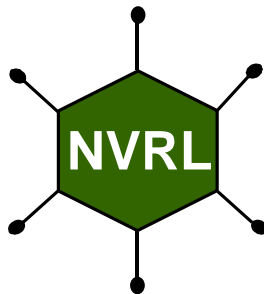


Weekly Influenza Surveillance Report



Week 1 2004

Report produced: 08/01/2004

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

Summary

GP consultation rates for influenza-like illness (ILI) in Ireland increased slightly during week 1, this may be partly due to the disruption in reporting during the Christmas and New Year period. Four influenza A and one influenza B positive specimens were detected in week 1. The number of RSV positive specimens increased, as expected during December and January each season. The wave of influenza activity associated with the A/Fujian/411/2002 (H3N2)-like strain is now moving eastwards across Europe.

Clinical data

During week 1 2004 (the week ending the 4th of January 2004), 21 influenza-like illness (ILI) cases were reported from sentinel general practices, corresponding to an ILI consultation rate of 21.9 per 100,000 population, an increase from the updated rate of 16.4 per 100,000 in week 52 (figure 1). This increase could partly be due to the disruption in reporting during the Christmas and New Year holidays. Thirty of the sentinel general practices reported during week 1, with 10 reporting ILI.

During week 1, ILI rates per 100,000 population increased in those aged 0-4 years and those aged 65 years or older. ILI rates in the 5-14 and 15-64 year age groups decreased. The highest ILI rates during week 1 were 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.

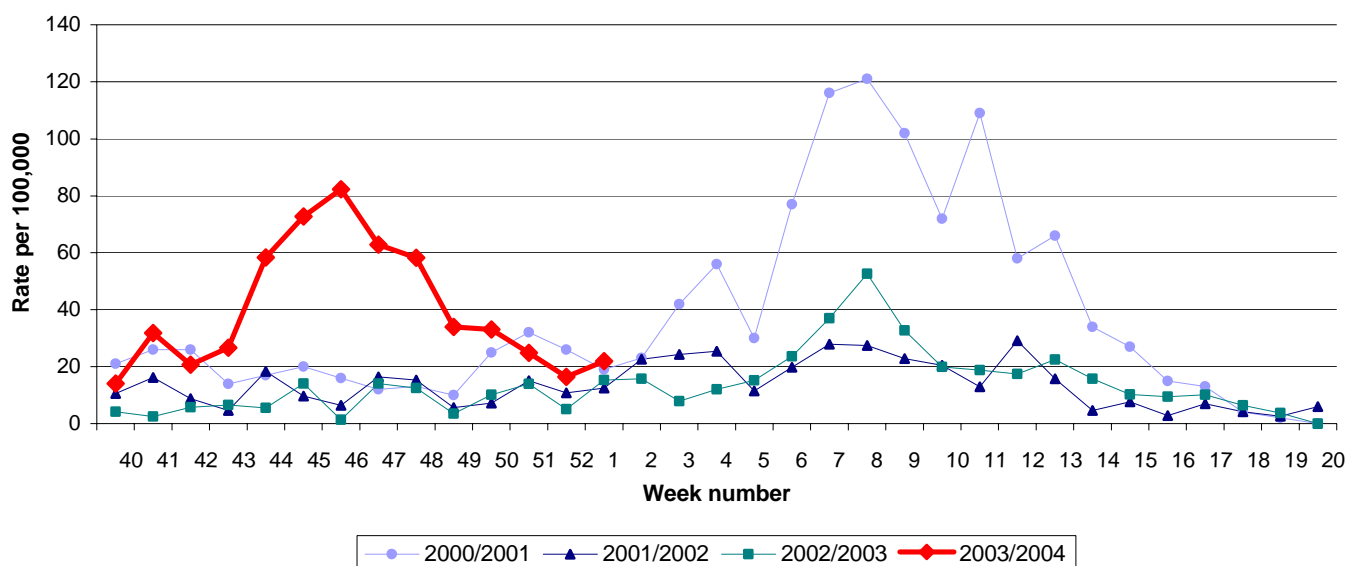


Figure 1: GP consultation rate for influenza-like illness per 100,000 population by report week, during the 2000/2001, 2001/2002, 2002/2003 & 2003/2004-influenza seasons.

