

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 10 2007 (5th to 11th March 2007)

Summary

During week 10 2007, influenza activity was at low levels in Ireland, with 35 influenza-like illness (ILI) cases reported by sentinel GPs. Seven specimens tested by the NVRL were positive for influenza A virus during week 10.

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

Thirty-five ILI cases were reported from sentinel GPs during week 10 2007, corresponding to an ILI consultation rate of 23.7 per 100,000 population, a sharp decrease from the updated rate of 54.6 in week 9 (figure 1).

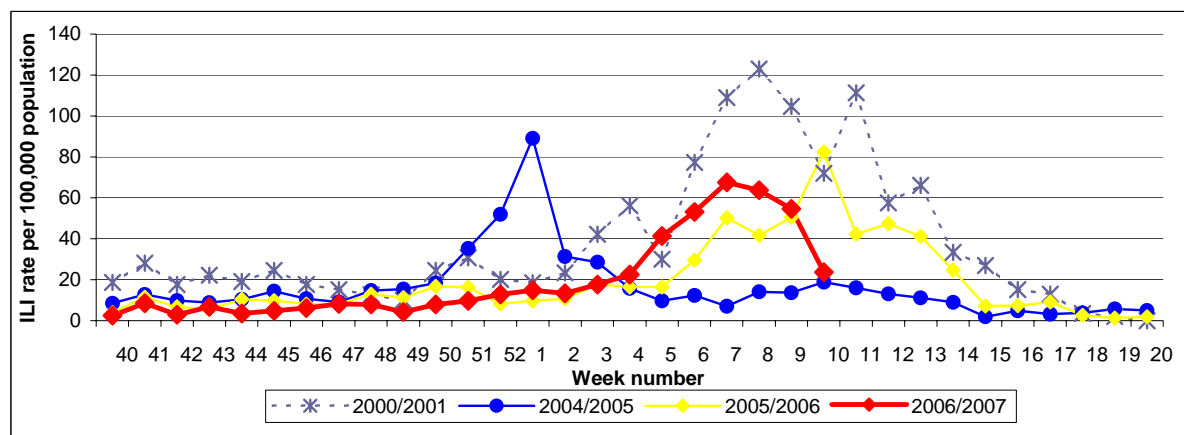


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

Results (continued)

Two cases were in the 0-4 year age group (19.1 per 100,000 population), six cases were in the 5-14 year age group (28.9 per 100,000 population), 24 cases were in the 15-64 year age group (24 per 100,000 population) and three cases were in the 65 years or older age group (18.2 per 100,000 population) as shown in figure 2. Thirty-nine of the 47 (83%) sentinel general practices reported during week 10 2007, with 15 reporting ILI.

