

Influenza Surveillance in Ireland - Weekly Update

Influenza Week 30 2009 (20th-26th July 2009)



Summary

- The influenza-like illness (ILI) GP consultation rate increased to 37 per 100,000 population in week 30 (from 12.5/100,000 in week 29). This is above the baseline threshold level of 17.8 per 100,000 population and would be considered to be normal seasonal activity for the winter period.
- Flu-related calls to GP Out-of-Hours services are increasing
- Influenza A(H1N1)v is the main influenza virus circulating; in week 30, 98% of specimens positive for influenza were influenza A(H1N1)v
- Based on the surveillance of lab confirmed cases of influenza A(H1N1)v, as of July 26th:
 - 217 confirmed cases were notified in Ireland
 - Children and young adults remain the most affected groups; 66% of cases were less than 30 years of age
 - Most cases in Ireland continue to be mild and no deaths have been reported
 - 16 confirmed cases have been hospitalised

Introduction

In order to monitor influenza activity in Ireland a number of surveillance systems are in place:

1. GP Sentinel surveillance system
2. GP Out-of-Hours system
3. Virological data from the NVRL
4. Enhanced surveillance system for influenza A(H1N1)v

Details of these surveillance systems are provided in an Appendix at the back of this report.

1. GP Sentinel surveillance system

Clinical Data

During week 30 2009, 52 of 60 (86.7%) ICGP sentinel general practices provided data, with 32 practices reporting 81 ILI cases. This corresponds to an ILI consultation rate of 37 per 100,000 population, which is a marked increase compared to the updated rate of 12.5 per 100,000 population reported during week 29 2009. This is now above the baseline threshold level of 17.8 per 100,000 population and would be considered to be normal seasonal activity for the winter period. Figure 1 shows the ILI consultation rates, the baseline threshold rate and the number of positive specimens detected by the National Virus Reference Laboratory (NVRL) for recent influenza seasons.

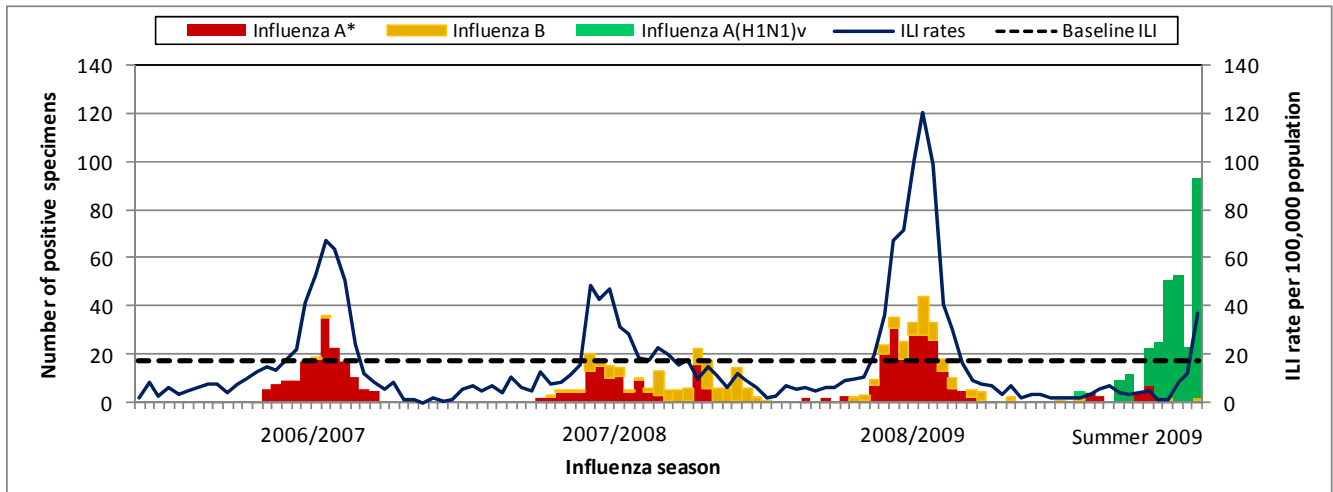


Figure 1. ILI GP consultation rates per 100,000 population, baseline ILI threshold rate and number of positive influenza specimens detected by the NVRL by influenza week and season (*influenza A excluding A(H1N1)v specimens)

During week 30 2009 sentinel GPs reported, three ILI cases in the 0-4 year age group (19.2 per 100,000 population), 13 cases in the 5-14 year age group (44.7 per 100,000 population), 58 cases in the 15-64 year age group (38.6 per 100,000 population) and seven cases in the 65+ years and older age group (28.9 per 100,000 population) as shown in figure 2.

