

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 13 2007 (26th March to 1st April 2007)

Summary

During week 13 2007, influenza activity was at low levels in Ireland, with eight influenza-like illness (ILI) cases reported by sentinel GPs. No specimens tested by the NVRL were positive for influenza virus during week 13.

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

Eight ILI cases were reported from sentinel GPs during week 13 2007, corresponding to an ILI consultation rate of 5.4 per 100,000 population, a decrease from the updated rate of 8.4 per 100,000 population during week 12 (figure 1).

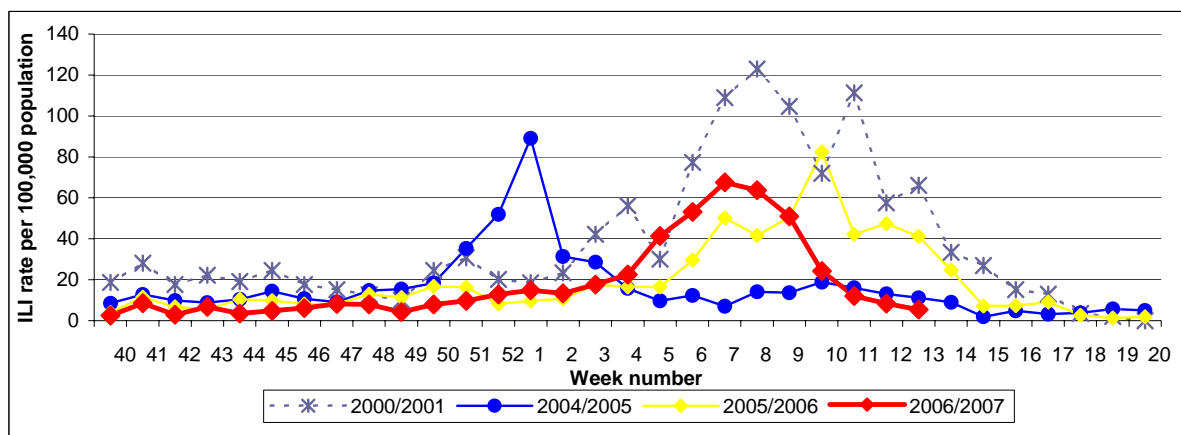


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

Results (continued)

One case was in the 0-4 year age group (9.4 per 100,000 population), one case was in the 5-14 year age group (4.8 per 100,000 population) and six cases were in the 15-64 year age group (5.9 per 100,000 population) as shown in figure 2. Forty-one of the 47 (87%) sentinel general practices reported during week 13 2007, with five reporting ILI.

