

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 14 2007 (2nd April to 8th April 2007)

Summary

During week 14 2007, influenza activity was at low levels in Ireland, with 12 influenza-like illness (ILI) cases reported by sentinel GPs. No specimens tested by the NVRL were positive for influenza virus during week 14.

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

Twelve ILI cases were reported from sentinel GPs during week 14 2007, corresponding to an ILI consultation rate of 8.5 per 100,000 population, an increase from the updated rate of 5.5 per 100,000 population during week 13 (figure 1).

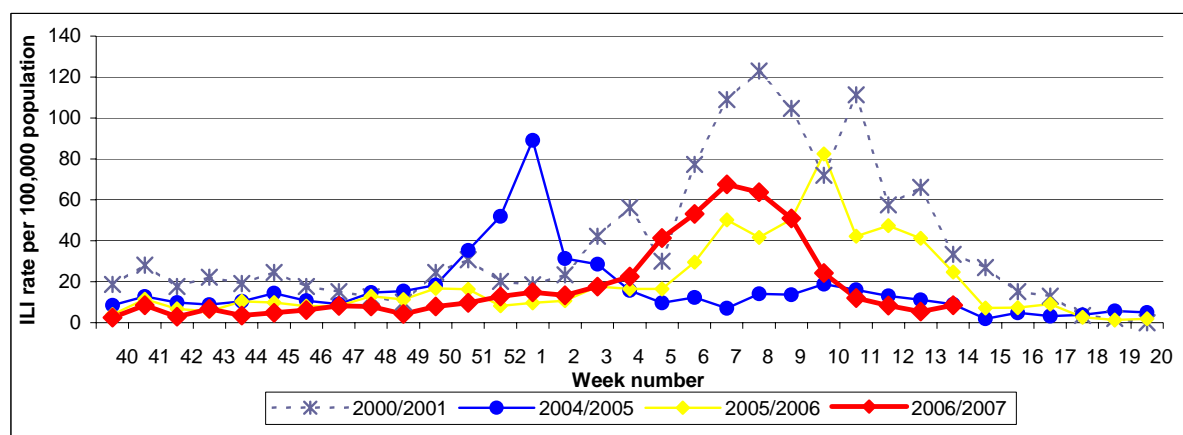


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

Results (continued)

Nine cases were in the 15-64 year age group (9.4 per 100,000 population) and three cases were in the 65 years and older age group (19.1 per 100,000 population) as shown in figure 2. Forty-one of the 47 (87%) sentinel general practices reported during week 14 2007, with 10 reporting ILI.

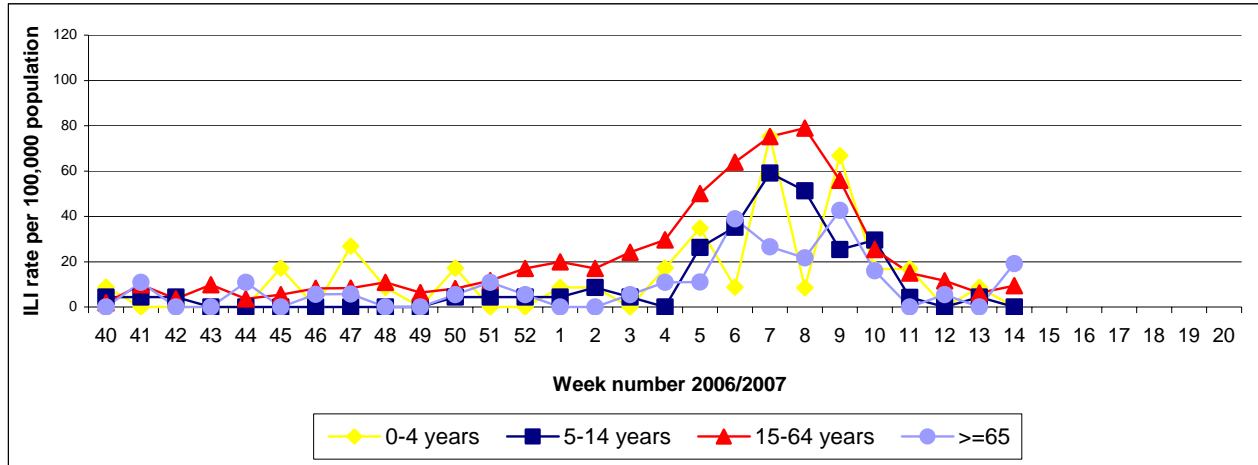


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. *Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is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

