Weekly Influenza Surveillance Report

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

hpsc

nvrl
NATIONAL VIRUS REFERENCE LABORATORY

icgp

Week 8 2005

Week starting Monday 21st February 2005 &
ending Sunday 27th February 2005

Report produced: 03/03/2005

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

Summary
Influenza activity increased in Ireland during week eight, with fourteen cases of influenza-like illness (ILI) reported by the sentinel general practices. Of the nine sentinel swabs submitted to the NVRL for testing, one was positive for influenza A and two were positive for influenza B. To date this season, 50 influenza A (unsubtyped), 58 influenza A (H3N2), 36 influenza A (H1N1) and 9 influenza B viruses have been detected by the NVRL.

Clinical data
During week eight (week ending 27th February 2005), fourteen cases of ILI were reported by sentinel general practices, corresponding to an ILI consultation rate of 16.5 per 100,000 population (figure 1). This is an increase from the updated rate for week seven of 6.1 per 100,000 population.

Two of the ILI cases were in the 0-4 years age group, three were in the 5-14 years age group, eight were in the 15-64 years age group and one was aged over 65 years. Returns were received from 28 out of 36 sentinel GP practices, giving a population coverage of 2.2% (75% of the total possible reporting GP patient population). Nine practices reported ILI.

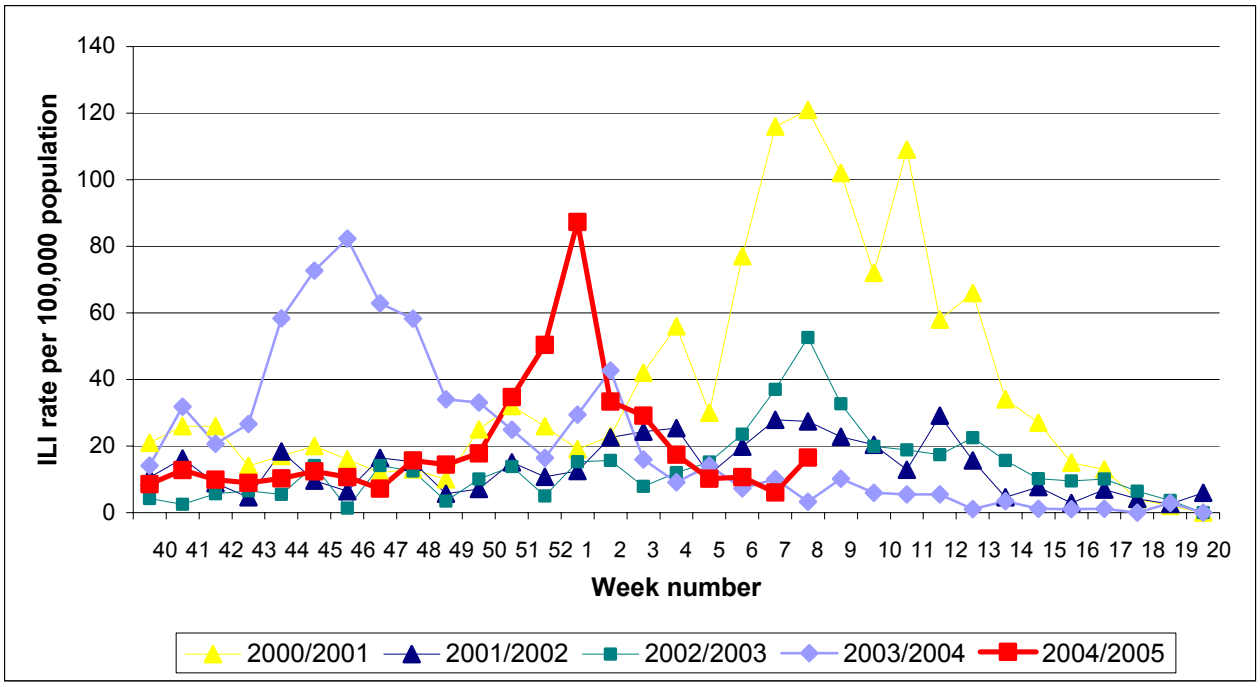

Figure 1. GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005**-influenza seasons.

