

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 3 2007 (15th to 21st January 2007)

Summary

During week 3 2007, influenza activity was at low levels in Ireland, with 20 influenza-like illness (ILI) cases reported by sentinel GPs. Eight specimens tested by the NVRL were positive for influenza virus during week 3.

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-six 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

Twenty ILI cases were reported from sentinel GPs during week 3 2007, corresponding to an ILI consultation rate of 14.4 per 100,000 population, an increase from the updated rate of 13.6 in week 2 (figure 1).

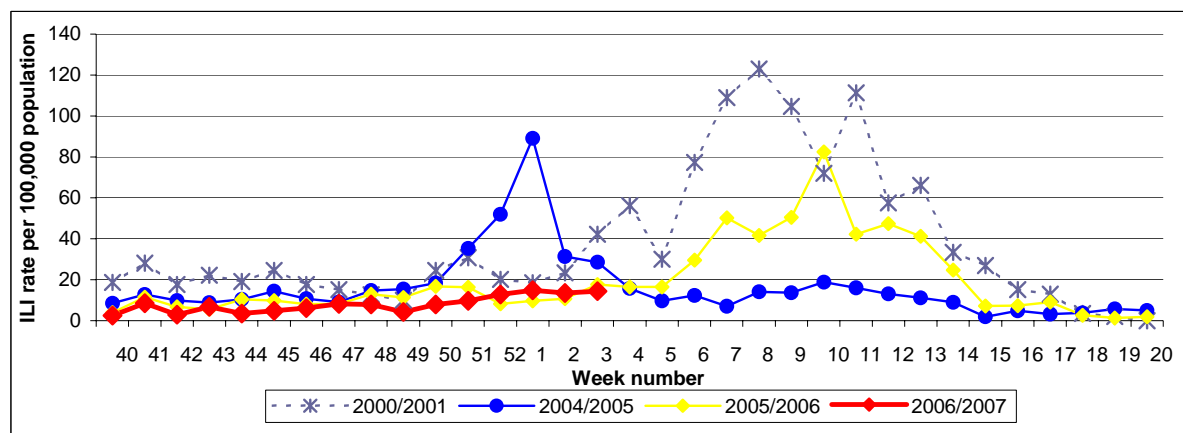


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

Results (continued)

One case was in the 5-14 year age group (5.1 per 100,000 population), 18 cases were in the 15-64 year age group (19.2 per 100,000 population) and one case was in the 65 years or older age group (6.5 per 100,000 population) as shown in figure 2. Thirty-eight of the 46 (83%) sentinel general practices reported during week 3 2007, with 12 reporting ILI.

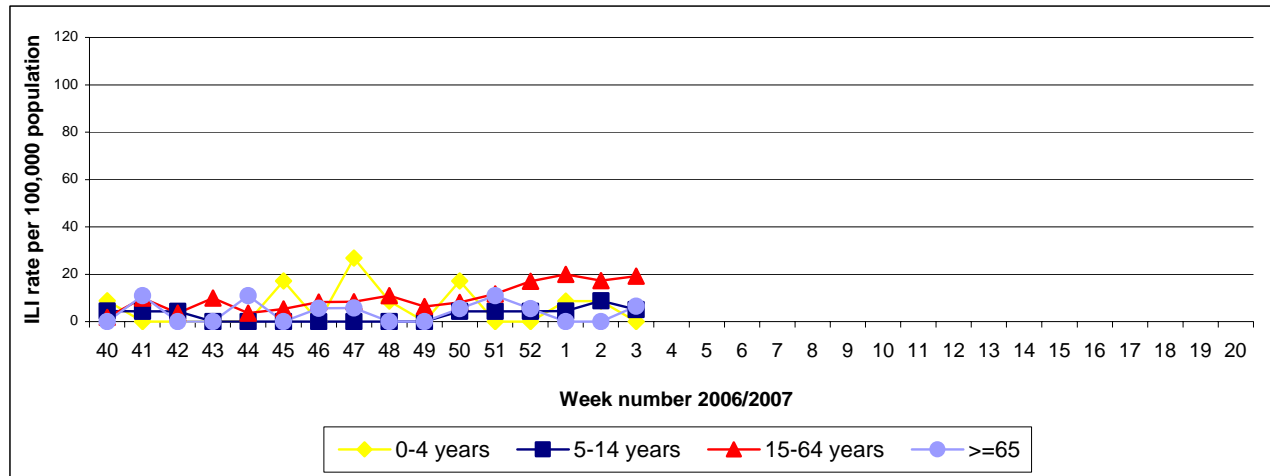


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. *Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is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

