

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 15 2007 (9th April to 15th April 2007)

Summary

During week 15 2007, influenza activity was at low levels in Ireland, with 2 influenza-like illness (ILI) cases reported by sentinel GPs. No specimens tested by the NVRL were positive for influenza virus during week 15.

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

Two ILI cases were reported from sentinel GPs during week 15 2007, corresponding to an ILI consultation rate of 1.4 per 100,000 population, a sharp decrease from the updated rate of 8.9 per 100,000 population during week 14 (figure 1).

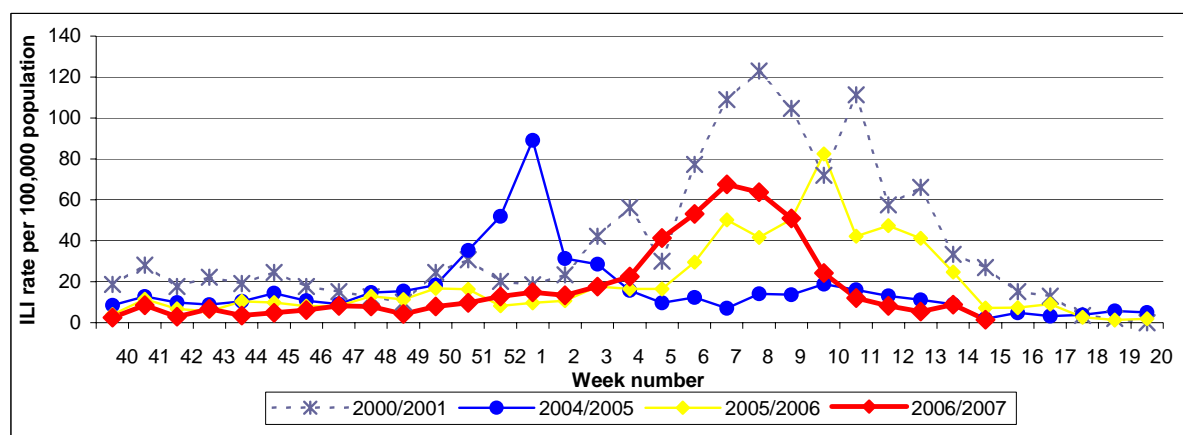


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

Results (continued)

Two cases were in the 15-64 year age group (2.1 per 100,000 population) as shown in figure 2. Forty of the 47 (85%) sentinel general practices reported during week 15 2007, with two reporting ILI.

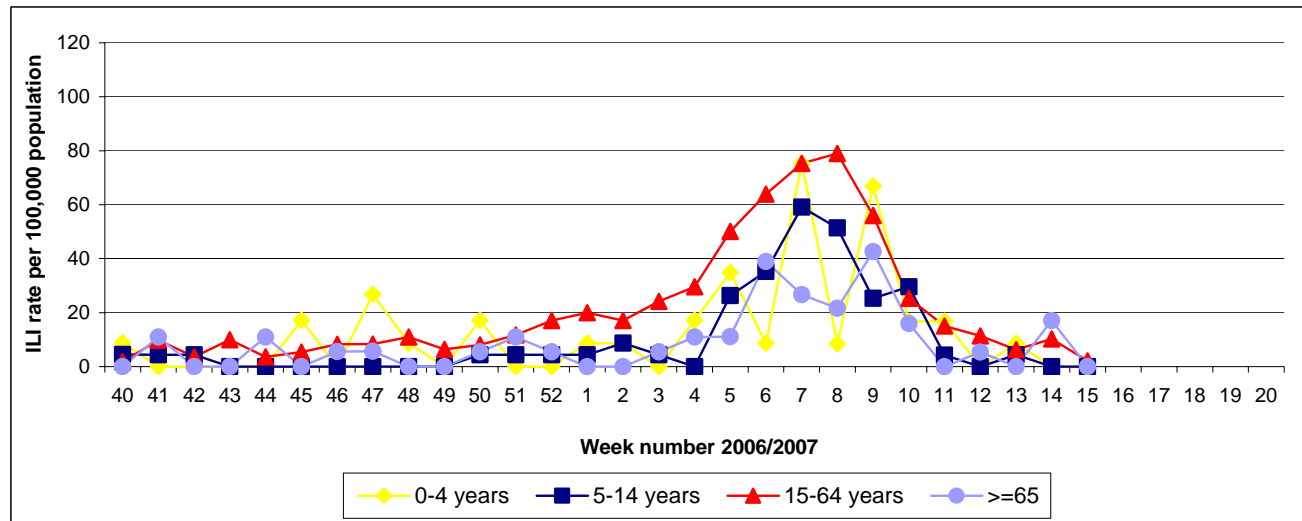


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. *Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is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

Virological Data from the National Virus Reference Laboratory (NVRL)