Virological Data from the National Virus Reference Laboratory (NVRL)

The NVRL tested three specimens taken by sentinel GPs during week 14 2007, none of which were positive for influenza virus. The NVRL also tested 34 non-sentinel specimens taken during week 14 2007, mainly from hospitalised paediatric cases. No non-sentinel specimens were positive for influenza virus and none were 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 14 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 14 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
14 2007	Sentinel	3	0	0.0	0	0	NA
	Non-Sentinel	34	0	0.0	0	0	0
	Total	37	0	0.0	0	0	0
40 2006 – 14 2007	Sentinel	347	125	36.0	123	2	NA
	Non-Sentinel	1615	43	2.7	43	0	320
	Total	1962	168	8.6	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 14 2007 and the 2006/2007 season to date

	Week 14 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 14 2007 and the 2006/2007 season to date

	Week 14 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

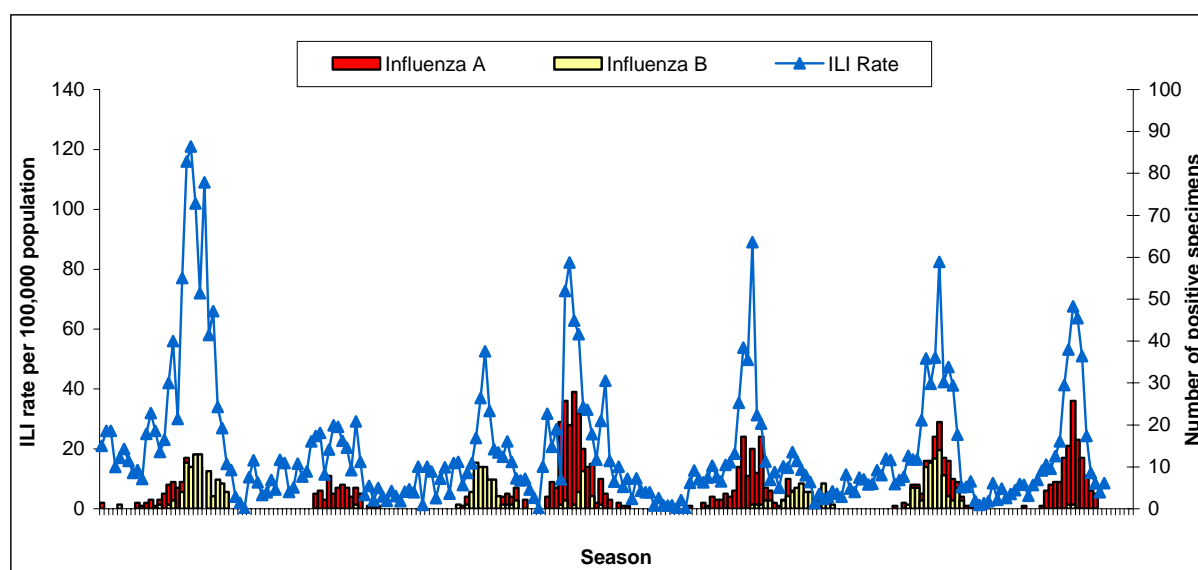


Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

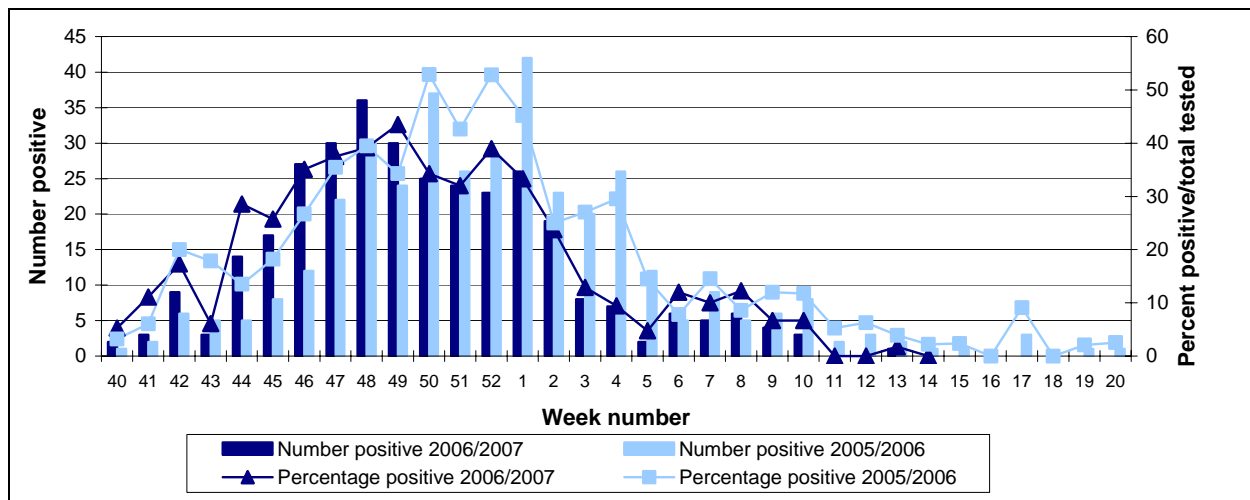


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

Weekly Influenza Notifications

Four influenza cases were notified to HPSC during week 14 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.

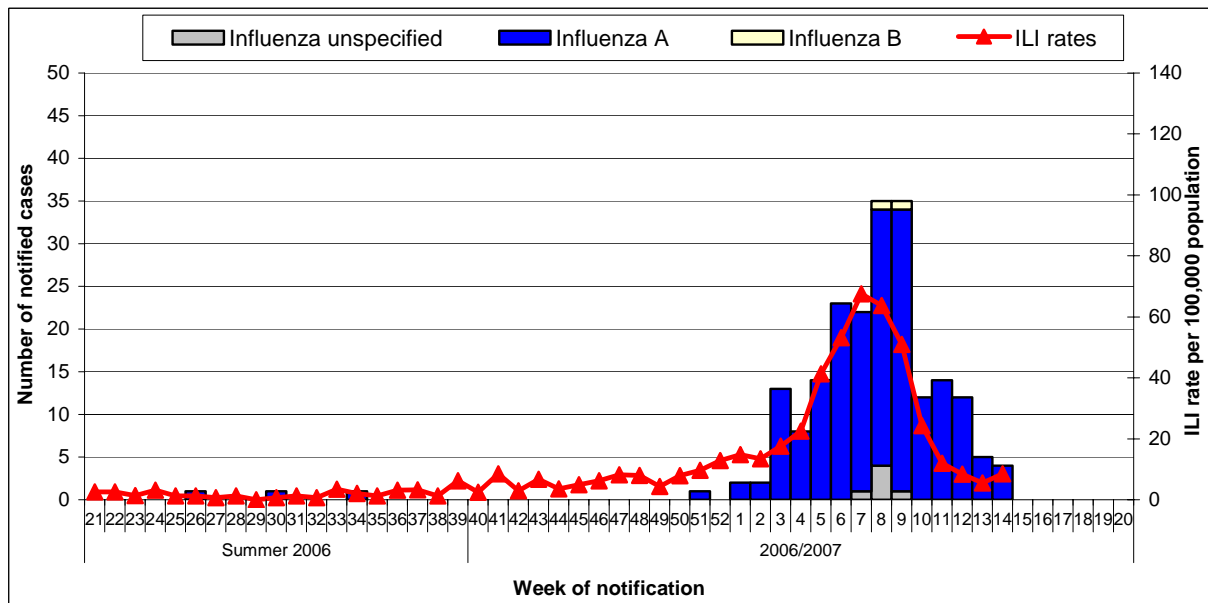


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.

*Notification data are provisional and were extracted from [CIDR](#) on the 11/04/2007 at 12.57

Mortality Data

No influenza associated deaths were registered with the GRO during week 14 2007.

Outbreak Reports

No influenza/ILI outbreaks were reported to HPSC during week 14 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 13, sporadic influenza activity based on isolated cases of ILI and/or influenza virus isolations was reported by HSE-ER, -MA, -NE and -SE while no activity was reported by HSE-MWA, NWA, -SA and -WA (figure 6). During week 13, no increases in respiratory admissions were reported by sentinel hospitals.

