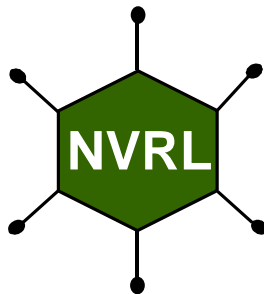


# Weekly Influenza Surveillance Report



**Week 52 2003**

**Report produced: 06/01/2004**

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

## Summary

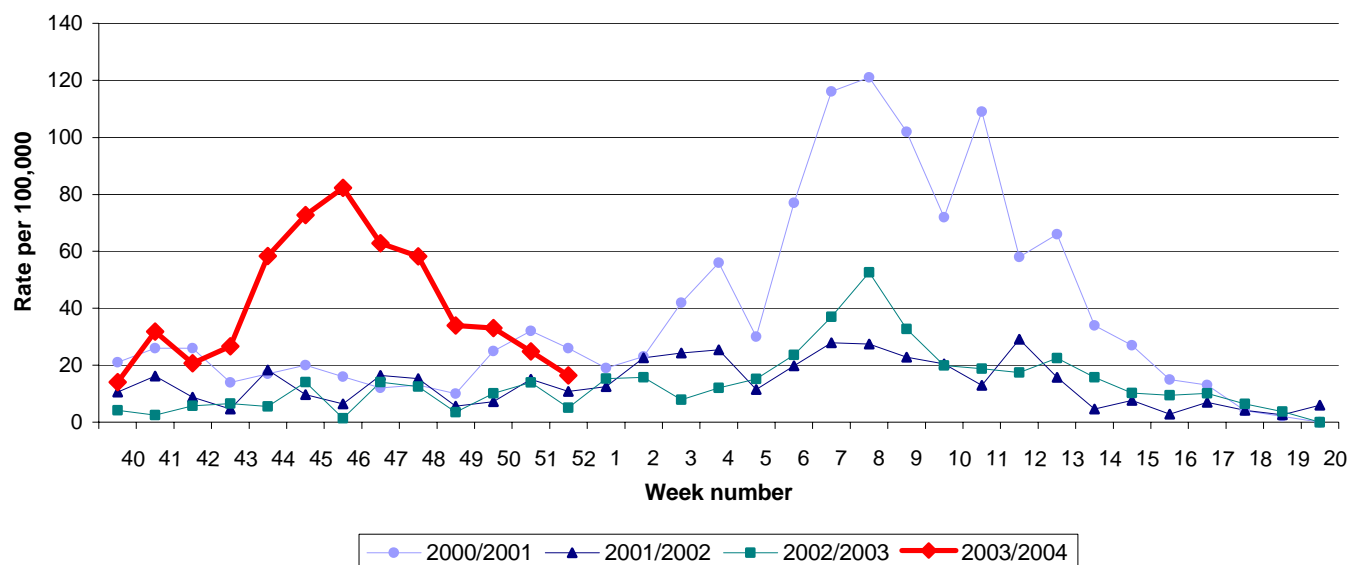
GP consultation rates for influenza-like illness (ILI) in Ireland decreased further during week 52. Only one influenza A positive specimen was detected during this period. The wave of influenza activity associated with the A/Fujian/411/2002 (H3N2)-like strain is now moving eastwards across Europe.

*Surveillance of influenza in week 52 worldwide was affected by the Christmas & New Year holidays, due to reporting delays. For these reasons caution is necessary in the interpretation of the epidemiological and virological data presented in this report.*

