Influenza Weekly Surveillance Report

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

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 19 2007 (7th May to 13th May 2007)

Summary

During week 19 2007, influenza activity was at low levels in Ireland, with no influenza-like illness (ILI) cases reported by sentinel GPs. No specimens tested by the NVRL were positive for influenza virus during week 19.

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-eight 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

No ILI cases were reported from sentinel GPs during week 19 2007, corresponding to an ILI consultation rate of 0.0 per 100,000 population, a decrease from the updated rate of 1.9 per 100,000 population during week 18 (figure 1).

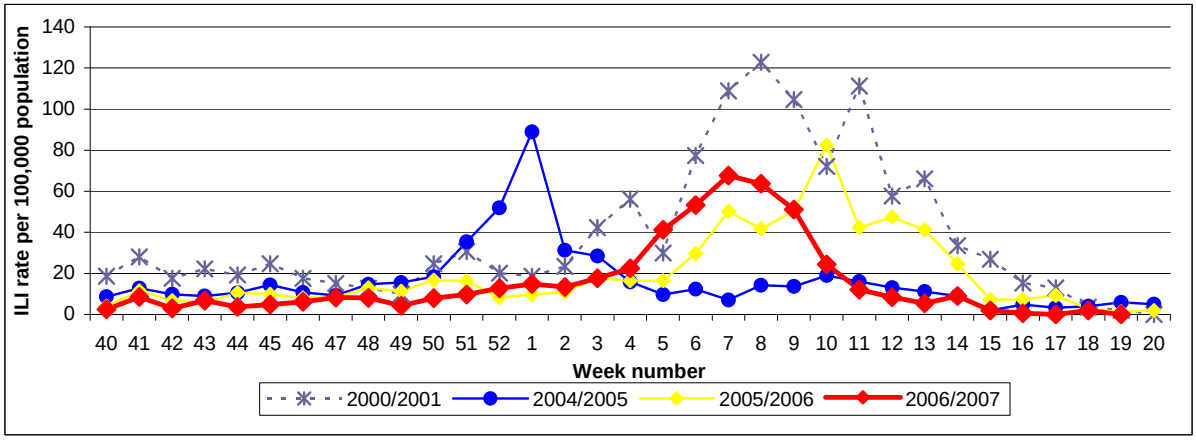

Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.
** Highest recorded levels of ILI activity since initiation of sentinel surveillance.*

Results (continued)

The age-specific rate of ILI for the 2006/2007 season to date is shown in figure 2. Forty-three of the 48 (90%) sentinel general practices reported during week 19 2007, with none reporting ILI.

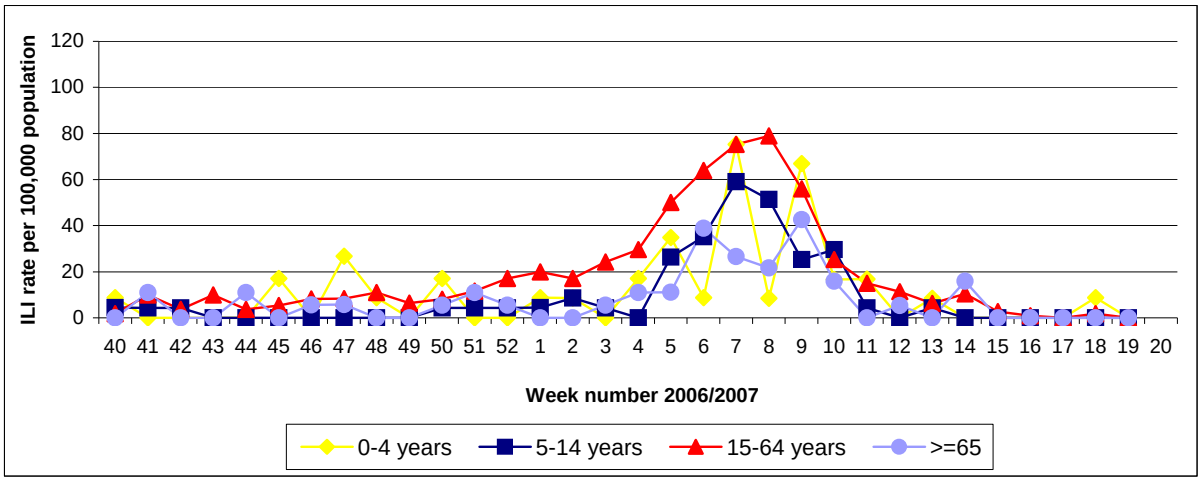

Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. **Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is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

