

Weekly Influenza Surveillance Report



Week 3 2004

**Week starting Monday 12th January 2004 & ending Sunday 18th
January 2004**

Report produced: 22/01/2004

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

Summary

GP consultation rates for influenza-like illness in Ireland decreased during week 3, with 3 influenza A positive detections. The WHO has confirmed the presence of avian influenza virus H5N1 in five patients who died of severe respiratory illness in Viet Nam in late December and January.

Clinical data

During week 3 2004 (the week ending the 18th of January 2004), 15 influenza-like illness (ILI) cases were reported from sentinel general practices, corresponding to an ILI consultation rate of 16.0 per 100,000 population, a decrease from the updated rate of 42.7 per 100,000 in week 3 (figure 1). Twenty-nine of the sentinel general practices reported during week 3, with 10 reporting ILI.

During week 3, ILI rates per 100,000 population decreased in all age groups, with rates highest in those aged 65 years or older (figure 2). It is important to note that 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.

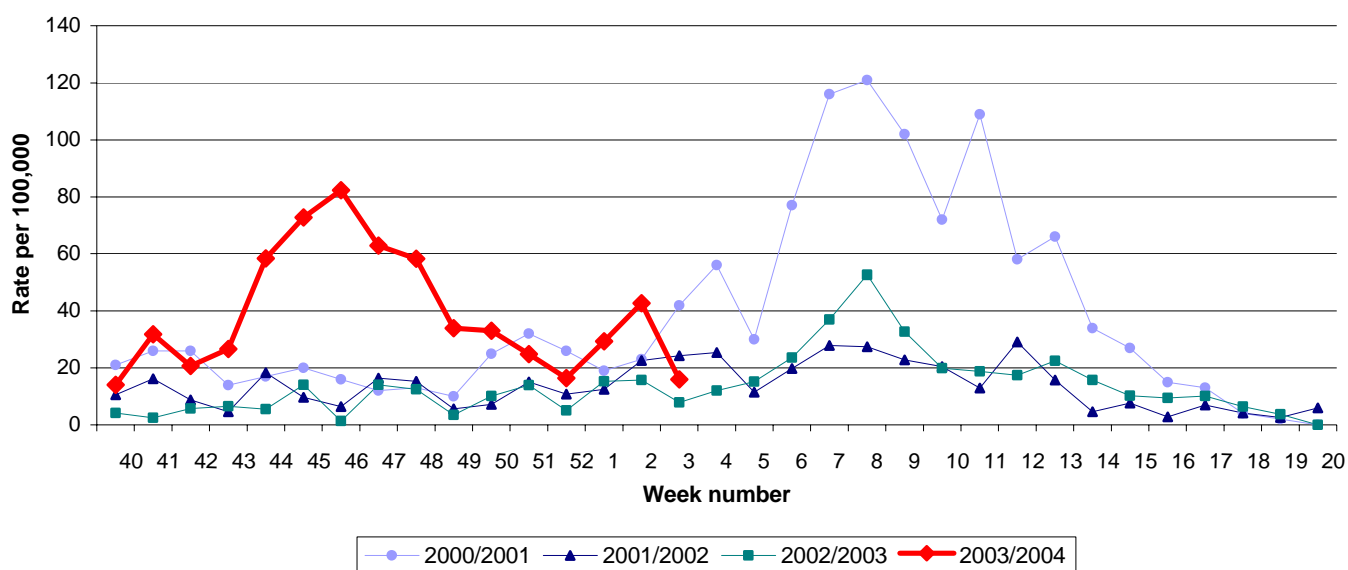


Figure 1: GP consultation rate for influenza-like illness per 100,000 population by report week, during the 2000/2001, 2001/2002, 2002/2003 & 2003/2004-influenza seasons.

