

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 46 2008 (10th – 16th November 2008)

Summary

During week 46 2008, influenza activity was at low levels in Ireland, with 16 influenza-like illness (ILI) cases reported by sentinel GPs. Two sentinel specimens tested by the NVRL were positive for influenza A (H3) during week 46 2008.

Background

This is the ninth 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-four 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

Sixteen ILI cases were reported from sentinel GPs during week 46 2008, corresponding to an ILI consultation rate of 8.7 per 100,000 population, an increase compared to the rate of 6.5 per 100,000 population during week 45 2008 (figure 1). This ILI rate is below the baseline threshold and within expected levels. Forty-six of 54 (85.2%) sentinel general practices reported during week 46 2008, with 12 reporting ILI cases.

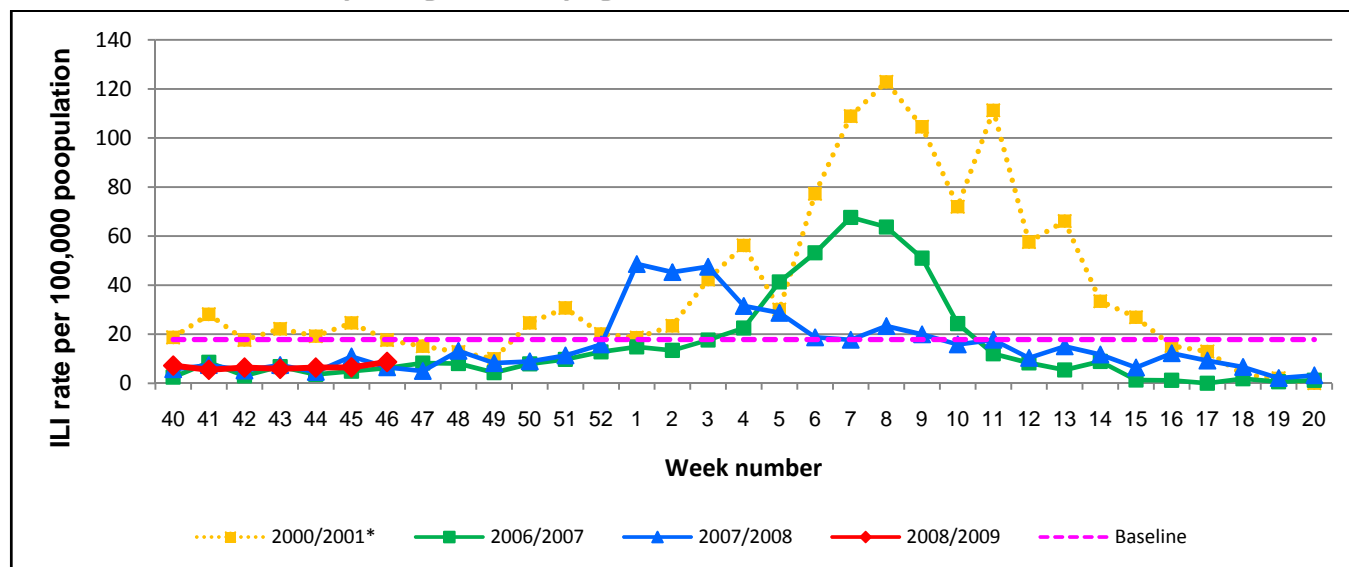


Figure 1: Influenza baseline activity threshold and GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2006/2007, 2007/2008 and 2008/2009 influenza seasons

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

Results (continued)

Two ILI cases were reported in the 5-14 year age group (8.2 per 100,000 population), 12 ILI cases were reported in the 15-64 year age group (9.5 per 100,000 population) and two cases were reported in those aged 65 years or older (9.9 per 100,000 population) as shown in figure 2. No ILI cases were reported in the 0-4 year age group.

