

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 1 2007 (1st to 7th January 2007)

Summary

During week 1 2007, influenza activity was at low levels in Ireland, with 18 influenza-like illness (ILI) cases reported by sentinel GPs. No specimens tested by the NVRL were positive for influenza virus during week 1.

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

Eighteen ILI cases were reported from sentinel GPs during week 1 2007, corresponding to an ILI consultation rate of 13.9 per 100,000 population, an increase from the updated rate of 12.9 in week 52 (figure 1).

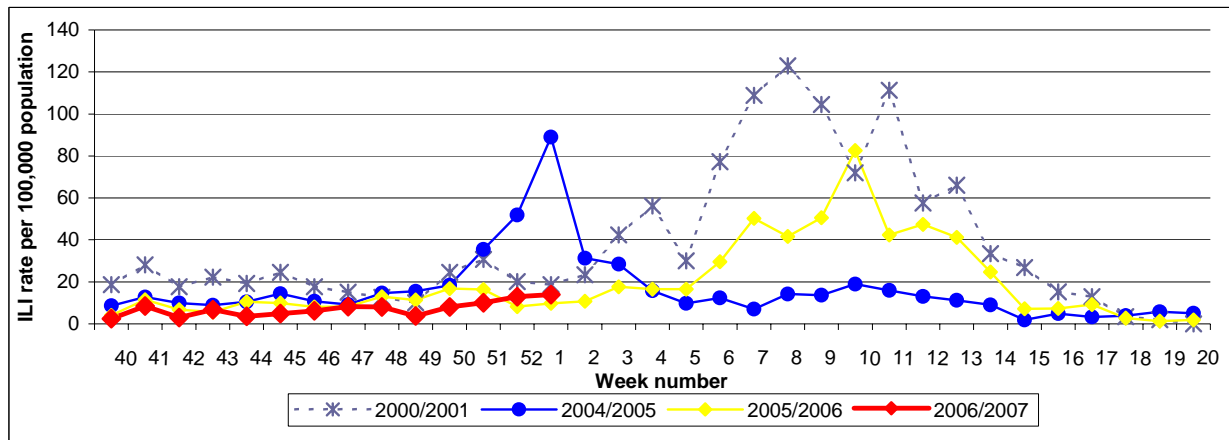


Figure 1: GP consultation rate for ILI per 100,000 population by week, during the 2000/2001*, 2004/2005, 2005/2006 & 2006/2007 influenza seasons.

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

Results (continued)

One case was in the 0-4 year age group (10.9 per 100,000 population) and 17 cases were in the 15-64 year age group (19.3 per 100,000 population) as shown in figure 2. Thirty-five of the 46 (76.1%) sentinel general practices reported during week 1 2007, with eight reporting ILI.

