

Weekly Influenza Surveillance Report



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



Week 4 2005

**Week starting Monday 24th January 2005 &
ending Sunday 30th January 2005**

Report produced: 03/02/2005

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

Summary

During week four 2005, influenza activity in Ireland showed a decrease from activity in the previous week. The influenza-like illness (ILI) rate of 15.1 cases per 100,000 population is lower than the updated rate of 29.1 per 100,000 for week three. To date this season, five influenza B, 22 influenza A (H1N1), two influenza A (H3N2) and 112 influenza A (unsubtyped) viruses have been detected. RSV levels in week four were similar to week three levels. Of 52 non-sentinel specimens collected during week four, eight tested positive for RSV.

Clinical data

During week four (week ending 30th January 2005), 14 cases of ILI were reported by sentinel general practices, corresponding to an ILI consultation rate of 15.1 per 100,000 population (figure 1). This is a decrease from the updated week three rate of 29.1 per 100,000.

One of the ILI cases was in the 5-14 age group and the remaining 13 were in the 15-64 age group. Returns were received from 30 out of 35 sentinel GP practices, giving a population coverage of 2.4% (86.2% of the total possible reporting GP patient population). Eleven practices reported ILI.

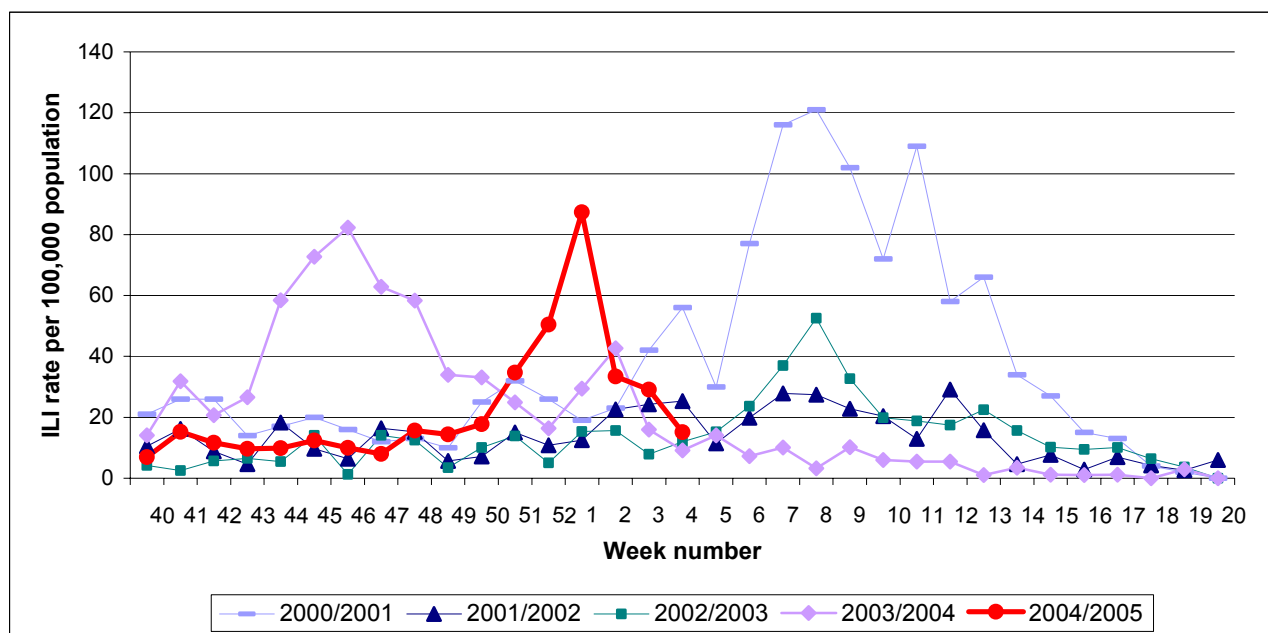


Figure 1. GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005**-influenza seasons.

