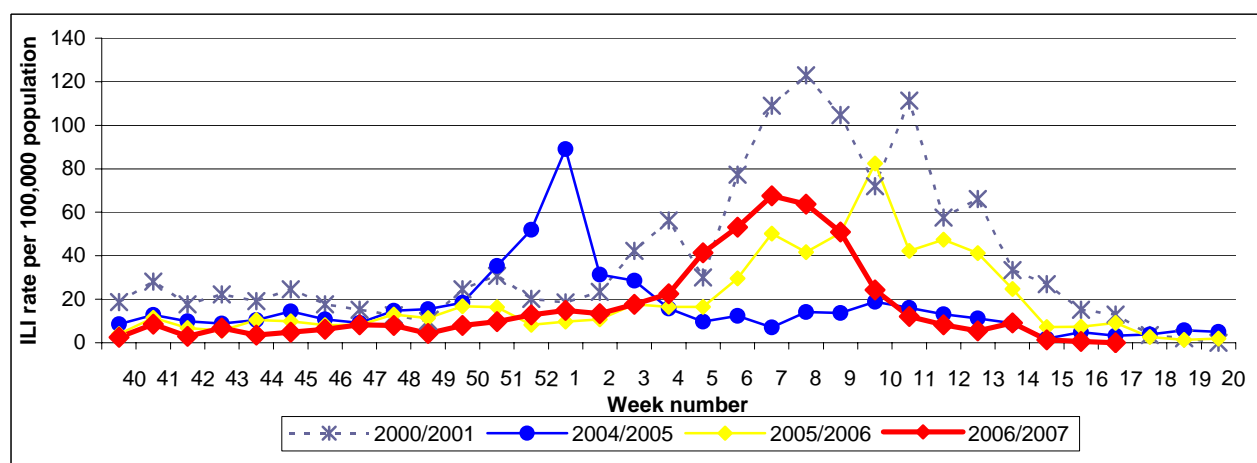
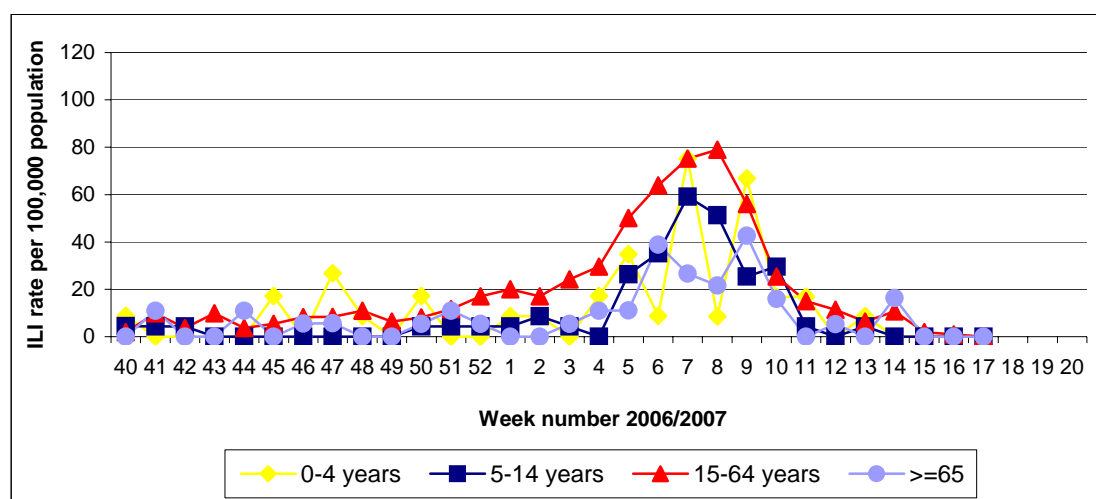


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001\*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

## Results (continued)

The age-specific rate of ILI for the 2006/2007 season to date is shown in figure 2. Forty-two of the 48 (87.5%) sentinel general practices reported during week 17 2007 with none 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)