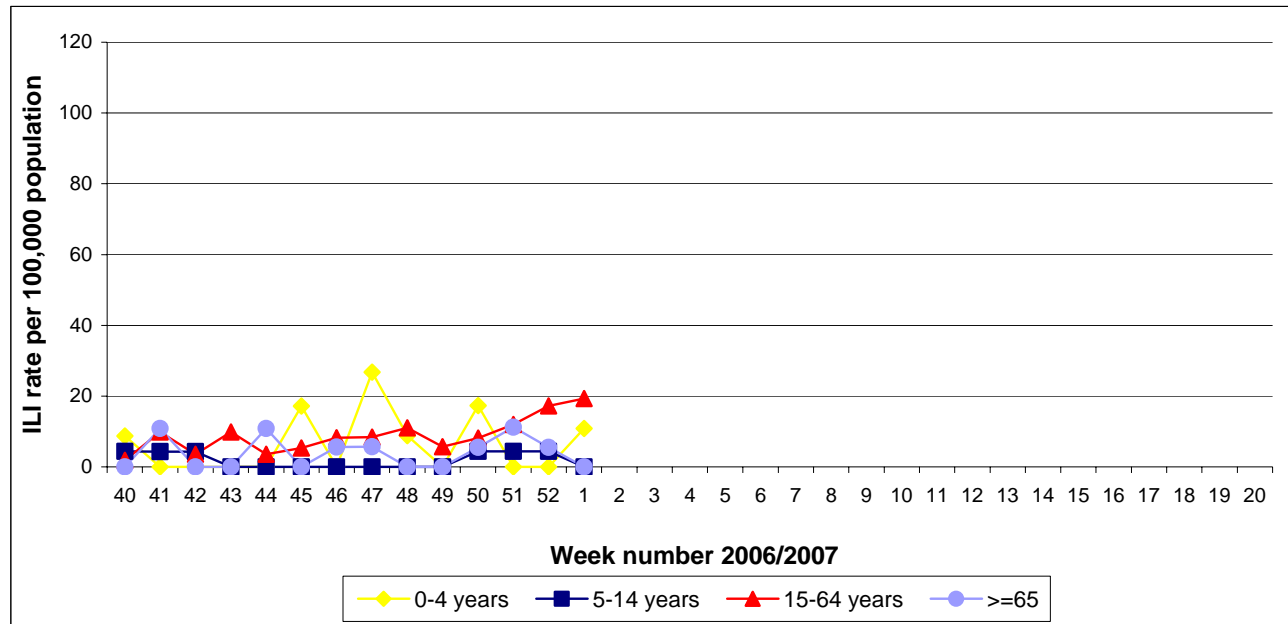


Figure 2: Age specific GP consultation rate* for ILI per 100,000 population by week during the 2006/2007 influenza season. *Please note the denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is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

Virological Data from the National Virus Reference Laboratory (NVRL)

The NVRL tested nine specimens taken by sentinel GPs during week 1 2007, all of which were negative for influenza virus. The NVRL also tested 70 non-sentinel specimens taken during week 1 2007, mainly from hospitalised paediatric cases. Twenty-five non-sentinel specimens were positive for respiratory syncytial virus (RSV) and none were positive for influenza virus (table 1). 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 1 2007 and the 2006/2007 season to date

Week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A	Influenza B	RSV
1 2007	Sentinel	9	0	0.0	0	0	NA
	Non-Sentinel	70	0	0.0	0	0	25
	Total	79	0	0.0	0	0	25
40 2006 - 1 2007	Sentinel	83	1	1.2	1	0	NA
	Non-Sentinel	876	0	0.0	0	0	258
	Total	959	1	0.1	1	0	258

*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.

