

Weekly Influenza Surveillance Report



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



Week 20 2005

**Week starting Monday 16th May 2005 &
ending Sunday 22nd May 2005**

Report produced: 26/05/2005

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

Summary

Clinical influenza activity in Ireland remained at low levels during week 20 2005, as expected for the time of year, with five cases of influenza-like illness (ILI) reported by sentinel general practices. No influenza positive specimens were detected by the National Virus Reference Laboratory during week 20. Clinical and virological indicators suggest that influenza viruses are no longer circulating in Europe.

This is the last influenza surveillance report of the 2004/2005 influenza season. A summary report of the season will be produced in the forthcoming weeks. GP sentinel surveillance will continue throughout the summer with monthly reporting. Weekly reports will resume in October 2005.

Clinical data

During week 20 (week ending 22nd May 2005), five cases of ILI were reported by sentinel general practices, corresponding to an ILI consultation rate of 5.6 cases per 100,000 population (figure 1). This is a slight decrease from the updated rate for week 19 of 5.9 per 100,000 population.

One of the ILI cases was aged between 0 and 4 years, one was aged between 5 and 14 years and three were aged between 15 and 64 years of age. Returns were received from 26 out of 36 sentinel general practices, giving a population coverage of 2.3% (79.5% of the total possible reporting GP patient population). Three sentinel practices reported ILI.

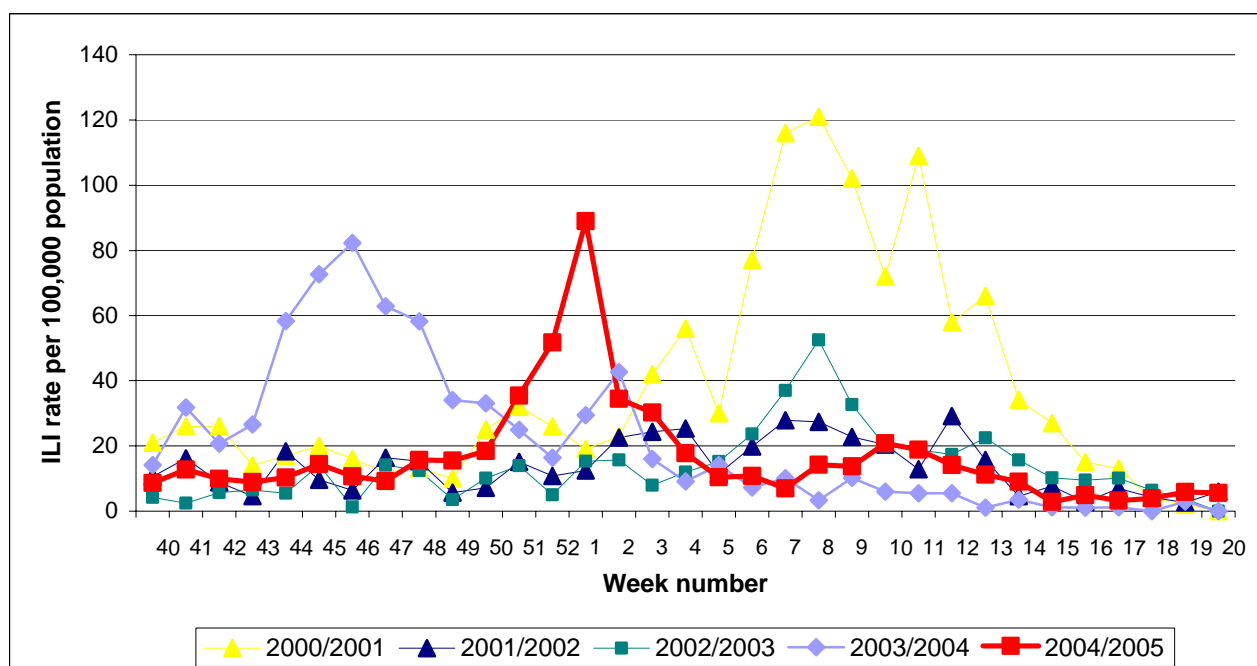


Figure 1. GP consultation rate for ILI per 100,000 population by week, during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 & 2004/2005**-influenza seasons.

