

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 50 2005 (12th to 18th Dec 2005)

Summary

During week 50 2005, influenza-like illness (ILI) increased slightly, but remained at low levels in Ireland, with 20 ILI cases reported by sentinel GPs. To date this season, no positive influenza specimens have been detected by the NVRL. In recent weeks, increases in respiratory syncytial virus (RSV) detections have been reported in Ireland and several other European countries.

Background

This is the sixth 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. Thirty-nine 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 38⁰C 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. 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

Twenty ILI cases were reported by sentinel GPs during week 50 2005, corresponding to an ILI consultation rate of 18.6 per 100,000 population, an increase from the rate of 11.5 per 100,000 population for week 49 2005 (figure 1).

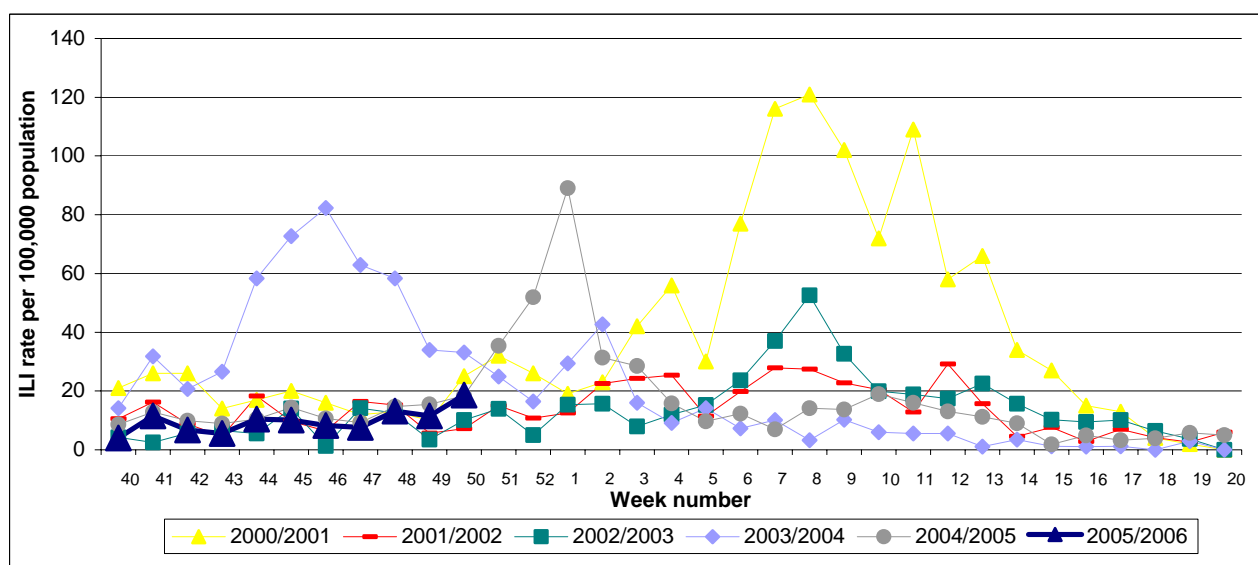


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005 & 2005/2006 influenza seasons.

Results (continued)

During week 50 2005, one ILI case was aged between 0 and 4 years (13.1 per 100,000 population), four cases were aged between 5 and 14 years (26.5 per 100,000 population), 13 cases were aged between 15 and 64 years of age (17.8 per 100,000 population) and two cases were aged 65 years or older (16.7 per 100,000 population) (figure 2). Thirty-three (84.6%) sentinel general practices reported during week 50 2005, with 10 reporting ILI.