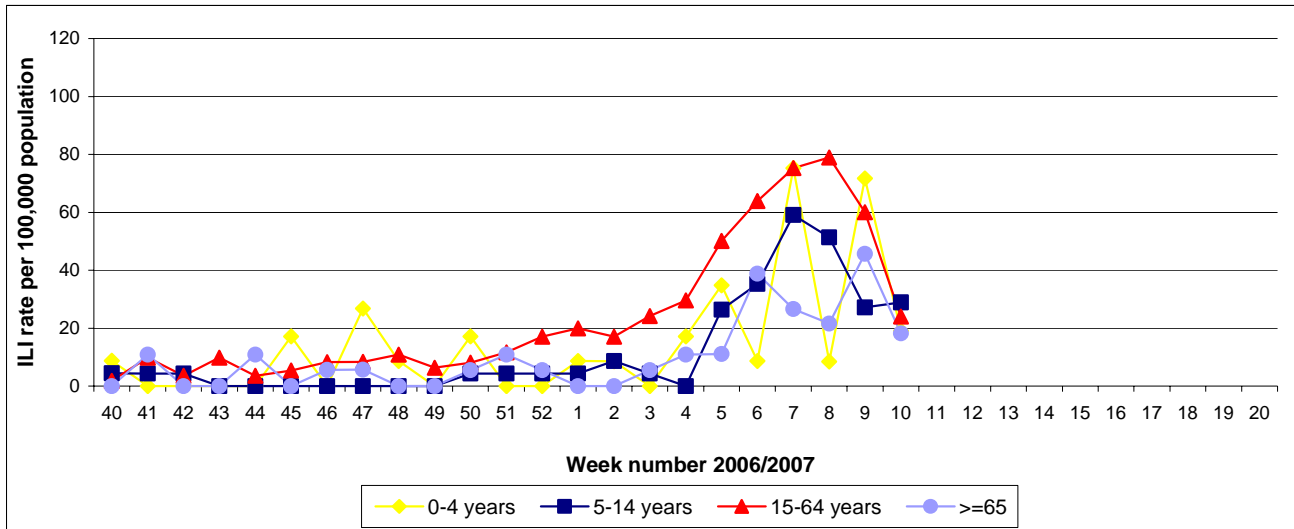


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. *Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is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

Virological Data from the National Virus Reference Laboratory (NVRL)

The NVRL tested 13 specimens taken by sentinel GPs during week 10 2007, one of which was positive for influenza A untyped and two were positive for influenza A(H3). The NVRL also tested 44 non-sentinel specimens taken during week 10 2007, mainly from hospitalised paediatric cases. Three non-sentinel specimens were positive for respiratory syncytial virus (RSV) and four were positive for influenza A untyped (table 1). During the 2006/2007 season to date, 151 influenza A viruses and two influenza B viruses have been detected. Of the 151 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 10 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 10 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
10 2007	Sentinel	13	3	23.1	3	0	NA
	Non-Sentinel	44	4	9.1	4	0	3
	Total	57	7	12.3	7	0	3
40 2006 - 10 2007	Sentinel	326	117	35.9	115	2	NA
	Non-Sentinel	1395	36	2.6	36	0	319
	Total	1721	153	8.9	151	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 10 2007 and the 2006/2007 season to date

	Week 10 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	2	0	2	50	0	50
HSE-MA	1	0	1	7	0	7
HSE-MWA	1	0	1	13	0	13
HSE-NEA	2	0	2	25	0	25
HSE-NWA	1	0	1	5	0	5
HSE-SEA	0	0	0	17	2	19
HSE-SA	0	0	0	21	0	21
HSE-WA	0	0	0	12	0	12
HSE Not Known	0	0	0	1	0	1
Total	7	0	7	151	2	153

* 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 10 2007 and the 2006/2007 season to date

	Week 10 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
0-4 years	3	0	3	30	0	30
5-14 years	1	0	1	16	0	16
15-64 years	3	0	3	103	2	105
65 years and older	0	0	0	1	0	1
Age group unknown	0	0	0	1	0	1
Total	7	0	7	151	2	153

