Influenza Surveillance in Ireland - Weekly Update

Influenza Week 41 2009 (5th to 11th October 2009)

Summary

- Overall, influenza activity continued to increase during week 41:
  - The sentinel GP influenza-like illness (ILI) consultation rate was 97.1 per 100,000 population in week 41, an increase in comparison to the updated rate of 87.3 per 100,000 reported during week 40*
  - The sentinel GP age-specific ILI consultation rates increased in both the 5-14 and 15-64 year age groups
  - The number of laboratory confirmed cases of pandemic (H1N1) 2009 continued to increase
  - The number of hospitalised cases of pandemic (H1N1) 2009 also increased
- The number of pandemic (H1N1) 2009 outbreaks remains stable
- The proportion of flu–related calls to GP Out-of-Hours services remained stable during week 41
- The proportion of sentinel specimens testing positive for pandemic (H1N1) 2009 was 36.7% during week 41
- Pandemic (H1N1) 2009 is the main influenza virus circulating; in week 41, 100% of specimens positive for influenza were pandemic (H1N1) 2009 (including 52 probable pandemic (H1N1) 2009 awaiting confirmation)
- Based on the surveillance of laboratory confirmed cases of pandemic (H1N1) 2009, as of 10th October
  - 1,895 confirmed cases were notified in Ireland
  - Children and young adults remain the most affected groups; 81.7% of cases were less than 35 years of age
  - Clinical illness continues to be mild in the majority of cases
- Four deaths in confirmed cases of pandemic (H1N1) 2009 have been reported to date

Introduction

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

1. Irish College of General Practitioners (ICGP) sentinel surveillance system
2. GP Out-of-Hours system
3. Virological data from the National Virus Reference Laboratory (NVRL), Cork University Hospital (CUH) and University College Hospital, Galway (UCHG)
4. Enhanced surveillance system for pandemic (H1N1) 2009 using the Computerised Infectious Disease Reporting system (CIDR)
5. Outbreak reporting (CIDR)

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

*Since the last report, extra information on the number of ILI consultations occurring in week 40 was provided by sentinel GPs and the rate for the week was adjusted accordingly

1. GP sentinel surveillance system

Clinical Data

During week 41 2009, 48 of 61 (78.7%) ICGP sentinel general practices provided data, with 44 practices reporting 190 influenza-like illness (ILI) cases and 17 practices reporting no ILI cases. This corresponds to an ILI consultation rate of 97.1 per 100,000 population, which is an increase compared to the updated rate of 87.3 per 100,000 population reported during week 40 2009.[†] The ILI rate remains well above the baseline threshold level of 17.8 per 100,000 population. 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), Cork University Hospital (CUH) and University College Hospital, Galway (UCHG). Since week 39 2009, CUH and UCHG have reported influenza positive non-sentinel specimens and they are included in figure 1. Influenza A untypable isolates (probable pandemic (H1N1) 2009) are specimens that are awaiting laboratory confirmation as pandemic (H1N1) 2009.

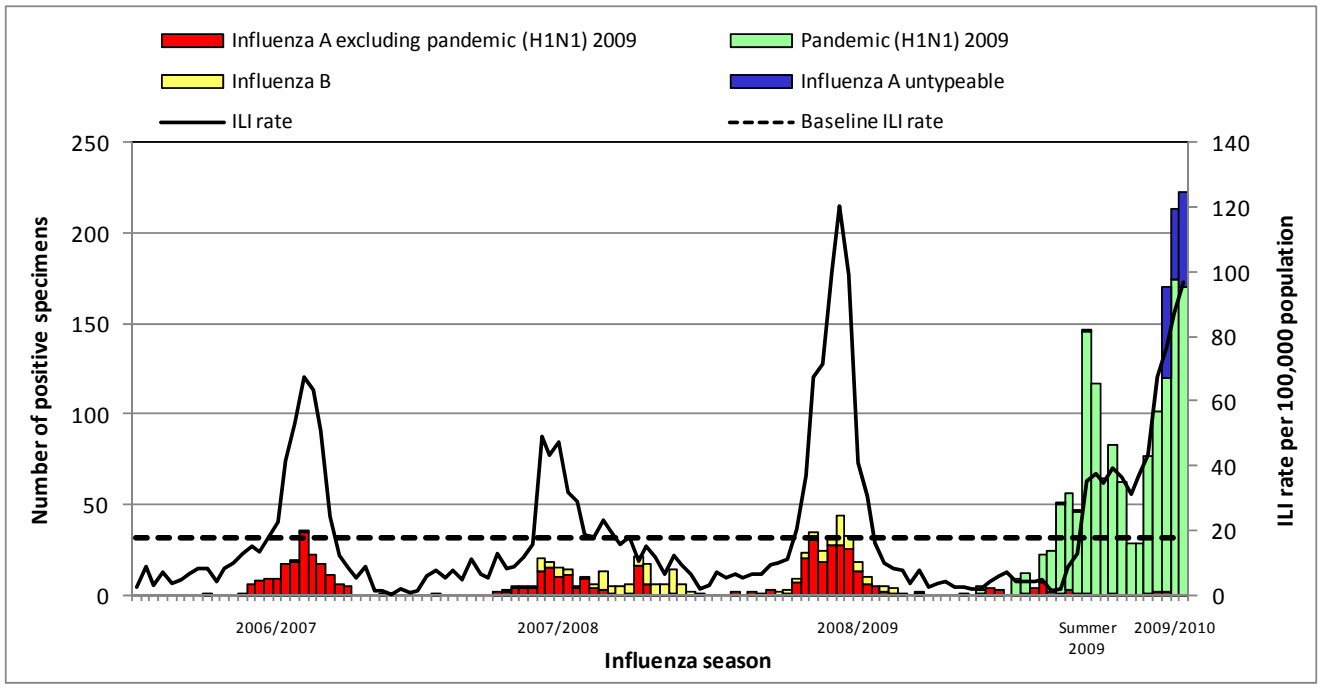

Figure 1. ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza specimens, by influenza week and season[‡]

Source: NVRL, CUH & UCHG laboratory data and ICGP clinical ILI data

During week 41 2009, sentinel GPs reported 12 ILI cases in the 0-4 year age group (86.0 per 100,000 population), 44 cases in the 5-14 year age group (169.6 per 100,000 population), 128 cases in the 15-64 year age group (95.4 per 100,000 population) and six cases in those aged 65 years and older (27.8 per 100,000 population) (figure 2).

