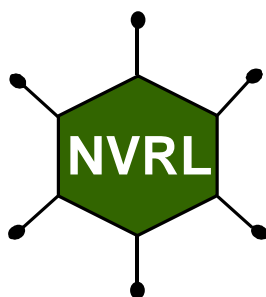


Weekly Influenza Surveillance Report



Week 2 2004

Report produced: 15/01/2004

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

Summary

GP consultation rates for influenza-like illness in Ireland increased further during week 2, with 5 influenza A positive detections. The WHO has confirmed the presence of avian influenza virus H5N1 in three patients who died of severe respiratory illness in Viet Nam in late December and early January. Investigations are focusing on the source of infection and possibilities of human-to-human transmission.

Clinical data

During week 2 2004 (the week ending the 11th of January 2004), 38 influenza-like illness (ILI) cases were reported from sentinel general practices, corresponding to an ILI consultation rate of 43.2 per 100,000 population, an increase from the updated rate of 29.4 per 100,000 in week 1 (figure 1). Twenty-eight of the sentinel general practices reported during week 2, with 16 reporting ILI.

During week 2, ILI rates per 100,000 population increased in those aged 0-4 and 15-64 years. ILI rates in those aged 65 years or older decreased and there were no cases in the 5-14 year age group. ILI rates in the 0-4, 15-64 year age groups and those aged 65 years or older ranged between 48 and 51 per 100,000 population (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.

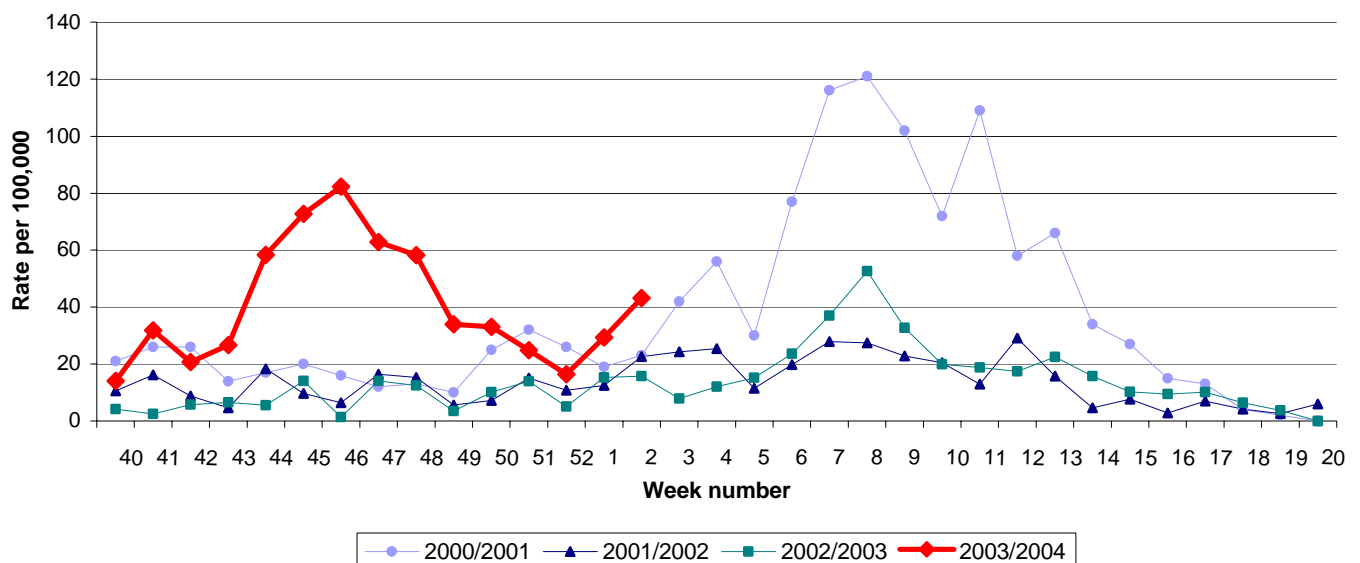


Figure 1: GP consultation rate for influenza-like illness per 100,000 population by report week, during the 2000/2001, 2001/2002, 2002/2003 & 2003/2004-influenza seasons.

