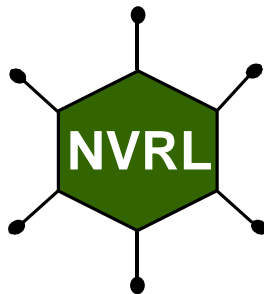


Weekly Influenza Surveillance Report



Week 46 2003

Report produced: 21/11/2003

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

Summary

GP consultations rates for influenza-like illness increased slightly during week 46 in Ireland. Influenza activity levels remain higher than previously recorded for this time of year and also higher than recorded for the previous 2 seasons, 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 is now circulating throughout the country at an earlier stage than usually observed. NDSC has received a report of a death associated with influenza A in an 18-month-old child in the South-Eastern Health Board.

Clinical data

During week 46 2003 (the week ending the 16th of November 2003), 73 influenza-like illness (ILI) cases were reported from sentinel general practices, corresponding to an ILI consultation rate of 81.2 per 100,000 population, increasing slightly from the updated rate of 72.7 per 100,000 in week 45 (figure 1). Twenty-seven of the sentinel general practices reported during week 46, with 16 reporting ILI.

During week 46, ILI rates per 100,000 population were highest in the 0-4 year age group (figure 2); 0-4 and 5-14 year age groups increased during weeks 45 and 46. The ILI rates in the 15-64 year age group and in those 65 years or older remained constant during week 46. 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.

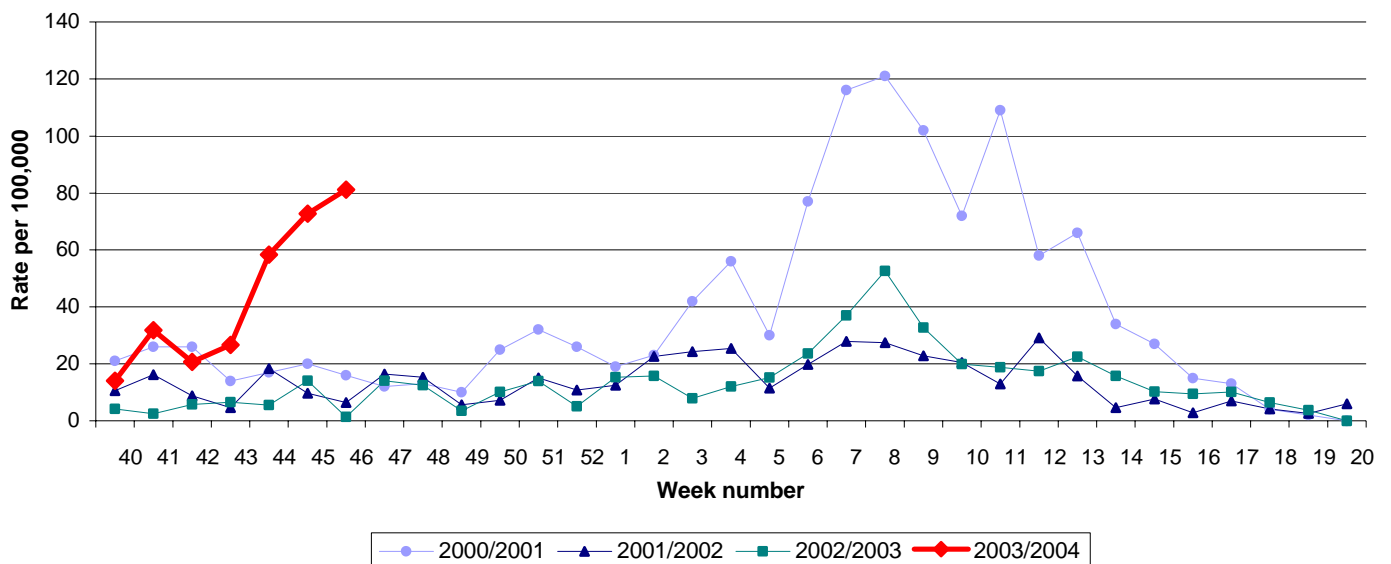


Figure 1: GP consultation rate for influenza-like illness per 100,000 population by report week, during the 2000/2001, 2001/2002, 2002/2003 & 2003/2004-influenza seasons.