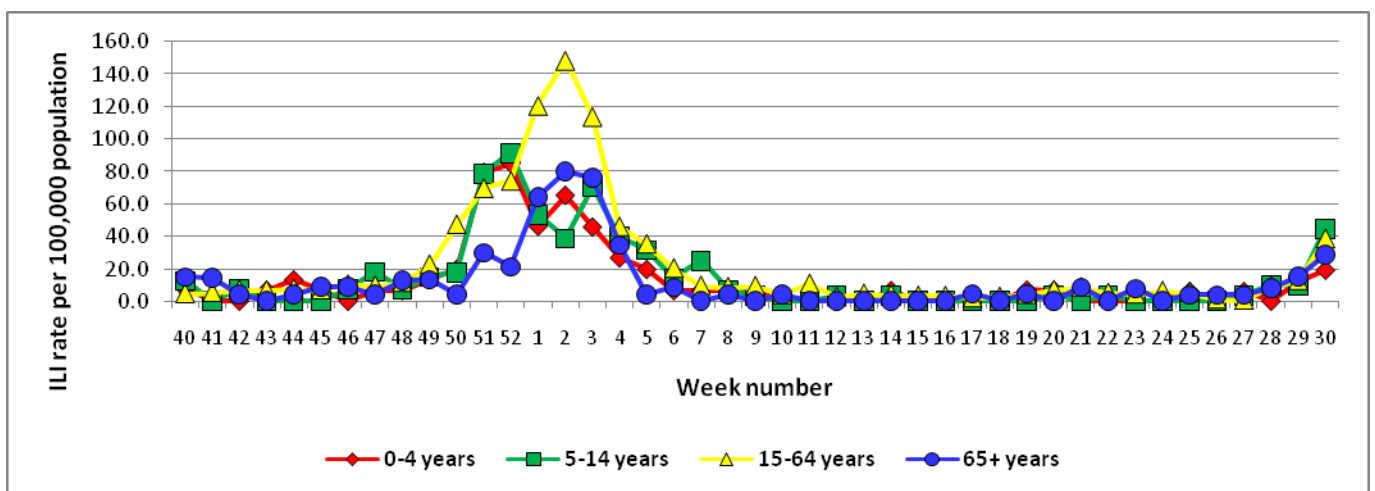


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week during the 2008/2009 and Summer 2009 influenza seasons

Regional Influenza Activity by HSE-Area

Influenza activity is reported on a weekly basis from the Departments of Public Health in each HSE area. Influenza activity is based on sentinel GP ILI consultation rates, laboratory confirmed influenza cases and ILI/influenza outbreaks. Sporadic influenza activity (based on isolated cases of ILI and/or virological results) was reported by all eight HSE areas during influenza week 29 2009 (figure 3).