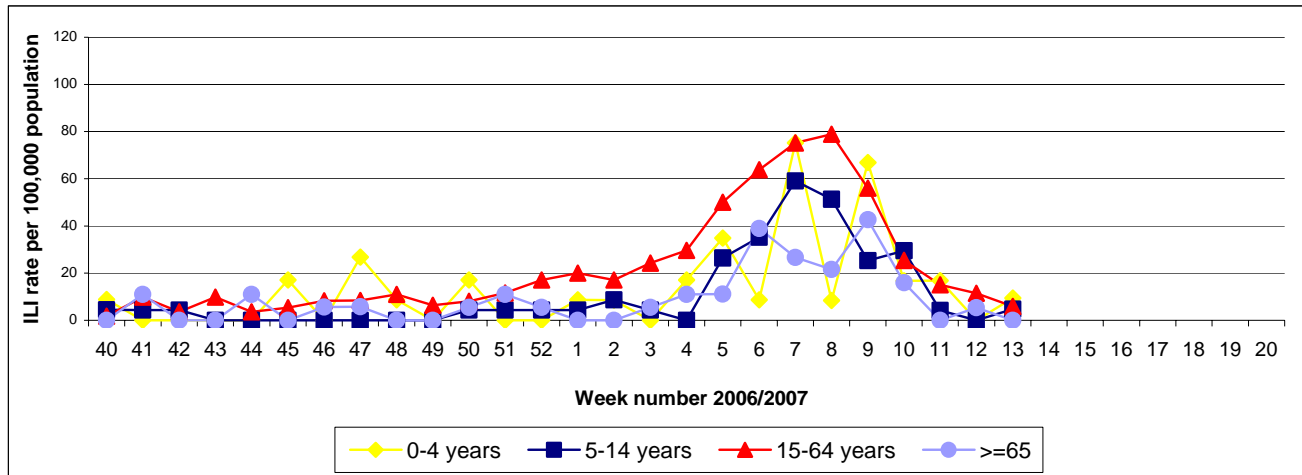


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. *Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is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

Virological Data from the National Virus Reference Laboratory (NVRL)

The NVRL tested four specimens taken by sentinel GPs during week 13 2007, none of which were positive for influenza virus. The NVRL also tested 56 non-sentinel specimens taken during week 13 2007, mainly from hospitalised paediatric cases. No non-sentinel specimens were positive for influenza virus and one was positive for respiratory syncytial virus (RSV) (table 1). During the 2006/2007 season to date, 166 influenza A viruses and two influenza B viruses have been detected. Of the 166 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 13 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 13 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
13 2007	Sentinel	4	0	0.0	0	0	NA
	Non-Sentinel	56	0	0.0	0	0	1
	Total	60	0	0	0	0	1
40 2006 – 13 2007	Sentinel	344	125	36.3	123	2	NA
	Non-Sentinel	1580	43	2.7	43	0	320
	Total	1924	168	8.7	166	2	320

*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 13 2007 and the 2006/2007 season to date

	Week 13 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	0	0	0	57	0	57
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
Total	0	0	0	166	2	168

* 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 13 2007 and the 2006/2007 season to date

	Week 13 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
0-4 years	0	0	0	33	0	33
5-14 years	0	0	0	17	0	17
15-64 years	0	0	0	109	2	111
65 years and older	0	0	0	6	0	6
Age group unknown	0	0	0	1	0	1
Total	0	0	0	166	2	168