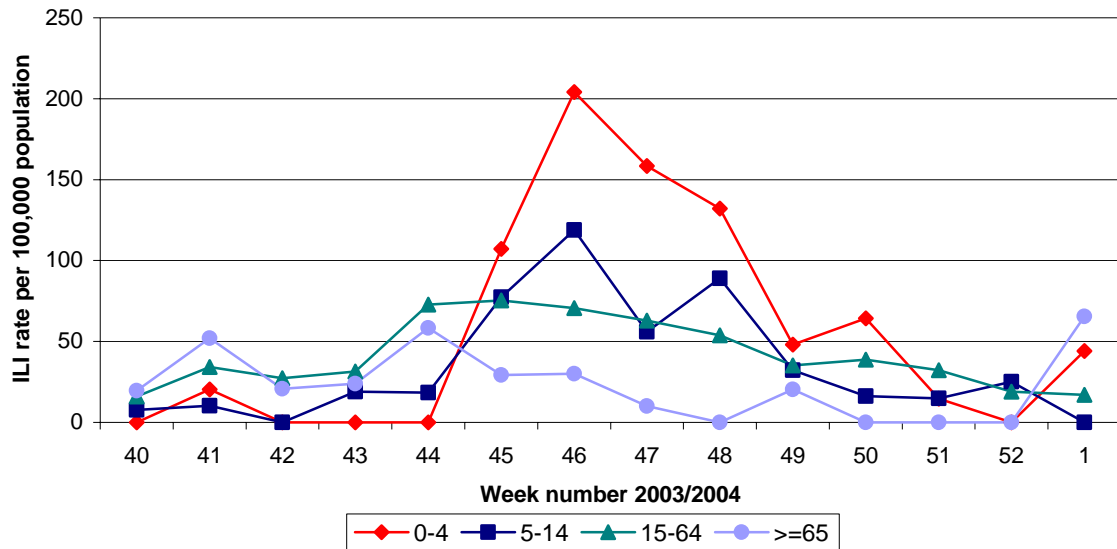


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week for the 2003/2004-influenza season. *The denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national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

Virological data from the National Virus Reference Laboratory

During week 1, the National Virus Reference Laboratory (NVRL) received 2 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 141: 38 influenza A (unsubtyped), 96 influenza A (H3N2) and 7 influenza B viruses.

The NVRL also tested 89 respiratory non-sentinel specimens mainly from hospitals and some GPs during week 1, 3 specimens were positive for influenza A, 1 for influenza B and 47 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 further during week 1.

Between weeks 40 2003 and 1 2004, a total of 936 respiratory non-sentinel specimens have been tested by the NVRL, 87 were positive for influenza A, 14 for influenza B, 154 RSV, 2 adenovirus, 4 parainfluenza virus (PIV) type-1, 3 PIV-2 and 6 PIV-3. Of the 87 influenza A positive non-sentinel specimens detected this season, 61 cases were in the 0 to 4 year age group, 5 were 5-14, 18 were 15-64, one was aged 65 years or older and two were of unknown age group.

The total number of influenza positive specimens from all sources (sentinel and non-sentinel) this season is 242: 221 influenza A and 21 influenza B (table 2). Seventy-two influenza positive cases this season were in the 0 to 4 year age group and 29 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-three influenza positive specimens this season were in cases aged between 15 and 64 years of age, 5 cases were 65 years or older and 3 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	25	67.6	1	23	1
45	48	27	56.3	0	25	2
46	38	16	42.1	1	15	0
47	37	20	54.1	8	12	0
48	32	17	53.1	10	6	1
49	18	7	38.9	5	0	2
50	17	4	23.5	4	0	0
51	13	7	53.8	6	0	1
52	5	2	20.0	2	0	0
1	2	1	50.0	1	0	0
Total	292	141	48.3	38	96	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
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	89	4	4.5	3	1	47
Total	936	101	10.8	87	14	154

* 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	31	36.5	30	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	91	5	5.5	4	1	47
Total	1228	242	19.7	221	21	154

Table 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 1 2004 and the 2003/2004 season to date

	Week 1 2004			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	3	1	4	107	9	116
MHB	0	0	0	9	2	11
MWHB	0	0	0	19	1	20
NEHB	0	0	0	35	3	38
NWHB	1	0	1	15	0	15
SEHB	0	0	0	17	3	20
SHB	0	0	0	10	0	10
WHB	0	0	0	9	3	12
Total	4	1	5	221	21	242

* 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

School absenteeism data is not available for weeks 52 2003 & 1 2004 due to school holidays. To date this season, a total of 4 school outbreaks associated with ILI have been reported to NDSC.

