Weekly Influenza Surveillance Report

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Week 3 2005

Week starting Monday 17th January 2005 &
ending Sunday 23rd January 2005

Report produced: 27/01/2005

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

Summary
During week three 2005, influenza activity in Ireland showed a decrease from activity in the previous week. The influenza-like illness (ILI) rate of 31.3 cases per 100,000 population is lower than the rate of 33.4 per 100,000 for week two. To date this season, three influenza B, 22 influenza A (H1N1), two influenza A (H3N2) and 105 influenza A (unsubtyped) viruses have been detected. RSV levels also decreased in week three. Eight non-sentinel specimens tested positive for RSV in week three, a decrease on the 20 positive specimens in week two.

Clinical data
During week three (week ending 23rd January 2005), 28 cases of ILI were reported by sentinel general practices, corresponding to an ILI consultation rate of 31.3 per 100,000 population (figure 1). This is a slight decrease from the week two rate of 33.4 per 100,000.

Two ILI cases were in the 0-4 age group, two were in the 5-14 age group, 23 were in the 15-64 age group and one was aged over 64 years. Returns were received from 28 out of 35 sentinel GP practices, giving a population coverage of 2.3% (83.3% of the total possible reporting GP patient population). Thirteen practices reported ILI.

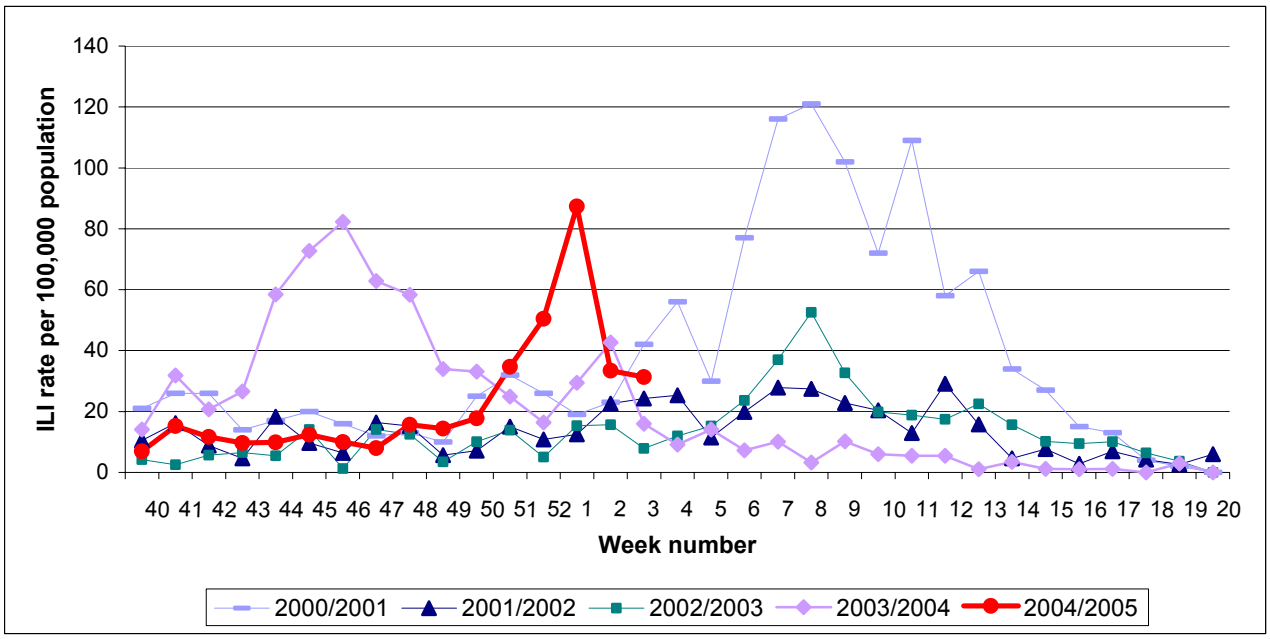

Figure 1. GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005**-influenza seasons.

