

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 9 2007 (26th February to 4th March 2007)

Summary

During week 9 2007, influenza activity was at medium levels in Ireland, with 77 influenza-like illness (ILI) cases reported by sentinel GPs. Nine specimens tested by the NVRL were positive for influenza A virus during week 9.

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

Seventy-seven ILI cases were reported from sentinel GPs during week 9 2007, corresponding to an ILI consultation rate of 54.1 per 100,000 population, a decrease from the updated rate of 63.7 in week 8 (figure 1).

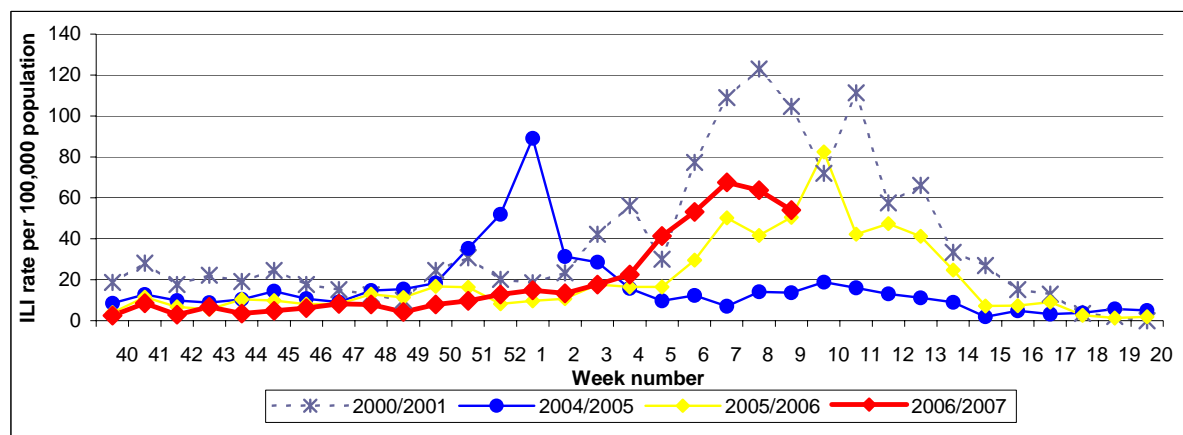


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

Results (continued)

Eight cases were in the 0-4 year age group (79.38 per 100,000 population), five cases were in the 5-14 year age group (25 per 100,000 population), 56 cases were in the 15-64 year age group (58.1 per 100,000 population) and eight cases were in the 65 years or older age group (50.5 per 100,000 population) as shown in figure 2. Thirty-nine of the 47 (83%) sentinel general practices reported during week 9 2007, with 24 reporting ILI.