Hospital admissions data

Respiratory tract admissions increased in a sentinel hospital in the ERHA during week 52 2003.

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 (please note that this is a correction to the previous report stating that the 2 deaths occurred in week 47).

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 52, (fig. 2), the MHB, NWHB & WHB reported no influenza activity and the remaining health boards reported sporadic activity.

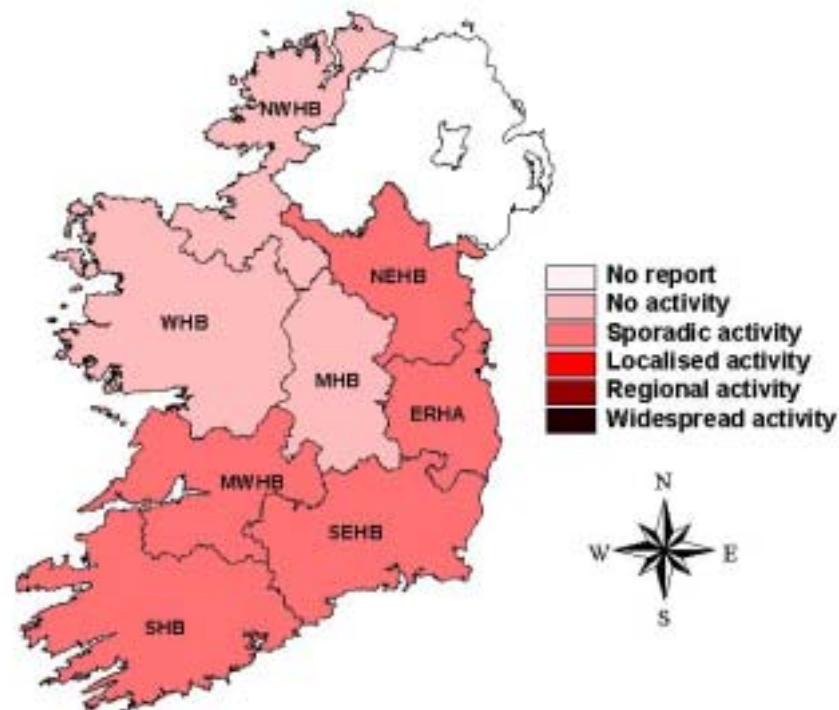


Figure 2: Map of influenza activity by health board during week 52 2003.

Influenza activity in Northern Ireland

During week 1, 21 of 23 sentinel general practices reported declining influenza activity in Northern Ireland. ILI consultation rates decreased to 48.9 per 100,000 in week 1, from the updated rate of 61.9 per 100,000 in week 52. During this period, 2 influenza A (H3) viruses were detected, in hospitalised children.

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

Influenza activity in England, Scotland and Wales

In England, GP consultation rates for ILI increased slightly from the rate of 20.8 per 100,000 in week 52 to 28.5 per 100,000 in week 1. This increase may be in part due to the disruption to GP services during the Christmas and New year period. In Wales the GP consultation rate decreased, to 3.25 per 100,000 in week 1. The GP consultation rate also decreased in Scotland to 35 per 100,000 in week 1. There were no detections of influenza viruses from any specimens referred to the ERNVL during week 1; this is most likely due to a reduced service during the Christmas period.

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

Influenza activity in Europe

During week 52, the incidence of ILI and/or acute respiratory illness decreased in Belgium and France, following the pattern observed in England, Scotland, Northern Ireland, Ireland, Portugal and Spain. Denmark, Lithuania, Switzerland and Romania also reported declining incidences in week 52. Widespread activity was reported in Belgium, Denmark, France, the Netherlands and Switzerland. In the rest of Europe, localised or sporadic activity was reported. All of the 507 influenza viruses reported to the European Influenza Surveillance Scheme in week 52 were influenza A: 413 untyped, 2 H1N1 and 92 H3 (90 H3N2). The predominant virus currently circulating in Europe is the A/Fujian/411/2002 (H3N2)-like strain. Influenza activity due to the Fujian-like strain has declined in most of Western Europe. Generally, clinical influenza activity in Western Europe this season has been higher than during the 2002/2003 season, particularly in children. The current wave of activity is likely to affect the remaining countries in Central and Eastern Europe. <http://www.eiss.org/>

