

Weekly Influenza Surveillance Report



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



Week 13 2005

**Week starting Monday 28th March 2005 &
ending Sunday 3rd April 2005**

Report produced: 07/04/2005

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

Summary

Clinical influenza activity decreased in Ireland during week 13, with nine cases of influenza-like illness (ILI) reported by the sentinel general practices. Virological indicators were similar to week twelve, with one influenza A and five influenza B detections. Influenza activity in Europe appears to have peaked in February and continued to decline during week 13. A further five cases of human infection with H5N1 avian influenza were confirmed by the Vietnamese Ministry of Health on the 4th April. The official number of laboratory-confirmed human cases of avian influenza A (H5N1) since January 2004 is now 79. Forty-nine (62%) of these were fatal.

Clinical data

During week thirteen (week ending 3rd April 2005), nine cases of ILI were reported by sentinel general practices, corresponding to an ILI consultation rate of 9.4 per 100,000 population (figure 1). This is a decrease from the updated rate for week twelve of 12.1 per 100,000 population.

All of the ILI cases were aged between 15 and 64 years. Returns were received from 31 out of 36 sentinel general practices, giving a population coverage of 2.4% (85% of the total possible reporting GP patient population). Seven practices reported ILI.

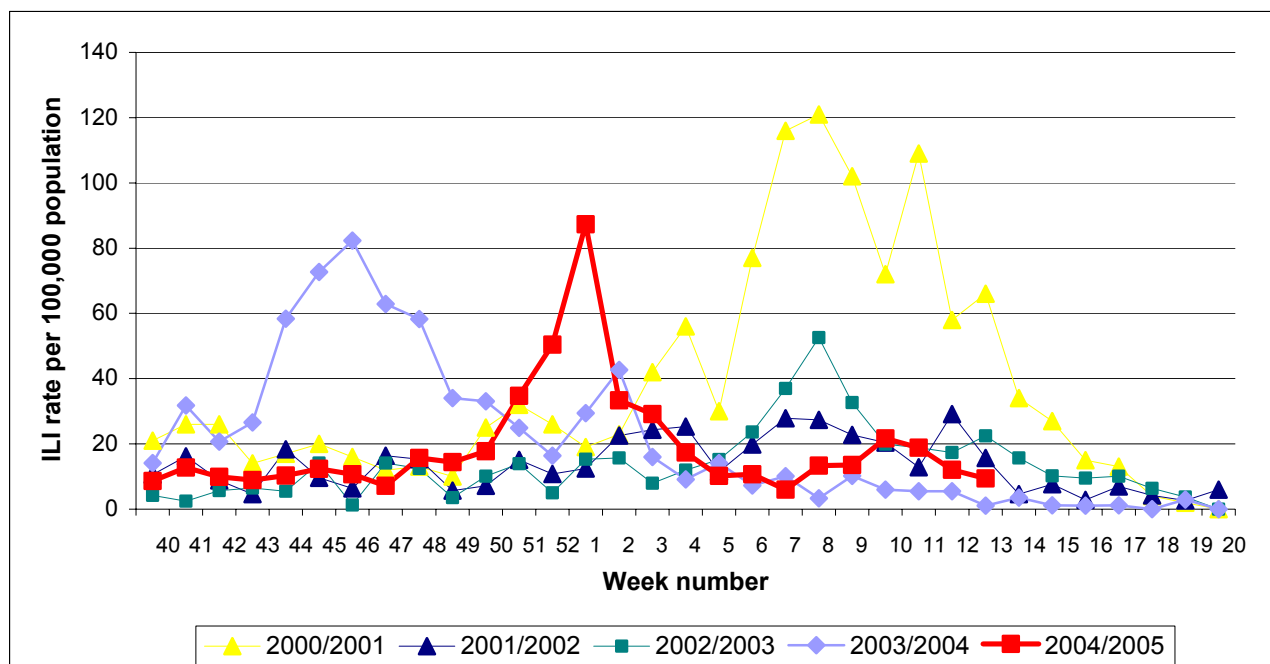


Figure 1. GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005**-influenza seasons.