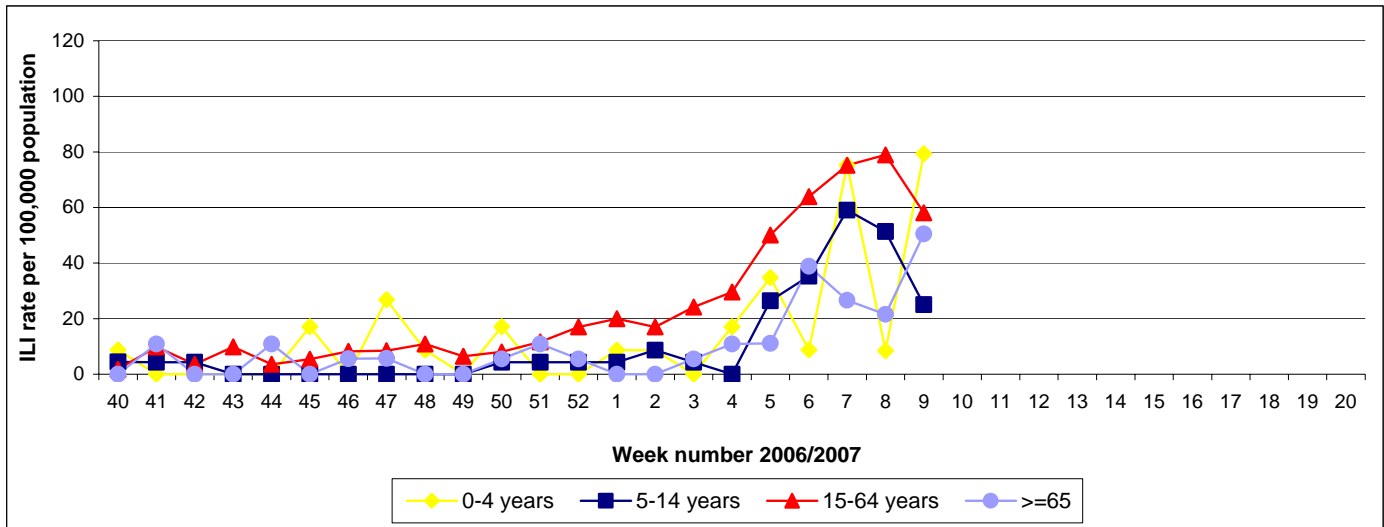


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. *Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is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

Virological Data from the National Virus Reference Laboratory (NVRL)

The NVRL tested 27 specimens taken by sentinel GPs during week 9 2007, six of which were positive for influenza A unsubtype. The NVRL also tested 60 non-sentinel specimens taken during week 9 2007, mainly from hospitalised paediatric cases. Four non-sentinel specimens were positive for respiratory syncytial virus (RSV), two were positive for adenovirus, two were positive for parainfluenza virus 3 and three were positive for influenza A unsubtype (table 1). During the 2006/2007 season to date, 133 influenza A viruses and two influenza B viruses have been detected. Of the 133 influenza A viruses, two have been subtyped as A(H1) and 73 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 9 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 9 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
9 2007	Sentinel	27	6	22.2	6	0	NA
	Non-Sentinel	60	3	5.0	3	0	4
	Total	87	9	10.3	9	0	4
40 2006 - 9 2007	Sentinel	307	103	33.6	101	2	NA
	Non-Sentinel	1351	32	2.4	32	0	316
	Total	1658	135	8.1	133	2	316

*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 9 2007 and the 2006/2007 season to date

	Week 9 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	5	0	5	46	0	46
HSE-MA	0	0	0	6	0	6
HSE-MWA	0	0	0	11	0	11
HSE-NEA	0	0	0	20	0	20
HSE-NWA	1	0	1	4	0	4
HSE-SEA	1	0	1	17	2	19
HSE-SA	1	0	1	16	0	16
HSE-WA	0	0	0	12	0	12
HSE Not Known	1	0	1	1	0	1
Total	9	0	9	133	2	135

* 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 9 2007 and the 2006/2007 season to date

	Week 9 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
0-4 years	3	0	3	27	0	27
5-14 years	1	0	1	15	0	15
15-64 years	5	0	5	89	2	91
65 years and older	0	0	0	1	0	1
Age group unknown	0	0	0	1	0	1
Total	9	0	9	133	2	135