Virological Data from the National Virus Reference Laboratory (NVRL)

The NVRL tested 19 specimens taken by sentinel GPs during week 3 2007, six of which were positive for influenza A unsubtype. The NVRL also tested 60 non-sentinel specimens taken during week 3 2007, mainly from hospitalised paediatric cases. Eight non-sentinel specimens were positive for respiratory syncytial virus (RSV) and two were positive for influenza A unsubtype (table 1). During the 2006/2007 season to date, 23 influenza A viruses have been detected, six of which have been subtyped as A(H3) and 17 which are A unsubtype. Influenza positive specimens have been detected in seven of the eight HSE-Areas so far this season (table 2). 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 3 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
3 2007	Sentinel	19	6	31.6	6	0	NA
	Non-Sentinel	60	2	3.3	2	0	8
	Total	79	8	10.1	8	0	8
40 2006 - 3 2007	Sentinel	115	17	14.8	17	0	NA
	Non-Sentinel	1024	6	0.6	6	0	286
	Total	1139	23	2.0	23	0	286

*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-Health Area for week 3 2007 and the 2006/2007 season to date

	Week 3 2007			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	1	0	1	10	0	10
HSE-MA	0	0	0	1	0	1
HSE-MWA	2	0	2	4	0	4
HSE-NEA	2	0	2	2	0	2
HSE-NWA	1	0	1	3	0	3
HSE-SEA	0	0	0	0	0	0
HSE-SA	0	0	0	1	0	1
HSE-WA	2	0	2	2	0	2
Total	8	0	8	23	0	23

* 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.