***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*

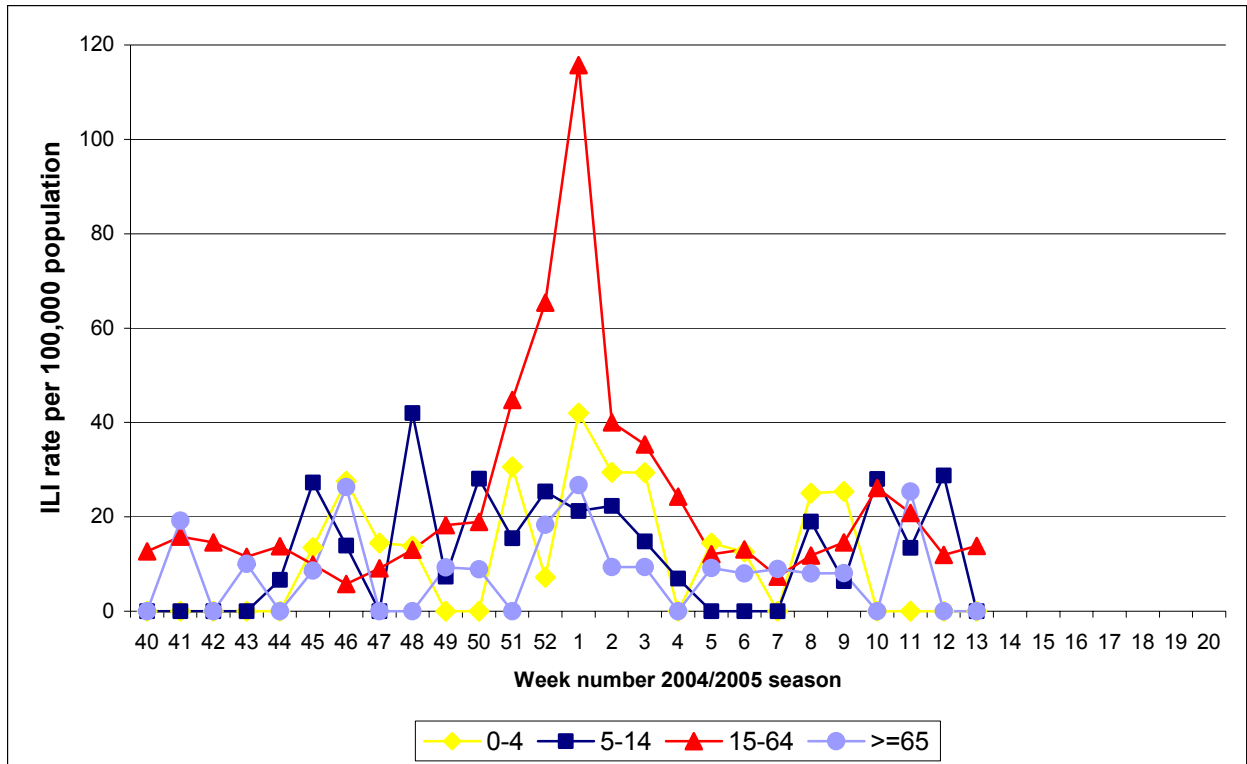


Figure 2. Age specific GP consultation rate* for ILI per 100,000 population by week** for the 2004/2005-influenza season

* 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 eleven swabs taken during week 13 by sentinel GPs (tables 1&3). Five tested positive for influenza B and one tested positive for influenza A. The NVRL also tested 36 respiratory non-sentinel specimens, taken in hospitals during week 13, two of which were positive for RSV (tables 2&4, figure 3).

To date this season, 61 influenza A (unsubtyped), 58 influenza A (H3N2), 36 influenza A (H1N1) and 32 influenza B viruses have been detected by the NVRL (table 3). Twenty-seven of these were in the 0-4 age group, 24 were in the 5-14 age group, 117 were in the 15-64 age group and 17 were aged over 64 years. Of the 351 RSV detections to date, 202 were aged 6 months or less, 85 were aged between 7 and 11 months, 41 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 13 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
13	11	6	54.5	1	0	0	5	0
Total	339	135	39.8	12	57	35	31	6

Table 2: Total number non-sentinel* respiratory specimens and positive results by type and subtype for week 13 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
13	36	0	0.0	0	0	0	0	2
Total	1283	52	4.1	49	1	1	1	345

*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 13 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
13	47	6	12.8	1	0	0	5	2
Total	1622	187	11.5	61	58	36	32	351

*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 13 2005 and the 2004/2005 season to date

	Week 13 2005			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	1	3	4	62	15	77
MHB	0	0	0	6	1	7
MWHB	0	1	1	14	2	16
NEHB	0	0	0	9	3	12
NWHB	0	0	0	10	1	11
SEHB	0	0	0	26	4	30
SHB	0	0	0	11	2	13
WHB	0	1	1	17	4	21
Total	1	5	6	155	32	187

* 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.