**Please note that for comparison with previous years, data for week 52 2004 on this graph represents the average of weeks 52/04 and 53/04

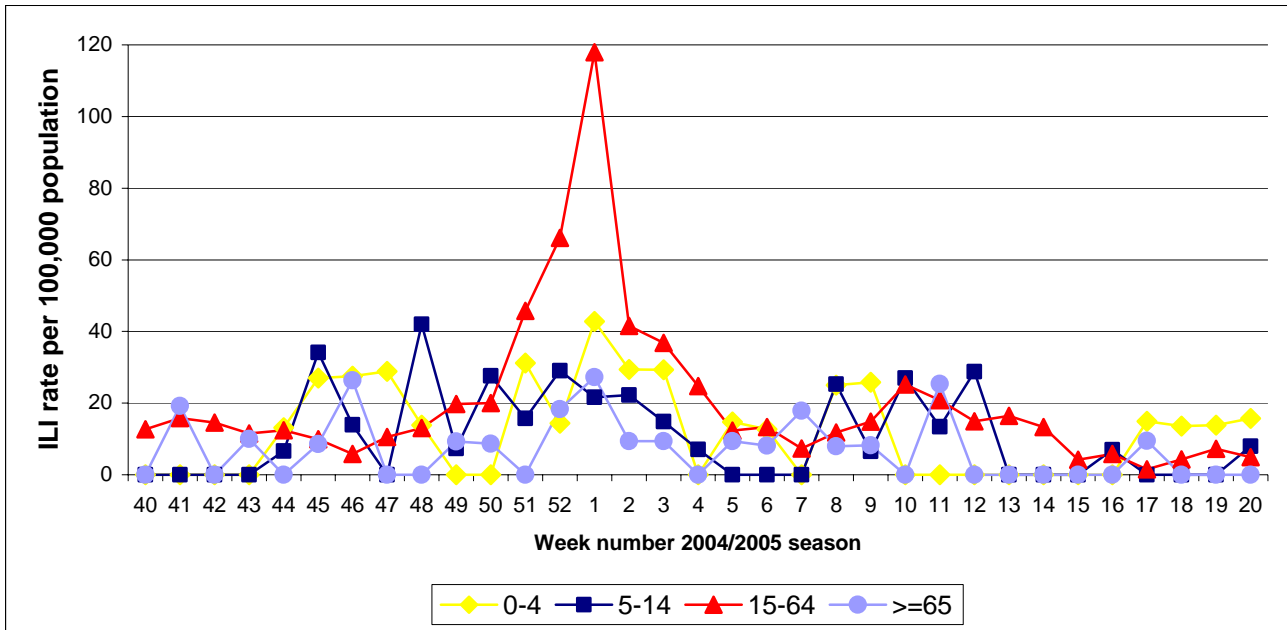


Figure 2. Age specific GP consultation rate* for ILI per 100,000 population by week** for the 2004/2005-influenza season

* Please note 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.
 **Please note that for comparison with previous years, data for week 52 2004 on this graph represents the average of weeks 52/04 and 53/04

Virological data from the National Virus Reference Laboratory

The National Virus Reference Laboratory (NVRL) tested three swabs taken during week 20 by sentinel GPs (tables 1 & 3). All three swabs were negative for influenza A, influenza B and respiratory syncytial virus (RSV). The NVRL also tested 38 respiratory non-sentinel specimens, taken mainly in hospitals during week 20. None of these specimens were positive for influenza A or B virus (tables 2 & 4, figure 4). One non-sentinel specimen was positive for parainfluenza virus type 3.

During the 2004/2005 season, 55 influenza A (unsubtyped), 63 influenza A (H3N2), 37 influenza A (H1N1) and 47 influenza B viruses were detected by the NVRL (table 3). Twenty-seven of these were in the 0-4 age group, 24 were in the 5-14 age group, 132 were in the 15-64 age group and 18 were aged over 64 years. Of the 355 RSV detections to date, 204 were aged 6 months or less, 85 were aged between 7 and 11 months, 41 were aged between 1 and 4 years, and 18 were aged 5 years or older. Ages were unavailable for seven of the RSV-positive patients and one of the influenza-positive patients.

