

# Influenza Surveillance in Ireland - Weekly Update

## Influenza Week 32 2009 (2<sup>nd</sup> to 8<sup>th</sup> August 2009)



### Summary

- The influenza-like illness (ILI) GP consultation rate decreased slightly to 33.1 per 100,000 population in week 32 (from the updated rate of 35.3/100,000 in week 31)<sup>1</sup>. 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 but not as sharply as for previous weeks.
- Pandemic (H1N1) 2009 is the main influenza virus circulating; in week 32, 100% of specimens positive for influenza were pandemic (H1N1) 2009
- Based on the surveillance of laboratory confirmed cases of pandemic (H1N1) 2009, as of August 8<sup>th</sup>:
  - 513 confirmed cases were notified in Ireland
  - Children and young adults remain the most affected groups; 78.6% of cases were less than 35 years of age
  - Clinical illness continues to be mild in the majority of cases
  - One death has been reported

### 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 pandemic (H1N1) 2009

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

#### 1. GP Sentinel surveillance system

##### Clinical Data

During week 32 2009, 51 of 60 (85%) ICGP sentinel general practices provided data, with 30 practices reporting 66 ILI cases. This corresponds to an ILI consultation rate of 33.1 per 100,000 population, which is a slight decrease compared to the updated rate of 35.3 per 100,000 population reported during week 31 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.

<sup>1</sup> Since the last report, extra information on the number of ILI consultations occurring in Week 31 was provided by sentinel GPs and the rate for that week was adjusted accordingly.

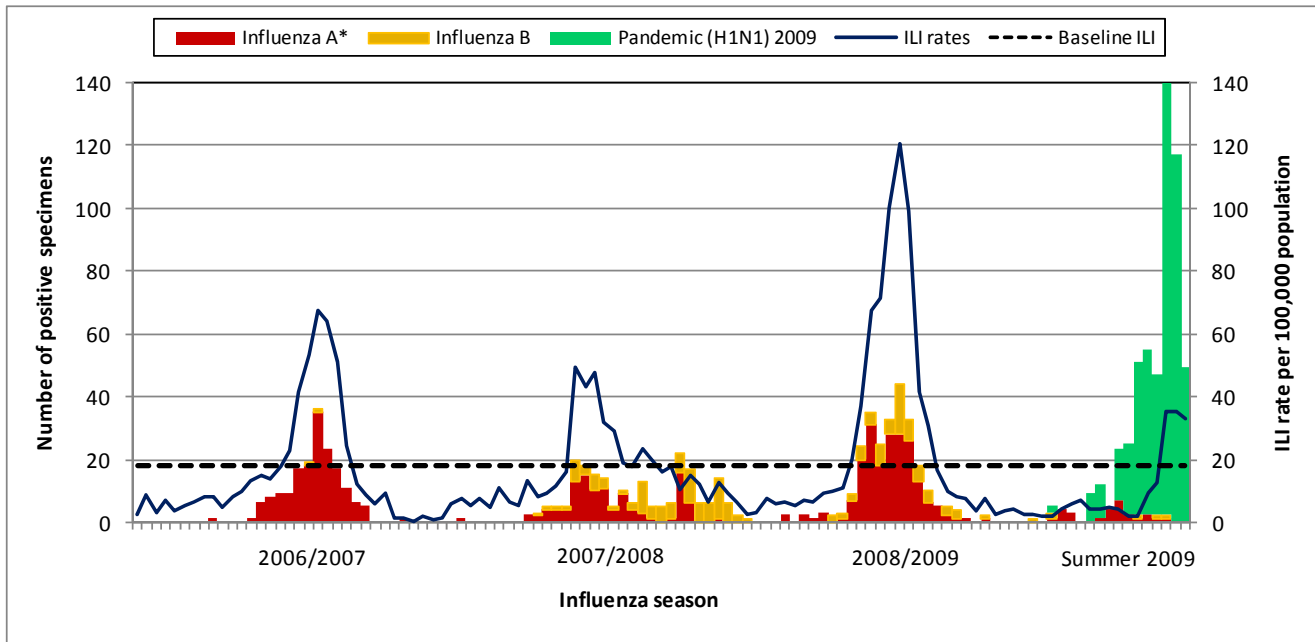


Figure 1. ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza specimens detected by the NVRL, by influenza week and season (\*influenza A excluding pandemic (H1N1) 2009 specimens)