Virological Data from the National Virus Reference Laboratory (NVRL)

No specimens taken by sentinel GPs were tested by the NVRL during week 19 2007. The NVRL tested 28 non-sentinel specimens taken during week 19 2007, mainly from hospitalised paediatric cases. All non-sentinel specimens were negative for influenza virus and one specimen tested positive for respiratory syncytial virus (RSV) (table 1). During the 2006/2007 season to date, 167 influenza A viruses and two influenza B viruses have been detected. Of the 167 influenza A viruses, two have been subtyped as A(H1) and 119 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 19 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 19 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
19 2007	Sentinel	0	0	0.0	0	0	NA
	Non-Sentinel	28	0	0.0	0	0	1
	Total	**28**	**0**	**0.0**	**0**	**0**	**1**
40 2006 – 19 2007	Sentinel	351	126	35.9	124	2	NA
	Non-Sentinel	1779	43	2.4	43	0	328
	Total	**2130**	**169**	**7.9**	**167**	**2**	**328**

**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 19 2007 and the 2006/2007 season to date

	Week 19 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	0	0	**0**	58	0	**58**
HSE-MA	0	0	**0**	6	0	**6**
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**	23	0	**23**
HSE-WA	0	0	**0**	12	0	**12**
HSE Not Known	0	0	**0**	1	0	**1**
Total	**0**	**0**	**0**	**167**	**2**	**169**

** 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 19 2007 and the 2006/2007 season to date

	Week 19 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**	110	2	**112**
65 years and older	0	0	**0**	6	0	**6**
Age group unknown	0	0	**0**	1	0	**1**
Total	**0**	**0**	**0**	**167**	**2**	**169**