Table 1: Total number of sentinel specimens tested for influenza and positive results by type and subtype for week 20 2005 and the 2004/2005 season to date

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A (Unsubtyped)	Influenza A (H3N2)	Influenza A (H1N1)	Influenza B	RSV
20	3	0	0.0	0	0	0	0	0
Total	370**	142	38.4	5	62	36	39	6

Table 2: Total number non-sentinel* respiratory specimens and positive results by type and subtype for week 20 2005 and the 2004/2005 season to date

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A (Unsubtyped)	Influenza A (H3N2)	Influenza A (H1N1)	Influenza B	RSV
20	38	0	0.0	0	0	0	0	0
Total	1526**	60	3.9	50	1	1	8	349

Table 3: Total number of sentinel and non-sentinel* respiratory specimens and positive results for week 20 2005 and the 2004/2005 season to date

Week number	Total specimens	Influenza positive specimens	% Influenza positive	Influenza A (Unsubtyped)	Influenza A (H3N2)	Influenza A (H1N1)	Influenza B	RSV
20	41	0	0.0	0	0	0	0	0
Total	1896**	202	10.7	55	63	37	47	355

Table 4: Total number of sentinel and non-sentinel* influenza A and B positive specimens by HSE area for week 20 2005 and the 2004/2005 season to date

	Week 20 2005			Season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
HSE-ER	0	0	0	62	21	83
HSE-MA	0	0	0	6	6	12
HSE-MWA	0	0	0	14	2	16
HSE-NEA	0	0	0	9	3	12
HSE-NWA	0	0	0	10	1	11
HSE-SEA	0	0	0	26	8	34
HSE-SA	0	0	0	11	2	13
HSE-WA	0	0	0	17	4	21
Total	0	0	0	155	47	202

*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.