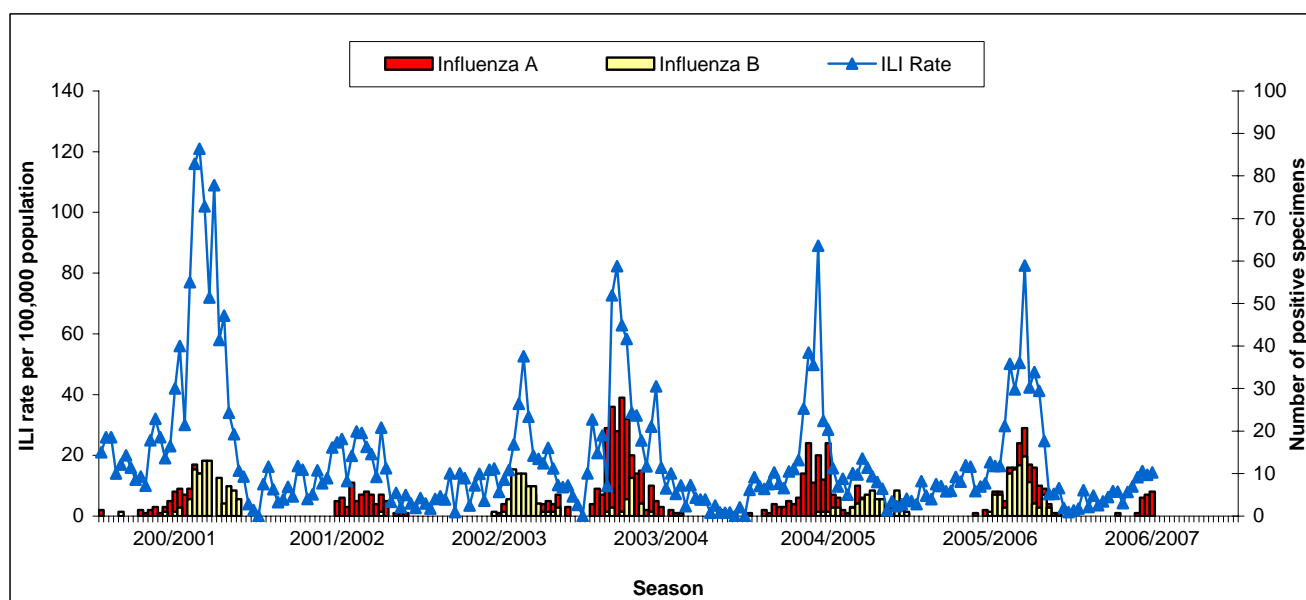


Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

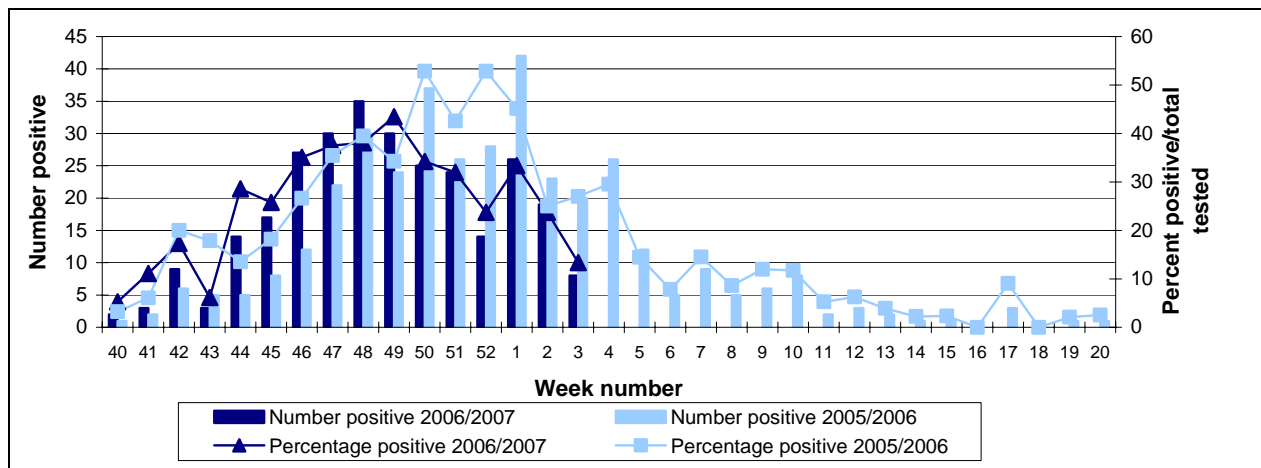


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

Weekly Influenza Notifications

Twelve influenza cases were notified to HPSC during week 3 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.

