

Weekly Influenza Surveillance Report



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



Week 18 2005

**Week starting Monday 2nd May 2005 &
ending Sunday 8th May 2005**

Report produced: 12/05/2005

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

Summary

Clinical influenza activity in Ireland increased slightly during week 18, but remains at low levels, with four cases of influenza-like illness (ILI) reported by sentinel general practices. Influenza B was detected in two sentinel specimens. Clinical and virological indicators suggest that influenza viruses are no longer circulating in Europe in significant numbers.

Clinical data

During week 18 (week ending 8th May 2005), four cases of ILI were reported by sentinel general practices, corresponding to an ILI consultation rate of 4.1 cases per 100,000 population (figure 1). This is a slight increase from the updated rate for week 17 of 3.2 per 100,000 population.

One of the ILI cases was aged between 0 and 4 years and three were aged between 15 and 64 years of age. Returns were received from 31 out of 36 sentinel general practices, giving a population coverage of 2.5% (86.2% of the total possible reporting GP patient population). Three sentinel practices reported ILI.

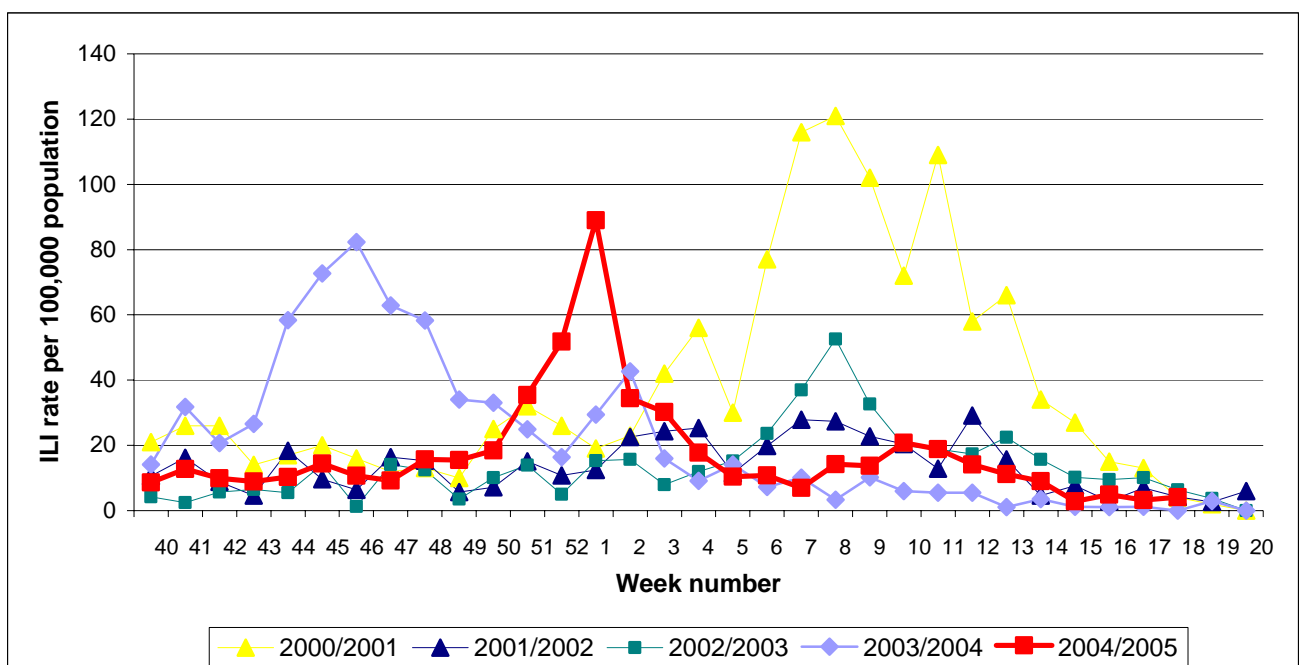


Figure 1. GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005**-influenza seasons.

