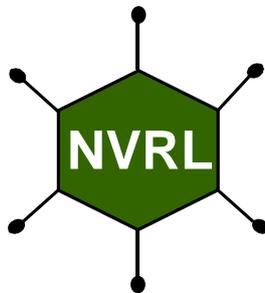


Weekly Influenza Surveillance Report



Week 48 2003

Report produced: 04/12/2003

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 48. 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. It is important to note that this increased influenza activity is compared to the last 3 seasons when unusually mild influenza activity was reported. Influenza A continues to circulate throughout the country, with influenza A (H3N2) the predominant subtype identified 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 48 2003 (the week ending the 30th of November 2003), 56 influenza-like illness (ILI) cases were reported from sentinel general practices, corresponding to an ILI consultation rate of 58.3 per 100,000 population, decreasing from the rate of 62.9 per 100,000 in week 47 (figure 1). Thirty of the sentinel general practices reported during week 48, with 21 reporting ILI.

During week 48, ILI rates per 100,000 population were highest in the 0-4 and 5-14 year age groups (figure 2). The 5-14 year age group increased during week 48 and all other age groups decreased, compared to week 47. 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.

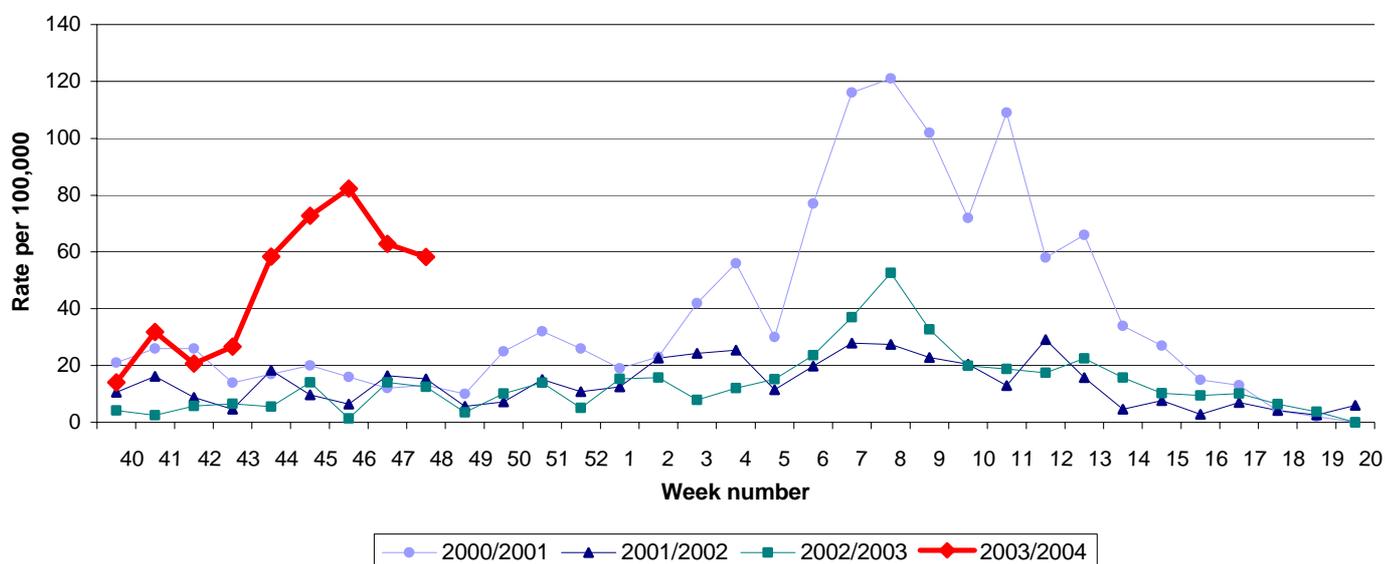


Figure 1: GP consultation rate for influenza-like illness per 100,000 population by report week, during the 2000/2001, 2001/2002, 2002/2003 & 2003/2004-influenza seasons.

