

# Influenza Surveillance in Ireland - Weekly Update

## Influenza Week 44 2009 (26<sup>th</sup> October to 1<sup>st</sup> November 2009)



### Summary

- There is now clear evidence of continuing widespread influenza activity in Ireland, with a small decrease noted during week 44:
  - ♦ The sentinel GP influenza-like illness (ILI) consultation rate was 178.5 per 100,000 population in week 44 compared to the updated rate of 201.2 per 100,000 reported during week 43.\*
  - ♦ In week 44, the highest sentinel GP age-specific ILI consultation rates occurred in the 0-4 year age group
  - ♦ The number of laboratory confirmed cases of pandemic (H1N1) 2009 fell by 13.4% in week 44, from 539 in week 43 to 467 cases
  - ♦ The number of hospitalised cases of confirmed pandemic (H1N1) 2009 increased by over 6%, from 109 in week 43 to 116 cases in week 44
  - ♦ The number of hospitalised cases of confirmed pandemic (H1N1) 2009 admitted to ICU in week 44 was 14, unchanged from the number admitted in week 43
  - ♦ Three sentinel hospitals in HSE-SE, -S, and -W reported an increase in the proportion of respiratory admissions during week 44
  - ♦ The proportion of flu-related calls to GP Out-of-Hours services remained unchanged during week 44
  - ♦ The number of pandemic (H1N1) 2009 and ILI outbreaks reported decreased during week 44. There was one each in a school, a residential institution and a workplace. (Schools were on mid-term break during week 44).
  - ♦ Pandemic (H1N1) 2009 is the only influenza virus circulating; in week 44, 100% of specimens positive for influenza were pandemic (H1N1) 2009 (including nine probable pandemic (H1N1) 2009 awaiting confirmation)
  - ♦ The proportion of sentinel specimens testing positive for pandemic (H1N1) 2009 was 57.5% during week 44, unchanged from week 43 (when 57.8% were positive)\*
- Based on the surveillance of laboratory confirmed cases of pandemic (H1N1) 2009, as of 31<sup>st</sup> October:
  - ♦ 3,189 confirmed cases have been notified in Ireland
  - ♦ Children and young adults remain the most affected groups; 81.4% of cases are less than 35 years of age
  - ♦ Clinical illness continues to be mild in the majority of cases
- Fourteen deaths in confirmed cases of pandemic (H1N1) 2009 have been reported to date (4<sup>th</sup> November)

\* Since the last report, extra information on the number of ILI consultations and positive influenza specimens occurring in week 43 was provided by sentinel GPs and the NVRL and the rate for the week was adjusted accordingly