***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*

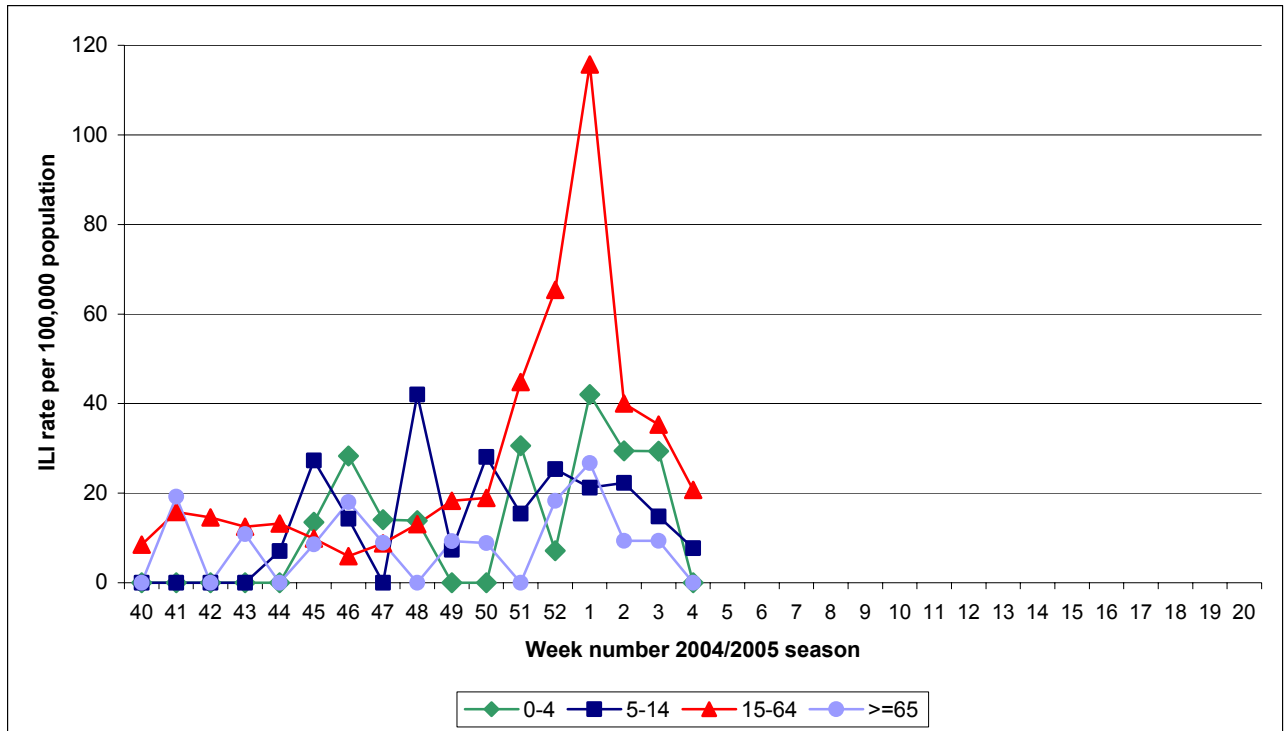


Figure 2. Age specific GP consultation rate* for ILI per 100,000 population by week** for the 2004/2005-influenza season

* 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 four 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 52 respiratory non-sentinel specimens taken in hospitals during week four. There were four influenza A positives and eight specimens tested positive for RSV (tables 2&3, figure 3).

During week four, the percentage of RSV positive specimens slightly increased to 15.4% from 13.3% in week three. This is lower than the percentage of RSV positive specimens in week four 2004 (39.2%). 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, five influenza B, 22 influenza A (H1N1), two influenza A (H3N2) and 112 influenza A (unsubtyped) viruses have been detected (table 3). Twenty-five of these were in the 0-4 age group, 17 were in the 5-14 age group, 81 were in the 15-64 age group and 16 were aged over 64 years. Of the 306 RSV detections to date, 170 were aged 6 months or less, 80 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 4 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
4	9	3	33.3	1	0	0	2	0
Total	249	96	38.6	69	1	21	5	5

Table 2: Total number non-sentinel* respiratory specimens and positive results by type and subtype for week 4 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
4	52	4	7.7	4	0	0	0	8
Total	899	45	5	43	1	1	0	301

Table 3: Total number of sentinel and non-sentinel* respiratory specimens and positive results for week 4 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
4	61	7	11.5	5	0	0	2	8
Total	1148	141	12.3	112	2	22	5	306

*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 4 2005 and the 2004/2005 season to date

	Week 4 2005			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	4	0	4	50	0	50
MHB	0	0	0	3	0	3
MWHB	0	0	0	14	1	15
NEHB	0	0	0	9	0	9
NWHB	0	0	0	8	0	8
SEHB	1	1	2	25	2	27
SHB	0	0	0	10	1	11
WHB	0	1	1	17	1	18
Total	5	2	7	136	5	141

* 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.