[†] Since the last report, extra information on the number of ILI consultations occurring in week 40 was provided by sentinel GPs and the rate for the week was adjusted accordingly

[‡] Please note that virological data up to week 38 2009 refers to NVRL data only. Virological data from week 39 2009 onwards refers to data from NVRL, CUH & UCHG. Virological data from CUH includes 119 influenza A untypable detections which are awaiting confirmation as pandemic (H1N1) 2009.

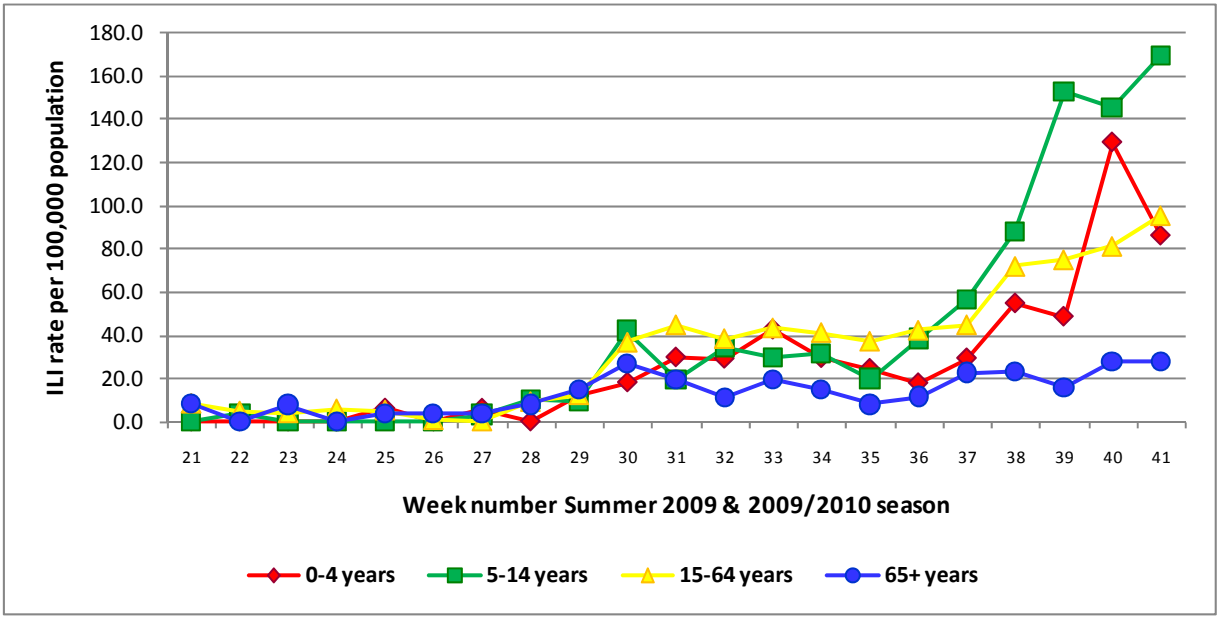

Figure 2: Age specific sentinel GP consultation rate for ILI per 100,000 population by week during the Summer 2009 and 2009/2010 influenza seasons

Source: ICGP ILI clinical data

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 positive virological results) was provisionally reported by HSE-M and -NW while localised activity (due to increases in ILI in local areas or two or more outbreaks within a HSE area) was reported by HSE-E, -MW, -NE, -S, -SE and -W during week 41 2009 (figure 3).

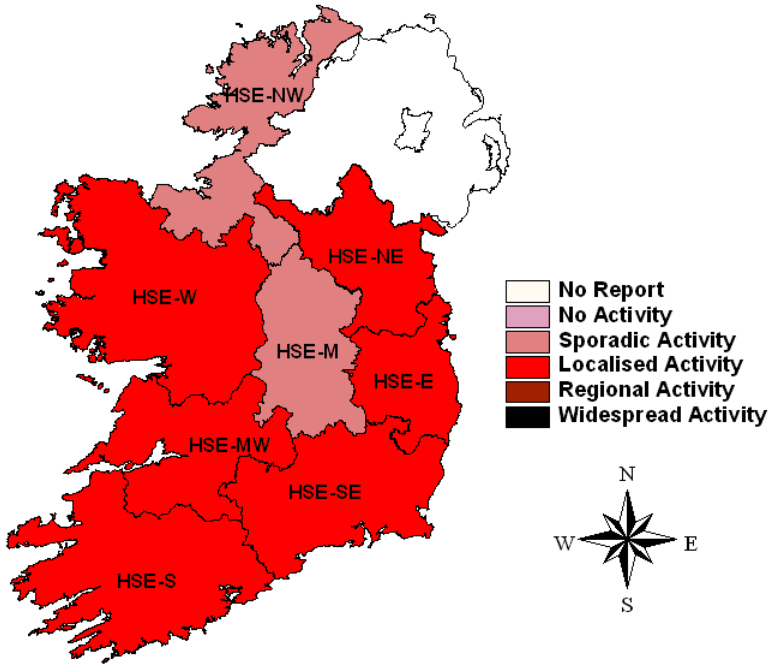

Figure 3: Map of provisional influenza activity by HSE area during influenza week 41 2009

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 area, in close proximity to the sentinel GPs, to report absenteeism data on a weekly basis. During influenza week 41 2009, sentinel school and hospital data were received from six HSE areas (HSE-M, -NE, NW, HSE-S, HSE-SE and HSE-W). No increases in the proportion of respiratory admissions were reported from sentinel hospitals. No increases in absenteeism were reported from sentinel schools during week 41 2009.

2. GP Out-Of-Hours services surveillance

The Department of Public Health in the HSE-NE is collating national data on calls to nine 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. There was a marked increase in the percentage of flu-related calls between weeks 28 to 30. During week 41, the percentage of flu-related calls was 6.2%, which was similar to the proportion of flu-related calls (6.5%) reported during week 40 (figure 4).