***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*

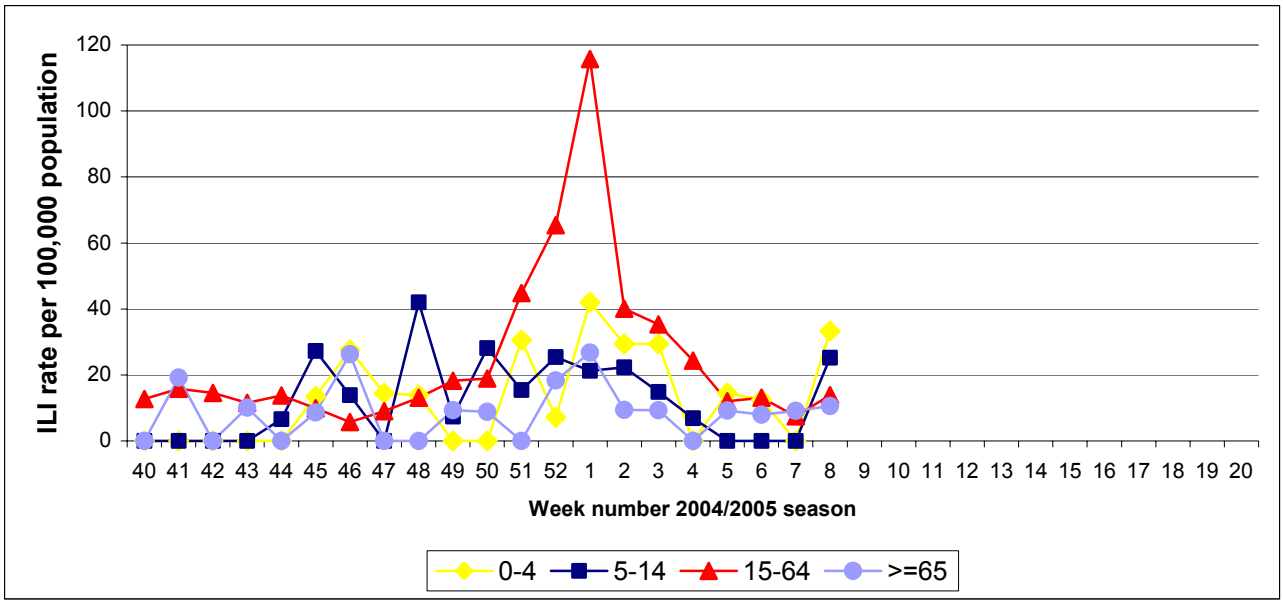

Figure 2. Age specific GP consultation rate* for ILI per 100,000 population by week** for the 2004/2005-influenza season

** 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 nine swabs taken during week eight by sentinel GPs (tables 1&3). One of these tested positive for influenza A (unsubtyped) and two tested positive for influenza B. The NVRL also tested 36 respiratory non-sentinel specimens, taken in hospitals during week eight. Ten tested positive for RSV and none were positive for influenza (tables 2&4, figure 3).

To date this season, 50 influenza A (unsubtyped), 58 influenza A (H3N2), 36 influenza A (H1N1) and 9 influenza B viruses have been detected by the NVRL (table 3). Twenty-five of these were in the 0-4 years age group, 24 were in the 5-14 years age group, 85 were in the 15-64 years age group and 17 were aged over 64 years. Of the 334 RSV detections to date, 193 were aged 6 months or less, 82 were aged between 7 and 11 months, 37 were aged between 1 and 4 years, and 16 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 8 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
8	9	3	33.3	1	0	0	2	0
Total	276	107	38.8	6	57	35	9	5

Table 2: Total number non-sentinel* respiratory specimens and positive results by type and subtype for week 8 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
8	36	0	0.0	0	0	0	0	10
Total	1101	46	4.2	44	1	1	0	329

Table 3: Total number of sentinel and non-sentinel* respiratory specimens and positive results for week 8 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
8	45	3	6.7	1	0	0	2	10
Total	1377	153	11.1	50	58	36	9	334

*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 8 2005 and the 2004/2005 season to date

	Week 8 2005			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	1	0	1	56	2	**58**
MHB	0	0	0	4	0	**4**
MWHB	0	0	0	14	1	**15**
NEHB	0	1	1	9	1	**10**
NWHB	0	0	0	8	0	**8**
SEHB	0	0	0	26	2	**28**
SHB	0	0	0	10	1	**11**
WHB	0	1	1	17	2	**19**
Total	**1**	**2**	**3**	**144**	**9**	**153**

* 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.

