

Weekly Influenza Surveillance Report



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



Week 14 2005

**Week starting Monday 4th April 2005 &
ending Sunday 10th April 2005**

Report produced: 14/04/2005

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

Summary

Clinical influenza activity remained stable in Ireland during week 14, with ten cases of influenza-like illness (ILI) reported by the sentinel general practices. Virological indicators were slightly lower than in week 13, with three influenza B detections. Antigenic characterisation results for an influenza B isolate were received from the WHO laboratory in Mill Hill, London. This isolate was antigenically characterised as being closely related to B/Jiangsu/10/03. The B/Jiangsu/10/2003 strain is included in the current vaccine (as a B/Shanghai/361/2002-like virus).

Clinical data

During week 14 (week ending 10th April 2005), ten cases of ILI were reported by sentinel general practices, corresponding to an ILI consultation rate of 11.3 per 100,000 population (figure 1). This is similar to the updated rate for week 13 of 11 per 100,000 population.

All of the ILI cases were aged between 15 and 64 years. Returns were received from 29 out of 36 sentinel general practices, giving a population coverage of 2.3% (78% of the total possible reporting GP patient population). Seven practices reported ILI.

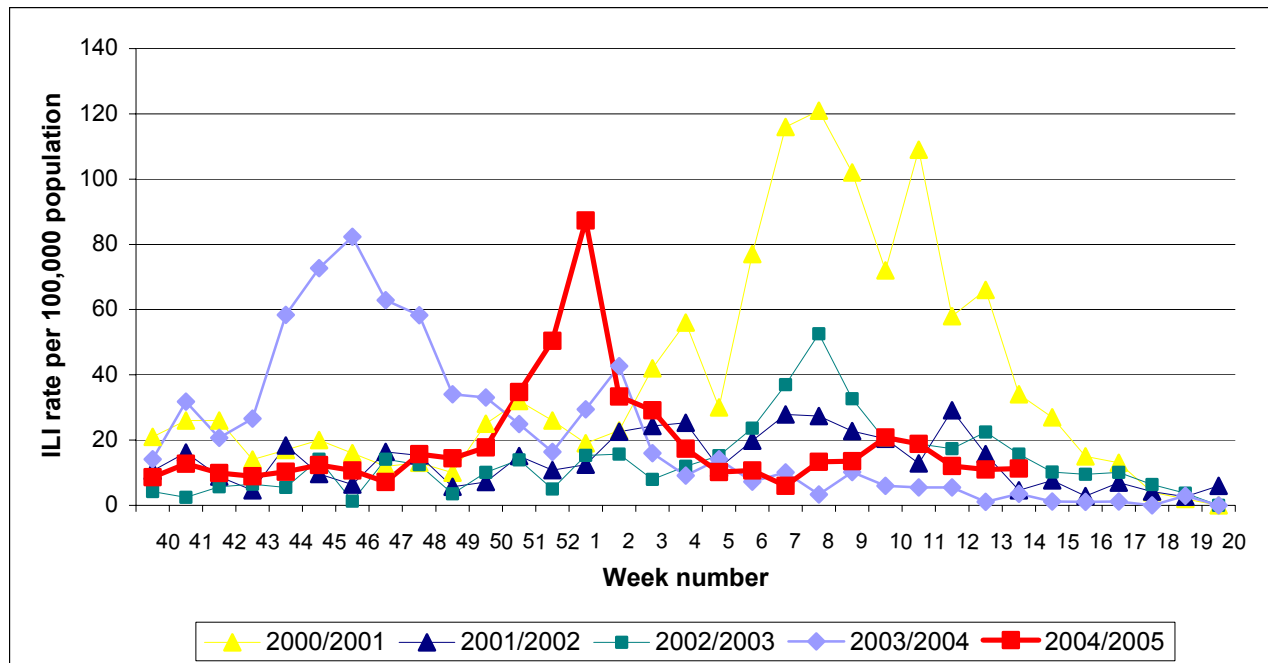


Figure 1. GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005**-influenza seasons.