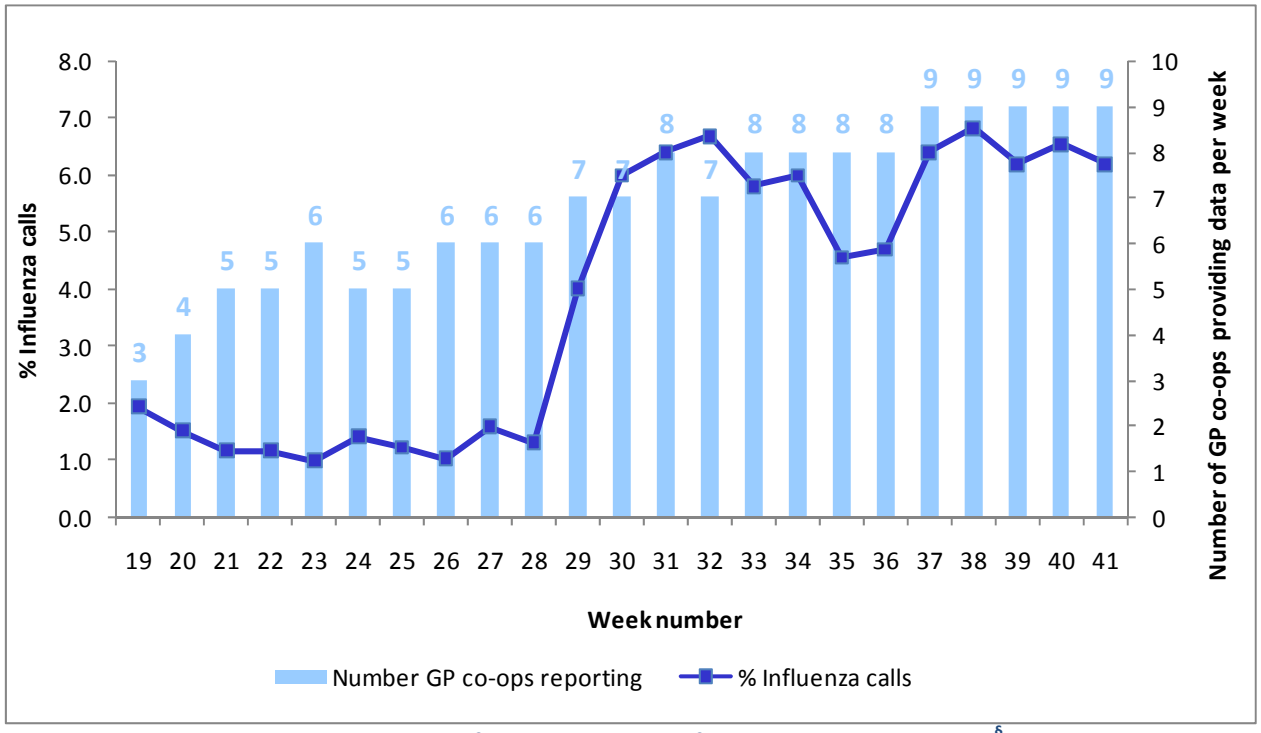

Figure 4: Flu-related calls as a proportion of total calls to Out-of-Hours GP Co-ops by week[§]
Source: HSE-NE.

[§] Week 41: data received from CARE-Doc, D-Doc, K-Doc, MI-Doc, NE-Doc, NoW-Doc, Shannon-Doc, South Doc, West-Doc. Not all services provided data for all weeks.

3. Virological Data from the National Virus Reference Laboratory (NVRL), Cork University Hospital (CUH) & University College Hospital, Galway (UCHG)

Ninety specimens from sentinel GPs were tested by the NVRL during week 41 2009, 33 (36.7%) of which were positive for pandemic (H1N1) 2009.

The NVRL also tested 385 non-sentinel specimens taken during the same week. Of these, 99 (25.7%) were positive for pandemic (H1N1) 2009. No specimens were positive for other influenza A subtypes, influenza B, or other respiratory viruses (table 1 and table 3). Figure 5 shows the number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2009/2010 and Summer 2010 influenza seasons, compared to the 2008/2009 and Summer 2009 influenza seasons.[**]

UCHG tested 83 non-sentinel specimens taken during week 41 2009, 39 (47.0%) of which were positive for pandemic (H1N1) 2009 (table 2).

CUH tested 179 non-sentinel specimens taken during week 41 2009. Fifty-two (29.1%) specimens tested positive for influenza A untypable (probable pandemic (H1N1) 2009) and one (0.6%) was positive for pandemic (H1N1) 2009 (table 2).

Pandemic (H1N1) 2009 is the main influenza virus circulating. During week 41, 100% of specimens positive for influenza were pandemic (H1N1) 2009 (including 52 probable pandemic (H1N1) 2009). For the summer 2009 and 2009/2010 seasons to date, confirmed pandemic (H1N1) 2009 has accounted for 91.1% of influenza positive specimens (table 1).

During week 41, the percentage of sentinel and non-sentinel specimens testing positive for pandemic (H1N1) 2009 was 30.4%, a decrease compared to 36.4% positive during week 40. Figure 6 shows the number of sentinel specimens tested by the NVRL for influenza and non-sentinel specimens tested by the NVRL, CUH and UCHG for influenza and the percentage of specimens testing positive for influenza by week number for the Summer 2009 and 2009/2010 influenza seasons.

The NVRL has performed neuraminidase sequencing on 23 non-sentinel pandemic (H1N1) 2009 isolates. Oseltamivir susceptibility results are available for 23 isolates, of which all were susceptible to oseltamivir. Zanamivir susceptibility results are available for 17 isolates, of which all were susceptible to zanamivir.

