

Influenza Surveillance in Ireland - Weekly Update

Influenza Week 31 2009 (27th July-2nd August 2009)



Summary

- The influenza-like illness (ILI) GP consultation rate decreased slightly to 32.5 per 100,000 population in week 31 (from 35.1/100,000 in week 30). 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 31, 99% of specimens positive for influenza were influenza A(H1N1)v
- Based on the surveillance of laboratory confirmed cases of influenza A(H1N1)v, as of August 2nd:
 - 365 confirmed cases were notified in Ireland
 - Children and young adults remain the most affected groups; 71% of cases were less than 30 years of age
 - Most cases in Ireland continue to be mild and no deaths have been reported
 - 23 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 31 2009, 41 of 60 (68.3%) ICGP sentinel general practices provided data, with 24 practices reporting 59 ILI cases. This corresponds to an ILI consultation rate of 32.5 per 100,000 population, which is a slight decrease compared to the updated rate of 35.1 per 100,000 population reported during week 30 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.

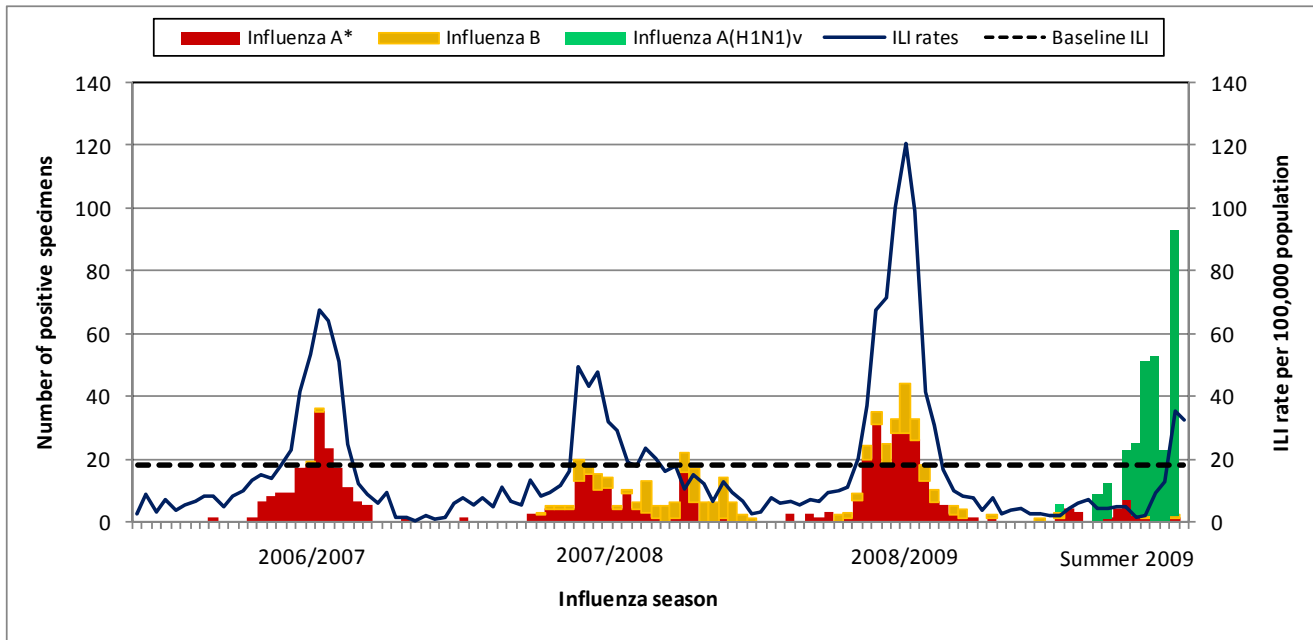


Figure 1. ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza specimens detected by the NVRL, by influenza week and season (*influenza A excluding A(H1N1)v specimens)

During week 31 2009, sentinel GPs reported five ILI cases in the 0-4 year age group (38.6 per 100,000 population), five cases in the 5-14 year age group (20.8 per 100,000 population), 47 cases in the 15-64 year age group (37.8 per 100,000 population) and two cases in the 65+ years and older age group (10.0 per 100,000 population) as shown in figure 2.