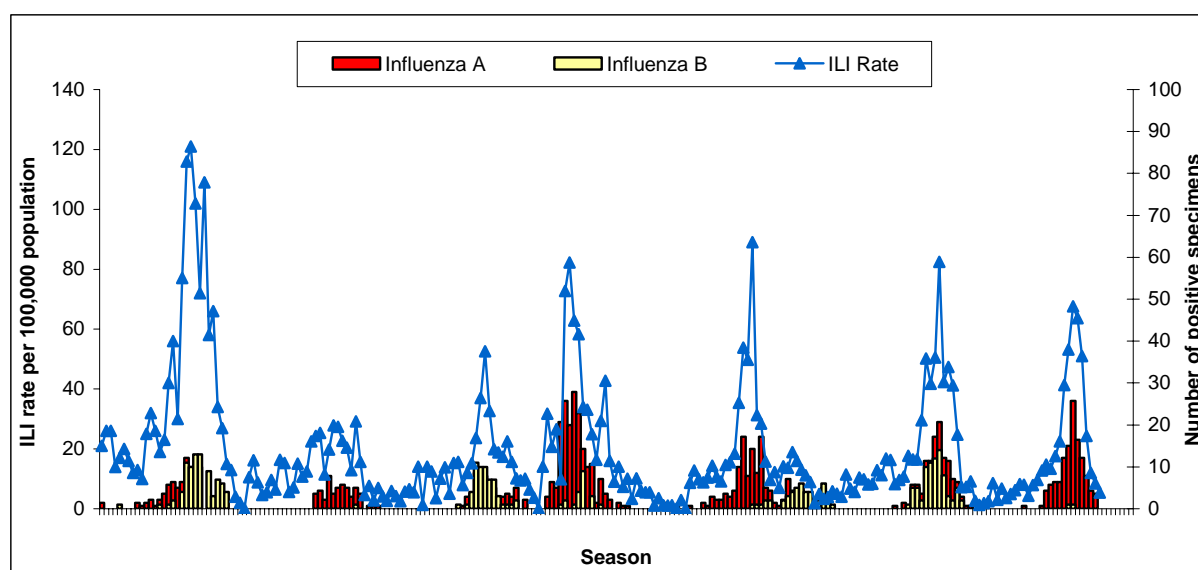


Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

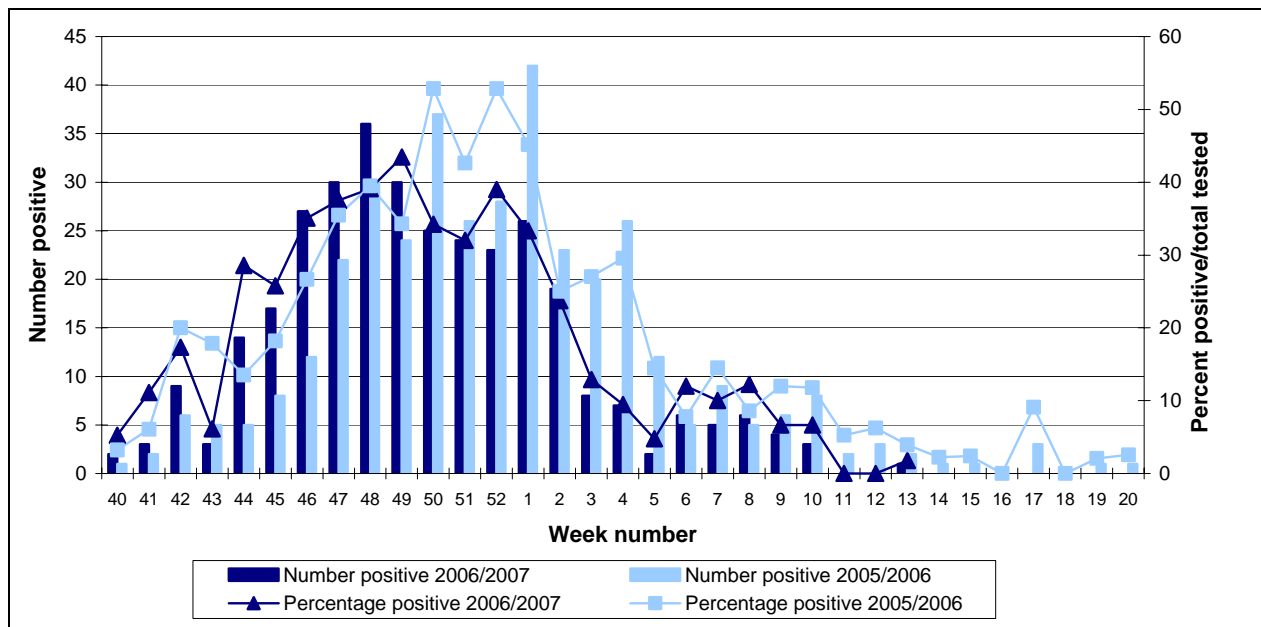


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

Weekly Influenza Notifications

Five influenza cases were notified to HPSC during week 13 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.