[**] 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

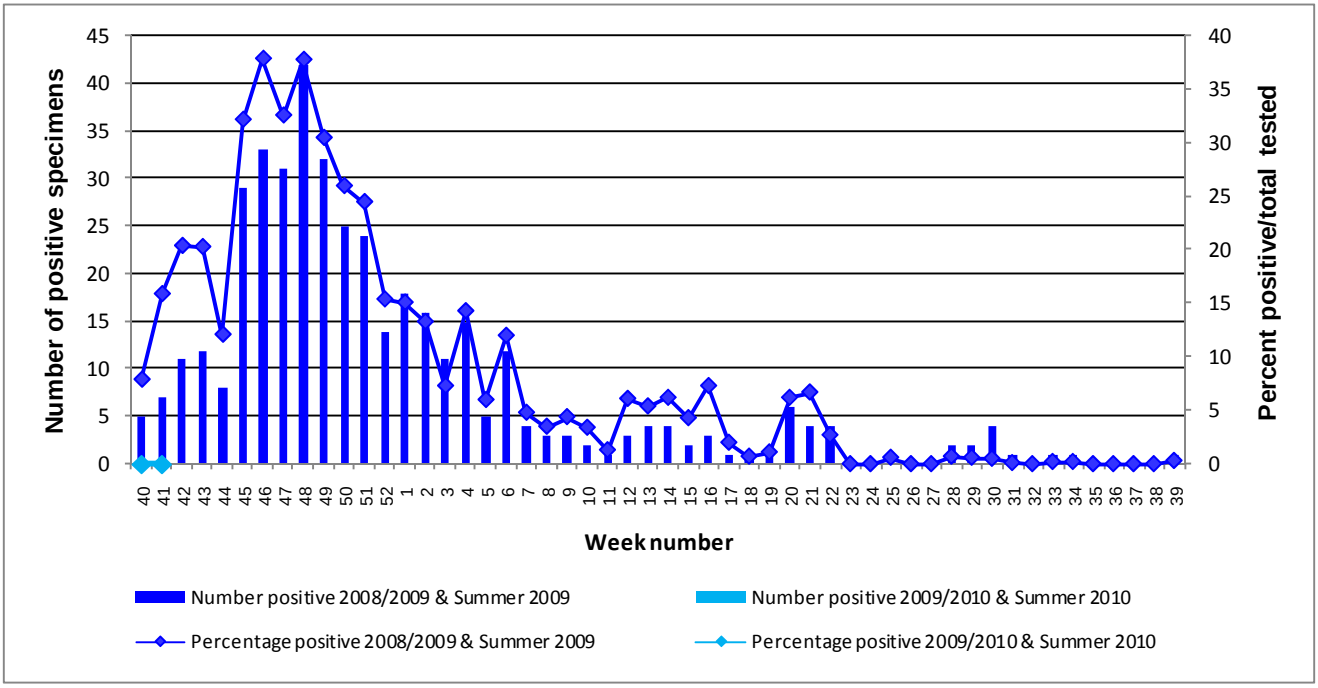

Figure 5: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2009/2010 and Summer 2010 influenza seasons, compared to the 2008/2009 and Summer 2009 influenza seasons

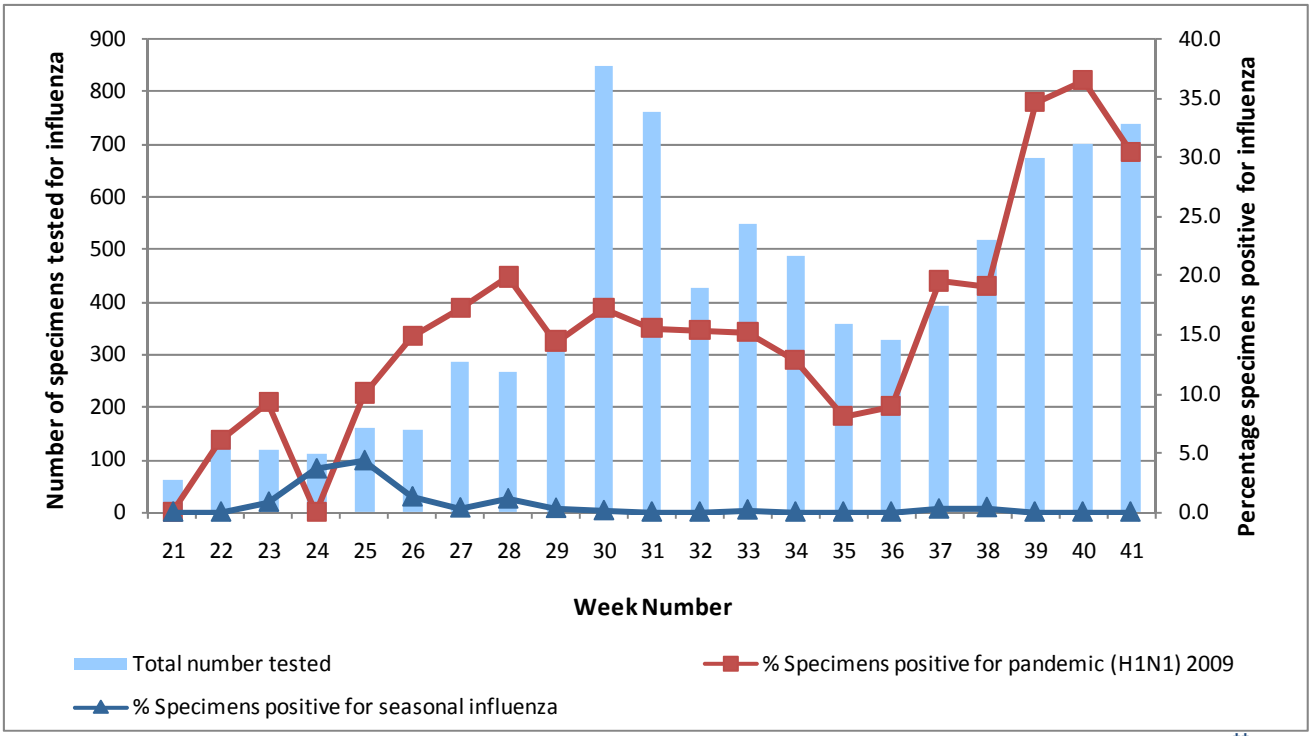

Figure 6: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive[††]

Source: NVRL, CUH & UCHG

[††] Please note that virological data up to week 38 2009 refers to NVRL data only. Virological data from week 39 2009 onwards refers to data from NVRL, CUH & UCHG. Virological data from CUH includes 119 influenza A untypable detections which are awaiting confirmation as pandemic (H1N1) 2009.

Table 1: Number of sentinel and non-sentinel respiratory specimens tested and positive results, influenza week 41 2009 and Summer 2009 & 2009/2010 seasons to date[‡‡]

Source: NVRL, CUH & UCHG

Week number	Specimen type	Total Specimens	Number Influenza Positive	% Influenza Positive	Pandemic (H1N1) 2009	Influenza A untypable	Influenza A(H3)	Influenza A(H1)	Influenza A[§§]	Influenza B	% Pandemic (H1N1) 2009
41 2009	Sentinel	90	33	36.7	33	0	0	0	0	0	100.0
	Non-sentinel	647	191	29.5	139	52	0	0	0	0	72.8
	Total	**737**	**224**	**30.4**	**172**	**52**	**0**	**0**	**0**	**0**	**76.8**
Summer 2009 & 2009/2010 seasons to date	Sentinel	916	240	26.2	237	0	3	0	0	0	98.8
	Non-sentinel	7554	1409	18.7	1266	119	14	3	4	3	89.9
	Total	**8470**	**1649**	**19.5**	**1503**	**119**	**17**	**3**	**4**	**3**	**91.1**

Table 2: Number of non-sentinel respiratory specimens tested and positive results by laboratory, influenza week 41 2009 and Summer 2009 & 2009/2010 seasons to date[‡‡]