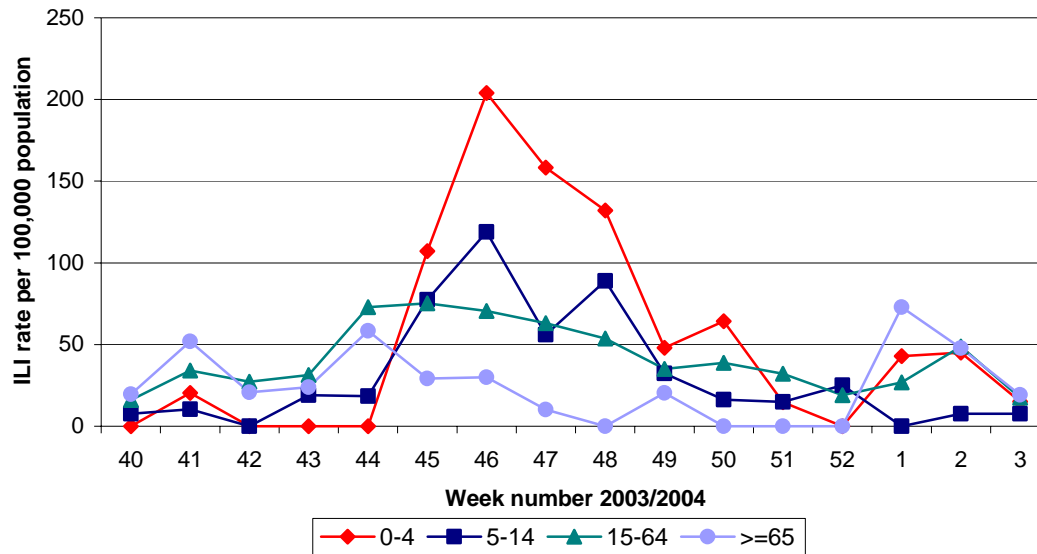


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week for the 2003/2004-influenza season. *The denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national age distribution.*

Virological data from the National Virus Reference Laboratory

During week 3, the National Virus Reference Laboratory (NVRL) received 5 swabs from sentinel GPs (table 1). One swab was positive for influenza A and no swabs were positive for influenza B. The total number of positive influenza swabs from sentinel GPs for the 2003/2004 season to date is 145: 15 influenza A (unsubtyped), 123 influenza A (H3N2) and 7 influenza B viruses.

The NVRL also tested 87 respiratory non-sentinel specimens mainly from hospitals and some GPs during week 3, 2 specimens were positive for influenza A, 1 for parainfluenza virus type 1 (PIV-1), 2 for PIV-3 and 24 specimens were positive for respiratory syncytial (RSV) virus. RSV outbreaks typically occur in the winter months with peak numbers of infections usually reported in December and January every year, though the size of the peak varies from winter to winter.

Between weeks 40 2003 and 3 2004, a total of 1134 respiratory non-sentinel specimens have been tested by the NVRL, 95 were positive for influenza A, 14 for influenza B, 219 RSV, 2 adenovirus, 5 PIV-1, 3 PIV-2 and 8 PIV-3. Of the 95 influenza A positive non-sentinel specimens detected this season, 64 cases were in the 0 to 4 year age group, 6 were 5-14, 21 were 15-64, one was aged 65 years or older and three were of unknown age group.

The total number of influenza positive specimens from all sources (sentinel and non-sentinel) this season is 254: 233 influenza A and 21 influenza B (table 2). Seventy-five influenza positive cases this season were in the 0 to 4 year age group and 30 were in the 5-14 year age group. Detection of influenza in younger age groups is not unexpected as there has been very little influenza in circulation for the last few seasons, therefore the opportunity for development of immunity has been limited. One hundred and forty influenza positive specimens this season were in cases aged

between 15 and 64 years of age, 5 cases were 65 years or older and 4 cases were of unknown age group.

Table 1: Total number of sentinel specimens tested for influenza by week and positive results by type, subtype and report week for the 2003/2004-influenza season

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A (unsubtyped)	Influenza A (H3N2)	Influenza B
40	9	0	0.0	0	0	0
41	12	4	33.3	0	4	0
42	14	7	50.0	0	7	0
43	10	4	40.0	0	4	0
44	37	24	64.9	0	23	1
45	48	27	56.3	0	25	2
46	38	16	42.1	0	16	0
47	37	20	54.1	0	20	0
48	32	17	53.1	1	15	1
49	18	7	38.9	0	5	2
50	17	4	23.5	0	4	0
51	13	7	53.8	6	0	1
52	5	2	20.0	2	0	0
1	5	2	40.0	2	0	0
2	13	3	23.1	3	0	0
3	5	1	20.0	1	0	0
Total	313	145	46.3	15	123	7

Table 2: Total number of non-sentinel* respiratory specimens and positive results by week for the 2003/2004 season

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A	Influenza B	RSV positive specimens
40	8	0	0.0	0	0	0
41	20	0	0.0	0	0	0
42	14	2	14.3	2	0	0
43	30	2	6.7	2	0	1
44	48	6	12.5	6	0	0
45	103	12	11.7	12	0	2
46	72	9	12.5	9	0	4
47	86	19	22.1	18	1	5
48	106	15	14.2	12	3	9
49	96	15	15.6	8	7	18
50	106	9	8.5	9	0	26
51	69	8	11.6	6	2	23
52	89	0	0.0	0	0	19
1	124	8	6.5	7	1	56
2	76	2	2.6	2	0	32
3	87	2	2.3	2	0	24
Total	1134	109	9.6	95	14	219

* 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 by week for the 2003/2004 season

