

Weekly Influenza Surveillance Report



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



Week 9 2005

Week starting Monday 28th February 2005 &
ending Sunday 6th March 2005

Report produced: 10/03/2005

This report is produced in collaboration with the Departments of Public Health

Summary

Influenza activity remained low in Ireland during week nine, with fourteen cases of influenza-like illness (ILI) reported by the sentinel general practices. Virological indicators were slightly higher than in week eight with six influenza A and two influenza B detections. The proportion of influenza B positives has been increasing in Ireland and in many other European countries in recent weeks.

Clinical data

During week nine (week ending 6th March 2005), fourteen cases of ILI were reported by sentinel general practices, corresponding to an ILI consultation rate of 13.6 per 100,000 population (figure 1). This is similar to the updated rate for week eight of 12.6 per 100,000 population.

Two of the ILI cases were in the 0-4 age group, one was in the 5-14 age group, ten were in the 15-64 age group and one was aged over 65 years. Returns were received from 31 out of 36 sentinel GP practices, giving a population coverage of 2.6% (92% of the total possible reporting GP patient population). Nine practices reported ILI.

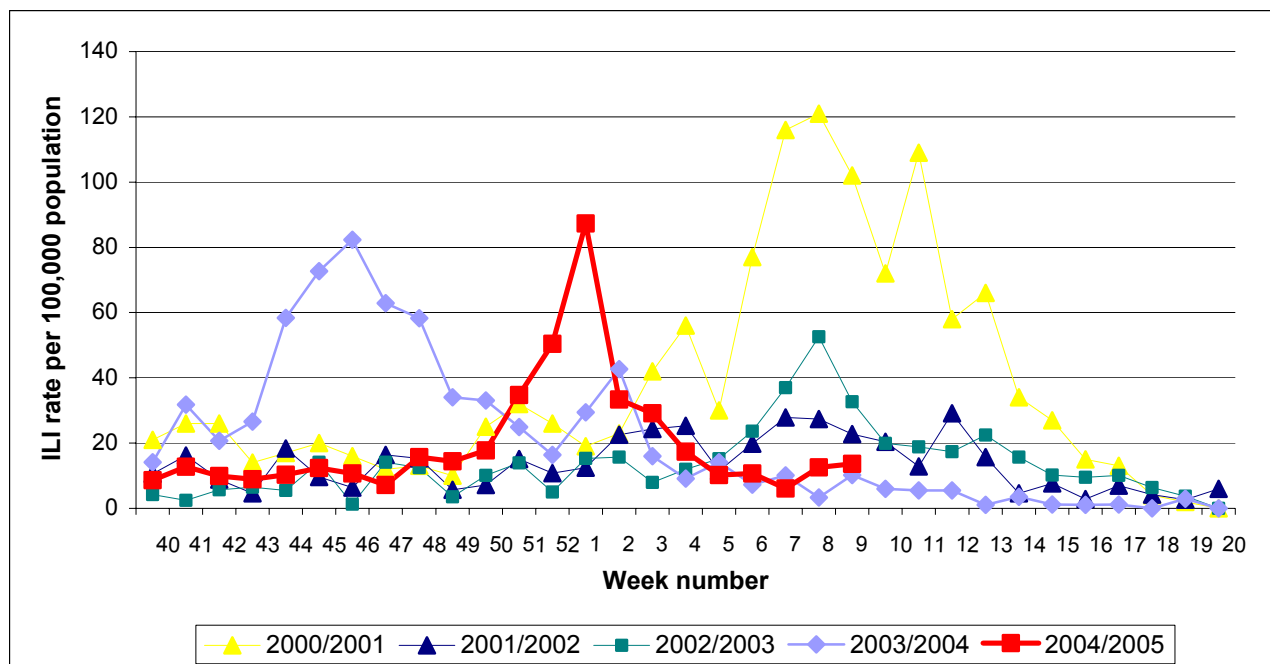


Figure 1. GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005**-influenza seasons.