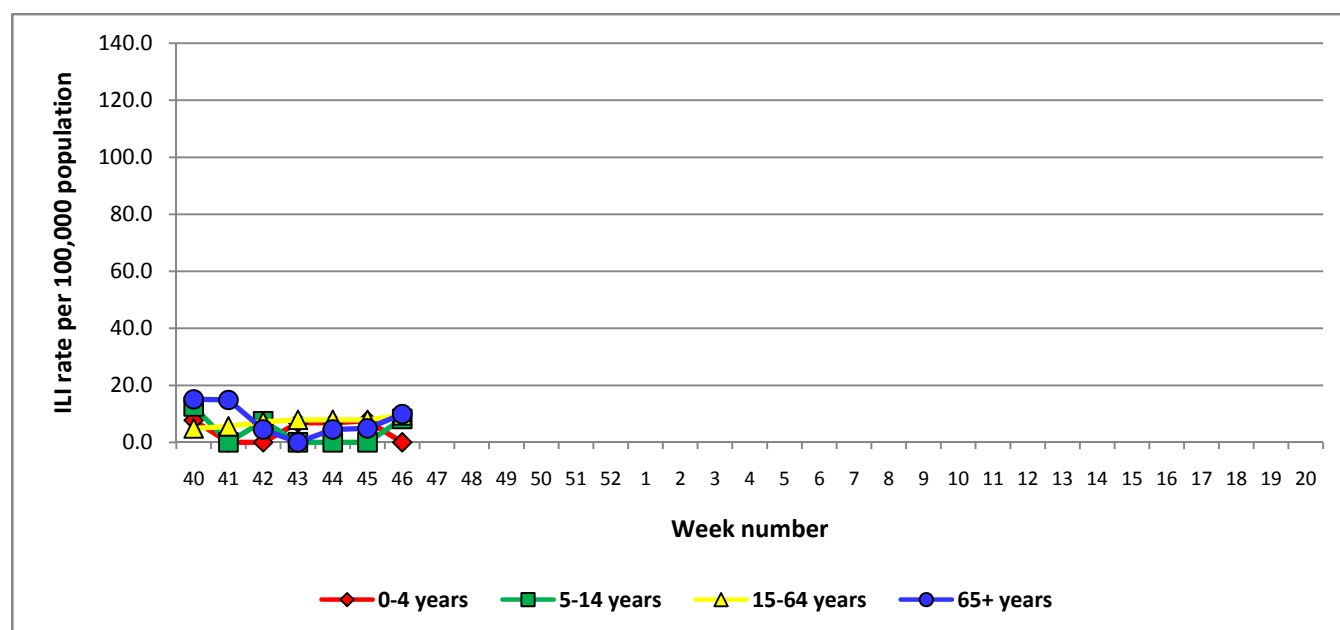


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2008/2009 influenza season
*Please note the denominator used in the age specific consultation rate is from the 2006 census data; this assumes that the age distribution of the sentinel general practices is similar to the national age distribution.

Virological Data from the NVRL

The NVRL tested six specimens taken by sentinel GPs during week 46 2008, two of which were positive for influenza A (H3). The NVRL also tested 82 non-sentinel specimens taken during week 46 2008, mainly from hospitalised paediatric cases. None of the non-sentinel specimens were positive for influenza virus and 20 were positive for respiratory syncytial virus (RSV) (table 1).

The NVRL has completed genetic characterisation for two influenza A (H3) viruses so far this season. Both have been characterised as A/Brisbane/10/2007-like virus which is included in the 2008/2009 influenza vaccine.

Influenza positive specimens by HSE area and age group (in years), for week 46 2008 and the 2008/2009 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 2007/2008 and 2008/2009 influenza seasons.

Table 1: Number of sentinel and non-sentinel* respiratory specimens and positive results for week 46 2008

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
46 2008	Sentinel	6	2	33.3	2	0	NA
	Non-Sentinel	82	0	0.0	0	0	20
	Total	88	2	2.3	0	0	20
40-46 2008	Sentinel	25	5	20.0	5	0	NA
	Non-Sentinel	458	2	0.4	2	0	93
	Total	483	7	1.4	7	0	93

Table 2: Total number of sentinel and non-sentinel* influenza A and B positive specimens by HSE area for week 46 2008 and the 2008/2009 season to date

	Week 46 2008			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	1	0	1	2	0	2
HSE-M	0	0	0	1	0	1
HSE-MW	1	0	1	1	0	1
HSE-NE	0	0	0	2	0	2
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	2	0	2	7	0	7