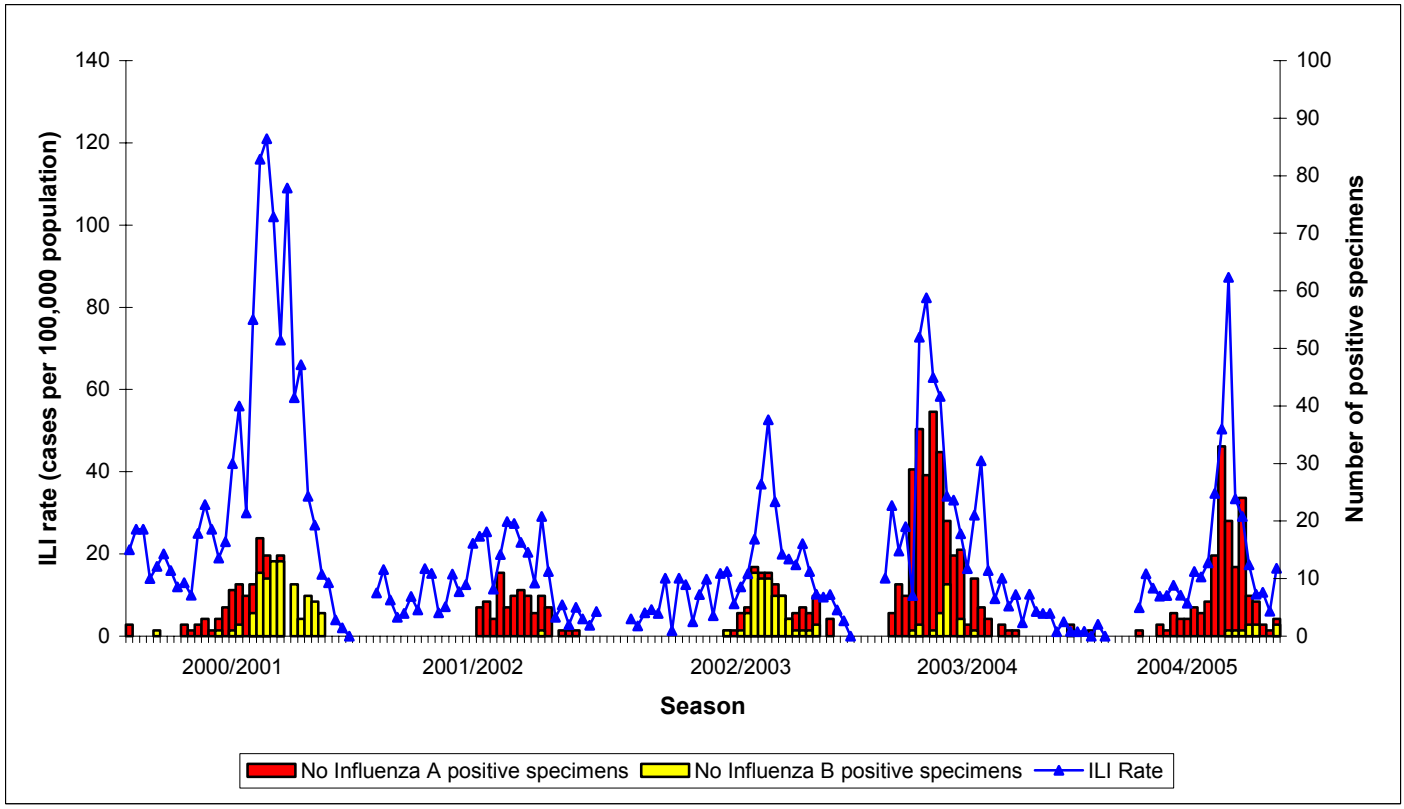

Figure 3. ILI rate and number of positive specimens detected during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 and 2004/2005 seasons.