***Please note that for comparison with previous years, data for week 52 2004 on this graph represents the average of weeks 52/04 and 53/04*

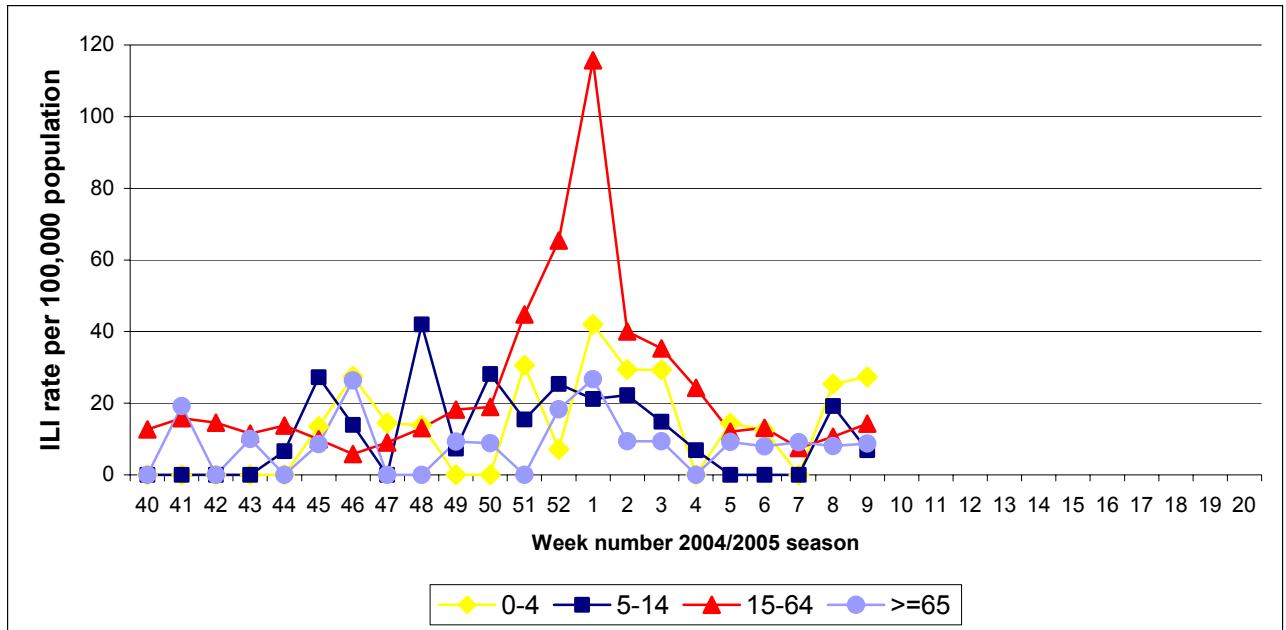


Figure 2. Age specific GP consultation rate* for ILI per 100,000 population by week** for the 2004/2005-influenza season

* 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.

**Please note that for comparison with previous years, data for week 52 2004 on this graph represents the average of weeks 52/04 and 53/04

Virological data from the National Virus Reference Laboratory

The National Virus Reference Laboratory (NVRL) received ten swabs taken during week nine by sentinel GPs (tables 1&3). Two of these tested positive for influenza A (unsubtyped) and one tested positive for influenza B. The NVRL also tested 53 respiratory non-sentinel specimens, taken in hospitals during week nine. Seven tested positive for RSV, four tested positive for influenza A and one tested positive for influenza B. (tables 2&4, figure 3).

To date this season, 56 influenza A (unsubtyped), 58 influenza A (H3N2), 36 influenza A (H1N1) and 11 influenza B viruses have been detected by the NVRL (table 3). Twenty-six of these were in the 0-4 age group, 24 were in the 5-14 age group, 92 were in the 15-64 age group and 17 were aged over 64 years. Of the 342 RSV detections to date, 197 were aged 6 months or less, 83 were aged between 7 and 11 months, 39 were aged between 1 and 4 years, and 17 were aged 5 years or older. Ages were unavailable for six of the RSV-positive patients and two of the influenza-positive patients.