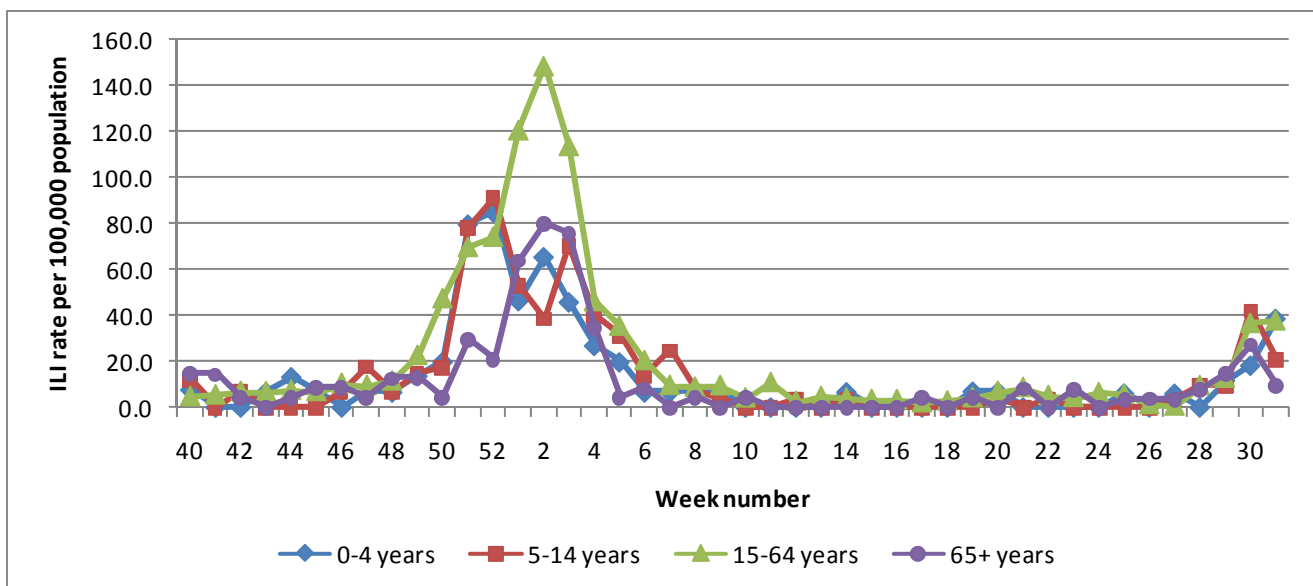


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week during the 2008/2009 and Summer 2009 influenza seasons

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 week 30 2009 (figure 3).

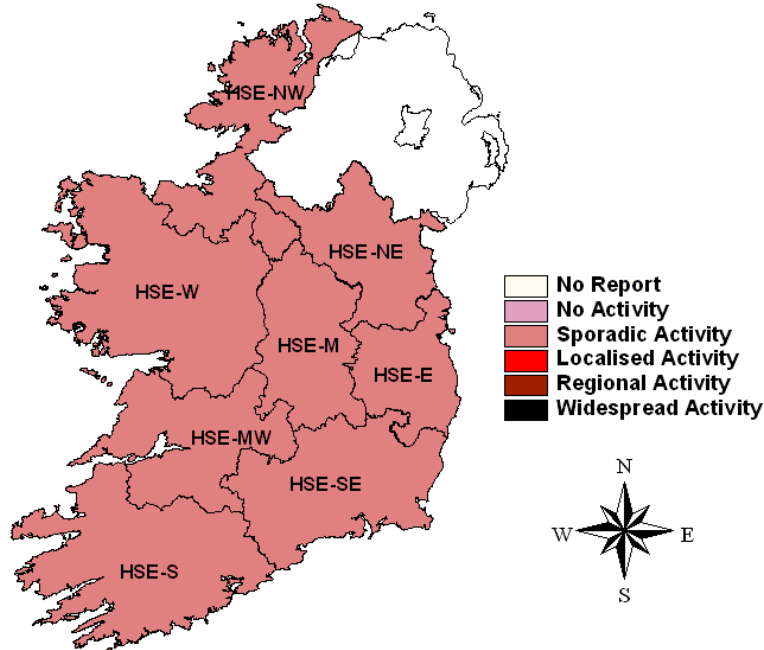


Figure 3: Map of influenza activity by HSE area during influenza week 30 2009

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 30 2009, data was received from four HSE areas (HSE-M, HSE-NW, HSE-SE and HSE-W). No increases in respiratory admissions were reported by sentinel hospitals in these areas. 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 is 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 (week 29) there has been a marked increase in the number of callers reporting ILI symptoms (figure 4).