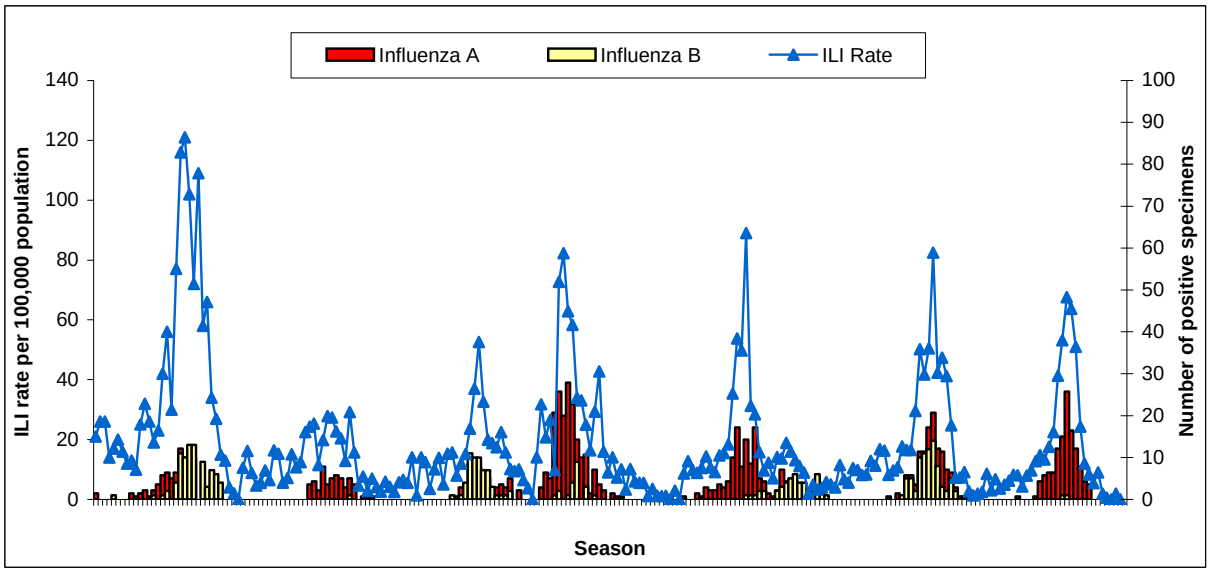

Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

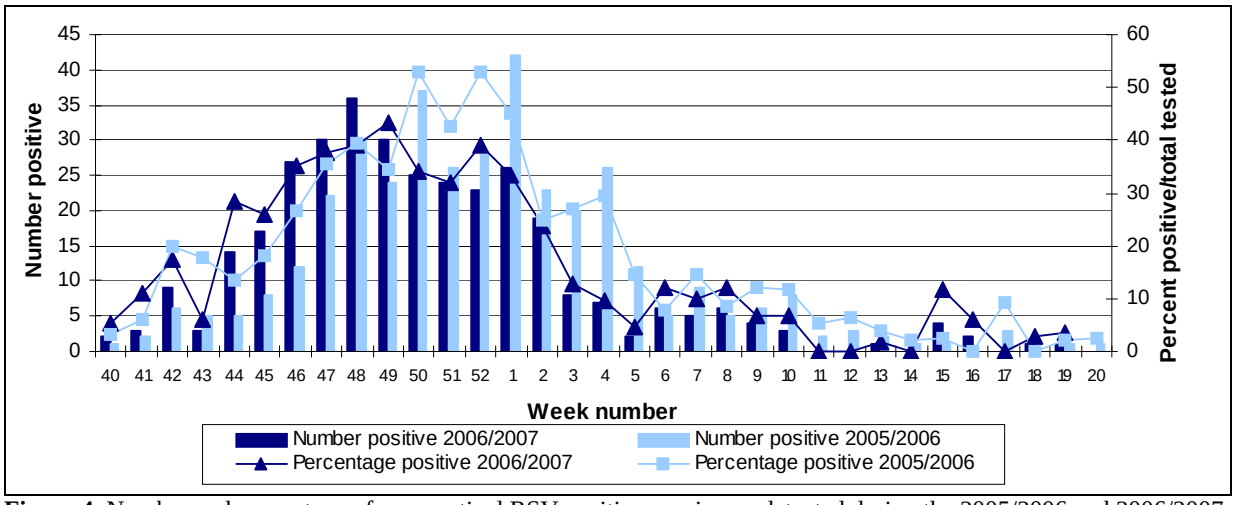

Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

Weekly Influenza Notifications

No influenza cases were notified to HPSC during week 19 2007, but one late notification was received which was diagnosed during week 15. 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.

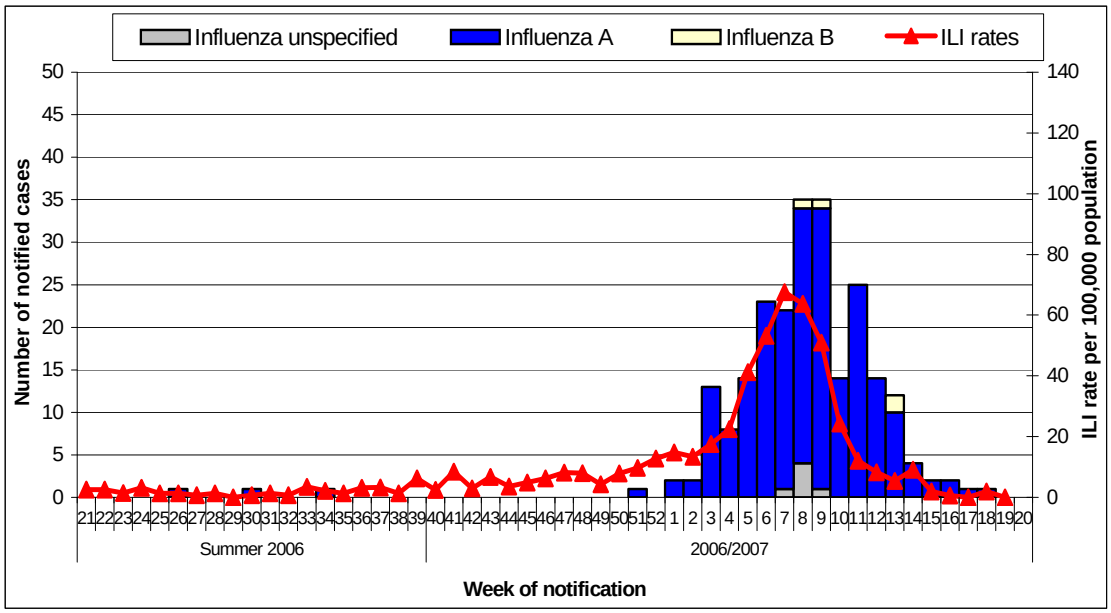

Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.
**Notification data are provisional and were extracted from CIDR on the 15/May/2007 at 15.22*

Mortality Data

No influenza associated deaths were registered with the GRO during week 19 2007.

