

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 49 2008 (1st – 7th December 2008)

Summary

During week 49 2008, influenza activity was at medium levels in Ireland, with 38 influenza-like illness (ILI) cases reported by sentinel GPs. Six sentinel specimens tested by the NVRL were positive for influenza during week 49 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

Thirty-eight ILI cases were reported from sentinel GPs during week 49 2008, corresponding to an ILI consultation rate of 20.3 per 100,000 population, which is almost double the updated rate of 10.9 per 100,000 population reported during week 48 2008 (figure 1). This ILI rate is marginally above the baseline threshold of 17.8 per 100,000 population but is within expected levels. Forty-five of 54 (83.3%) sentinel general practices reported during week 49 2008, with 18 reporting ILI cases.

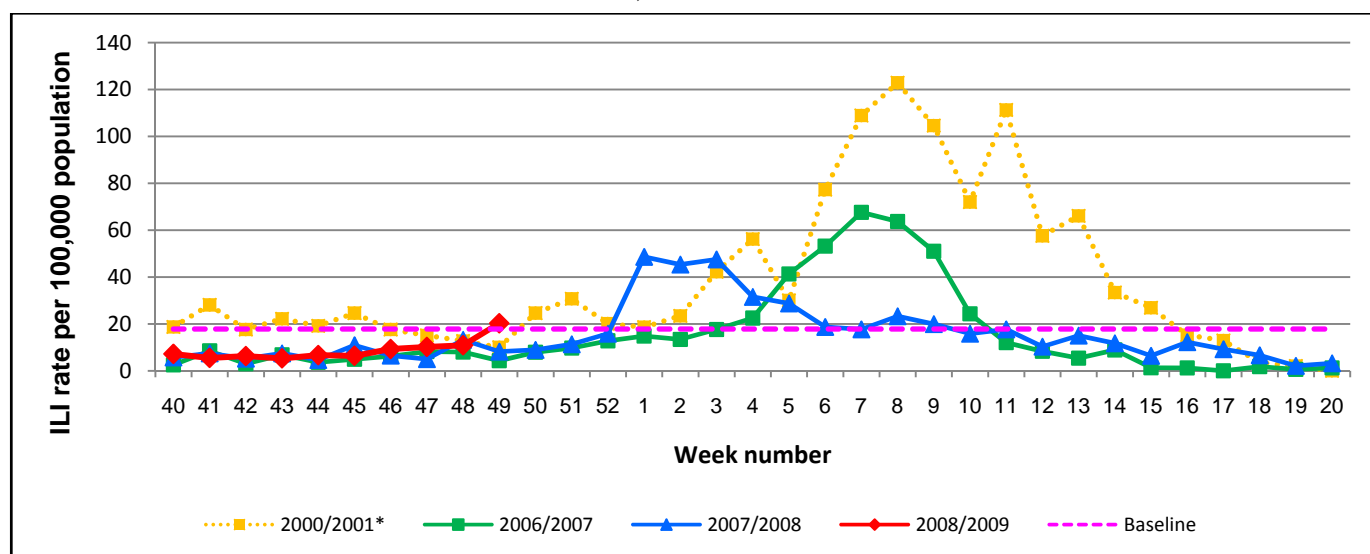


Figure 1: Influenza baseline activity threshold and GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2006/2007, 2007/2008 and 2008/2009 influenza seasons

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

Results (continued)

Two ILI cases were reported in the 0-4 year age group (15.0 per 100,000 population), three ILI cases were reported in the 5-14 year age group (12.1 per 100,000 population), 30 ILI cases were reported in the 15-64 year age group (23.4 per 100,000 population) and three ILI cases were reported in those aged 65 years or older (14.5 per 100,000 population) as shown in figure 2.

