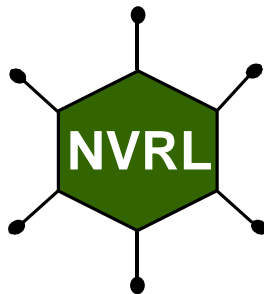


Weekly Influenza Surveillance Report



Week 49 2003

Report produced: 11/12/2003

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 49. Influenza activity levels remain higher than previously recorded for this time of year, however activity levels are still within the range of normal seasonal activity. Influenza activity decreased in younger age groups in week 49. Influenza A continues to circulate throughout the country, with influenza A (H3N2) the predominant subtype identified this season. Influenza B has been detected in six health boards this season. Although, the early influenza activity in Ireland appears to have peaked, it is too early to predict whether the peak in activity for the season has been reached or if there will be a resurgence of activity in the forthcoming weeks or later in the season.

Clinical data

During week 49 2003 (the week ending the 7th of December 2003), 23 influenza-like illness (ILI) cases were reported from sentinel general practices, corresponding to an ILI consultation rate of 28.0 per 100,000 population, decreasing from the rate of 58.3 per 100,000 in week 48 (figure 1). Twenty-eight of the sentinel general practices reported during week 48, with 14 reporting ILI.

During week 49, ILI rates per 100,000 population decreased in the 0-4, 5-14 and 15-64 year age groups and increased slightly in those aged 65 years or older. The highest ILI rates were in the 0-4 year age group (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.

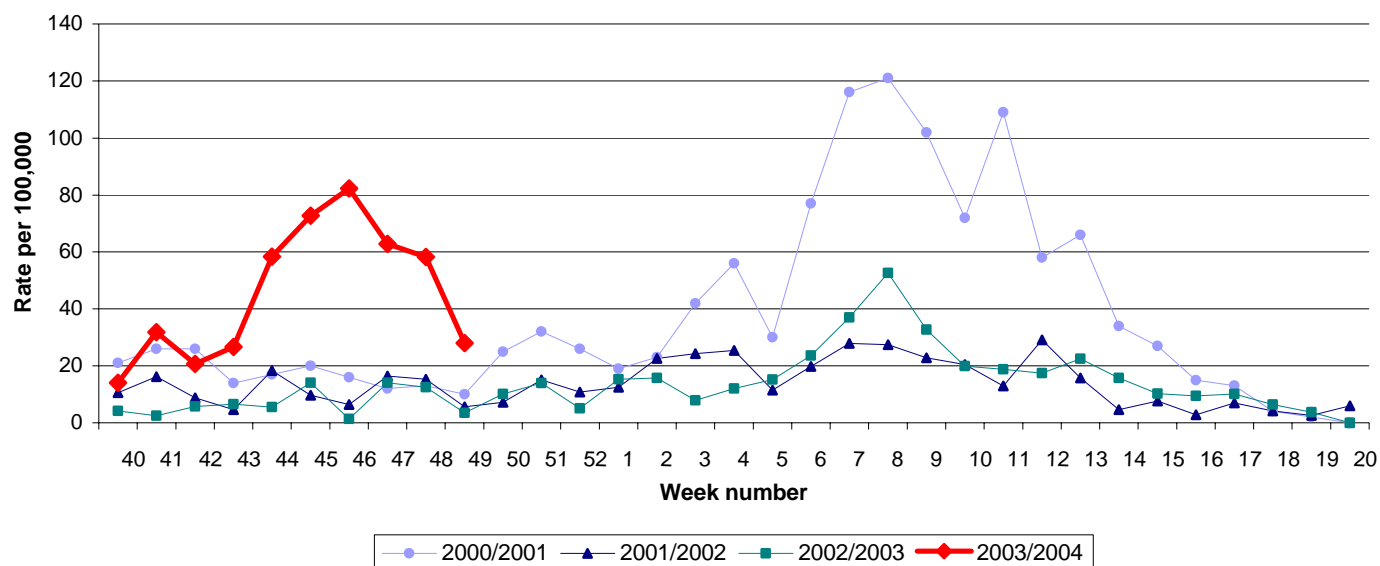


Figure 1: GP consultation rate for influenza-like illness per 100,000 population by report week, during the 2000/2001, 2001/2002, 2002/2003 & 2003/2004-influenza seasons.