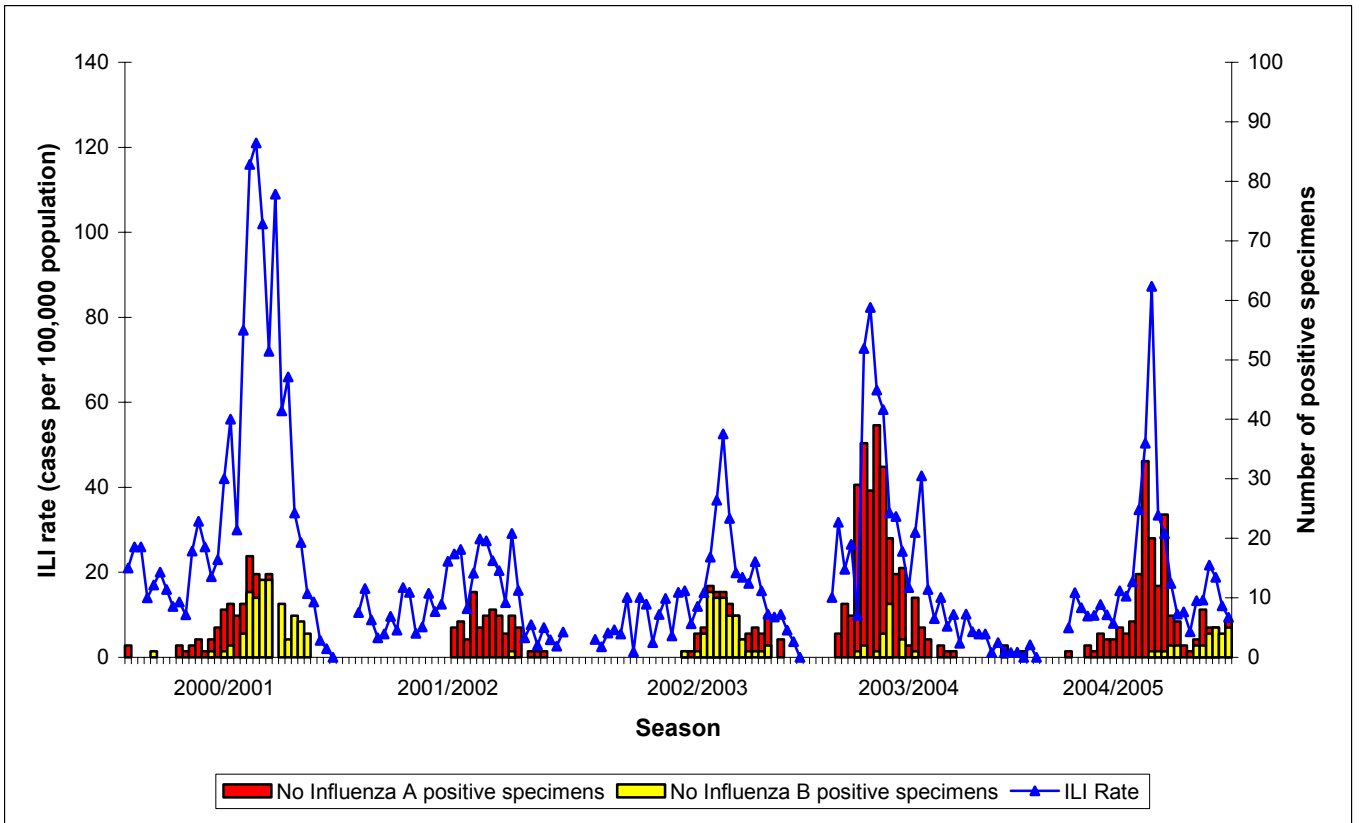


Figure 3. ILI rate and number of positive specimens detected during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 and 2004/2005 seasons.