***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*

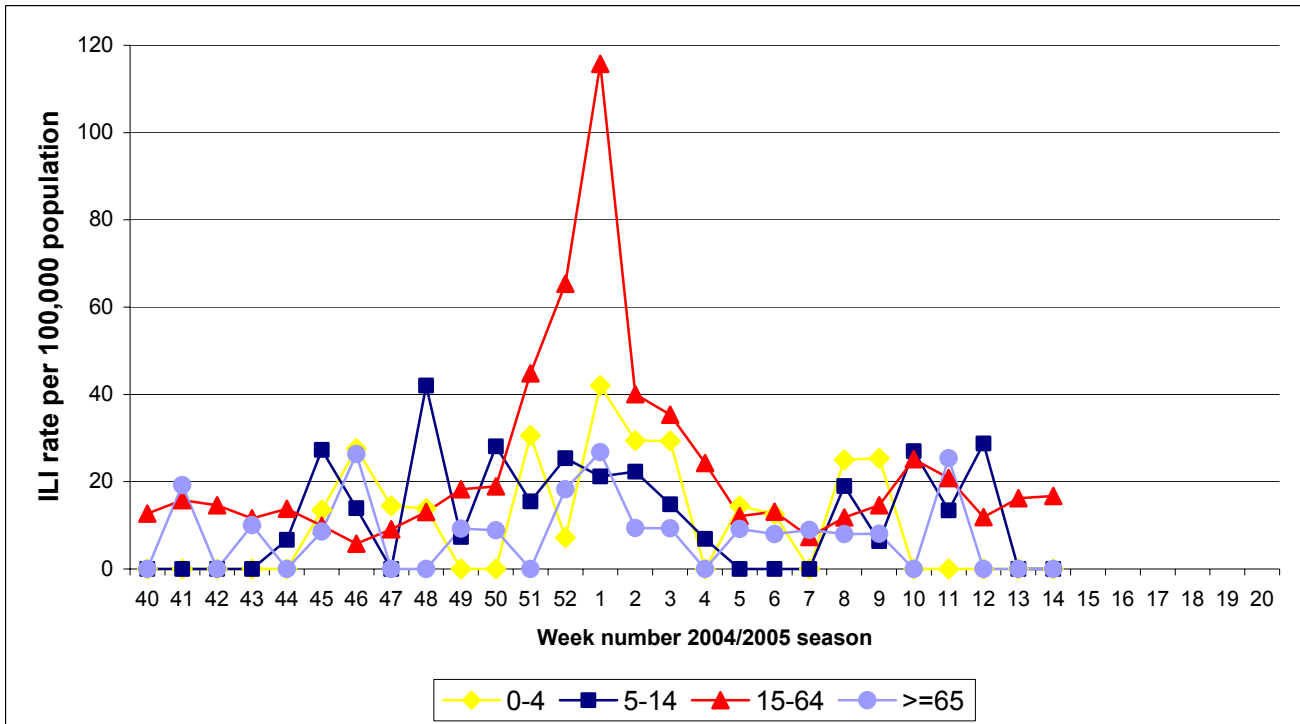


Figure 2. Age specific GP consultation rate* for ILI per 100,000 population by week** for the 2004/2005-influenza season

* 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 five swabs taken during week 14 by sentinel GPs (tables 1&3). Two tested positive for influenza. The NVRL also tested 50 respiratory non-sentinel specimens, taken in hospitals during week 14, one of which was positive for influenza B (tables 2&4, figure 3).

To date this season, 61 influenza A (unsubtyped), 58 influenza A (H3N2), 36 influenza A (H1N1) and 35 influenza B viruses have been detected by the NVRL (table 3). Twenty-seven of these were in the 0-4 age group, 25 were in the 5-14 age group, 119 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 14 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
14	5	2	40.0	0	0	0	2	0
Total	344	137	39.8	12	57	35	33	6

Table 2: Total number non-sentinel* respiratory specimens and positive results by type and subtype for week 14 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
14	50	1	2.0	0	0	0	1	0
Total	1333	53	4	49	1	1	2	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 14 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
14	55	3	5.5	0	0	0	3	0
Total	1677	190	11.3	61	58	36	35	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 14 2005 and the 2004/2005 season to date

	Week 14 2005			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	0	2	2	62	17	79
MHB	0	0	0	6	1	7
MWHB	0	0	0	14	2	16
NEHB	0	0	0	9	3	12
NWHB	0	0	0	10	1	11
SEHB	0	1	1	26	5	31
SHB	0	0	0	11	2	13
WHB	0	0	0	17	4	21
Total	0	3	3	155	35	190

* 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.