Table 1: Total number of sentinel specimens tested for influenza and positive results by type and subtype for week 9 2005 and the 2004/2005 season to date

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A (Unsubtyped)	Influenza A (H3N2)	Influenza A (H1N1)	Influenza B	RSV
9	10	3	30.0	2	0	0	1	0
Total	294	110	37.4	8	57	35	10	6

Table 2: Total number non-sentinel* respiratory specimens and positive results by type and subtype for week 9 2005 and the 2004/2005 season to date

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A (Unsubtyped)	Influenza A (H3N2)	Influenza A (H1N1)	Influenza B	RSV
9	53	5	9.4	4	0	0	1	7
Total	1154	51	4.4	48	1	1	1	336

*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* respiratory specimens and positive results for week 9 2005 and the 2004/2005 season to date

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A (Unsubtyped)	Influenza A (H3N2)	Influenza A (H1N1)	Influenza B	RSV
9	63	8	12.7	6	0	0	2	7
Total	1448	161	11.1	56	58	36	11	342

*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 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 9 2005 and the 2004/2005 season to date

	Week 9 2005			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	4	1	5	60	3	63
MHB	1	0	1	5	0	5
MWHB	0	0	0	14	1	15
NEHB	0	1	1	9	2	11
NWHB	1	0	1	9	0	9
SEHB	0	0	0	26	2	28
SHB	0	0	0	10	1	11
WHB	0	0	0	17	2	19
Total	6	2	8	150	11	161

* 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.