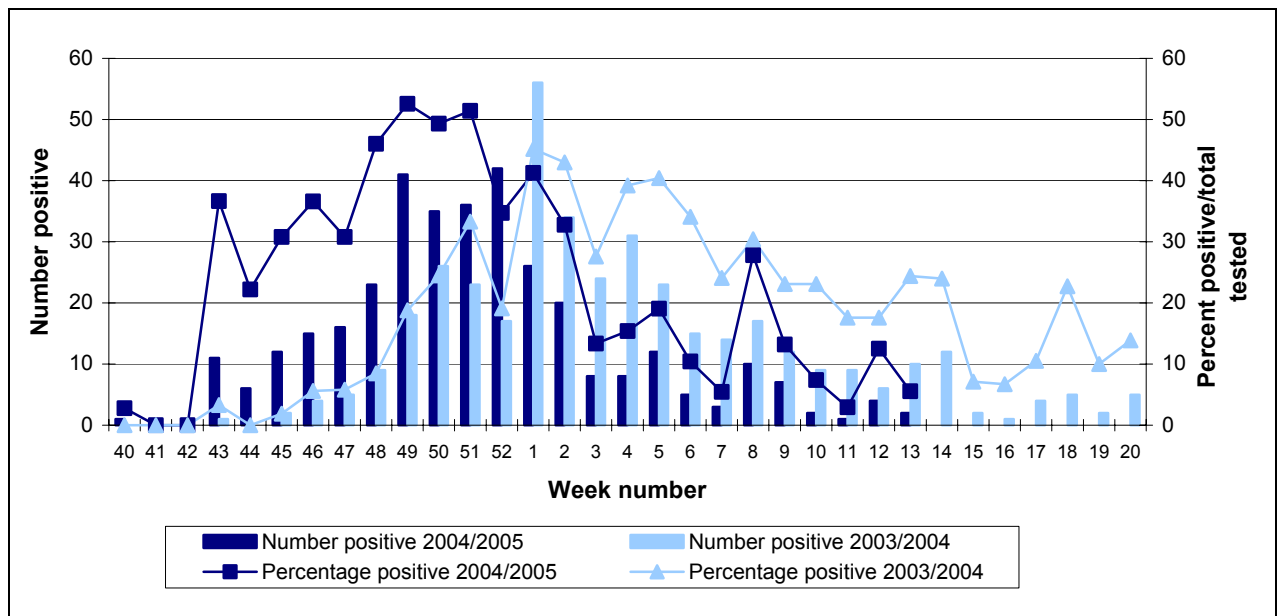


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2004/2005** and 2003/2004 influenza seasons.

**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

No influenza deaths were reported to the HPSC during week thirteen.

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 twelve, five health boards reported sporadic activity and three reported no activity.

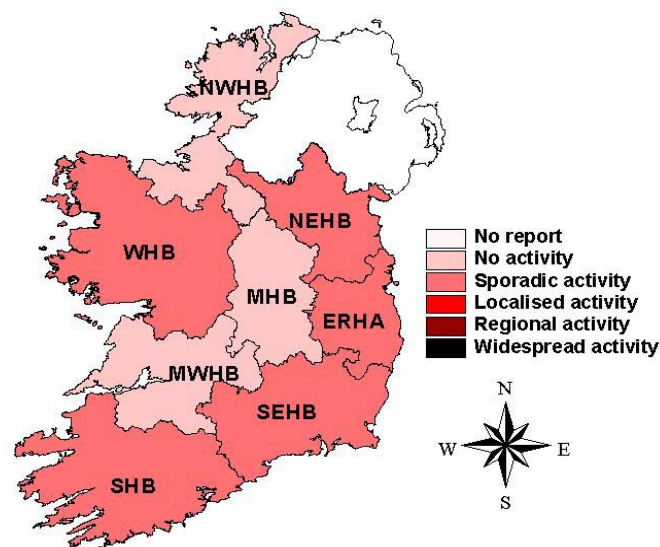


Figure 4: Map of influenza activity by health board/authority during week 12 2005

Influenza activity in Northern Ireland

During week 13, 27 cases of ILI were reported in Northern Ireland, corresponding to an ILI rate of 18.4 cases per 100,000 population. This is a significant decrease compared to the updated rate of 50.6 per 100,000 population for week 12. However, this could be due to the Easter break rather than a genuine decline in clinical influenza activity. Returns were received from 23 of the 24 sentinel GP practices, giving a population coverage of 8.6%. Influenza B was detected in a specimen from one hospitalised patient.

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

Influenza activity in England, Scotland and Wales

Levels of influenza activity in England continued to decrease during weeks 12 and 13, with clinical indicators well within baseline levels. Scotland and Wales have reported a similar fall in influenza and influenza-like illness, with rates well within their respective baseline thresholds. Virological indicators in England also remain at similar levels to previous weeks with influenza A remaining the dominant circulating virus in England and Wales.

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

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

Influenza activity in Europe

During week 13, influenza activity decreased or remained stable in all European countries. Widespread outbreaks were reported by Denmark and the Netherlands and regional outbreaks were reported by Sweden. The remaining countries reported localised, sporadic or no activity.

Ninety-four sentinel swabs and 339 non-sentinel swabs tested positive for influenza. Of these, 206 (47.6%) were influenza A (unsubtyped), 9 (2.1%) were influenza A (H1), 29 (6.7%) were influenza A (H3), 30 (6.9%) were influenza A (H3N2) and 159 (36.7%) were influenza B.