**The data for the total number of sentinel and non-sentinel specimens during the 2004/2005 season were updated.

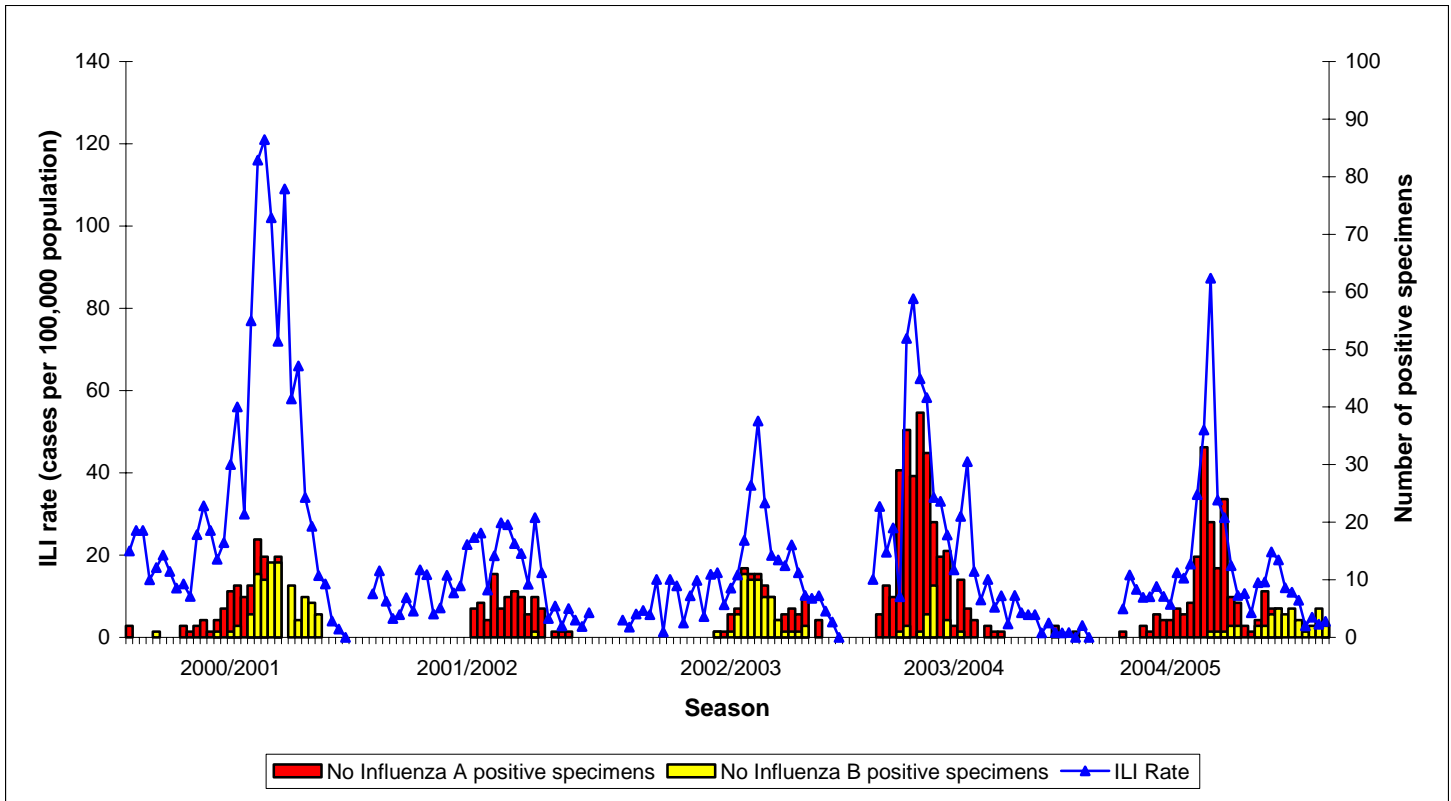


Figure 3. ILI rate and number of positive specimens detected during the 2000/2001, 2001/2002, 2002/2003, 2003/2004 and 2004/2005 seasons.

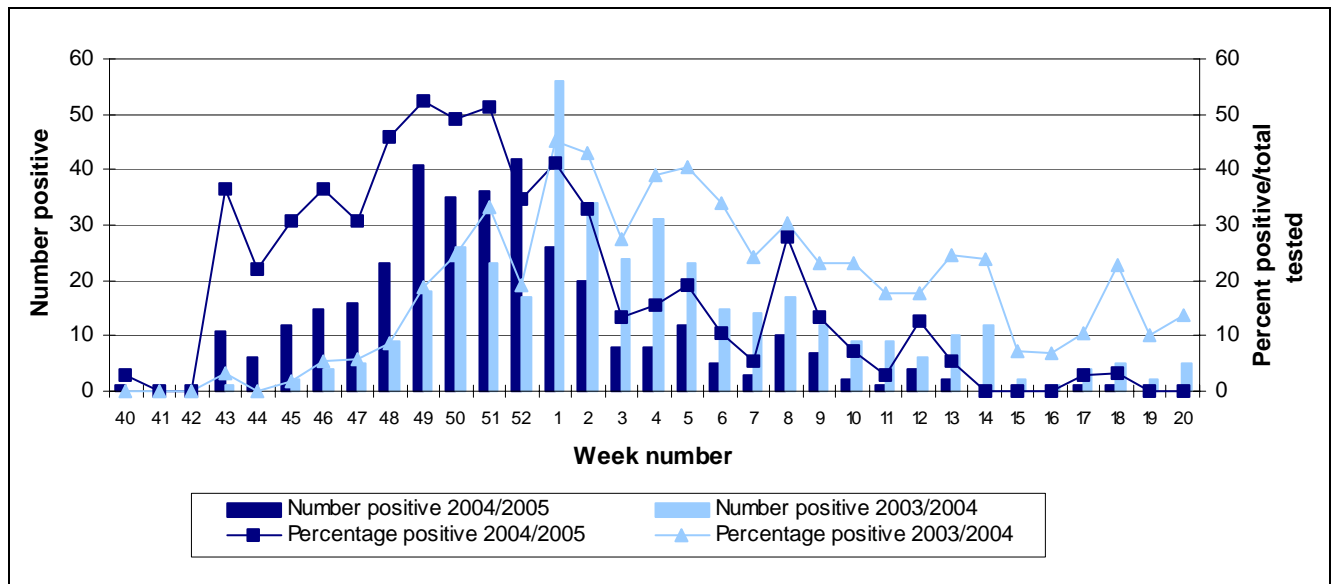


Figure 4. Number and percentage of non-sentinel RSV positive specimens detected during the 2004/2005** and 2003/2004 influenza seasons.

