

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 47 2007 (19th – 25th November 2007)

Summary

During week 47 2007, influenza activity was at low levels in Ireland, as expected for the time of year. Nine influenza-like illness (ILI) cases were reported by sentinel GPs during this period. No positive influenza specimens were detected by the NVRL during week 47 2007. Respiratory syncytial virus (RSV) detections have continued to increase and are at higher levels for the month of October and to date for November than previously recorded for this time of year.

Background

This is the eighth 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. Fifty 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

Nine ILI cases were reported from sentinel GPs during week 47 2007, corresponding to an ILI consultation rate of 5.5 per 100,000 population, a slight decrease from the updated rate of 6.6 per 100,000 in week 46 2007 (figure 1). Forty-five of 50 (90%) sentinel general practices reported during week 47 2007, with seven reporting ILI cases.

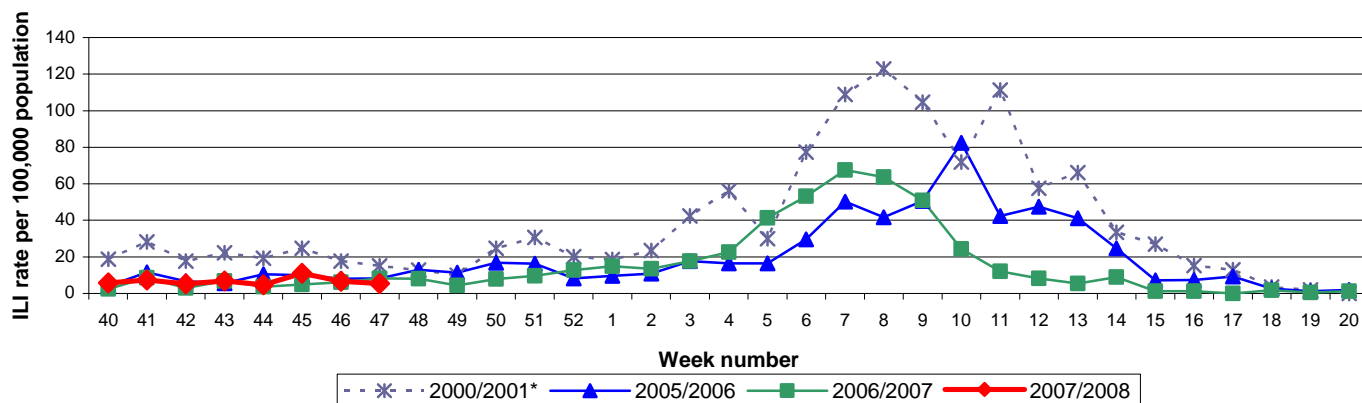


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2005/2006, 2006/2007 & 2007/2008 influenza seasons *Highest recorded levels of ILI activity since initiation of sentinel surveillance

Results (continued)

During week 47 2007, two ILI cases were reported in the 0-4 year age group (17.1 per 100,000 population) and seven ILI cases were reported in the 15-64 year age group (6.2 per 100,000 population). No ILI cases were reported in those aged 5-14 years or in those aged 65 years or older, as shown in figure 2.

