

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 12 2007 (19th to 25th March 2007)

Summary

During week 12 2007, influenza activity was at low levels in Ireland, with 14 influenza-like illness (ILI) cases reported by sentinel GPs. Four specimens tested by the NVRL were positive for influenza A virus during week 12.

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-seven 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

Fourteen ILI cases were reported from sentinel GPs during week 12 2007, corresponding to an ILI consultation rate of 8.9 per 100,000 population, a decrease from the updated rate of 12 per 100,000 population during week 11 (figure 1).

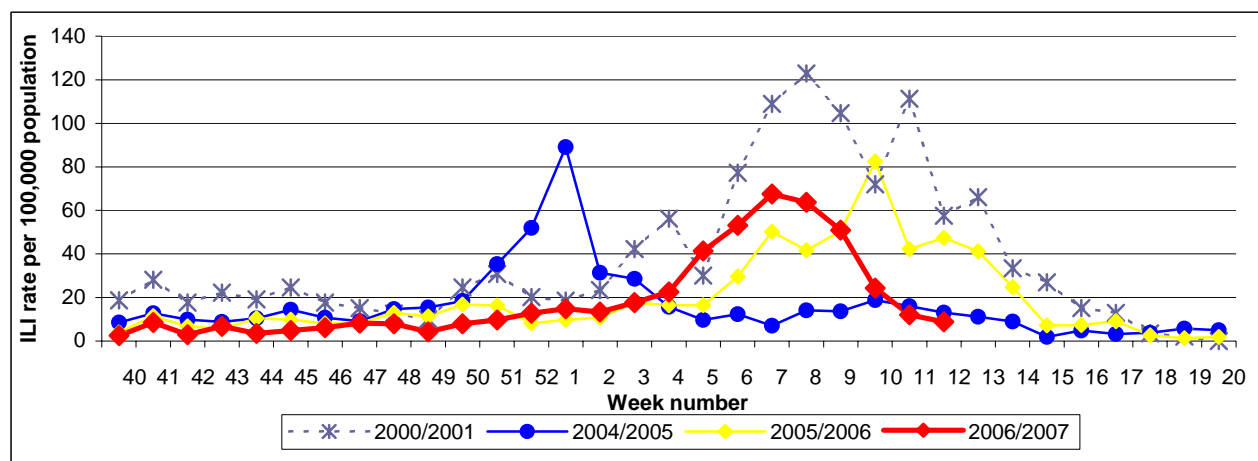


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

Results (continued)

Thirteen cases were in the 15-64 year age group (12.2 per 100,000 population) and one case was in the 65 years and older age group (5.7 per 100,000 population) as shown in figure 2. Forty-four of the 47 (94%) sentinel general practices reported during week 12 2007, with 12 reporting ILI.