## 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.

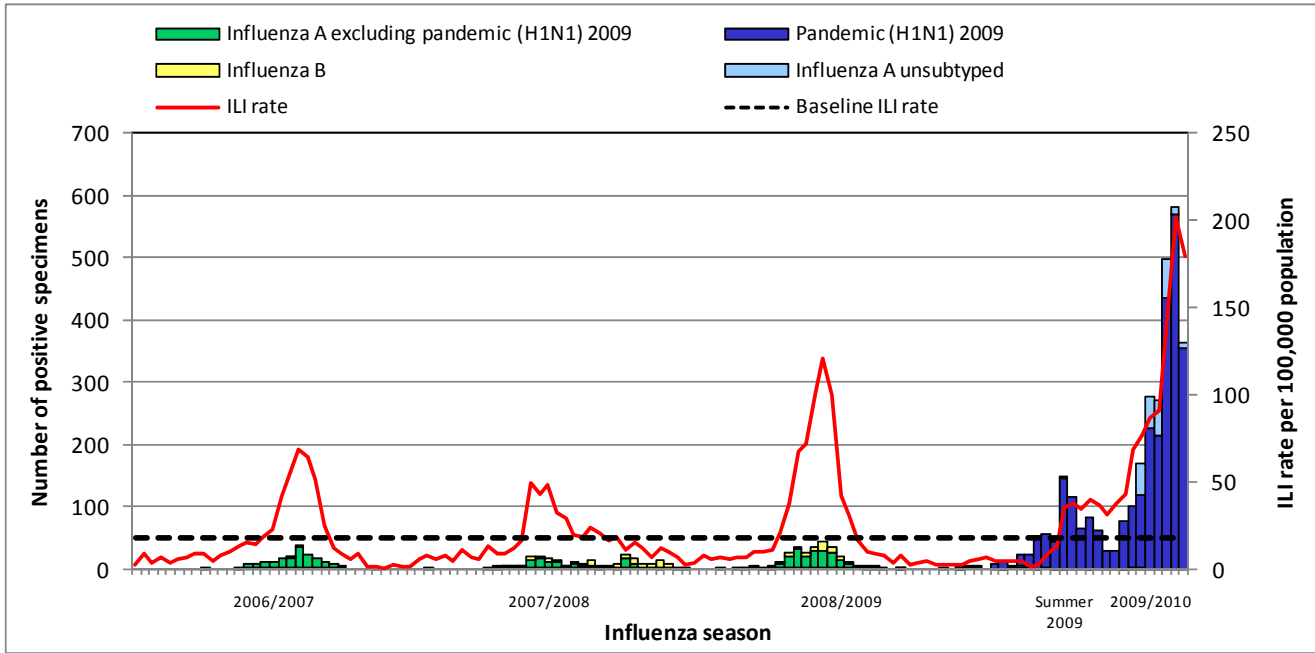
### 1. GP sentinel surveillance system

#### Clinical Data

During week 44 2009, 55 of 61 (90.2%) ICGP sentinel general practices provided data, with 51 practices (83.6%) reporting 398 influenza-like illness (ILI) cases and ten practices reporting no ILI cases. This corresponds to an ILI consultation rate of 178.5 per 100,000 population, which is a decline compared to the updated rate of 201.2 per 100,000 population reported during week 43 2009.<sup>†</sup> 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). CUH and UCHG have reported influenza positive non-sentinel specimens since weeks 31 and 36, 2009, respectively and these are included in figure 1. Influenza A unsubtype isolates (probable pandemic (H1N1) 2009) are specimens that are awaiting laboratory confirmation as pandemic (H1N1) 2009.

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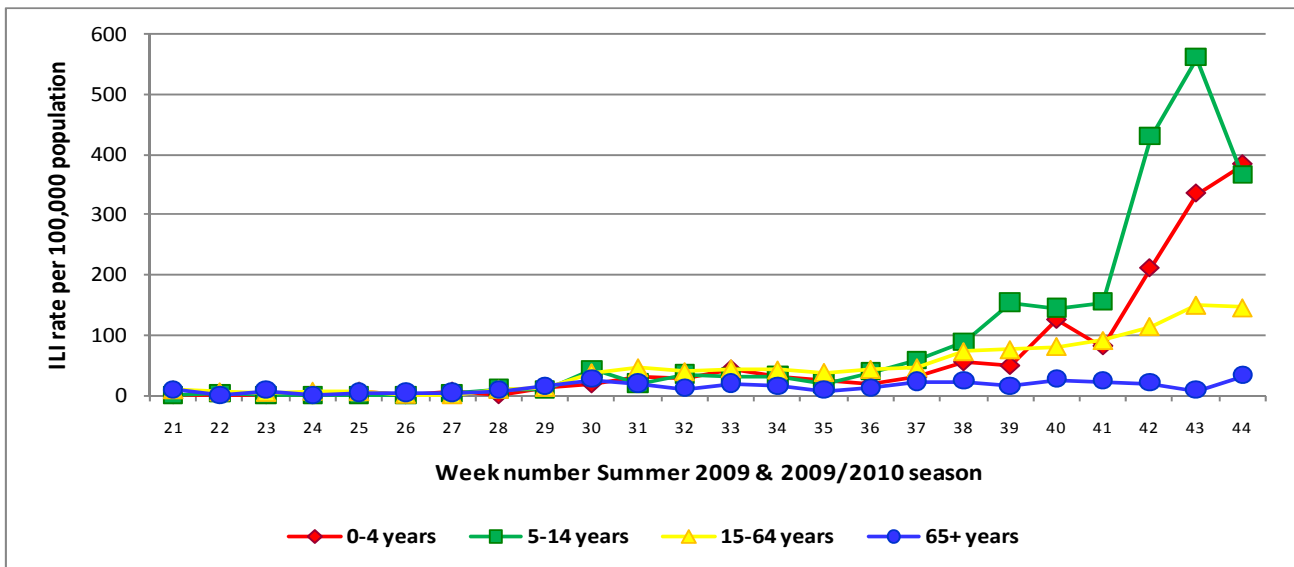
<sup>†</sup> Since the last report, extra information on the number of ILI consultations occurring in week 43 was provided by sentinel GPs and the rate for the week was adjusted accordingly