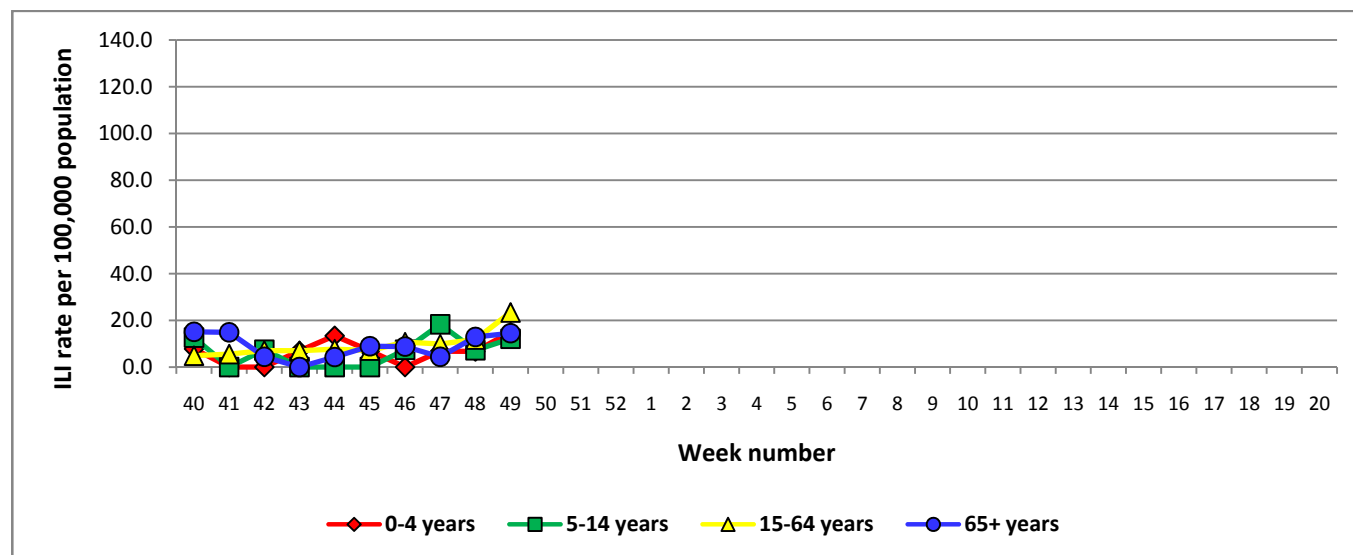


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2008/2009 influenza season

Virological Data from the NVRL

The NVRL tested 12 specimens taken by sentinel GPs during week 49 2008, five of which tested positive for influenza A and one tested positive for influenza B. The NVRL also tested 97 non-sentinel specimens taken during week 49 2008, mainly from hospitalised paediatric cases. None of the non-sentinel specimens were positive for influenza virus and 30 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 49 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 49 2008

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
49 2008	Sentinel	12	6	50.0	5	1	NA
	Non-Sentinel	97	0	0.0	0	0	30
	Total	109	6	5.5	5	1	30
40-49 2008	Sentinel	52	17	32.7	12	5	NA
	Non-Sentinel	766	2	0.3	2	0	209
	Total	818	19	2.3	14	5	209

* 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.

[†] 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 49 2008 and the 2008/2009 season to date

	Week 49 2008			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-E	1	0	1	3	0	3
HSE-M	0	1	1	1	1	2
HSE-MW	1	0	1	2	0	2
HSE-NE	2	0	2	5	0	5
HSE-NW	0	0	0	1	1	2
HSE-SE	0	0	0	0	0	0
HSE-S	0	0	0	1	0	1
HSE-W	0	0	0	0	3	3
HSE area unknown	1	0	1	1	0	1
Total	5	1	6	14	5	19

Table 3: Total number of sentinel and non-sentinel† influenza A and B positive specimens by age group (in years) for week 49 2008 and the 2008/2009 season to date

	Week 49 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	0	1	1	2	2	4
15-64 years	4	0	4	9	3	12
65 years and older	0	0	0	1	0	1
Age group unknown	1	0	1	1	0	1
Total	5	1	6	14	5	19