Influenza activity in Canada

During week 52, Quebec reported widespread influenza activity; however, Ontario had the highest proportion of laboratory detections (almost 50%) positive for influenza. Sentinel physicians in Canada reported 79 cases ILI per 1000 patient visits, which is within the expected range. Health Canada received 2,649 reports of laboratory tests for influenza: 823 (31%) influenza A detections and no influenza B detections. The National Microbiology Laboratory has antigenically characterised 412 influenza viruses to date: 385 (94%) A/Fujian/411/02(H3N2)-like, 25 (6%) A/Panama/2007/99(H3N2)-like, 1 (0.3%) A/NewCaledonia/20/99(H1N1)-like, and 1 (0.3%) H1N2. To date, there have been a total of 370 outbreaks reported, in long term care facilities, retirement lodges, hospitals and schools.

<http://www.hc-sc.gc.ca/pphb-dgsp/fluwatch/index.html>

Influenza activity in the United States

During weeks 51 and 52, the percentage of patient visits to U.S. sentinel providers for ILI continued to increase and remained above the national baseline. Forty-two state health departments, New York City and the District of Columbia reported widespread influenza activity and 8 states reported regional activity during week 52. Pneumonia

and influenza mortality (9.0%) exceeded the epidemic threshold for week 52 (7.9%). WHO and NREVSS laboratories reported 3,510 specimens tested for influenza viruses during week 52: 148 A (H3N2), 836 A (unsubtyped) and 4 B influenza viruses. Since September 28th 2003, WHO and NREVSS laboratories have tested a total of 50,743 specimens for influenza viruses, 14,847 (99.4%) were influenza A viruses [3,576 A (H3N2) & 1 A (H1)] and 95 (0.6%) were influenza B viruses. All 50 states have reported laboratory-confirmed influenza this season. Availability of trivalent inactivated influenza vaccine is limited in the US; additional doses of the vaccine previously purchased by CDC will be shipped to state and local public health agencies in January. The live, attenuated influenza vaccine continues to be available in both the private and public sectors.

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

Influenza activity Worldwide

During week 52, sporadic influenza activity was reported in Hong Kong (1 A unsubtyped, 7 A H3N2 & 1 B) and Iceland (2 A H3N2). Regional influenza outbreaks were reported in the North and Eastern parts of the Russian Federation, with school children most affected. In Israel, 10 influenza A (unsubtyped) virus detections were reported during week 52.

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

Influenza A (H9N2) in Hong Kong

The isolated, single case of H9N2 that occurred in Hong Kong SAR in December 2003 http://www.who.int/csr/don/2003_12_10/en/ has been further investigated. Sera from the infected boy, family members, health care workers and other contacts have been tested in Hong Kong SAR and a WHO Collaborating Centre for the presence of antibodies against the H9N2 virus and confirmatory tests are in progress. Test results should be available in the week beginning 12th January. The H9N2 virus isolated in December 2003 is from the G9 group and is closely related, although not identical, to previous H9 strains. The WHO H9N2 test kit, distributed to national influenza centres, allows detection of this H9N2 virus. <http://www.who.int/csr/don/en/>

Avian influenza in the Republic of Korea

Following an initial avian influenza A (H5N1) outbreak on a chicken farm in the Republic of Korea http://www.who.int/csr/don/2003_12_23/en/, avian influenza spread to 14 other farms. A further 18 farms were under surveillance. Since the 23rd December 2003, only one more farm has been confirmed as infected by avian influenza A (H5N1) viruses. Approximately, 2500 serum samples were collected from individuals in contact with suspect infected animals and nearby residents. A serological study will be carried out in mid-January 2004. Approximately, 70 human clinical specimens were tested by RT-PCR and all were negative. More than 1000 persons exposed to the virus were given antivirals and approximately 1500 individuals were vaccinated. <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 surveillance reports are available on the NDSC website:

<http://www.ndsc.ie/Publications/InfluenzaWeeklySurveillanceReport/>

Further information on influenza is also available on the NDSC website:

<http://www.ndsc.ie/DiseaseTopicsA-Z/InfluenzaFlu/>

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