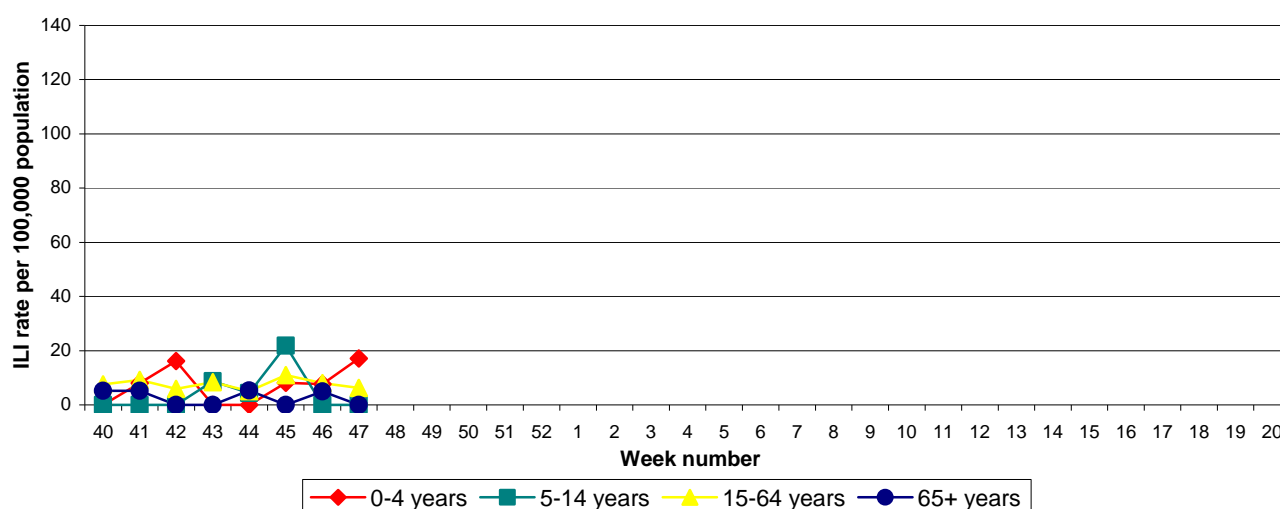


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2007/2008 influenza season
*Please note the denominator used in the age specific consultation rate is from the 2006 census data; this assumes that the age distribution of the sentinel general practices is similar to the national age distribution.

Virological Data from the NVRL

The NVRL tested seven specimens taken by sentinel GPs during week 47 2007, all of which were negative for influenza virus. The NVRL also tested 95 non-sentinel specimens taken during week 47 2007, mainly from hospitalised paediatric cases. All non-sentinel specimens were negative for influenza virus and 47 were positive for respiratory syncytial virus (RSV) (table 1). To date this season, only one specimen (from sentinel sources) has tested positive for influenza virus, influenza A (H3). NVRL detections of RSV from non-sentinel sources have continued to increase, with higher levels for the month of October and to date for November than previously recorded for this time of year (figure 4). To date this season, the NVRL has detected the following positive specimens from non-sentinel sources: 153 RSV, 2 Adenovirus, 2 parainfluenza virus (PIV) type-1, 1 PIV-2 and 4 PIV-3.

Influenza positive specimens by HSE-Area and age group (in years) for week 47 2007 and the 2007/2008 season to date are shown in tables 2 and 3, respectively. 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 2006/2007 and 2007/2008 influenza seasons.

Table 1: Number of sentinel and non-sentinel* respiratory specimens and positive results for week 47 2007 and the 2007/2008 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV	% RSV Positive
47 2007	Sentinel	7	0	0.0	0	0	NA	NA
	Non-Sentinel	95	0	0.0	0	0	47	49.5
	Total	102	0	0.0	0	0	47	46.1
Season to date	Sentinel	51	1	2.0	1	0	NA	NA
	Non-Sentinel	503	0	0.0	0	0	153	30.4
	Total	554	1	0.2	1	0	153	27.6

*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 47 2007 and the 2007/2008 season to date

	Week 47 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	0	0	0	0	0	0
HSE-M	0	0	0	0	0	0
HSE-MW	0	0	0	0	0	0
HSE-NE	0	0	0	0	0	0
HSE-NW	0	0	0	0	0	0
HSE-SE	0	0	0	0	0	0
HSE-S	0	0	0	1	0	1
HSE-W	0	0	0	0	0	0
Total	0	0	0	1	0	1

* 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 47 2007 and the 2007/2008 season to date

	Week 47 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
0-4 years	0	0	0	0	0	0
5-14 years	0	0	0	0	0	0
15-64 years	0	0	0	1	0	1
65 years and older	0	0	0	0	0	0
Age group unknown	0	0	0	0	0	0
Total	0	0	0	1	0	1