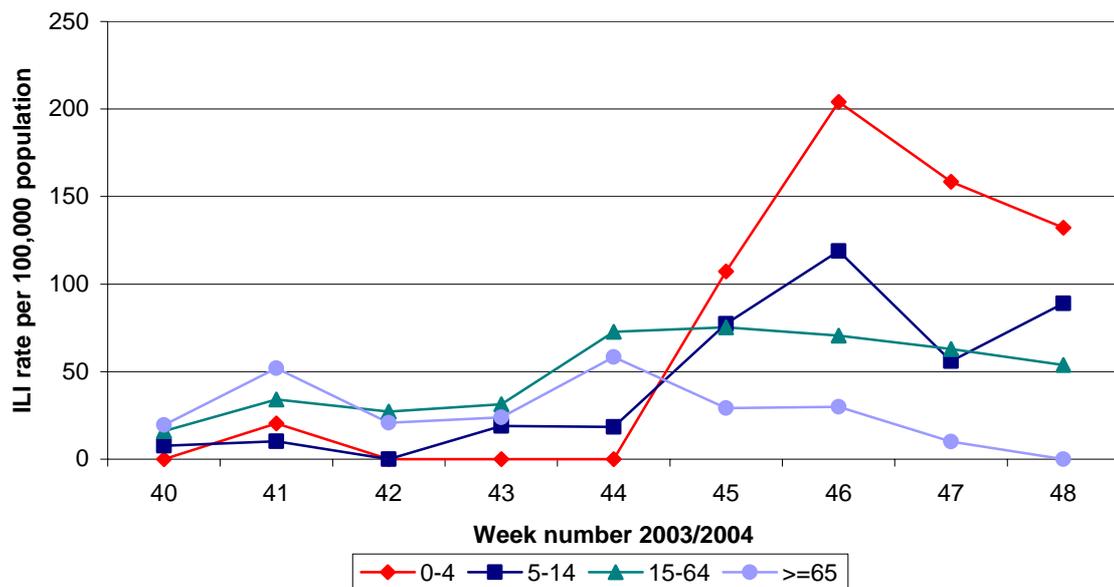


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week for the 2003/2004-influenza season. *The denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national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

Virological data from the National Virus Reference Laboratory

During week 48, the National Virus Reference Laboratory (NVRL) received 31 swabs from sentinel GPs (table 1). Seventeen swabs were positive for influenza: 16 influenza A (unsubtyped) and one influenza B. The total number of positive influenza swabs from sentinel GPs for the 2003/2004 season to date is 120: 65 influenza A (unsubtyped), 51 influenza A (H3N2) and 4 influenza B viruses.

The NVRL also tested 106 respiratory non-sentinel specimens mainly from hospitals and some GPs during week 48, 12 were positive for influenza A, 1 for influenza B, 9 for respiratory syncytial (RSV) virus, 1 parainfluenza virus (PIV) type 1, 1 PIV-2 and 1 PIV-3. Between weeks 40 and 48 2003, a total of 487 respiratory non-sentinel specimens have been tested by the NVRL, 62 were positive for influenza A, 2 for influenza B, 21 RSV, 4 PIV-1, 2 PIV-2 and 3 PIV-3. Of the 62 influenza A positive non-sentinel specimens detected this season, 44 cases were in the 0 to 4 year age group, 3 were 5-14, 12 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 184: 178 influenza A and 6 influenza B (table 2). The majority of influenza positive cases this season have been in younger age groups, with 50 cases in the 0 to 4 year age group and 23 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 five 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
Total	236	120	50.8	65	51	4

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	13	12.3	12	1	9
Total	487	64	13.1	62	2	21

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	30	21.9	28	2	9
Total	723	184	25.4	178	6	21

Table 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 48 and the 2003/2004 season to date

	Week 48 2003			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	10	1	11	88	1	89
MHB	1	0	1	7	1	8
MWHB	2	0	2	14	1	15
NEHB	8	1	9	31	1	32
NWHB	2	0	2	8	0	8
SEHB	1	0	1	13	1	14
SHB	2	0	2	8	0	8
WHB	2	0	2	9	1	10
Total	28	2	30	178	6	184

* 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 some countries in Western Europe, America and in 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. 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 secondary school in the ERHA during week 47.

Hospital admissions data

Total hospital admissions and total A & E admissions increased in a sentinel hospital in the SEHB during week 47. In the NEHB, respiratory admissions increased slightly in week 47, but decreased again in week 48.

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 47, the ERHA and the NEHB reported localised influenza activity and the remaining health boards reported sporadic influenza activity (figure 2).