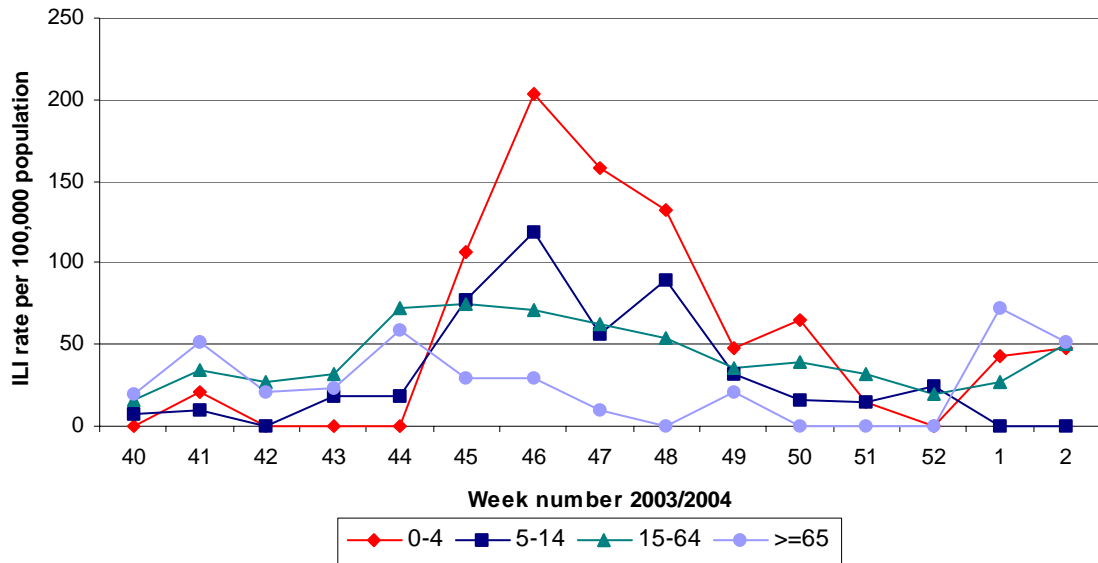


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week for the 2003/2004-influenza season. *The denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national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

Virological data from the National Virus Reference Laboratory

During week 2, the National Virus Reference Laboratory (NVRL) received 13 swabs from sentinel GPs (table 1). Three swabs were 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 144: 14 influenza A (unsubtyped), 123 influenza A (H3N2) and 7 influenza B viruses.

The NVRL also tested 76 respiratory non-sentinel specimens mainly from hospitals and some GPs during week 2, 2 specimens were positive for influenza A and 32 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. It is therefore not unexpected that RSV positive specimens have increased in recent weeks.

Between weeks 40 2003 and 2 2004, a total of 1047 respiratory non-sentinel specimens have been tested by the NVRL, 93 were positive for influenza A, 14 for influenza B, 195 RSV, 2 adenovirus, 4 parainfluenza virus (PIV) type-1, 3 PIV-2 and 6 PIV-3. Of the 93 influenza A positive non-sentinel specimens detected this season, 62 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 251: 230 influenza A and 21 influenza B (table 2). Seventy-three 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 thirty-nine 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
Total	308	144	47.8	14	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
Total	1047	107	10.2	93	14	195

* 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
Total	1266	251	19.8	230	21	195

Table 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 2 2004 and the 2003/2004 season to date

	Week 2 2004			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	3	0	3	114	9	123
MHB	0	0	0	9	2	11
MWHB	0	0	0	19	1	20
NEHB	0	0	0	34	3	37
NWHB	1	0	1	16	0	16
SEHB	1	0	1	19	3	22
SHB	0	0	0	10	0	10
WHB	0	0	0	9	3	12
Total	5	0	5	230	21	251

* 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.

Hospital admissions data

During week 1 2004, total A & E admissions in sentinel hospitals increased slightly in the MWHB and SEHB. Increases in respiratory admissions in a sentinel hospital in the WHB have been reported during weeks 1 & 2.

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 1, (fig. 2), the WHB reported no influenza activity and the remaining health boards reported sporadic activity.

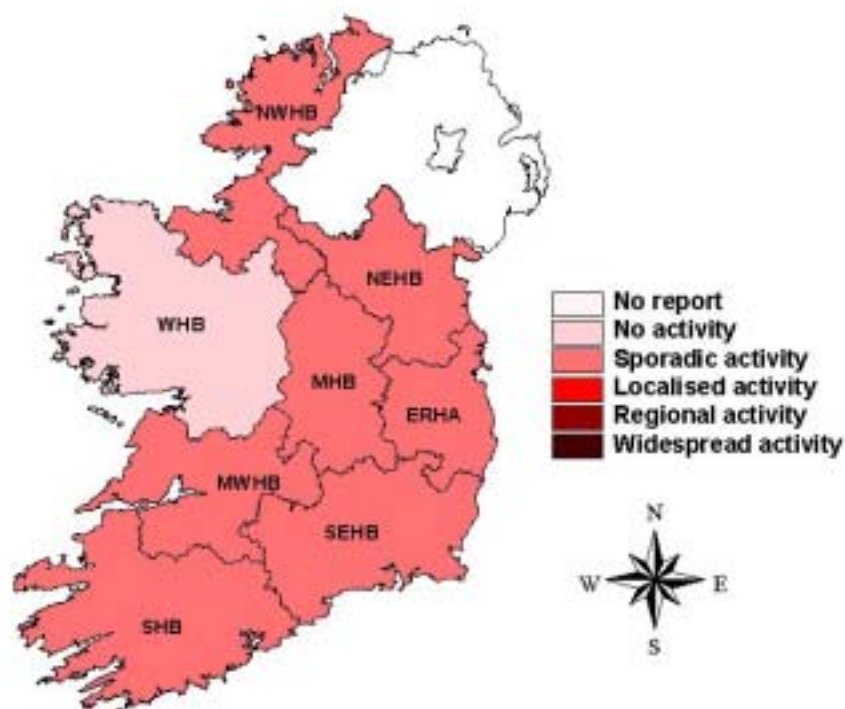


Figure 2: Map of influenza activity by health board/authority during week 1 2004.