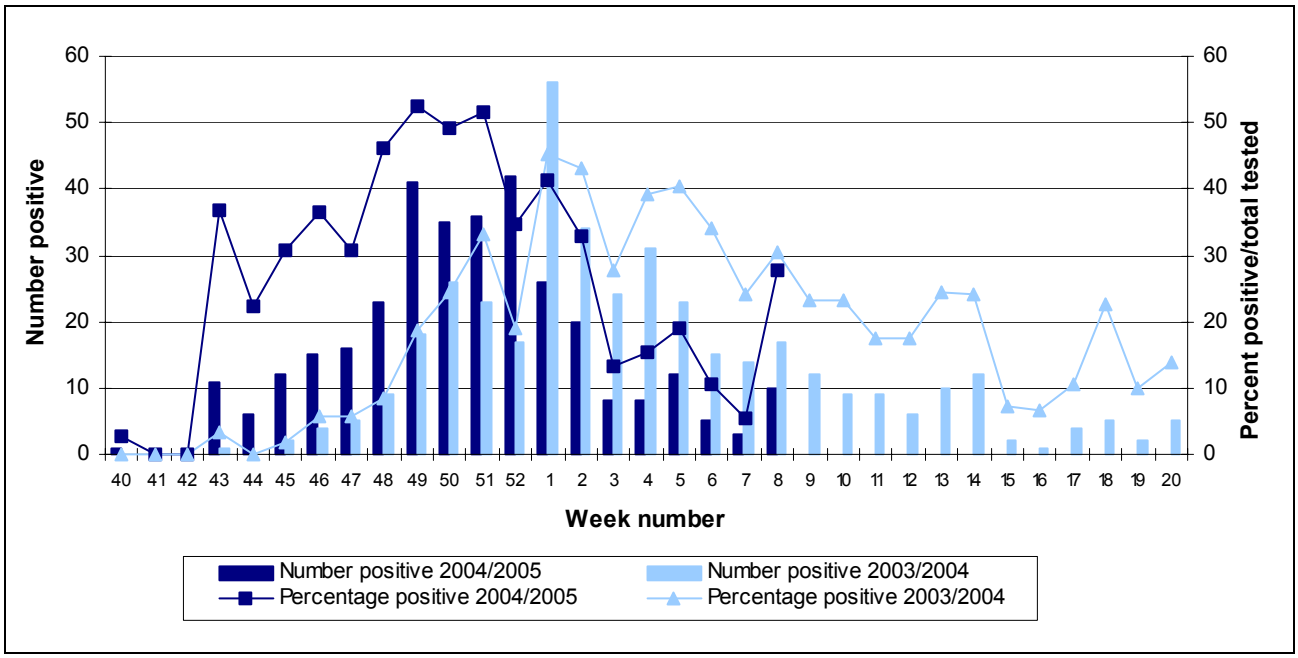

Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2004/2005** and 2003/2004 influenza seasons.

**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. The current vaccine will also provide protection against these strains.

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, this corresponds to an attack rate of 33.4%. Control measures have been implemented and no new cases have been reported since January 25th. 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 eight.

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

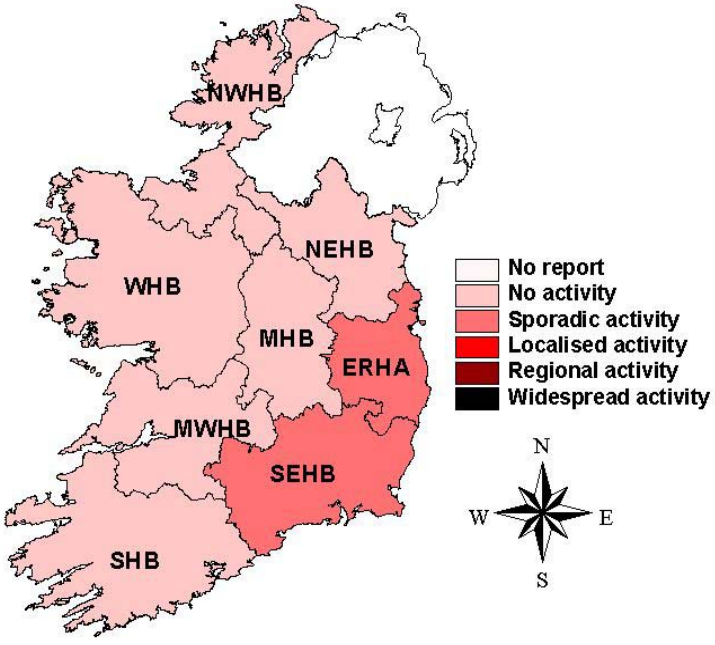

Figure 4: Map of influenza activity by health board/authority during week 7 2004/5

Influenza activity in Northern Ireland
During week eight, one case of clinical influenza and 72 cases of ILI were reported in Northern Ireland. These figures correspond to a combined ILI and clinical influenza rate of 51.4 cases per 100,000 population, which is a decrease compared to the updated rate of 62.4 per 100,000 population for week seven. Returns were received from 22 of the 24 sentinel GP practices, giving a population coverage of 8.3%. Influenza A(H3) was detected in one sentinel swab and in two swabs from hospitalised paediatric patients. RSV was also detected in a hospital specimen.
http://www.cdscni.org.uk//

Influenza activity in England, Scotland and Wales
During week eight, clinical influenza activity in England remained just below baseline levels at 28 consultations per 100,000 population. ILI consultation rates decreased in Wales (from 10 per 100,000 to 4 per 100,000) and increased in Scotland (from 31 per 100,000 to 35 per 100,000). Influenza viruses were detected in 10 community samples in the UK; six of these were influenza A (H3), one was influenza A (H1) and three were influenza B. There were no RSV detections in week eight. To date this season, 60% 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 eight, influenza activity remained at high or medium levels in fifteen European countries. Widespread outbreaks were reported by ten countries; Belgium, Czech Republic, Denmark, France, Germany, Italy, Luxembourg, Netherlands, Norway and Switzerland. Austria and Poland reported regional outbreaks and Slovakia and Spain reported local outbreaks. 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 Ireland, Poland, Portugal, Spain and Wales during week eight.