During week 32 2009, sentinel GPs reported three ILI cases in the 0-4 year age group (21.1 per 100,000 population), nine cases in the 5-14 year age group (34.0 per 100,000 population), 52 cases in the 15-64 year age group (38.0 per 100,000 population) and two cases in the 65+ years and older age group (9.1 per 100,000 population) as shown in figure 2.

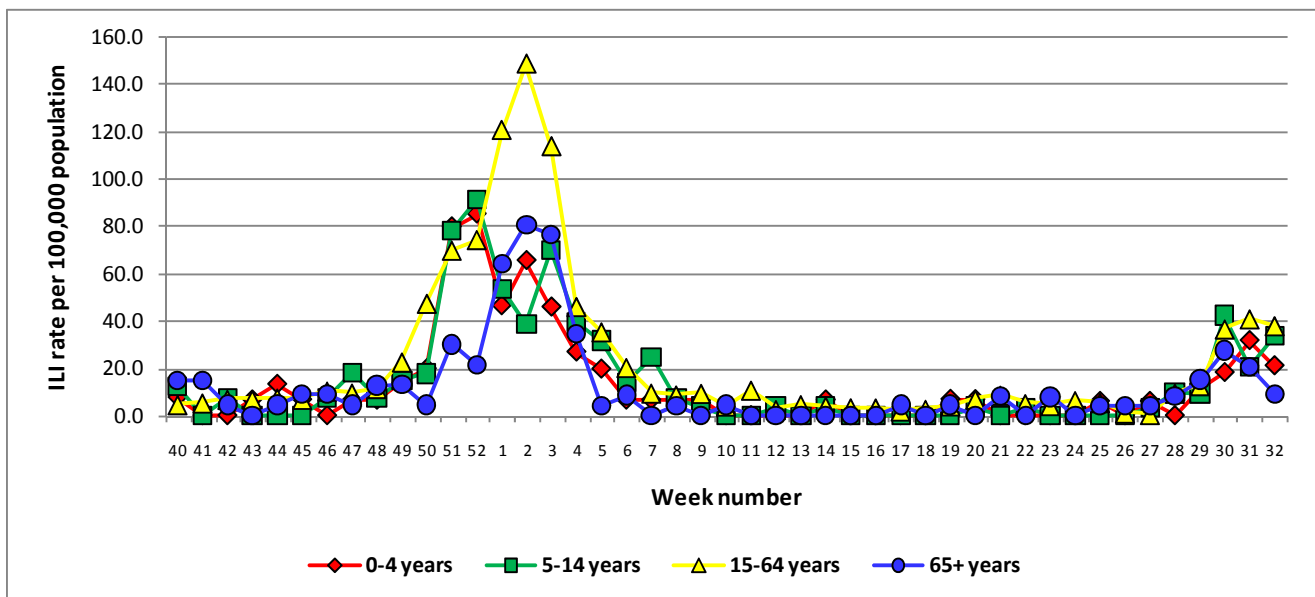


Figure 2: Age specific GP consultation rate for ILI per 100,000 population by week during the 2008/2009 and Summer 2009 influenza seasons