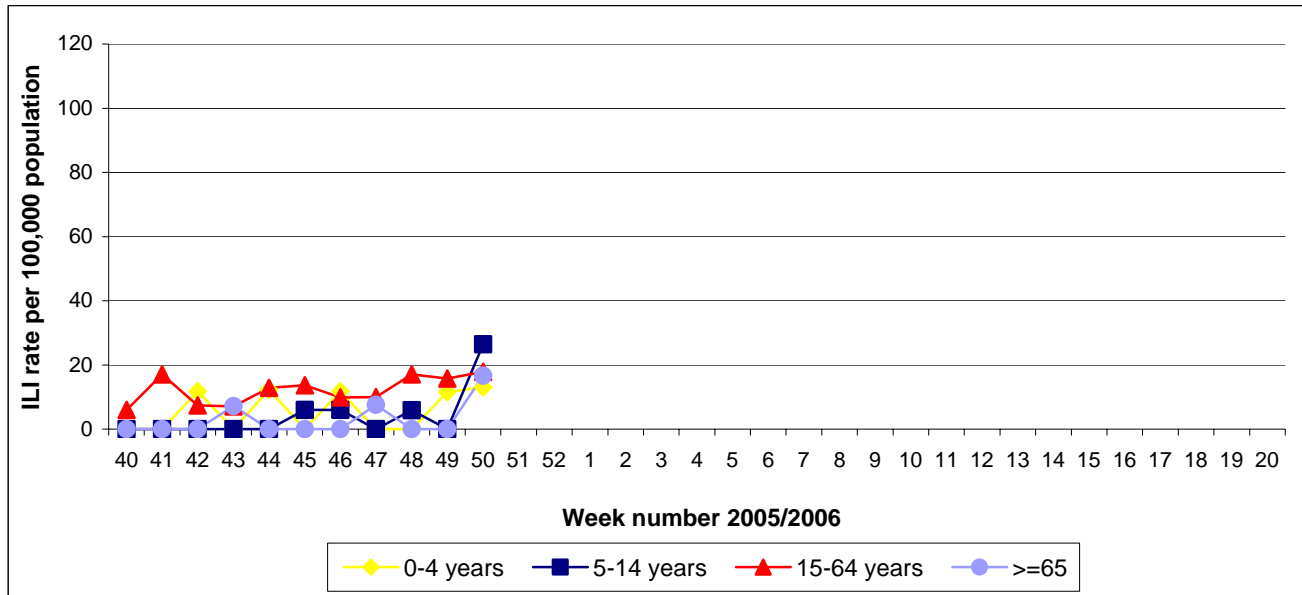


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2005/2006 influenza season. *Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national age distribution.

Virological Data from the National Virus Reference Laboratory (NVRL)

To date this season, no positive influenza specimens have been detected by the NVRL (table 1). The NVRL tested seven specimens taken by sentinel GPs during week 50 2005. All were negative for influenza virus. The NVRL also tested 70 non-sentinel specimens, taken during week 50 2005, mainly from hospitalised paediatric cases. All non-sentinel specimens tested negative for influenza. Figure 3 compares the ILI consultation rates by season and the number of positive influenza specimens tested by the NVRL. Thirty-seven non-sentinel specimens tested positive for RSV. The percentage of RSV positive non-sentinel specimens has been at increased levels in recent weeks (figure 4). RSV causes respiratory symptoms similar to influenza, and is a frequent cause of bronchiolitis in children.

Table 1: Total number of sentinel and non-sentinel* respiratory specimens and positive results for week 50 2005 and the 2005/2006 season to date.

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
50 2005	Sentinel	7	0	0.0	0	0	NA
	Non-Sentinel	70	0	0.0	0	0	37
	Total	77	0	0.0	0	0	37
40-50 2005	Sentinel	83	0	0.0	0	0	NA
	Non-Sentinel	526	0	0.0	0	0	154
	Total	609	0	0.0	0	0	154

*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.