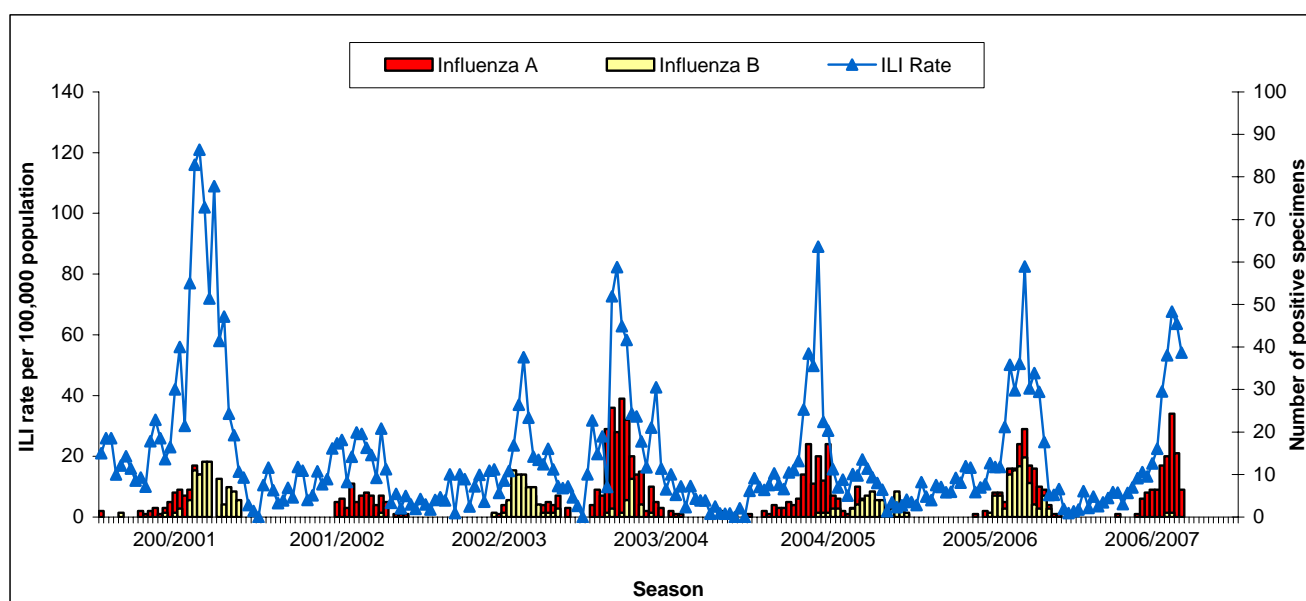


Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

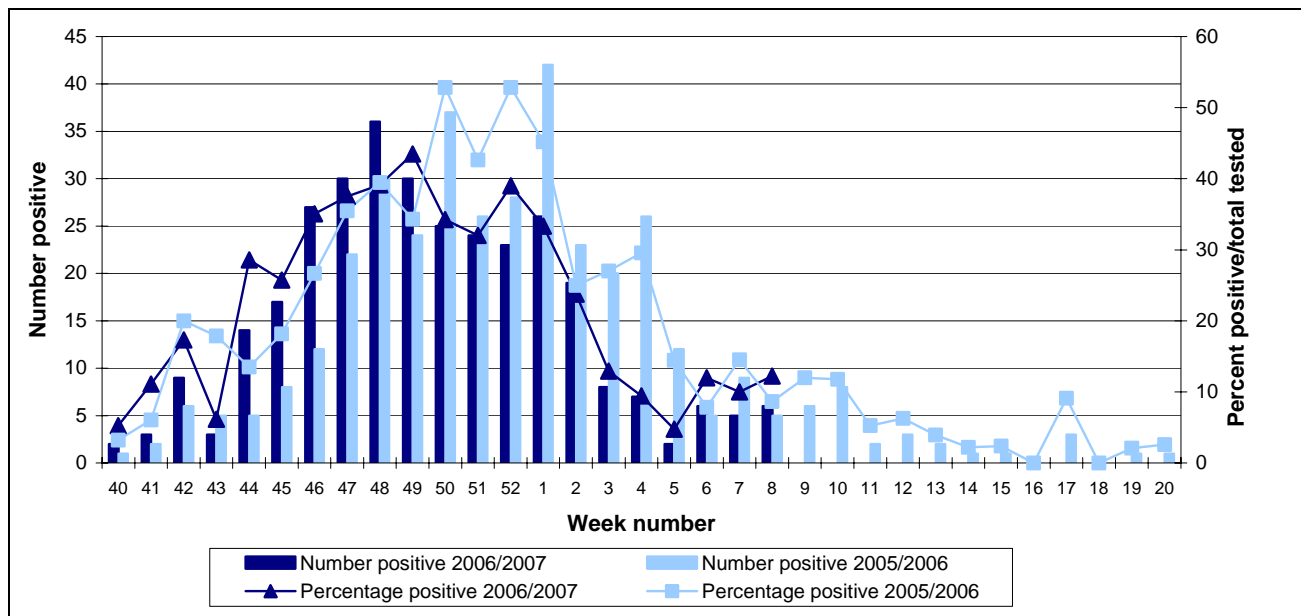


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

Weekly Influenza Notifications

Twenty-eight influenza cases were notified to HPSC during week 9 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.