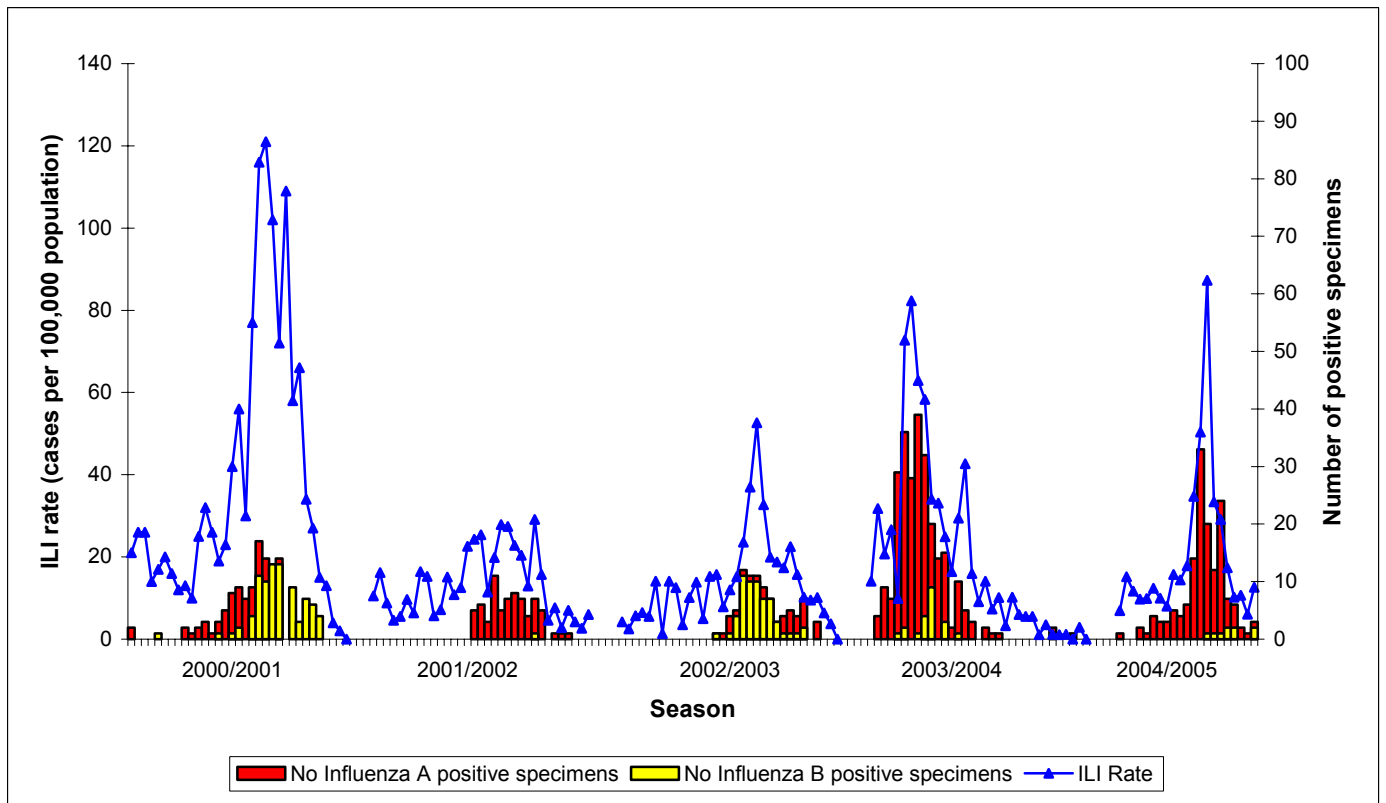


Figure 3. ILI rate and number of positive specimens detected during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 and 2004/2005 seasons.

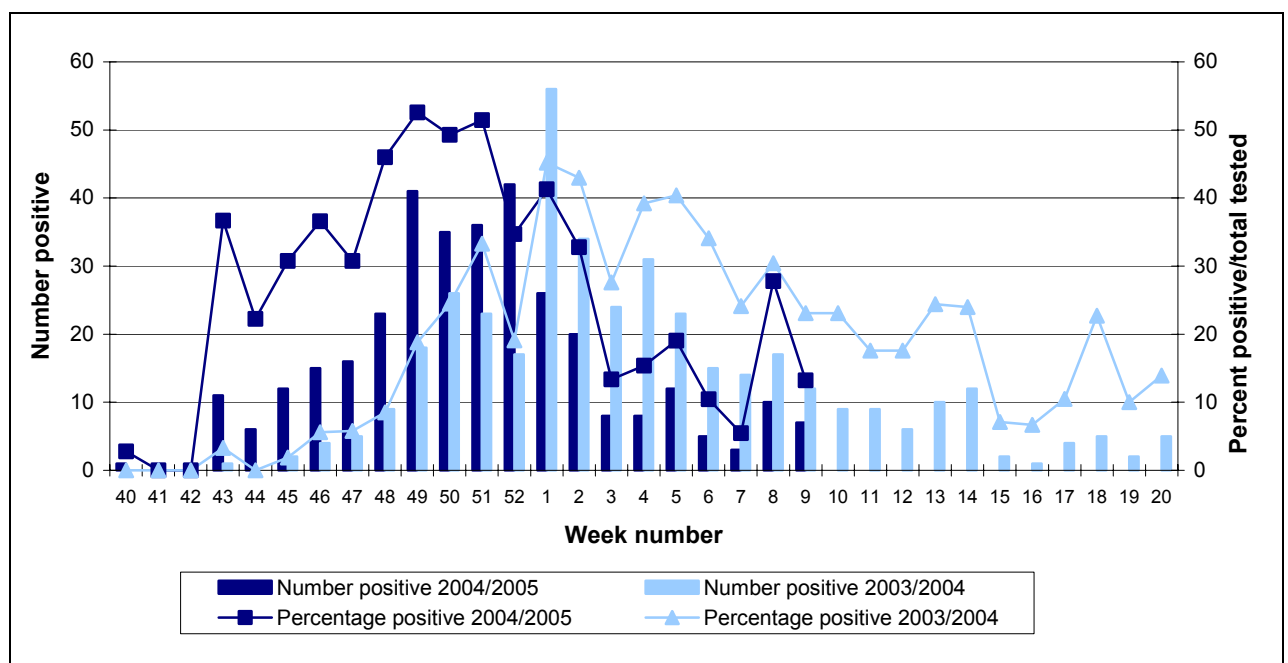


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2004/2005** and 2003/2004 influenza seasons.