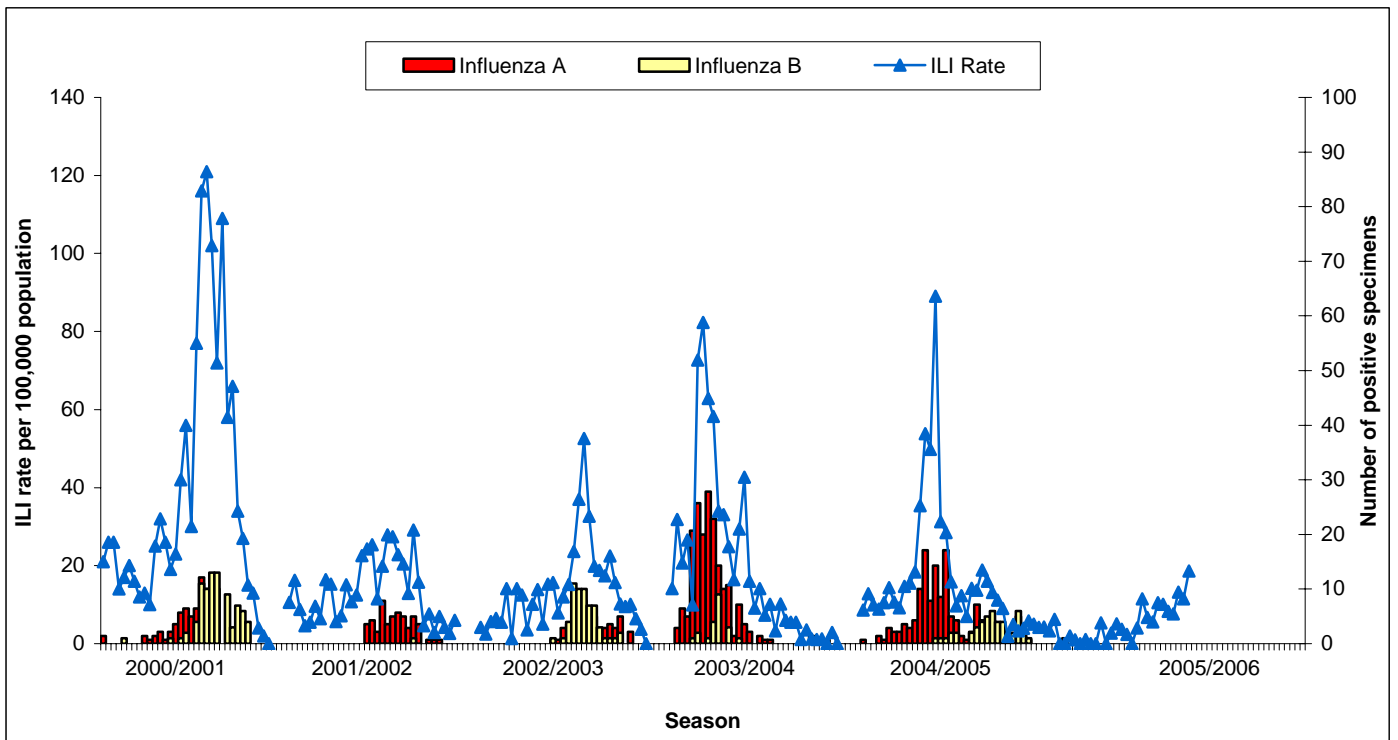


Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005 seasons, summer 2005 and the 2005/2006 season.