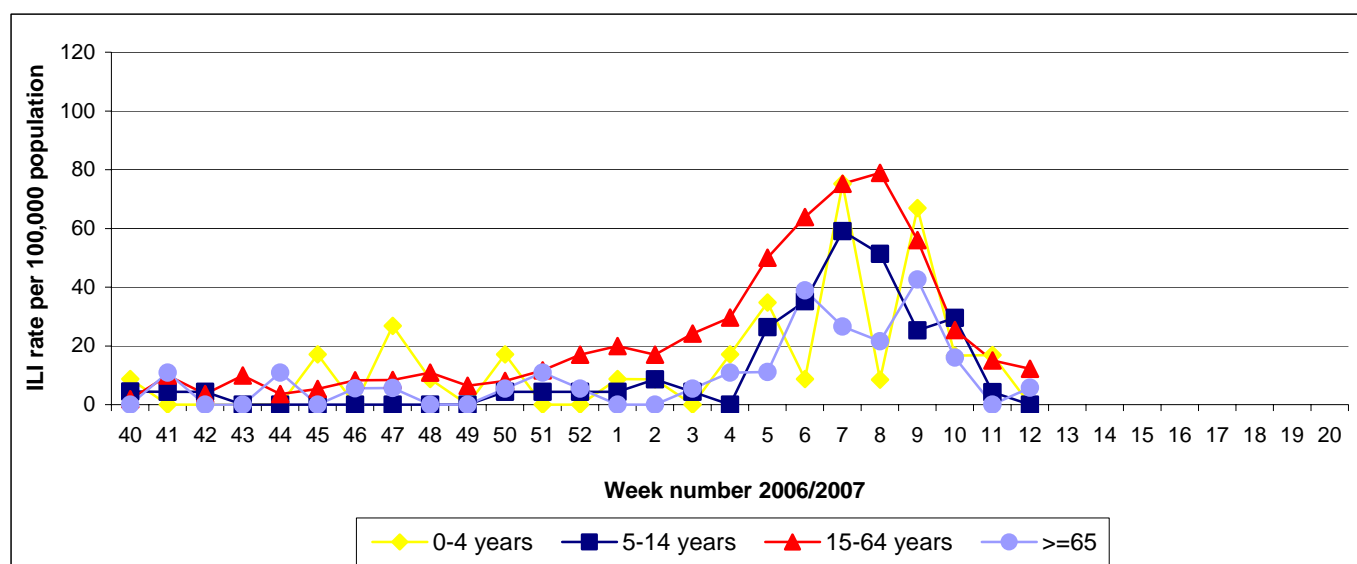


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. *Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is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

Virological Data from the National Virus Reference Laboratory (NVRL)

The NVRL tested 3 specimens taken by sentinel GPs during week 12 2007, one of which was positive for influenza A unsubtype. The NVRL also tested 47 non-sentinel specimens taken during week 12 2007, mainly from hospitalised paediatric cases. Three non-sentinel specimens were positive for influenza A unsubtype and none were positive for respiratory syncytial virus (RSV) (table 1). During the 2006/2007 season to date, 165 influenza A viruses and two influenza B viruses have been detected. Of the 165 influenza A viruses, two have been subtyped as A(H1) and 98 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 12 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 12 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
12 2007	Sentinel	3	1	33.3	1	0	NA
	Non-Sentinel	47	3	6.4	3	0	0
	Total	50	4	8	4	0	0
40 2006 - 12 2007	Sentinel	336	124	36.9	122	2	NA
	Non-Sentinel	1506	43	2.9	43	0	319
	Total	1842	167	9.1	165	2	319

*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 12 2007 and the 2006/2007 season to date

	Week 12 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	3	0	3	57	0	57
HSE-MA	0	0	0	7	0	7
HSE-MWA	0	0	0	13	0	13
HSE-NEA	1	0	1	14	0	14
HSE-NWA	0	0	0	16	0	16
HSE-SEA	0	0	0	23	2	25
HSE-SA	0	0	0	22	0	22
HSE-WA	0	0	0	12	0	12
HSE Not Known	0	0	0	1	0	1
Total	4	0	4	165	2	167

* 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 12 2007 and the 2006/2007 season to date

	Week 11 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	1	0	1	108	2	110
65 years and older	3	0	3	6	0	6
Age group unknown	0	0	0	1	0	1
Total	4	0	4	165	2	167

