

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 16 2007 (16th April to 22nd April 2007)

Summary

During week 16 2007, influenza activity was at low levels in Ireland, with one influenza-like illness (ILI) case reported by sentinel GPs. No specimens tested by the NVRL were positive for influenza virus during week 16.

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

One ILI case was reported from sentinel GPs during week 16 2007, corresponding to an ILI consultation rate of 0.7 per 100,000 population, a decrease from the updated rate of 1.3 per 100,000 population during week 15 (figure 1).

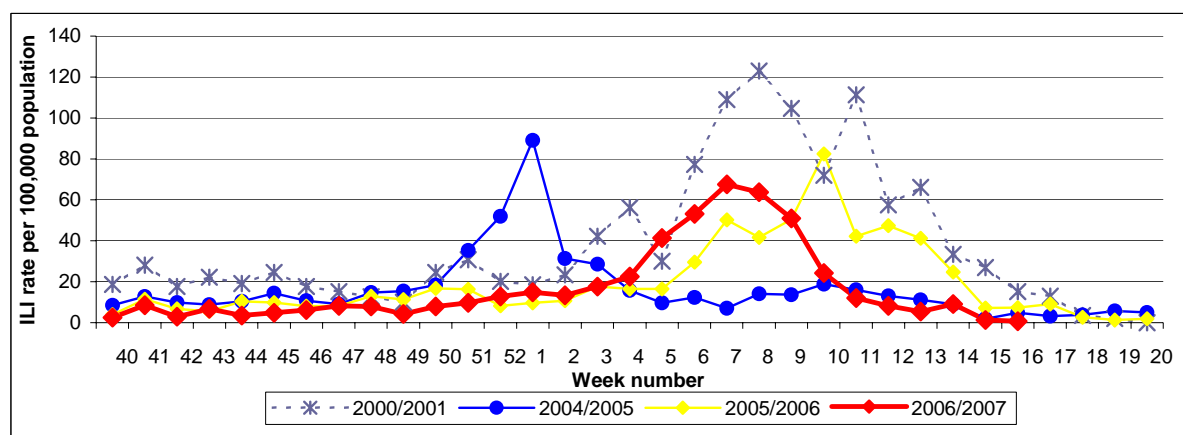


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

Results (continued)

One case was reported in the 15-64 year age group (1.0 per 100,000 population) as shown in figure 2. Forty-one of the 47 (87%) sentinel general practices reported during week 16 2007, with one reporting ILI.

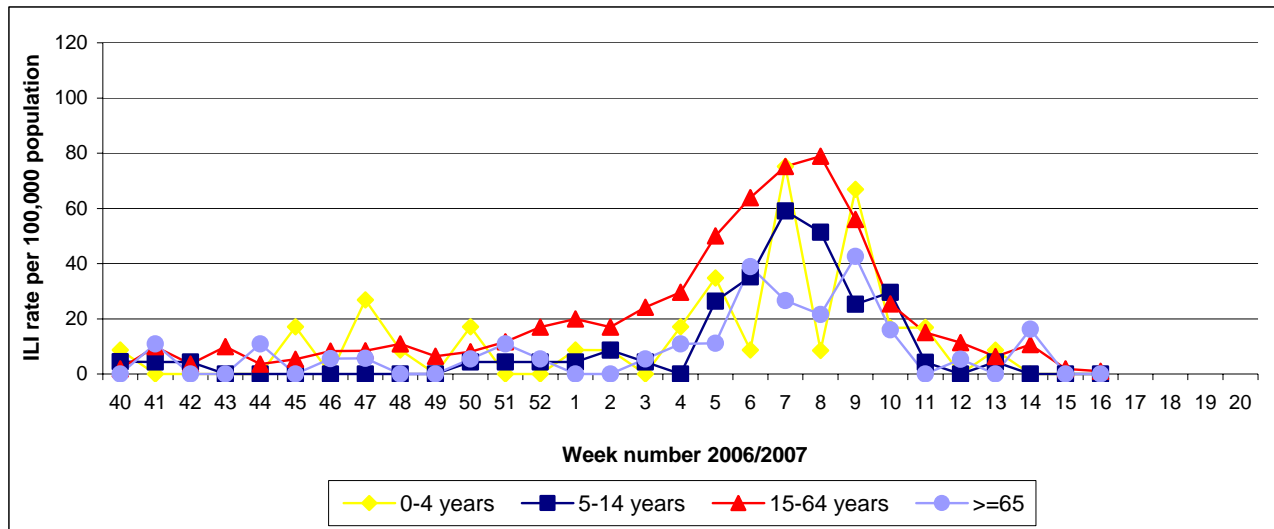


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. *Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is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