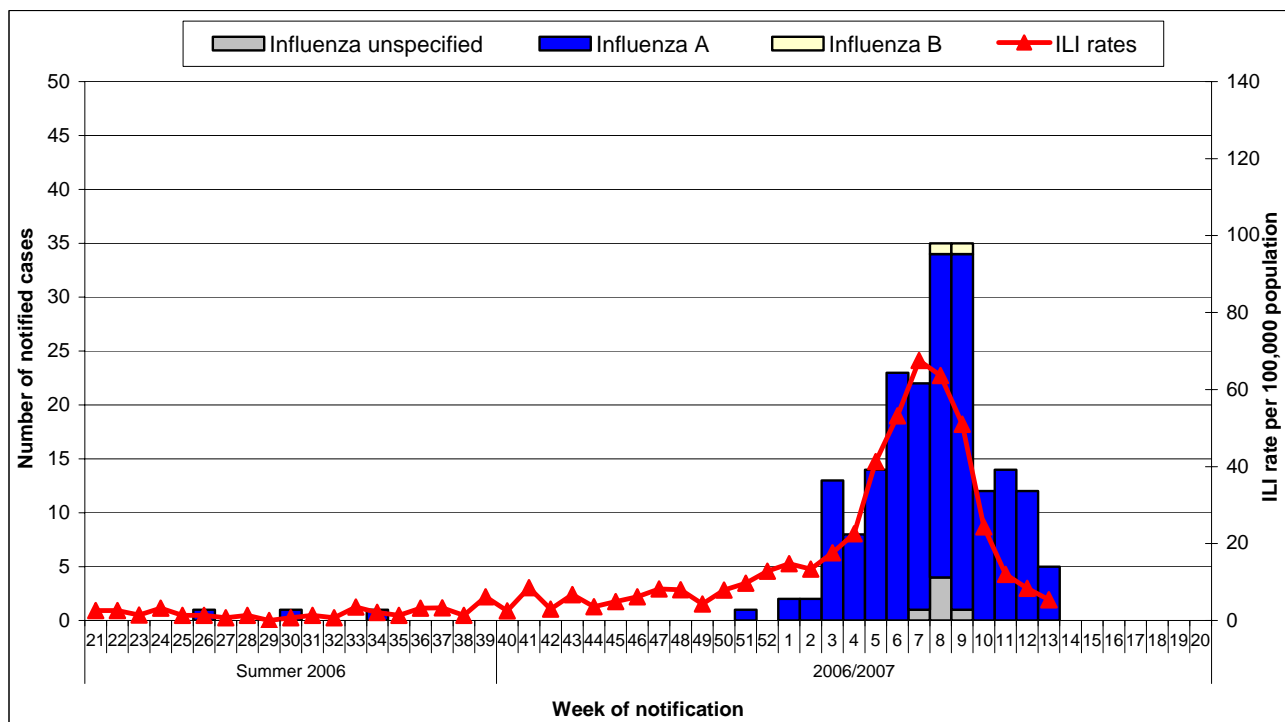


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.

*Notification data are provisional and were extracted from [CIDR](#) on the 03/04/2007 at 14.52

Mortality Data

No influenza associated deaths were registered with the GRO during week 13 2007.

Outbreak Reports

No influenza/ILI outbreaks were reported to HPSC during week 13 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 12, sporadic influenza activity based on isolated cases of ILI and/or influenza virus isolations was reported by HSE-ER, -MA, -MWA, -NE, -SA, -SE and -WA while no activity was reported by HSE-NWA (figure 6). During week 12, no increases in respiratory admissions were reported by sentinel hospitals and no increases in absenteeism were reported by sentinel schools.