No specimens taken by sentinel GPs were tested by the NVRL during week 17 2007. The NVRL tested 26 non-sentinel specimens taken during week 17 2007, mainly from hospitalised paediatric cases. All non-sentinel specimens were negative for both influenza virus and respiratory syncytial virus (RSV) (table 1). One pending sentinel specimen from week 16 tested positive for influenza A virus. During the 2006/2007 season to date, 167 influenza A viruses and two influenza B viruses have been detected. Of the 167 influenza A viruses, two have been subtyped as A(H1) and 106 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 17 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 17 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>17 2007</b>	Sentinel	0	0	0.0	0	0	NA
	Non-Sentinel	26	0	0.0	0	0	0
	<b>Total</b>	<b>26</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>40 2006 – 17 2007</b>	Sentinel	351	126	35.9	124	2	NA
	Non-Sentinel	1714	43	2.5	43	0	326
	<b>Total</b>	<b>2065</b>	<b>169</b>	<b>8.2</b>	<b>167</b>	<b>2</b>	<b>326</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

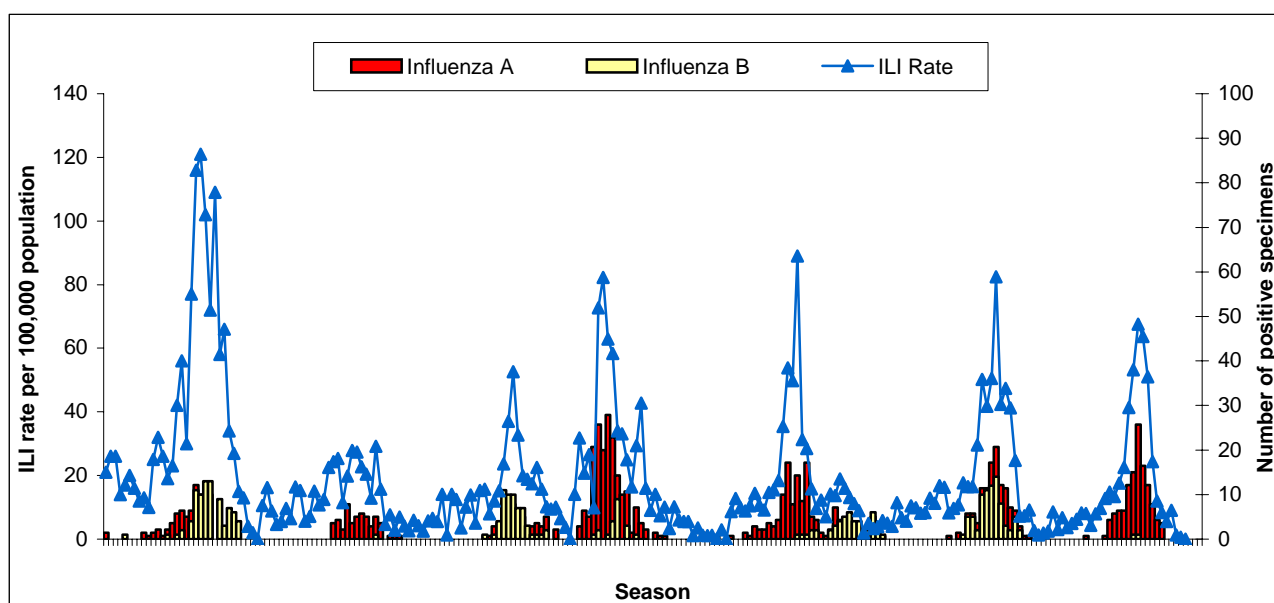
**Table 2:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by HSE-Area for week 17 2007 and the 2006/2007 season to date

	Week 17 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	0	0	0	58	0	58
HSE-MA	0	0	0	7	0	7
HSE-MWA	0	0	0	13	0	13
HSE-NEA	0	0	0	15	0	15
HSE-NWA	0	0	0	16	0	16
HSE-SEA	0	0	0	23	2	25
HSE-SA	0	0	0	22	0	22
HSE-WA	0	0	0	12	0	12
HSE Not Known	0	0	0	1	0	1
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>167</b>	<b>2</b>	<b>169</b>