***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*

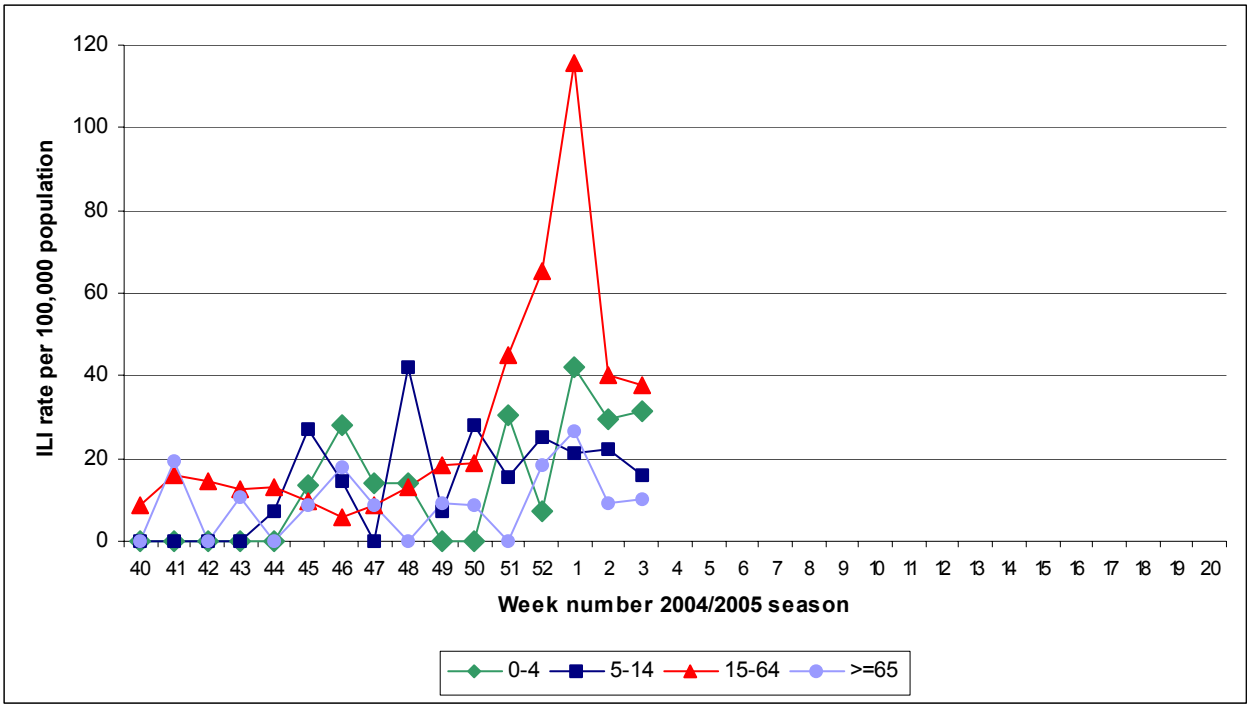

Figure 2. Age specific GP consultation rate* for ILI per 100,000 population by week** for the 2004/2005-influenza season

** 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 15 swabs taken during week three by sentinel GPs (tables 1&3). Seven of these tested positive for influenza A (unsubtyped) and one tested positive for influenza B. The NVRL also tested 59 respiratory non-sentinel specimens taken in hospitals during week three. There were fifteen influenza A positives and eight specimens tested positive for RSV (tables 2&3, figure 3).

During week three, the percentage of RSV positive specimens decreased to 13.1% from 32.8% in week two. This is lower than the percentage of RSV positive specimens in week three 2004 (27.6%). During weeks 43-53, the percentages of RSV positive specimens were noticeably higher than the percentages during the same period in the 2003/2004 season (figure 3).