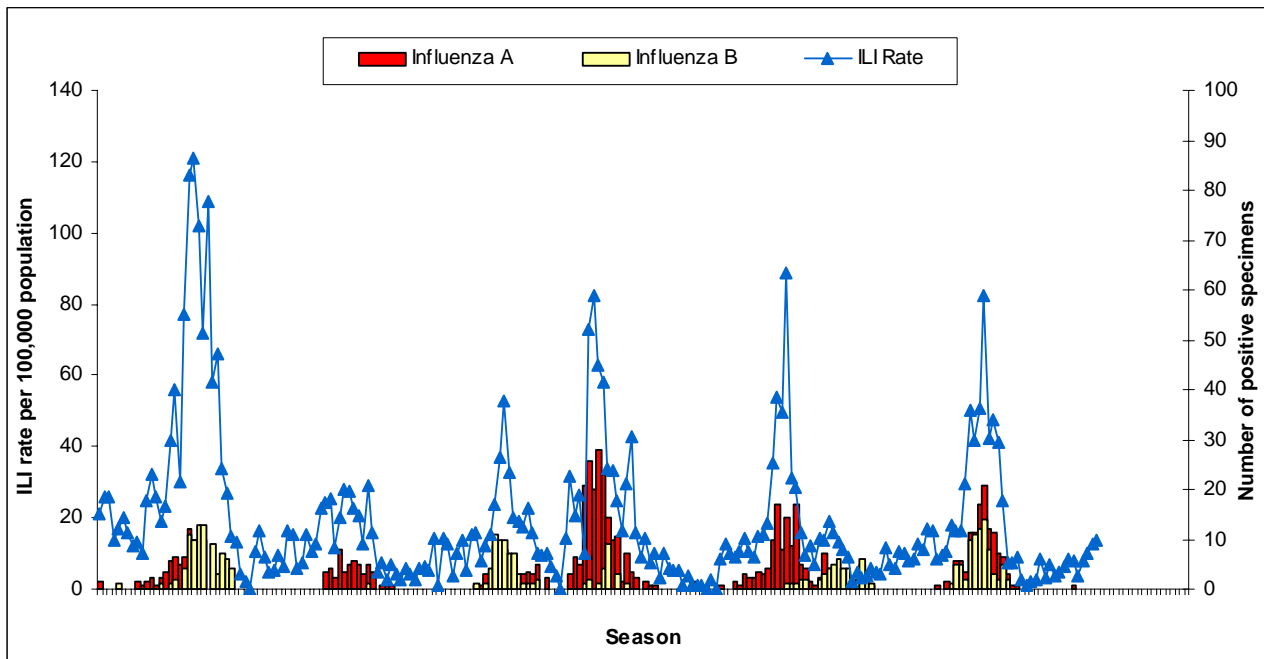


Figure 3: ILI rate per 100,000 population and the number of positive influenza specimens detected by the NVRL during the 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006 & 2006/2007 seasons.

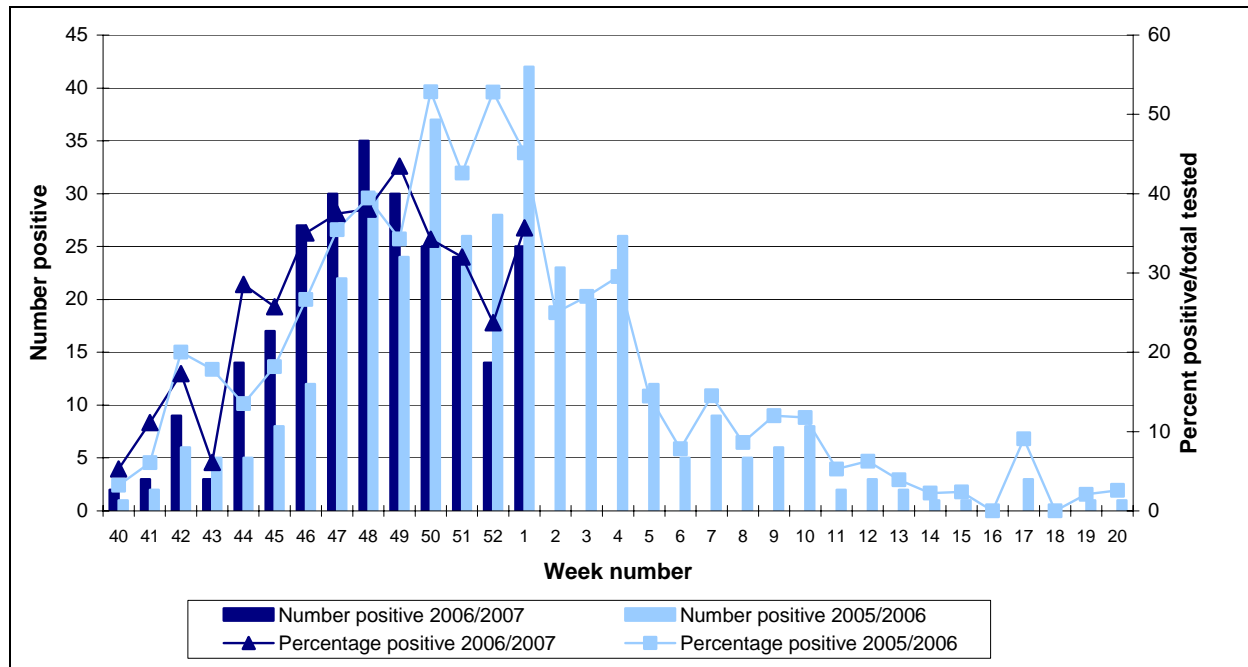


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2005/2006 and 2006/2007 influenza seasons.