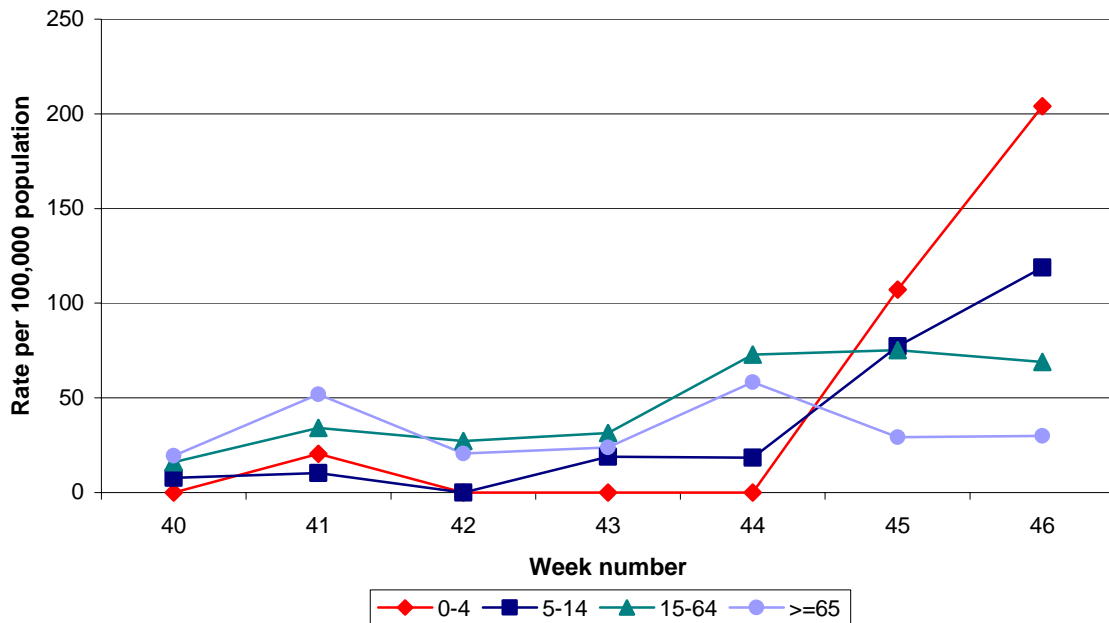


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week for the 2003/2004-influenza season. *The denominator used in the age specific consultation rate is from the 2002 census data; this assumes that the age distribution of the sentinel general practices is similar to the national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

Virological data from the National Virus Reference Laboratory

During week 46, the National Virus Reference Laboratory (NVRL) received 37 swabs from sentinel GPs (table 1). Sixteen swabs were positive for influenza; all were influenza A (unsubtyped). Sentinel data for week 45 has been updated, with 25 influenza A (unsubtyped) and 2 influenza B viruses detected. The total number of positive influenza specimens from sentinel GPs for the 2003/2004 season to date is 83: 65 influenza A (unsubtyped), 15 influenza A (H3N2) and 3 influenza B viruses.

The NVRL also tested 72 respiratory non-sentinel specimens mainly from hospitals and some GPs during week 46, 9 (12.5%) were positive for influenza A, 4 (5.6%) for respiratory syncytial (RSV) virus and 1 (1.4%) for parainfluenza virus type 3. Between weeks 40 and 46 2003, a total of 295 respiratory non-sentinel specimens have been tested by the NVRL, 31 (10.5%) were positive for influenza A, 7 (2.4%) were positive for RSV, 3 (1.0%) for parainfluenza virus type 1 and 2 (0.7%) for parainfluenza virus type 3. Of the 31 influenza A positive specimens detected this season, 22 cases were in the 0 to 4 year age group, 2 were 5-14, 7 were 15-64 and no specimens were from cases aged 65 years or older.