The NVRL tested one specimen taken by sentinel GPs during week 15 2007, which was negative for influenza virus. The NVRL also tested 36 non-sentinel specimens taken during week 15 2007, mainly from hospitalised paediatric cases. All non-sentinel specimens were negative for influenza virus and two 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 15 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 15 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
15 2007	Sentinel	1	0	0.0	0	0	NA
	Non-Sentinel	36	0	0.0	0	0	2
	Total	37	0	0.0	0	0	2
40 2006 – 15 2007	Sentinel	349	125	35.8	123	2	NA
	Non-Sentinel	1657	43	2.6	43	0	322
	Total	2006	168	8.4	166	2	322

*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 15 2007 and the 2006/2007 season to date

	Week 15 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 15 2007 and the 2006/2007 season to date

	Week 15 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

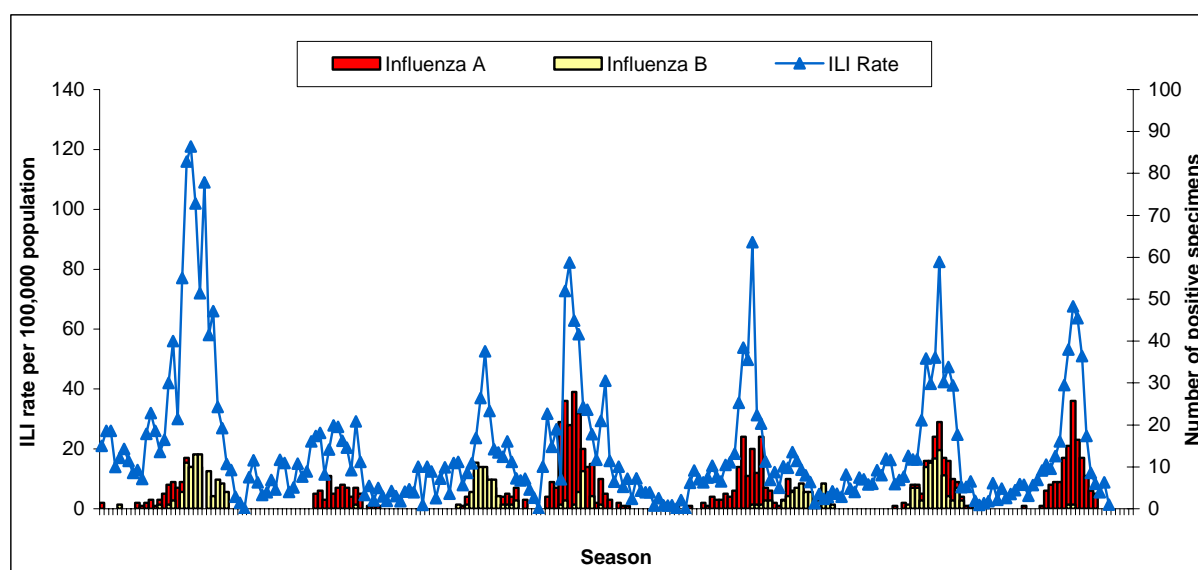


Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

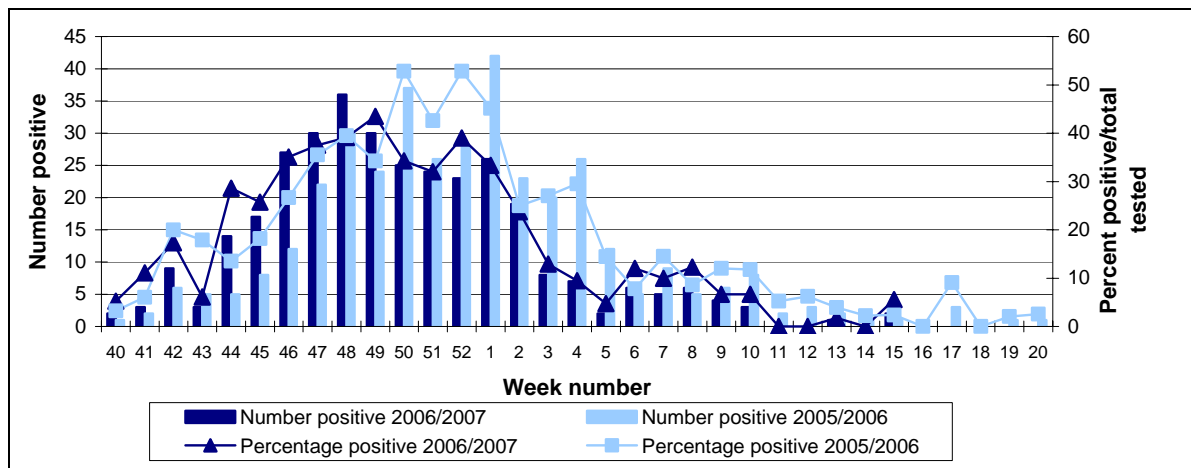


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

Weekly Influenza Notifications

Two influenza cases were notified to HPSC during week 15 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.