* 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 46 2008 and the 2008/2009 season to date

	Week 45 2008			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
0-4 years	0	0	0	1	0	1
5-14 years	1	0	1	2	0	2
15-64 years	1	0	1	4	0	4
65 years and older	0	0	0	0	0	0
Age group unknown	0	0	0	0	0	0
Total	2	0	2	7	0	7

*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

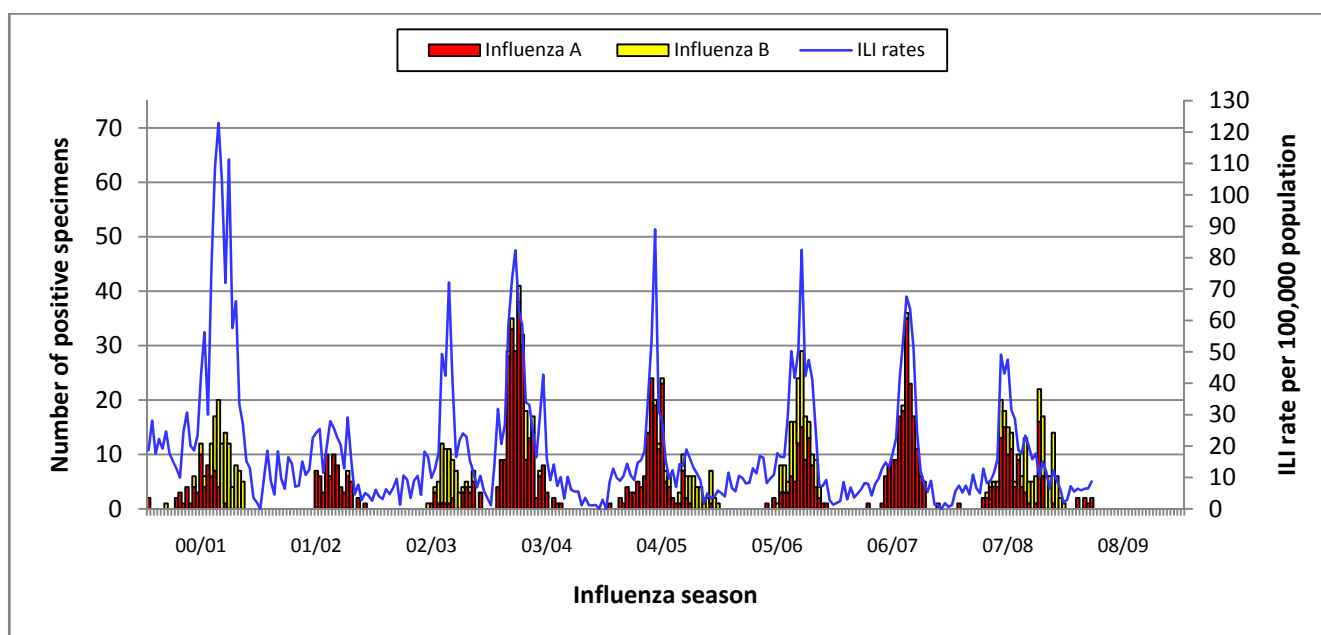


Figure 3: GP ILI consultation rate per 100,000 population and the number of positive influenza specimens detected by the NVRL by week and season, 2000/2001 - 2008/2009