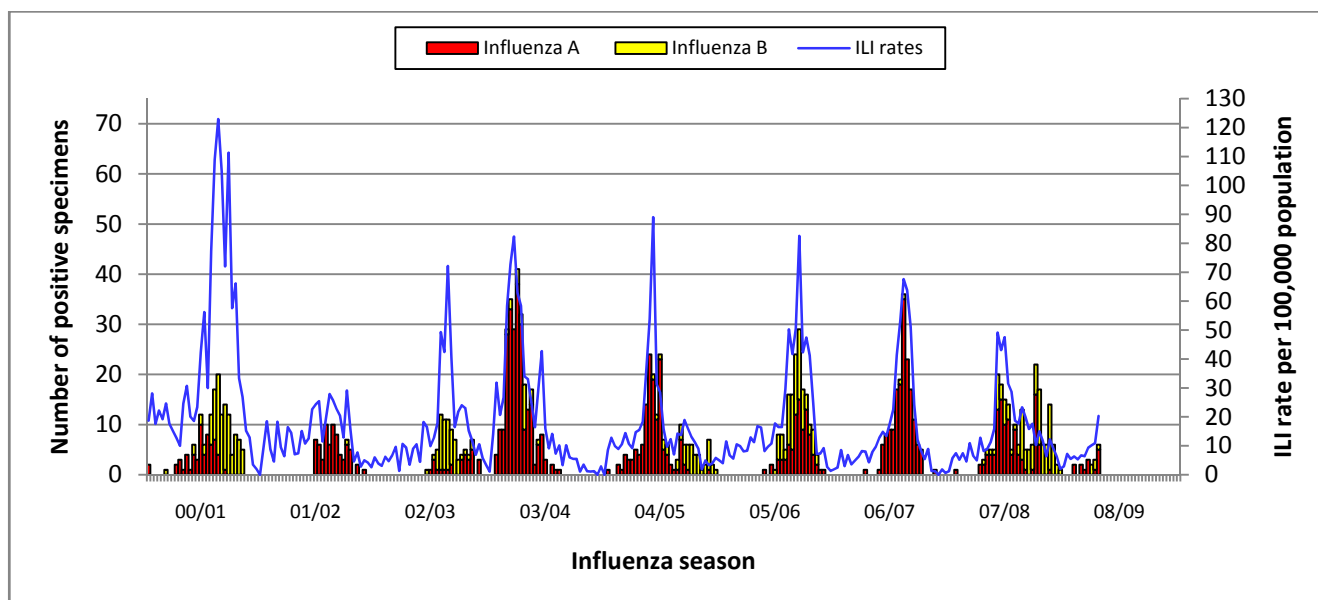


Figure 3: GP ILI consultation rate per 100,000 population and the number of positive influenza specimens detected by the NVRL by week and season, 2000/2001 - 2008/2009

† 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

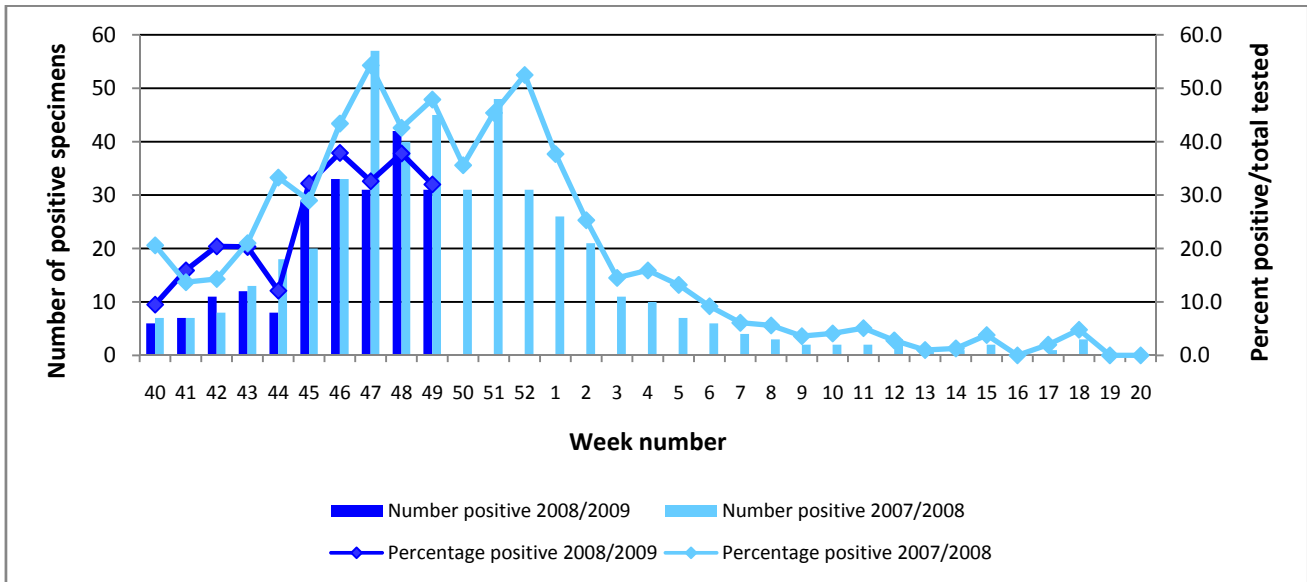


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2007/2008 and 2008/2009 influenza seasons

Weekly Influenza Notifications

Four cases of influenza were notified to HPSC during week 49 2008. Two influenza A and one influenza unspecified were reported from HSE-NE and one influenza B from HSE-M. 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.