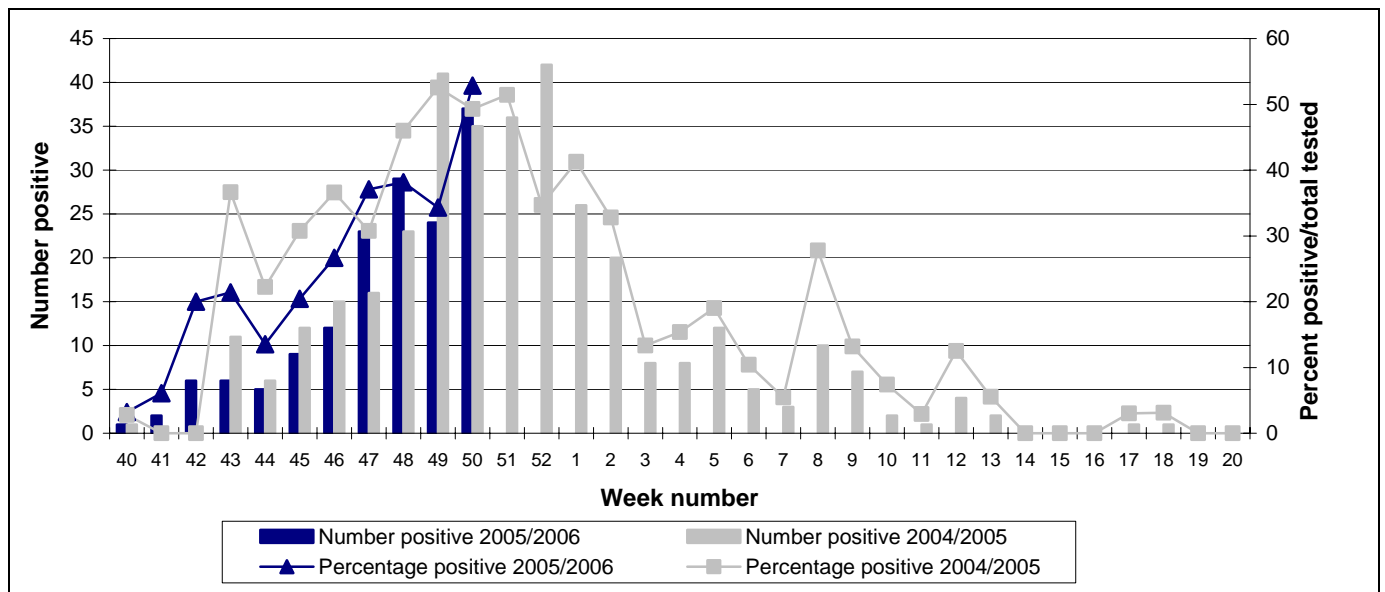


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2004/2005 influenza seasons.

Weekly Influenza Notifications

No influenza notifications were reported to HPSC during week 50 2005. One influenza B case was notified to HPSC during week 40 2005, however this was a late notification from April 2005. Influenza cases notified to HPSC during the summer of 2005 and during the 2005/2006 influenza season are shown in figure 5, and compared to ILI consultation rates.

