Weekly Influenza Surveillance Report

Week 1 2005

Week starting Monday 3rd January 2005 &
ending Sunday 9th January 2005

Report produced: 13/01/2005

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

Summary
During week 1 2005, influenza activity in Ireland showed a marked increase from previous weeks. The influenza-like illness (ILI) rate of 81.1 cases per 100,000 population is higher than the updated rate of 48.7 per 100,000 for week 53. To date this season, 21 influenza A (H1N1), two influenza A (H3N2) and 67 influenza A (unsubtyped) viruses have been detected. RSV levels also increased in week 1. Twenty-six non-sentinel specimens tested positive for RSV in week 1, an increase on the 15 positive specimens in week 53.

Clinical data
During week 1 (week ending 9th January 2005), 72 cases of ILI were reported by sentinel general practices, corresponding to an ILI consultation rate of 81.1 per 100,000 population (figure 1). This is an increase from the updated rate of 48.7 per 100,000 for week 53.

Two ILI cases were in the 0-4 age group, two were in the 5-14 age group, 65 were in the 15-64 age group and three were aged over 64 years. An increase in the rate of ILI cases in the 15-64 age groups has been noted over the last eight weeks (figure 2).

Returns were received from 27 out of 35 sentinel GP practices, giving a population coverage of 2.3% (82.8% of the total possible reporting GP patient population). Eighteen practices reported ILI.

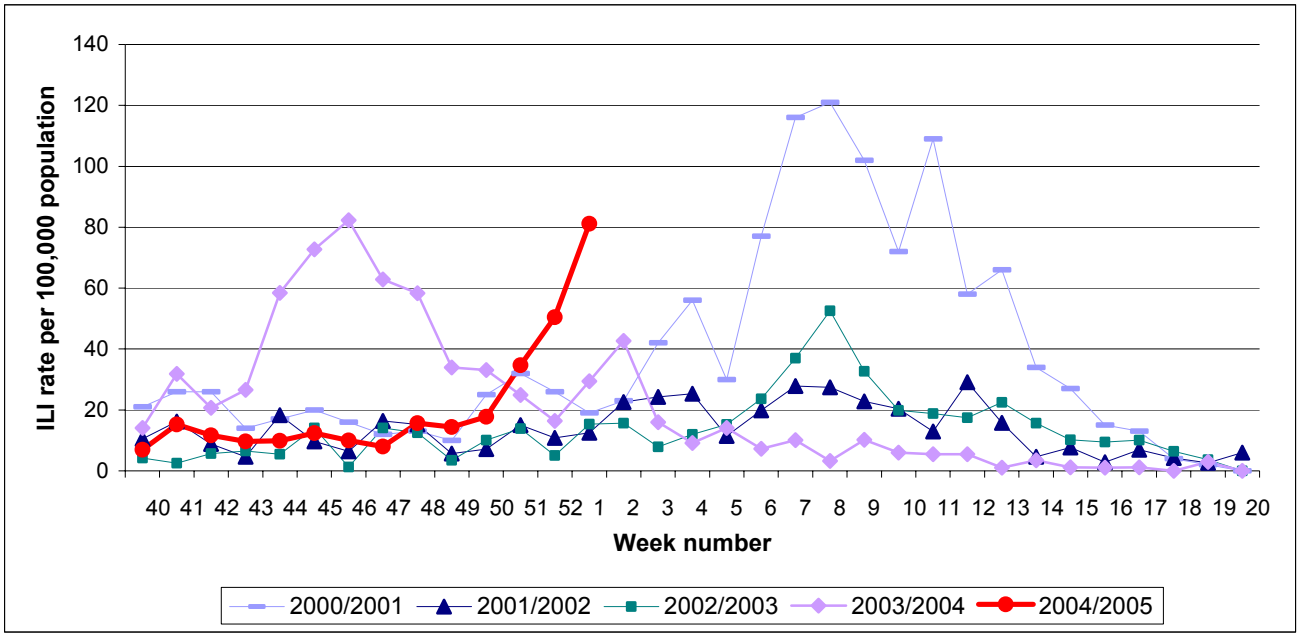

Figure 1. GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005**-influenza seasons.

