

Weekly Influenza Surveillance Report



Week 4 2004

**Week starting Monday 19th January 2004 & ending Sunday 25th
January 2004**

Report produced: 28/01/2004

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

Summary

GP consultation rates for influenza-like illness in Ireland decreased further during week 4, with no influenza virus positive detections reported. NDSC continues to monitor occurrences of avian influenza A (H5N1) outbreaks in Asia. Human cases and deaths have now been reported in Vietnam and Thailand.

Clinical data

During week 4 2004 (the week ending the 25th of January 2004), 8 influenza-like illness (ILI) cases were reported from sentinel general practices, corresponding to an ILI consultation rate of 9.1 per 100,000 population, a decrease from the rate of 16.0 per 100,000 in week 3 (figure 1). Twenty-seven of the sentinel general practices reported during week 4, with only 3 reporting ILI.

During week 4, no ILI cases were reported in 0-4 and 5-14 year olds. ILI rates per 100,000 population decreased in 15-64 year olds and 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.

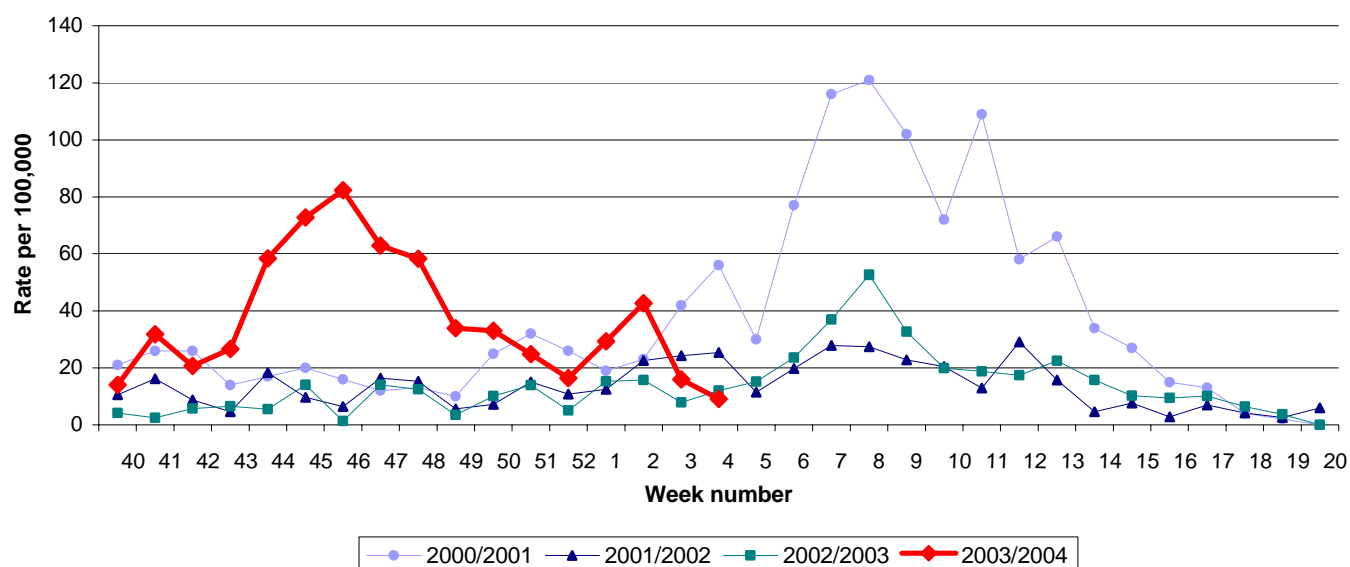


Figure 1: GP consultation rate for influenza-like illness per 100,000 population by report week, during the 2000/2001, 2001/2002, 2002/2003 & 2003/2004-influenza seasons.