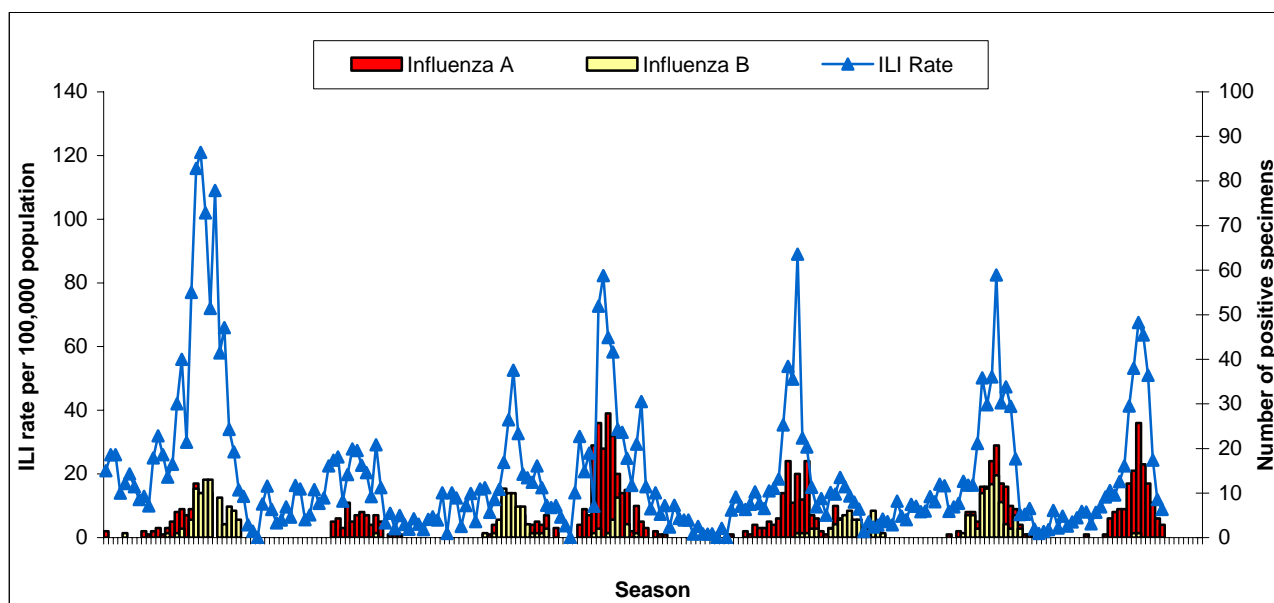


Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

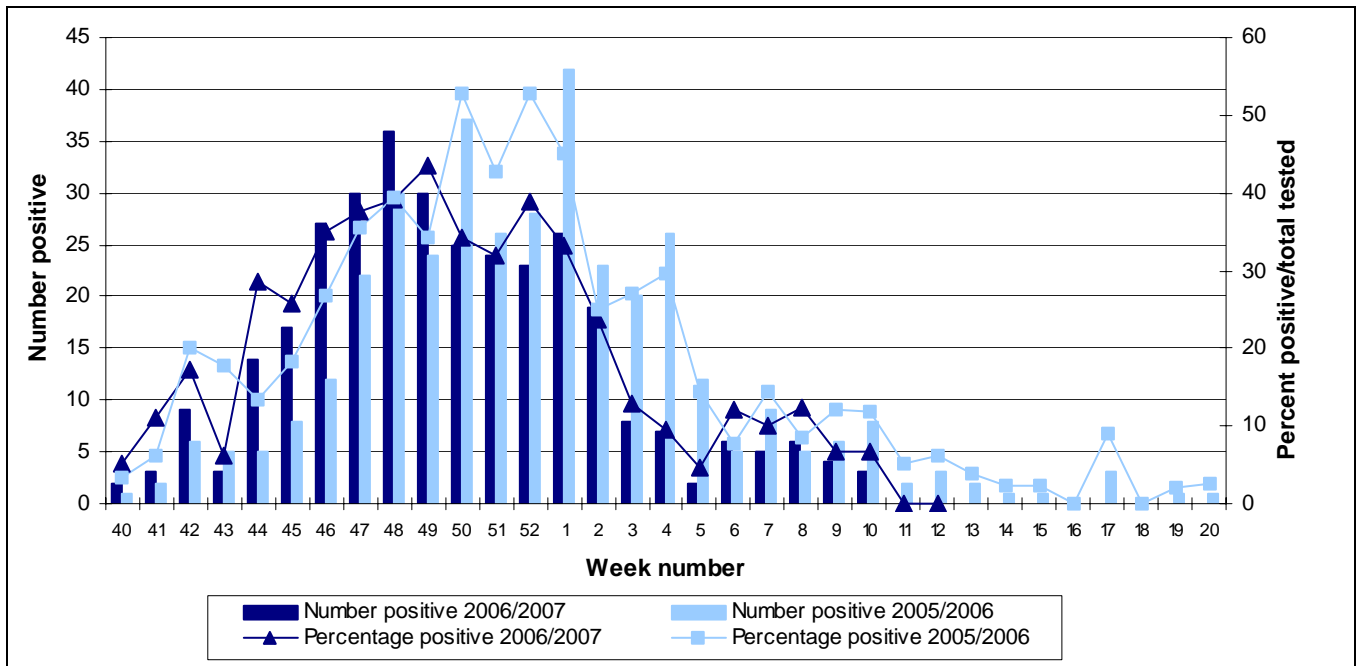


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

Weekly Influenza Notifications

Eleven influenza cases were notified to HPSC during week 12 2007. 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.