***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*

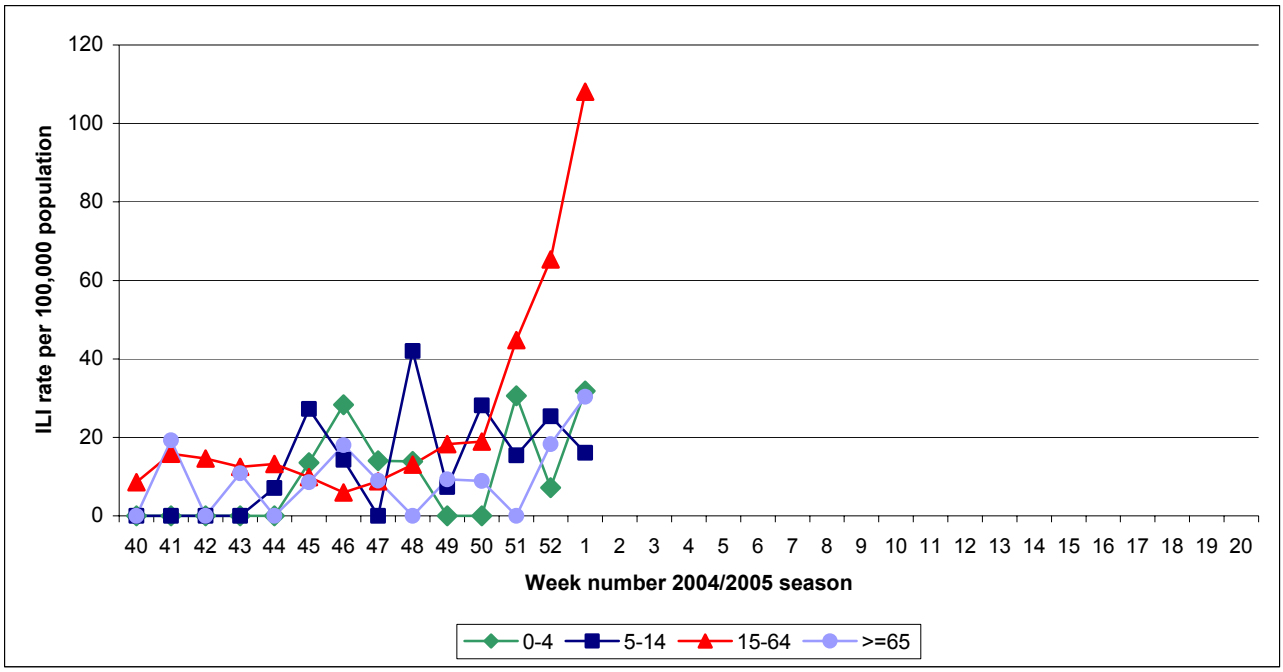

Figure 2. Age specific GP consultation rate* for ILI per 100,000 population by week** for the 2004/2005-influenza season

** 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 29 swabs taken during week 1 by sentinel GPs (tables 1&3). Ten of these tested positive for influenza A (unsubtyped). The NVRL also tested 61 respiratory non-sentinel specimens taken in hospitals during week 1. There were five influenza A positives and 26 specimens tested positive for RSV (tables 2&3, figure 3).

During week 1, the percentage of RSV positive specimens increased to 42.6% from 26.3% in week 53. This is slightly lower than the percentage of RSV positive specimens in week 1 2004 (45.2%). During weeks 43-53, the percentage of RSV positive specimens was noticeably higher than the percentages during the same period in the 2003/2004 season (figure 3).

To date this season, 21 influenza A (H1N1), two influenza A (H3N2) and 67 influenza A (unsubtyped) viruses have been detected (table 3). Fourteen of these were in the 0-4 age group, 14 were in the 5-14 age group, 59 were in the 15-64 age group and two were aged over 64 years. Of the 270 RSV detections to date, 152 were aged 6 months or less, 71 were aged between 7 and 12 months, 32 were aged between 1 and 4 years, and 10 were aged 5 years or more. Ages were unavailable for five of the positive RSV patients and one of the influenza positive patients.