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A	Influenza B	RSV
40	17	0	0.0	0	0	0
41	32	4	12.5	4	0	0
42	28	9	32.1	9	0	0
43	40	6	15.0	6	0	1
44	85	30	35.3	29	1	0
45	151	39	25.8	37	2	2
46	110	25	22.7	25	0	4
47	123	39	31.7	38	1	5
48	138	32	23.2	28	4	9
49	114	22	19.3	13	9	18
50	123	13	10.6	13	0	26
51	82	15	18.3	12	3	23
52	94	2	2.1	2	0	19
1	129	10	7.8	9	1	56
2	89	5	5.6	5	0	32
3	92	3	3.3	3	0	24
Total	1447	254	17.6	233	21	219

Table 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 3 2004 and the 2003/2004 season to date

	Week 3 2004			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	2	0	2	116	9	125
MHB	0	0	0	9	2	11
MWHB	0	0	0	19	1	20
NEHB	0	0	0	34	3	37
NWHB	0	0	0	16	0	16
SEHB	1	0	1	20	3	23
SHB	0	0	0	10	0	10
WHB	0	0	0	9	3	12
Total	3	0	3	233	21	254

* 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.

Antigenic characterisation

To date this season, 8 influenza A (H3N2) samples were sequenced at the NVRL and phylogenetic analysis was carried out at Mill Hill laboratories. All 8 samples were characterized as A/Fujian/411/2002-like strains. This year some antigenic drift has been detected in the A (H3N2) strains circulating in Europe, America, Australia and New Zealand. The A/Fujian-like strains are related to the A/Panama-like strain included in the current 2003/2004 vaccine and antibodies induced against this vaccine strain cross-react with A/Fujian-like strains, but generally to a reduced level. The current vaccine should give good protection against the virus strains in the vaccine, and it is also likely to give significant protection against the A/Fujian strain. The current vaccine is the best protection for those aged 65 years and over and in at risk groups.

School outbreak reports

To date this season, a total of 4 school outbreaks associated with ILI have been reported to NDSC. Increased absenteeism was reported in a sentinel primary school in the WHB during week 2 2004.

Hospital admissions data

During week 3 2004, total respiratory admissions increased in a sentinel hospital in the ERHA. During week 2 2004, total admissions and total respiratory admissions increased in sentinel hospitals in the ERHA and SEHB.

Mortality data

To date this season, two influenza-associated deaths in 0-4 year olds have been reported to NDSC, one in week 47 and one in week 48.

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, and/or sentinel hospital admissions data, and/or sentinel school absenteeism data. During week 2, (fig. 2), the WHB and MHB reported no influenza activity and the remaining health boards reported sporadic activity.

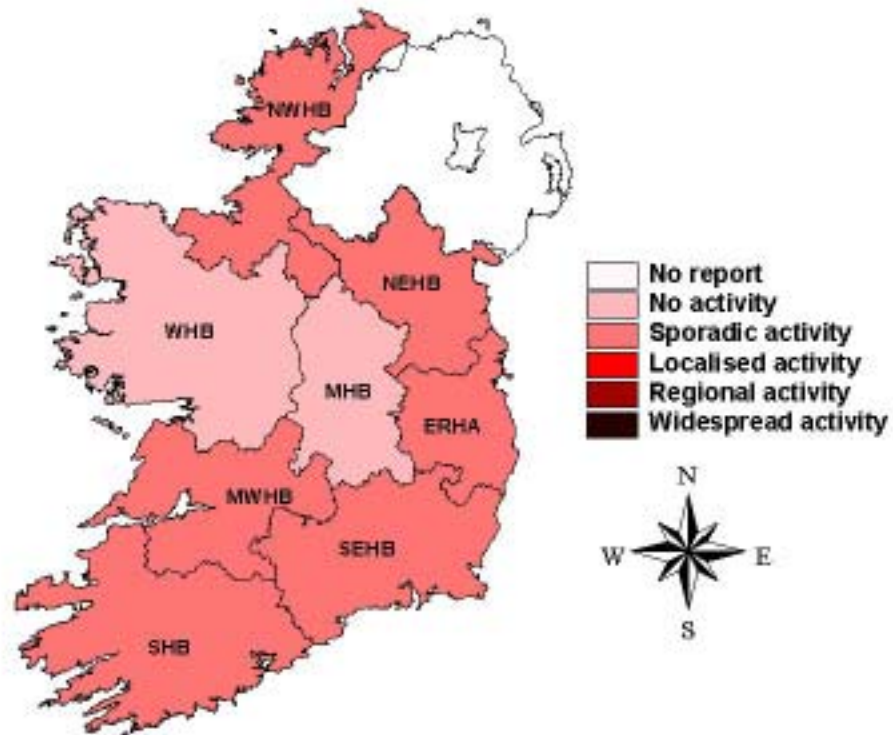


Figure 2: Map of influenza activity by health board/authority during week 2 2004.