Outbreak Reports

No influenza/ILI outbreaks were reported to HPSC during week 19 2007. The HPSC would welcome any documented reports of ILI/influenza outbreak investigations.

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 18, sporadic influenza activity based on isolated cases of ILI was reported by HSE-MWA and -SEA, while no activity was reported by HSE-MA, -NEA, -NWA, -SA and -WA (figure 6). During week 18, no increases in respiratory admissions were reported by sentinel hospitals and an elevated level of absenteeism was reported by one sentinel secondary school in the HSE-MWA.

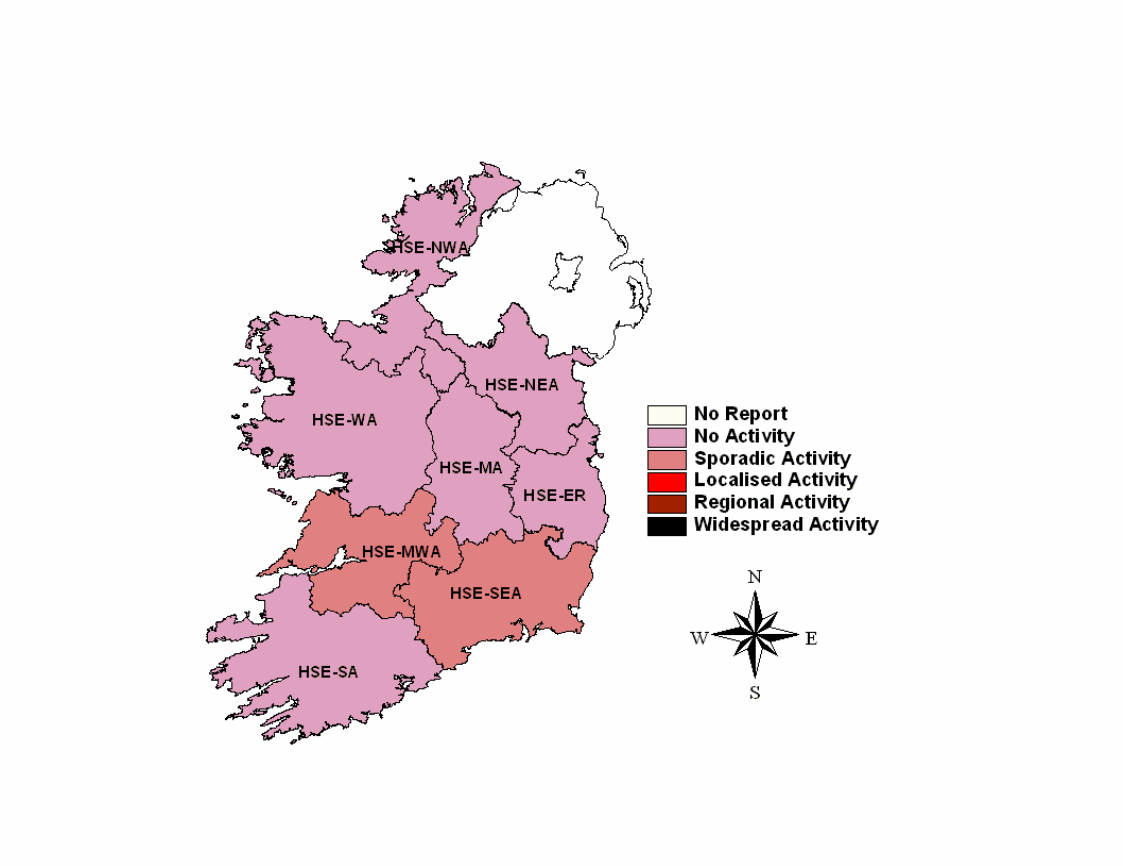

Figure 6: Map of influenza activity by HSE-Health Area during week 18 2007

Influenza Activity in Northern Ireland

During week 19 2007, 34 ILI cases and one case of clinical influenza were reported from sentinel GPs in Northern Ireland, corresponding to a combined rate of 37.79 per 100,000 population, a decrease from the updated rate of 66.9 per 100,000 population during week 18. No influenza viruses were detected in sentinel or non-sentinel swabs.
http://www.cdscni.org.uk