**Please note that for comparison with previous years, data for week 52 2004 on this graph represents the average of weeks 52/04 and week 53/04

Antigenic characterisation

Two specimens have been characterised to date this season. One influenza A (H1N1) isolate has been antigenically characterised as A/New Caledonia/20/99-like. The current season's vaccine contains an A/New Caledonia/20/99(H1N1)-like virus and should provide good protection against the strain. One influenza A (H3N2) isolate was found to be closest in antigenic character to the reference viruses A/Shantou/1219/04 and A/Oslo/807/04. A/Shantou/1219/04-like strains have been found to be closely related to the newer reference strain A/California/7/04 (H3N2). The A/California/7/04(H3N2)-like isolates have reduced titres to the A/Fujian/411/02-like antisera, but the H3N2 component of the current vaccine is expected to provide some protection against this new variant.

Outbreak reports

Two influenza outbreaks have been reported this season to date. An outbreak of influenza A (H3N2) in a long-stay care facility for the elderly was reported by the ERHA during week three. Thirty-seven patients and 19 staff members were affected, corresponding to an attack rate of 33.4%. A school outbreak of influenza-like illness occurred during week 48 in the MWHB. A total of 32 pupils were reported ill. There were no hospitalisations. Influenza A (unsubtyped) was isolated from two cases.

Mortality data

There were no influenza deaths reported during week nine.

Influenza activity by health board/authority

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 cases of influenza, sentinel hospital admissions data and/or sentinel school absenteeism data. During week eight, six health boards reported sporadic activity and two reported no activity.

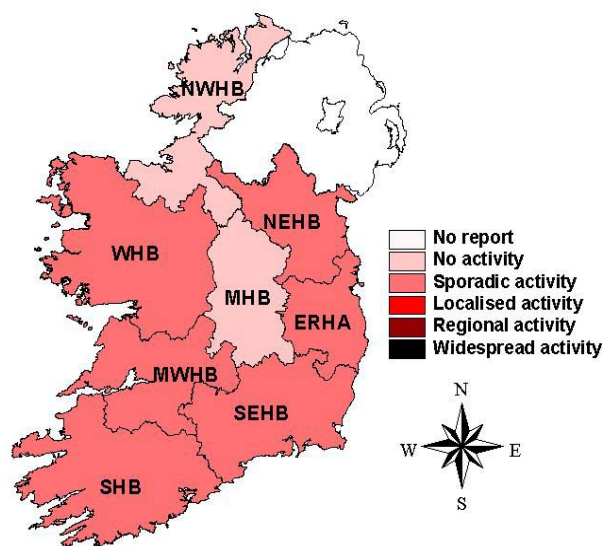


Figure 4: Map of influenza activity by health board/authority during week 8 2005

Influenza activity in Northern Ireland

During week nine, five cases of clinical influenza and 89 cases of ILI were reported in Northern Ireland. These figures correspond to a combined ILI and clinical influenza rate of 67.1 cases per 100,000 population, which is an increase compared to the updated rate of 51.4 per 100,000 population for week eight. Returns were received from 23 of the 24 sentinel GP practices, giving a population coverage of 8.2%. Influenza A(H3) was detected in two non-sentinel swabs.

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

Influenza activity in England, Scotland and Wales

Clinical influenza activity in England remained just below baseline levels, at 29 consultations per 100,000 population, during week nine. Influenza activity remained at similar levels to week eight in Wales and increased slightly in Scotland. Respiratory viruses were detected in twelve community samples tested by the ERNVL; Seven influenza A (H3), three influenza B and two RSV. Influenza A (H3) was also detected in two hospital samples during week nine. To date this season, 62% of viruses characterised by the ERNVL to date this season have been influenza A/Wellington/1/2004(H3N2)-like.

<http://www.show.scot.nhs.uk/scieh/infectious/respiratory/influenzasurveillance/influenzasurveillance.htm>

http://www.hpa.org.uk/infections/topics_az/influenza/flu.htm

Influenza activity in Europe

During week nine, influenza activity remained at high or medium levels in eighteen European countries. Widespread outbreaks were reported by eleven countries; Belgium, Czech Republic, Denmark, France, Germany, Hungary, Italy, Luxembourg, Netherlands, Norway and Switzerland. In general, children aged 0-4 and 5-14 were most affected. In most countries influenza A, and particularly influenza A (H3) or (H3N2) dominated, but influenza B detections are increasing and influenza B was the dominant type detected in Spain, Portugal and Italy and co-dominated in Latvia, Slovenia and the Netherlands.