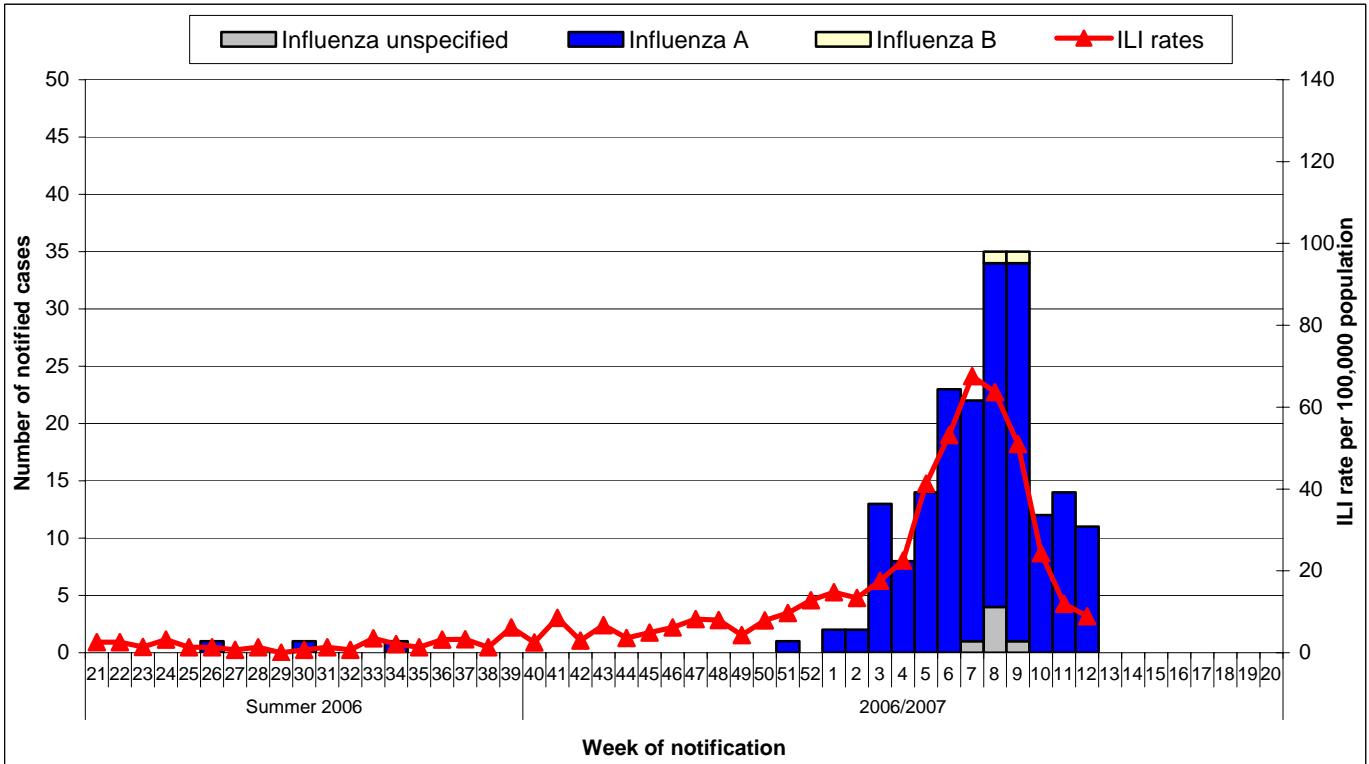


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.

*Notification data are provisional and were extracted from [CIDR](#) on the 28/03/2007 at 12.34

Mortality Data

No influenza associated deaths were registered with the GRO during week 12 2007.

Outbreak Reports

No influenza/ILI outbreaks were reported to HPSC during week 12 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 11, sporadic influenza activity based on isolated cases of ILI and/or influenza virus isolations was reported by HSE-ER, -MWA, -NE, -NW, -SA and -SE while no activity was reported by HSE-MA and -WA (figure 6). During week 11, no increases in respiratory admissions were reported by sentinel hospitals and no increases in absenteeism were reported by sentinel schools.