### 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 31 2009 (figure 3).

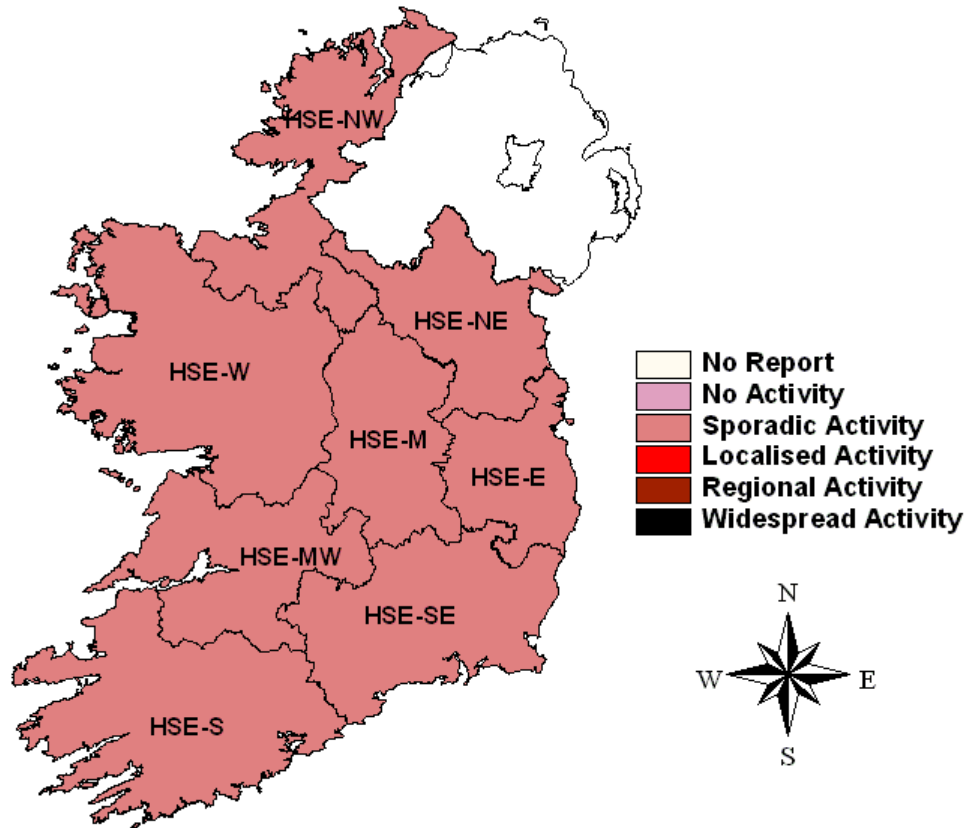


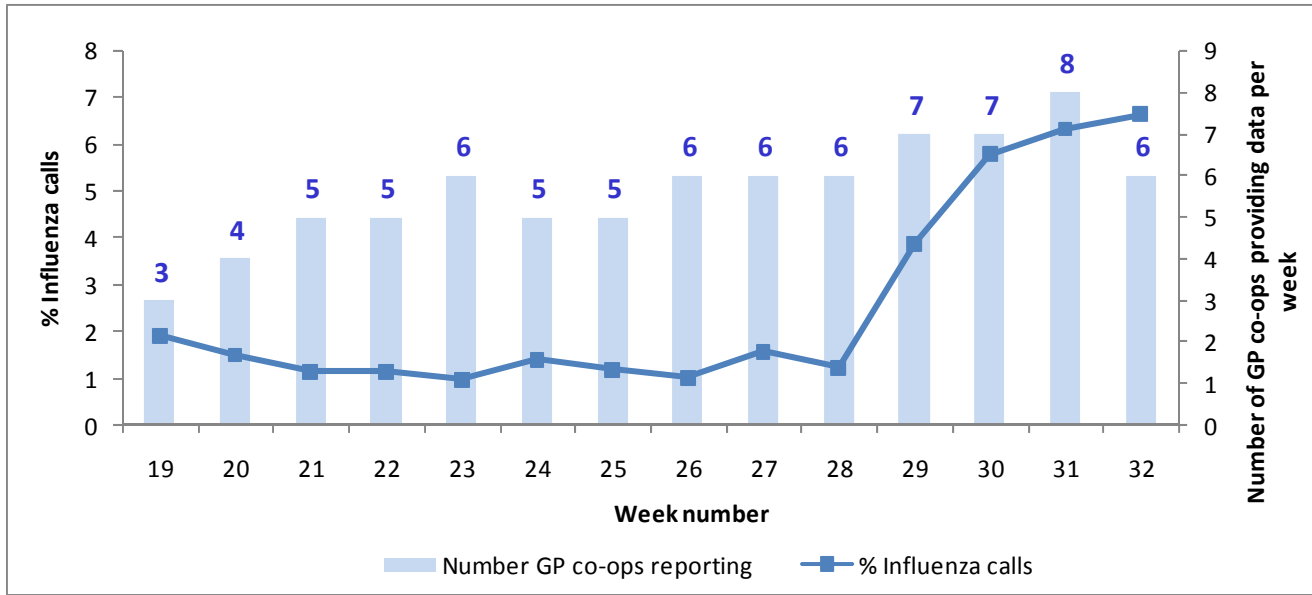
Figure 3: Map of influenza activity by HSE area during influenza week 31 2009