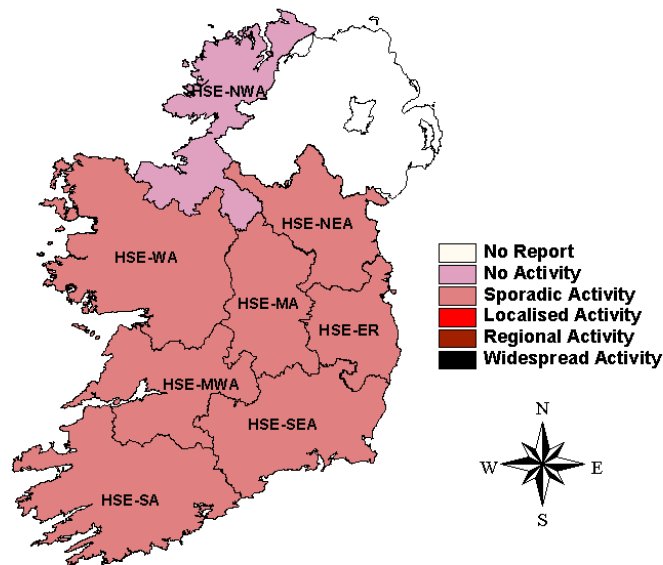


Figure 6: Map of influenza activity by HSE-Health Area during week 12 2007

Influenza Activity in Northern Ireland

No update was received from Northern Ireland for week 13 2007. Week 13 data for Northern Ireland will be included in the week 14 2007 HPSC Influenza Weekly Surveillance report. During week 12 2007, no influenza viruses were detected in sentinel specimens and one influenza A was detected in a non-sentinel specimen from a hospitalised child. No clinical data for week 12 2007 was received.

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

Influenza Activity in England, Scotland & Wales

During week 13, clinical influenza activity in England and the rest of the UK has remained low and stable; countries with baseline activity thresholds are below this level. In England, the ILI episode incidence rate was 12.1 per 100,000 in week 13. This rate is below the baseline activity threshold of 30 per 100,000. In Scotland the GP consultation rate for ILI was 7 per 100,000 in week 13. This rate is below the Scottish baseline threshold of 50 consultations per 100,000. In Wales, GP consultations for influenza remained low and stable at 1.1 per 100,000 in week 13. This rate is below the baseline threshold of 25 consultations per 100,000. Three samples referred to the Centre for Infections' Respiratory Virus Unit (RVU) tested positive for influenza A(H3).

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

Influenza Activity in Europe

During week 12 2007, the intensity indicator for the national network levels of ILI and/or acute respiratory infection (ARI) were medium in four countries and low in 23 countries. With the exception of Denmark, consultation rates for ILI and/or ARI are now back or almost back to levels seen outside the winter period. Consultation rates in Denmark peaked in week 10 and are now declining. For the geographical spread indicator, widespread activity was reported in Denmark and the Netherlands, regional activity in four countries, local activity in one, sporadic activity in 16 and no activity in five. This winter, the consultation rates for ILI and/or ARI started to increase around New Year in Scotland, Greece and Spain. They increased in 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 the beginning of March (week 11) influenza activity had returned to levels seen outside the winter period or was decreasing in most countries. The total number of respiratory specimens collected by sentinel physicians was 692, of which 160 (23%) were positive for influenza virus: 151 (94%) influenza A and nine (6%) influenza B. In addition, among 241 specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) positive for influenza virus, 234 (97%) were influenza A and seven were (3%) influenza B. Based on subtyping data of all influenza virus detections (N=15,912; sentinel and non-sentinel data), 8,863 (56%) were type A unsubtype, 3,585 (22%) were A(H3), 2,804 (18%) were A(H3N2), 233 (1%) were A(H1), 130 (1%) were A(H1N1) and 297 (2%) were type B. In Romania, 45% of the detected viruses were influenza B. Based on the antigenic and/or genetic characterisation of 2 340 influenza viruses, 1,737 were A/Wisconsin/67/2005 (H3N2)-like, 303 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], 176 A/New Caledonia/20/99 (H1N1)-like, 114 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage) and ten 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 12, overall influenza activity in Canada continued to decline. Only one region reported widespread influenza activity (Toronto, Ontario), 28 regions reported localised, 33 regions reported sporadic and 6 regions reported no activity. In week 12, the percentage of specimens that tested positive for influenza virus in Canada continued to decline (14% or 453/3,252). The majority of influenza virus detections to date this season were influenza A viruses (94% or 6,243/6,632). Note that influenza B virus detections have been slowly increasing since mid-February and the majority of detections (81% or 315/389) were from Quebec. In week 12, the ILI consultation rate remained at 22 per 1,000 patient visits, which is slightly below the expected range for this week. The highest rates were observed among the 5-19 year age group. The sentinel response rate declined to 66%. During week 12, 10 new outbreaks were reported: nine influenza outbreaks in long term care facilities and one outbreak of ILI in a school. The National Microbiology Laboratory (NML) has characterised 772 influenza viruses for the 2006-2007 influenza season: 227 (29%) A/New Caledonia/20/1999(H1N1)-like, 496 (64%) A/Wisconsin/67/05(H3N2)-like, 10 (1%) B/Malaysia/2506/2004-like and 39 (5%) 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 12, 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 decline in activity for the sixth consecutive week; 15.1% of specimens tested positive for influenza this week. ILI data decreased during week 12 and was at the national baseline for the first time since early January. Twelve states reported widespread influenza activity, 17 states reported regional influenza activity, 11 states and New York City reported local influenza activity, the District of Columbia and nine states reported sporadic influenza activity and one state did not report. The reporting of widespread or regional influenza activity decreased from 37 for week 11 to 29 for week 12. The percent of deaths due to pneumonia and influenza remained below baseline level. During week 12, WHO and NREVSS laboratories reported 3,569 specimens tested for influenza viruses, 540 (15.1%) of which were positive: 26 influenza A(H1) viruses, 51 influenza A(H3) viruses, 299 influenza A viruses that were not subtyped and 164 influenza B viruses.

Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 143,251 specimens for influenza viruses and 19,239 (13.4%) were positive. Among the 19,239 influenza viruses, 15,494 (80.5%) were influenza A viruses and 3,745 (19.5%) were influenza B viruses. Of the 15,494 influenza A viruses detected, 4,490 (29.0%) have been subtyped: 3,427 (76.3%) were influenza A(H1) viruses and 1,063 (23.7%) were influenza A(H3) viruses. <http://www.cdc.gov/flu/>

Influenza Activity Worldwide

During week 11 2007 the following influenza isolates were reported; Argentina 1 A unsubtype, China 263 (3 A(H1), 226 A(H3), 7 A unsubtype, 26 B and 1 influenza unspecified), Japan 20 (1 A(H1), 5 A(H3) and 14 B) and Madagascar 8 B. Argentina, China, Madagascar and Mongolia reported sporadic levels of ILI. <http://gamapserver.who.int/GlobalAtlas/home.asp>

Avian Influenza

As of the 2nd April 2007, 288 confirmed human cases and 170 (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.

The Egyptian Ministry of Health and Population has announced three new human cases of avian influenza A(H5N1) virus infection on 2 April. The cases have been confirmed by the Egyptian Central Public Health Laboratory and by the US Naval Medical Research Unit No.3 (NAMRU-3). The first case is a 4-year-old boy from Qena Governorate, who is the brother of the 6-year-old girl whose infection was reported on 28 March. He developed symptoms on 26 March and was admitted to hospital on 29 March. The second case is a 7-year-old boy from Sohag Governorate who developed symptoms on 26 March and was hospitalised on 29 March. The third case is a 4-year-old girl from Qalubia Governorate who developed symptoms on 29 March and was admitted to hospital 30 March. All three children are receiving treatment and remain in a stable condition. Investigations into the sources of exposure indicate a history of contact with dead birds in each case. Contacts of the children are under surveillance and all remain healthy. Of the 32 cases confirmed to date in Egypt, 13 (41%) have been fatal.

The Ministry of Health in China reported a new fatal case of human infection with the H5N1 avian influenza virus on 29 March. The case has been confirmed by the national laboratory. The 16-year-old male from Anhui province developed fever and pneumonia-like symptoms on 17 March and was hospitalised on 20 March. He died on 27 March. There is no initial indication to suggest he had contact with sick birds prior to becoming unwell and investigations to identify the source of his exposure are ongoing. Close contacts have been placed under medical observation and all remain well. Of the 24 cases confirmed to date in China, 15 (63%) 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 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 ^a
- a B/Malaysia/2506/2004-like virus

Candidate vaccine viruses include:

- ^aA/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

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This report was produced by Sarah Jackson and Dr. Joan O'Donnell, HPSC