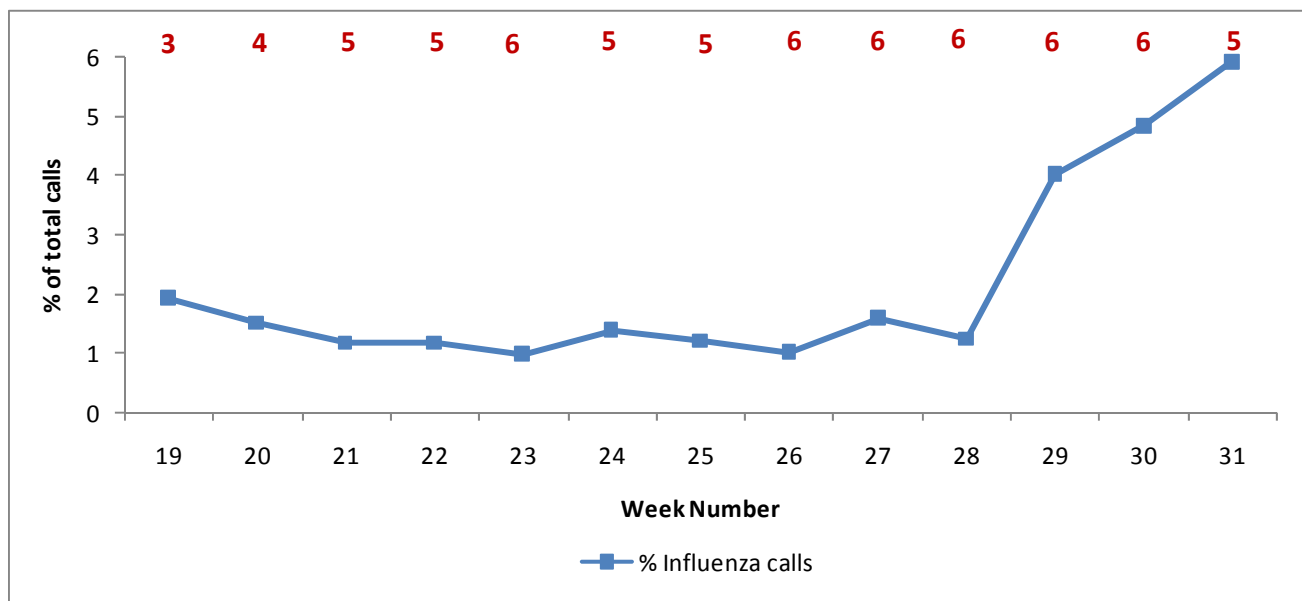


Figure 4: Flu related call as a proportion of total calls to Out-of-Hours GP Co-ops by week

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 31, 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)

Thirty-two specimens from sentinel GPs were tested by the NVRL during week 31 2009, four of which were positive for influenza A(H1N1)v, and one was positive for influenza A (not subtyped).

The NVRL tested 583 non-sentinel specimens taken during week 31 2009. Eighty-nine (15.3%) of non-sentinel specimens tested positive for influenza A(H1N1)v (87 cases)¹. No specimens were positive for other influenza A subtypes or influenza B. One specimen tested positive for respiratory syncytial virus (RSV) during week 31 2009 (table 1).

Influenza A(H1N1)v is the main influenza virus circulating; in week 31, 99% 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 95% 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 31 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 31 2009	Sentinel	32	5	15.6	4	0	0	1	0	80	NA	NA
	Non-Sentinel	583	89	15.3	89	0	0	0	0	100	1	0.2
	Total	615	94	15.3	93	0	0	1	0	99	1	0.2
Summer 2009 season to date	Sentinel	161	22	13.7	18	3	0	1	0	82	NA	NA
	Non-Sentinel	2911	443	15.2	424	13	2	1	3	96	15	0.5
	Total	3072	465	15.1	442	16	2	2	3	95	15	0.5

*influenza A (not subtyped yet, but not Influenza A(H1N1)v)

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

As of August 2nd 2009, a total of 365 confirmed cases of influenza A (H1N1)v infection were reported. Seventy one percent (n=178) were travel related (imported) and 8% (n=19) were contacts of an imported case (secondary import related). A further 3% (n=7) were linked to a non-imported case (tertiary indigenous) and 18% (n=46) 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.