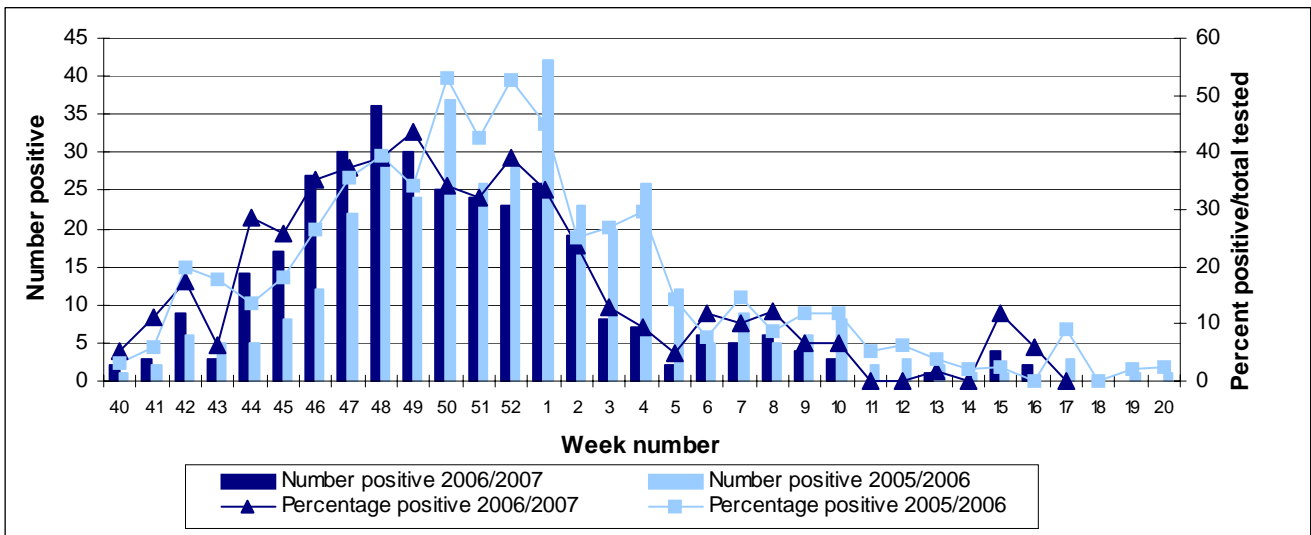
\* Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case.

**Table 3:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by age group (in years) for week 17 2007 and the 2006/2007 season to date

	Week 17 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
<b>0-4 years</b>	0	0	0	33	0	33
<b>5-14 years</b>	0	0	0	17	0	17
<b>15-64 years</b>	0	0	0	109	2	111
<b>65 years and older</b>	0	0	0	6	0	6
<b>Age group unknown</b>	0	0	0	2	0	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>167</b>	<b>2</b>	<b>169</b>



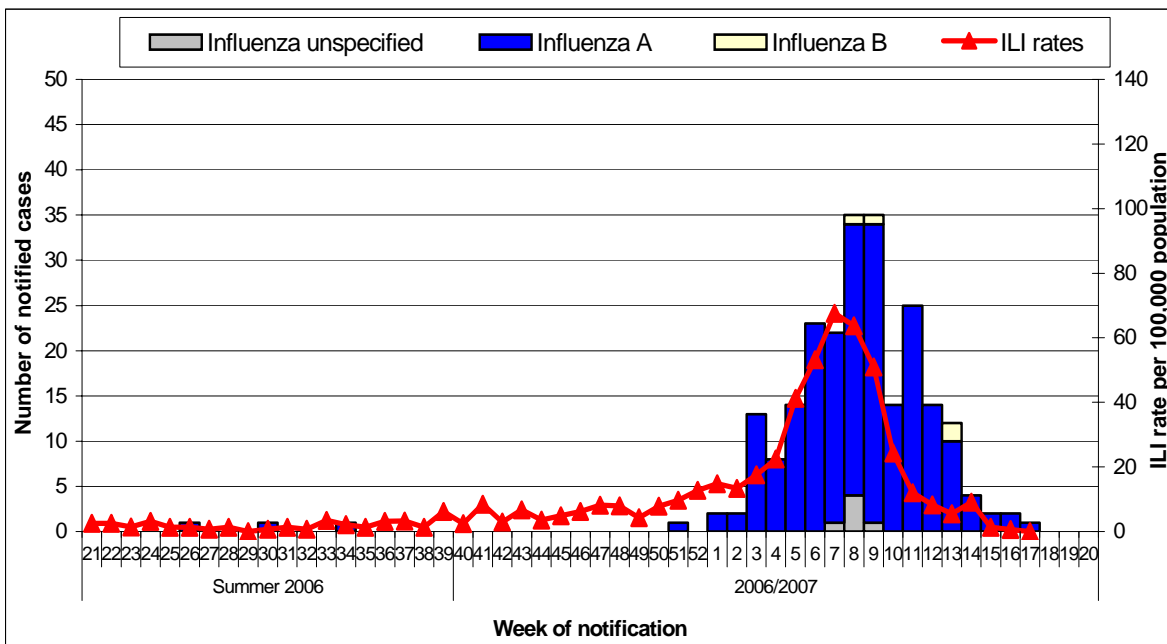
**Figure 3:** ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.