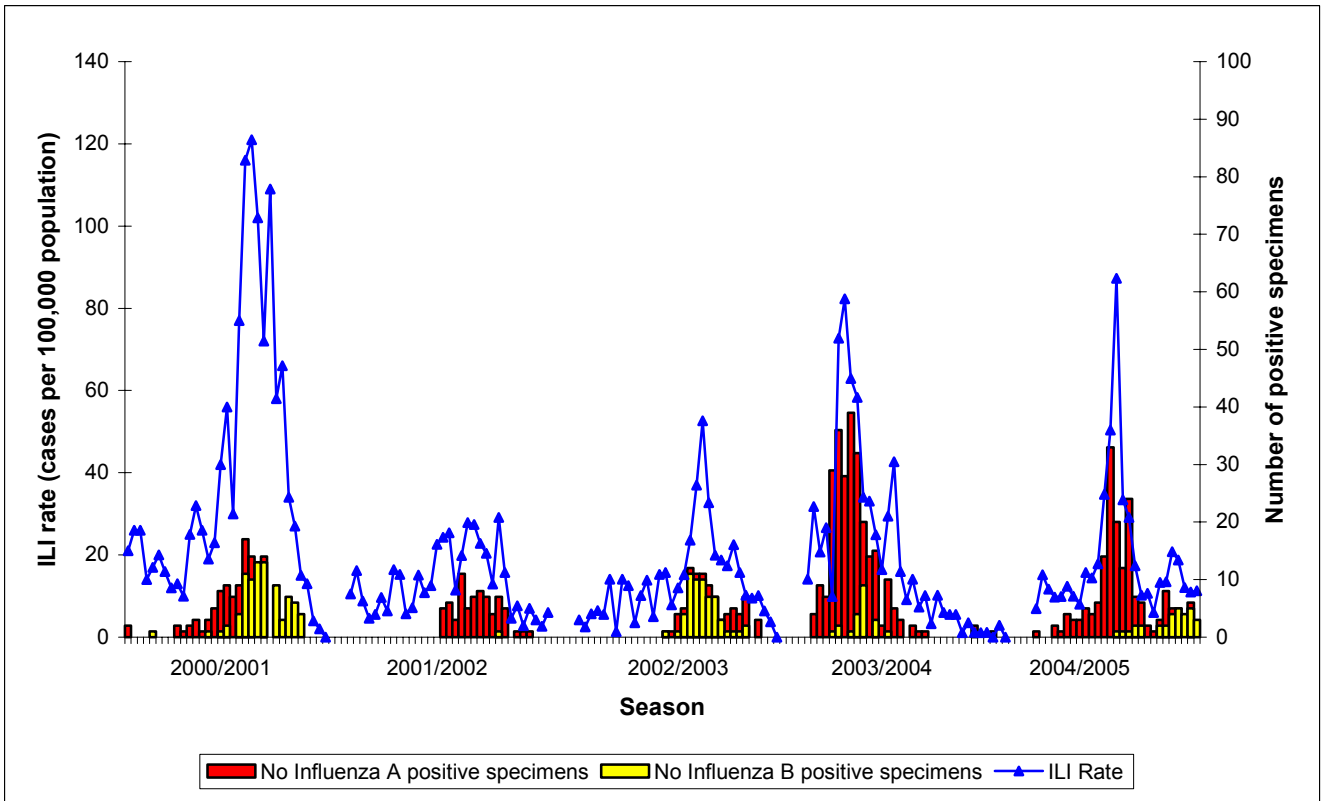


Figure 3. ILI rate and number of positive specimens detected during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 and 2004/2005 seasons.