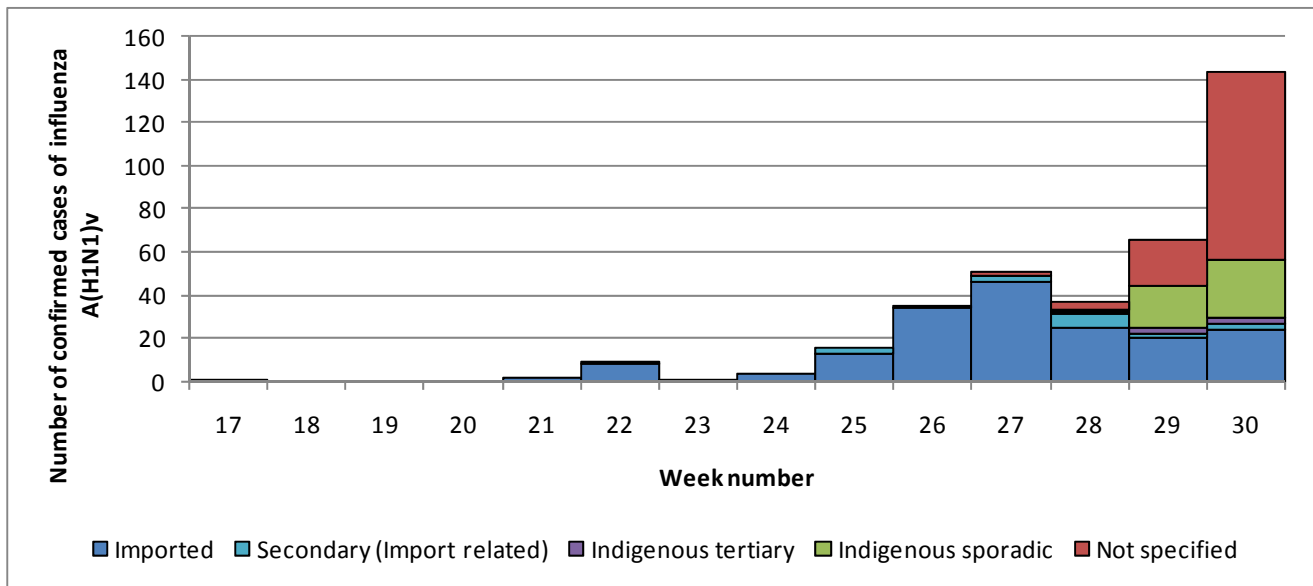


Figure 5: Number of confirmed cases of influenza A(H1N1)v by mode of transmission and week of notification

(Week number on figure 5 is based on infectious disease notification week number, which is one week behind the influenza week number. Therefore weeks 17-30 above is equivalent to weeks 18-31 on the influenza system)

Age and Sex

Of the 365 confirmed cases reported to date, 179 were female (49%) and 186 were male (51%). The median age was 22 years (range: 0-73 years) and 71% of cases were less than 30 years of age. Figure 6 shows the number of cases and notification rates per 100,000 population by age group.