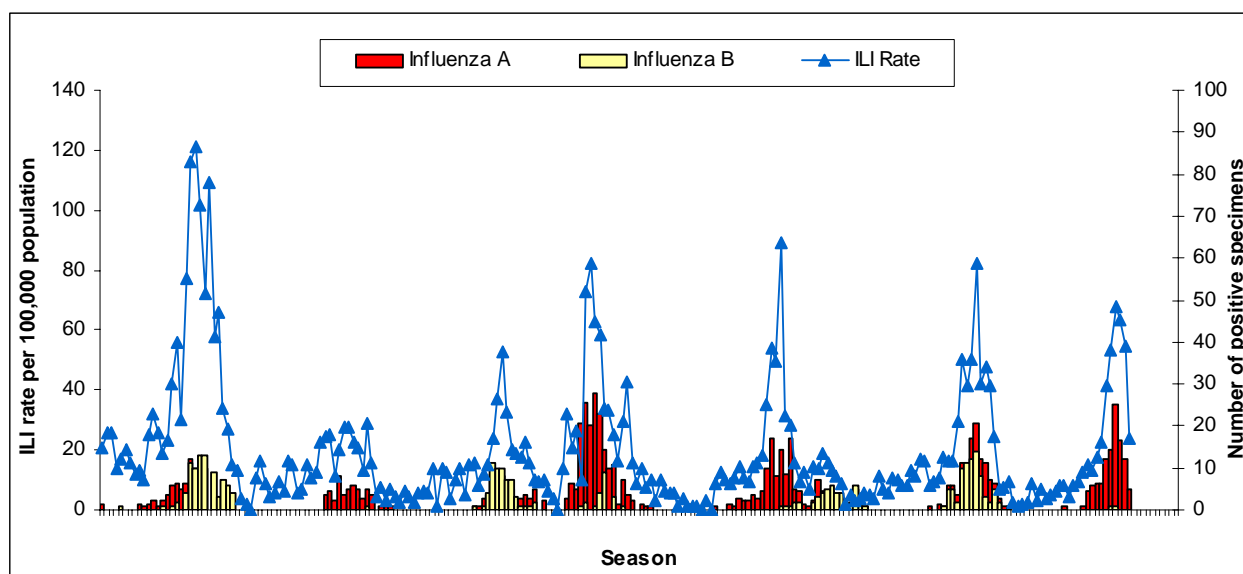


Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

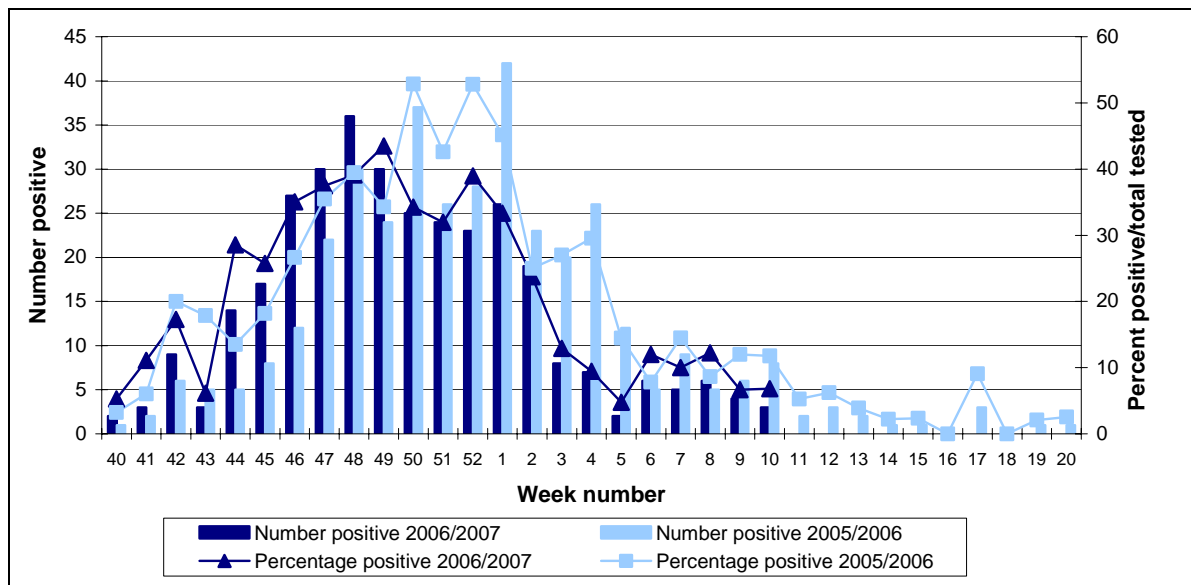


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

Weekly Influenza Notifications

Nine influenza cases were notified to HPSC during week 10 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.