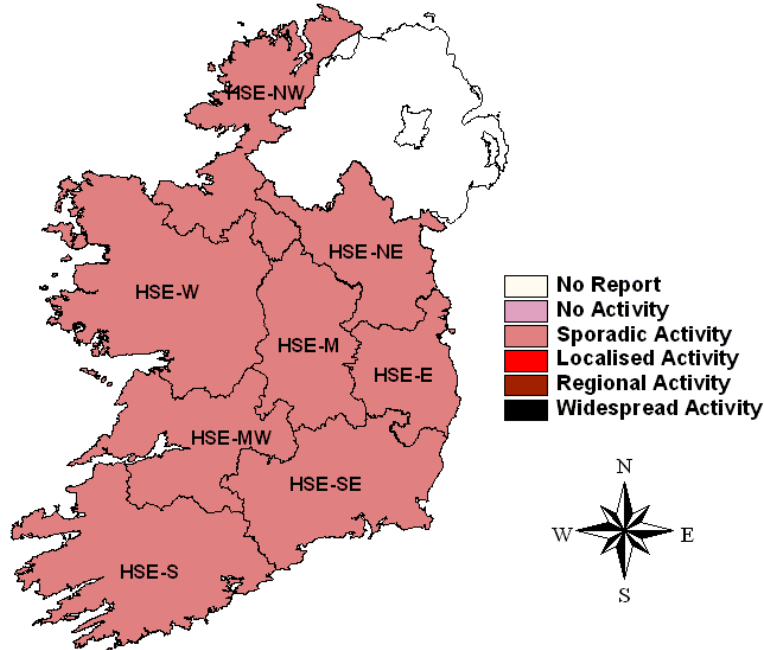


Figure 3: Map of influenza activity by HSE area during influenza week 29 2009

Sentinel hospitals and schools

The Departments of Public Health have established at least one sentinel hospital in each HSE area, to report data on total hospital admissions, total emergency admissions and total respiratory admissions by age group on a weekly basis. Sentinel primary and secondary schools were also established in each HSE area in close proximity to the sentinel GPs, reporting absenteeism data on a weekly basis. During influenza week 29 2009, no increases in respiratory admissions were reported by sentinel hospitals. All sentinel schools are now closed for the summer holidays.

2. GP out-of-hours services surveillance

On a weekly basis the Department of Public Health in the HSE-NE are collating national data on calls to six of thirteen GP Out-of-Hours services in Ireland. Clinical details from all calls are recorded. Records with clinical symptoms reported as flu or influenza are extracted for analysis. This information may act as an early indicator of increased ILI activity. However, data are self-reported by callers and are not based on coded influenza diagnoses. Since the week ending July 19th, there has been a marked increase in the number of callers reporting ILI symptoms (figure 4).

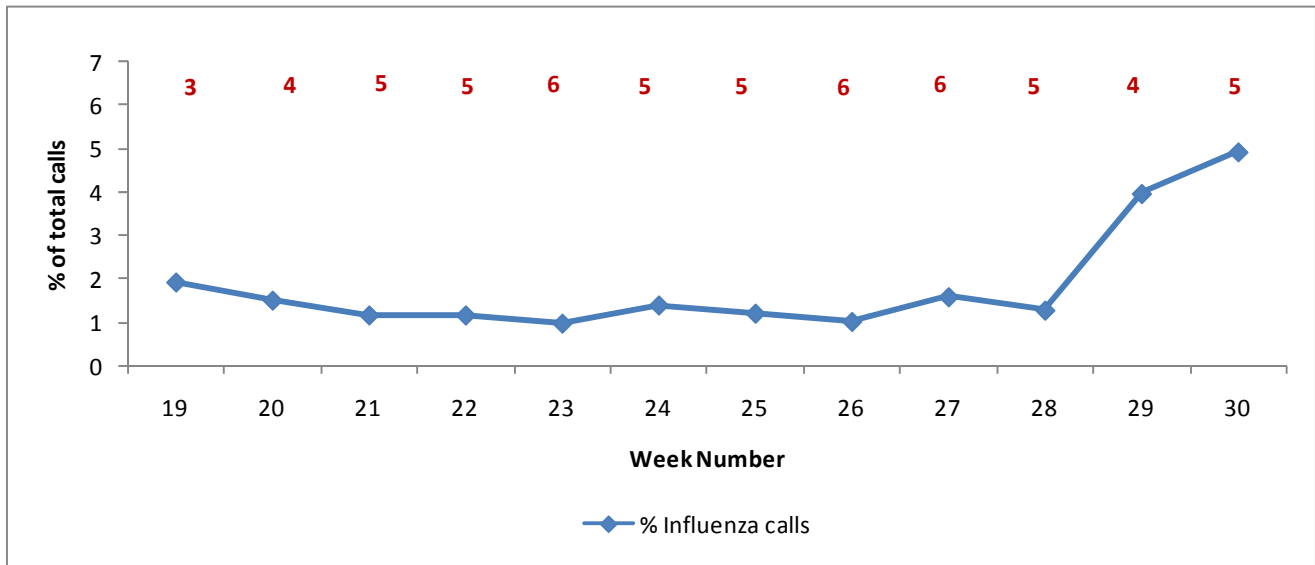


Figure 4: Time series plot by week number of flu related records from Out-of-Hours GP Co-ops

Source: HSE-NE. Not all services provided data for all weeks. The figures in red represent the number of co-ops providing data for a particular week. For week 30, data were received from D-Doc, K-Doc, MI-Doc, NE-Doc and South-Doc

3. Virological Data from the National Virus Reference Laboratory (NVRL)

Sixteen specimens from sentinel GPs were tested by the NVRL during week 30 2009, none of which were positive for influenza. The NVRL tested 647 non-sentinel specimens taken during week 30 2009.