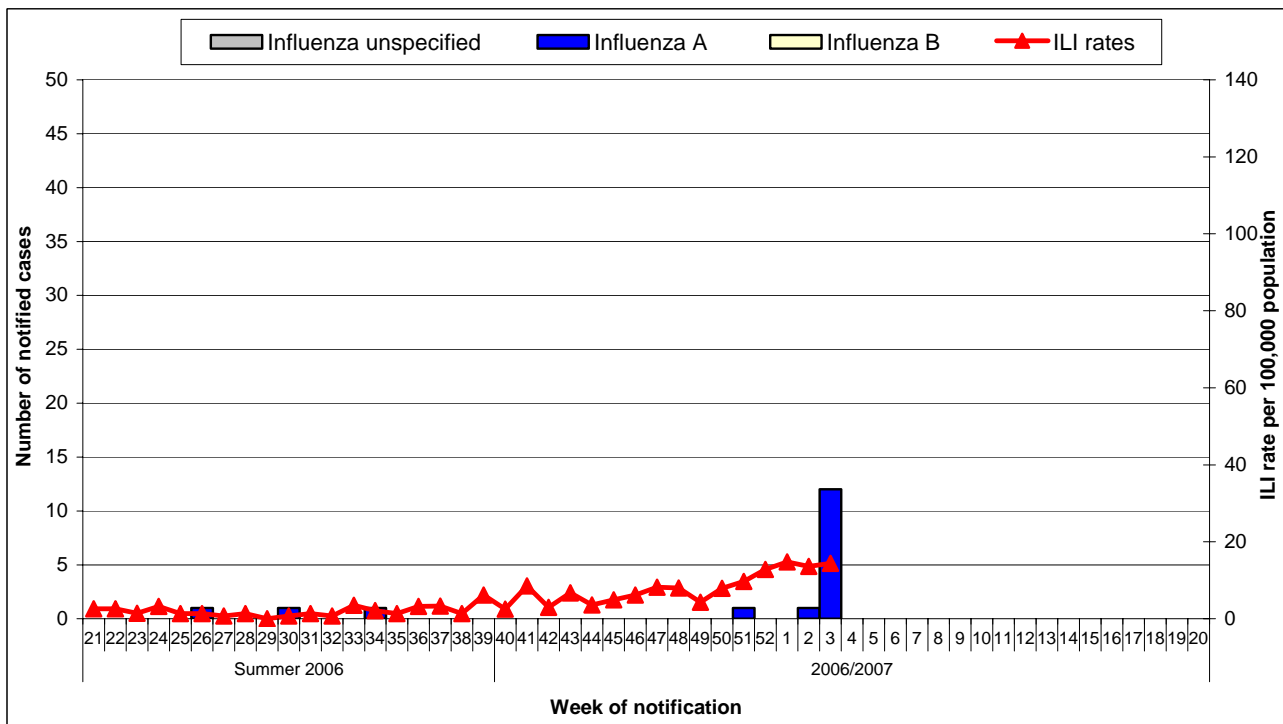


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.

*Notification data are provisional and were extracted from [CIDR](#) on the 22/01/2007 at 16.14

Mortality Data

One influenza associated death was registered during week 3 2007 but this death occurred in January 2006.

Outbreak Reports

No influenza/ILI outbreaks were reported to HPSC during week 3 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. Sporadic influenza activity, based on isolated cases of ILI and influenza virus isolations, was reported by HSE-ER, -MA, -MWA, -NEA, -SA and -SEA. No activity was reported from HSE-NWA and -WA during week 2 2007 (figure 6). During week 2, admissions due to respiratory illness increased in one sentinel hospital in HSE-ER and elevated levels of absenteeism were reported by four schools in HSE-NWA and two schools in HSE-MA.

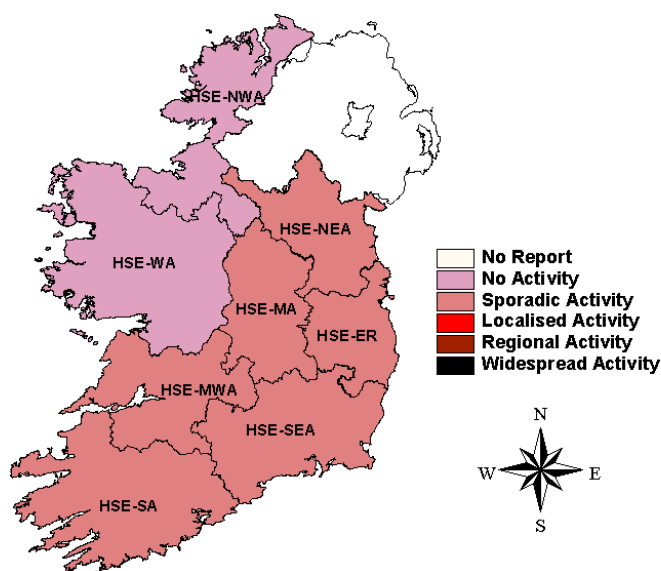


Figure 6: Map of influenza activity by HSE-Health Area during week 2 2007

Influenza Activity in Northern Ireland

One hundred and thirty-two ILI cases and three cases of clinical influenza were reported from sentinel GPs in Northern Ireland during week 3 2007, corresponding to a combined rate of 143.5 per 100,000 population, an increase from the updated rate of 135.4 per 100,000 population during week 2. Influenza A viruses were detected in two non-sentinel swabs from hospitalised children and from two sentinel swabs (one child and one adult).

