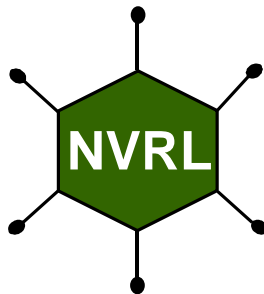


Weekly Influenza Surveillance Report



Week 50 2003

Report produced: 18/12/2003

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

Summary

GP consultation rates for influenza-like illness (ILI) in Ireland decreased slightly during week 50. Influenza activity continues to remain highest in younger age groups. Influenza positive detections also decreased in week 50. Although, the early influenza activity in Ireland is now declining, it is too early to predict whether there will be a resurgence of activity later in the season.

Clinical data

During week 50 2003 (the week ending the 14th of December 2003), 29 influenza-like illness (ILI) cases were reported from sentinel general practices, corresponding to an ILI consultation rate of 33.1 per 100,000 population, a slight decrease from the updated rate of 34.0 per 100,000 in week 49 (figure 1). Twenty-eight of the sentinel general practices reported during week 50, with 15 reporting ILI.

During week 50, the highest ILI rates per 100,000 population were in the 0-4 year age group (figure 2). ILI rates increased in the 0-4 and 15-64 year age groups during week 50 and decreased in the 5-14 year age group and in those aged 65 years or older. 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.

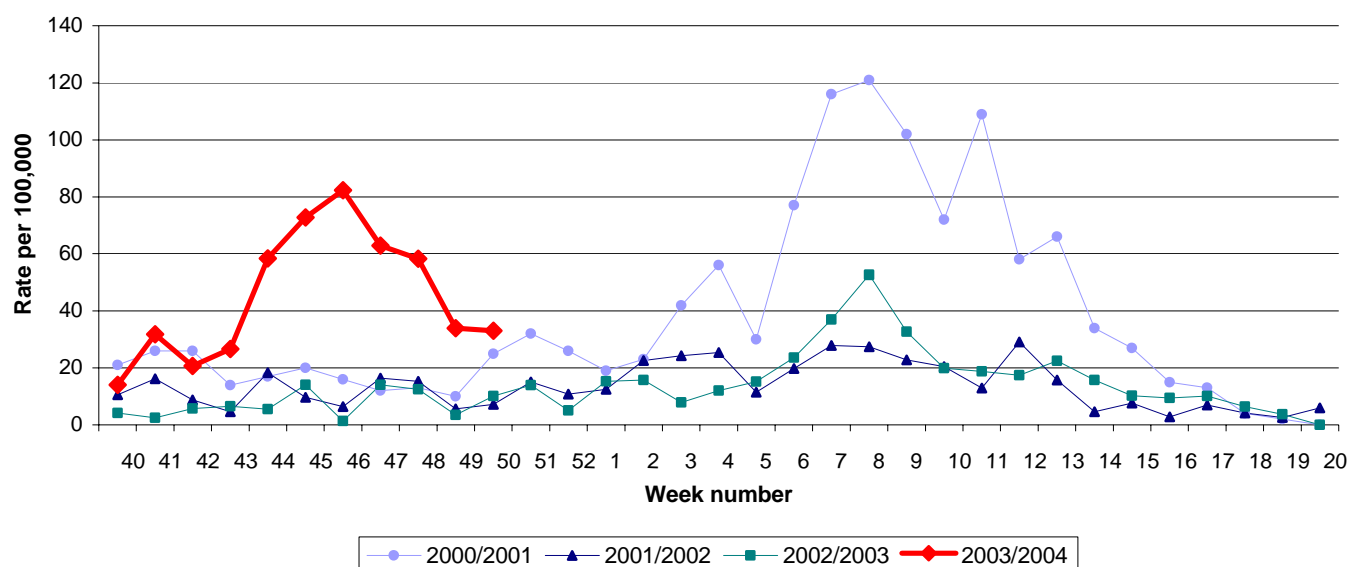


Figure 1: GP consultation rate for influenza-like illness per 100,000 population by report week, during the 2000/2001, 2001/2002, 2002/2003 & 2003/2004-influenza seasons.