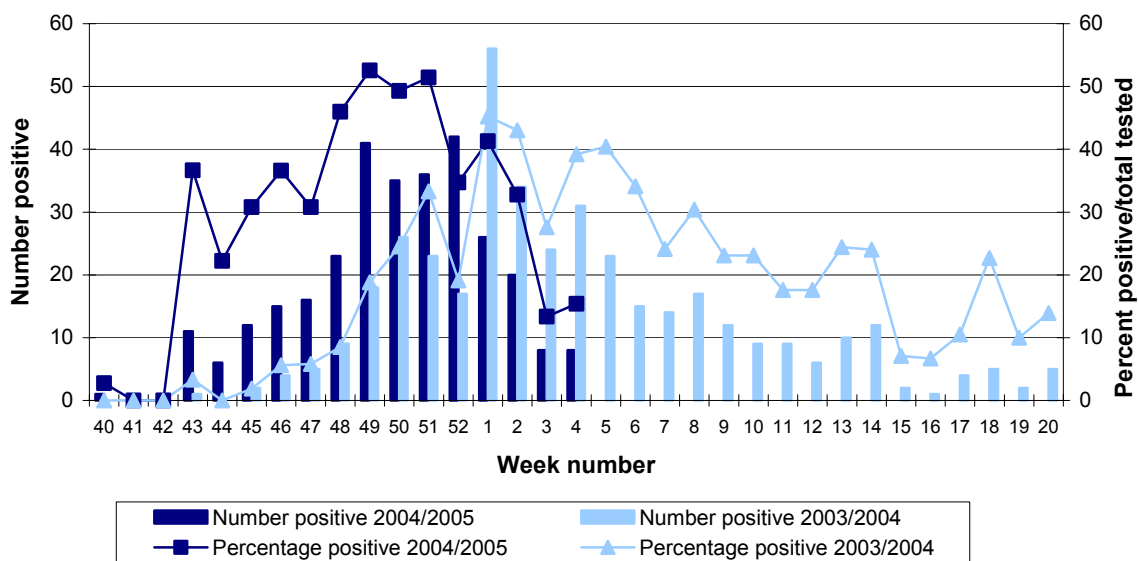


Figure 3. Number and percentage of non-sentinel RSV positive specimens detected during the 2004/2005** and 2003/2004 influenza seasons.

**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

Two influenza outbreaks have been reported this season to date. An outbreak of influenza A (unsubtyped) in a long-stay care facility for the elderly was reported by the ERHA during week three. 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 four.

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

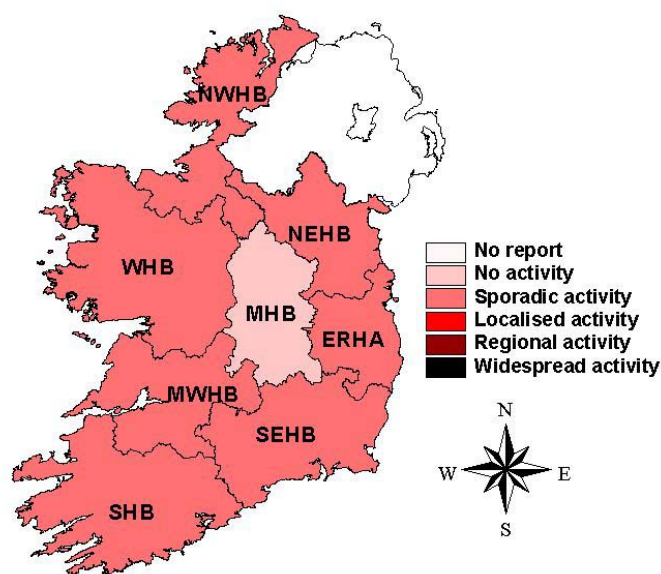


Figure 4: Map of influenza activity by health board/authority during week 3 2004/5

Influenza activity in Northern Ireland

Influenza activity levels decreased in Northern Ireland during week four. Four cases of clinical influenza and 60 cases of ILI were reported. These figures correspond to a combined ILI and clinical influenza rate of 50.7 cases per 100,000 population, which is lower than the updated rate from week three (58.1 per 100,000 population). Returns were received from 21 of the 24 sentinel GP practices, giving a population coverage of 7.4%. Two sentinel swabs tested positive for influenza during week four, as did one non-sentinel swab. All three positives were influenza A(H3) and all cases were aged over 60 years.

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

Influenza activity in England, Scotland and Wales

ILI levels in England and Scotland declined during week four. The week four ILI rate in England (31 per 100,000 population) was slightly lower than the week three rate of 34 per 100,000. At 28 per 100,000, the week four ILI rate in Scotland remained well below the baseline of 50 per 100,000. The ILI rate in Wales was eight per 100,000. During week four, there were 13 influenza A (H3) detections, three influenza A (H1) detections and three influenza B detections from hospital and community sources in England.

One hundred and eighteen influenza viruses have been characterised this season to date in England, 58 influenza A/Wellington/1/2004(H3N2)-like viruses, 45 influenza A/New Caledonia/20/99 (H1N1)-like viruses, 13 influenza B/Shanghai/361/02-like viruses and two influenza B/Hong Kong/330/-01-like viruses.