**Please note that for comparison with previous years, data for week 52 2004 on this graph represents the average of weeks 52/04 and week 53/04

Antigenic characterisation

Three influenza specimens were antigenically characterised during the 2004/2005 season. One influenza A (H1N1) isolate has been antigenically characterised as A/New Caledonia/20/99-like. The current season's vaccine contains an A/New Caledonia/20/99(H1N1)-like virus and should provide good protection against the strain. One influenza A (H3N2) isolate was found to be closest in antigenic character to the reference viruses A/Shantou/1219/04 and A/Oslo/807/04. A/Shantou/1219/04-like strains have been found to be closely related to the newer reference strain A/California/7/04 (H3N2). The A/California/7/04(H3N2)-like isolates have reduced titres to the A/Fujian/411/02-like antisera, but the H3N2 component of the current vaccine is expected to provide some protection against this new variant. One influenza B isolate has been antigenically characterised as being closely related to B/Jiangsu/10/03. B/Jiangsu/10/2003 is included in the current vaccine (as a B/Shanghai/361/2002-like virus).

Outbreak reports

Three influenza outbreaks were reported to HPSC during the 2004/2005 season. A school outbreak of ILI occurred during week 16 in HSE-Midland area. A total of 32 out of 35 pupils (91.4%) were reported ill. Seven throat swabs were taken and influenza B was isolated from five of these. All patients have made a full recovery. An outbreak of influenza A (H3N2) in a long-stay care facility for the elderly was reported by HSE-Eastern region during week three. Thirty-seven patients and 19 staff members were affected, corresponding to an attack rate of 33.4%. A school outbreak of ILI occurred during week 48 in HSE-Mid Western area. A total of 32 pupils were reported ill. There were no hospitalisations. Influenza A (unsubtyped) was isolated from two cases.

Mortality data

No influenza deaths were reported to HPSC during week 20.

Influenza activity by HSE-Area

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, sentinel hospital admissions data and/or sentinel school absenteeism data. During week 19, four areas reported sporadic influenza activity and four reported no activity.

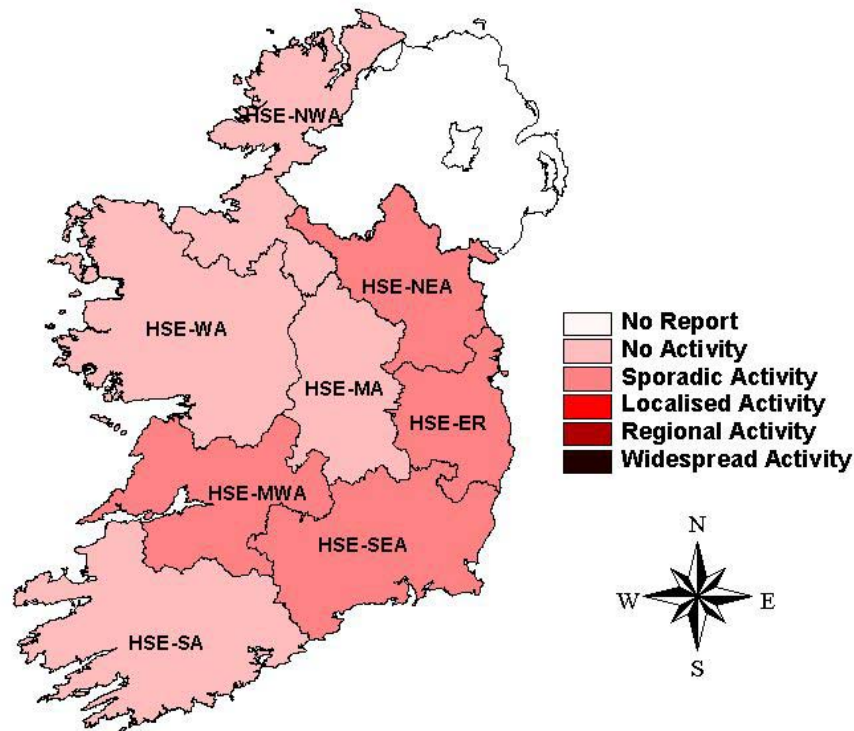


Figure 5: Map of influenza activity by HSE-area during week 19 2005

Influenza activity in Northern Ireland

Weekly influenza reporting by CDSC Northern Ireland has finished for the 2004/2005 influenza season and will resume in October 2005. In recent weeks, weekly rates of clinical influenza and ILI in Northern Ireland had fallen to low levels, as expected for the time of year. There were no laboratory confirmations of influenza in Northern Ireland since week 13. <http://www.cdscni.org.uk/>