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

Influenza Activity in England, Scotland & Wales

During week 3, clinical influenza activity decreased in England and Scotland. In Scotland the rate has halved compared to the previous week but still remains above the baseline threshold. The rate in Wales remains very low. In England, the ILI episode incidence rate has decreased to 16.8 per 100,000 in week 3 compared to 20.7 per 100,000 in week 2. Both weeks are below the baseline activity threshold of 30 per 100,000 persons. In Scotland, GP consultation rates for ILI decreased to 79 consultations per 100,000 in week 3 from 158 per 100,000 in week 2. Rates for both weeks exceed the Scottish baseline threshold of 50 consultations per 100,000 and as such are said to be normal activity. In Wales, GP consultations for ILI remain very low at 3.19 per 100,000 in week 3 but have risen slightly compared to 3.02 per 100,000 in week 2. Both rates are below the baseline threshold of 25 consultations per 100,000. Four samples referred to the Centre for Infections' Respiratory Virus Unit (RVU) tested positive for RSV while 26 samples tested positive for influenza A(H3).

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

Influenza Activity in Europe

During week 2 2007, national network levels of ILI and/or acute respiratory infection (ARI) were medium in Greece, the Netherlands, Spain and Switzerland, whilst it remained low in 20 other countries that reported this indicator. For the geographical spread indicator, local activity was reported in five countries (Czech Republic, France, Greece, Romania and Spain), sporadic activity (i.e. isolated cases of laboratory confirmed influenza) in 12 countries and no influenza activity in six countries. So far this season, the consultation rates for ILI and/or ARI have been below the baseline threshold in most European countries. They have been above the national baseline threshold in Greece (since week 1 2007), the Netherlands and Spain (both since week 2 2007). The total number of respiratory specimens collected by sentinel physicians was 913, of which 187 (20.5%) were positive for influenza virus. Of these, 180 (96%) specimens tested positive for influenza A virus and seven (4%) were influenza B. In addition, 1967 specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) tested positive for influenza virus, of which 167 (98%) were influenza A and three (2%) influenza B. Based on subtyping data of all influenza virus detections (N=1131; sentinel and non-sentinel data), 720 (64%) were A unsubtype, 28 (2%) were A(H1), 21 (2%) were A(H1N1), 173 (15%) were A(H3), 154 (14%) were A(H3N2) and 35 (3%) were type B. Based on the characterisation data of all influenza virus detections, 194 have been antigenically and/or genetically characterised: 142 were A/Wisconsin/67/2005 (H3N2)-like, 38 were A/California/7/2004 (H3)-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], 13 were A/New Caledonia/20/99 (H1N1)-like and one was B/Malaysia/2506/2004-like.

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

Influenza Activity in Canada

During week 2, overall influenza activity in Canada increased slightly from the previous week. Seven regions reported localised activity, mostly from Ontario. Sporadic influenza activity was reported in one or more regions in most provinces across Canada while the rest, including all of New Brunswick, Newfoundland & Labrador and the Territories, reported no activity. In week 2, 6.5% (204/3160) of the specimens tested for influenza virus were positive, an increase from the previous week. Of the influenza virus detections to date this season, 98% (1000/1017) were influenza A viruses. In week 2, the ILI consultation rate was 34 per 1,000 patient visits, which is lower than the rate from the previous week; however it is still within the expected range. The sentinel response rate was 72%. During week 2, three new laboratory-confirmed influenza outbreaks were reported, two of which were in long term care facilities (LTCFs). The percent positive for RSV detections continued to decrease from previous weeks but remains high (24%), with the majority of detections coming from Quebec, Ontario and the Prairies. The National Microbiology Laboratory (NML) has characterised 139 influenza viruses for the 2006-2007 influenza season: 64 were A/Wisconsin/67/05(H3N2)-like, 72 were A/New Caledonia/20/1999(H1N1)-like, 2 B/Malaysia/2506/2004-like, and 1 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, 90% (65/72) of the A(H1N1) viruses were from the West and 89% (57/64) of the A(H3N2) viruses were from Ontario. Note that the proportion of strains characterised as A(H3N2) increased from 36% in the previous week to 46% this week.