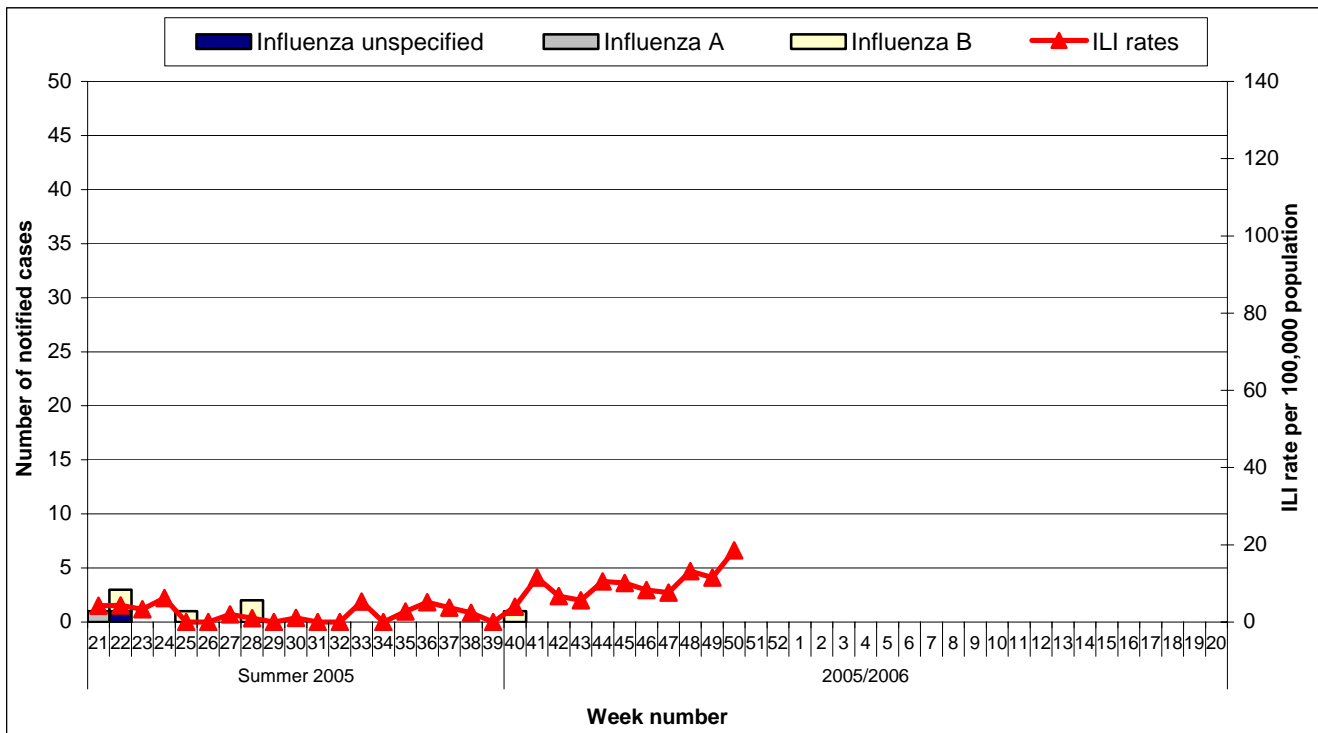


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2005 and the 2005/2006 influenza season. *Notification data are provisional and were extracted from [CIDR](#) on the 21/12/2005 at 09.22 GMT.

Mortality Data

No deaths registered to date this season were attributed to influenza.

Outbreak Reports

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

Hospital Admissions

Each Department of Public Health has established one sentinel hospital in each HSE-Health Area, to report total hospital admissions, accident and emergency admissions and respiratory admissions data on a weekly basis. There were no significant increases in admissions to sentinel hospitals reported to HPSC for weeks 49 and 50 2005.

School Absenteeism

Sentinel primary and secondary schools have been established in each HSE-Health Area in close proximity to the sentinel GPs, reporting absenteeism data on a weekly basis. There were no significant increases in absenteeism in sentinel schools reported to HPSC for weeks 49 and 50 2005.

Other Indicators of Influenza Activity

A sporadic case of ILI was reported from a nursing home in HSE-NEA during week 43.

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. Four HSE-Health Areas/Region reported sporadic influenza activity during week 49 2005 (figure 6), based on isolated cases of ILI.