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

### Weekly Influenza Notifications

One influenza case was notified to HPSC during week 17 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 01/May/2007 at 16.27

### Mortality Data

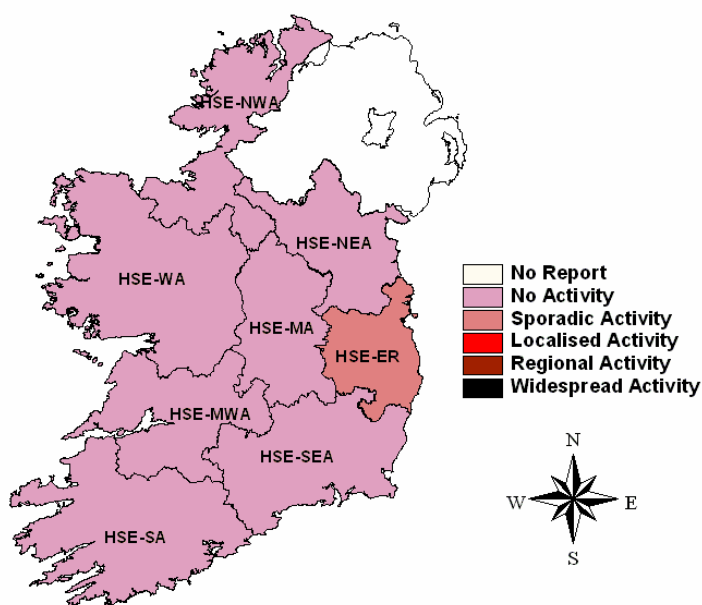
No influenza associated deaths were registered with the GRO during week 17 2007.

### Outbreak Reports

No influenza/ILI outbreaks were reported to HPSC during week 17 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 16, sporadic influenza activity based on one ILI case was reported by HSE-ER while no activity was reported by HSE- MA, -MWA, -NEA, -NWA, -SA, -SEA and -WA (figure 6). During week 16, no increases in respiratory admissions were reported by sentinel hospitals and no increases in absenteeism were reported by sentinel schools.



**Figure 6:** Map of influenza activity by HSE-Health Area during week 16 2007

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

During week 17 2007, 80 ILI cases and two cases of clinical influenza were reported from sentinel GPs in Northern Ireland, corresponding to a combined rate of 74.5 per 100,000 population, an increase from the updated rate of 61.8 per 100,000 population during week 16. No influenza viruses were detected in sentinel or non-sentinel swabs.

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

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

Weekly reporting of influenza activity for Great Britain has ceased for the 2006/2007 season. A short summary of activity for the entire season will be published in the coming weeks.