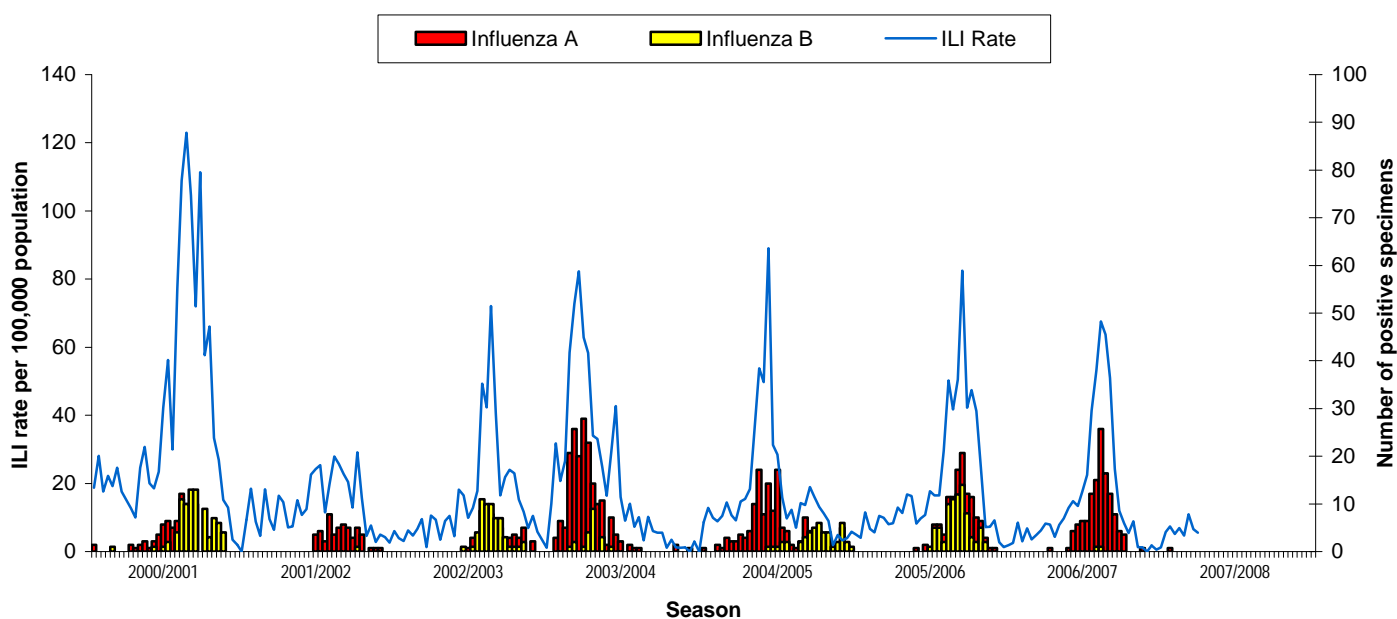


Figure 3: GP ILI consultation rate per 100,000 population and the number of positive influenza specimens detected by the NVRL by week and season, 2000/2001 - 2007/2008