Ninety-one (14.4%) of non-sentinel specimens tested positive for influenza A(H1N1)v (88 cases)¹ and one each was positive for influenza A(H3) and influenza B. Three specimens tested positive for respiratory syncytial virus (RSV) during week 30 2009 (table 1).

Influenza A(H1N1)v is the main influenza virus circulating; in week 30, 98% of specimens positive for influenza were influenza A(H1N1)v, while for the summer 2009 season to date influenza A(H1N1)v has accounted for 93% of influenza positive specimens (table 1)

¹ Please note that non-sentinel specimens relate to specimens referred to the NVRL (other than sentinel specimens) and may include more than one specimen from each case

Table 1: Number of sentinel and non-sentinel respiratory specimens and positive results, influenza week 30 2009 and Summer 2009 season to date

Influenza week Number	Specimen Type	Total Specimens	No. Influenza Positive	% Influenza Positive	Influenza A(H1N1)v	Influenza A(H3)	Influenza A(H1)	Influenza A*	Influenza B	% Influenza A(H1N1)v	RSV	% RSV Positive
Week 30 2009	Sentinel	16	0	0	0	0	0	0	0	0	NA	NA
	Non-Sentinel	647	93	14.4	91	1	0	0	1	98	3	0.5
	Total	663	93	14	91	1	0	0	1	98	3	0.5
Summer 2009 season to date	Sentinel	83	7	8.4	5	2	0	0	0	71	NA	NA
	Non-Sentinel	2180	305	14	286	13	2	1	3	94	14	0.6
	Total	2263	312	13.8	291	15	2	1	3	93	14	0.6

*influenza A (not subtyped)

4. Laboratory confirmed cases of influenza A(H1N1)v

Up to July 26th 2009, a total of 217 confirmed cases of influenza A (H1N1)v infection were reported. Sixty four percent (n=139) were travel related (imported) and 8% (n=17) were contacts of an imported case (secondary import related). A further 2% (n=4) were linked to a non-imported case (tertiary indigenous) and 5% (n=11) had no history of travel and no known links to other confirmed cases (sporadic indigenous). Figure 5 shows the number of confirmed influenza A(H1N1)v cases by week of notification and mode of transmission.