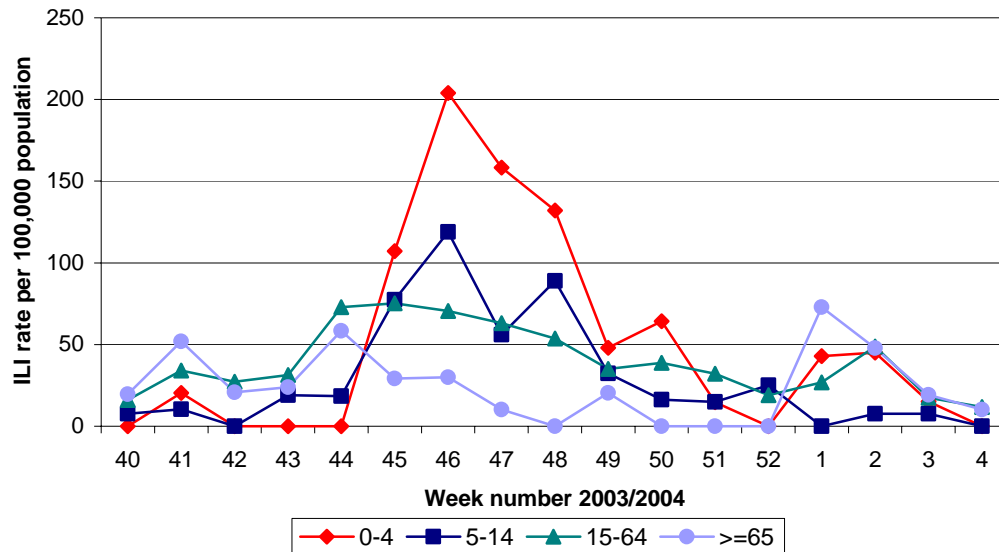


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week for the 2003/2004-influenza season. *The denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national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

Virological data from the National Virus Reference Laboratory

During week 4, the National Virus Reference Laboratory (NVRL) received 3 swabs from sentinel GPs (table 1), none of these were positive for influenza virus. 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 79 respiratory non-sentinel specimens mainly from hospitals and some GPs during week 4, no specimens were positive for influenza A or B, 3 were positive for parainfluenza virus type-3 (PIV-3) and 31 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 4 2004, a total of 1213 respiratory non-sentinel specimens have been tested by the NVRL, 95 were positive for influenza A, 14 for influenza B, 250 RSV, 2 adenovirus, 5 PIV-1, 3 PIV-2 and 11 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
4	3	0	0.0	0	0	0
Total	316	145	45.9	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
4	79	0	0.0	0	0	31
Total	1213	109	9.0	95	14	250

* 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
4	82	0	0.0	0	0	31
Total	1529	254	17.6	233	21	250

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

	Week 4 2004			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	0	0	0	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	0	0	0	20	3	23
SHB	0	0	0	10	0	10
WHB	0	0	0	9	3	12
Total	0	0	0	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 3 2004, followed by a decrease in week 4.

Hospital admissions data

There were no reports of increased hospital admissions during week 4. During week 3 2004, total respiratory admissions increased in a sentinel hospital in the ERHA.

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 3, (fig. 2), the MWHB, NWHB and SEHB reported no influenza activity and the remaining health boards reported sporadic activity.

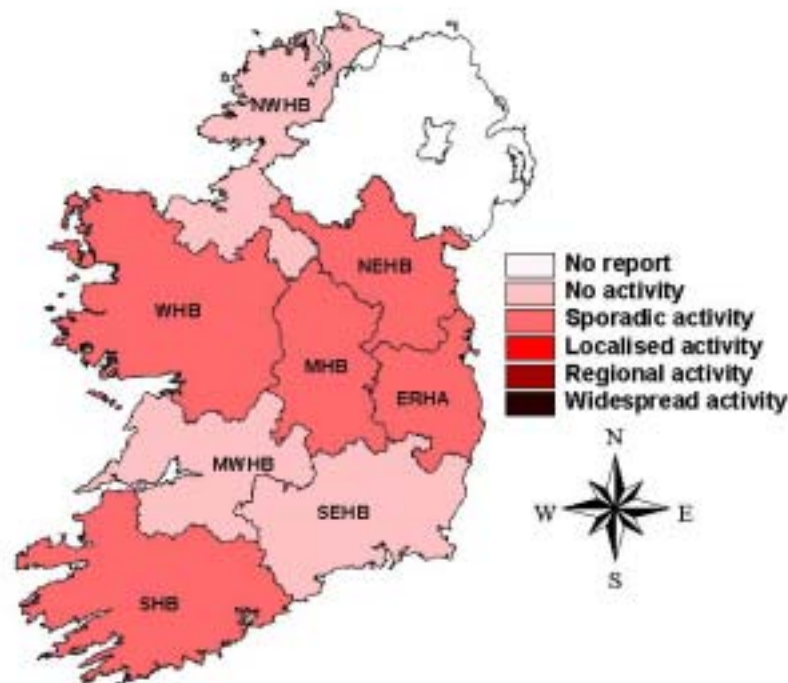


Figure 2: Map of influenza activity by health board/authority during week 3 2004.