Five hundred and forty-eight (38.5%) sentinel swabs and 476 (31.5%) non-sentinel swabs tested positive for influenza. Of these, 510 (49.8%) were influenza A (unsubtyped), 50 (4.9%) were influenza A (H1), 7 (0.7%) were influenza A (H1N1), 215 (21%) were influenza A (H3), 88 (8.6%) were influenza A (H3N2) and 154 (15%) were influenza B.

One thousand three hundred and twenty-four influenza viruses have been antigenically characterised in Europe between week 40 2004 and week 8 2005. Of these, 631 (47.7%) were A/Wellington/1/2004 (H3N2)-like, 152 (11.5%) were A/California/7/04 (H3N2)-like, 76 (5.7%) were A/Fujian/411/2002 (H3N2)-like, 2 (0.2%) were A/Panama/2007/99 (H3N2)-like, 262 (19.8%) were A/New Caledonia/20/99 (H1N1)-like, 121 (9.1%) were B/Jiangsu/10/2003-like and 80 (6%) were B/Hong Kong/330/2001-like. Many recent isolates have been shown to be closely related to the A/California/7/04 (H3N2) strain, which will be the prototype A(H3N2) component of the 2005/2006 northern hemisphere vaccine.

To date this season, influenza A (H3N2), influenza A (H1N1), influenza A (H1N2) and influenza B have been detected in Europe. The dominant virus type has been influenza A, accounting for 89.8% of detections. Where influenza A viruses have been subtyped, 84% were influenza A (H3N2), 15.7% were influenza A (H1N1) and 0.3% were influenza A (H1N2). <http://www.eiss.org/>

Influenza activity in Canada

During week eight (week ending 26/02/2005), influenza activity remained high in Canada, with widespread activity reported in Ontario, parts of Alberta and British Columbia. Elsewhere in Canada either localised, sporadic or no activity was reported. Sentinel physicians reported 38 cases of ILI per 1,000 patient visits. The Public Health Agency of Canada received 4381 reports of laboratory tests for influenza during week eight, including 627 (14.3%) influenza A detections and 94 (2.2%) influenza B detections. To date this season, there have been a total of 788 influenza outbreaks, of which 563 occurred in retirement homes, 62 in hospitals and 163 in schools. Since the start of the 2004/2005 influenza season, 568 influenza viruses have been antigenically characterised. Four hundred and forty-three (78%) were influenza A/Fujian/411/02(H3N2)-like, seventy-four (13%) were A/California/7/04(H3N2)-like, fifty (8.8%) were influenza B/Shanghai/361/02-like and one (0.2%) was influenza B/Hong Kong/330/01-like. The A/California/7/04(H3N2)-like isolates have reduced titres to the A/Fujian/411/02-like antisera, but the H3N2 component of the current vaccine is still expected to provide some protection against this new variant. <http://www.phac-aspc.gc.ca/fluwatch/index.html>

Influenza activity in the United States

Influenza activity in the US decreased during week eight (week ending 26/02/2005). Almost five percent (4.6%) of patient visits to US sentinel providers were due to ILI. This percentage has been above the national baseline of 2.5% for the past seven weeks. The proportion of deaths attributed to pneumonia and influenza is also above baseline for the second consecutive week. During week eight, 30 states reported widespread influenza activity, 16 states and New York City reported regional activity and the remaining states reported local or sporadic activity.