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

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

During week 16 2007, for the intensity indicator, the national network levels of ILI and/or acute respiratory infection (ARI) were low in all 23 countries that reported this indicator. For the geographical spread indicator, local activity was reported in the Netherlands, sporadic activity in five countries and no activity in 17 countries. The total number of respiratory specimens collected by sentinel physicians during week 16 was 89, of which only six (6.7%) were positive for influenza virus: five influenza A and one influenza B. Of the 31 influenza virus positive specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals), 29 were positive for influenza A and two for influenza B. During the 2006/2007 influenza season, consultation rates for ILI and/or ARI started to increase around the New Year in Scotland, Greece and Spain. They increased in most other countries in the South and West of Europe around mid January 2007 and in large parts of Central and North-East Europe in February. In most countries, influenza activity had returned to levels seen outside the winter period by the end of March (week 13 2007). The highest consultation rates for ILI and/or ARI were reported in the 0-4 and 5-14 age groups. Based on subtyping data of all influenza virus detections (N=16,780; sentinel and non-sentinel data), 9,141 (54%) were type A unsubtype; 3,967 (24%) were type A(H3), 2,916 (17.4%) were A(H3N2), 262 (1.6%) were A(H1), 140 (0.8%) were A(H1N1) and 353 (2.1%) were type B. Based on the antigenic and/or genetic characterisation of 2,328 influenza viruses, 1,555 were A/Wisconsin/67/2005 (H3N2)-like; 403 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]; 239 A/New Caledonia/20/99 (H1N1)-like; 120 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage); and 11 B/Jiangsu/10/2003-like (the B/Yamagata/16/88 lineage). Overall there has been 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 16, influenza activity in Canada continued to decline with only a few regions reporting elevated activity: 9 regions reported localised, 47 regions reported sporadic, and 12 regions reported no activity. In week 16, 7% (155/2,143) of specimens tested positive for influenza virus, of which the majority were from Quebec (66% or 103/155). The majority of influenza virus detections to date this season were influenza A viruses (90% or 6,978/7,746). The proportion of influenza B viruses which tested positive decreased slightly compared to the previous week. The majority of influenza B detections to date were from Quebec (87%). In week 16, the ILI consultation rate decreased to 9 per 1,000 patient visits, which is below the expected range for this week. The sentinel response rate was 70%. During week 16, five new influenza outbreaks were reported and all were in long term care facilities. The National Microbiology Laboratory (NML) has characterised 877 influenza viruses for the 2006-2007 influenza season: 246 (28%) A/New Caledonia/20/1999(H1N1)-like, 565 (64%) A/Wisconsin/67/05(H3N2)-like, 11 (1%) B/Malaysia/2506/2004-like, and 55 (6%) 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 16 2007, influenza activity continued to decrease in the United States. Data from the U.S. World Health Organization (WHO) and the National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories indicated a decrease in the percentage of specimens testing positive for influenza. Other surveillance systems also indicated a decrease in influenza activity. The percentage of visits for ILI to sentinel providers decreased during week 16 and was below the national baseline for the fourth consecutive week. Five states reported regional influenza activity; 10 states reported local influenza activity; the District of Columbia, New York City and 31 states reported sporadic influenza activity and four states reported no influenza activity. The number of jurisdictions reporting widespread or regional influenza activity decreased from 11 for week 15 to five for week 16. The percentage of deaths due to pneumonia and influenza remained below baseline level. During week 16, WHO and NREVSS laboratories reported 1,821 specimens were tested for influenza virus. Of these, 215 (11.8%) tested positive: 20 influenza A(H1) viruses, 87 influenza A(H3) viruses, 72 influenza A viruses that were not subtyped and 36 influenza B viruses. Of the 87 influenza A(H3) viruses reported for week 16, 73 (83.9%) were reported from one state. Since October 1 2006, WHO and NREVSS laboratories have tested a total of 161,165 specimens for influenza viruses and 21,861 (13.5%) were positive. Among the 21,861 influenza viruses, 17,397 (79.6%) were influenza A viruses and 4,464 (20.4%) were influenza B viruses. Of the 17,397 influenza A viruses

5,403 (31.1%) have been subtyped: 3,709 (68.6%) were influenza A(H1) viruses and 1,694 (31.4%) were influenza A(H3) viruses.

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

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

During week 16 2007, the following influenza isolates were reported; China 162 (108 A(H3), 1 A(H1), 10 A untyped and 43 B). China and Mongolia reported sporadic levels of ILI while Argentina reported no activity.

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

### ***Avian Influenza***

As of the 11<sup>th</sup> April 2007, 291 confirmed human cases and 172 (59%) 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.

On 11 April, the Egyptian Ministry of Health and Population announced the death of the 15-year-old female from Cairo Governorate on 10 April. Of the 34 cases confirmed to date in Egypt, 14 (41%) have been fatal.

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