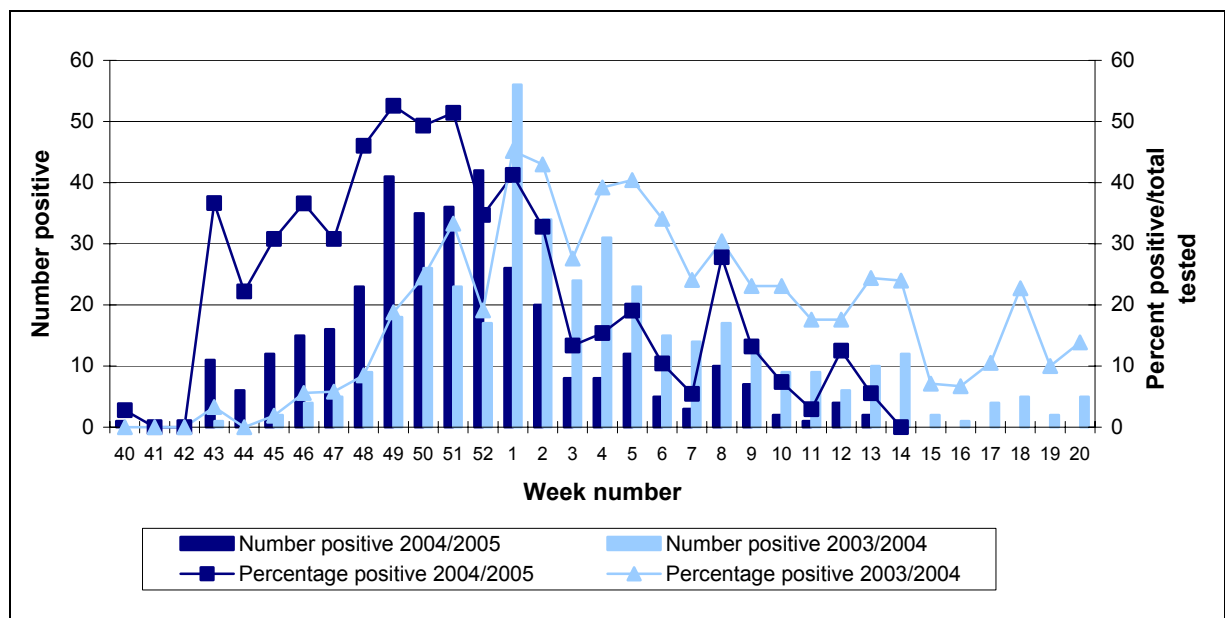


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2004/2005** and 2003/2004 influenza seasons.

**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

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 14.

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 13, six health boards reported sporadic activity and two reported no activity.

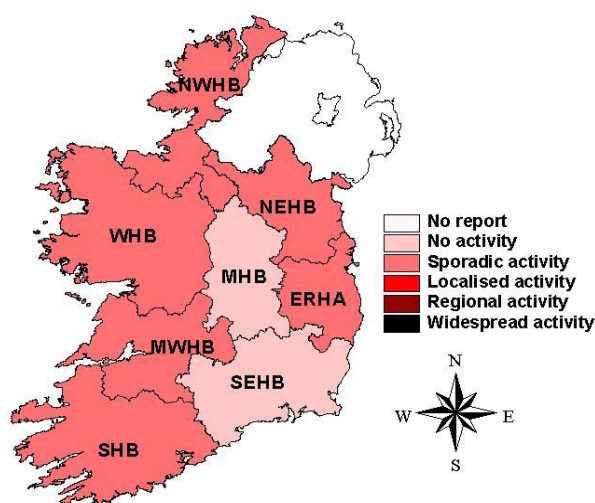


Figure 4: Map of influenza activity by health board/authority during week 13 2005

Influenza activity in Northern Ireland

During week 14, one case of clinical influenza and 36 cases of ILI were reported in Northern Ireland, corresponding to a combined rate of 32 cases per 100,000 population. This is an increase compared to the updated rate of 18.4 per 100,000 population for week 13. However, the low rate for week 13 was probably attributable to surgery closures over Easter. Returns were received from 19 of the 23 sentinel GP practices, giving a population coverage of 6.8%. <http://www.cdscni.org.uk//>

Influenza activity in England, Scotland and Wales

Influenza activity continued to decrease in England, Scotland and Wales during week 14. Clinical rates of influenza-like illness in England decreased from 14 consultations per 100,000 to 6 per 100,000 in week 14. Virological indicators also remained low, with two detections of influenza B made by ERNVL from samples sent from community sources.