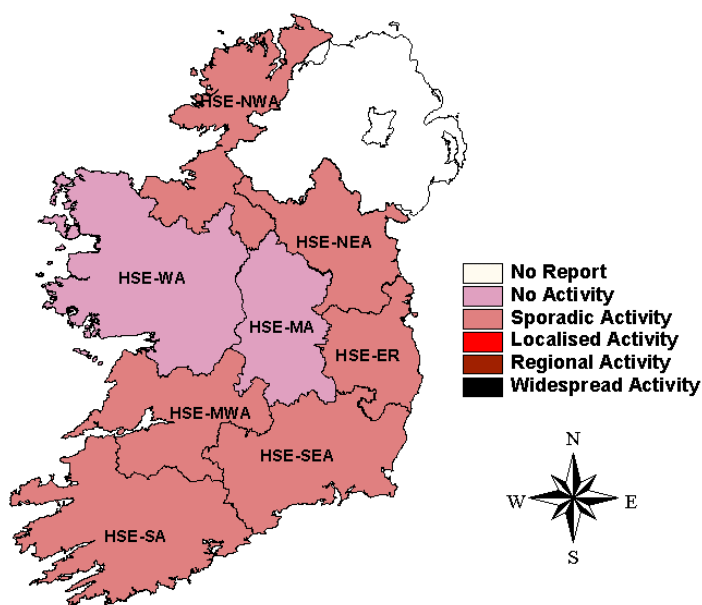


Figure 6: Map of influenza activity by HSE-Health Area during week 11 2007

Influenza Activity in Northern Ireland

No update was received from Northern Ireland for week 12 2007. Week 12 data for Northern Ireland will be included in the week 13 2007 HPSC Influenza Weekly Surveillance report.

<http://www.cdscni.org.uk>

Influenza Activity in England, Scotland & Wales

During week 12, clinical influenza activity within the UK has decreased or remained at similar levels. All countries in the UK with baseline activity thresholds are now below this level. Reports of influenza A and B from NHS and HPA laboratories are also at low levels. Laboratory confirmed infections of RSV are decreasing and remain at levels below those recorded last season (2005/2006) for the same time period. RSV was not detected from specimens sent to the Respiratory Virus Unit (RVU) at the Centre for Infections during week 12. Influenza was detected from five community samples and from one hospital sample, which was as A(H3).

<http://www.hpa.org.uk/infections/topics%5Faz/influenza/seasonal/activity0607/flureport.htm>