***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*

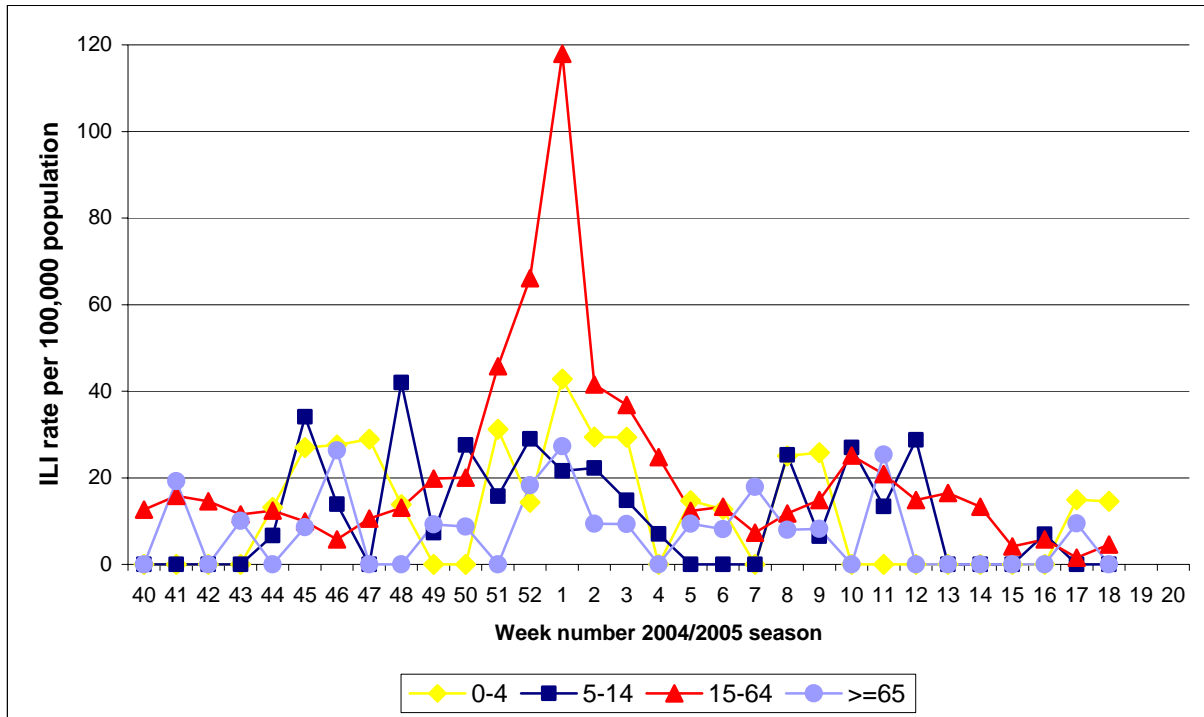


Figure 2. Age specific GP consultation rate* for ILI per 100,000 population by week** for the 2004/2005-influenza season

* 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 four swabs taken during week 18 by sentinel GPs (tables 1 & 3). Two swabs were positive for influenza B virus and no swabs were positive for influenza A. The NVRL also tested 32 respiratory non-sentinel specimens, taken mainly in hospitals during week 18. Six of these were positive for parainfluenza virus type 3 (PIV-3) and one was positive for respiratory syncytial virus (RSV) (tables 2 & 4, figure 4).

To date this season, 55 influenza A (unsubtyped), 63 influenza A (H3N2), 37 influenza A (H1N1) and 46 influenza B viruses have been detected by the NVRL (table 3). Twenty-seven of these were in the 0-4 age group, 23 were in the 5-14 age group, 131 were in the 15-64 age group and 18 were aged over 64 years. Of the 355 RSV detections to date, 204 were aged 6 months or less, 85 were aged between 7 and 11 months, 41 were aged between 1 and 4 years, and 18 were aged 5 years or older. Ages were unavailable for seven 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 18 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
18	4	2	50.0	0	0	0	2	0
Total	359	142	39.6	5	62	36	39	6

Table 2: Total number non-sentinel* respiratory specimens and positive results by type and subtype for week 18 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
18	32	0	0.0	0	0	0	0	1
Total	1450	59	4.1	50	1	1	7	349

*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 18 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
18	36	2	5.6	0	0	0	2	1
Total	1809	201	11.1	55	63	37	46	355

*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 18 2005 and the 2004/2005 season to date

	Week 18 2005			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	0	2	2	62	21	83
MHB	0	0	0	6	6	12
MWHB	0	0	0	14	2	16
NEHB	0	0	0	9	3	12
NWHB	0	0	0	10	1	11
SEHB	0	0	0	26	7	33
SHB	0	0	0	11	2	13
WHB	0	0	0	17	4	21
Total	0	2	2	155	46	201

* 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.