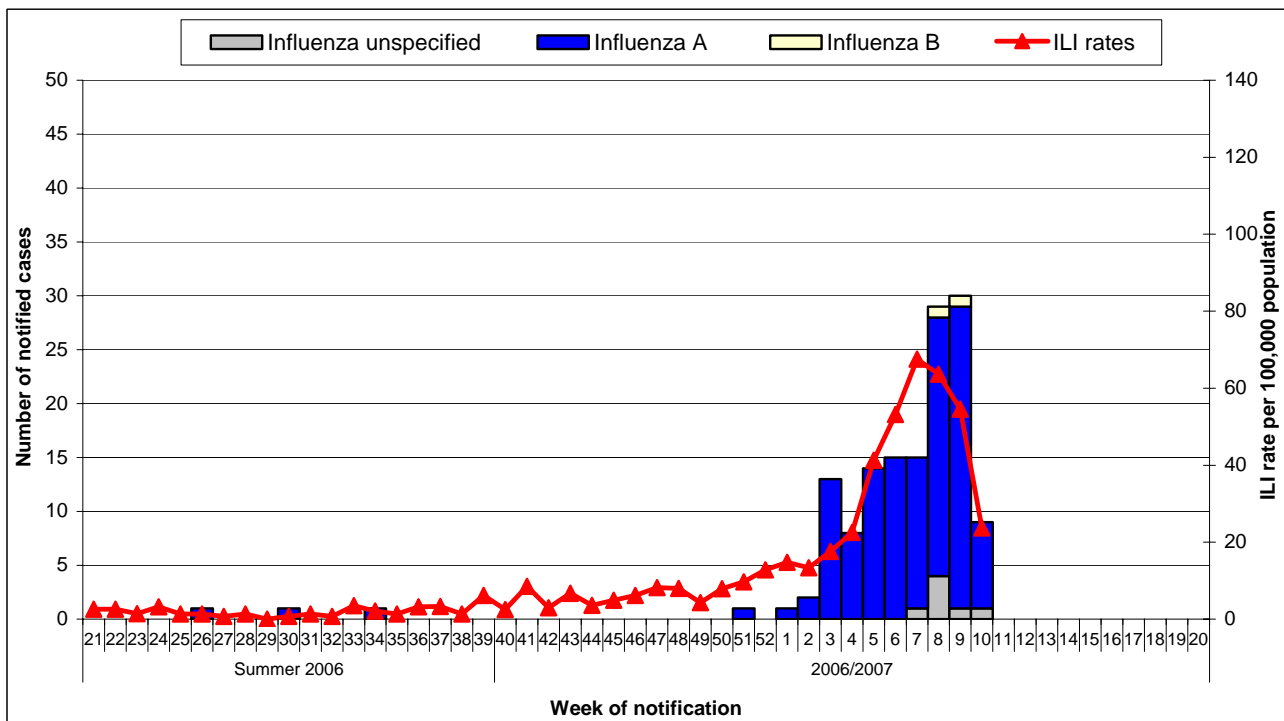


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.

*Notification data are provisional and were extracted from [CIDR](#) on the 13/03/2007 at 16.25

Mortality Data

No influenza associated deaths were registered with the GRO during week 10 2007.

Outbreak Reports

No influenza/ILI outbreaks were reported to HPSC during week 10 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 9, 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 9 2007 (figure 6). During week 9, increases in respiratory admissions were reported by two sentinel hospitals in HSE-ER and one sentinel hospital in HSE-SEA.