Weekly Influenza Notifications

No influenza cases were notified to HPSC during week 1 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.

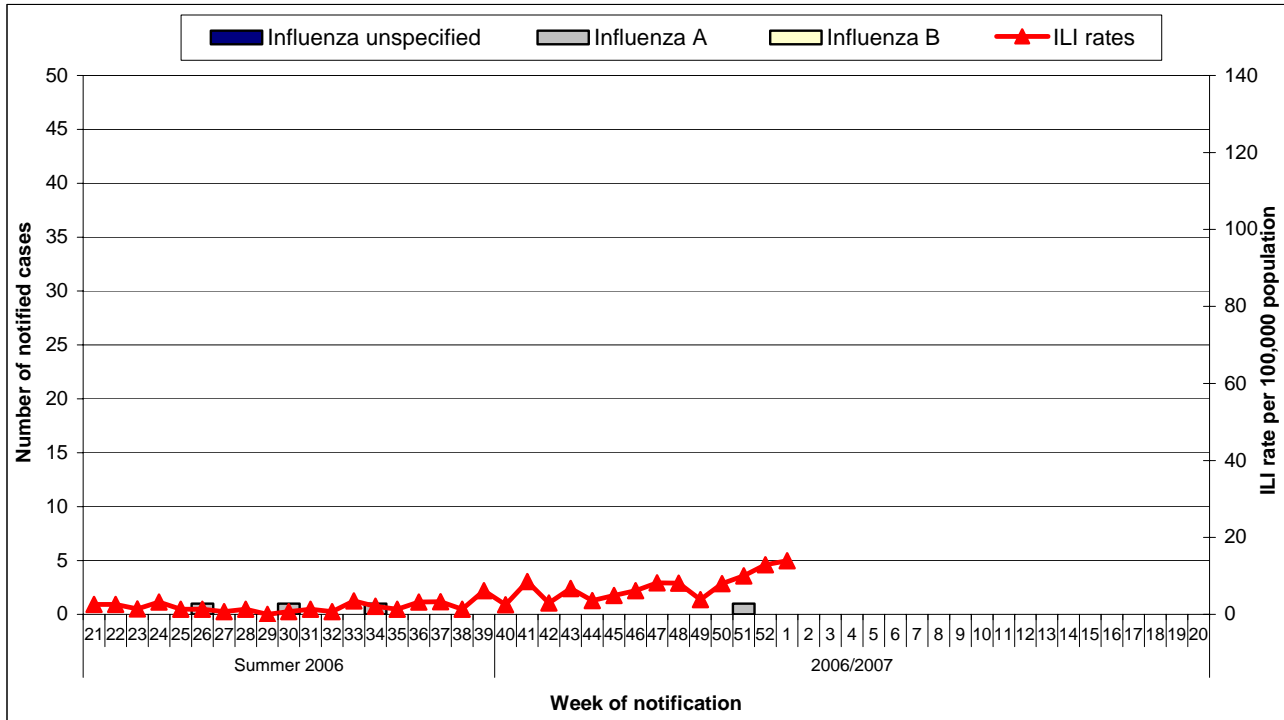


Figure 5: Number of notifications* of influenza (possible & confirmed) by type and by week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the summer of 2006 and the 2006/2007 influenza season.

*Notification data are provisional and were extracted from [CIDR](#) on the 10/01/2007 at 09.51

Mortality Data

No deaths registered during week 1 2007 were attributed to influenza.

Outbreak Reports

No influenza/ILI outbreaks were reported to HPSC during week 1 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, was reported by HSE-ER, -MWA, -NEA and -SEA. No activity was reported from, HSE-MA, NWA, -SA and -WA during week 52 2006 (figure 6).