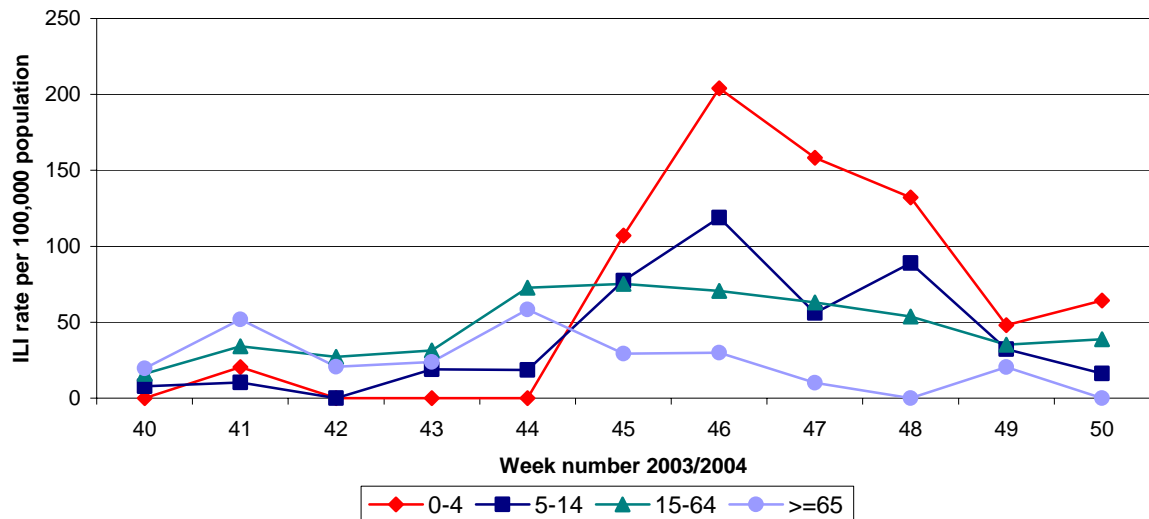


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week for the 2003/2004-influenza season. *The denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national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

Virological data from the National Virus Reference Laboratory

During week 50, the National Virus Reference Laboratory (NVRL) received 16 swabs from sentinel GPs (table 1). Four swabs were positive for influenza A. The total number of positive influenza swabs from sentinel GPs for the 2003/2004 season to date is 131: 74 influenza A (unsubtyped), 51 influenza A (H3N2) and 6 influenza B viruses.

The NVRL also tested 102 respiratory non-sentinel specimens mainly from hospitals and some GPs during week 50, 9 were positive for influenza A and 22 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 weeks 49 & 50. Between weeks 40 and 50 2003, a total of 685 respiratory non-sentinel specimens have been tested by the NVRL, 77 were positive for influenza A, 11 for influenza B, 61 RSV, 4 parainfluenza virus (PIV) type-1, 3 PIV-2 and 5 PIV-3. Of the 77 influenza A positive non-sentinel specimens detected this season, 55 cases were in the 0 to 4 year age group, 3 were 5-14, 18 were 15-64 and one was aged 65 years or older.

The total number of influenza positive specimens from all sources (sentinel and non-sentinel) this season is 219: 202 influenza A and 17 influenza B (table 2). The majority of influenza positive cases this season have been in younger age groups, with 66 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 twenty-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 1 case was 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
50	16	4	25.0	4	0	0
Total	272	131	48.2	74	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	9	12.5	9	0	4
47	86	19	22.1	18	1	5
48	106	15	14.2	12	3	9
49	96	14	14.6	7	7	18
50	102	9	8.8	9	0	22
Total	685	88	12.8	77	11	61

* 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	137	32	23.4	28	4	9
49	116	21	18.1	12	9	16
50	118	13	11.0	13	0	22
Total	957	219	22.9	202	17	61

Table 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 50 and the 2003/2004 season to date

	Week 50 2003			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	5	0	5	98	6	104
MHB	0	0	0	7	2	9
MWHB	3	0	3	17	1	18
NEHB	3	0	3	34	2	36
NWHB	1	0	1	11	0	11
SEHB	1	0	1	17	3	20
SHB	0	0	0	9	0	9
WHB	0	0	0	9	3	12
Total	13	0	13	202	17	219

* 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. No school outbreaks were reported to NDSC during week 50.

Hospital admissions data

During weeks 49 & 50, there were no increases in sentinel hospital admissions (total, A & E and respiratory) reported to NDSC.