Virological Data from the National Virus Reference Laboratory (NVRL)

The NVRL tested two specimens taken by sentinel GPs during week 16 2007, both of which were negative for influenza virus. The NVRL also tested 31 non-sentinel specimens taken during week 16 2007, mainly from hospitalised paediatric cases. All non-sentinel specimens were negative 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 16 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 16 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
16 2007	Sentinel	2	0	0.0	0	0	NA
	Non-Sentinel	31	0	0.0	0	0	1
	Total	33	0	0.0	0	0	1
40 2006 – 16 2007	Sentinel	351	125	35.6	123	2	NA
	Non-Sentinel	1686	43	2.6	43	0	325
	Total	2037	168	8.2	166	2	325

*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 16 2007 and the 2006/2007 season to date

	Week 16 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 16 2007 and the 2006/2007 season to date

	Week 16 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

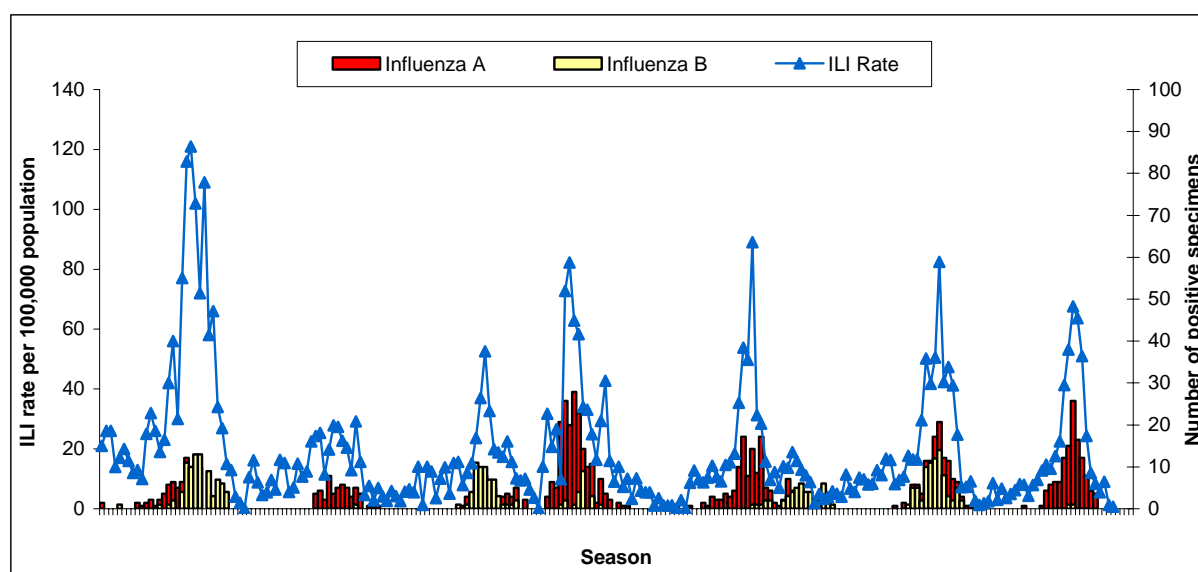


Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

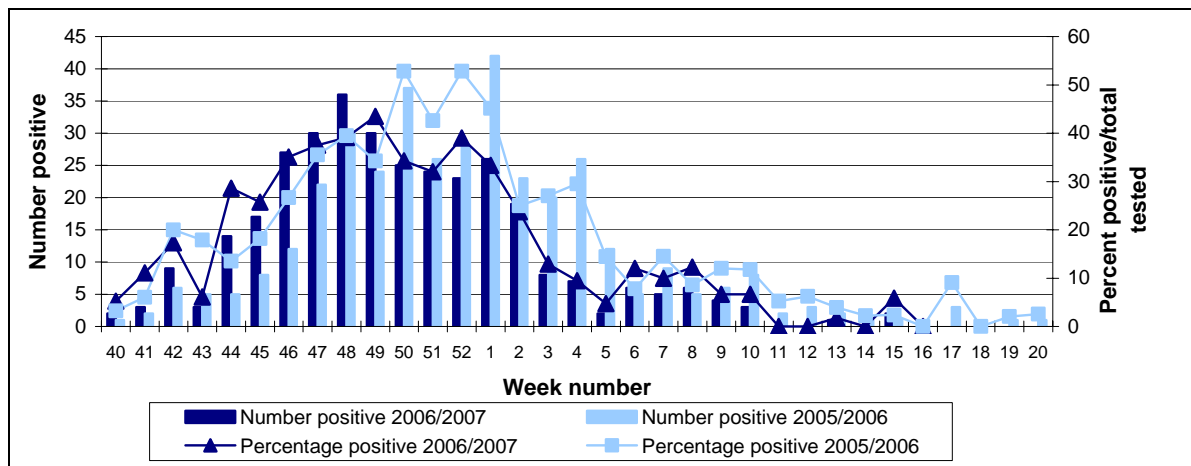


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

Weekly Influenza Notifications

Two influenza cases were notified to HPSC during week 16 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.