**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<sup>‡</sup>**

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

During week 44 2009, sentinel GPs reported 61 ILI cases in the 0-4 year age group (383.7 per 100,000 population), 108 cases in the 5-14 year age group (365.5 per 100,000 population), 221 cases in the 15-64 year age group (144.6 per 100,000 population) and eight cases in those aged 65 years and older (32.5 per 100,000 population) (figure 2).



**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

<sup>‡</sup> Please note that virological data refers to data from NVRL from week 21, from CUH from week 31 and from UCHG from week 36. Virological data from CUH includes 227 influenza A unsubtype detections which are awaiting confirmation as pandemic (H1N1) 2009.

### 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.

During week 44 2009, localised influenza activity (due to increases in ILI in local areas or two or more outbreaks within a HSE area and laboratory confirmed cases of influenza) was reported by HSE-M, -MW, -NW, and -W, regional activity (based on increases in ILI in one or more counties of a HSE area and laboratory confirmed cases of influenza) was reported by HSE-NE and -SE, while widespread activity (based on increases in ILI in two or more counties of a HSE area comprising >50% of a HSE area's population and laboratory confirmed cases of influenza) was reported by HSE-E and -S (figure 3).

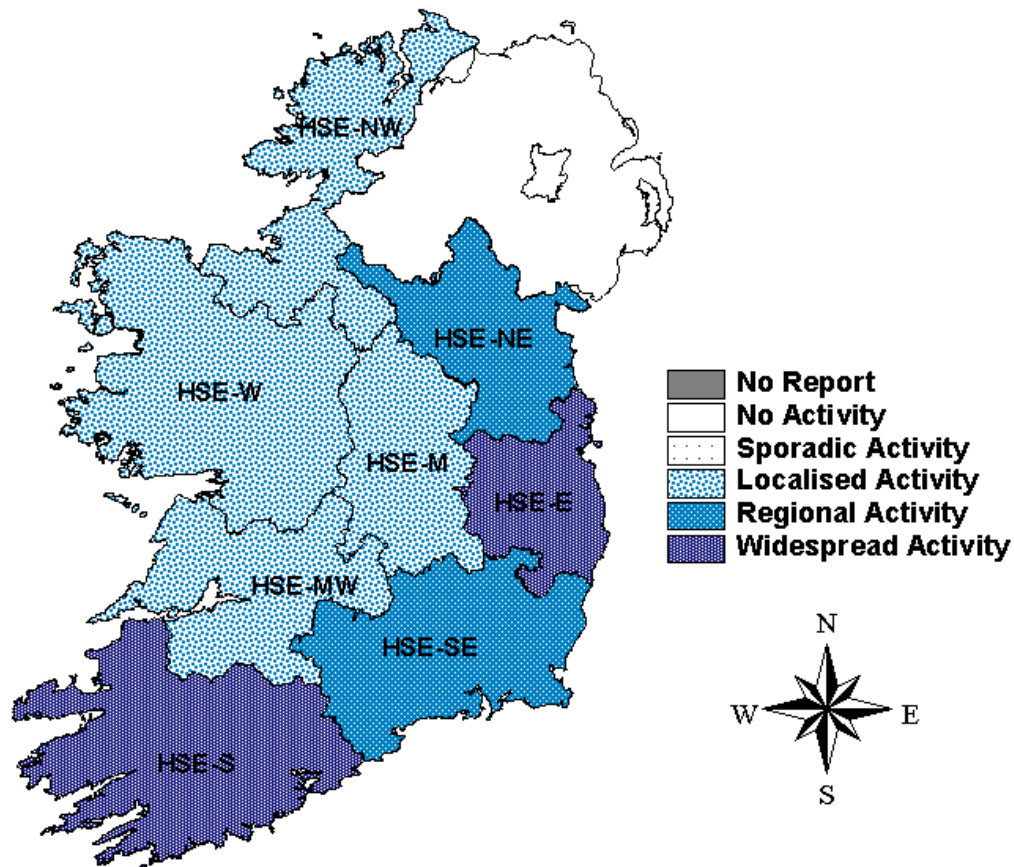


Figure 3: Map of provisional influenza activity by HSE area during influenza week 44 2009

### 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 44 2009, hospital sentinel data were received from six HSE areas, but no sentinel school data were received due to the scheduled mid-term break. An increase in the proportion of respiratory admissions from three of the sentinel hospitals (HSE-SE, -S and -W) was reported during influenza week 44 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 minimal increase in the percentage of flu-related calls from 10.5% during week 43 to 10.8% during week 44 (figure 4).

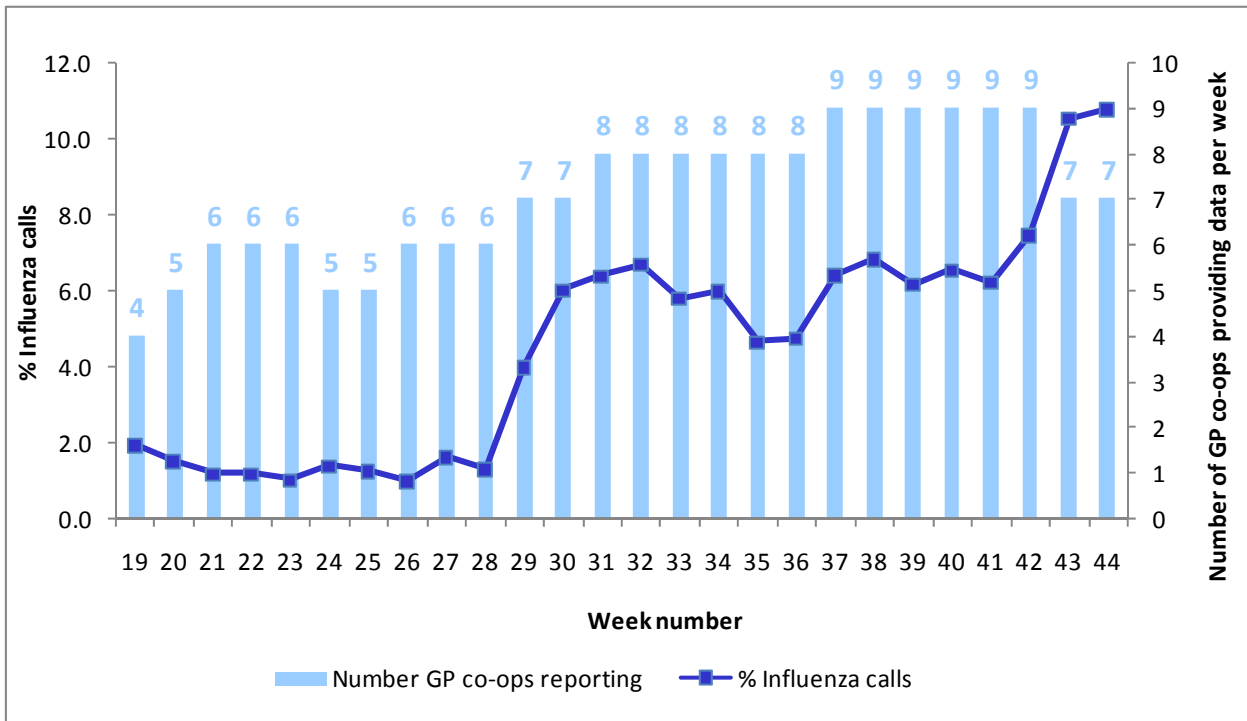


Figure 4: Flu-related calls as a proportion of total calls to Out-of-Hours GP Co-ops by week<sup>§</sup>

Source: HSE-NE.