To date this season, three influenza B, 22 influenza A (H1N1), two influenza A (H3N2) and 105 influenza A (unsubtyped) viruses have been detected (table 3). Twenty one of these were in the 0-4 age group, 17 were in the 5-14 age group, 76 were in the 15-64 age group and 16 were aged over 64 years. Of the 298 RSV detections to date, 165 were aged 6 months or less, 77 were aged between 7 and 12 months, 34 were aged between 1 and 4 years, and 15 were aged 5 years or more. Ages were unavailable for seven of the positive RSV 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 3 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
3	15	8	53.3	7	0	0	1	0
Total	238	92	38.7	67	1	21	3	5

**Totals include specimens for which results are pending (1 in week 2)

Table 2: Total number non-sentinel* respiratory specimens and positive results by type and subtype for week 3 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
3	59	15	25.4	15	0	0	0	8
Total	846	40	4.7	38	1	1	0	293

Table 3: Total number of sentinel and non-sentinel* respiratory specimens and positive results for week 3 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
3	74	23	31.1	22	0	0	1	8
Total	1084	132	12.2	105	2	22	3	298

*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.
**Totals include specimens for which results are pending (1 in week 2)

Table 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 3 2005 and the 2004/2005 season to date

	Week 3 2005			Season to date		
	Flu A	**Flu B**	**Total**	**Flu A**	**Flu B**	**Total**
ERHA	15	0	15	46	0	**46**
MHB	0	0	0	3	0	**3**
MWHB	2	1	3	14	1	**15**
NEHB	0	0	0	9	0	**9**
NWHB	0	0	0	7	0	**7**
SEHB	1	0	1	24	1	**25**
SHB	1	0	1	10	1	**11**
WHB	3	0	3	16	0	**16**
Total	**22**	**1**	**23**	**129**	**3**	**132**

* 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.

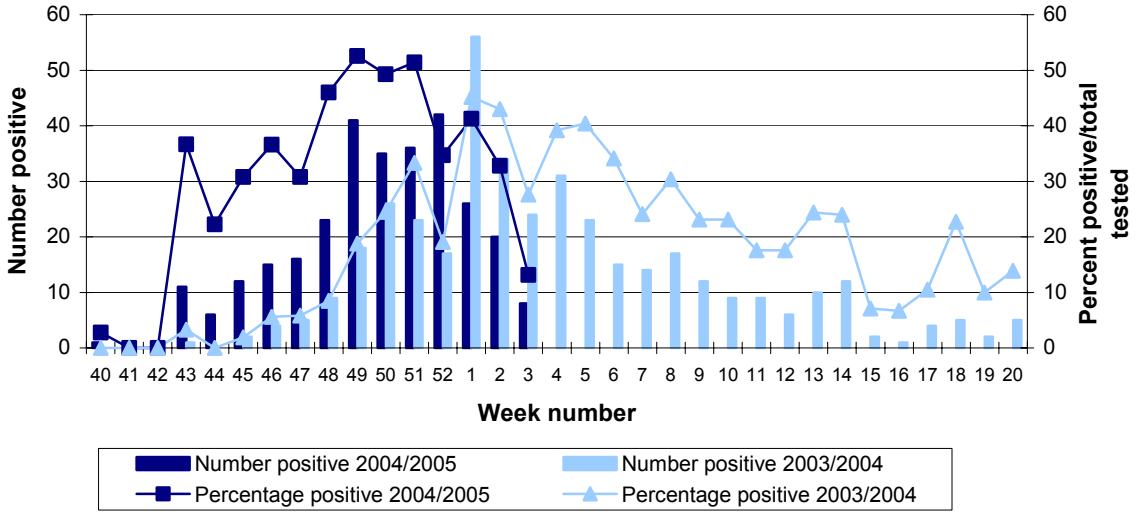

Figure 3. Number and percentage of non-sentinel RSV positive specimens detected during the 2004/2005** and 2003/2004 influenza seasons.

**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 provide protection against these strains.

Outbreak reports

An outbreak of influenza A (unsubtyped) in a long-stay care facility for the elderly was reported by the ERHA during week three. This is the second influenza outbreak reported this season. 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 three.

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 two, seven health boards reported sporadic activity and one reported no activity.