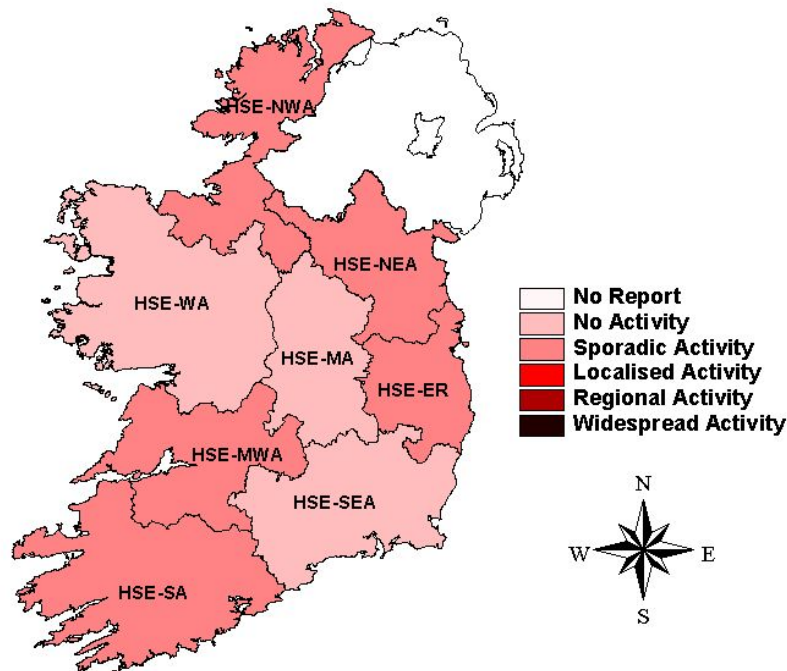


Figure 6: Map of influenza activity by HSE-Health Area during week 49 2005

Influenza Activity in Northern Ireland

Twenty-three cases of ILI and clinical influenza were reported by sentinel GPs in Northern Ireland during week 50 2005, corresponding to a rate of 20.7 per 100,000 population. This is a slight decrease from the updated rate of 24.8 per 100,000 for week 49. There have been no laboratory detections of influenza to date this season in Northern Ireland. <http://www.cdscni.org.uk>

Influenza Activity in England, Scotland & Wales

Influenza activity in the United Kingdom remained within baseline levels during week 50 2005. In England, GP consultations for ILI remained at similar levels to previous weeks with slightly higher rates recorded amongst those aged between 15-64 years. ILI levels remain at low levels in Wales, with influenza activity rates slowly increasing in Scotland. Detections of influenza, from specimens collected for routine testing and by sentinel systems, remain at low levels with influenza B representing the majority of influenza detections reported. During week 50, four samples referred to the Centre for Infections Respiratory Virus Unit (RVU) from community sources, tested positive for influenza B. Three laboratory confirmed influenza B outbreaks have been reported this season and may indicate the possibility that the high influenza B activity reported from the southern hemisphere during the summer months of 2005 could occur in the northern hemisphere this winter. Since week 40 2005, three influenza viruses have been further characterised by RVU; one influenza A/New Caledonia/20/99 (H1N1)-like, two influenza A/California/7/04 (H3N2)- like, three influenza B/Tehran/80/02 (similar to influenza B/Hong Kong/330/01) and one influenza B/Shanghai/361/2002-like. http://www.hpa.org.uk/infections/topics_az/influenza/flureports0506.htm

Influenza Activity in Europe

During week 49 2005, clinical influenza activity in Europe remained at baseline levels. Laboratory confirmed cases of influenza have been found sporadically throughout Europe since week 40 2005. The total number of respiratory specimens collected by sentinel physicians in week 49 2005 was 432, of which six (1.4%) were positive for influenza virus [1 A(H1N1) in England, 2 A (unsubtyped) in the Czech Republic and 3 B viruses (1 in England and 2 in France)]. In addition, 1,883 non-sentinel specimens were analysed and six (0.3%) tested positive for influenza

virus [1 A(H1) and 2 B in England, 1 A (unsubtyped) in Latvia and 2 B in Portugal]. A slight increase in the proportion of specimens positive for influenza B has been observed in recent weeks, particularly in the non-sentinel samples. Twelve influenza viruses have been antigenically and/or genetically characterised in Europe this season: five A(H3) A/California/7/2004 (H3N2)-like, two A/New Caledonia/20/99 (H1N1)-like, three B/Malaysia/2506/2004-like and two B/Shanghai/10/2003-like. The B/Malaysia/2506/2004-like reference virus belongs to the Victoria lineage of B viruses and is not included in the current vaccine for the Northern Hemisphere. During the 2005 influenza epidemic in New Zealand, 87% of all virus detections were influenza B virus and more than 90% belonged to the Victoria lineage of B viruses. The 2006 vaccine for the Southern Hemisphere will contain a B/Malaysia/2506/2004-like virus. However, so far only low numbers of influenza virus detections have been reported in Europe and a pattern of dominant viruses cannot yet be observed. No human cases of influenza A (H5N1) virus have been reported in Europe. Whilst influenza activity in Europe remains low, increases of RSV detections have been reported in various countries in recent weeks. <http://www.eiss.org/index.cgi>