Source: NVRL, CUH & UCHG

Week number	Laboratory	Total specimens tested	Number influenza positive	% Influenza positive	Pandemic (H1N1) 2009	% Pandemic (H1N1) 2009	Influenza A	Influenza A untypable	Influenza B
41 2009	NVRL	385	99	25.7	99	100.0	0	0	0
	CUH	179	53	29.6	1	1.9	0	52	0
	UCHG	83	39	47.0	39	100.0	0	0	0
	Total	**647**	**191**	**29.5**	**139**	**72.8**	**0**	**52**	**0**
Summer 2009 & 2009/2010 season to date	NVRL	6830	1138	16.7	1114	97.9	21	0	3
	CUH	447	142	31.8	23	16.2	0	119	0
	UCHG	277	129	46.6	129	100.0	0	0	0
	Total	**7554**	**1409**	**18.7**	**1266**	**89.9**	**21**	**119**	**3**

Table 3: Number of non-sentinel specimens tested by the NVRL for other respiratory pathogens and positive results, influenza week 41 2009 and Summer 2009 & 2009/2010 seasons to date [‡‡]

Source: NVRL

Week number	Total specimens	RSV	% RSV Positive	Adenovirus	% Adenovirus positive	Parainfluenza virus type 1	% Parainfluenza virus type 1	Parainfluenza virus type 2	% Parainfluenza virus type 2	Parainfluenza virus type 3	% Parainfluenza virus type 3
41 2009	385	0	0	0	0.0	0	0.0	0	0.0	0	0.0
Summer 2009	6093	21	0.3	4	0.1	4	0.1	0	0.0	6	0.1
2009/2010 season to date	737	0	0	0	0	0	0	0	0	0	0

‡‡ Please note that virological data up to week 38 2009 refers to NVRL data only. Virological data from week 39 2009 onwards refers to data from NVRL, CUH & UCHG. Virological data from CUH includes 119 influenza A untypable detections which are awaiting confirmation as pandemic (H1N1) 2009.

§§ Influenza A not further subtyped

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

As of 10th October 2009, a total of 1,895 confirmed cases of pandemic (H1N1) 2009 infection were reported. Figure 7 shows the number of confirmed pandemic (H1N1) 2009 cases by week of notification.

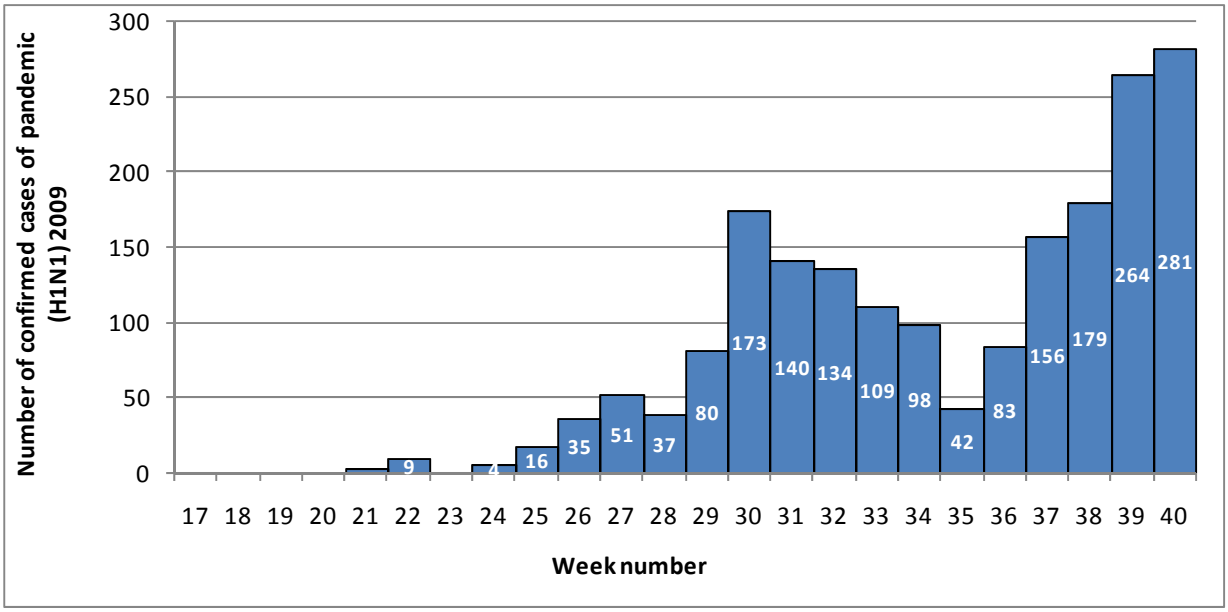

Figure 7: Number of confirmed cases of pandemic (H1N1) 2009 by week of notification[***]

Source: CIDR

Age and Sex

Of the 1,895 confirmed cases reported to date, 990 were female (52.2%), 888 were male (46.9%) and sex was not reported for 17 cases (0.9%). The median age of cases was 20 years (range: 0-78 years) and 81.7% were less than 35 years of age. The highest age specific rate was observed in the 15-19 year age group. Figure 8 shows the number of cases and notification rates per 100,000 population by age group.

[***]As WHO has advised Member States to reduce laboratory testing of suspect cases and to move to clinical diagnosis of influenza-like illness, the number of laboratory confirmed cases of pandemic (H1N1) 2009 reported here understates the actual number of cases in the population.

Week number on figure 7 is based on infectious disease notification week number, which is one week behind the international influenza week number. Therefore weeks 17-40 above is equivalent to weeks 18-41 on the influenza system.