<sup>§</sup> Week 44: data received from CARE-Doc, D-Doc, K-Doc, MI-Doc, NE-Doc, South Doc and West-Doc. Not all services provided data for all weeks.

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

Eighty specimens from sentinel GPs were tested by the NVRL during week 44 2009, 46 (57.5%) of which were positive for pandemic (H1N1) 2009.

The NVRL also tested 605 non-sentinel specimens taken during the same week. Of these, 201 (33.2%) were positive for pandemic (H1N1) 2009 (200 confirmed and one probable). Two specimens tested positive for RSV (0.3%) and one specimen each was positive for parainfluenza virus 1 and adenovirus (table 1 and table 3). No specimens were positive for other influenza A subtypes, influenza B or parainfluenza virus type 2 or 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 51 non-sentinel specimens taken during week 44 2009, 27 (52.9%) of which were positive for pandemic (H1N1) 2009 (table 2).

CUH tested 184 non-sentinel specimens taken during week 44 2009. Eighty (43.5%) specimens tested positive for pandemic (H1N1) 2009 and eight (4.3%) influenza A untyped (probable pandemic (H1N1) 2009) (table 2).

Pandemic (H1N1) 2009 is the main influenza virus circulating. During week 44, 100% of specimens positive for influenza were pandemic (H1N1) 2009 (including nine probable pandemic (H1N1) 2009). For the summer 2009 and 2009/2010 seasons to date, confirmed pandemic (H1N1) 2009 has accounted for 99.4% of influenza positive specimens (table 1).

During week 44, the percentage of sentinel and non-sentinel specimens testing positive for pandemic (H1N1) 2009 was 39.3%, a decrease compared to 44.1% positive during week 43. 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.

To date, 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.

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\*\* 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