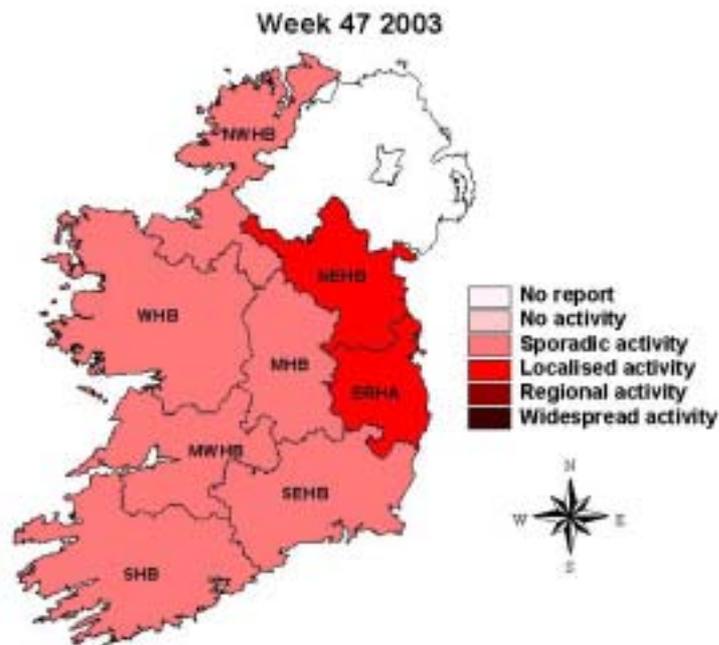


Figure 2: Map of influenza activity by health board during week 47 2003.

Influenza activity in Northern Ireland

In Northern Ireland during week 48, 23/23 sentinel GPs returned a combined influenza and ILI consultation rate of 90.9 per 100,000, a decrease from the updated rate of 124.3 per 100,000 in week 46. Three influenza A (H3N2) positive specimens were detected in week 48, one in a hospitalised child. <http://www.cdscni.org.uk/>

Influenza activity in England, Scotland and Wales

In England, GP consultation rates for ILI decreased slightly from 54.5 per 100,000 in week 47 to 53.2 per 100,000 in week 48, with rates highest in the 0-4 year age group. In Scotland, the GP ILI consultation rates also decreased to 86.0 per 100,000 during week 48, from 116 per 100,000 in week 47. In Wales, the GP consultation rates increased to 12.1 per 100,000 in week 48. Forty-five influenza A (H3) viruses were confirmed by the ERNVL during week 48.

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

Influenza activity in Europe

Widespread influenza activity was reported to the European Influenza Surveillance Scheme (EISS) from Ireland, England, Norway, Portugal, Scotland and Spain during week 47. France reported regional activity and Belgium and Northern Ireland reported localised outbreaks. Countries located to the east of these countries reported sporadic

or no activity. Declining incidence rates were reported in Ireland, Northern Ireland, England, Scotland and Spain. ILI or acute respiratory infection was most common in the 0-14 year age group. All 642 influenza virus isolates reported to EISS in week 47 were typed influenza A (457 untyped, 3 H1N1, 2 H1N2 and 180 H3N2). Influenza A (H3N2) was the predominant subtype in 7 countries and influenza A (untyped) in 5 countries. To date this season, 11 networks in Europe have detected A/Fujian/411/2002 (H3N2)-like viruses, the predominant strain circulating in Europe. <http://www.eiss.org/>

Influenza activity in Canada

Widespread influenza activity was reported in all regions of Saskatchewan and 1 region in Ontario. Localised activity was reported in North West Territories, Nunavut, Alberta, Manitoba and Nova Scotia. During week 47, sentinel physicians reported 21 cases of ILI illness per 1000 patient visits, which is within baseline rates. Health Canada reported 432 (17.38%) influenza A detections in week 47. The National Microbiology Laboratory has antigenically characterised 87 influenza viruses to date: 61 A/Fujian/411/02(H3N2)-like, 25 A/Panama/2007/99(H3N2)-like and 1 A/New Caledonia/20/99(H1N1)-like. During week 47, influenza outbreaks were reported in 4 schools, 8 long term care facilities and 1 hospital. Three influenza related deaths were reported, 2 in seniors and 1 in a 10-year-old child with co-morbidities. No strain characterisation for these cases is currently available. Over 130 children have been diagnosed with influenza at an Edmonton paediatric hospital to date this season; almost 90% of these children were under 5 years of age. Few cases have required admission to an intensive care unit and no deaths have been reported. The number of new cases is waning; all but 2 children have been discharged. <http://www.hc-sc.gc.ca/pphb-dgsp/fluwatch/index.html>

Influenza activity in the United States

Influenza activity in the US continued to increase during week 47. Ten state health departments reported widespread influenza activity, 9 states reported regional activity, 8 states reported localised activity, 16 states, New York City, Guam, and Puerto Rico reported sporadic activity, and 4 states and the District of Columbia reported no influenza activity. The proportion of patient visits to sentinel providers for ILI was above the national baseline. One thousand seventy-six (34.3%) specimens tested by WHO and NREVSS laboratories were positive for influenza. Of these, 136 were influenza A (H3N2) viruses, 934 were influenza A (untyped) and 6 were influenza B viruses. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold for the week.

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

Influenza activity Worldwide

During week 47, sporadic influenza activity was reported in French Guiana, Hong Kong (4 A untyped and 1 AH3N2), the Russian Federation and Thailand. In Israel, 30 influenza A (untyped) viruses were detected.

<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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