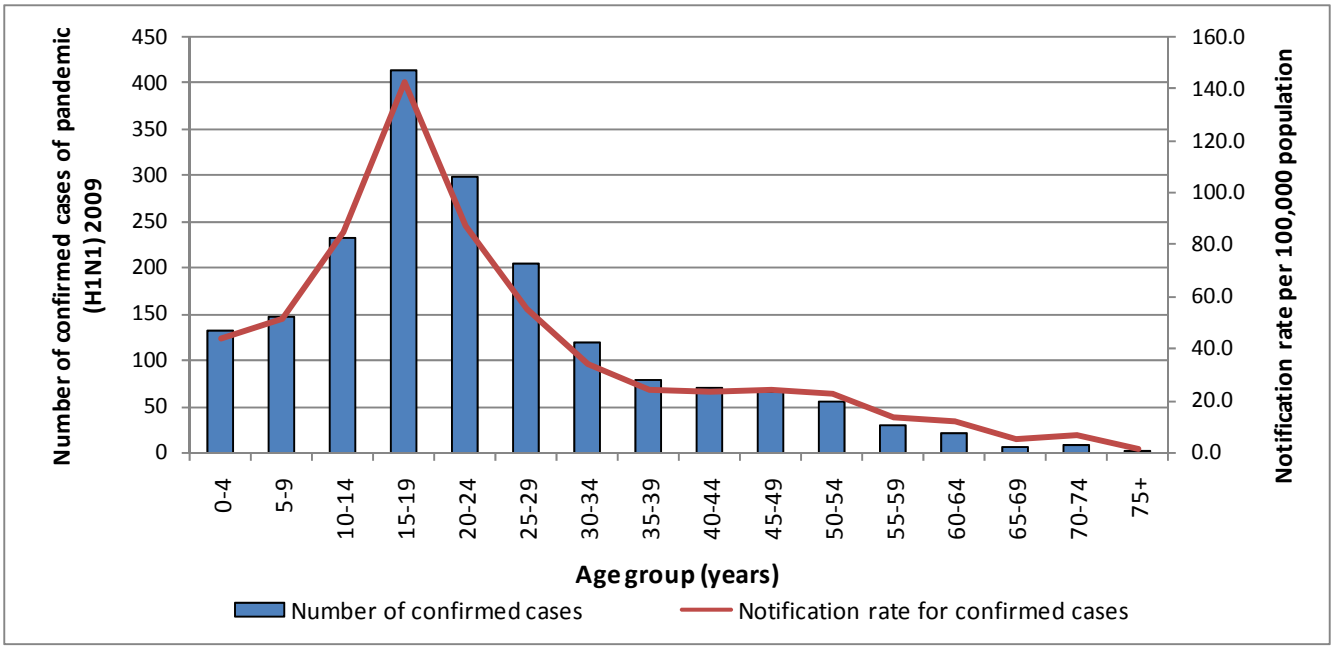

Figure 8: Cumulative number of confirmed cases of pandemic (H1N1) 2009 and notification rate per 100,000 population by age group (years)

Source: CIDR

HSE area

All HSE areas have reported confirmed cases. The numbers and rates by HSE area are shown in table 4. The highest rate for week 40 was in HSE-W (17.1 per 100,000 population).

Table 4: Number and rate per 100,000 population for confirmed cases of pandemic (H1N1) 2009 by HSE area

Source: CIDR

HSE Area	Week 40[†††]: 4th to 10th October 2009		Week 17 - Week 40 2009	
	Number of confirmed cases	Rate per 100,000 population	Number of confirmed cases	Rate per 100,000 population
HSE-E	73	4.9	550	36.7
HSE-M	5	2.0	46	18.3
HSE-MW	9	2.5	130	36.0
HSE-NE	14	3.6	180	45.7
HSE-NW	9	3.8	110	46.4
HSE-SE	19	4.1	98	21.3
HSE-S	81	13.0	340	54.7
HSE-W	71	17.1	441	106.5
Total	**281**	**6.6**	**1895**	**44.7**

[†††] Week number in table 4 is based on infectious disease notification week number, which is one week behind the international influenza week number. Therefore week 40 above is equivalent to week 41 on the influenza system

Severity of illness

Clinical illness continues to be mild in the majority of cases. Four deaths have been reported to date in Ireland. The first death occurred during week 32 2009, the second during week 34 2009 and two deaths occurred during week 39.

Reported complications have been mostly respiratory in nature; 53 cases developed pneumonia and 13 developed acute respiratory distress syndrome (ARDS) (11 of these also had pneumonia). Other reported complications included otitis media, chest infections, acute renal failure and multi-organ failure.

Hospitalised cases

Of the 1,895 confirmed cases, 265 (14.0%) were reported as having been admitted to hospital. Of the 265 hospitalised cases, 24 (9.1%) were admitted to ICU. Figure 9 shows the number of hospitalised cases of confirmed pandemic (H1N1) 2009 by week number. One hundred and ninety-four hospitalised cases have recovered or are recovering (73.2%), 22 are still ill (8.3%), outcome is awaited for 45 (17.0%) and four cases died (1.5%). Table 5 shows the number of hospitalised cases by age group (years) and sex.

One hundred and fifteen (43.4%) of the hospitalised cases had pre-existing clinical conditions including chronic heart disease, chronic liver disease, chronic renal disease, chronic respiratory disease, chronic neurological disease, asthma, haemoglobinopathy, immunosuppression, diabetes mellitus, severe obesity (BMI ≥40) and pregnancy.