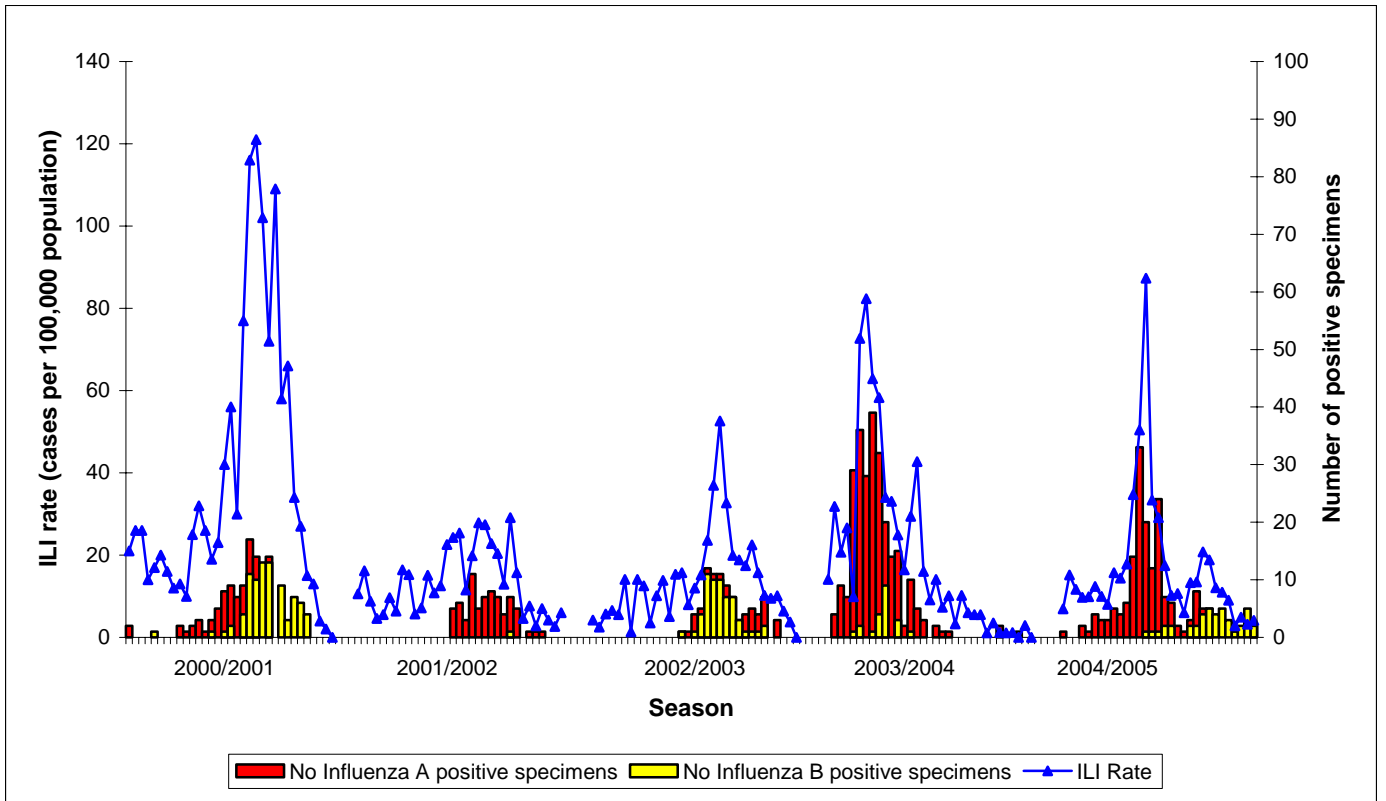


Figure 3. ILI rate and number of positive specimens detected during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 and 2004/2005 seasons.