### 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 31 2009, data was received from five HSE areas (HSE-ER, HSE-M, HSE-MW, 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 eight 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 19<sup>th</sup> (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.

For week 32, data were received from D-Doc, Care-Doc, NE-Doc, NoW-Doc, Shan 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 influenza week 32 2009, seven (22%) of which were positive for pandemic (H1N1) 2009.

The NVRL tested 341 non-sentinel specimens taken during influenza week 32 2009. Forty-two (12.3%) of non-sentinel specimens tested positive for pandemic (H1N1) 2009<sup>2</sup>. No specimens were positive for other influenza A subtypes or influenza B. No specimens tested positive for respiratory syncytial virus (RSV) during week 32 2009 (table 1).

Pandemic (H1N1) 2009 is the main influenza virus circulating; in week 32, 100% of specimens positive for influenza were pandemic (H1N1) 2009, while for the summer 2009 season to date pandemic (H1N1) 2009 has accounted for 95.9% of influenza positive specimens (table 1).

<sup>2</sup> 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

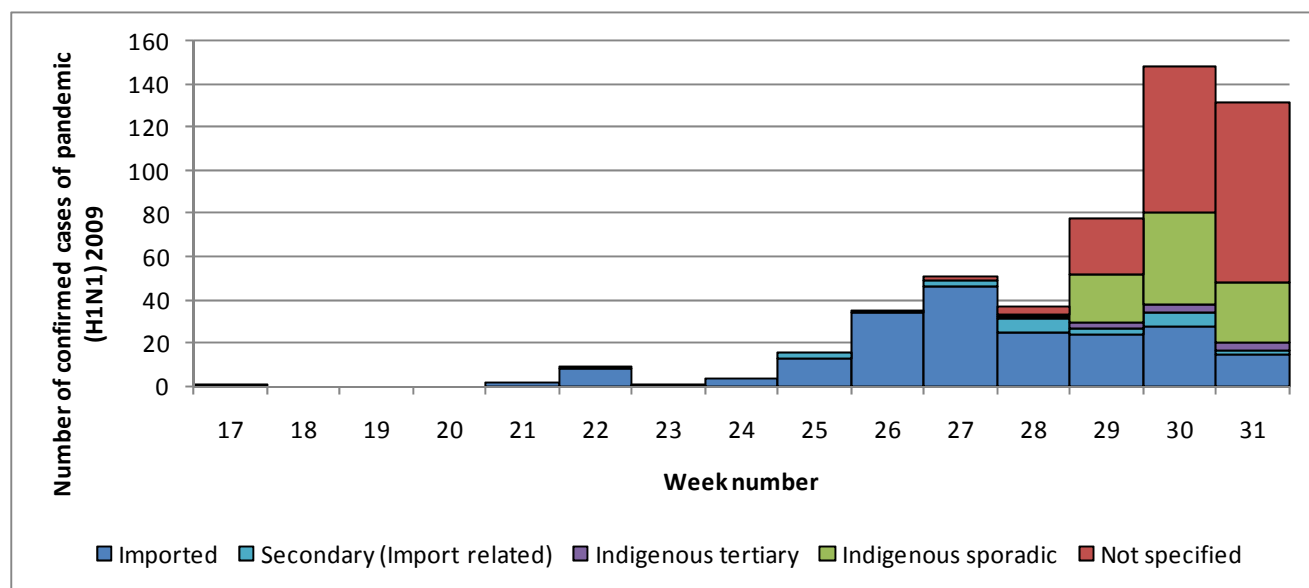
**Table 1: Number of sentinel and non-sentinel respiratory specimens and positive results, influenza week 32 2009 and Summer 2009 season to date**