Influenza activity in Northern Ireland

During week 2, 21 of 23 sentinel general practices reported a combined influenza and ILI consultation rate of 65.3 per 100,000, an increase from the updated rate of 49.7 per 100,000 in week 1. One influenza A (H3) virus was detected in a hospitalised adult during week 2. <http://www.cdscni.org.uk/>

Influenza activity in England, Scotland and Wales

In England, Scotland and Wales the GP consultation rates for ILI remained little changed in week 2, at 33.1, 41.0 and 9.7 per 100,000 respectively. Numbers of specimens referred to the ERNVL have decreased following the decline in influenza activity in the UK. There were no detections of influenza viruses from any specimens referred to the ERNVL during week 2.

http://www.hpa.org.uk/infections/topics_az/influenza/fluactivity0304.htm

Influenza activity in Europe

In European networks where influenza activity has already peaked, the incidence stabilised at a low level or further decreased during week 1. Widespread influenza activity was reported in Denmark, France, Norway and Switzerland. Regional activity was reported in Belgium and Germany. Localised or sporadic activity was reported in the remainder of Europe. Clinical activity increased significantly in Switzerland and slightly in Germany, Italy and Slovenia. During week 2, 243 positive influenza specimens were reported to the European Influenza Surveillance Scheme: 240 influenza A (216 untyped and 24 H3) and 3 influenza B. The predominant virus strain circulating in Europe remains influenza A/Fujian/411/2002 (H3N2)-like. Influenza activity associated with the Fujian strain has already peaked in many networks in Europe and has returned to normal seasonal levels. Switzerland was the only country where influenza activity increased considerably over the previous weeks. The Christmas and New Year holiday periods disrupt consultation and laboratory routines and need to be noted when interpreting the findings of surveillance data.

<http://www.eiss.org/>

Influenza activity in Canada

During week 1, widespread influenza activity was reported in Ontario, Quebec, Newfoundland and the Fraser region of British Columbia. Sentinel physicians reported 36 cases of ILI per 1000 patient visits, which is within the expected range for this time of year. Health Canada received 3,295 reports of laboratory tests for influenza, including 807 (24%) influenza A detections and no influenza B detections. The predominant virus strain circulating in Canada remains influenza A/Fujian/411/2002 (H3N2)-like. To date, there have been a total of 509 outbreaks reported in long term care facilities, retirement lodges, hospitals, schools and other facilities.

<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 53. However, pneumonia and influenza mortality (9.4%) continued to exceed the epidemic threshold for week 53. During week 53, WHO and NREVSS laboratories reported 3,092 specimens tested for influenza viruses, of which

641 (20.7%) were positive: 111 influenza A(H3N2), 524 influenza A untyped and 6 influenza B viruses.

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

Influenza activity Worldwide

No influenza activity was reported in Argentina and Madagascar during week 1. Sporadic influenza activity was reported in Hong Kong, with 2 influenza A (untyped) and 1 influenza A (H3N2) virus detections. Widespread activity was reported in Finland associated with 38 influenza A and one influenza B positive specimens. <http://rhone.b3e.jussieu.fr/flunet/www/>

Avian influenza A (H5N1) in humans in Viet Nam and poultry in Asia

An investigation of cases of acute respiratory illness has been undertaken following the laboratory confirmation of avian influenza virus H5N1 in three patients who died of severe respiratory illness in December and January in Viet Nam. The genes of the H5N1 strain implicated in the outbreak are of avian origin, indicating that the virus has not acquired human genes. The acquisition of human genes increases the likelihood that a virus of avian origin can be readily transmitted from human to human. An outbreak of highly pathogenic H5N1 avian influenza was detected in southern Viet Nam in the beginning of January. The outbreak is now known to have spread to other provinces in the country. Reports indicate that pigs and ducks have also been infected. The Republic of Korea and Japan are also experiencing outbreaks in poultry caused by the H5N1 virus.

In response to these developments, WHO is supporting national authorities in investigating the outbreaks and has enhanced surveillance activities in Asia. WHO has also initiated the development of candidates and reagents for vaccine production, and antigenic and genetic assessments of the H5N1 strain to provide up-to-date diagnostic tests to national influenza centres. <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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