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

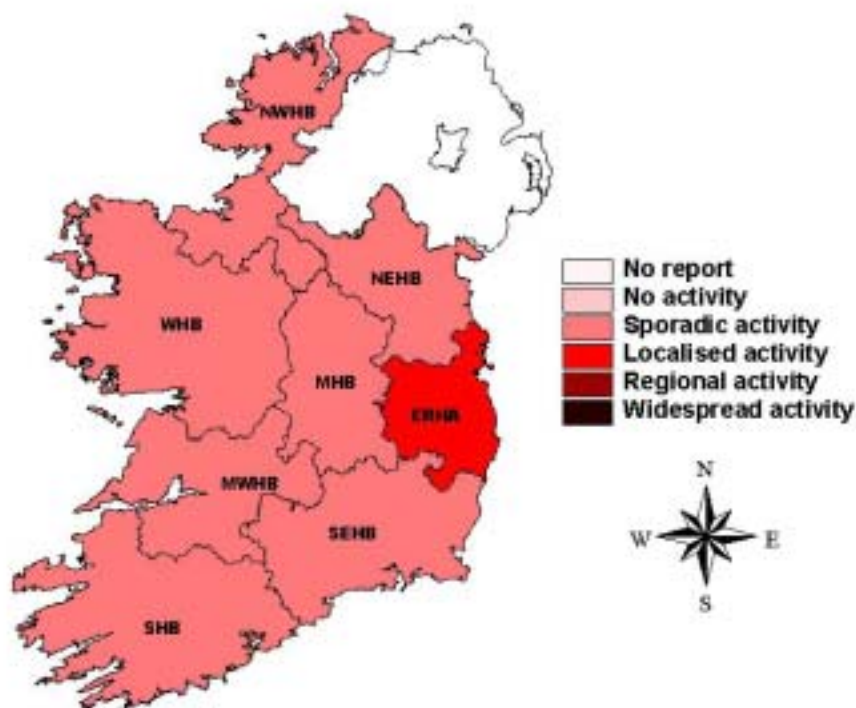


Figure 2: Map of influenza activity by health board during week 49 2003.

Influenza activity in Northern Ireland

In Northern Ireland during week 50, 21 sentinel GPs returned a combined influenza and ILI consultation rate of 87.4 per 100,000, a decrease from the updated rate of 114.6 per 100,000 in week 49. Five influenza A (H3) positive specimens were detected in week 50, 4 were in hospitalised children (aged between 1 and 15 years) and one was in a hospitalised adult. <http://www.cdscni.org.uk//>

Influenza activity in England, Scotland and Wales

In England, GP consultation rates for ILI decreased from 55.0 per 100,000 in week 49 to 37.5 per 100,000 in week 50, with rates highest in the 0-4 year age group. In Scotland, the GP ILI consultation rates decreased to 59.0 per 100,000 during week 50, from 67.0 per 100,000 in week 49. In Wales, the GP consultation rates decreased to 7.9 per 100,000 in week 50. Fifty-seven influenza A (H3) viruses were confirmed by the ERNVL during week 50.

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

Influenza activity in Europe

The early influenza activity observed in Spain, Portugal, the UK and Ireland is slowing down. Widespread influenza activity was reported in Belgium, England, France, Norway, Portugal, Scotland and Spain in week 49. Regional activity was reported in Switzerland and localised activity was reported in Denmark, Ireland, Luxembourg, the Netherlands, Northern Ireland, Romania and Sweden. In the rest of Europe, sporadic or no influenza activity was reported. Of the sentinel and non-sentinel influenza virus isolates tested in week 49, 650 were typed influenza A (650 untyped and 171 H3N2) and 11 were typed influenza B. Influenza A (H3N2) was predominant in 11 countries, influenza A (untyped) in 4 countries and influenza B in one country (Slovenia). Based on the strain characterisation data available up to week 49 in Europe, 128 isolates were A/Fujian/411/2002 (H3N2)-like, nine were A/Moscow/10/99 (H3N2)-like, five were A/New Caledonia/20/99 (H1N1)-like, two were B/Hong Kong/330/2001-like and one was B/Sichuan/379/99-like. Laboratory reports of RSV are currently increasing in England, Ireland, Scotland and Latvia. <http://www.eiss.org/>

Influenza activity in Canada

Influenza activity continued to decrease in Alberta and Saskatchewan while increasing in other parts of Canada during week 49. Widespread activity was reported in Ontario with 8 outbreaks in long-term care facilities and localised activity in western Nova Scotia with 18 outbreaks in schools. Across Canada, during week 49, sentinel physicians reported 38 cases of ILI per 1000 patient visits, which is within the baseline rate. Health Canada received 2894 reports of laboratory tests for influenza, with 490 (17%) influenza A detections. The National Microbiology Laboratory has antigenically characterised 193 influenza viruses to date; 166 (87%) A/Fujian/411/02(H3N2)-like, 25 (13%) A/Panama/2007/99(H3N2)-like, 1 (0.6%) A/NewCaledonia/20/99(H1N1)-like and 1 (0.6%) H1N2. Ontario has reported 2 influenza A related deaths in children, both of whom had underlying illness. Strain identification is pending for both cases. <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 49. Twenty-four state health departments reported widespread influenza activity, 15 states and New York City reported regional activity, 6 states reported localised activity, and 5 states and Guam reported sporadic activity. The proportion of patient visits to sentinel providers for ILI overall was 5.1%, which is above the national baseline. The proportion of deaths attributed to pneumonia and influenza was 7.0%, which is below the epidemic threshold. During week 49, WHO and NREVSS laboratories reported 155 influenza A (H3N2) viruses, 1,239 influenza A (unsubtyped) and 15 influenza B viruses. <http://www.cdc.gov/ncidod/diseases/flu/fluvirus.htm>

Influenza activity Worldwide

During week 49, widespread influenza activity was reported in Finland. Localised activity was reported in the Russian Federation and sporadic activity in Thailand, India, Iceland, Chile and Japan. No influenza activity was reported in Mexico in week 49. <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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