The total number of influenza positive specimens from all sources (sentinel and non-sentinel) this season is 114; 111 influenza A and 3 influenza B (table 2). The majority of influenza positive cases this season have been in children and young adults, with 24 cases in the 0 to 4 year age group, 15 aged 5-14 and 22 cases in the 15-24 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. Fifty-one influenza

positive specimens this season were in cases aged between 25 and 64 years of age and only 2 cases were 65 years or older.

Table 1: Total number of sentinel swabs tested for influenza by week and positive results by type, subtype and report week for the 2003/2004-influenza season

Week number	Total swabs	Positive swabs	Percentage positive	Influenza A (unsubtyped)	Influenza A (H1)	Influenza A (H3N2)	Influenza B
40	9	0	0.0	0	0	0	0
41	12	4	33.3	0	0	4	0
42	14	7	50.0	2	0	5	0
43	10	4	40.0	4	0	0	0
44	37	25	67.6	18	0	6	1
45	48	27	56.3	25	0	0	2
46	37	16	43.2	16	0	0	0
Total	167	83	49.7	65	0	15	3

Table 2: 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	109	25	22.9	25	0	4
Total	462	114	24.7	111	3	7

Table 3: Total number of sentinel and non-sentinel* influenza A and B positive specimens by health board for week 46 and the 2003/2004 season to date

	Week 46 2003			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	15	0	15	56	0	56
MHB	2	0	2	4	0	4
MWHB	1	0	1	11	1	12
NEHB	3	0	3	13	0	13
NWHB	1	0	1	4	0	4
SEHB	1	0	1	11	1	12
SHB	0	0	0	5	0	5
WHB	2	0	2	7	1	8
Total	25	0	25	111	3	114

* 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 Europe 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. It is expected that the vaccine will also offer some cross protective immunity to A/Fujian-like viruses and also reduce the severity of disease.

School outbreak reports

An outbreak of ILI in a secondary school in the Midland Health Board was reported during week 45, a total of 60 of 300 pupils were affected. To date this season, a total of 4 school outbreaks associated with ILI have been reported to NDSC. Increases in the mean absenteeism levels in sentinel secondary schools in the SEHB were reported to NDSC during weeks 43 and 45 (week 44 coincided with school holidays).

Hospital admissions data

There were no reports of increased hospital admissions in sentinel hospitals during week 45.

Mortality data

NDSC has received a report of a death associated with influenza A in an 18-month-old child in the SEHB. The child was admitted to Our Lady's Hospital for Sick Children, Crumlin in early November and died earlier this week (week 47). This is the first 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 45, all health boards reported sporadic influenza activity (figure 2).

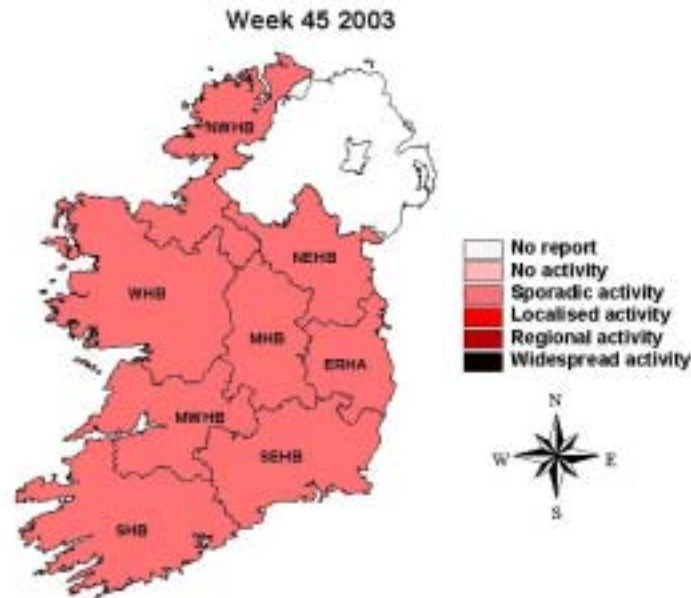


Figure 2: Map of influenza activity by health board during week 45 2003.