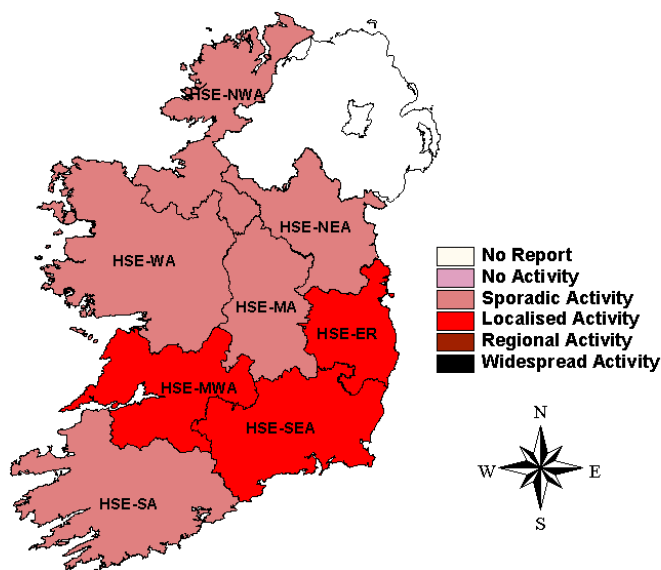


Figure 6: Map of influenza activity by HSE-Health Area during week 9 2007

Influenza Activity in Northern Ireland

No update was received from Northern Ireland for week 10 2007. Week 10 data for Northern Ireland will be included in the week 11 2007 HPSC Influenza Weekly Surveillance report.

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

Influenza Activity in England, Scotland & Wales

During week 10, 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. In England, the ILI episode incidence rate has decreased from 30.2 per 100,000 persons in week 9 to 18.6 per 100,000 in week 10. The rate for week 10, is now below the baseline activity threshold of 30 per 100,000. In Scotland, GP consultation rates for ILI decreased to 14 consultations per 100,000 in week 10 from 17 per 100,000 in week 9. These rates are below the Scottish baseline threshold of 50 consultations per 100,000. In Wales, GP consultations for influenza have slightly decreased from 8.6 per 100,000 in week 9 to 6.3 per 100,000 in week 10. Both rates are below the baseline threshold of 25 consultations per 100,000. Thirty-one samples referred to the Centre for Infections' Respiratory Virus Unit (RVU) tested positive for influenza A, all of which were A(H3).

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

Influenza Activity in Europe

During week 9 2007, for the intensity indicator, the national network levels of ILI and/or acute respiratory infection (ARI) were high in the Scandinavian countries and the Baltic States, medium in 16 countries and low in seven. A substantial increase in consultation rates above last week's rates for ILI and/or ARI was reported in Denmark, Latvia, Poland and the Netherlands, whilst in Estonia, Germany and Lithuania rates started to level off and in Norway, Slovenia and Sweden rates started to decline. For the geographical spread indicator, widespread activity was reported in 12 countries, regional in four, local in five, sporadic in seven and no activity in one. This winter, the consultation rates for ILI and/or ARI started to increase around New Year in Greece and Spain, where it has already returned to levels seen outside the winter period. For most other countries in the South-West of Europe consultation rates started to increase around mid January 2007 and have passed the peak. In large parts of Central and North-East Europe, activity started to increase in February and is still continuing. The total number of respiratory specimens collected by sentinel physicians was 1653, of which 618 (37%) were positive for influenza virus, 603 (98%) influenza A and 15 (2%) influenza B. In addition, among 757 specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) positive for influenza virus 749 (99%) were influenza A and 11 (1%) were influenza B. Based on subtyping data of all influenza virus detections (N=12,855; sentinel and non-sentinel data), 7437 (58%) were A untyped, 2597 (20%) A(H3), 2336 (18%) were A(H3N2), 152 (1%) A(H1), 116 (1%) were A(H1N1) and 217 (2%) type B. In Romania, 39% of viruses were influenza B. For Europe as a whole, detection of respiratory syncytial virus (RSV) (a respiratory virus with clinical symptoms that are similar to influenza) has returned to low levels, though in several countries detections remain high (Denmark, Estonia and Germany). Based on the antigenic and/or genetic characterisation of 1624 influenza viruses, 1151 were A/Wisconsin/67/2005 (H3N2)-like; 286 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]; 96 A/New Caledonia/20/99 (H1N1)-like; 90 B/Malaysia/2506/2004-like (the B/Victoria/2/87 lineage); and 1 B/Jiangsu/10/2003-like (the B/Yamagata/16/88 lineage). 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 9, overall influenza activity in Canada increased from the previous week, with seven regions reporting widespread influenza activity, 31 regions reporting localised activity, 21 regions reporting sporadic activity and three regions (from Nova Scotia and Nunavut) reported no activity. (Note that final activity level information for Newfoundland and Labrador are pending, however there were 22 outbreaks reported in the province) In week 9, the percentage of specimens that tested positive for influenza virus in Canada increased slightly overall from the previous week (20% or 848/4,243). Regionally, influenza detections in week 9 were similar to the previous week in most regions except in Ontario and British Columbia where influenza detections increased. Of the influenza virus detections to date this season, 96% (4,250/4,423) were influenza A viruses. The ILI consultation rate increased from 21 per 1,000 patient visits in week 8 to 51 per 1,000 in week 9. This rate is the highest observed to date this season, however it is still within the expected range for this week. The rates increased from the previous week in all age groups, however the highest rates were observed among the 20-64 and 0-4 year age groups. The sentinel response rate was 72%. During week 9, 97 new outbreaks were reported (the highest reported to date): 38 influenza outbreaks in long term care facilities, 48 outbreaks of ILI in schools and 11 in other facilities. The National Microbiology Laboratory (NML) has characterised 614 influenza viruses for the 2006-2007 influenza season: 202 A/New Caledonia/20/1999(H1N1)-like, 382 A/Wisconsin/67/05(H3N2)-like, 7 B/Malaysia/2506/2004-like, and 23