Table 1: Total number of sentinel specimens tested for influenza and positive results by type and subtype for week 53 2004, week 1 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
53	15	10	66.7	10	0	0	0	0
1	29	10	34.5	10	0	0	0	0
Total	197	72	36.5	51	1	20	0	5

**Totals include specimens for which results are pending (1 in week 53, 4 in week 1)

Table 2: Total number non-sentinel* respiratory specimens and positive results by type and subtype for week 53 2004, week 1 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
53	57	0	0	0	0	0	0	15
1	61	5	8.2	5	0	0	0	26
Total	724	18	2.5	16	1	1	0	265

Table 3: Total number of sentinel and non-sentinel* respiratory specimens and positive results for week 53 2004, week 1 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
53	72	10	13.9	10	0	0	0	15
1	90	15	16.7	15	0	0	0	26
Total	921	90	9.8	67	2	21	0	270

*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 53, 4 in week 1)

Table 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 53 2004, week 1 2005 and the 2004/2005 season to date

	Week 53 2004			Week 1 2005			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	2	0	0	8	0	8	24	0	**24**
MHB	0	0	0	0	0	0	2	0	**2**
MWHB	1	0	0	1	0	1	12	0	**12**
NEHB	1	0	0	3	0	3	8	0	**8**
NWHB	0	0	0	0	0	0	4	0	**4**
SEHB	3	0	0	3	0	3	20	0	**20**
SHB	3	0	0	0	0	0	8	0	**8**
WHB	0	0	0	0	0	0	12	0	**12**
Total	**10**	**0**	**0**	**15**	**0**	**15**	**90**	**0**	**90**

* 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.

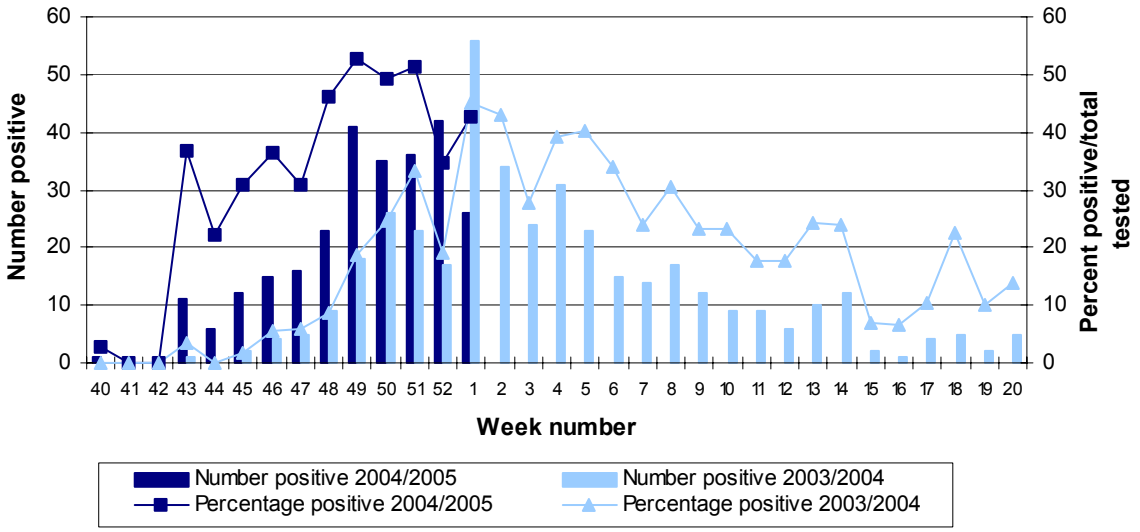

Figure 3. Number and percentage of non-sentinel RSV positive specimens detected during the 2004/2005** and 2003/2004 influenza seasons.