<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 14, influenza activity decreased or remained stable in all European countries. A regional outbreak was reported by Sweden. France, Latvia and Romania reported local outbreaks. The remaining countries reported sporadic or no activity. Sixty-one sentinel swabs and 234 non-sentinel swabs tested positive for influenza. Of these, 136 (46.1%) were influenza A (unsubtyped), 10 (3.4%) were influenza A (H1N1), 22 (7.5%) were influenza A (H3N2), 2 (0.7%) were influenza A (H3N2) and 125 (42.4%) were influenza B.

Three thousand, three hundred and fourteen influenza viruses have been antigenically or genetically characterised in Europe between week 40 2004 and week 13 2005. Of the 2143 H3N2 viruses characterised, 1352 (63.1%) were A/Wellington/1/2004 (H3N2)-like, 677 (31.6%) were A/California/7/04 (H3N2)-like, 112 (5.2%) were A/Fujian/411/2002 (H3N2)-like and two (0.1%) were A/Panama/2007/99 (H3N2)-like. All of the 652 H1N1 viruses were A/New Caledonia/20/99 (H1N1)-like. Two hundred and fifty-four (48.9%) of the influenza B viruses were B/Jiangsu/10/2003-like and 265 (51.1%) 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 84.6% of detections. Where influenza A viruses have been subtyped, 84.1% were influenza A (H3N2) and 15.6% were influenza A (H1N1). <http://www.eiss.org/>

Influenza activity in Canada

Influenza virus detections continued to decrease during week 13 (week ending 02/04/2005). However, the proportion of influenza B detections increased. 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 31 cases of ILI per 1,000 patient visits. The Public Health Agency of Canada received 2,723 reports of laboratory tests for influenza during week 13, including 92 influenza A detections and 239 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 tested, 420 were characterised as A/Fujian/411/02-like before the new variant, A/California/7/04 was reported. Since the 17th February, 350 influenza A isolates have been characterised of which 264 (75%)

were A/California/7/04 and 86 (25%) were A/Fujian/411/02. Of the 116 influenza B, 97 (83.6%) were B/Shanghai/361/02-like and 19 (16.4%) B/ Hong Kong /330/2001-like virus.
<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 13 (week ending 02/04/2005). The proportion of patient visits to sentinel providers for influenza-like illness (ILI) was below the national baseline for the first time in 12 weeks. However, the proportion of deaths attributed to pneumonia and influenza was 8.7%, which is above the national epidemic threshold level of 8.0% for week 13. During week 13, one state reported widespread influenza activity, ten states reported regional activity and the remaining states reported local or sporadic activity.

WHO and NREVSS laboratories tested 2,143 specimens for influenza during week 13. Twelve of these were positive for influenza A (H3N2), 114 were positive for influenza A (unsubtyped) and 113 were positive for influenza B. Since October 1st, 721 influenza viruses have been antigenically characterised by the CDC. Two hundred and four (41%) influenza A (H3N2) viruses were characterised as antigenically similar to the A/Wyoming/3/2003 and 289 (59%) were more closely related to A/California/7/2004 (H3N2). One hundred and forty-five (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 53 (23.9%) 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 14, a local outbreak was reported by the Ukraine and sporadic activity was reported by Argentina, China and Israel.

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

Avian influenza

The Ministry of Health in Cambodia confirmed that an 8 year-old girl from Kampot province, who died on the 7th April, was Cambodia's third case of avian influenza. The girl became ill with a fever on the 29th March and was hospitalised when her condition deteriorated on the 7th April. Investigations as to the source of the girl's infection are ongoing. Chickens in her village had been sick in February, but no poultry deaths had occurred in the two weeks prior to the onset of her symptoms. The official number of laboratory-confirmed human cases of avian influenza A (H5N1) in Thailand (n=17), Viet Nam (n=60) and Cambodia (n=3) since January 2004 is now 80. Fifty (62.5%) 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 (CIDRAP). However, the WHO has not yet received confirmation of these from the Vietnamese MoH. Tests on poultry in Viet Nam's Mekong Delta region show that the H5N1 avian influenza is widespread, with 21% of chickens and 71% of ducks and geese in the area testing positive for the virus.

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/>