Influenza Activity in England, Scotland & Wales

Weekly reporting of influenza activity for Great Britain has ceased for the 2006/2007 season. A short summary of activity for the entire season will be published in the coming weeks.
http://www.hpa.org.uk/infections/topics%5Faz/influenza/seasonal/activity0607/flureport.htm

Influenza Activity in Europe

Due to the EISS Annual Meeting in Malaga last week, the electronic bulletin for week 18 2007 was not published. During the 2006/2007 influenza season, 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. During this season medium intensity was reported for the majority of the countries, however a high intensity of clinical influenza activity had been reported in seven countries (Denmark, Sweden, Norway, Estonia, Latvia, Lithuania and Luxembourg). Influenza activity in Europe peaked in February and was preceded by RSV activity in most countries, but overlapped with influenza in Denmark, Estonia, Germany, Italy and Scotland. Based on subtyping data of all influenza virus detections up to week 17 2007 (N=16,827; sentinel and non-sentinel data), 9,156 (54%) were type A not subtyped, 3,987 (24%) were A(H3), 2,921 (17%) were A(H3N2), 262 (2%) were A(H1), 141 (1%) were A(H1N1) and 360 (2%) were type B. Based on the antigenic and/or genetic characterisation of 2,710 influenza viruses, 2,013 were A/Wisconsin/67/2005 (H3N2)-like, 444 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], 228 A/New Caledonia/20/99 (H1N1)-like, 14 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage) and 11 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 18, influenza activity in Canada continued to decline: 14 regions reported localised, 32 regions reported sporadic, and 18 regions reported no activity. In week 18, 5% (85/1,716) of specimens tested positive for influenza virus, of which the majority were from Quebec (56% or 48/85). The majority of influenza virus detections to date this season were influenza A viruses (89% or 7,068/7,976). The majority of influenza B detections to date were from Quebec (84%). In week 18, the ILI consultation rate increased to 23 per 1,000 patient visits, which is above the expected range for this week. ILI rates were highest in Ontario and in Newfoundland. The sentinel response rate was 68%. During week 18, no new influenza outbreaks were reported. The National Microbiology Laboratory (NML) has characterized 931 influenza viruses for the 2006-2007 influenza season: 251 (27%) A/New Caledonia/20/1999(H1N1)-like, 585 (63%) A/Wisconsin/67/05(H3N2)-like, 12 (1%) B/Malaysia/2506/2004-like, and 83 (9%) 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 18 2007, 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 a similar percentage of specimens testing positive for influenza during week 18 as for week 17. The percentage of visits for ILI to sentinel providers decreased during week 18 and was below the national baseline for the seventh consecutive week. One state reported regional influenza activity, five states reported local influenza activity, the District of Columbia, New York City, and 31 states reported sporadic influenza activity and 13 states reported no influenza activity. The number of jurisdictions reporting widespread or regional influenza activity decreased from three for week 17 to one for week 18. The percentage of deaths due to pneumonia and influenza has remained below baseline levels for the entire influenza season to date. During week 18, WHO and NREVSS laboratories reported 1,140 specimens tested for influenza viruses. Of these, 117 (10.3%) were positive: five influenza A(H1) viruses, 53 influenza A(H3) viruses, 28 influenza A viruses that were not subtyped and 31 influenza B viruses. Since October 1 2006, WHO and NREVSS laboratories have tested a total of 167,431 specimens for influenza viruses and 22,733 (13.5%) were positive. Among the 22,733 influenza viruses, 18,061 (79.4%) were influenza A viruses and 4,672 (20.6%) were influenza B viruses. Of the 18,061 influenza A viruses, 5,901 (32.7%) have been subtyped: 3,828 (64.9%) were influenza A(H1) viruses and 2,073 (35.1%) were influenza A(H3) viruses.

http://www.cdc.gov/flu/

Influenza Activity Worldwide

During week 18 2007, the following influenza isolates were reported; China 102 (66 A(H3) and 36 B) and Argentina 1 influenza A unsubtyped. Argentina, China and Madagascar reported sporadic levels of ILI while Mongolia and South Africa reported no activity.
http://gamapserver.who.int/GlobalAtlas/home.asp

Avian Influenza

As of the 16th May 2007, 306 confirmed human cases and 185 (60.5%) 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 16 May, WHO confirmed 15 additional cases, including 13 deaths of human infection with H5N1 avian influenza that occurred in Indonesia from the end of January 2007 to this date.

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:

- [a]A/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. Tara Kelly and Dr. Joan O'Donnell, HPSC