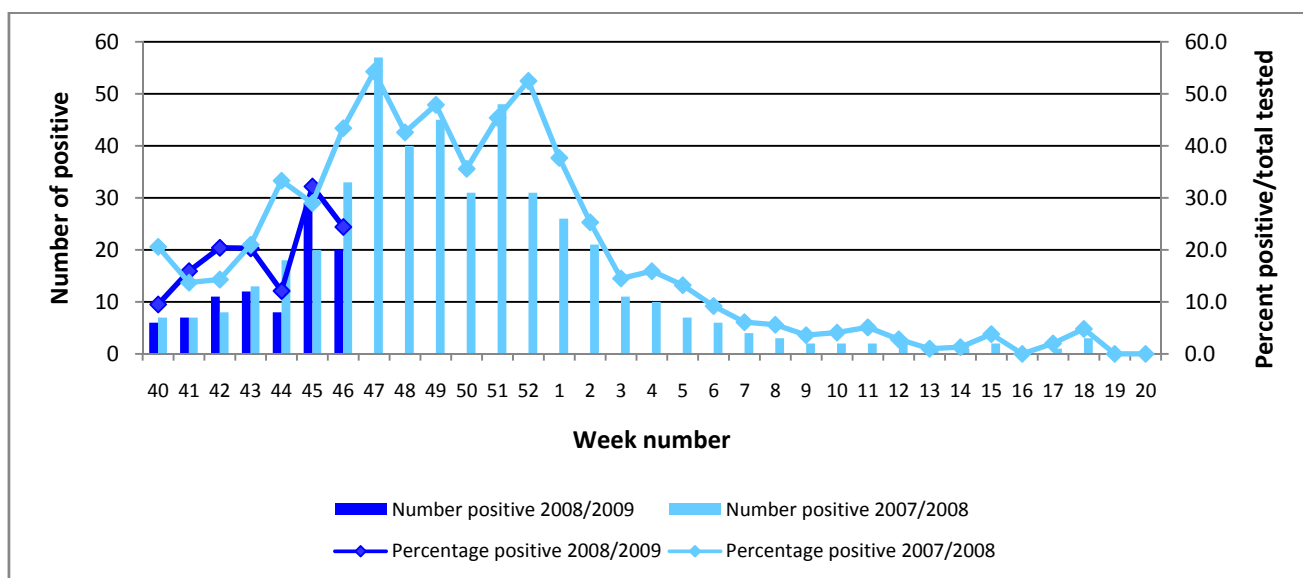


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2007/2008 and 2008/2009 influenza seasons

Weekly Influenza Notifications

Two influenza A cases were notified to HPSC during week 46 2008, one from HSE E and one from HSE S. It should be noted that 87 influenza (type unspecified) cases notified to HPSC during the 2008 summer season (weeks 21-39 2008) were possible cases (i.e. clinical cases with no laboratory confirmation). These were late GP notifications from HSE-E for 2007. Influenza cases notified to HPSC during the summer of 2008 and during the 2008/2009 influenza season are shown in figure 5 and compared to GP ILI consultation rates.