**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 protect against these strains.

School outbreak reports

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. This is the only school outbreak reported this season.

Mortality data

Two deaths registered during week 1 2005 were attributed to influenza, one in a child in the 5-14 age group with an underlying chronic medical condition who died in early December 2004 and the second in a person aged over 64 years who died in early January 2005.

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 53, the SEHB reported regional activity, the ERHA reported localised activity, three health boards reported sporadic activity and one health board reported no activity. Reports were not received from two health boards in week 53.

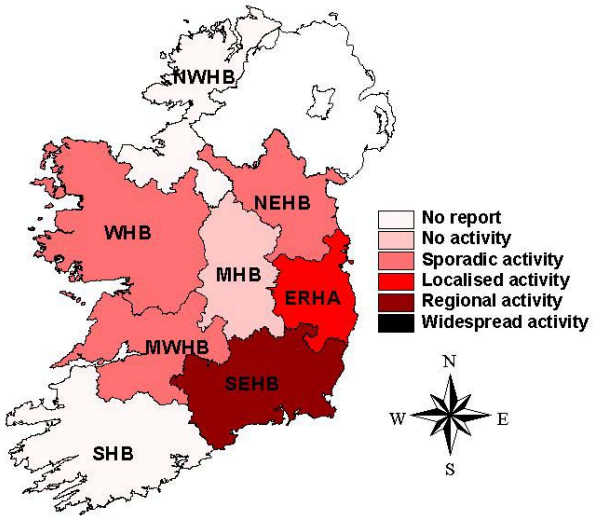

Figure 4: Map of influenza activity by health board/authority during week 53 2004/5

Influenza activity in Northern Ireland
Influenza activity levels increased in Northern Ireland during week 1. Twenty-three cases of clinical influenza and 112 cases of ILI were reported. These figures correspond to a combined ILI and clinical influenza rate of 90.7 cases per 100,000 population which is higher than the updated rate from week 53 (61.5 per 100,000 population). Returns were received from all of the 24 sentinel GP practices, giving a population coverage of 8.8%. There were no influenza detections in hospital samples during week 1. Of 17 hospital samples tested during week 1, 10 were positive for RSV.
http://www.cdscni.org.uk//

Influenza activity in England, Scotland and Wales
The ILI rate in England has risen to above the English baseline threshold (30 per 100,000) whereas the rate in Scotland remains below the Scottish baseline level (50 per 100,000). The week 1 ILI rate in England (40.7 per 100,000 population) showed an increase on the rate in week 53 (23.0 per 100,000). The week 1 ILI rate in Scotland remained below baseline levels at 41 per 100,000. The ILI rate in Wales increased from 2.3 per 100,000 in week 53 to 8.3 per 100,000 in week 1. During week 1, there were 12 influenza A (H3) detections from community sources in England.

Two influenza viruses have been characterised this season to date in England, one travel-associated influenza A/Wellington//1/2004(H3N2)-like virus and one influenza A/New Caledonia/20/99 (H1N1)-like virus. In Scotland, of the twelve samples which have been characterised there were eight influenza A/New Caledonia/20/99 (H1N1)-like viruses, two

influenza A/Wellington//1/2004(H3N2)-like viruses and one influenza B/Jiangsu/10/2003-like virus.

An outbreak of influenza B in children was reported from a hospital in Southern England during week 52. This was the second influenza outbreak of the season in Britain, the first being the influenza A (H3) outbreak in a school in Southern England which was reported in week 50.
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 in Europe is gradually increasing. During week 53, Spain reported widespread activity and France reported regional activity while local activity was reported in Belgium, Sweden and Italy. Of the other 17 networks, eight reported sporadic activity and nine reported no activity. Seventy-two (16%) of the 450 sentinel swabs collected tested positive for influenza, as did 104 non-sentinel swabs. Of these 176 positives, 161 were influenza A and 15 were influenza B. Fifty influenza A specimens were subtyped, five were H1 (one of these was A(H1N1)) and 45 were H3 (27 of these were A(H3N2)).