Influenza activity in England, Scotland and Wales

Weekly influenza reporting by the HPA has finished for the 2004/2005 influenza season and will resume in October 2005. Influenza activity was within baseline levels in recent weeks. <http://www.show.scot.nhs.uk/scieh/infectious/respiratory/influenzasurveillance/influenzasurveillance.htm>
http://www.hpa.org.uk/infections/topics_az/influenza/flu.htm

Influenza activity in Europe

The European Influenza Surveillance Scheme (EISS) is no longer producing weekly influenza surveillance reports for the 2004/2005-influenza season. Although most countries will continue to monitor influenza activity, many surveillance networks are no longer actively reporting influenza activity as the influenza season is considered to be over.

During week 19, Scotland, Portugal, Spain, Slovakia, Belgium, Denmark and Norway all reported low levels of influenza activity to EISS.

Four thousand and eighty three influenza viruses have been antigenically or genetically characterised in Europe between week 40 2004 and week 16 2005. Of the 2603 H3N2 viruses characterised, 1226 (47.1%) were A/Wellington/1/2004 (H3N2)-like, 1263 (48.5%) were A/California/7/04 (H3N2)-like, 112 (4.3%) were A/Fujian/411/2002 (H3N2)-like and two (0.1%) were A/Panama/2007/99 (H3N2)-like. All of the 765 characterised H1N1 viruses were A/New Caledonia/20/99 (H1N1)-like. Four hundred and one (56.1%) of the influenza B viruses were B/Jiangsu/10/2003-like and 314 (43.9%) were B/Hong Kong/330/2001-like.

During the 2004/2005 season, influenza A (H3N2), influenza A (H1N1), influenza A (H1N2) and influenza B were detected in Europe. The dominant virus type was influenza A, accounting for 84% of detections. Where influenza A viruses was subtyped, 83.6% were influenza A (H3N2) and 16% were influenza A (H1N1). <http://www.eiss.org/>

Influenza activity in Canada

Influenza activity has steadily declined in Canada since the beginning of February. Localised activity was reported in parts of Ontario, Manitoba and Alberta with sporadic or no activity reported in the rest of the country. Sentinel physicians reported 13 cases of ILI per 1,000 patient visits. During the 2004/2005 influenza season, a total of 1164 influenza outbreaks have been reported, of which 886 were in long term care facilities, 86 in hospitals and 192 in schools. The Public Health Agency of Canada received 1500 reports of laboratory tests for influenza during week 19, including 2 influenza A detections and 34 influenza B detections. Since the start of the 2004/2005 influenza season, 1064 influenza viruses have been antigenically characterised. Of the 870 influenza A (H3N2) viruses tested, 420 were characterised as A/Fujian/411/02-like before the new variant, A/California/7/04 was reported. Since the antiserum of the new variant became available, 450 influenza A isolates have been characterised, of which 355 (79%) were A/California/7/04-like and 95 (21%) were A/Fujian/411/02-like. Of the 194 influenza B viruses characterised, 158 (81%) were B/Shanghai/361/02-like and 36 (19%) B/ Hong Kong /330/2001-like. <http://www.phac-aspc.gc.ca/fluwatch/index.html>