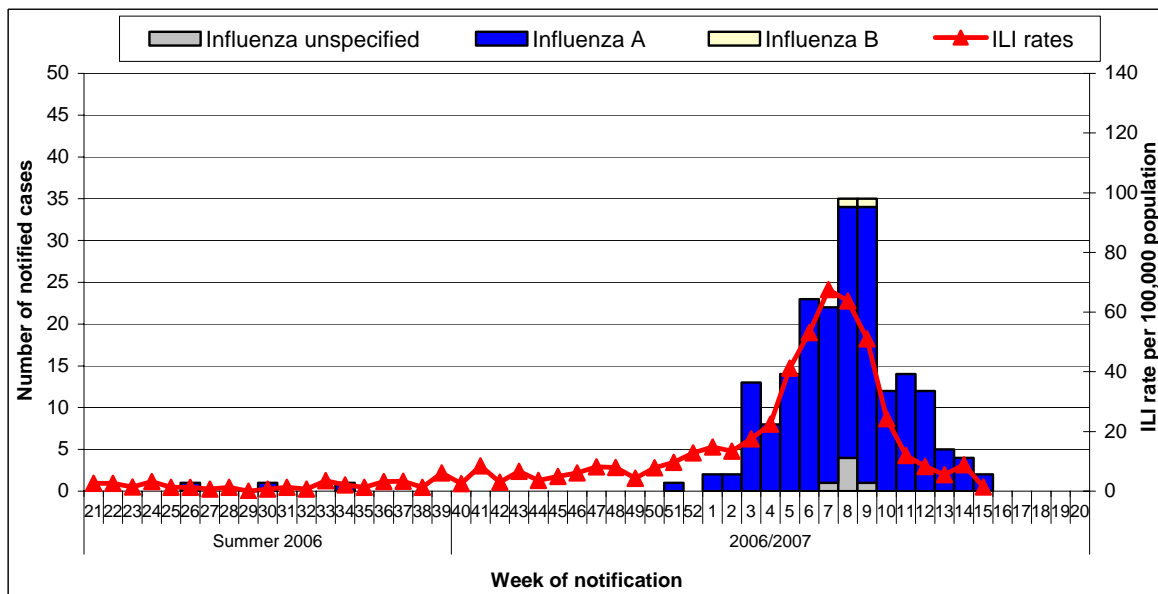


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.

*Notification data are provisional and were extracted from [CIDR](#) on the 18/04/2007 at 14.42

Mortality Data

No influenza associated deaths were registered with the GRO during week 15 2007.

Outbreak Reports

No influenza/ILI outbreaks were reported to HPSC during week 15 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 14, sporadic influenza activity based on isolated cases of ILI and/or influenza virus isolations was reported by HSE-ER, -MA, -MWA and -NE while no activity was reported by HSE- NWA, -SA, -SEA and -WA (figure 6). During week 14, no increases in respiratory admissions were reported by sentinel hospitals.

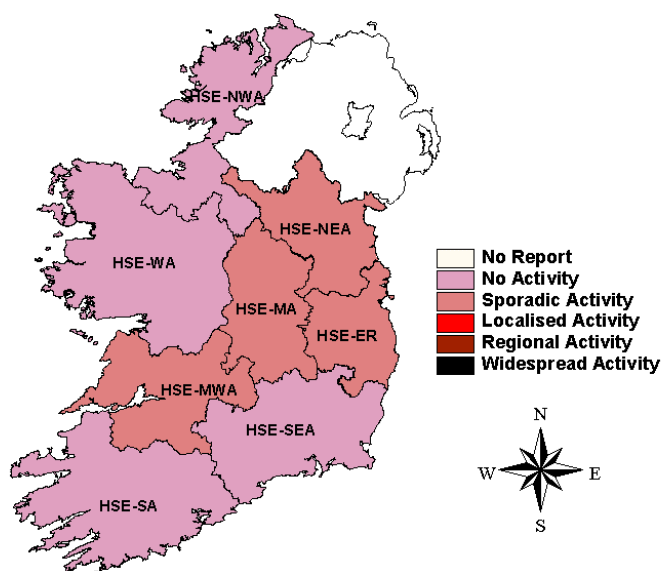


Figure 6: Map of influenza activity by HSE-Health Area during week 14 2007

Influenza Activity in Northern Ireland

During week 15 2007, 47 ILI cases and no cases of clinical influenza were reported from sentinel GPs in Northern Ireland, corresponding to a combined rate of 52.5 per 100,000 population, a decrease from the updated rate of 56.4 per 100,000 population during week 14. No influenza viruses were detected in sentinel or non-sentinel swabs.