Influenza activity in Northern Ireland

In Northern Ireland during week 46, the GP consultation rate for combined influenza and ILI was 138.5 per 100,000 population, similar to the updated rate of 136.4 per 100,000 during week 45. One influenza A (H3) virus was detected in a hospitalised patient during week 46. <http://www.cdscni.org.uk/>

Influenza activity in England, Scotland and Wales

In England, GP consultation rates for ILI increased from 47.7 per 100,000 in week 45 to 62.2 per 100,000 in week 46, above baseline activity, with rates highest in the 0-4 year age group. In Wales and Scotland, GP ILI consultation rates increased to 8.4 per 100,000 and 138.0 per 100,000, respectively. The Scottish rates are still considered within normal seasonal activity. Fifty-six detections of influenza A (H3) were reported from the ERNVL during week 46. Of the isolations typed to date this season, 14 are A (H3N2)/Fujian-like and 3 are A (H3N2)/Panama-like, indicating that the new H3N2 drift variant is currently co-circulating with the old H3N2 variant in England. In Scotland, during week 46, SCIEH reported a further death associated with influenza, in a 17 year old boy. Further characterisation has identified the virus subtype as A/Fujian-like.

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

Influenza activity in Europe

Spain reported widespread influenza activity in week 45 to the European Influenza Surveillance Scheme (EISS). Norway reported localised activity and Belgium, France and Portugal reported sporadic influenza activity during week 45. Based on the networks reporting age specific data, the incidence rates were highest in the 0-4 and 5-

14 age groups. The total number of respiratory specimens collected by sentinel physicians in Europe during week 45 was 524, 134 were influenza A and 4 were influenza B. Among the influenza A isolates that were subtyped, 41 were H3N2 and 1 was H1N1 (Norway). H3N2 viruses were predominant in France, Norway, Portugal, Spain and Switzerland with influenza A (unsubtyped) predominant in Belgium. Of the 53 isolates characterised this season, 41 were A/Fujian-like and 12 were A/Panama-like. The A/Panama-like strain is circulating in England (see influenza activity in England, Scotland and Wales) and France (where 9 A/Panama-like isolates have been reported this season). A/Fujian-like isolates have been reported in England, Denmark, Ireland, Northern Ireland, Norway, Portugal, Spain and Switzerland. <http://www.eiss.org/>

Influenza activity in Canada

Widespread influenza activity was reported in all regions of Saskatchewan during week 45. Localized activity was reported in all parts of Alberta, Northwest Territories, 2 regions of Ontario and 1 region of British Columbia. Sporadic influenza activity was reported in four regions. During week 45, sentinel physicians reported 36 cases of ILI per 1000 patient visits, which is within baseline rates. Health Canada received 1954 reports of laboratory tests for influenza, with 381 influenza A detections. The National Microbiology Laboratory has antigenically characterized 14 influenza viruses to date; all were found to be A/Panama-like, which is included in the 2003/2004 vaccine. During week 45, influenza outbreaks were reported in 4 schools and 1 long-term care facility.

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

Influenza activity in the United States

During week 45, one state health department reported widespread activity, 1 state reported regional activity, 8 states reported localised activity, 22 states, New York City, Guam and Puerto Rico reported sporadic activity and 18 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. WHO and NREVSS laboratories reported 1056 specimens tested for influenza viruses; 30 were positive for influenza A (H3N2), 170 influenza A (unsubtyped) and 3 influenza B viruses. Of the 55 influenza A (H3N2) viruses antigenically characterised, 9 were A/Panama-like and 46 were A/Fujian-like. In a review of U.S. virological surveillance data from the 1976/1977 influenza season to present, this is the earliest week that the percentage of specimens testing positive for influenza has exceeded 10% nationally.

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

Influenza activity Worldwide

During week 45, no influenza activity was reported in Argentina. Sporadic activity was reported in Hong Kong (6 A unsubtyped and 4 A H3N2), the Russian Federation, Thailand (1 A unsubtyped and 3 B) and Chile (1 A unsubtyped). Localised activity was reported in Finland and regional activity in Iceland, with influenza A predominating. <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/>

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