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 9, influenza activity decreased slightly 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 third consecutive week, 22.5% of specimens tested positive for influenza this week. ILI data was above baseline for the eleventh week this season but is declining. Twenty-five states reported widespread influenza activity, 16 states and New York City reported regional influenza activity, six 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 decreased from 44 states for week 8 to 41 states for week 9. The percent of deaths due to pneumonia and influenza remained below baseline level. During week 9, WHO and NREVSS laboratories reported 4,445 specimens tested for influenza viruses, 1,002 (22.5%) of which were positive: 95 influenza A(H1) viruses, 24 influenza A(H3) viruses, 618 influenza A viruses that were not subtyped and 265 influenza B viruses. Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 119,002 specimens for influenza viruses and 14,993 (12.6%) were positive. Among the 14,993 influenza viruses, 12,438 (83.0%) were influenza A viruses and 2,555 (17.0%) were influenza B viruses. Three thousand four hundred seventy-five (27.9%) of the 12,438 influenza A viruses have been subtyped: 2,902 (83.5%) were influenza A(H1) viruses and 573 (16.5%) were influenza A(H3) viruses. <http://www.cdc.gov/flu/>

Influenza Activity Worldwide

During week 9 2007 the following influenza isolates were reported; China 312 (6 A(H1), 264 A(H3), 20 A untyped and 22 B), Iran 4 (1 A(H3) and 3 B), Japan 52 (4 A(H1), 22 A(H3) and 26 B) and Tunisia 6 (2 A(H1) and 4 A(H3)). Argentina and Uganda reported no activity while China, Madagascar and Mongolia reported sporadic levels of ILI and Tunisia reported regional outbreaks.

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

Avian Influenza

As of the 12th March 2007, 278 confirmed human cases and 168 (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 a new human case of avian influenza A(H5N1) virus infection on 12 March 2007. 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 boy was from Ad Daqahliyah Governorate. He developed symptoms on 7 March 2007, was admitted to hospital on 8 March and his condition remains stable. The boy was exposed to sick birds during the first three days of March. Contacts of the boy remain healthy and are being closely monitored. Of the 24 cases confirmed to date in Egypt, 13 (54%) have been fatal.

The Ministry of Health in Lao People's Democratic Republic has confirmed the country's first death from H5N1 avian influenza. The 15-year-old female from Vientiane, whose infection was announced 27 February, died on 7 March after being hospitalised in neighbouring Thailand.

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. Joan O'Donnell, HPSC