Week number	Specimen type	Total specimens	No. influenza Positive	% Influenza Positive	Pandemic (H1N1) 2009	Influenza A(H3)	Influenza A(H1)	Influenza A*	Influenza B	% Pandemic (H1N1) 2009	RSV	% RSV Positive
<b>32 2009</b>	Sentinel	32	7	21.9	7	0	0	0	0	100.0	NA	NA
	Non-sentinel	341	42	12.3	42	0	0	0	0	100.0	0	0
	<b>Total</b>	<b>373</b>	<b>49</b>	<b>13.1</b>	<b>49</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100.0</b>	<b>0</b>	<b>0</b>
<b>Summer season to date</b>	Sentinel	213	33	15.5	30	3	0	0	0	90.9	NA	NA
	Non-sentinel	3375	504	14.9	485	13	2	1	3	96.2	16	0.5
	<b>Total</b>	<b>3588</b>	<b>537</b>	<b>15.0</b>	<b>515</b>	<b>16</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>95.9</b>	<b>16</b>	<b>0.5</b>

\*Influenza A (not subtyped yet, but not pandemic (H1N1) 2009)

#### 4. Laboratory confirmed cases of pandemic (H1N1) 2009

As of August 8<sup>th</sup> 2009, a total of 513 confirmed cases of pandemic (H1N1) 2009 infection were reported. Sixty-one percent (n=201) were travel related (imported) and 7.6% (n=25) were contacts of an imported case (secondary import related). A further 3.3% (n=11) were linked to a non-imported case (tertiary indigenous) and 28.2% (n=93) had no history of travel and no known links to other confirmed cases (sporadic indigenous). Mode of transmission was not reported for 183 (36%) pandemic (H1N1) 2009 cases. Figure 5 shows the number of confirmed pandemic (H1N1) 2009 cases by week of notification and mode of transmission.



**Figure 5: Number of confirmed cases of pandemic (H1N1) 2009 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 17-31 above is equivalent to weeks 18-32 on the influenza system)

#### Age and Sex

Of the 513 confirmed cases reported to date, 255 were female (49.7%) and 250 were male (48.7%). The median age was 22 years (range: 0-73 years) and 78.6% of cases were less than 35 years of age. Figure 6 shows the number of cases and notification rates per 100,000 population by age group.