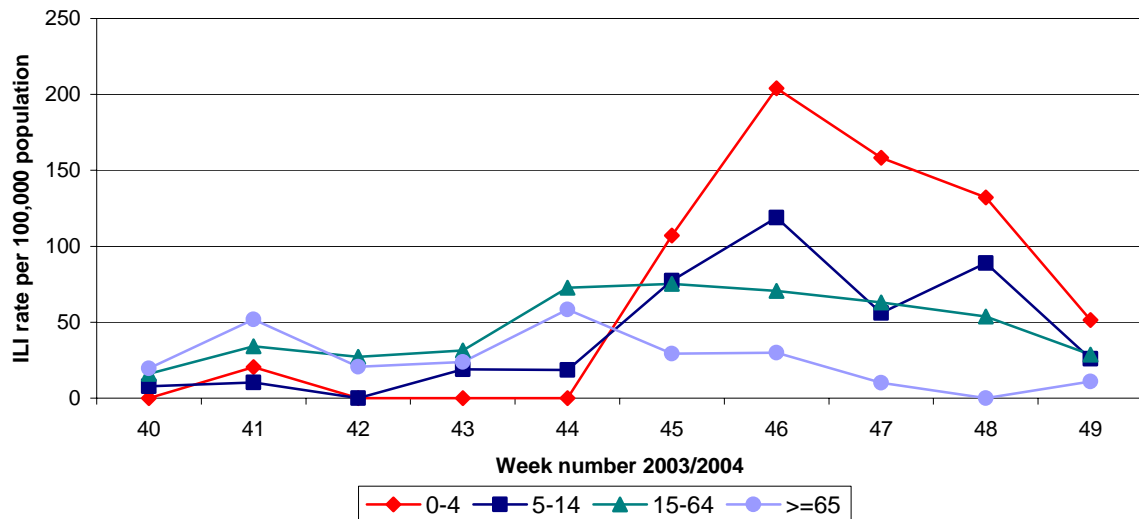


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week for the 2003/2004-influenza season. *The denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national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

Virological data from the National Virus Reference Laboratory

During week 49, the National Virus Reference Laboratory (NVRL) received 20 swabs from sentinel GPs (table 1). Seven swabs were positive for influenza: 5 influenza A (unsubtyped) and 2 influenza B. The total number of positive influenza swabs from sentinel GPs for the 2003/2004 season to date is 127: 70 influenza A (unsubtyped), 51 influenza A (H3N2) and 6 influenza B viruses.

The NVRL also tested 96 respiratory non-sentinel specimens mainly from hospitals and some GPs during week 49, 8 were positive for influenza A, 7 for influenza B and 16 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 increased in week 49. Between weeks 40 and 49 2003, a total of 583 respiratory non-sentinel specimens have been tested by the NVRL, 70 were positive for influenza A, 11 for influenza B, 37 RSV, 4 parainfluenza virus (PIV) type-1, 2 PIV-2 and 3 PIV-3. Of the 70 influenza A positive non-sentinel specimens detected this season, 50 cases were in the 0 to 4 year age group, 3 were 5-14, 14 were 15-64, one was aged 65 years or older and 2 cases were of unknown age.