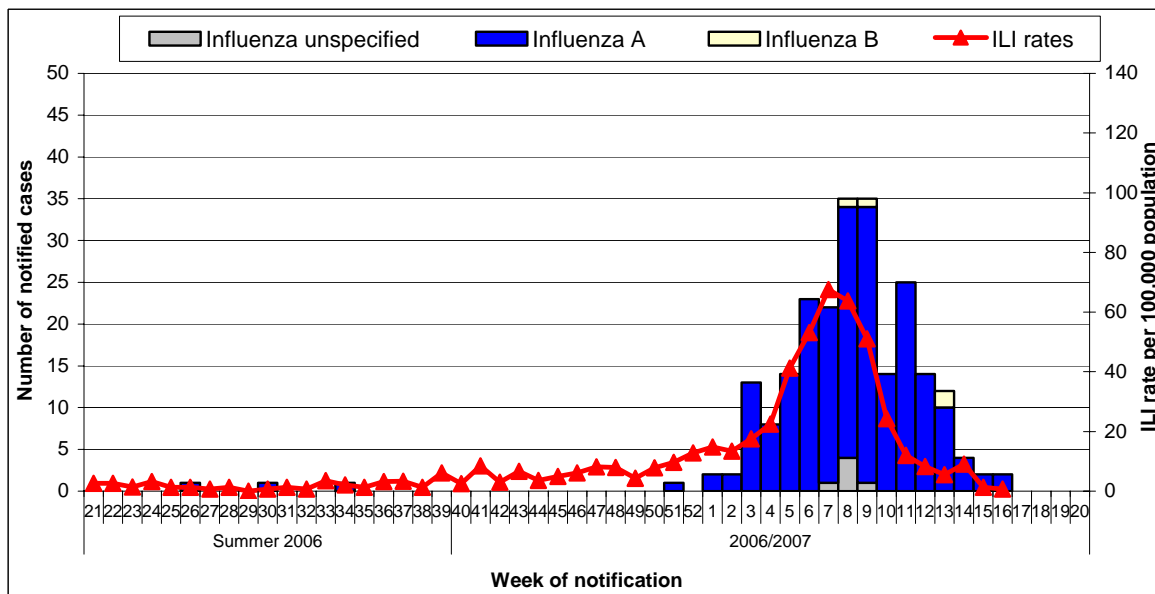


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.

*Notification data are provisional and were extracted from [CIDR](#) on the 25/04/2007 at 15.23

Mortality Data

No influenza associated deaths were registered with the GRO during week 16 2007.

Outbreak Reports

During week 16 2007, one ILI outbreak was reported from HSE-MA in a school with five people ill. This outbreak occurred in April 2006 but has only been reported now.

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 15, sporadic influenza activity based on isolated cases of ILI was reported by HSE-ER and-NE while no activity was reported by HSE- MA, -MW, -NWA, -SA, -SEA and -WA (figure 6). During week 15, no increases in respiratory admissions were reported by sentinel hospitals.