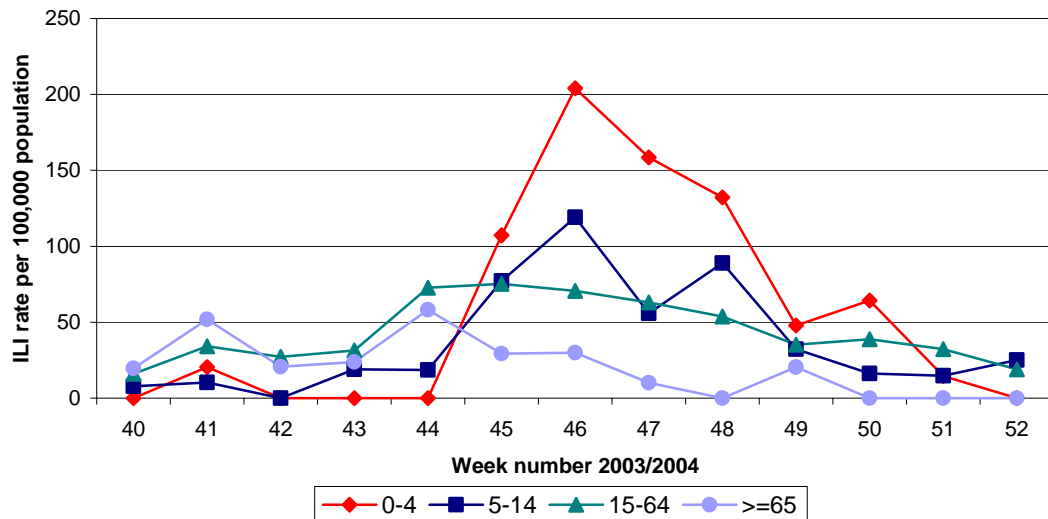
## Clinical data

During week 52 2003 (the week ending the 28<sup>th</sup> of December 2003), 14 influenza-like illness (ILI) cases were reported from sentinel general practices, corresponding to an ILI consultation rate of 16.4 per 100,000 population, a further decrease from the updated rate of 24.9 per 100,000 in week 52 (figure 1). Twenty-eight of the sentinel general practices reported during week 52, with only 7 reporting ILI.

During week 52, ILI rates per 100,000 population in 0-4 and 15-64 year olds decreased and increased slightly in 5-14 year olds (figure 2). There were no cases 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 52, the National Virus Reference Laboratory (NVRL) received 4 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 139: 36 influenza A (unsubtyped), 96 influenza A (H3N2) and 7 influenza B viruses.

The NVRL also tested 69 respiratory non-sentinel specimens mainly from hospitals and some GPs during week 52, no specimens were positive for influenza A or B viruses, 6 specimens were positive for respiratory syncytial (RSV) virus. RSV positive specimens peaked in week 50, although the data for weeks 51 & 52 should be interpreted with caution due to Christmas holidays.

Between weeks 40 and 52 2003, a total of 827 respiratory non-sentinel specimens have been tested by the NVRL, 84 were positive for influenza A, 13 for influenza B, 95 RSV, 1 adenovirus, 4 parainfluenza virus (PIV) type-1, 3 PIV-2 and 5 PIV-3. Of the 84 influenza A positive non-sentinel specimens detected this season, 59 cases were in the 0 to 4 year age group, 5 were 5-14, 17 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 236: 216 influenza A and 20 influenza B (table 2). Seventy 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 influenza positive specimens this season were in cases aged between 15 and 64 years of age, 4 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	4	1	25.0	1	0	0
<b>Total</b>	<b>289</b>	<b>139</b>	<b>48.1</b>	<b>36</b>	<b>96</b>	<b>7</b>

**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	69	0	0.0	0	0	7
<b>Total</b>	<b>827</b>	<b>97</b>	<b>11.7</b>	<b>84</b>	<b>13</b>	<b>95</b>

\* 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	73	1	1.4	1	0	7
<b>Total</b>	<b>1116</b>	<b>236</b>	<b>21.1</b>	<b>216</b>	<b>20</b>	<b>95</b>

**Table 4:** Total number of sentinel and non-sentinel\* influenza A and B positive specimens by health board for week 52 and the 2003/2004 season to date

	Week 52 2003			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
ERHA	1	0	1	104	8	112
MHB	0	0	0	9	2	11
MWHB	0	0	0	19	1	20
NEHB	0	0	0	35	3	38
NWHB	0	0	0	13	0	13
SEHB	0	0	0	17	3	20
SHB	0	0	0	10	0	10
WHB	0	0	0	9	3	12
<b>Total</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>216</b>	<b>20</b>	<b>236</b>

\* 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

Mean absenteeism levels increased in sentinel primary and secondary schools during week 51 in the SEHB. Due to delays in reporting over the Christmas period, school data was only available from 2 health boards for week 51. No school data is available for week 52 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