Seven hundred and thirty-seven (34.2%) sentinel swabs and 519 (26.5%) non-sentinel swabs tested positive for influenza. Of these, 572 (45.5%) were influenza A (unsubtyped), 68 (5.4%) were influenza A (H1), 9 (0.7%) were influenza A (H1N1), 5 (0.4%) were influenza A (H1N2), 388 (30.9%) were influenza A (H3), 85 (6.8%) were influenza A (H3N2) and 129 (10.2%) were influenza B.

Eight hundred and thirty-seven influenza viruses have been antigenically characterised in Europe between week 40 2004 and week 7 2005. Of these, 424 (50.7%) were A/Wellington/1/2004 (H3N2)-like, 85 (10.2%) were A/California/7/04 (H3N2)-like, 53 (6.3%) were A/Fujian/411/2002 (H3N2)-like, 2 (0.2%) were A/Panama/2007/99 (H3N2)-like, 163 (19.5%) were A/New Caledonia/20/99 (H1N1)-like, 72 (8.6%) were B/Jiangsu/10/2003-like and 38 (4.5%) 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 90.7% of detections. Where influenza A viruses have been subtyped, 84.5%

have been influenza A (H3N2), 15.1% have been influenza A (H1N1) and 0.4% have been influenza A (H1N2). http://www.eiss.org/

Influenza activity in Canada

During week seven (week ending 19/02/2005), influenza activity decreased, but remained high in Canada, with widespread activity reported in Saskatchewan, Ontario, parts of Alberta and Newfoundland. Elsewhere in Canada either localised, sporadic or no activity was reported. Sentinel physicians reported 33 cases of ILI per 1,000 patient visits. Influenza A was detected in 722 of the 4788 specimens sent for laboratory confirmation and influenza B was detected in 70. To date this season, there have been a total of 675 influenza outbreaks, of which 497 occurred in retirement homes, 44 in hospitals and 134 in schools. Since the start of the 2004/2005 influenza season, 516 influenza viruses have been antigenically characterised. Four hundred and twenty-seven (82.8%) were influenza A/Fujian/411/02(H3N2)-like, forty-three (8.3%) were A/California/7/04(H3N2)-like, forty-five (8.7%) 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 continued to increase during week seven (week ending 19/02/2005). Almost six percent (5.7%) 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 six weeks. During week seven, 33 states reported widespread influenza activity, 15 states reported regional activity and the remaining states reported local activity.

WHO and NREVSS laboratories tested 4,452 specimens for influenza during week seven. One hundred and twenty-eight of these were positive for influenza A (H3N2), 594 were positive for influenza A (unsubtyped), 1 was positive for influenza A (H1N1) and influenza B was detected in 187 specimens. Since October 1st, 320 influenza viruses have been antigenically characterised by the CDC. One hundred and twenty-five influenza A (H3N2) viruses were characterised as antigenically similar to the A/Wyoming/3/2003 and 103 were more closely related to a newer reference strain, A/California/7/2004 (H3N2). Sixty-six influenza B viruses were characterised as B/Shanghai/361/02-like and five showed a reduced reaction to B/Shanghai/361/02 ferret antisera. The remaining 19 influenza B viruses were characterised as belonging to the B/Victoria lineage. Two 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 eight, widespread influenza outbreaks were reported in the Ukraine (14 influenza B viruses were detected) and Belarus. Sporadic influenza activity was seen in Brazil and China.
http://rhone.b3e.jussieu.fr/flunet/www/

Avian influenza

There have been media reports of additional human cases of avian influenza A (H5N1) in Vietnam, but the WHO has not yet received confirmation of these from the Vietnamese MoH. The official number of laboratory-confirmed human cases of avian influenza A (H5N1) in

Thailand, Vietnam and Cambodia since the January 2004 remains at 55. Forty-two (76.4%) of these were fatal. A further eleven cases and four deaths in Vietnam have been reported in the media or through government sources since December 2004. Dr Klaus Stohr of the WHO expressed concern on Tuesday about Vietnam's lack of official reporting of recent human cases. 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/