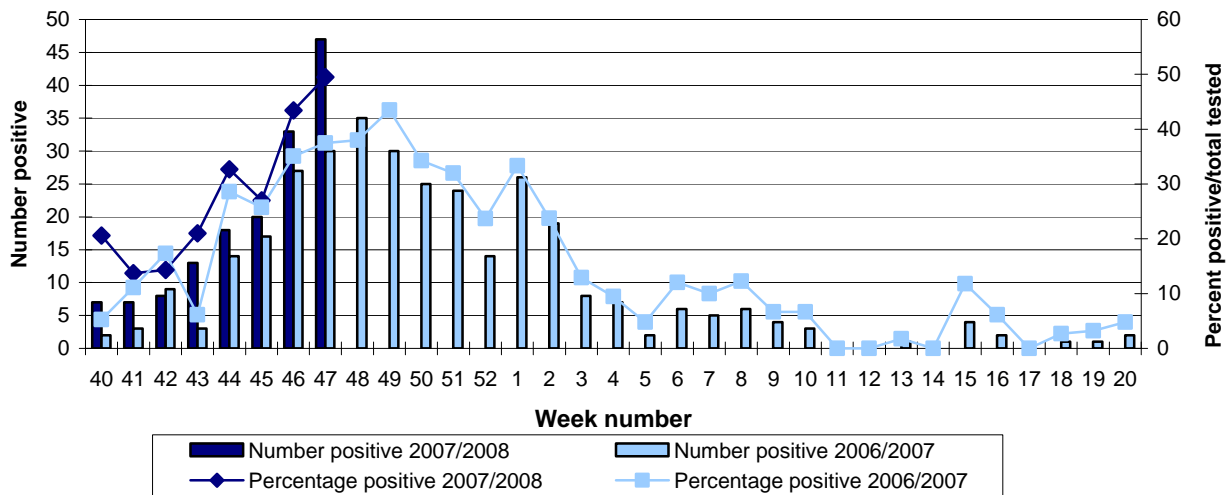


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2006/2007 and 2007/2008 influenza seasons

Weekly Influenza Notifications

No influenza cases were notified to HPSC during week 46 2007. Influenza cases notified to HPSC during the summer of 2007 and during the 2007/2008 influenza season are shown in figure 5 and compared to GP ILI consultation rates.

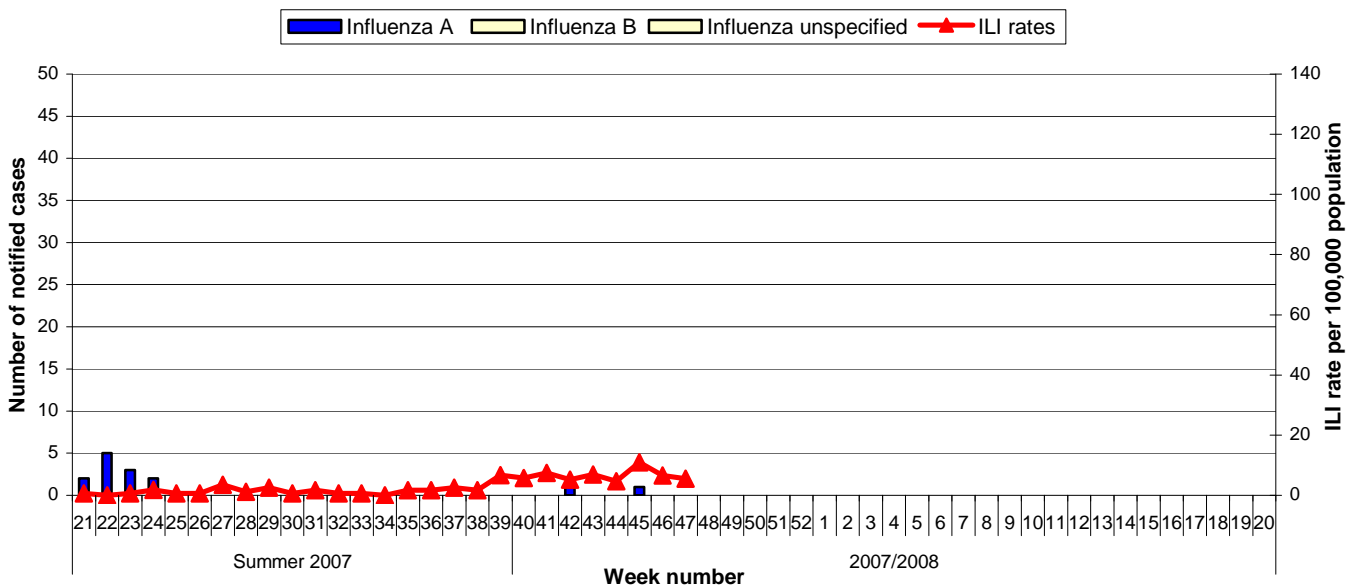


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2007 and the 2007/2008 influenza season
 *Notification data are provisional and were extracted from [CIDR](#) on the 28/11/2007 at 02:33

Mortality Data

No influenza associated deaths were registered with the GRO and reported to HPSC to date this season.