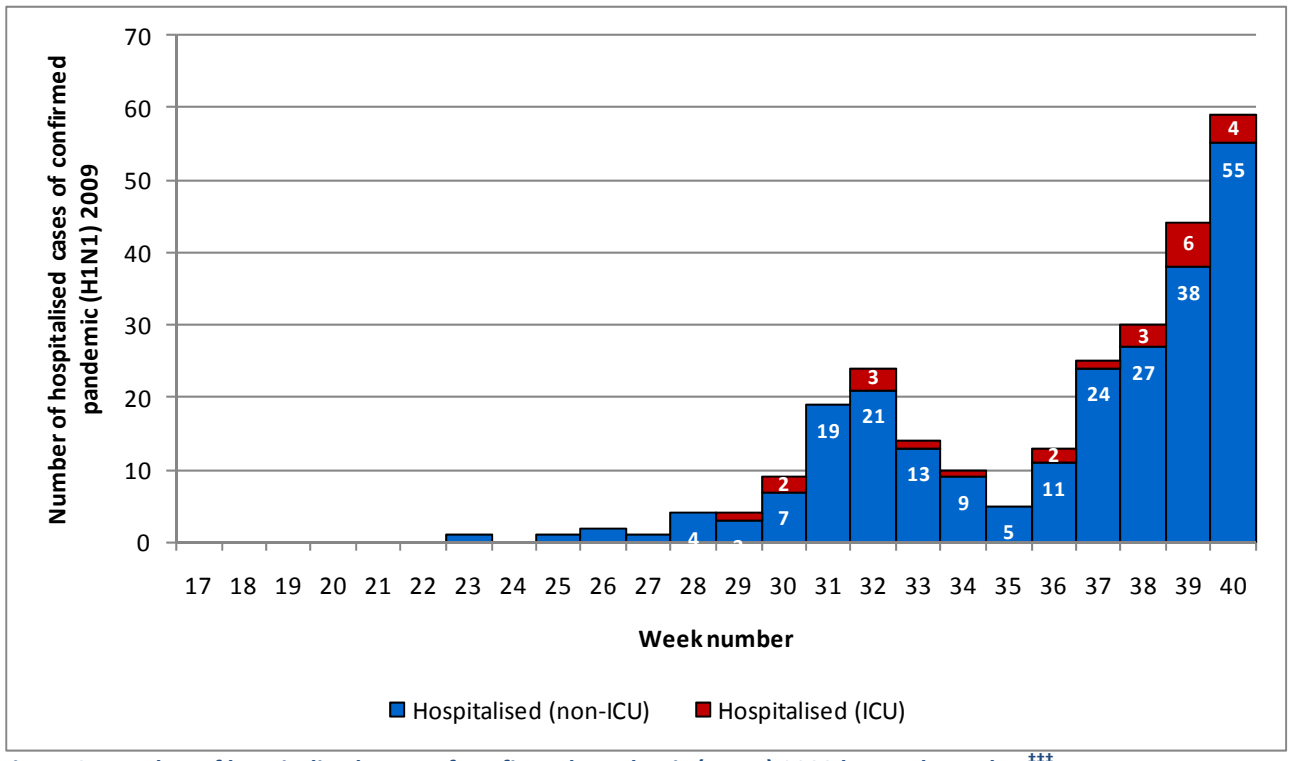

Figure 9: Number of hospitalised cases of confirmed pandemic (H1N1) 2009 by week number[‡‡‡]

Source: CIDR

[‡‡‡] Week number in Figure 9 is based on infectious disease notification week number, which is one week behind the international influenza week number. Therefore week 40 above is equivalent to week 41 on the influenza system

Table 5: Number of hospitalised cases of confirmed pandemic (H1N1) 2009 by age group (years) and sex

Source: CIDR

Age group (years)	Female	Male	Total
0-4	21	22	**43**
5-9	11	13	**24**
10-14	6	11	**17**
15-19	17	21	**38**
20-24	23	13	**36**
25-29	16	7	**23**
30-34	8	6	**14**
35-39	6	2	**8**
40-44	9	6	**15**
45-49	8	4	**12**
50-54	6	5	**11**
55-59	5	6	**11**
60-64	2	4	**6**
65-69	2	1	**3**
70-74	0	2	**2**
75+	2	0	**2**
Total	**142**	**123**	**265**

6. Outbreak surveillance (CIDR)

As of 14th October 2009 at 18.05 hours, 54 general outbreaks of pandemic (H1N1) 2009 have been reported in Ireland since week 23 2009. Please note this section no longer reports family outbreaks and only includes general outbreaks. These outbreaks involved 1,312 people in total, of which 131 (10.0%) were laboratory confirmed cases of pandemic (H1N1) 2009. The number ill per outbreak has ranged between two and 150 people.

Thirty-nine outbreaks occurred in educational settings, four were in residential institutions, two in crèches, two were travel related, two were related to social gatherings, two were in workplaces and one each were in a community hospital/long-stay unit, a hotel and an intellectual disability unit (figure 10). Of the 1,312 outbreak associated cases, 67 were female, 114 were male and sex was not reported for 1,131 cases. Table 6 summarises the pandemic (H1N1) 2009 outbreaks to date by location, while table 7 summarises the pandemic (H1N1) 2009 outbreaks by HSE area. Table 8 shows the number of outbreak associated pandemic (H1N1) 2009 cases by age group (years).

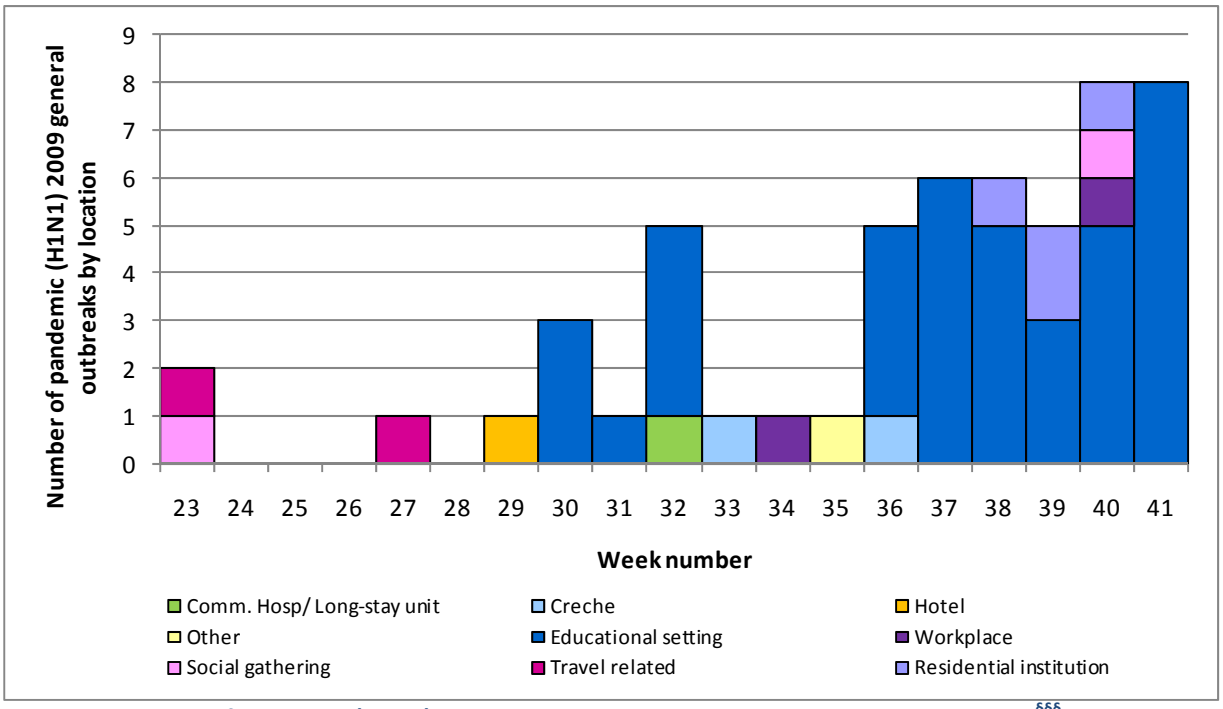

Figure 10: Number of pandemic (H1N1) 2009 general outbreaks by location and week number[§§§]

Source: CIDR

[§§§] Week number in Figure 10 is based on infectious disease notification week number, which is one week behind the international influenza week number. Therefore week 41 above is equivalent to week 42 on the influenza system and only represents data from Sunday 11th October to Wednesday 14th October @ 18.05 hours

Table 6: Summary of pandemic (H1N1) 2009 general outbreaks by location, to date[****]