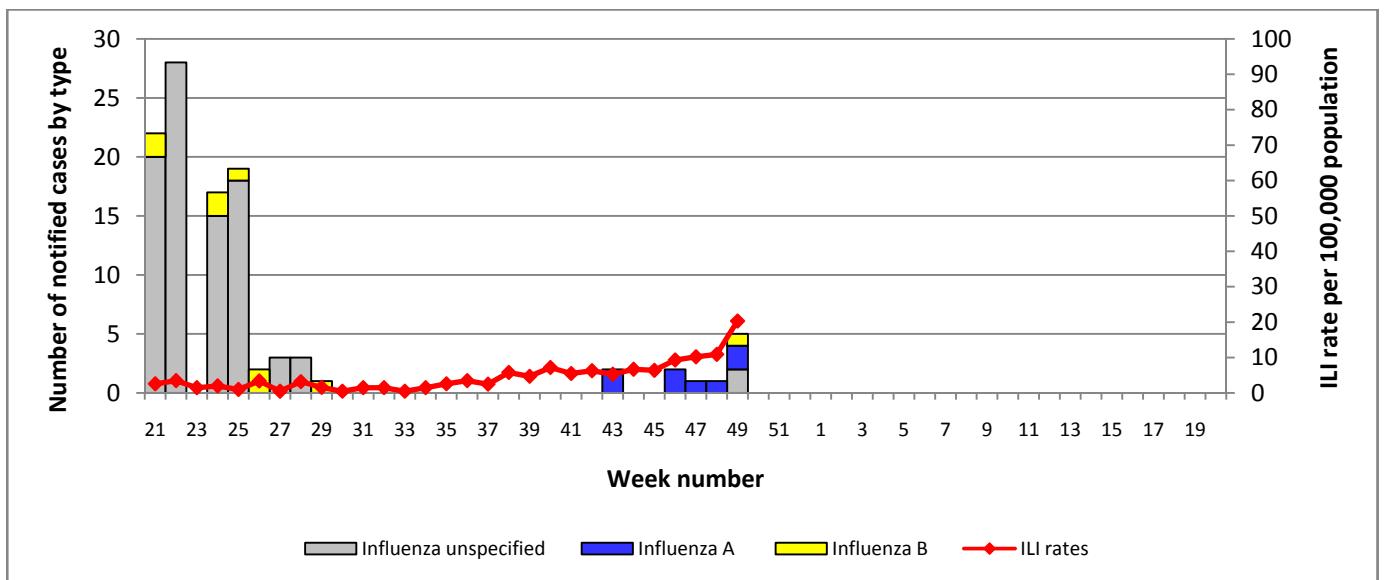


Figure 5: Number of notifications of influenza by type and week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2008 and the 2008/2009 influenza season[‡]

[‡] Notification data are provisional and were extracted from [CIDR](#) on the 09/12/2008 at 17.46

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 deaths attributed to influenza were registered with the General Register Office during week 49 2008.

Outbreak Reports

No ILI/influenza outbreaks were reported to HPSC during week 49 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 48 2008, no increases in absenteeism were reported from sentinel schools. Increases in respiratory admissions were reported by sentinel hospitals in HSE-M, -NE and -SE during week 48 2008. During week 48 2008 no activity was reported in HSE-E, -S and -W while sporadic influenza activity (based on isolated cases of ILI and virological results) was reported in HSE-M, -MW, -NE, -NW and -SE (figure 6).