The total number of influenza positive specimens from all sources (sentinel and non-sentinel) this season is 208: 191 influenza A and 17 influenza B (table 2). The majority of influenza positive cases this season have been in younger age groups, with 61 cases in the 0 to 4 year age group and 24 aged 5-14. 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 seventeen influenza positive specimens this season were in cases aged between 15 and 64 years of age, 3 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	1	6	0
43	10	4	40.0	1	3	0
44	37	25	67.6	4	20	1
45	48	27	56.3	24	1	2
46	38	16	42.1	9	7	0
47	37	20	54.1	10	10	0
48	31	17	54.8	16	0	1
49	20	7	35.0	5	0	2
Total	256	127	49.6	70	51	6

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	10	13.9	10	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	16
Total	583	81	13.9	70	11	37

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	26	23.6	26	0	4
47	123	39	31.7	38	1	5
48	137	32	23.4	28	4	9
49	116	22	19.0	13	9	16
Total	839	208	24.8	191	17	37

Table 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 49 and the 2003/2004 season to date

	Week 49 2003			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	7	4	11	95	6	101
MHB	0	1	1	7	2	9
MWHB	0	0	0	14	1	15
NEHB	1	1	2	32	2	34
NWHB	2	0	2	10	0	10
SEHB	3	1	4	16	3	19
SHB	0	0	0	8	0	8
WHB	0	2	2	9	3	12
Total	13	9	22	191	17	208

* 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

No school outbreaks were reported to NDSC during week 48 or week 49. To date this season, a total of 4 school outbreaks associated with ILI have been reported to NDSC.

Hospital admissions data

Respiratory admissions increased in week 48 in sentinel hospitals in the ERHA and SEHB.

Mortality data

There have been no further reports of influenza-associated deaths in Ireland. During week 47, NDSC received a report of a death associated with influenza A in an 18-month-old child in the SEHB. This is the only report of a death associated with influenza in Ireland this season.

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 48, the ERHA and the NEHB reported

localised influenza activity and the remaining health boards reported sporadic influenza activity (figure 2).

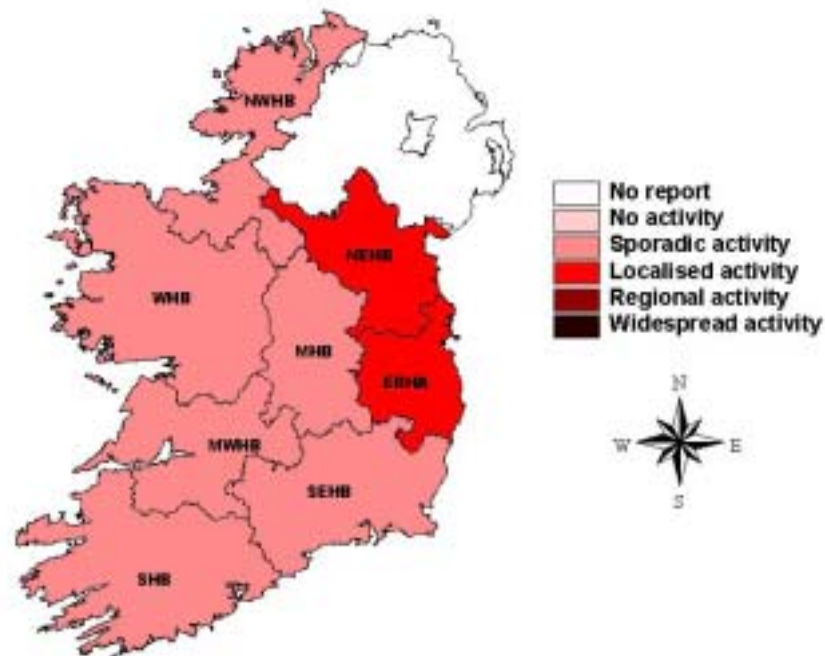


Figure 2: Map of influenza activity by health board during week 48 2003.