Source: CIDR

Location	Number of outbreaks	Total number ill	Total number laboratory investigated
Comm. Hosp/ Long-stay unit	1	5	2
Creche	2	9	5
Hotel	1	3	1
Other	1	3	3
Educational setting	39	1205	92
Residential institution	4	69	15
Social gathering	2	4	3
Travel related	2	9	8
Workplace	2	5	2
Total	**54**	**1312**	**131**

Table 7: Summary of pandemic (H1N1) 2009 general outbreaks by HSE area, to date[***]

Source: CIDR

HSE Area	Number of outbreaks	Total number ill	Total number laboratory confirmed
HSE-E	7	142	18
HSE-M	0	0	0
HSE-MW	6	20	18
HSE-NE	12	280	24
HSE-NW	5	271	19
HSE-SE	4	81	4
HSE-S	10	146	21
HSE-W	10	372	27
Total	**54**	**1312**	**131**

Table 8: Number of general outbreak associated pandemic (H1N1) cases of by age group (years), to date[***]

Source: CIDR

Number of cases	0-1	2-4	5-9	10-19	20-49	50-64	65+	Age unknown	Total
	8	10	55	682	69	4	0	484	**1312**

[****] Data taken from CIDR at 14/10/2009 @ 18.05 hours

International summary

The total numbers of confirmed cases and deaths reported worldwide by the World Health Organization (WHO) region are shown in table 9. 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 9: Reported number of confirmed pandemic (H1N1) 2009 cases and deaths by WHO region
Source: WHO 9th October 2009

WHO Region	Cumulative total as of 9th October 2009	
	Cases††††	Deaths
Africa (AFRO)	12382	70
Americas (AMRO)	146016	3292
Eastern Mediterranean (EMRO)	12861	80
Europe (EURO)	Over 59000	At least 193
South-East Asia (SEARO)	38038	480
Western Pacific (WPRO)	109926	410
Total	**Over 378223**	**At least 4525**

United Kingdom

During week 40, pandemic influenza activity continued to increase in many areas of the UK, particularly in school-aged children. Although most cases continued to be mild, 89 people have died to date. The highest hospitalisation rates have consistently been in children aged less than 5 years. Two of 1,359 (0.1%) pandemic viruses tested in England have been confirmed to carry a mutation which confers resistance to the antiviral drug oseltamivir. Both of these have been shown phenotypically to be resistant to the drug but retain sensitivity to zanamivir. http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1243928258754

Europe

During week 40 2009, Belgium, Malta, Spain and Northern Ireland reported medium intensity activity, while all other countries reported low intensity activity. For the geographic spread indicator, Belgium reported widespread activity, Spain reported regional activity, four countries reported local and 13 reported sporadic or no activity. Eleven countries reported an increasing trend of influenza activity compared to week 39 2009. http://ecdc.europa.eu/en/publications/Pages/Publications.aspx

USA

During week 40 (27th September to 3rd October 2009), influenza activity increased in the United States. During week 39, 2,968 (27.4%) specimens tested by U.S. WHO and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division were positive for influenza. Of all subtyped influenza A viruses being reported to CDC, 99% were pandemic (H1N1) 2009 viruses. http://www.cdc.gov/flu/weekly/

Canada

During week 40 (27th September to 3rd October 2009), the national ILI consultation rate was 36 consultations per 1,000 visits, an increase compared to the previous week's rate (31 per 1,000 visits). This rate is above the range of expected levels for this time of year. During week 39, the intensity of pandemic (H1N1) infection 2009

†††† Given that countries are no longer required to test and report individual cases, the number of cases reported significantly understates the actual number of cases.

in the population was low with only a small number of hospitalisations (n=25) and no deaths reported. The national hospitalisation rate was 4.5 per 100,000 population with the highest rates in children aged less than 15 years of age (10.6 per 100,000). In comparison, the national mortality rate was 0.23 per 100,000 population, with those aged 45 years and older having the highest mortality rate (0.34 per 100,000).
http://www.phac-aspc.gc.ca/fluwatch/index-eng.php

New Zealand

ILI rates have been decreasing in New Zealand in recent weeks. This decline continued in week 40, but the ILI rate remained higher than for the same time period in previous years. To date, the highest ILI rates have been in children and teenagers aged 0 to 19 years. During week 40, 50% of specimens positive for influenza were pandemic (H1N1) 2009. http://www.surv.esr.cri.nz/virology/influenza_weekly_update.php

Australia

As of 13th October, there were 36,910 confirmed cases of pandemic (H1N1) 2009 and 185 (0.5%) deaths associated with pandemic (H1N1) 2009. The total number of hospitalisations in Australia since pandemic (H1N1) 2009 was identified is 4,830 (13.1 %).
http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflucurrent.htm
http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/updates

Other countries

- **Central and Western Asia:** Early transmission of influenza virus continues to increase in many countries, with more intense focal activity being reported in a few.
- **Japan:** Influenza activity continues to be elevated above the seasonal epidemic threshold since week 33, most recently in the large population centres.
- **Tropical regions of the Americas:** Influenza virus transmission persists, however influenza activity remains variable. Geographically widespread to regional influenza activity continues to be reported throughout the tropical region of the Americas without a consistent overall trend (and increasing trend in parts of the Caribbean while decreasing in much of tropical Central and South America). High intensity respiratory diseases activity was reported in Columbia, Cuba and El Salvador, moderate healthcare impact was experienced in many countries, while two countries (Barbados and St. Lucia) reported severe healthcare impact.
- **Tropical regions of Asia:** As influenza transmission slowly declines in many parts of South and Southeast Asia, several countries are reporting geographically regional spread (India, Bangladesh and Thailand) or localised spread (Sri Lanka and Myanmar) of influenza activity. Most countries in the region have reported experiencing a low health care impact since late September.
- In the temperate regions of the southern hemisphere, influenza transmission has largely subsided (Chile and Argentina) or continues to decline substantially (South Africa).

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

Ireland	www.hpsc.ie
Europe – ECDC	http://ecdc.europa.eu/
Europe – EISN	http://ecdc.europa.eu/en/activities/surveillance/EISN/Pages/home.aspx
Northern Ireland	http://www.cdscni.org.uk/

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Appendix A

Sentinel surveillance for influenza

This is the tenth 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-one 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 provided on both sentinel and non-sentinel specimens. Influenza test results from Cork University Hospital (CUH) and University College Hospital, Galway (UCHG) are also provided on 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 data are collected on all laboratory confirmed cases and additional enhanced data are collected on all hospitalised 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.