Influenza Activity in Europe

During week 11 2007, for the intensity indicator, the national network levels of ILI and/or acute respiratory infection (ARI) were high in Denmark, medium in eight and low in 17 countries. A substantial decrease in rates was reported in all countries with increased rates last week, except Denmark, where it has just started to level off. For the geographical spread indicator, widespread activity was reported in six countries, regional in two, local in four, sporadic in 11 and no activity in three. This winter, the consultation rates for ILI and/or ARI started to increase around New Year in Greece and Spain, for most other countries in the South-West of Europe around mid January 2007 and in large parts of Central and North-East Europe in February. By the beginning of March (week 11 2007) in most countries influenza activity had returned to levels seen outside the winter period or was decreasing. The highest consultation rates for ILI and/or ARI have been reported in the 0-4 and 5-14 years age groups. The total number of respiratory specimens collected by sentinel physicians was 742, of which 247 (33%) were positive for influenza virus: 230 (93%) were influenza A and 17 (7%) were influenza B. In addition, among 361 specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) positive for influenza virus, 359 (99%) were influenza A and two (1%) were influenza B. Based on subtyping data of all influenza virus detections (N=15,247; sentinel and non-sentinel data), 8,586 (56%) were type A untyped; 6,077 (22%) were A(H3), 2,685 (18%) were A(H3N2); 324 (1%) were A(H1), 126 (1%) were A(H1N1) and 260 (2%) were type B. In Romania, 44% of viruses were influenza B. Based on the antigenic and/or genetic characterisation of 2,088 influenza viruses, 1,531 were A/Wisconsin/67/2005 (H3N2)-like, 300 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], 136 A/New Caledonia/20/99 (H1N1)-like; 111 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage) and ten B/Jiangsu/10/2003-like (the B/Yamagata/16/88 lineage). Overall there is 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 11, overall influenza activity in Canada decreased from the previous week, with fewer regions reporting elevated influenza activity; five regions reported widespread, 24 regions reported localised, 32 regions reported sporadic and seven regions reported no activity. In week 11, the percent of specimens that tested positive for influenza virus in Canada decreased overall from the previous week (18% or 692/3,932). Regionally, influenza detections declined from the previous week in most regions except in the Atlantic regions where influenza detections increased. Of the influenza virus detections to date this season, 95% (5,864/6,164) were influenza A viruses. In week 11, the ILI consultation rate declined slightly to 23 per 1,000 patient visits, which is still within the expected range for this week. The highest rates were observed among the 5-19 year age group. The sentinel response rate was 72%. During week 11, 19 new outbreaks were reported (15 influenza outbreaks in long term care facilities, one in a hospital and three outbreaks of ILI in schools). The National Microbiology Laboratory (NML) has characterised 718 influenza viruses for the 2006-2007 influenza season: 222 (31%) A/New Caledonia/20/1999(H1N1)-like, 451 (63%) A/Wisconsin/67/05(H3N2)-like, 9 (1%) B/Malaysia/2506/2004-like and 36 (5%) 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 11, influenza activity continued to decrease in the United States. Data from the U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories indicated a decline in activity for the fifth consecutive week; 17.0% of specimens tested positive for influenza this week. ILI data was similar to the previous week and above baseline for the thirteenth week this season. Fifteen states reported widespread influenza activity, 22 states reported regional influenza activity, nine states, New York City and the District of Columbia reported local influenza activity and four states reported sporadic influenza activity. The reporting of widespread or regional influenza activity decreased from 42 for week 10 to 37 for week 11. The percent of deaths due to pneumonia and influenza remained below baseline level. During week 11, WHO and NREVSS laboratories reported 3,632 specimens tested for influenza viruses, 616 (17.0%) of which were positive: 92 influenza A(H1) viruses, 59 influenza A(H3) viruses, 271 influenza A viruses that were not subtyped and 194 influenza B viruses. Since 1st October 2006, WHO and NREVSS laboratories have tested a total of 137,755 specimens for influenza viruses and 18,246 (13.2%) were positive. Among the 18,246 influenza viruses, 14,795 (81.1%) were influenza A viruses and 3,451 (18.9%) were influenza B viruses. Of the 14,795 influenza A viruses detected, 4,247 (28.7%) have been subtyped: 3,325 (78.3%) were influenza A(H1) viruses and 922 (21.7%) were influenza A(H3) viruses.

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

Influenza Activity Worldwide

During week 11 2007 the following influenza isolates were reported; China 274 (5 A(H1), 223 A(H3), 10 A untyped and 36 B), Iran 2 (1 A(H3) and 1 B) and Japan 10 (1 A(H1), 2 A(H3) and 7 B). Argentina reported no activity while China reported sporadic levels of ILI.

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

Avian Influenza

As of the 28th March 2007, 284 confirmed human cases and 169 (60%) 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.

The Egyptian Ministry of Health and Population announced three new human cases of avian influenza A(H5N1) virus infection, one on 27 March 2007 and two on 28 March. These cases have been confirmed by the Egyptian Central Public Health Laboratory and by the US Naval Medical Research Unit No.3 (NAMRU-3). The case announced on 27 March is a 3-year-old girl from Aswan Governorate who developed symptoms on 22 March and was hospitalised on 24 March where she remains in a stable condition. Investigations indicate a history of contact with backyard poultry. The case is not linked epidemiologically to either of the two recent cases in Aswan Governorate that were announced on 19 March and on 20 March. The cases announced on 28 March are a 6-year-old girl from Qena Governorate and a 5-year-old boy from Menia Governorate, both of whom were hospitalised with symptoms on 25 March. Both children remain in a stable condition. Initial investigations indicate exposure to sick birds in both cases. Of the 29 cases confirmed to date in Egypt, 13 (45%) have been fatal.

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:

- ^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 Sarah Jackson, HPSC