Two thousand eight hundred and sixty-four influenza viruses have been antigenically or genetically characterised in Europe between week 40 2004 and week 12 2005. Of these, 1218 (42.5%) were A/Wellington/1/2004 (H3N2)-like, 521 (18.2%) were A/California/7/04 (H3N2)-like, 112 (3.9%) were A/Fujian/411/2002 (H3N2)-like, two (0.1%) were A/Panama/2007/99 (H3N2)-like, 577 (20.1%) were A/New Caledonia/20/99 (H1N1)-like, 237 (8.3%) were B/Jiangsu/10/2003-like and 197 (6.9%) 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 85.4% of detections. Where influenza A viruses have been subtyped, 82.9% were influenza A (H3N2) and 15.7% were influenza A (H1N1). <http://www.eiss.org/>

Influenza activity in Canada

Influenza B became the dominant virus during week 12 (week ending 26/03/2005). Most of Ontario and one region of Alberta continued to report widespread influenza activity. Elsewhere, localised, sporadic or no activity was reported. Sentinel physicians reported 39 cases of ILI per 1,000 patient visits. The Public Health Agency of Canada received 2498 reports of laboratory tests for influenza during week 12, including 144 influenza A detections and 200 influenza B detections. Since the start of the 2004/2005 influenza season, 886 influenza viruses have been antigenically characterised. Of the 770 influenza A (H3N2) viruses characterised, 506 (66%) were influenza A/Fujian/411/02(H3N2)-like and 264 (34%)

were A/California/7/04(H3N2)-like. Of the 116 influenza B viruses characterised, 97 (83.6%) were influenza B/Shanghai/361/02-like and 19 (16.4%) were influenza B/Hong Kong/330/01-like.

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

Influenza activity in the United States

Influenza activity in the US appears to have peaked in February and continued to decline during week 12 (week ending 26/03/2005). The percentage of patient visits to US sentinel providers due to ILI was 2.6 (slightly above the national baseline level of 2.5%). The proportion of deaths attributed to pneumonia and influenza was 8.6%, this is above the national epidemic threshold level of 8.1% for week 12. During week 12, four states reported widespread influenza activity, 15 states reported regional activity and the remaining states reported local or sporadic activity.

WHO and NREVSS laboratories tested 1,774 specimens for influenza during week 12. Thirty of these were positive for influenza A (H3N2), 56 were positive for influenza A (unsubtyped) and 147 were positive for influenza B. Since October 1st, 638 influenza viruses have been antigenically characterised by the CDC. One hundred and fifty-one (36%) influenza A (H3N2) viruses were characterised as antigenically similar to the A/Wyoming/3/2003 and 268 (64%) were more closely related to A/California/7/2004 (H3N2). One hundred and thirty-nine (65.3%) of the influenza B viruses isolated were characterised as B/Shanghai/361/2002-like and 24 (11.3%) showed a reduced reaction to B/Shanghai/361/02 ferret antisera. The remaining 50 (23.4%) 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 13, a local outbreak was reported by the Ukraine (influenza B) and sporadic activity was reported by Belarus, Brazil, China, Tunisia, Greece and Mexico.

<http://rhone.b3e.jussieu.fr/flunet/www/>

Avian influenza

The Ministry of Health in Viet Nam confirmed five additional cases of human infection with H5N1 avian influenza on the 4th of April. The new cases are members of a family of chicken farmers from Haiphong and include a 35 year-old man, his 33 year-old wife and their three daughters, who are aged 13 years, 10 years and 4 months. All five family members have been hospitalised. The official number of laboratory-confirmed human cases of avian influenza A (H5N1) in Thailand (n=17), Viet Nam (n=60) and Cambodia (n=2) since January 2004 is now 79. Forty-nine (62%) of these cases were fatal.

Three further cases and two deaths in Viet Nam have been reported in the media or through government sources in recent weeks. However, the WHO has not yet received confirmation of these from the Vietnamese MoH.

Tests conducted by the United Nations Food and Agriculture Organisation (FAO) have confirmed that the strain of influenza virus responsible for the death of 219,000 poultry in North Korea is H7, rather than H5. Further subtyping is pending. No human cases have been reported to date, but H7 viruses have spread from poultry to people before. Eighty-nine people were confirmed to be infected with H7N7 in an outbreak in the Netherlands in 2003.

One of these patients died. Serology results from that outbreak indicate that the numbers infected could have been much higher (1,000 to 2,000) and that person-to-person transmission may have occurred on a relatively large scale. However, previous human infections with H7 viruses have not been as severe as those with H5N1. In most cases symptoms were limited to conjunctivitis. Experts have expressed concern that if H7 and H5N1 viruses co-circulate in poultry, there could be opportunities for them to exchange genetic material (reassortment) and an organism with H5 lethality and the increased transmissibility of H7 viruses could be created.

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/>