WHO and NREVSS laboratories tested 4,875 specimens for influenza during week eight. One hundred and forty-two of these were positive for influenza A (H3N2), 631 were positive for influenza A (unsubtyped) and influenza B was detected in 252 specimens. Since October 1st, 378 influenza viruses have been antigenically characterised by the CDC. One hundred and thirty-four (47%) influenza A (H3N2) viruses were characterised as antigenically similar to the A/Wyoming/3/2003 and 150 (53%) were more closely related to a newer reference strain, A/California/7/2004 (H3N2). Sixty-six (73.3%) influenza B viruses were characterised as B/Shanghai/361/02-like and five (5.6%) showed a reduced reaction to B/Shanghai/361/02 ferret antisera. The remaining 19 (21.1%) influenza B viruses were characterised as belonging to the B/Victoria lineage. All four influenza A (H1N1) viruses were characterised as antigenically similar to the haemagglutinin of the vaccine strain A/New Caledonia/20/99. <http://www.cdc.gov/flu/weekly/>

Influenza activity Worldwide

During week nine, widespread influenza outbreaks were reported in the Ukraine (4 influenza B viruses detected) and Belarus (3 influenza B viruses detected). Sporadic influenza activity was seen in Iran and China. <http://rhone.b3e.jussieu.fr/flunet/www/>

Avian influenza

On March 7th, the WHO issued a statement confirming an additional four cases, including one death, of human infection with H5N1 avian influenza. The official number of laboratory-confirmed human cases of avian influenza A (H5N1) in Thailand, Viet Nam and Cambodia

since the January 2004 is now 60. Forty-four (73.3%) of these were fatal. The WHO is working with health authorities in Viet Nam to improve the sensitivity and reliability of laboratory diagnostic tests and is currently re-testing specimens from several persons initially classified in Viet Nam in January as negative for H5N1 infection.

An additional ten cases and three deaths in Viet Nam have been reported in the media or through government sources since December 2004. However, the WHO has not yet received confirmation of these from the Vietnamese MoH. It has also been reported that relatives of two avian influenza patients in Northern Viet Nam tested positive for influenza A (H5N1) without experiencing any symptoms. Mild and asymptomatic cases of H5N1 infection were reported in the Hong Kong outbreak in 1997 and in a Japanese man in 2003. This raises the possibility that human H5N1 infections may be more common than previously thought and that the case fatality rate is lower than currently calculated (CIDRAP website).

Although the avian influenza virus is highly pathogenic in humans, there is currently no evidence of efficient and sustained human-to-human transmission. For further information on the avian influenza outbreaks please consult the following websites:

HPSC: <http://www.hpsc.ie/DiseaseTopicsA-Z/AvianInfluenza/>

WHO: http://www.who.int/csr/disease/avian_influenza/en/

[CIDRAP](#) (Centre for Infectious Disease Research and Policy, University of Minnesota)

Northern Hemisphere influenza vaccine for 2004/2005

The vaccine currently in use is in accordance with the WHO recommendations on the composition of influenza vaccines for use in the 2004-2005 Northern Hemisphere influenza season, which are:

- an A/New Caledonia/20/99(H1N1)-like virus
- an A/Fujian/411/2002(H3N2)-like virus^a
- a B/Shanghai/361/2002-like virus^b

^a The currently used vaccine virus is A/Wyoming/3/2003. A /Kumamoto/102/2002 is also available as a vaccine virus.

^b Candidate vaccine viruses include B/Shanghai/361/2002 and B/Jilin/20/2003, which is a B/Shanghai/361/2002-like virus.

Northern Hemisphere influenza vaccine for 2005/2006

The WHO announced its recommendations for the composition of the influenza vaccine for the northern hemisphere for 2005/2006 on February 10th 2005. The members of the WHO Collaborating Centres on Influenza recommended that influenza vaccines contain the following strains:

- an A/New Caledonia/20/99(H1N1)-like virus
- an A/California/7/2004(H3N2)-like virus^a
- a B/Shanghai/361/2002-like virus^b

^a Candidate vaccine viruses are being developed (for further information please see WHO update at <http://www.who.int/influenza>)

^b The currently used vaccine viruses are B/Shanghai/361/2002, B/Jiangsu/10/2003 and B/Jilin/20/2003.

<http://www.who.int/csr/disease/influenza/vaccinerecommendations1/en/>
www.emea.eu.int

Weekly influenza reports and further information on influenza are available on the HPSC website:

<http://www.hpsc.ie/Publications/InfluenzaWeeklySurveillanceReport/>

<http://www.hpsc.ie/DiseaseTopicsA-Z/InfluenzaFlu/>