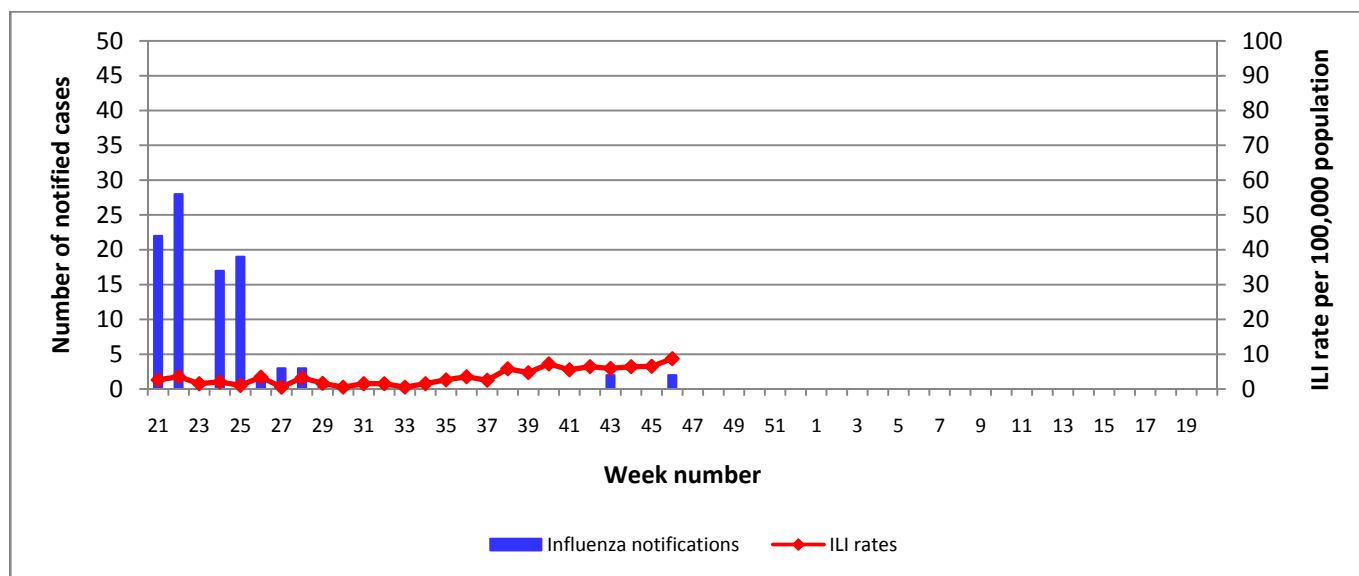


Figure 5: Number of notifications* of influenza by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2008 and the 2008/2009 influenza season
 *Notification data are provisional and were extracted from [CIDR](#) on the 18/11/2008 at 15.33

Baseline thresholds

A baseline threshold of 17.8 cases per 100,000 population will be used alongside expert opinion to assess influenza activity during the 2008/2009 influenza season in Ireland. This baseline was derived from the EISS method using a mathematical algorithm to identify the influenza activity period of the previous eight seasons.

Mortality Data

No influenza associated deaths registered with the GRO were reported to HPSC during week 46 2008.

Outbreak Reports

No ILI/influenza outbreaks were reported to HPSC during week 46 2008.

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, total emergency admissions and total 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 45 2008, an increase in absenteeism was reported from a sentinel school in HSE SE and an increase in respiratory admissions was also reported by a sentinel hospital in HSE S. During week 45 2008 sporadic influenza activity (based on isolated cases of ILI and virological results) was reported in five HSE-areas: HSE-ER, -MW, -NE, -NW and -SE (figure 6).