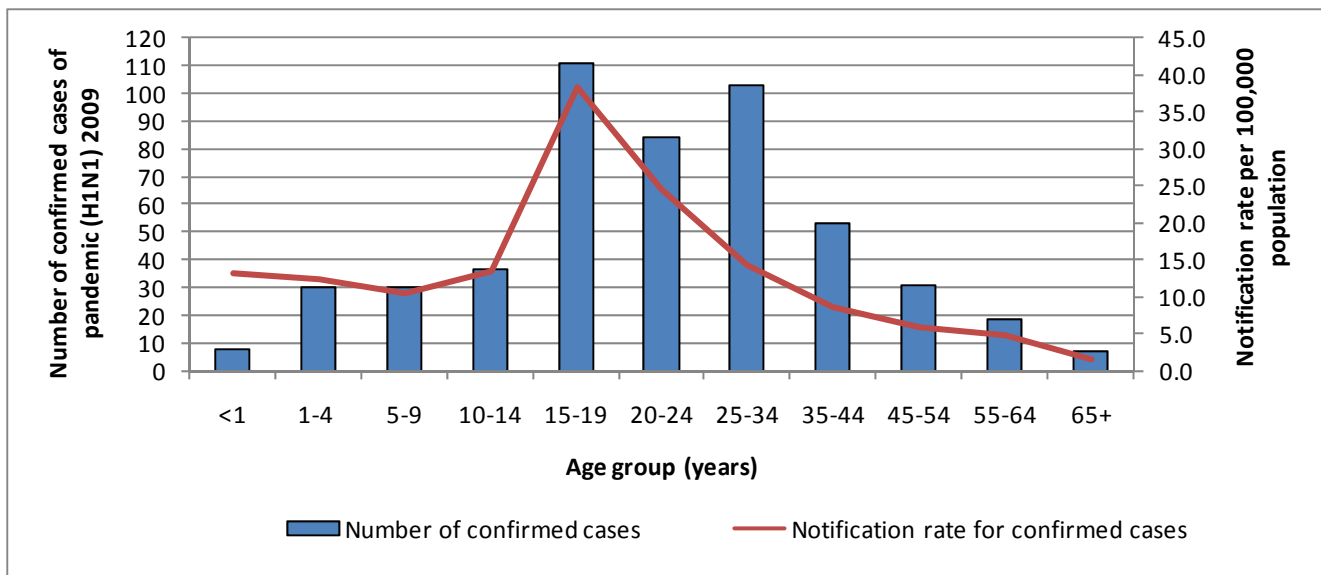


Figure 6: Number of confirmed cases of pandemic (H1N1) 2009 and notification rate per 100,000 population by age group (years)

### HSE area

All HSE areas have reported confirmed cases. The numbers and rates by HSE area for the week ending August 8<sup>th</sup> and to date are shown in table 2.

Table 2: Number and rate per 100,000 population for confirmed cases of pandemic (H1N1) 2009 by HSE area

HSE area	Week 31: Aug 2nd - 8th		To date: up to Aug 8th	
	Number of confirmed cases	Rate per 100,000 population	Number of confirmed cases	Rate per 100,000 population
HSE-E	54	3.6	218	14.5
HSE-M	9	3.6	20	7.9
HSE-MW	10	2.8	33	9.1
HSE-NE	17	4.3	62	15.7
HSE-NW	13	5.5	29	12.2
HSE-S	10	1.6	62	10.0
HSE-SE	16	3.5	41	8.9
HSE-W	2	0.5	48	11.6
<b>Total</b>	<b>131</b>	<b>3.1</b>	<b>513</b>	<b>12.1</b>

(Week number on table 2 is based on infectious disease notification week number, which is one week behind the influenza week number. Therefore week 31 above is equivalent to week 32 on the influenza system)

### Severity of illness

Clinical illness continues to be mild in the majority of cases. One death was reported during week 32 in Ireland. The death occurred in a female aged 16-64 years old with a pre-existing clinical condition.

Reported complications were mostly respiratory in nature; 14 cases developed pneumonia, one developed otitis media, two developed acute respiratory distress syndrome (ARDS) and five cases developed other respiratory problems.

Of the 513 confirmed cases, 41 cases were reported as having been admitted to hospital. Thirty-two hospitalised cases have recovered or are recovering, four are still ill, outcome is awaited for four and one case

is deceased. Table 3 shows the number of hospitalised cases by age group (years) and sex. Eighteen (43.9%) of the hospitalised cases had pre-existing clinical conditions including chronic heart disease, chronic liver disease, chronic respiratory disease, asthma, haemoglobinopathy, immunosuppression, diabetes mellitus and pregnancy.