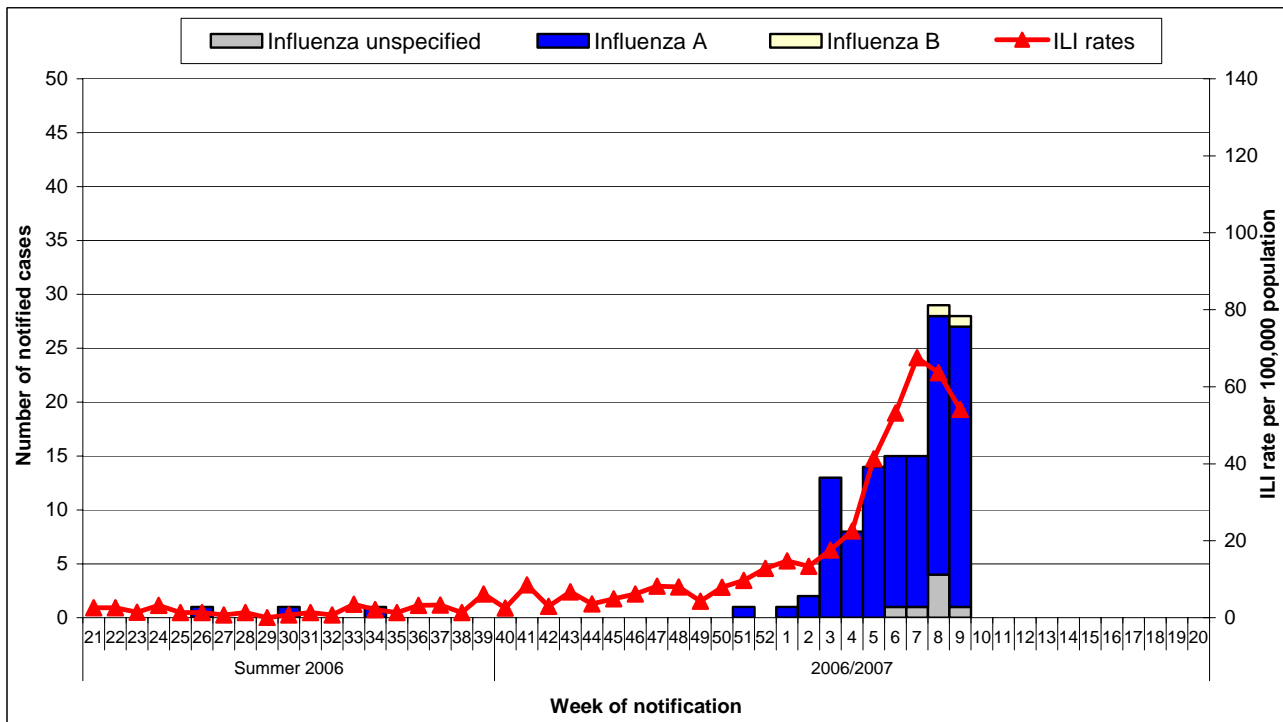


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.

*Notification data are provisional and were extracted from [CIDR](#) on the 06/03/2007 at 15.58

Mortality Data

No influenza associated deaths were registered with the GRO during week 9 2007.

Outbreak Reports

No influenza/ILI outbreaks were reported to HPSC during week 9 2007.

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 8, sporadic influenza activity based on isolated cases of ILI and influenza virus isolations was reported by HSE-MA, -NEA, -NWA, -SA and -WA. Localised activity was reported from HSE-ER, -MWA and -SEA during week 8 2007 (figure 6). During week 8, an elevated level of absenteeism was reported by one primary in HSE-SEA.