Fifty-two influenza viruses have been antigenically and/or genetically characterised in Europe since week 40 2004. Of these, there were 27 A/Wellington/1/2004 (H3N2)-like, 20 A/New Caledonia/20/99 (H1N1)-like, three B/Jiangsu/10/2003-like and two 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 90% of detections. Eighty one percent of the influenza A isolates subtyped have been A (H3), with A(H1) making up the remaining 19%. The characterisation data available so far suggest that the A/Wellington/1/2004 (H3N2)-like viruses have replaced the A/Fujian/411/2002 (H3N2)-like viruses which were predominant in the 2003/2004 season. However, A/New Caledonia/20/99 (H1N1)-like viruses and two different variants of influenza B are also circulating.
http://www.eiss.org/

Influenza activity in Canada
During week 53 (week ending 1/1/2005), widespread influenza activity was reported in pockets of British Columbia, Alberta and Quebec. Localised activity was reported in parts of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec and Nova Scotia. Elsewhere in Canada reported sporadic activity or no activity. There were 502 influenza A detections and 10 influenza B detections during week 1. Since the start of the 2004/2005 influenza season, 95 influenza viruses have been antigenically characterised. Ninety were influenza A/Fujian/411/02(H3N2)-like, four 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 100 influenza outbreaks, of which 87 occurred in retirement homes, 10 in hospitals and three in schools. There have been 73 reports of laboratory-confirmed influenza-associated hospitalisations in children under 16 years. Of these, 72 were influenza A viruses and there was one influenza B virus.
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 52 (week ending 1/1/2004). Activity is increasing principally in the Eastern States. The proportion of ILI patient visits to sentinel providers (3.0 %) was above the national baseline (2.5%). During week 52, Vermont, New York State and New York City reported widespread influenza activity. Twelve states reported regional activity and 13 states and the District of Columbia reported local activity. Twenty-two states reported sporadic influenza activity in week 52 and one state did not report. WHO and NREVSS laboratories tested 2,634 specimens for influenza during week 52. Fifty-six specimens were positive for influenza A (H3N2), 237 were positive for influenza A (unsubtyped) and 26 were positive for influenza B. Since October 1st, 85 influenza A (H3N2) and 22 influenza B viruses have been antigenically characterised by the CDC. All of the influenza A viruses were influenza A/Fujian/411/02-like. Nineteen of the influenza B viruses were characterised as B/Shanghai/361/02-like and three were B/Hong Kong/330/01-like.
http://www.cdc.gov/flu/weekly/

Influenza activity Worldwide
During week 1, a regional outbreak was reported in Tunisia whilst sporadic activity was reported in China, Ukraine and Latvia. Chile and Argentina reported no influenza activity for week 1.
http://rhone.b3e.jussieu.fr/flunet/www/

Avian influenza
Two young boys (aged 6 and 9 years) have died from the avian influenza virus in Viet Nam. Initial tests on both children have identified the H5 subtype of the virus and further testing is underway. The 16-year-old female patient hospitalised with the H5N1 virus during week 52 remains in a critical condition. Vietnamese authorities are monitoring close contacts of these cases for any signs of illness. All three cases occurred in the southern part of the country where poultry outbreaks have been recurring since December and are the first human cases of H5N1 detected in Viet Nam since September 2004. The total number of laboratory confirmed cases in Thailand and Viet Nam since the beginning of 2004 is now 47. Thirty-four 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:
NDSC: http://www.ndsc.ie/DiseaseTopicsA-Z/AvianInfluenza/
WHO: http://www.who.int/csr/disease/avian_influenza/en/

Northern Hemisphere influenza vaccine for the 2004/2005
The WHO has published its recommendations on the composition of influenza vaccines for use in the 2004-2005 Northern Hemisphere influenza season.

- 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 NDSC website:
http://www.ndsc.ie/Publications/InfluenzaWeeklySurveillanceReport/
http://www.ndsc.ie/DiseaseTopicsA-Z/InfluenzaFlu/