Influenza activity in Northern Ireland

In Northern Ireland during week 49, 20/23 sentinel GPs returned a combined influenza and ILI consultation rate of 114.6 per 100,000, an increase from the updated rate of 90.9 per 100,000 in week 48. Eight influenza A (H3) positive specimens were detected in week 49, 7 were in hospitalised children (aged between 5 months and 16 years). <http://www.cdscni.org.uk/>

Influenza activity in England, Scotland and Wales

In England, GP consultation rates for ILI changed little from 53.2 per 100,000 in week 48 to 55.0 per 100,000 in week 49, with rates highest in the 0-4 year age group. In Scotland, the GP ILI consultation rates decreased to 67.0 per 100,000 during week 49, from 86.0 per 100,000 in week 48. In Wales, the GP consultation rates remained at 12 per 100,000 in week 49. Forty influenza A (H3) viruses were confirmed by the ERNVL during week 49.

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

Influenza activity in Europe

Seasonal influenza activity is gradually moving across Europe: it first began in Ireland, the United Kingdom, Spain and Portugal, then in Norway and is now in France and Belgium. In all of these countries, the predominant virus is the new drift variant A/Fujian/411/2002 (H3N2) and the highest clinical incidences are observed in

the 0-14 year age groups. Widespread influenza activity was reported in Belgium, England, France, Ireland, Norway, Portugal, Scotland and Spain in week 48. Regional activity was reported in Switzerland and localised outbreaks were reported in Northern Ireland. Sporadic or no influenza activity was reported in the rest of Europe. Of the sentinel and non-sentinel influenza virus isolates tested in Europe in week 48, 935 were typed influenza A (754 untyped and 181 H3N2) and 5 were typed influenza B. Influenza A (H3N2) was predominant in 10 countries and influenza A (untyped) in 4 countries. The Fujian-like strain has been isolated in England (35), Norway (21), Spain (16), Denmark (9), Portugal (9), Ireland (8), the Netherlands (4), Switzerland (3) and Northern Ireland (1). <http://www.eiss.org/>

Influenza activity in Canada

Influenza activity is decreasing in Alberta and Saskatchewan and increasing in other parts of Canada, particularly British Columbia, Ontario and Nunavut. During week 48, sentinel physicians reported 42 cases of ILI per 1000 patient visits, which is above the baseline rate for this time of year. Health Canada received 2,567 reports of laboratory tests for influenza, including 462 (18.0%) influenza A detections. The National Microbiology Laboratory has antigenically characterized the following influenza virus isolates: 128 (83%) A/Fujian (H3N2)-like, 25 (16%) A/Panama (H3N2)-like and 1 (0.6%) A/New Caledonia (H1N1)-like. Ontario has reported two influenza A related deaths in children, both of whom had underlying illness. Strain identification is pending for both cases. To date, there have been a total of 103 outbreaks, including 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

Influenza activity in the United States continued to increase during week 48. Thirteen state health departments reported widespread influenza activity, 16 states and New York City reported regional activity, 6 states reported localised activity, 13 states, Guam and Puerto Rico reported sporadic activity, and 1 state and the District of Columbia reported no influenza activity. The proportion of patient visits to sentinel providers for ILI overall was above the national baseline. During week 48, WHO and NREVSS laboratories reported 1,309 specimens positive for influenza. Of these, 105 were influenza A (H3N2) viruses, 1,197 were influenza A (untyped) and 7 were influenza B viruses. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold for week 48. <http://www.cdc.gov/ncidod/diseases/flu/fluvirus.htm>

Influenza activity Worldwide

No influenza activity was reported in Chile during week 48. Sporadic activity was reported in Hong Kong, the Russian Federation and Mexico. Localised activity was reported in Finland in week 48.

On December the 9th, the Department of Health in Hong Kong reported a positive influenza A (H9N2) specimen in a 5-year-old boy. Further tests are being conducted to sequence the virus to confirm its identity. The patient was admitted to hospital with a fever, cough, and runny nose. He made a complete recovery and was discharged on November 29th. Investigations are ongoing with the child's family and kindergarten. <http://rhone.b3e.jussieu.fr/flunet/www/>

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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