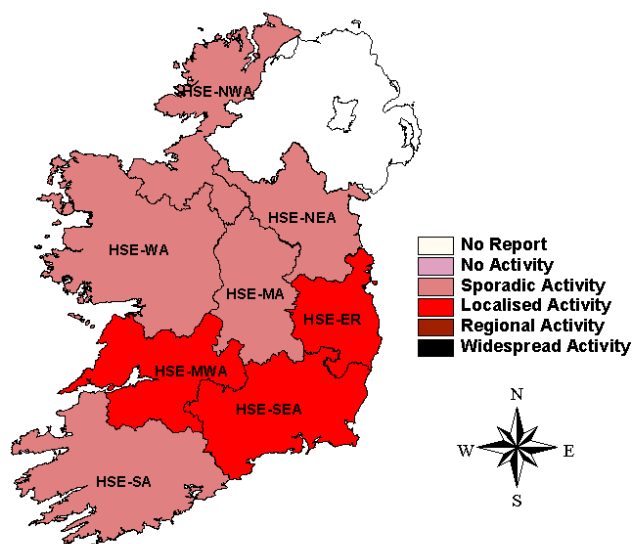


Figure 6: Map of influenza activity by HSE-Health Area during week 8 2007

Influenza Activity in Northern Ireland

One hundred and twelve ILI cases and 17 cases of clinical influenza were reported from sentinel GPs in Northern Ireland during week 9 2007, corresponding to a combined rate of 131.9 per 100,000 population, a decrease from the updated rate of 155.6 per 100,000 population during week 8. No influenza viruses were detected from sentinel swabs but influenza A viruses were detected in eight non-sentinel swabs from hospitalised patients.

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

Influenza Activity in England, Scotland & Wales

During week 9, clinical influenza activity within the UK has decreased or remained at similar levels. Activity in England remains above the baseline threshold while Scottish and Welsh activity is below baseline levels. In England, the ILI episode incidence rate has decreased from 39.6 per 100,000 in week 8 to 31.9 per 100,000 in week 9. These figures are above the baseline activity threshold of 30 per 100,000 persons and are referred to as normal seasonal activity. In Scotland, GP consultation rates for ILI decreased to 17 consultations per 100,000 in week 9 from 24 per 100,000 in week 8. These rates are beneath the Scottish baseline threshold of 50 consultations per 100,000. In Wales, GP consultations for influenza have slightly decreased from 9.5 per 100,000 in week 8 to 8.6 per 100,000 in week 9. Both rates are below the baseline threshold of 25 consultations per 100,000. Thirty-two samples referred to the Centre for Infections' Respiratory Virus Unit (RVU) tested positive for influenza A and one for influenza B.

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

Influenza Activity in Europe

During week 8 2007, for the intensity indicator, the national network level of ILI and/or acute respiratory infection (ARI) was high in Lithuania and Norway, medium in 21 countries and low in four countries. An increase in consultation rates for ILI or ARI compared to last week was observed in Norway, Sweden, Denmark, Latvia, Lithuania, Poland, Germany, the Netherlands and Slovenia. For the geographical spread indicator, widespread activity was reported in 13 countries, while four countries reported regional activity, four local, five sporadic activity and one country reported no activity. The total number of respiratory specimens collected by sentinel physicians was 1746, of which 684 (39%) were positive for influenza virus. Of these, 664 (97%) specimens tested positive for influenza A virus and 20 (3%) for influenza B. In addition, 765 specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) tested positive for influenza virus, of which 759 (99%) were influenza A and 6 (1%) influenza B. Based on subtyping data of all influenza virus detections (N=10664; sentinel and non-sentinel data), 6432 (60%) were type A not subtyped, 2060 (19%) were A(H3), 1769 (17%) were A(H3N2), 121 (1%) were A(H1), 96 (1%) were A(H1N1) and 186 (2%) were type B. Based on the antigenic and/or genetic characterisation of 1166 influenza viruses, 997 were A/Wisconsin/67/2005 (H3N2)-like; 27 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]; 64 A/New Caledonia/20/99 (H1N1)-like; and 80 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage).