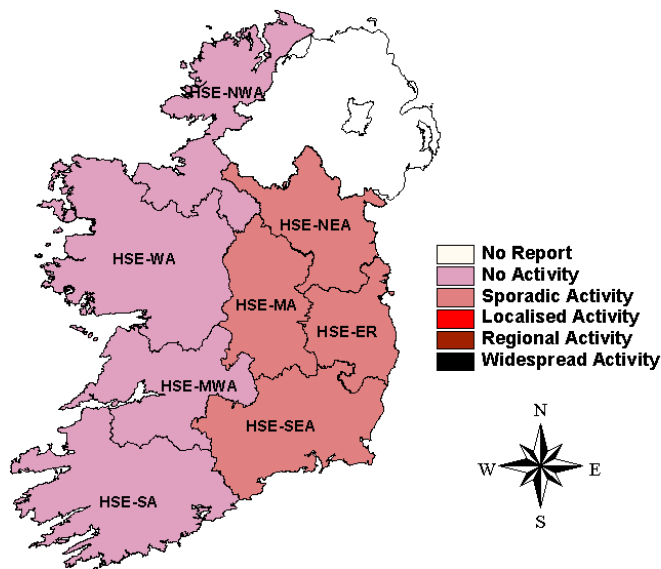


Figure 6: Map of influenza activity by HSE-Health Area during week 13 2007

Influenza Activity in Northern Ireland

No update was received from Northern Ireland for week 14 2007. Week 14 data for Northern Ireland will be included in the week 15 2007 HPSC Influenza Weekly Surveillance report. During week 13 2007, no influenza viruses were detected in sentinel or non-sentinel specimens. No clinical data for week 13 2007 was received.

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

Influenza Activity in England, Scotland & Wales

During week 14, 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. Reports of influenza A and B from NHS and HPA laboratories are also at low levels. Laboratory confirmed infections of RSV are decreasing and remain at levels below those recorded last season (2005/2006) for the same time period. RSV has not been detected from specimens sent to the Respiratory Virus Unit (RVU) at the Centre for Infections during week 14 but influenza was detected from two community samples, both of which were A(H3).