One outbreak of respiratory illness and one virologically confirmed flu outbreak were reported during week four. The outbreaks occurred in schools in northwest England. Influenza A was detected in samples collected from one of these schools. Three influenza outbreaks occurred in England prior to week four, one in week 50, one in week 52 and one in week three. Five outbreaks of respiratory illness occurred in England during week three
<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 three, influenza activity increased in Portugal and remained high in Spain. Activity in the rest of Europe remained mild to moderate. Switzerland, Spain and Portugal reported widespread activity and four countries (Italy, France, England and Belgium) reported regional activity while local activity was reported in the Czech Republic, the Netherlands and Sweden. Of the other 13 networks, nine reported sporadic activity and four reported no activity. Three hundred and eleven (27%) of the 1165 sentinel swabs collected tested positive for influenza, as did 203 non-sentinel swabs. Of these 514 positives, 475 were influenza A and 39 were influenza B. One hundred and fifty nine influenza A specimens were subtyped, three were A(H1N1) and 156 were H3 (71 of these were A(H3N2)). The majority of influenza positive specimens were collected in France, Spain and Portugal

One hundred and sixty-five influenza viruses have been antigenically and/or genetically characterised in Europe since week 40 2004. Of these, there were 107 A/Wellington/1/2004 (H3N2)-like, 26 A/New Caledonia/20/99 (H1N1)-like, six A/Fujian/411/2002 (H3N2)-like, two A/Panama/2007/99 (H3N2)-like, 12 B/Jiangsu/10/2003-like and 11 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 88% of detections. Eighty nine percent of the influenza A isolates subtyped have been A (H3), with A(H1) making up the remaining 11%. The predominant A(H3) viruses are A/Wellington/1/2004 (H3N2)-like, only 5% of A(H3) viruses characterised to date have been A/Fujian/411/2002 (H3N2)-like and 2% have been A/Panama/2007/99 (H3N2)-like.
<http://www.eiss.org/>

Influenza activity in Canada

During week three (week ending 22/1/2005), widespread influenza activity was reported in British Columbia, Alberta, Saskatchewan and parts of Ontario. Localised activity was reported in Manitoba, Quebec, New Brunswick and parts of Nova Scotia. Elsewhere in Canada reported sporadic activity or no activity. There were 801 influenza A detections (20% of all specimens tested) and 23 influenza B detections (0.6%) during week three. 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 292 influenza outbreaks, of which 239 occurred in retirement homes, 20 in hospitals and 33 in schools. There have been 148 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 three (week ending 22/1/2005). At 3.0%, the proportion of ILI patient visits to sentinel providers was above the national baseline (2.5%). Deaths attributed to pneumonia and influenza made up 7.7% of all deaths reported to the vital statistics offices of 122 US cities. This is below the epidemic threshold of 8.1% for week three. The third paediatric death of the 2004/2005 season was reported this week. During week three, New York City and 14 states reported widespread influenza activity. Seventeen states reported regional activity and ten states reported local activity. Nine states, the District of Columbia and Puerto Rico reported sporadic influenza activity in week three.

WHO and NREVSS laboratories tested 3,214 specimens for influenza during week three. Forty-nine of these were influenza A (H3N2) viruses, 481 were influenza A viruses that were untyped and 63 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 four, sporadic influenza activity was reported in China, Latvia and Malaysia. Ukraine reported a regional outbreak during week four.

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

Avian influenza

The first human case of avian flu in Cambodia was reported on February 2. The 25 year old woman developed symptoms on January 21, was hospitalised in neighbouring Viet Nam on January 27 and died three days later. Tests undertaken on February 1 were positive for influenza A(H5).

The WHO has received reports that three more people have died of the H5N1 virus in Viet Nam. A male in his thirties died in northern Viet Nam on January 27. A 10 year old girl from the south of the country developed symptoms on January 13, was hospitalised on January 20 and subsequently died. A 13 year old girl who was also from southern Viet Nam developed symptoms two days before being hospitalised on January 22. Her death was reported on February 2. The girl's mother was an earlier confirmed case who developed symptoms on January 14 and died on January 21. Vietnamese authorities are investigating this family cluster to explore sources of infection and look for signs of illness in close contacts.

If confirmed, these cases bring the total number of cases in Viet Nam since mid December to 13, 12 of which have been fatal. The date of onset in the first case was December 16. So far, field investigation has not revealed any evidence of person-to-person transmission. The total number of laboratory-confirmed cases in Thailand, Viet Nam and Cambodia since the beginning of 2004 is now 55. Forty-two 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/>