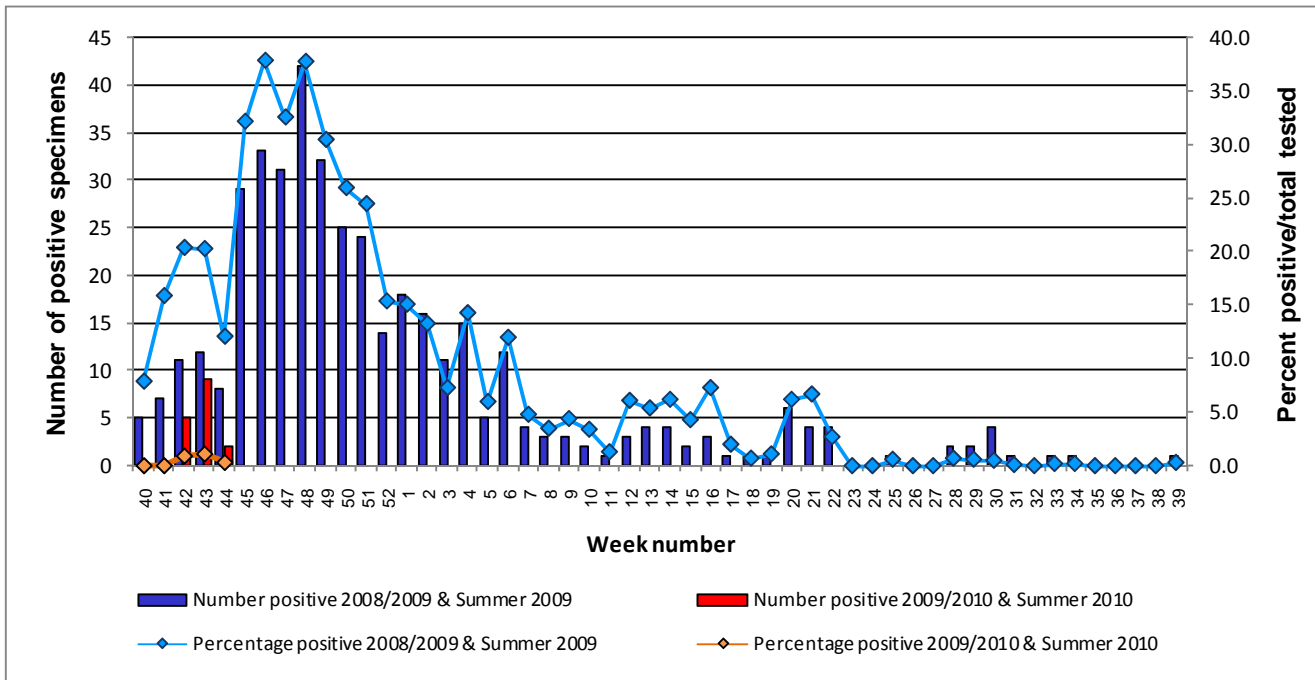


Figure 5: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2009/2010 and Summer 2010 influenza seasons, compared to the 2008/2009 and Summer 2009 influenza seasons

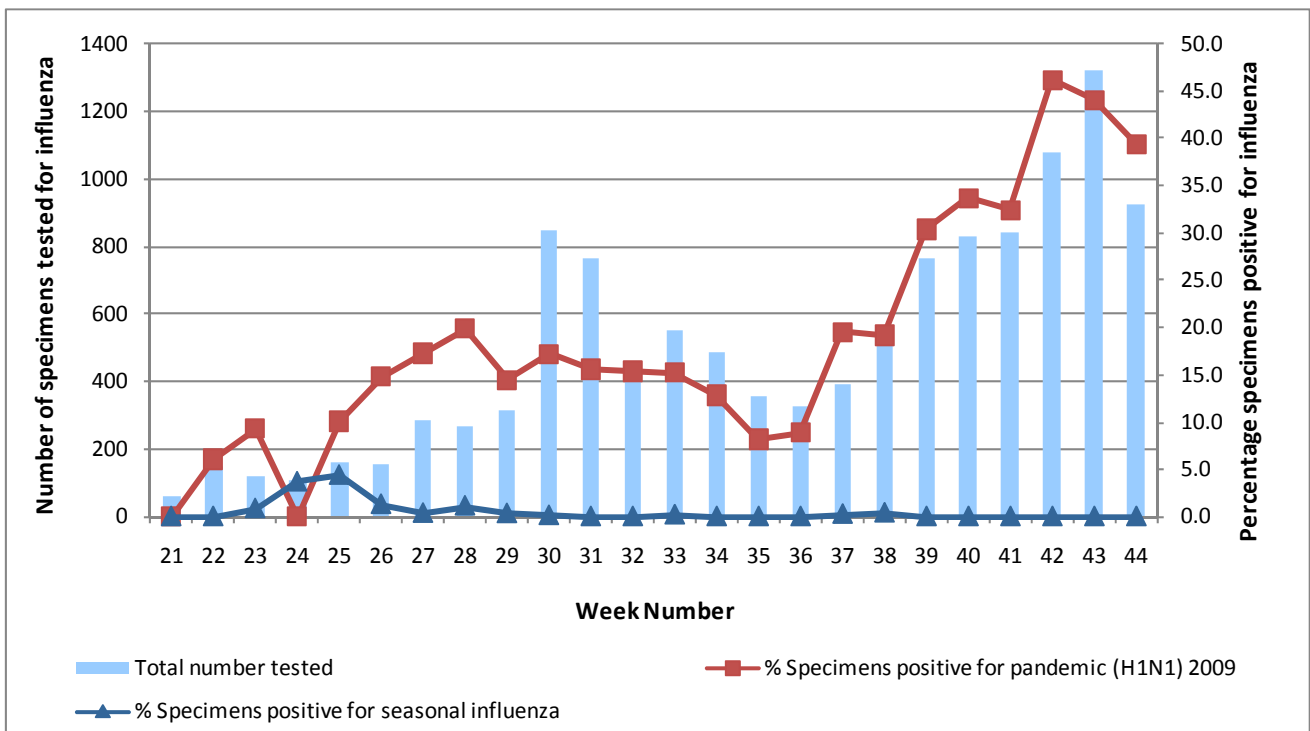


Figure 6: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive<sup>††</sup>

Source: NVRL, CUH & UCHG

<sup>††</sup> Please note that virological data refers to data from NVRL from week 21, from CUH from week 31 and from UCHG from week 36. Virological data from CUH includes 227 influenza A untyped 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 44 2009 and Summer 2009 & 2009/2010 seasons to date\*\***