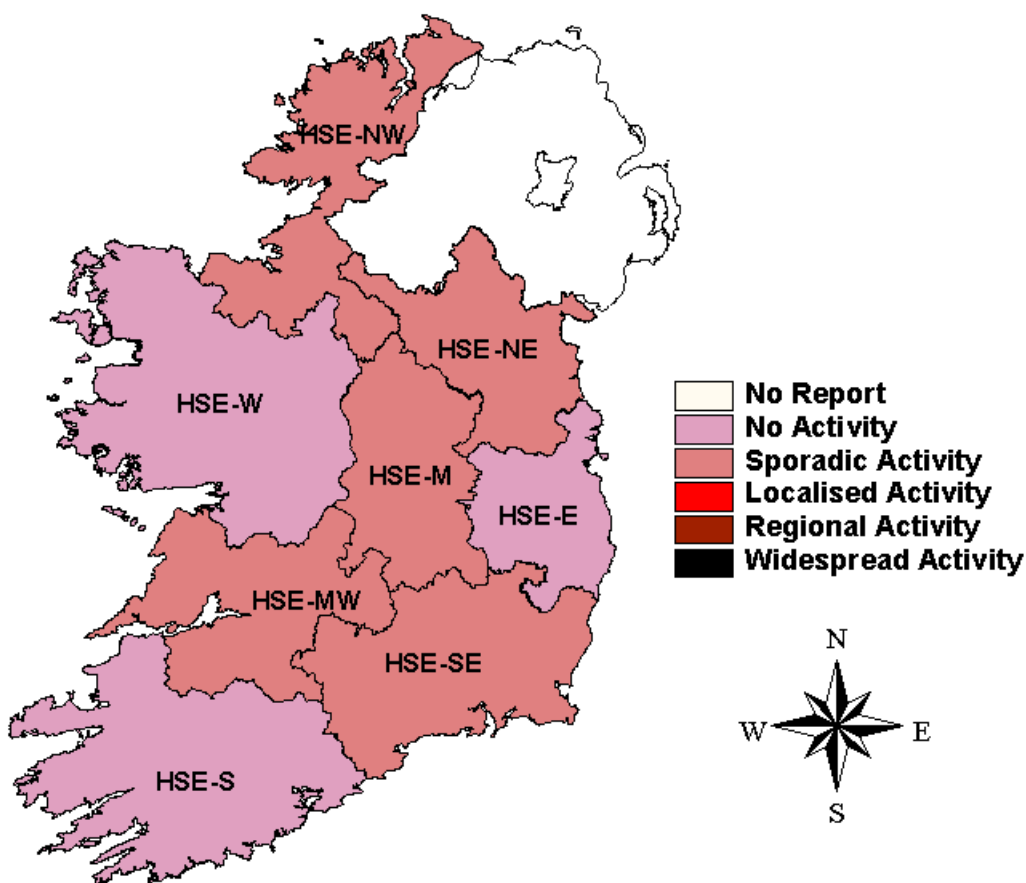


Figure 6: Map of influenza activity by HSE area during week 48 2008

Influenza Activity in Northern Ireland

During week 49 2008, 92 ILI cases and 29 clinical influenza cases were reported in Northern Ireland, corresponding to a rate of 69.2 per 100,000 population, an increase compared to the updated rate of 42.8 per 100,000 population during week 48 2008. Two sentinel and two non-sentinel specimens tested positive for influenza A during week 49 2008. During week 49 2008, an outbreak of influenza A was reported in a care home affecting approximately 18 out of 33 residents and three staff. This is the first influenza outbreak reported in Northern Ireland this season. <http://www.cdscni.org.uk>

Influenza Activity in England, Scotland & Wales

In England, the overall ILI incidence rate increased to 27.6 per 100,000 population during week 49 2008. This is almost double the rate of 16.5 per 100,000 population reported in week 48 2008, but remains below the baseline activity threshold of 30 per 100,000 population. In Scotland, GP consultation rates for influenza were 20.0 per 100,000 population during week 49 2008, remaining stable in comparison to the rate of 19.0 per 100,000 population during week 48 2008. Activity remains below the Scottish baseline threshold of 50 consultations per 100,000 population. In Wales, GP consultation rates for influenza were 7.8 per 100,000 population in week 49 2008, an increase from 6.9 per 100,000 in week 48 2008. Both figures are well below the baseline threshold of 25 consultations per 100,000 population.

During week 49 2008, 60 samples tested positive for influenza A and one sample tested positive for influenza B in NHS and HPA laboratories. During week 49 2008, 88 samples referred to the Centre for Infections' Respiratory Virus Unit (RVU) tested positive for influenza A, (83 A (H3) and 5 A (H1)) and one sample was positive for influenza B. Neuraminidase inhibitor susceptibility testing on 30 A (H3) isolates since week 36 2008 showed that all of them are sensitive to oseltamivir and zanamivir but resistant to amantadine. Of the 24 A (H1) specimens received and tested, 23 are resistant to oseltamivir but sensitive to zanamivir and amantadine. These specimens are from Northern and Southern England and Wales. Three further influenza A (H1) isolates are undergoing resistance testing at the moment. Four influenza B isolates have been received and tested and all are sensitive to oseltamivir and zanamivir. 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

The Ministry of Health of Indonesia announced two new confirmed cases of human infection with the H5N1 avian influenza virus on 9th December 2008. A 9 year old female from Riau Province developed symptoms on 7th November and was hospitalised on 12th November. She recovered and was discharged from hospital on 27th November. Laboratory tests confirmed the presence of the H5N1 avian influenza virus. Investigations into the source of her infection indicate poultry deaths at her home on 2nd November 2008. The second case in a 2-year-old female from East Jakarta, developed symptoms on 18th November, was hospitalised on 26th November and died on 29th November 2008. Laboratory tests have confirmed infection with the H5N1 avian influenza virus. Initial investigations into the source of her infection suggest exposure at a live bird market. Of the 139 cases confirmed to date in Indonesia, 113 (81.3%) have been fatal.

As of the 9th December 2008, 389 confirmed human cases and 246 (63.2%) 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://ecdc.europa.eu/en/>

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