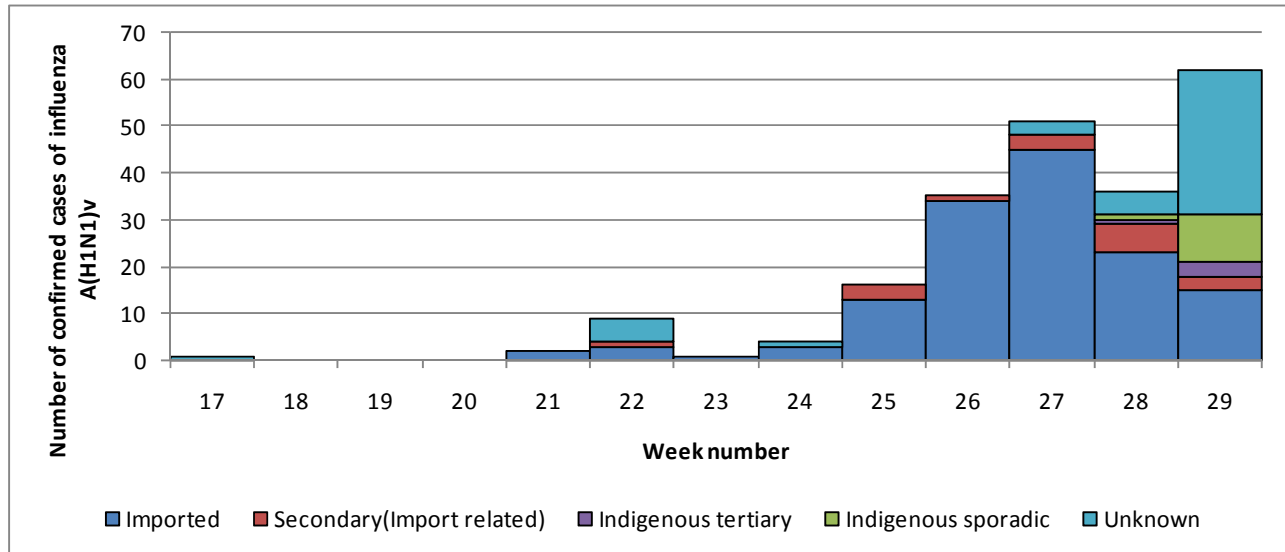


Figure 5: Number of confirmed cases of influenza A(H1N1)v by mode of transmission and week of notification

(Week number on figure 5 is based on infectious disease notification week number, which is one week behind the influenza week number. Therefore weeks 17-29 above is equivalent to weeks 18-30 on the influenza system)

Age and Sex

Of the 217 confirmed cases reported to date, 110 were female (50.7%) and 107 were male (49.3%). The median age of cases was 23 years (range: 0-73 years) and 66% of cases were less than 30 years of age. Figure 6 shows the number and notification rates per 100,000 population by age group.

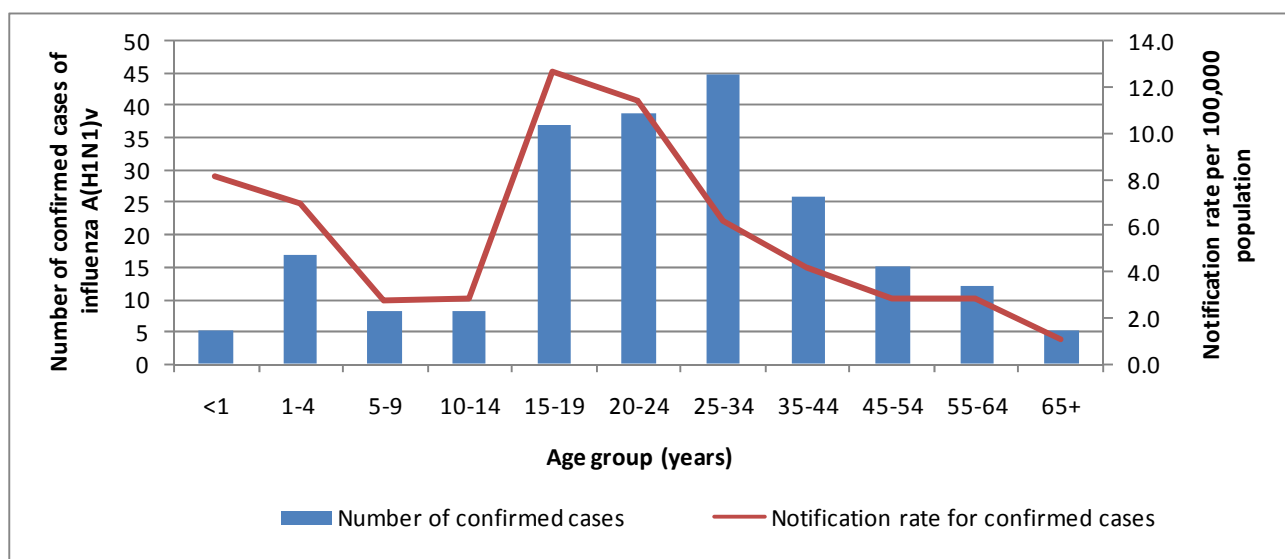


Figure 6: Number of confirmed cases of influenza A(H1N1)v and notification rate per 100,000 population by age group (years)

HSE area

All HSE areas have reported confirmed cases. The numbers and rates by HSE area for the week ending July 26th and to date are shown in table 2.