Influenza activity in Northern Ireland

During week 4, sentinel general practices reported a combined influenza and ILI consultation rate of 44.0 per 100,000, unchanged from the updated rate of 44.0 per 100,000 in week 3. Three influenza A (H3) viruses were detected in hospitalised children during week 4. <http://www.cdscni.org.uk/>

Influenza activity in England, Scotland and Wales

Data for week 4 was not available at the time of production of this report.

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

During week 3, influenza activity increased in the east of Europe (Lithuania, Slovakia, Slovenia and Latvia) and Italy. In the networks where influenza activity has already peaked, the incidence levels were below baseline or were generally declining. Widespread activity was reported in Slovenia and Switzerland. Regional activity was reported in Italy, Norway and Romania. Local or sporadic activity was reported in the rest of Europe, except for Luxembourg, Northern Ireland and Portugal, which reported no activity. During week 3, 331 influenza viruses were reported to the European Influenza Surveillance Scheme, all were influenza A (215 untyped & 116 were A (H3)). The predominant virus circulating in Europe remains influenza A/Fujian/411/2002 (H3N2)-like. <http://www.eiss.org/>

Influenza activity in Canada

Widespread influenza activity was reported in Quebec and eastern Ontario during week 3. Localised activity continued in the Atlantic Provinces and regions of Manitoba, Ontario and British Columbia. Across Canada, during week 3, sentinel physicians reported 23 cases of ILI per 1000 patient visits, which is within the expected range for this time of year. Health Canada reported 632 (19%) influenza detections and no influenza B detections in week 3. 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 continued to decrease during week 2, with the majority of states reporting regional influenza activity. The percentage of specimens testing positive for influenza also decreased and the percentage of patient visits for ILI declined again in all regions. The national percentage of ILI (2.0%) declined below the national baseline. However, pneumonia and influenza mortality (10.3%) continued to exceed the epidemic threshold during week 2 (8.1%). During week 2, WHO and NREVSS laboratories reported 123 influenza virus positive detections: 26 A (H3N2), 95 A (untyped) and 2 B.

<http://www.cdc.gov/ncidod/diseases/flu/fluvirus.htm>

Influenza activity Worldwide

No influenza activity was reported in Argentina during week 3. Sporadic activity was reported in French Guiana, Hong Kong (5 A untyped, 4 A H3N2 & 5 B),

Malaysia, Madagascar (2 B), Iceland (1 A H3N2) and Chile (5 A untyped & 3 A H3N2). Regional activity was reported in the Russian Federation, Norway and Japan. In the Russian Federation, school children were mostly affected with 14 A and 5 B influenza virus detections. In Norway, 8 A (untyped) and one B influenza viruses were detected. In Japan, influenza A (H3N2) activity increased significantly in the Northern part of the country, with 60 A (H3N2) and 2 B viruses reported. In the Republic of Korea, 5 influenza B viruses were detected.

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

Avian influenza in Asia

NDSC continues to closely monitor occurrences of avian influenza A (H5N1) outbreaks in several Asian countries. Poultry outbreaks of influenza A (H5N1) have been confirmed in Japan, the Republic of Korea, Vietnam, Thailand, Cambodia and now China. Additional countries have detected deaths in poultry flocks, and the cause is currently under investigation. The outbreaks have affected millions of chickens in these countries, as well as several human cases in Vietnam and Thailand. Deaths have been reported in humans in Vietnam and Thailand. At present there is no evidence of human-to-human transmission.

For the latest WHO update on these outbreaks <http://www.who.int/csr/don/en/>

For WHO avian influenza fact sheet http://www.who.int/csr/don/2004_01_15/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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