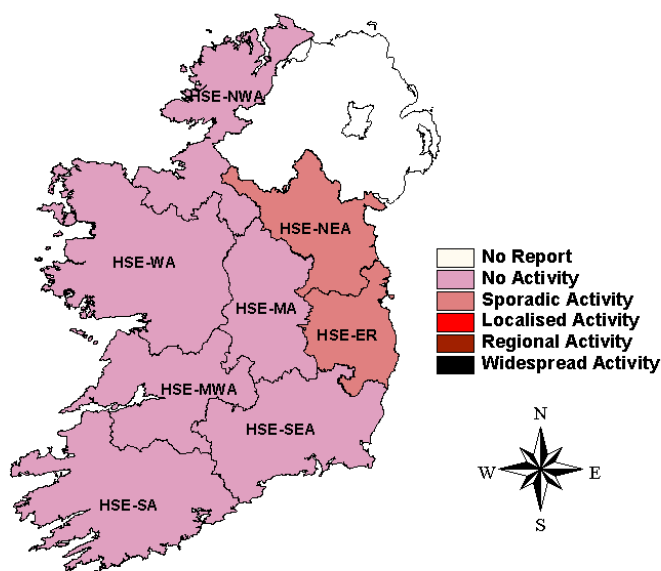


Figure 6: Map of influenza activity by HSE-Health Area during week 15 2007

Influenza Activity in Northern Ireland

During week 16 2007, 60 ILI cases and eight cases of clinical influenza were reported from sentinel GPs in Northern Ireland, corresponding to a combined rate of 61.8 per 100,000 population, an increase from the updated rate of 42.5 per 100,000 population during week 15. 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 15 2007, for the intensity indicator, the national network levels of ILI and/or acute respiratory infection (ARI) were low in all 25 countries that reported this indicator. For the geographical spread indicator, regional activity was reported in the Netherlands, sporadic activity in nine countries and no activity in 15 countries. 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 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. The total number of respiratory specimens collected by sentinel physicians was 136, of which 19 (14%) were positive for influenza virus: 15 (79%) were influenza A and four (21%) were influenza B. In addition, among 58 influenza virus positive specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals), 54 (93%) were positive for influenza A and 4 (7%) for influenza B. Based on subtyping data of all influenza virus detections (N=16,604; sentinel and non-sentinel data), 9,216 (56%) were type A unsubtype, 3,788 (23%) were A(H3), 2,870 (17%) were A(H3N2), 254 (1%) were A(H1), 137 (1%) were A(H1N1) and 339 (2%) were type B. Based on the antigenic and/or genetic characterisation of 2,315 influenza viruses, 1,588 were A/Wisconsin/67/2005 (H3N2)-like, 375 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], 221 A/New Caledonia/20/99 (H1N1)-like, 118 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage) and 13 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 15, influenza activity in Canada continued to decline with fewer regions reporting elevated activity: 15 regions reported localised, 40 regions reported sporadic and 13 regions reported no activity. In week 15, 8% (191/2,260) of specimens tested positive for influenza virus, of which the majority were from Quebec (63% or 120/191). The majority of influenza virus detections to date this season were influenza A viruses (91% or 6,904/7,590). However, the proportion of influenza B virus detections is still increasing while the proportion of influenza A virus detections has been decreasing since week 9. The majority of influenza B detections to date were from Quebec (87%). In week 15, the ILI consultation rate increased to 20 per 1,000 patient visits, which is within the expected range for this week and was highest in the 0-19 year age group. The sentinel response rate was 69%. During week 15, 8 new influenza outbreaks were reported and all were in long term care facilities. The National Microbiology Laboratory (NML) has characterised 847 influenza viruses for the 2006-2007 influenza season: 242 (29%) A/New Caledonia/20/1999(H1N1)-like, 546 (64%) A/Wisconsin/67/05(H3N2)-like, 11 (1%) B/Malaysia/2506/2004-like and 48 (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 15, 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 an increase in the percentage of specimens testing positive for influenza, however reporting from one state was responsible for this increase. Other surveillance systems indicated a decrease in influenza activity. The percentage of visits for ILI to sentinel providers decreased during week 15 and was below the national baseline for the third consecutive week. Four states reported widespread influenza activity, seven states reported regional influenza activity, 13 states and New York City reported local influenza activity, the District of Columbia and 23 states reported sporadic influenza activity and three states reported no influenza activity. The number of jurisdictions reporting widespread or regional influenza activity decreased from 13 for week 14 to 11 for week 15. The percentage of deaths due to pneumonia and influenza remained below baseline level. During week 15, WHO and NREVSS laboratories reported 2,106 specimens tested for influenza viruses, 291 (13.8%) of which were positive: 15 influenza A(H1) viruses, 110 influenza A(H3) viruses, 97 influenza A viruses that were not subtyped and 69 influenza B viruses. Of the 110 influenza A(H3) viruses reported for week 15, 83 (75.5%) were reported from one state. Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 157,049 specimens for influenza viruses and 21,336 (13.5%) were positive. Among the 21,336 influenza viruses, 16,958 (79.5%) were

influenza A viruses and 4,378 (20.5%) were influenza B viruses. Of the 16,958 influenza A viruses, 5,119 (30.2%) have been subtyped; 3,638 (71.1%) were influenza A(H1) viruses and 1,481 (28.9%) were influenza A(H3) viruses. <http://www.cdc.gov/flu/>

Influenza Activity Worldwide

During week 15 2007 the following influenza isolates were reported; China 117 (82 A(H3), 10 A untyped and 25 B), Iran 1 B and Japan 4 (1 A(H1), 1 A(H3) and 2 B). China, Mongolia and Tunisia reported sporadic levels of ILI while Brazil 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.

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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