Outbreak Reports

No ILI/influenza outbreaks have been reported to HPSC to date this season.

Regional Influenza Activity by HSE-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 ILI/influenza 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.

Increased respiratory admissions were reported in a sentinel hospital in HSE-NW during week 46 2007. Two sentinel primary schools reported increased absenteeism, one during week 47 2007 in HSE-E and one during week 46 2007 in HSE-NE. School absenteeism increased in two sentinel secondary schools during week 46 2007, one in HSE-E (the school reported 'viruses' circulating) and one in HSE-NW (the school reported increased absenteeism due to 'stomach-bugs'). During week 46 2007, sporadic influenza activity (based on isolated cases of ILI) was reported in five HSE-Areas: HSE-E, -NE, -SE, -S and -W. No influenza activity was reported in HSE-M, -NW and -MW during week 46 2007 (figure 6).

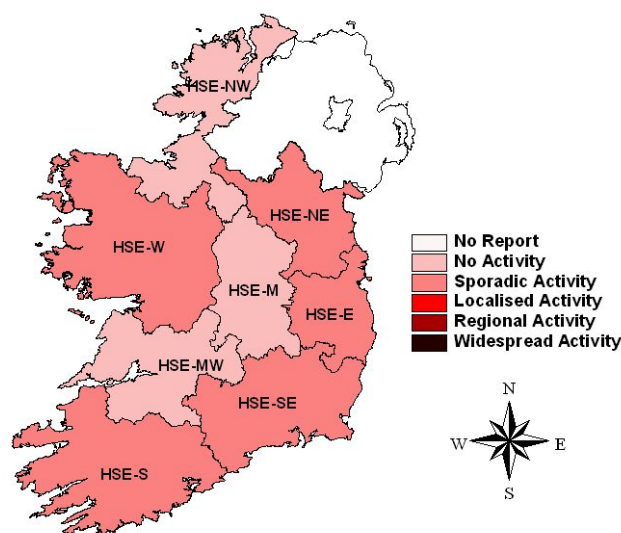


Figure 6: Map of influenza activity by HSE-Health Area during week 46 2007

Influenza Activity in Northern Ireland

During week 47 2007, seven cases of clinical influenza and 30 ILI cases were reported in Northern Ireland, corresponding to a combined rate of 27.8 per 100,000 population, a slight decrease from the updated rate of 29.9 per 100,000 for week 46 2007. Forty-seven non-sentinel and four sentinel specimens were tested during week 47 2007, one non-sentinel specimen from a hospitalised infant was positive for influenza A. This is the first positive case of influenza in Northern Ireland for the 2007/2008 influenza season. <http://www.cdscni.org.uk>

Influenza Activity in England, Scotland & Wales

During weeks 46 and 47 2007, clinical influenza activity remained low and below baseline thresholds in the UK, increasing in England and Scotland. Five samples referred to the Centre for Infections' Respiratory Virus Unit (RVU) tested positive for influenza A(H1N1) during weeks 46 and 47 2007. Compared to recent years, the number of RSV detections for this period are raised.