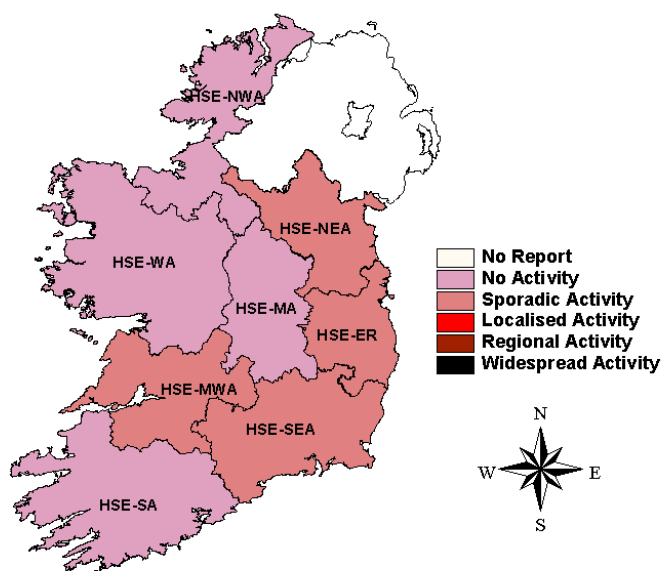


Figure 6: Map of influenza activity by HSE-Health Area during week 52 2006

Influenza Activity in Northern Ireland

Ninety-three ILI cases and five cases of clinical influenza were reported from sentinel GPs in Northern Ireland during week 1 2007, corresponding to a combined rate of 107.6 per 100,000 population, an increase from the updated rate of 84.9 per 100,000 population during week 52. Influenza A viruses were detected in one non-sentinel swab from a three month old hospitalised baby and from 5 sentinel swabs from patients aged 8 to 32 years old.
<http://www.cdscni.org.uk>

Influenza Activity in England, Scotland & Wales

During week 1, clinical influenza activity in England and Scotland has increased while the rate in Wales remains stable. Only Scotland has increased above the baseline threshold with rates for influenza-like illness increased from 67 per 100 000 population in week 52 2006 to 140 consultations per 100 000 population in week 1 2007. Rates for both weeks breach the Scottish baseline threshold of 50 consultations per 100 000 population. There were 22 influenza A detections during week 1. Nineteen of these were influenza A(H3), of which, 15 were from community sources (two from northern England, five from central and eight from southern) and four from hospital sources (all from southern England). The remaining three positives were influenza A(H1), of which, two were from community sources (one from northern England and one from central) and one was from a hospital source in southern England.

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

Influenza Activity in Europe

During week 52 2006, national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were at a low level in 22 countries. A medium intensity of influenza activity was reported in Sweden. In Sweden, even though national ILI consultation rates remain relatively low, a regional outbreak of influenza is occurring in the northern part of the country. So far this season, the consultation rates for ILI and/or ARI have been below baseline levels in most countries in Europe. The total number of respiratory specimens collected by sentinel physicians was 216, of which 38 (17.6%) were positive for influenza virus (all type A). In addition, 93 specimens from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) tested positive for influenza virus, of which 90 (97%) were influenza A and three (3%) influenza B. Based on subtyping data of all influenza virus detections (N=463; sentinel and non-sentinel data), 331 (71%) were type A unsubtype, 17 (4%) were type A(H1), eight (2%) were A(H1N1), 43 (9%) were type A(H3), 42 (9%) were A(H3N2) and 22 (5%) were type B. Based on the characterisation data of all influenza virus detections, 92 have been antigenically and/or genetically characterised. Seventy-nine were A/Wisconsin/67/2005 (H3N2)-like, eight 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] and five were A/New Caledonia/20/99 (H1N1)-like.