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

Influenza Activity in Europe

During week 13 2007, for the intensity indicator, the national network levels of ILI and/or acute respiratory infection (ARI) were medium in two countries (Denmark and the Netherlands) and low in 19 countries. With the exception of Denmark and the Netherlands, consultation rates for ILI and/or ARI are now back or almost back to levels seen outside the winter period. In the Netherlands the consultation rate peaked in week 9 and in Denmark it peaked in week 10. For the geographical spread indicator, widespread activity was reported in the Netherlands, regional activity in Germany and Norway, sporadic activity in 11 countries and no activity in seven. 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 2007) influenza activity had returned to levels seen outside the winter period or was decreasing in most countries. The highest consultation rates for ILI and/or ARI were reported in the 0-4 and 5-14 age groups. The total number of respiratory specimens collected by sentinel physicians was 314, of which 91 (23%) were positive for influenza virus: 84 (92%) were influenza A and 7 (8%) were influenza B. In addition, among 151 specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) positive for influenza virus, all (100%) were influenza A. Based on subtyping data of all influenza virus detections (N=16,222; sentinel and non-sentinel data), 8,994 (55%) were A untyped; 3,703 (23%) were A(H3), 2,831 (17%) were A(H3N2); 248 (2%) were A(H1), 135 (1%) were A(H1N1) and 311 (2%) were type B. In Romania, 45% of the detected viruses were influenza B. Based on the antigenic and/or genetic characterisation of 2,423 influenza viruses; 1,763 were A/Wisconsin/67/2005 (H3N2)-like, 333 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], 204 A/New Caledonia/20/99 (H1N1)-like, 115 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage) and seven 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 13, overall influenza activity in Canada continued to decline with fewer regions reporting widespread and localised activity. Only one region reported widespread activity (Toronto, Ontario), 25 regions reported localised (mostly from Quebec and Ontario), 34 regions reported sporadic and eight regions reported no activity. In week 13, the percentage of specimens that tested positive for influenza virus in Canada declined slightly (14% or 379/2,769). The majority of influenza virus detections to date this season were influenza A viruses (93% or 6,599/7,083). Note that influenza B virus detections have been slowly increasing since mid-February and the majority of detections (84% or 406/484) were from Quebec. In week 13, the ILI consultation rate declined to 13 per 1,000 patient visits, which is below the expected range for this week. The sentinel response rate was 69%. During week 13, five new outbreaks were reported: four influenza outbreaks in long term care facilities and one in another facility. The National Microbiology Laboratory (NML) has characterised 790 influenza viruses for the 2006-2007 influenza season: 229 (29%) A/New Caledonia/20/1999(H1N1)-like, 510 (65%) A/Wisconsin/67/05(H3N2)-like, 10 (1%) B/Malaysia/2506/2004-like and 41 (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 13, 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 seventh consecutive week; 10.3% of specimens tested positive for influenza this week. ILI data remained at similar levels nationally and fewer regions were above baseline levels this week compared to last week (two versus four, respectively). Ten states reported widespread influenza activity, nine states reported regional influenza activity, 13 states and New York City reported local influenza activity, the District of Columbia and 17 states reported sporadic influenza activity and one state reported no influenza activity. The number of jurisdictions reporting widespread or regional influenza activity decreased from 29 for week 12 to 19 for week 13. The percentage of deaths due to pneumonia and influenza remained below baseline level. During week 13, WHO and NREVSS laboratories reported 2,524 specimens tested for influenza viruses, 260 (10.3%) of which were positive: 17 influenza A(H1) viruses, 19 influenza A(H3) viruses, 145 influenza A viruses that were not subtyped and 79 influenza B viruses. This represents a substantial drop in the percentage of specimens that have tested positive for influenza compared to the two prior weeks of 19.7% and 15.3% positive. Since October 1,

2006, WHO and NREVSS laboratories have tested a total of 147,866 specimens for influenza viruses and 20,006 (13.5%) were positive. Among the 20,006 influenza viruses, 15,986 (79.9%) were influenza A viruses and 4,020 (20.1%) were influenza B viruses. Of the 15,986 influenza A viruses, 4,745 (29.7%) have been subtyped: 3,550 (74.8%) were influenza A(H1) viruses and 1,195 (25.2%) were influenza A(H3) viruses.

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

Influenza Activity Worldwide

During week 13 2007 the following influenza isolates were reported; Chile 4 (2 A unsubtyped and 2 B), China 210 (4 A(H1), 169 A(H3), 10 A unsubtyped, and 27 B), Japan 20 (7 A(H3) and 13 B) and Republic of Korea 28 (10 A(H1) and 18 B). Chile, China and Madagascar reported sporadic levels of ILI and Uganda reported no activity.

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

Avian Influenza

As of the 11th 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.

The Egyptian Ministry of Health and Population announced two new human cases of avian influenza A(H5N1) virus infection on 10 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 2-year-old female from Menia Governorate who developed symptoms on 3 April and was admitted to hospital the following day. She is currently in a stable condition. Initial investigations into the source of her infection indicate recent contact with backyard poultry. The second case is a 15-year-old female from Cairo Governorate. She developed symptoms on 30 March and was admitted to hospital on 5 April where she died on April 10. Of the 34 cases confirmed to date in Egypt, 14 (41%) have been fatal.

The Ministry of Health in Cambodia has confirmed the country's seventh case of human infection with the H5N1 avian influenza virus. It is the first case to be confirmed in humans in Cambodia in 2007. The case was a 13-year-old girl from Ponhea Kreak district in Kampong Cham province. She developed symptoms on 2 April, was hospitalised 3 April and died on 5 April. Samples taken from the girl have tested positive for H5N1 at the Pasteur Institute in Phnom Penh. Initial investigations into the source of the girl's infection indicate the presence of sick and dead poultry in the village in recent weeks and that she had consumed a sick chicken prior to onset of symptoms. A team from the Ministry of Health, WHO and the Pasteur Institute are following up with close contacts of the girl and are conducting awareness raising activities in the area. Of the 7 cases confirmed to date in Cambodia, all 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