<http://www.hpa.org.uk/infections/topics%5Faz/influenza/seasonal/flureports0708.htm>

Influenza Activity in Europe

In Europe, levels of influenza activity remained low and at levels normally observed outside the seasonal influenza peak period, which is typical for the time of year. Sporadic influenza activity was reported in Belgium, England,

France, Malta, Norway, Poland and Spain; the remaining 23 countries reported no influenza activity during week 46 2007. To date this season, sporadic laboratory confirmed cases of influenza have been reported across Europe. The total number of specimens collected by sentinel physicians in week 46 2007 was 473, of which 15 (3.2%) were influenza virus positive: 7 A (unsubtyped), 3 A (H1) and 5 B. In addition, 14 influenza virus detections (6 A unsubtyped, 2 A (H1) and 6 B) were reported from non-sentinel sources. Based on the antigenic and/or genetic characterisation of 14 influenza viruses, eight were A/Solomon Island/3/2006 (H1N1)-like and six were B/Florida/4/2006-like. No particular influenza type or subtype has yet emerged as the dominant virus for Europe. However, some countries have reported mainly influenza A (>80% of all detections in France and Spain) and other countries have reported mainly influenza B (>60% of all detections in Poland and Sweden). Compared to previous seasons it is noteworthy that about 73% of all subtyped influenza A viruses are the H1 subtype. Since 1996, extensive circulation of influenza A (H1) viruses only occurred in the 2000/2001 season, and to a lesser extent, but still substantial, in 2005/2006. In all the other seasons, A (H3) viruses were the dominant circulating influenza A subtypes. <http://www.eiss.org/index.cgi>

Influenza Activity in Canada

During week 46 2007, influenza activity levels remained low in Canada with most regions across the country reporting no activity. The number of regions reporting sporadic influenza activity declined from 11 regions in week 45 to nine regions in week 46 2007. However, localised activity was reported in two new regions (in central Alberta and Toronto). The ILI consultation rate for week 46 2007 remains low at 10 ILI per 1,000 patient visits. In week 46 2007, three (0.2%) of the 1,617 specimens tested were positive: 1 influenza A and 2 influenza B. Of the influenza detections to date, 81% (22/27) were influenza A and 19% (5/27) were influenza B. Based on antigenic characterisation of seven viruses, one was A/Solomon Islands/3/2006 (H1N1)-like, three were A/Wisconsin/67/2005 (H3N2)-like, one was A/Brisbane/10/2007 (H3N2)-like and two were B/Florida/4/2006-like. <http://www.phac-aspc.gc.ca/fluwatch/index.html>

Influenza Activity in the United States

During week 46 2007, low levels of influenza activity were reported in the United States. Two states reported localised activity; 20 states and the District of Columbia reported sporadic influenza activity; and 28 states reported no influenza activity. During week 46 2007, the proportion of outpatient visits for ILI and acute respiratory illness was below national baseline levels. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. During week 46 2007, WHO and NREVSS laboratories reported 2,265 specimens tested for influenza viruses, 64 (2.8%) of which were positive: 10 A (H1), 1 A (H3) and 53 A (unsubtyped). CDC has antigenically characterised one influenza virus this season, B/Florida/04/2006, belonging to the B/Yamagata lineage. <http://www.cdc.gov/flu/weekly/fluactivity.htm>

Influenza Activity Worldwide

During week 46 2007, regional influenza activity was reported in Japan (16 A H1) and sporadic influenza activity was reported in China (8 A H3, 6 A unsubtyped and 25 B), Madagascar, Mongolia (1 A H1), Sri Lanka (1 A unsubtyped) and Tunisia. One influenza A (H1) and one influenza B virus detections were reported from Iran and one influenza A (H1) virus was detected in the Republic of Korea during week 46 2007. <http://gamapserver.who.int/GlobalAtlas/home.asp>

Avian Influenza

As of the 12th of November 2007, 335 confirmed human cases and 206 (61.5%) 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 the 21st of November 2007, the Department for the Environment Food and Rural Affairs (Defra) in England decided, as part of its epidemiological investigation into the outbreak of H5N1 avian influenza on a poultry farm in Suffolk, that a fifth premises in the surveillance zone should be declared as a Dangerous Contact. All poultry on these premises will be culled as a precautionary measure.

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/>

HPA http://www.hpa.org.uk/infections/topics_az/influenza/avian/default.htm

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 Dr. Lisa Domegan and Dr. Joan O'Donnell, HPSC