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

Influenza Activity in England, Scotland & Wales

During weeks 14 and 15, 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 rates were similar at 5.6 per 100,000 persons in week 14 and 5.3 per 100,000 in week 15. The rates for both weeks are below the baseline activity threshold of 30 per 100,000. In Scotland, GP consultation rates for ILI decreased from 7 consultations per 100,000 in week 14 to 3 per 100,000 in week 15. These rates are below the Scottish baseline threshold of 50 consultations per 100,000. In Wales, GP consultations for influenza remained low and stable at 0.4 per 100,000 in week 14 and 0.8 per 100,000 in week 15. Both rates are below the baseline threshold of 25 consultations per 100,000. Two 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 14 2007, for the intensity indicator, the national network levels of ILI and/or acute respiratory infection (ARI) were low in all 26 countries. For the geographical spread indicator, regional activity was reported in the Netherlands, local activity in Germany, sporadic activity in 14 countries and no activity in ten. 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 225, of which 45 (20%) were positive for influenza virus: 41 (91%) were influenza A and four (9%) were influenza B. In addition, among 120 specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) positive for influenza virus, 117 (98%) were influenza A and 3 (2%) were influenza B. Based on subtyping data of all influenza virus detections (N=16,477; sentinel and non-sentinel data), 9,166 (56%) were A untyped, 3,749 (23%) were A(H3), 2,849 (17%) were A(H3N2), 256 (1%) were A(H1), 131 (1%) were A(H1N1) and 326 (2%) were type B. In Romania, 45% of the detected viruses were influenza B. Based on the antigenic and/or genetic characterisation of 2 784 influenza viruses, 2,077 were A/Wisconsin/67/2005 (H3N2)-like, 356 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], 222 A/New Caledonia/20/99 (H1N1)-like, 118 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage) and eleven 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 14, overall influenza activity in Canada continued to decline: no regions reported widespread activity (for the first time since week 3), 25 regions reported localised, 34 regions reported sporadic and 9 regions reported no activity. In week 14, 11% (285/2,643) of specimens tested positive for influenza virus, of which the majority were from Quebec (54% or 155/285) and Ontario (20% or 58/285). The majority of influenza virus detections to date this season were influenza A viruses (92% or 6,807/7,390), however, the proportion of influenza B virus detections have been increasing: from 3% (20/615) in week 7 to 35% (99/285) in week 14. Of the 583 influenza B detections to date, 85% (497/583) were from Quebec. In week 14, the ILI consultation rate remained at 14 per 1,000 patient visits, which is below the expected range for this week. The sentinel response rate was 62%. During week 14, seven new outbreaks were reported: five influenza outbreaks in long term care facilities and two outbreaks of ILI in schools. The National Microbiology Laboratory (NML) has characterised 837 influenza viruses for the 2006-2007 influenza season: 241 (29%) A/New Caledonia/20/1999(H1N1)-like, 540 (65%) A/Wisconsin/67/05(H3N2)-like, 11 (1%) B/Malaysia/2506/2004-like and 45 (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 14, 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 small increase in the percentage of specimens testing positive for influenza (10.9% of specimens tested positive for influenza during week 14 compared to 10.3% for week 13), although other surveillance systems indicated a decrease in influenza activity. ILI data decreased during week 14 and was below the national baseline. Eight states reported widespread influenza activity, five states reported regional influenza activity, 13 states and New York City reported local influenza activity, the District of Columbia and 22 states reported sporadic influenza activity and two states reported no influenza activity. The number of jurisdictions reporting widespread or regional influenza activity decreased from 19 for week 13 to 13 for week 14. The percentage of deaths due to pneumonia and influenza remained below baseline level. During week 14, WHO and NREVSS laboratories reported 2,063 specimens tested for influenza viruses, 225 (10.9%) of which were positive: three influenza A(H1) viruses, 21 influenza A(H3) viruses, 128 influenza A viruses that were not subtyped and 73 influenza B viruses.

Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 152,147 specimens for influenza viruses and 20,477 (13.4%) were positive. Among the 20,477 influenza viruses, 16,330 (79.7%) were influenza A viruses and 4,147 (20.3%) were influenza B viruses. Of the 16,330 influenza A viruses, 4,803 (29.4%) have been subtyped: 3,563 (74.2%) were influenza A(H1) viruses and 1,240 (25.8%) were influenza A(H3) viruses.

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

Influenza Activity Worldwide

During week 14 2007 the following influenza isolates were reported; Chile 1B, China 193 (2 A(H1), 143 A(H3), 3 A untyped and 45 B) and Japan 15 (3 A(H1), 8 A(H3) and 4 B). Chile, China and Madagascar reported sporadic levels of ILI while Argentina, Brazil and Uganda reported no activity and Mongolia reported local outbreak.

<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.

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/

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