Influenza Activity in Canada

During week 49, localised influenza activity was reported in British Columbia and Alberta. Sporadic activity was reported in parts of Ontario, British Columbia and Alberta, while the rest of Canada reported no activity. The ILI consultation rate was calculated as 16 per 1000 patient visits in week 49, which is below the expected range for this week. During week 49, five new outbreaks of influenza in schools were reported. To date this season, four long term care facility outbreaks have been reported. During week 49 2005, the Public Health Agency of Canada received 1651 reports of laboratory tests for influenza, with 8 influenza A and 23 influenza B detections. Since the start of the 2005/2006 influenza season, the National Microbiology Laboratory has antigenically characterised 17 influenza viruses; 10 A/California/07/04-like viruses, 4 B/Hong Kong/330/01-like viruses belonging to the B/Victoria/2/87 lineage, and 3 B/Shanghai/361/02-like viruses belonging to the B/Yamagata/16/88 lineage. The 2005/2006 season Canadian vaccine contains an A/New Caledonia/20/99 (H1N1)-like, an A/California/7/04 (H3N2)-like, and a B/Shanghai/361/02-like virus strain. <http://www.phac-aspc.gc.ca/fluwatch/index.html>

Influenza Activity in the United States

During week 49, influenza activity overall was low in the United States. The proportion of patient visits to sentinel providers for ILI and the proportion of deaths attributed to pneumonia and influenza were below baseline levels. One state reported regional influenza activity; 5 states, and the District of Columbia reported local influenza activity; 30 states and New York City reported sporadic influenza activity; and 13 states reported no influenza activity. During week 49, WHO and NREVSS laboratories reported 1,387 specimens tested for influenza viruses and 41 (3.0%) were positive: 14 A (H3N2), 1 A (H1N1), 24 A (unsubtyped), and 2 B viruses. CDC has antigenically characterised 16 influenza viruses to date this season: 14 influenza A (H3N2) A/California/07/2004-like viruses, one influenza B virus belonging to the B/Yamagata lineage was characterised as B/Florida/07/2004-like and one influenza B virus was identified as belonging to the B/Victoria lineage. <http://www.cdc.gov/flu/>

Influenza Activity Worldwide

During week 49 2005, a regional outbreak was reported in Japan (9 A H1 & 4 A H3) and a localised outbreak was reported in Tunisia (7 A H1 & 3 A H3). Brazil, China (7 A H1, 1 A H3, 8 A unsubtyped & 2 B) and Mongolia (1 A H3) all reported sporadic influenza activity during week 49 2005. No influenza activity was reported from Argentina and the Philippines during week 49. <http://gamapserver.who.int/GlobalAtlas/home.asp>

Avian Influenza

As of the 14th of December 2005, 138 confirmed human cases and 71 deaths of avian influenza A (H5N1) cases have been reported to the WHO from Indonesian, Vietnam, Thailand, Cambodia and China.

Further information on avian influenza is available on the following websites:

WHO http://www.who.int/csr/disease/avian_influenza/en/
HPSC <http://www.hpsc.ie/A-Z/Respiratory/AvianInfluenza/>
ECDC <http://www.ecdc.eu.int/>

Northern Hemisphere Influenza Vaccine for the 2005/2006 Season

The members of the WHO Collaborating Centres on Influenza recommended that influenza vaccines for the 2005/2006 influenza season in the Northern Hemisphere contain the following strains:

- an A/New Caledonia/20/99(H1N1)-like virus
- an A/California/7/2004(H3N2)-like virus^a
- a B/Shanghai/361/2002-like virus^b

a Candidate vaccine viruses are being developed (for further information please see WHO update at <http://www.who.int/influenza>)

b The currently used vaccine viruses are B/Shanghai/361/2002, B/Jiangsu/10/2003 and B/Jilin/20/2003.

<http://www.who.int/csr/disease/influenza/vaccinerecommendations1/en/>
www.emea.eu.int

Further information on influenza can be found on the [HPSC website](#)

Acknowledgements

HPSC, ICGP and NVRL wish to thank the sentinel GPs who have participated in the GP sentinel surveillance system and who have contributed towards this report

This report was produced by Dr Lisa Domegan & Dr Joan O'Donnell, HPSC

Nollaig Shona agus Athbhliain faoi mhaise dhaoibh go léir!