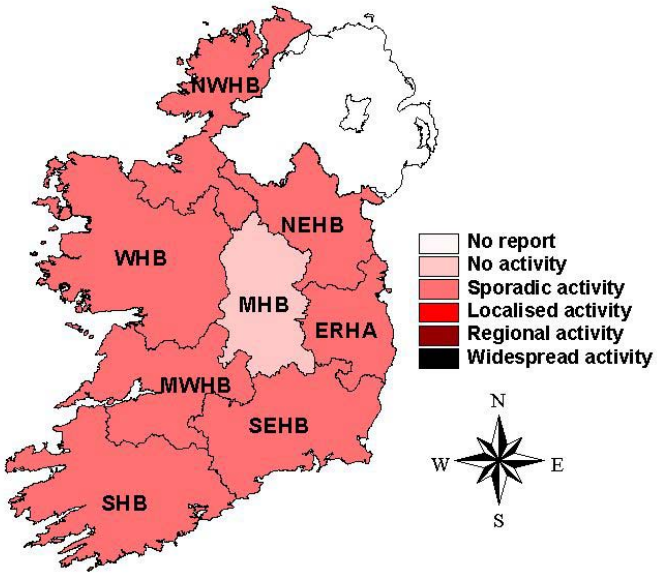

Figure 4: Map of influenza activity by health board/authority during week 2 2004/5

Influenza activity in Northern Ireland

Influenza activity levels increased slightly in Northern Ireland during week three. One case of clinical influenza and 76 cases of ILI were reported. These figures correspond to a combined ILI and clinical influenza rate of 59.3 cases per 100,000 population, which is higher than the updated rate from week two (50.3 per 100,000 population). Returns were received from 20 of the 24 sentinel GP practices, giving a population coverage of 7.6%. There were no influenza detections in swabs taken during week three.

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

Influenza activity in England, Scotland and Wales

The week three ILI rate in England (34 per 100,000 population) showed no change on the week two rate. The ILI rate in Scotland decreased to 34 per 100,000 from 41 per 100,000 in week two. The ILI rate in Wales remained at two per 100,000. During week one, there were two influenza A (H3) detections and one influenza A (H1) detection from hospital and community sources in England.

Ninety one influenza viruses have been characterised this season to date in England, 46 influenza A/Wellington//1/2004(H3N2)-like viruses, 38 influenza A/New Caledonia/20/99 (H1N1)-like viruses, six influenza B/Shanghai/361/02-like viruses and one influenza B/Hong Kong/330/-01-like virus. In Scotland, of the 19 samples which have been characterised there were 11 influenza A/New Caledonia/20/99 (H1N1)-like viruses, seven influenza A/Wellington//1/2004(H3N2)-like viruses and one influenza B/Jiangsu/10/2003-like virus.

Five outbreaks of respiratory illness and one virologically confirmed flu outbreak were reported during week three. Two of the respiratory illness outbreaks occurred in central England schools. The other outbreaks occurred in three schools and an intermediate care home in northwest England. Influenza A was detected in samples collected from one of these schools Two influenza outbreaks occurred in England prior to week three, one in week 50 and one in week 52.
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
Influenza activity has markedly increased in Spain, Portugal and Italy and remains mild to moderate in the rest of Europe. During week two, Spain and Portugal reported widespread activity and four countries (Italy, France, England and Switzerland) reported regional activity while local activity was reported in Belgium. Of the other 18 networks, 14 reported sporadic activity and four reported no activity. Two hundred and sixteen (23%) of the 925 sentinel swabs collected tested positive for influenza, as did 137 non-sentinel swabs. Of these 353 positives, 339 were influenza A and 14 were influenza B. One hundred and forty two influenza A specimens were subtyped, ten were A(H1) (seven of these were A(H1N1)) and 132 were H3 (40 of these were A(H3N2)).

One hundred and fifteen influenza viruses have been antigenically and/or genetically characterised in Europe since week 40 2004. Of these, there were 64 A/Wellington/1/2004 (H3N2)-like, 23 A/New Caledonia/20/99 (H1N1)-like, five A/Fujian/411/2002 (H3N2)-like, two A/Panama/2007/99 (H3N2)-like, 12 B/Jiangsu/10/2003-like and nine B/Hong Kong/330/2001-like.