Table 2: Number and rate per 100,000 population for confirmed cases by HSE area

	July 18 th - July 26 th 2009		To date: up to July 26 th 2009	
	Number of confirmed cases	Rate per 100,000 population	Number of confirmed cases	Rate per 100,000 population
HSE-E	36	2.4	102	6.8
HSE-M	5	2.0	8	3.2
HSE-MW	6	1.7	17	4.7
HSE-NE	5	1.3	26	6.6
HSE-NW	1	0.4	6	2.5
HSE-SE	2	0.4	18	3.9
HSE-S	6	1.0	19	3.1
HSE-W	1	0.2	21	5.1
Total	62	1.5	217	5.1

Severity of illness

Clinical illness continues to be mild in the majority of cases and no deaths have been reported to date in Ireland. Of these, 16 were reported as being hospitalised. Twelve hospitalised cases have recovered or are recovering, two are still ill and the outcome is awaited for two. Table 3 shows the number of hospitalised cases by age group.

Table 3: Number of hospitalised confirmed cases of influenza A (H1N1)v by age group (years)

Age group (years)	Number of confirmed cases hospitalised
<5	5
5-15	0
16-64	9
65+	2
Total	16

Outbreak surveillance

Thirteen outbreaks of influenza A(H1N1)v have been reported in Ireland to date, involving 41 people in total, of which 34 were laboratory confirmed cases. All outbreaks have been small in magnitude, with the number ill per outbreak ranging between two and six persons. Twelve outbreaks occurred in family settings and one involved travelling companions.

International summary

The total numbers of confirmed cases and deaths worldwide and in the most affected countries are shown in table 4. The numbers shown are likely to be an underestimate of the numbers of cases as many countries are now moving to selective testing policies.

Table 4. Reported number of confirmed influenza A(H1N1)v cases and deaths in countries with >2,500 cases as of 28th July 2009, 17.00 hours (CEST) (Source: ECDC 28th July 2009, 17:00)

Country	Cumulative number of confirmed cases	Deaths among confirmed cases
Overall total worldwide	168895	1012
Countries with >2,500 confirmed cases		
United States of America	43771	302
Australia	19026	47
Mexico	15727	141
Chile	11641	79
United Kingdom	11159	30
Canada	10449	55
Thailand	6776	24
Japan	5022	0
Germany	3349	0
Peru	3292	23
Hong Kong SAR China	3081	1
Argentina	3056	165
New Zealand	2704	13
Philippines	2668	3

Further information on influenza in Ireland and internationally can be found on the following websites:

Ireland	www.hpsc.ie
World –WHO	www.who.int/topics/influenza/en/
Europe – ECDC	http://ecdc.europa.eu/
Europe – EISN	www.eiss.org/index.cgi
United States	www.cdc.gov/flu/weekly/fluactivity.htm
Canada	www.phac-aspc.gc.ca/fluwatch/index.html
Northern Ireland	www.cdscni.org.uk/
United Kingdom	www.hpa.org.uk/
Australia	www.health.gov.au
New Zealand	www.surv.esr.cri.nz/index.php

Acknowledgements

HPSC wishes to thank the Departments of Public Health, HSE-NE, ICGP and NVRL for providing data for this report

Appendix A

Sentinel surveillance for influenza

This is the ninth season of influenza surveillance using computerised sentinel general practices in Ireland. The Health Protection Surveillance Centre (HPSC) is working in collaboration with the Irish College of General Practitioners (ICGP), the National Virus Reference Laboratory (NVRL) and the Departments of Public Health on this sentinel surveillance project. Sixty sentinel general practices covering 5.7% of the national population have been recruited to report on the number of patients with ILI on a weekly basis.

ILI is defined as the sudden onset of symptoms with a temperature of 38°C or more, with two or more of the following: headache, sore throat, dry cough and myalgia.

Sentinel GPs send a combined nasal and throat swab, to the NVRL, on at least five patients per week where a clinical diagnosis of ILI is made during the influenza season.

Influenza test results from the NVRL are also provided on both sentinel and non-sentinel specimens.

Laboratory confirmed influenza A(H1N1)v

Since the end of April 2009, a case-based surveillance system for influenza A(H1N1)v has been in operation in Ireland following the declaration by World Health Organization (WHO) of a public health emergency of international concern due to the virus. Basic demographic and enhanced data are collected on all laboratory confirmed cases. Data are collated on the Computerised Infectious Disease Reporting (CIDR) system using information available from the National Virus Reference Laboratory (NVRL), Departments of Public Health, clinicians and a number of other laboratories. Data presented in this report are based on details recorded on the CIDR system.