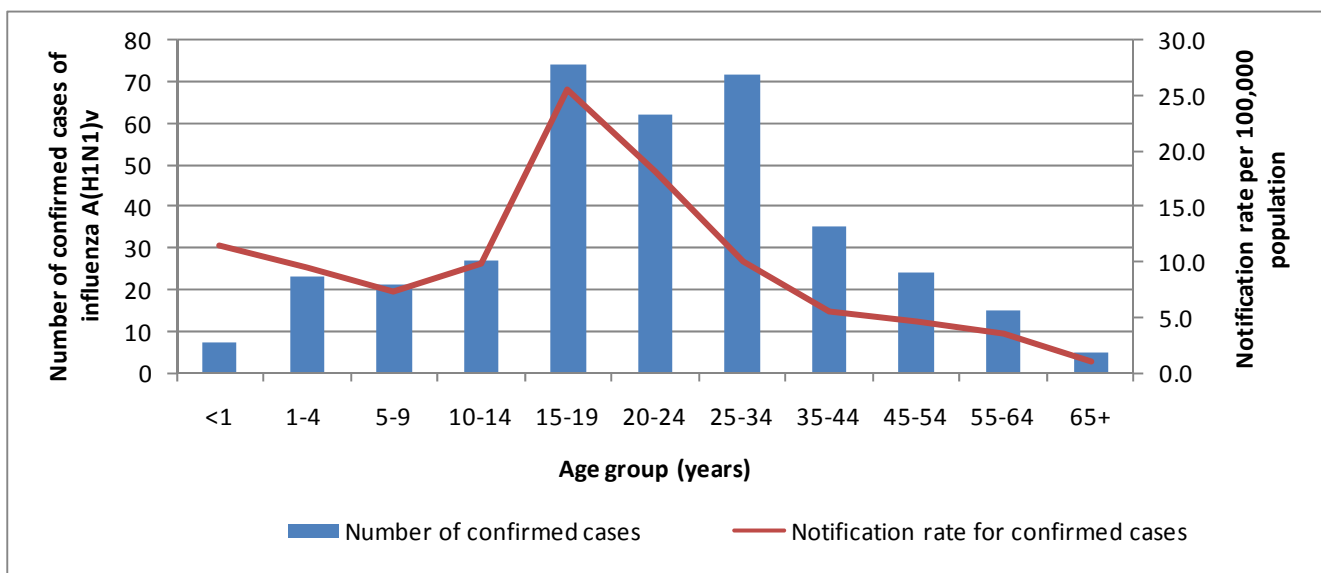


Figure 6: Number of confirmed cases of influenza A(H1N1)v and notification rate per 100,000 population by age group (years)

HSE area

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

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

HSE area	Week 30: July 27 th to Aug 2 nd		To date: up to Aug 2 nd	
	Number of confirmed cases	Rate per 100,000 population	Number of confirmed cases	Rate per 100,000 population
HSE-E	60	4.0	163	10.9
HSE-M	2	0.8	10	4.0
HSE-MW	5	1.4	23	6.4
HSE-NE	19	4.8	45	11.4
HSE-NW	10	4.2	16	6.7
HSE-SE	7	1.5	25	5.4
HSE-S	33	5.3	52	8.4
HSE-W	7	1.7	31	7.5
Total	143	3.4	365	8.6

Severity of illness

Clinical illness continues to be mild in the majority of cases and no deaths have been reported to date in Ireland. Complications were mostly respiratory in nature, with 9 cases developing pneumonia and 4 additional cases having other respiratory problems.

Of the 365 confirmed cases, 23 cases were reported as having been admitted to hospital. Seventeen hospitalised cases have recovered or are recovering, three are still ill and the outcome is awaited for three. Table 3 shows the number of hospitalised cases by age group. Six of the hospitalised cases had pre-existing comorbidities including chronic heart disease, chronic respiratory disease, immunosuppression or diabetes mellitus.

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

Age group (years)	Number of confirmed cases admitted to hospital
<5 yrs	5
5-15 yrs	2
16-64 yrs	14
65+ yrs	2
Total	23

Outbreak surveillance

Fifteen outbreaks of influenza A(H1N1)v have been reported in Ireland to date, involving 50 people in total, of which 39 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, one involved travelling companions and two occurred in educational settings.

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 4th Aug 2009, 17.00 hours (CEST) (Source: ECDC 4th Aug 2009, 17:00)

Country	Cumulative number of confirmed cases	Deaths among confirmed cases
Overall total worldwide	193,574	1362
Countries with >2,500 confirmed cases		
United States of America	43771	353
Australia	23692	70
Mexico	16442	146
United Kingdom	11912	30
Chile	11860	96
Canada	10449	59
Thailand	8879	65
Germany	7177	0
Japan	5022	0
Argentina	4895	243
Peru	4781	30
Hong Kong SAR China	4504	3
Philippines	3207	8
New Zealand	2872	14

USA

During week 29 (July 19-25, 2009), influenza activity decreased in the United States; however, there were still higher levels of influenza-like illness than is normal for this time of year. Over 98% of all subtyped influenza A viruses being reported to CDC were influenza A (H1N1)v virus.

Canada

The overall influenza activity decreased slightly during week 29 (July 19-25, 2009); the national ILI consultation rate was 19 consultations per 1,000 compared to 27 per 1,000 visits in week 28. The median age of cases admitted to ICU was older than that for all confirmed cases (40 years compared to 18 years). Females and cases with underlying medical conditions were also more likely to be admitted to ICU.

New Zealand

The ILI consultation rate in week 30 (20-26 July 2009) was 266 per 100,000 population. This is a slight decrease compared to week 29. However, the ILI consultation rate remains higher than previous years for the same week. So far, the highest ILI consultation rates have been reported among children and teenagers aged 0 to 19 years.

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	http://www.cdscni.org.uk/
United Kingdom	www.hpa.org.uk/
Australia	http://www.health.gov.au/
New Zealand	http://www.surv.esr.cri.nz/virology/influenza_weekly_update.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.