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

Influenza Activity in the United States

During week 2, laboratory surveillance data indicated a slight increase in influenza activity in the United States from week 1 to week 2. Among specimens tested by the U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories for influenza, 8.6% were positive. The proportion of visits for ILI may have been influenced by changes in healthcare seeking patterns during the holiday season as has been seen in past seasons. ILI data was at baseline for week 2. Three states reported widespread influenza activity, 12 states reported regional influenza activity, 16 states reported local influenza activity, 18 states, the District of Columbia and New York City reported sporadic influenza activity and one state reported no influenza activity. The reporting of widespread or regional influenza activity decreased from 16 states for week 1 to 15 states for week 2. The percent of deaths due to pneumonia and influenza remained below the baseline level. During week 2, WHO and NREVSS laboratories reported 3,070 specimens tested for influenza viruses, 265 (8.6%) of which were positive: 63 influenza A(H1) viruses, five influenza A(H3) virus, 149 influenza A viruses that were not subtyped and 48 influenza B viruses. Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 58,701 specimens for influenza viruses and 3,237 (5.5%) were positive. Among the 3,237 influenza viruses, 2,608 (80.6%) were influenza A viruses and 629 (19.4%) were influenza B viruses. Eight hundred forty-one (30.8%) of the 2,608 influenza A viruses have been subtyped: 791 (94.1%) were influenza A (H1) viruses and 50 (5.9%) were influenza A (H3) viruses.

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

Influenza Activity Worldwide

During week 2 2007 the following influenza isolates were reported; China 37 (7 A untyped, 5 A(H1), 20 A(H3 and 5 B), Iran 2 (1 A(H1) and 1 A(H3)), Japan 10 (9 A(H3) and 1 B), New Caledonia 5 (3 A(H3) and 2 untyped) and Tunisia 10 (3 A(H1), 1 A(H3) and 6 influenza unspecified). China and Mongolia reported sporadic levels of ILI while Tunisia reported two regional outbreaks of ILI.

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

Avian Influenza

As of the 22nd January 2007, 269 confirmed human cases and 163 (61%) deaths from avian influenza A (H5N1) have been reported to the WHO from Azerbaijan, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Thailand, Turkey and Vietnam.

The Ministry of Health of Indonesia has announced a new case of human infection of H5N1 avian influenza. A 32-year-old woman from West Java Province developed symptoms on 11 January and died in hospital on 19 January. Initial investigations of the source of her infection indicate that the woman had been involved in the slaughter of sick chickens in the days prior to symptom onset. Of the 80 cases confirmed to date in Indonesia, 62 (77.5%) have been fatal.

The Egyptian Ministry of Health and Population has announced a new human case of avian influenza A(H5N1) virus infection. This case was confirmed by the Egyptian Central Public Health Laboratory and by the US Naval Medical Research Unit No.3 (NAMRU-3). The 27-year-old woman from Beni Sweif Governate developed symptoms on 9 January 2007 and died in hospital on 19 January. Initial investigations indicate the presence of sick and dead poultry at her residence in the days prior to the onset of illness. Of the 19 cases confirmed to date in Egypt, 11 (58%) 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 2006/2007 Season

The members of the WHO Collaborating Centres on Influenza recommended that influenza vaccines for the 2006/2007 influenza season in the Northern Hemisphere contain the following strains:

- an A/New Caledonia/20/99(H1N1)-like virus;
- an A/Wisconsin/67/2005 (H3N2)-like virus^a;
- a B/Malaysia/2506/2004-like virus^b

Candidate vaccine viruses include:

^aA/Wisconsin/67/2005 (H3N2) and A/Hiroshima/52/2005

^bB/Malaysia/2506/2004 virus and B/Ohio/1/2005

<http://www.who.int/csr/disease/influenza/recommendations2007north/en/index.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