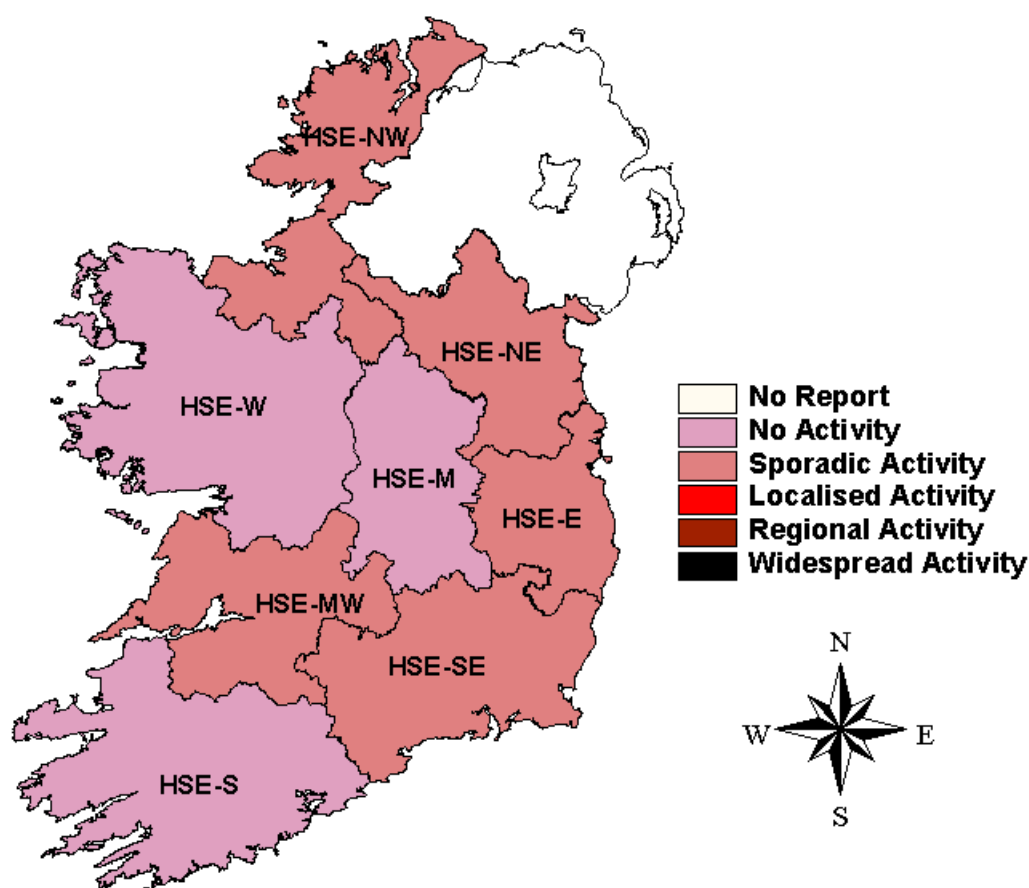


Figure 6: Map of influenza activity by HSE-Health Area during week 45 2008

Influenza Activity in Northern Ireland

During week 46 2008, 37 ILI cases and three clinical influenza cases were reported in Northern Ireland, corresponding to a rate of 27.3 per 100,000 population, a decrease compared to the updated rate of 30.7 per 100,000 during week 45 2008. Six sentinel specimens and 50 non-sentinel specimens were tested for influenza during week 46 2008, none of which were positive for influenza. <http://www.cdscni.org.uk>

Influenza Activity in England, Scotland & Wales

Influenza activity remained stable at low levels across all the regions of the UK during week 46 2008. Some clinical indicators of influenza have slightly increased in England and Scotland in week 46 2008, compared with week 45 2008. Influenza activity in regions with baseline activity thresholds are well below this level. Reports of influenza A and B from NHS and HPA laboratories are also at low levels and laboratory reports of RSV stayed at a similar level compared to week 45 2008. Eighteen samples referred to the Centre for Infections' Respiratory Virus Unit (RVU) tested positive for influenza A (H3), which is an increase from seven in week 45 2008, and three tested positive for RSV during week 46 2008. There were no influenza A (H1) positive samples in week 46 2008, compared to three in week 45 2008. In Scotland three sentinel samples (15%) and one routine sample (3.1%) tested positive for influenza A.

Neuraminidase inhibitor susceptibility testing on 18 out of 36 influenza A (H3) isolates since week 36 2008 showed that all are sensitive to oseltamivir and zanamivir, but resistant to amantadine. Of the three influenza B isolates received since week 36 2008, all are sensitive to oseltamivir and zanamivir. In the same time period, 13 influenza A (H1) isolates have been received and tested, of which twelve are resistant to oseltamivir but sensitive to zanamivir and amantadine. All of these 12 are from South West England and are being followed up in more detail.

Two outbreaks of respiratory illness have been reported from schools in week 47 2008, one in East England and one in South England. Both outbreaks are still under investigation.

http://www.hpa.org.uk/infections/topics%5Faz/influenza/seasonal/activity0809/weekly_summary.htm

Influenza Activity in Europe

Influenza surveillance data for Europe can be accessed at the following link:

<http://www.eiss.org/index.cgi>

Influenza Activity in Canada

Influenza surveillance data for Canada can be accessed at the following link:

<http://www.phac-aspc.gc.ca/fluwatch/index.html>

Influenza Activity in the United States

Influenza surveillance data for the United States can be accessed at the following link:

<http://www.cdc.gov/flu/weekly/fluactivity.htm>

Influenza Activity Worldwide

Global Influenza surveillance data can be accessed at the following link:

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

Avian Influenza

As of the 19th November 2008, 387 confirmed human cases and 245 (63.3%) deaths from avian influenza A (H5N1) have been reported to the WHO from Azerbaijan, Bangladesh, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Lao Peoples Democratic Republic, Myanmar, Nigeria, Pakistan, Thailand, Turkey and Viet Nam.

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 2008/2009 Season

The members of the WHO Collaborating Centres on Influenza have recommended that influenza vaccines for the 2008/2009 influenza season in the Northern Hemisphere contain the following strains:

- an A/Brisbane/59/2007 (H1N1)-like virus;
- an A/Brisbane/10/2007 (H3N2)-like virus;*
- a B/Florida/4/2006-like virus.#

* A/Brisbane/10/2007 is a current southern hemisphere vaccine virus.

B/Florida/4/2006 and B/Brisbane/3/2007 (a B/Florida/4/2006-like virus) are current southern hemisphere vaccine viruses. http://www.who.int/csr/disease/influenza/recommendations2008_9north/en/index.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