To date this season, influenza A (H3N2), influenza A (H1N1) and influenza B have been detected in Europe. The dominant virus this season to date is influenza A, accounting for 93% of detections. Eighty six percent of the influenza A isolates subtyped have been A (H3), with A(H1) making up the remaining 14%. The predominant A(H3) viruses are A/Wellington/1/2004 (H3N2)-like, only 7% of A(H3) viruses characterised to date have been A/Fujian/411/2002 (H3N2)-like.
http://www.eiss.org/

Influenza activity in Canada
During week two (week ending 15/1/2005), widespread influenza activity was reported in British Columbia, Alberta, Saskatchewan and parts of Ontario. Localised activity was reported in Manitoba, Quebec, New Brunswick, Nunavut and parts of Nova Scotia. Elsewhere in Canada reported sporadic activity or no activity. There were 822 influenza A detections (19% of all specimens tested) and seven influenza B detections (0.2%) during week two. Since the start of the 2004/2005 influenza season, 195 influenza viruses have been antigenically characterised. One hundred and eighty four were influenza A/Fujian/411/02(H3N2)-like, ten were influenza B/Shanghai/361/02-like and one was influenza B/Hong Kong/330/01-like. To date this season, there have been a total of 215 influenza outbreaks, of which 186 occurred in retirement homes, 15 in hospitals and 14 in schools. There have been 135 reports of laboratory-confirmed influenza-associated hospitalisations in children under 16 years with influenza A as the predominant virus type in these cases.
http://www.phac-aspc.gc.ca/fluwatch/index.html

Influenza activity in the United States
Influenza activity in the US continued to increase in week two (week ending 15/1/2005). At 2.6%, the proportion of ILI patient visits to sentinel providers was above the national baseline (2.5%). Deaths attributed to pneumonia and influenza made up 8.1% of all deaths reported to the vital statistics offices of 122. This is just above the epidemic threshold of 8.0%. The second paediatric death of the 2004/2005 season was reported this week. During week two, New York City and ten states reported widespread influenza activity. Fourteen states reported regional activity and 11 states reported local activity. Fifteen states, the District of Columbia and Puerto Rico reported sporadic influenza activity in week two.

WHO and NREVSS laboratories tested 2,672 specimens for influenza during week two. Fifty of these were influenza A (H3N2) viruses, 299 were influenza A viruses that were unsubtyped and 41 were influenza B viruses. The dominant virus in the US this season is influenza A, accounting for 86% of detections to date. Ninety nine percent of the influenza A viruses that have been subtyped were A(H3N2), the remainder were A(H1N1) viruses. Since October 1st, two influenza A(H1) and 122 influenza A (H3N2) have been antigenically characterised by the CDC. Ninety five percent of the influenza A(H3N2) isolates were characterised as influenza A/Fujian/411/02-like. The majority of the 22 influenza B viruses that have been characterised to date have been B/Shanghai/361/02-like.
http://www.cdc.gov/flu/weekly/

Influenza activity Worldwide
During week three, sporadic influenza activity was reported in China, Ukraine, Serbia and Montenegro and Greece. Tunisia reported a regional outbreak during week 3, with one A(H3) and one A(H1) isolated.
http://rhone.b3e.jussieu.fr/flunet/www/

Avian influenza
Laboratory reports have confirmed infection by the H5 virus in two brothers in the northern part of Viet Nam. The first case who was aged 46 years was admitted to a Hanoi hospital on January 1 and died on January 9. The younger brother was hospitalised with respiratory symptoms on January 12 and has now fully recovered. He is known to have provided bedside care for his older brother during the period of critical illness. Poultry outbreaks have been recurring since December 2004 in southern Viet Nam but these cases are the first to occur in the northern part of the country. The WHO reported two additional cases of H5N1 infection on January 26, both of which occurred in southern Viet Nam. A 35 year old woman who developed symptoms on January 14, was hospitalised on January 20 and died the following day. The other case was a 17 year old boy who was hospitalised on January 10 and died 4 days later.

These cases bring the total number of cases in Viet Nam since mid December to ten, nine of which have been fatal. The first case onset was December 16 and the last was on January 14. Cases have been reported from 8 different provinces (6 in the south and 2 from the north). Five cases had reported direct contact with poultry. So far field investigation has not revealed any evidence of person-to-person transmission. The total number of laboratory-confirmed cases in Thailand and Viet Nam since the beginning of 2004 is now 54. Forty one of these were fatal. Although the avian influenza virus is highly pathogenic in humans, there is 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/

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.*
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/