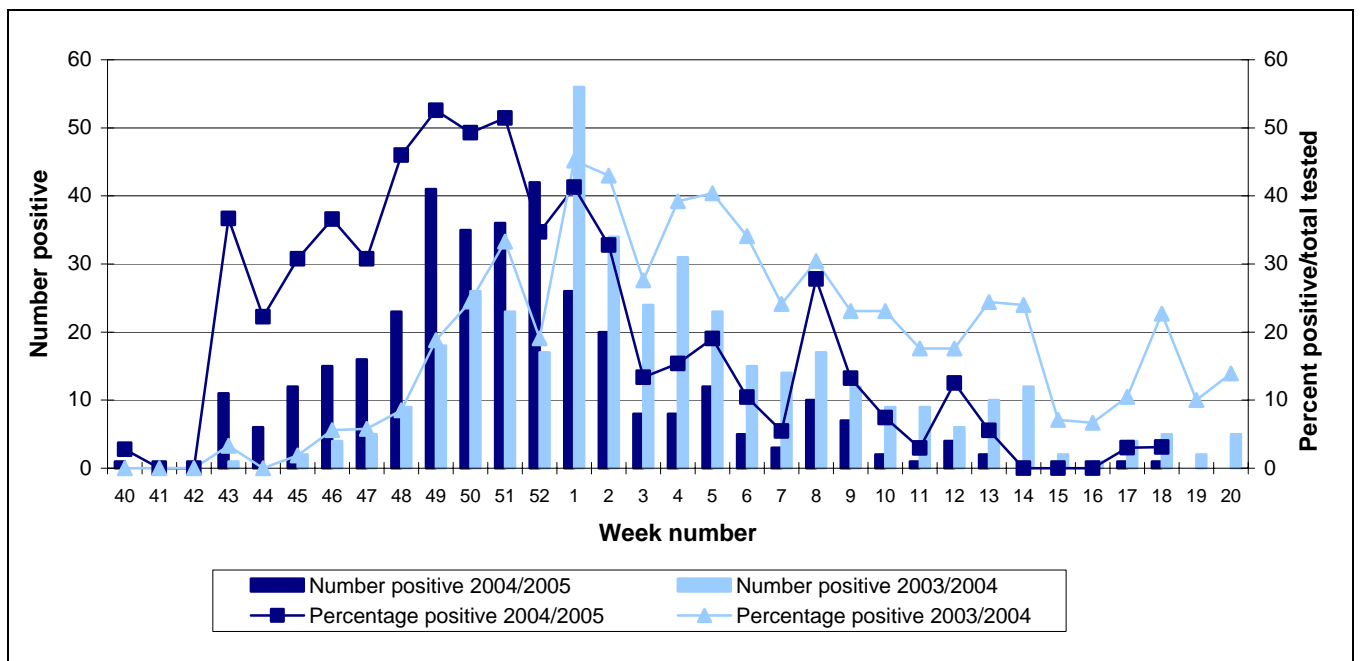


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2004/2005** and 2003/2004 influenza seasons.

**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

Three 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. One influenza B isolate has been antigenically characterised as being closely related to B/Jiangsu/10/03. B/Jiangsu/10/2003 is included in the current vaccine (as a B/Shanghai/361/2002-like virus).

Outbreak reports

Three influenza outbreaks have been reported this season. A school outbreak of ILI occurred during week 16 in the HSE – Midland area. A total of 32 out of 35 pupils (91.4%) were reported ill. Seven throat swabs were taken and Influenza B, which is currently the dominant subtype in Europe, was isolated from five of these. All patients have made a full recovery. An outbreak of influenza A (H3N2) in a long-stay care facility for the elderly was reported by the HSE – Eastern region 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 HSE – Mid Western area. A total of 32 pupils were reported ill. There were no hospitalisations. Influenza A (unsubtyped) was isolated from two cases.

Mortality data

No influenza deaths were reported to HPSC during week 18.

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 17, four areas reported sporadic activity and four reported no activity.

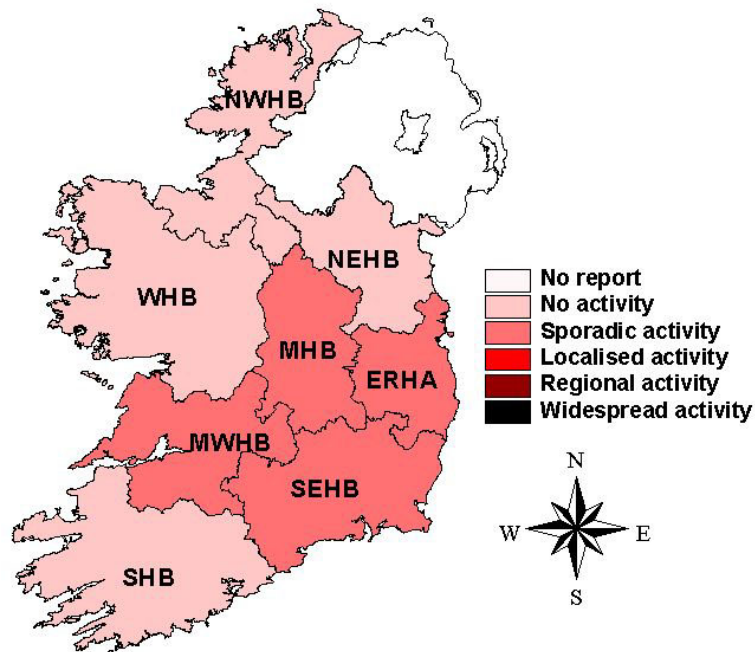


Figure 5: Map of influenza activity by health board/authority during week 17 2005

Influenza activity in Northern Ireland

Weekly rates of clinical influenza and ILI in Northern Ireland have fallen to the low levels expected for the time of year. Twenty cases of ILI and no cases of clinical influenza were reported in week 18, corresponding to a combined rate of 16.8 cases per 100,000 population. Returns were received from 19 of the 24 sentinel GP practices, giving a population coverage of 7.0%. There have been no influenza detections since week 13.