Influenza activity in Northern Ireland

During week 3, 19 of 23 sentinel general practices reported a combined influenza and ILI consultation rate of 39.7 per 100,000, a decrease from the updated rate of 69.6 per 100,000 in week 2. There were no positive influenza virus detections during week 3. <http://www.cdscni.org.uk/>

Influenza activity in England, Scotland and Wales

In England, the GP consultation rates for ILI decreased in week 3, to 20.7 per 100,000 from 33.7 per 100,000 in week 2. In Scotland and Wales, the GP consultation rates for ILI remained little changed at 40.0 and 10.6 per 100,000, respectively. Four PCR specimens and three isolations of influenza A H3 were referred to the ERNVL during week 3. http://www.hpa.org.uk/infections/topics_az/influenza/fluactivity0304.htm

Influenza activity in Europe

Influenza activity associated with the A/Fujian strain is past its peak and has returned to normal seasonal levels in most of Europe. During week 2, the percentage of sentinel specimens positive for influenza is declining and the total number of positive specimens also fell, confirming the general downward trend. Only Slovenia and Latvia reported significant increases in clinical incidences in week 2. Widespread activity was reported in Norway and Switzerland. Regional activity was reported in France and Romania. Localised or sporadic activity was reported in the rest of Europe. Of the 295 positive influenza viruses reported to EISS in week 2: 292 were influenza A (213 A untyped and 79 AH3) and 3 were influenza B. <http://www.eiss.org/>

Influenza activity in Canada

During week 2, widespread influenza activity continued in Newfoundland, Quebec and Ontario. Elsewhere in Canada, localised activity was reported. Sentinel physicians reported 40 cases of ILI per 1000 patient visits in week 2, which is within the expected range for this time of year. Health Canada reported 642 (18%) influenza A detections and 4 (0.1%) influenza B detections during week 2. The predominant virus strain circulating in Canada remains influenza A/Fujian/411/2002 (H3N2)-like. <http://www.hc-sc.gc.ca/pphb-dgsp/fluwatch/index.html>

Influenza activity in the United States

The number of states reporting widespread influenza activity, the percentage of specimens testing positive for influenza and the percentage of patient visits for ILI all decreased during week 1. However, pneumonia and influenza mortality (10.2%) continued to exceed the epidemic threshold for week 1. During week 1, WHO and NREVSS laboratories reported 319 (11.9%) positive influenza specimens: 52 A(H3N2), 261 A untyped and 6 B viruses. <http://www.cdc.gov/ncidod/diseases/flu/fluvirus.htm>

Influenza activity Worldwide

No influenza activity was reported in Argentina during week 2. Sporadic influenza activity was reported in Hong Kong, with 18 influenza A (H3N2) and 3 influenza B virus detections. Sporadic activity was also reported in French Guiana (2A untyped), Malaysia and Chile (1A untyped). Localised activity was reported in Finland, with 26 influenza A untyped viruses detected. Regional activity was

reported in Japan (37 AH3N2 & 1B) and widespread activity in the Russian Federation. <http://rhone.b3e.jussieu.fr/flunet/www/>

Avian influenza A (H5N1) in humans in Viet Nam

Epidemics of highly pathogenic avian influenza, caused by various H5N1 strains, have been reported in parts of Asia since mid-December 2003. Millions of domestic poultry have either died or been destroyed as a result. Thousands of workers have been involved in the culling operations. According to the WHO, rapid elimination of the H5N1 virus in bird populations should be given high priority as a matter of international public health importance. On January the 19th, the WHO confirmed a fifth case of influenza A (H5N1) in humans in Viet Nam. All five confirmed cases have been fatal. The first death occurred on the 30th of December 2003. At present there is no evidence of human-to-human transmission.

As a precautionary measure, WHO is moving forward with the procedures needed to rapidly produce a new influenza vaccine capable of protecting humans against the H5N1 strain of avian influenza recently detected in Viet Nam. Further information can be obtained from the WHO website: <http://www.who.int/csr/don/en/>

Northern Hemisphere influenza vaccine for the 2003/2004

On February the 28th 2003, WHO published a recommendation on the composition of influenza vaccines for use in the 2003-2004 Northern Hemisphere influenza season.

- A/New Caledonia/20/99(H1N1)-like virus
- A/Moscow/10/99(H3N2)-like virus*
- B/Hong Kong/330/2001-like virus**

*The widely used vaccine strain is A/Panama/2007/99

** Currently used vaccine strains include B/Shandong/7/97, B/Hong Kong/330/2001, B/Hong Kong/1434/2002

<http://www.emea.eu.int>

<http://www.who.int/csr/disease/influenza/vaccinerecommendations1/en/>

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/>

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