Influenza activity in the United States

Influenza activity in the US peaked in early February and continued to decline during week 19. The proportion of patient visits to sentinel providers for ILI was below the national baseline. The proportion of deaths attributed to pneumonia and influenza was below the national epidemic threshold level for the third consecutive week. During week 19, there were no reports of widespread, regional or localised influenza activity. Nineteen states, New York City, the District of Columbia, and Puerto Rico reported sporadic activity and 30 states reported no influenza activity. WHO and NREVSS laboratories tested 771 specimens for influenza during week 19. Eight of these were positive for influenza A (H3N2), 1 was positive for influenza A (unsubtyped) and 7 were positive for influenza B. Since October 1st, 812 influenza viruses have been antigenically characterised by the CDC. One hundred and

fifty-four (28%) influenza A (H3N2) viruses were characterised as antigenically similar to the A/Wyoming/3/2003 and 387 (72%) were more closely related to A/California/7/2004 (H3N2). One hundred and seventy-four (65.7%) of the influenza B viruses isolated were characterised as B/Shanghai/361/2002-like and 33 (12.5%) showed a reduced reaction to B/Shanghai/361/02 ferret antisera. The remaining 58 (21.9%) influenza B viruses were characterised as belonging to the B/Victoria lineage. All six influenza A (H1N1) viruses were characterised as antigenically similar to the haemagglutinin of the vaccine strain A/New Caledonia/20/99. <http://www.cdc.gov/flu/weekly/>

Influenza activity Worldwide

During week 20, Argentina (13 A untyped), Chile (11 A untyped & 2 B), China (15 A H1, 367 A H3, 4 A untyped & 25 B), Mexico (1 A untyped), and South Africa (7 A H1 & 2 B) all reported sporadic activity. <http://rhone.b3e.jussieu.fr/flunet/www/>

Avian influenza

Since January 2004, when human cases of H5N1 avian influenza were first reported in the current outbreak, 97 cases and 53 deaths have been reported in Viet Nam, Thailand and Cambodia. Viet Nam, with 76 cases and 37 deaths, has been the most severely affected country, followed by Thailand, with 17 cases and 12 deaths, and Cambodia, with 4 cases and 4 deaths. Although the avian influenza H5N1 virus is highly pathogenic in humans, there is currently no evidence of efficient and sustained human-to-human transmission.

For further information on the avian influenza outbreaks please consult the following websites:

HPSC: <http://www.hpsc.ie/DiseaseTopicsA-Z/AvianInfluenza/>

WHO: http://www.who.int/csr/disease/avian_influenza/en/

[CIDRAP](#) (Centre for Infectious Disease Research and Policy, University of Minnesota)

Northern Hemisphere influenza vaccine for 2004/2005

The vaccine currently in use is in accordance with the WHO recommendations on the composition of influenza vaccines for use in the 2004-2005 Northern Hemisphere influenza season, which are:

- an A/New Caledonia/20/99(H1N1)-like virus
- an A/Fujian/411/2002(H3N2)-like virus^a
- a B/Shanghai/361/2002-like virus^b

^a The currently used vaccine virus is A/Wyoming/3/2003. A /Kumamoto/102/2002 is also available as a vaccine virus.

^b Candidate vaccine viruses include B/Shanghai/361/2002 and B/Jilin/20/2003, which is a B/Shanghai/361/2002-like virus.

Northern Hemisphere influenza vaccine for 2005/2006

The WHO announced its recommendations for the composition of the influenza vaccine for the northern hemisphere for 2005/2006 on February 10th 2005. The members of the WHO Collaborating Centres on Influenza recommended that influenza vaccines contain the following strains:

- an A/New Caledonia/20/99(H1N1)-like virus
- an A/California/7/2004(H3N2)-like virus^a
- a B/Shanghai/361/2002-like virus^b

a Candidate vaccine viruses are being developed (for further information please see WHO update at <http://www.who.int/influenza>)

b The currently used vaccine viruses are B/Shanghai/361/2002, B/Jiangsu/10/2003 and B/Jilin/20/2003.

<http://www.who.int/csr/disease/influenza/vaccinerecommendations1/en/>
www.emea.eu.int

Weekly influenza reports and further information on influenza are available on the HPSC website:

<http://www.hpsc.ie/Publications/InfluenzaWeeklySurveillanceReport/>

<http://www.hpsc.ie/DiseaseTopicsA-Z/InfluenzaFlu/>

The HPSC, ICGP and NVRL would like to thank the sentinel GPs who participated in this surveillance scheme throughout the 2004/2005 influenza season. Many thanks are also due to the Departments of Public Health and sentinel hospitals and schools that provided data throughout the season.

This report was produced by Dr. Lisa Domegan, HPSC.