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

Influenza Activity in Canada

During week 52, overall influenza activity in Canada appears to have declined slightly from previous weeks based on a number of indicators. The number of regions reporting localised or widespread activity has declined to 2 from 4 in the previous week. The number of reports of sporadic influenza activity increased in week 52, however 6 of the 13 P/Ts have reported "no activity" in all of their regions to date this season. Note that no data for Saskatchewan and the Northwest Territories were received this week. In week 52, 5% (136/2765) of the specimens tested for influenza virus were positive, a slight decline from 6% in week 51 and 7% in week 50. Of the influenza virus detections to date this season, 99% (667/676) were influenza A viruses. The ILI consultation rate declined from 25 per 1,000 patient visits in week 51 to 22 per 1,000 this week, which is below the expected range for this week. Note that the sentinel response rate was low over the holidays (37%). During week 52, 2 new outbreaks were reported in Ontario (1 in a long term care facility). The National Microbiology Laboratory (NML) has characterised 84 influenza viruses for the 2006-2007 influenza season: 30 were A/Wisconsin/67/05(H3N2)-like, 51 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, 96% (49/51) of the A(H1N1) viruses were from the West and 97% (29/30) of the A(H3N2) viruses were from Ontario.

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

Influenza Activity in the United States

During week 52, influenza activity continued to increase 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, 11.8% were positive. Four states reported widespread influenza activity, 10 states reported regional influenza activity, 12 states reported local influenza activity, 20 states, the District of Columbia and New York City reported sporadic influenza activity, one state reported no influenza activity and three states did not report. The reporting of widespread or regional influenza activity decreased from 16 states for week 51 to 14 states for week 52. On a national level, laboratory and outpatient influenza-like illness (ILI) surveillance data indicated an increase in activity from week 48 to week 52. ILI was above baseline for the third consecutive week this season and for the second consecutive week, more than 10% of specimens tested were positive for influenza. However, the percent of deaths due to pneumonia and influenza remained below baseline level. During week 52, WHO and NREVSS laboratories reported 1,894 specimens tested for influenza viruses, 224 (11.8%) of which were positive: 70 influenza A (H1) viruses, four influenza A (H3) viruses, 109 influenza A viruses that were not subtyped and 41 influenza B viruses.

Since October 1, 2006, WHO and NREVSS laboratories have tested a total of 42,328 specimens for influenza viruses and 2,022 (4.8%) were positive. Among the 2,022 influenza viruses, 1,598 (79.0%) were influenza A viruses and 424 (21.0%) were influenza B viruses. Five hundred seven (31.7%) of the 1,598 influenza A viruses have been subtyped: 485 (95.7%) were influenza A (H1) viruses and 22 (4.3%) were influenza A (H3) viruses.

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

Influenza Activity Worldwide

During week 52 2006 the following influenza isolates were reported; China 7 (1 A untyped, 1 A(H1) and 5 B), Iran 6 (2 A(H3) and 4 B), New Caledonia 1 A(H3) and Tunisia 4 (3 A(H1) and 1 influenza unspecified).

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

Avian Influenza

As of the 10th January 2007, 264 confirmed human cases and 157 (60%) 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 in China has confirmed a case of human infection with the H5N1 avian influenza virus. The case is a 37 year old man from Tunxi in Anhui Province. He became symptomatic on 10 December 2006 and was hospitalised on 17 December 2006. The patient was discharged on 6 January and is recovering well. Information provided to WHO indicates that he was a farmer and may have kept a number of birds in his back yard. No information on possible exposure to diseased birds as the source of his infection is presently available, but an investigation is under way. Close contacts were placed under medical observation but are all well and were released on 29th December. Of the 22 cases confirmed to date in China, 14 (64%) have been fatal.

The Ministry of Health in Indonesia has confirmed an additional two cases of human infection with the H5N1 avian influenza virus. The first newly-confirmed case is a 14 year old male from West Jakarta. He developed symptoms on 31 December 2006 and was hospitalised on 4 January 2007. He remains hospitalised. Deaths among poultry in the neighbourhood have recently been reported. The source of exposure is currently under investigation. The second case is a 37 year old female from Tangerang, Banten Province. She developed symptoms on 1 January 2007 and was hospitalised on 6 January 2007. She remains in intensive care. Initial investigations suggest sick poultry as the possible source of infection. Of the 76 cases confirmed to date in Indonesia, 57 (72%) 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

HPSC, ICGP and NVRL wish to thank the sentinel GPs who have participated in the GP sentinel surveillance system and who have contributed towards this report

This report was produced by Sarah Jackson & Dr. Darina O'Flanagan, HPSC