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

Influenza Activity in Canada

During week 8, overall influenza activity in Canada was similar to the previous week, with only one region (Toronto, Ontario) reporting widespread influenza activity, 33 regions reporting localised activity and 26 regions reporting sporadic activity, while the rest (mainly several regions from the Atlantic provinces and the Territories) reported no activity. In week 8, the percent of specimens that tested positive for influenza virus in Canada increased slightly overall from the previous week (17.6% or 639/3,639). Regionally, influenza detections continued to increase in Quebec, remained stable in Ontario and the Prairies and declined in the Atlantic region and British Columbia. Of the influenza virus detections to date this season, 96% (3,436/3,564) were influenza A viruses. In week 8, the ILI consultation rate declined to 22 per 1,000 patient visits, which is below the expected range for this week, and was highest in the 5-19 year age group. The sentinel response rate was 72%. During week 8, 54 new outbreaks were reported; 16 influenza outbreaks in long term care facilities, two in hospitals, two in another type of facility and 34 outbreaks of ILI in schools (mostly from the Atlantic provinces). The National Microbiology Laboratory (NML) has characterised 538 influenza viruses for the 2006-2007 influenza season: 184 A/New Caledonia/20/1999(H1N1)-like, 327 A/Wisconsin/67/05(H3N2)-like, 6 B/Malaysia/2506/2004-like, and 21 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. Of the influenza A viruses characterised, 81% of the A(H1N1) viruses were from the West and 64% of the A(H3N2) viruses were from Ontario. Note that the number of A(H3N2) strains identified from British Columbia has been increasing in recent weeks.

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

Influenza Activity in the United States

During week 8, influenza activity remained elevated in the United States. Among specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories for influenza, 23.8% were positive. ILI data was above baseline for the tenth week this season. Twenty-five states reported widespread influenza activity, 19 states and New York City reported regional influenza activity, three states and the District of Columbia reported local influenza activity and three states reported sporadic influenza activity. The reporting of widespread or regional influenza activity increased from 38 states for week 7 to 44 states for week 8. The percent of deaths due to pneumonia and influenza remained below baseline level. During week 8, WHO and NREVSS laboratories reported 4,383 specimens tested for influenza viruses, 1,044 (24.8%) of which were positive: 97 influenza A(H1) viruses, 25 influenza A(H3) viruses, 727 influenza A viruses that were not subtyped, and 195 influenza B viruses. Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 109,790 specimens for influenza viruses and 13,003 (11.8%) were positive. Among the 13,003 influenza viruses, 10,929 (84.0%) were influenza A viruses and 2,074 (16.0%) were influenza B viruses. Three thousand forty-three (27.8%) of the 10,929 influenza A viruses have been subtyped: 2,595 (85.3%) were influenza A(H1) viruses and 448 (14.7%) were influenza A(H3) viruses.

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

Influenza Activity Worldwide

During week 8 2007 the following influenza isolates were reported; China 135 (3 A(H1), 112 A(H3), 11 A unsubtyped and 9 B), Iran 4 (2 A(H3) and 2 B), Japan 52 (7 A(H1), 31 A(H3) and 14 B) and Tunisia 3 (1 A(H1) and 2 A(H3)). China, Madagascar and Mongolia reported sporadic levels of ILI while Tunisia reported regional outbreaks.

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

Avian Influenza

As of the 8th March 2007, 277 confirmed human cases and 167 (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.

On 1st March 2007, the Ministry of Health in China reported a case of human infection with the H5N1 avian influenza virus. The case is a 44-year-old woman from Jian'ou county, Fujian province. She became ill with fever and pneumonia on 18 February and was hospitalised on 22 February where she remains in critical condition. The case was laboratory confirmed by the Fujian provincial laboratory on 26 February and by the national laboratory the next day. Information provided to WHO indicates that she is a farmer who kept birds in her back yard and was possibly exposed to sick birds. An investigation is under way to determine if this exposure was the source of her infection. Close contacts have been placed under medical observation. Of the 23 cases confirmed to date in China, 14 (61%) have been fatal.

Also on 1st March 2007, the Egyptian Ministry of Health and Population announced a new human case of avian influenza A(H5N1) virus infection. The case was confirmed by the Egyptian Central Public Health Laboratory and by the US Naval Medical Research Unit No.3 (NAMRU-3). The 4-year-old girl was from Dakahlea Governorate. She developed symptoms on 25 February, was admitted to hospital on 26 February and her condition remains stable. The girl was exposed to sick birds at her home one week prior to the onset of symptoms. Contacts of the girl remain healthy and are being closely monitored.

Of the 23 cases confirmed to date in Egypt, 13 (57%) 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 & Dr. Derval Igoe, HPSC