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

Influenza activity in England, Scotland and Wales

Weekly influenza reporting by the HPA has finished for the 2004/2005 influenza season and will resume in October 2005. Influenza activity was within baseline levels in recent weeks.

<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

The European Influenza Surveillance Scheme (EISS) is no longer producing weekly influenza surveillance reports for the 2004/2005-influenza season. Although most countries will continue to monitor influenza activity, many surveillance networks are no longer actively reporting influenza activity as the influenza season is considered to be over.

During week 17, all countries reporting to EISS reported low levels of influenza activity, with sporadic cases in France (influenza A), Latvia (influenza A H3), Denmark (influenza B) and The Netherlands (influenza B).

Four thousand and eighty three influenza viruses have been antigenically or genetically characterised in Europe between week 40 2004 and week 16 2005. Of the 2603 H3N2 viruses characterised, 1226 (47.1%) were A/Wellington/1/2004 (H3N2)-like, 1263 (48.5%) were A/California/7/04 (H3N2)-like, 112 (4.3%) were A/Fujian/411/2002 (H3N2)-like and two (0.1%) were A/Panama/2007/99 (H3N2)-like. All of the 765 characterised H1N1 viruses were A/New Caledonia/20/99 (H1N1)-like. Four hundred and one (56.1%) of the influenza B viruses were B/Jiangsu/10/2003-like and 314 (43.9%) were B/Hong Kong/330/2001-like.

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 84% of detections. Where influenza A viruses have been subtyped, 83.6% were influenza A (H3N2) and 16% were influenza A (H1N1). <http://www.eiss.org/>

Influenza activity in Canada

Influenza activity continued to decline in Canada during week 17. Widespread influenza activity was reported in one region in Ontario. Localised activity was reported in parts of Ontario and Manitoba, with reports of sporadic or no activity in the rest of the country. Sentinel physicians reported 16 cases of ILI per 1,000 patient visits. The Public Health Agency of Canada received 1443 reports of laboratory tests for influenza during week 17, including 9 influenza A detections and 55 influenza B detections. Since the start of the 2004/2005 influenza season, 1030 influenza viruses have been antigenically characterised. Of the 854 influenza A (H3N2) viruses tested, 420 were characterised as A/Fujian/411/02-like before the new variant, A/California/7/04 was reported. Since the antiserum of the new variant became available, 434 influenza A isolates have been characterised of which 340 (78%) were A/California/7/04-like and 94 (22%) were A/Fujian/411/02-like. Of the 176 influenza B viruses characterised, 145 (82%) were B/Shanghai/361/02-like and 31 (18%) B/Hong Kong /330/2001-like. <http://www.phac-aspc.gc.ca/fluwatch/index.html>

Influenza activity in the United States

Influenza activity in the US peaked in February and continued to decline during week 17. The proportion of patient visits to sentinel providers for ILI was below the national baseline. The proportion of deaths attributed to pneumonia and influenza was below the national epidemic threshold level for week 17. During week 17, one state reported regional influenza activity, two states reported localised activity and the remaining states reported sporadic or no activity.

WHO and NREVSS laboratories tested 1,176 specimens for influenza during week 17. Nine of these were positive for influenza A (H3N2), 9 were positive for influenza A (unsubtyped) and 24 were positive for influenza B. Since October 1st, 802 influenza viruses have been antigenically characterised by the CDC. One hundred and fifty-four (29%) influenza A (H3N2) viruses were characterised as antigenically similar to the A/Wyoming/3/2003 and

386 (71%) were more closely related to A/California/7/2004 (H3N2). One hundred and seventy-four (68.0%) of the influenza B viruses isolated were characterised as B/Shanghai/361/2002-like and 28 (10.9%) showed a reduced reaction to B/Shanghai/361/02 ferret antisera. The remaining 54 (21.1%) influenza B viruses were characterised as belonging to the B/Victoria lineage. All six 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 18, Argentina (3 A untyped and 1 A H3), Australia (1 A untyped), Brazil, Chile (5 A untyped and 1 B), China (17 A H1, 185 A H3, 4 A untyped and 43 B), Paraguay (1 A untyped) and South Africa (1 A H1 and 5 A H3) all reported sporadic influenza activity. <http://rhone.b3e.jussieu.fr/flunet/www/>

Avian influenza

The official number of laboratory-confirmed human cases of avian influenza A (H5N1) in Thailand (n=17), Viet Nam (n=68) and Cambodia (n=4) since January 2004 is now 89. Fifty two (58%) of these cases were fatal. Although the avian influenza H5N1 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/>