**Table 3: Number of confirmed cases of pandemic (H1N1) 2009 admitted to hospital by age group (years) and sex**

Age group (years)	Female	Male	Unknown	Total
<1 yrs	0	1	0	1
1-4 yrs	0	3	0	3
5-9 yrs	1	3	0	4
10-14 yrs	1	2	0	3
15-19 yrs	4	2	1	7
20-24 yrs	1	3	0	4
25-34 yrs	5	4	0	9
35-44 yrs	1	2	0	3
45-54 yrs	0	0	0	-
55-64 yrs	2	3	0	5
65+ yrs	1	1	0	2
<b>Total</b>	<b>16</b>	<b>24</b>	<b>1</b>	<b>41</b>

#### **Outbreak surveillance**

Eighteen outbreaks of pandemic (H1N1) 2009 have been reported in Ireland to date, involving 206 people in total, of which 48 were laboratory confirmed cases. The number ill per outbreak has ranged between two and 150 persons. Thirteen outbreaks occurred in family settings, one was in a hotel, one involved travelling companions and three occurred in educational settings.



## International summary

The total numbers of confirmed cases and deaths worldwide by World Health Organization (WHO) region 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 pandemic (H1N1) 2009 cases and deaths by WHO region (Source: WHO 31<sup>st</sup> July 2009)**

WHO Region	Cumulative total as of 31 <sup>st</sup> July 2009	
	Cases*	Deaths
Africa (AFRO)	229	0
Americas (AMRO)	98242	1008
Eastern Mediterranean (EMRO)	1301	1
Europe (EURO)	26089	41
South-East Asia (SEARO)	9858	65
Western Pacific (WPRO)	26661	39
<b>Total</b>	<b>162380</b>	<b>1154</b>

\*Given that countries are no longer required to test and report individual cases, the number of cases reported actually understates the real number of cases.

## USA

During week 30 (26<sup>th</sup> July- 1<sup>st</sup> August 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 pandemic (H1N1) 2009 viruses.

## Canada

The overall influenza activity decreased during week 30 (26<sup>th</sup> July to 1<sup>st</sup> August 2009); the reported activity level (3 regions reported localised activity), the overall number of influenza outbreaks (no new outbreaks) and the national ILI consultation rate (15 consultations per 1,000 visits) are lower compared to last week. However, the proportion of influenza positive tests increased slightly this week.

## New Zealand

There has been a continuing decline in consultations for ILI through sentinel surveillance in week 31 (27<sup>th</sup> July – 2<sup>nd</sup> August 2009). However, the weekly ILI consultation rate is still 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. Among 206 influenza viruses reported from non-sentinel surveillance in week 31, most of them (n=139, 67%) were pandemic (H1N1) 2009 viruses. Pandemic (H1N1) 2009 virus has become the predominant strain among all influenza viruses. Seasonal influenza A(H1N1) has been the predominant strain among all seasonal influenza viruses.

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

Ireland	<a href="http://www.hpsc.ie">www.hpsc.ie</a>
World –WHO	<a href="http://www.who.int/topics/influenza/en/">www.who.int/topics/influenza/en/</a>
Europe – ECDC	<a href="http://ecdc.europa.eu/">http://ecdc.europa.eu/</a>
Europe – EISN	<a href="http://www.eiss.org/index.cgi">www.eiss.org/index.cgi</a>
United States	<a href="http://www.cdc.gov/flu/weekly/fluactivity.htm">www.cdc.gov/flu/weekly/fluactivity.htm</a>
Canada	<a href="http://www.phac-aspc.gc.ca/fluwatch/index.html">www.phac-aspc.gc.ca/fluwatch/index.html</a>

Northern Ireland <http://www.cdscni.org.uk/>  
United Kingdom [www.hpa.org.uk/](http://www.hpa.org.uk/)  
Australia <http://www.health.gov.au/>  
New Zealand [http://www.surv.esr.cri.nz/virology/influenza\\_weekly\\_update.php](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 pandemic (H1N1) 2009**

Since the end of April 2009, a case-based surveillance system for pandemic (H1N1) 2009 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.