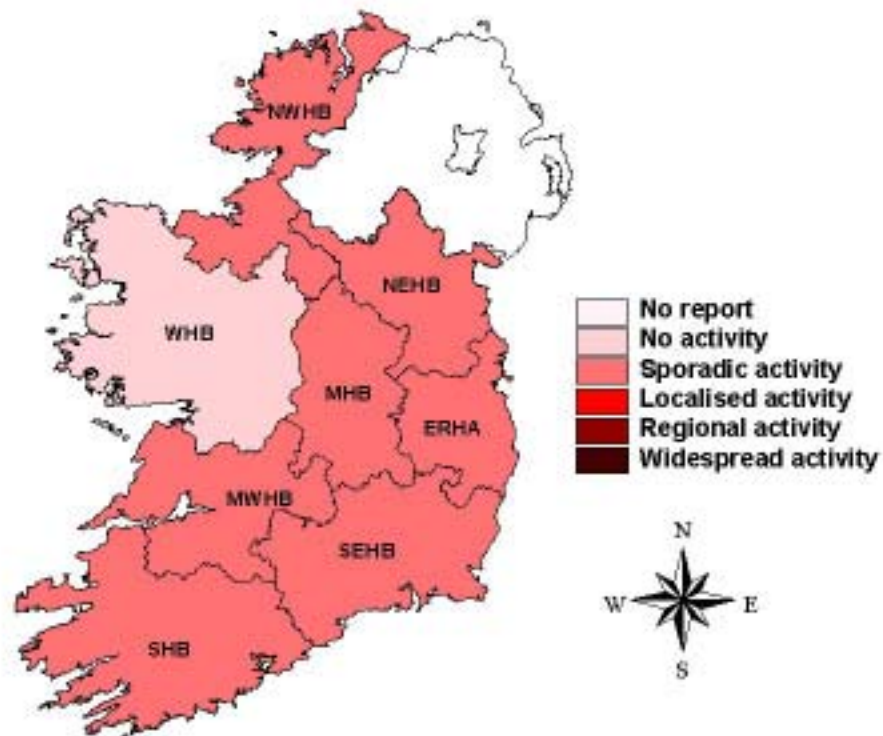
There were no increases in hospital respiratory admissions reported to NDSC during week 51.

### Mortality data

To date this season, two influenza-associated deaths in 0-4 year olds have been reported to NDSC, both occurred during 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 51, (fig. 2), the WHB reported no influenza activity and the remaining health boards reported sporadic activity.



**Figure 2:** Map of influenza activity by health board during week 51 2003.

### **Influenza activity in Northern Ireland**

During weeks 51 and 52, 20 of 23 sentinel general practices reported declining influenza activity in Northern Ireland. ILI consultation rates decreased to 61.8 per 100,000 in week 51 and 60.9 per 100,000 in week 52. Rates have decreased in 0-4 year olds and remained unchanged in other age groups. During this period, 5 influenza A (H3) viruses were detected, 2 in hospitalised children and one 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 a rate of 42.3 per 100,000 in week 51 to 20.95 per 100,000 in week 52. In Wales the GP consultation rate also decreased, to 9.27 per 100,000 in week 51 and 8.35 per 100,000 in week 52. The GP consultation rate also decreased in Scotland to 48 per 100,000 in week 51 and 41 per 100,000 in week 52. There were no detections of influenza viruses from any specimens referred to the ERNVL during week 52; this is most likely due to a reduced service during the Christmas period.

[http://www.hpa.org.uk/infections/topics\\_az/influenza/fluactivity0304.htm](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**

Widespread influenza activity continued throughout Ontario during week 51, while continuing to decline in the Territories and Saskatchewan. Sentinel physicians reported 53 cases of ILI per 1000 patient visits, which is within the expected range for this time of year. Health Canada received 4537 reports of laboratory tests for influenza, with 771 influenza A and 10 influenza B. The National Microbiology Laboratory has antigenically characterised 374 influenza viruses to date this season: 347 A/Fujian (H3N2)-like, 25 A/Panama (H3N2)-like, 1 A/New Caledonia (H1N1)-like and 1 A (H1N2). There have been a total of 272 outbreaks, reported this season, 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 28<sup>th</sup> 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 51, no influenza activity was reported in Argentina. Sporadic activity was reported in Thailand, Madagascar, Chile and Hong Kong. In Hong Kong, 7 A (unsubtyped), 5 A (H3N2) and 6 influenza B viruses were detected. Localised influenza activity was reported in Mexico in week 51 associated with one influenza B and 37 A (unsubtyped) detections. During week 52, sporadic influenza activity was reported in Hong Kong (1 A unsubtyped, 7 AH3N2 & 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/>

### **Northern Hemisphere influenza vaccine for the 2003/2004**

On February the 28<sup>th</sup> 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/>

This report was produced by Dr Lisa Domegan, NDSC