Source: NVRL, CUH and UCHG

Week number	Specimen type	Total Specimens tested	Number Influenza Positive	% Influenza Positive	Confirmed Pandemic (H1N1) 2009	Probable Pandemic (H1N1) 2009	Influenza A(H3)	Influenza A(H1)	Influenza A (unsubtyped)	Influenza B	% Pandemic (H1N1) 2009
<b>44 2009</b>	Sentinel	80	46	57.5	46	0	0	0	0	0	100.0
	Non-sentinel	840	316	37.6	307	9	0	0	0	0	100.0
	<b>Total</b>	<b>920</b>	<b>362</b>	<b>39.3</b>	<b>353</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100.0</b>
<b>Summer 2009 &amp; 2009/2010 seasons to date</b>	Sentinel	1390	509	36.6	506	0	3	0	0	0	99.4
	Non-sentinel	11565	2886	25.0	2630	231	0	0	22	3	99.1
	<b>Total</b>	<b>12955</b>	<b>3395</b>	<b>26.2</b>	<b>3136</b>	<b>231</b>	<b>3</b>	<b>0</b>	<b>22</b>	<b>3</b>	<b>99.2</b>

**Table 2: Number of non-sentinel respiratory specimens tested and positive results by laboratory, influenza week 44 2009 and Summer 2009 & 2009/2010 seasons to date\*\***

Source: NVRL, CUH and UCHG

Week number	Laboratory	Total specimens tested	Number influenza positive	% Influenza positive	Confirmed Pandemic (H1N1) 2009	Probable Pandemic (H1N1) 2009	% Pandemic (H1N1) 2009	Influenza A (unsubtyped)	Influenza B
<b>44 2009</b>	NVRL	605	201	33.2	200	1	100.0	0	0
	CUH	184	88	47.8	80	8	100.0	0	0
	UCHG	51	27	52.9	27	0	100.0	0	0
	<b>Total</b>	<b>840</b>	<b>316</b>	<b>37.6</b>	<b>307</b>	<b>9</b>	<b>100.0</b>	<b>0</b>	<b>0</b>
<b>Summer 2009 &amp; 2009/2010 season to date</b>	NVRL	8982	1902	21.2	1874	4	98.7	21	3
	CUH	1735	583	33.6	356	227	100.0	0	0
	UCHG	848	401	47.3	400	0	99.8	1	0
	<b>Total</b>	<b>11565</b>	<b>2886</b>	<b>25.0</b>	<b>2630</b>	<b>231</b>	<b>99.1</b>	<b>22</b>	<b>3</b>

**Table 3: Number of non-sentinel specimens tested by the NVRL for other respiratory pathogens and positive results, influenza week 44 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
<b>44 2009</b>	605	2	0.3	1	0.2	1	0.2	0	0.0	0	0.0
<b>Summer 2009</b>	6093	21	0.3	4	0.1	4	0.1	0	0.0	6	0.1
<b>2009/2010 season to date</b>	2889	16	0.6	2	0.1	3	0.1	0	0.0	0	0.0

\*\* Please note that virological data refers to data from NVRL from week 21, from CUH from week 31 and from UCHG from week 36. Virological data from CUH includes 227 influenza A unsubtyped detections which are awaiting confirmation as pandemic (H1N1) 2009.



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

As of 31<sup>st</sup> October 2009, a total of 3,189 confirmed cases of pandemic (H1N1) 2009 infection were reported. Figure 7 shows the number of confirmed pandemic (H1N1) 2009 cases by week of notification.

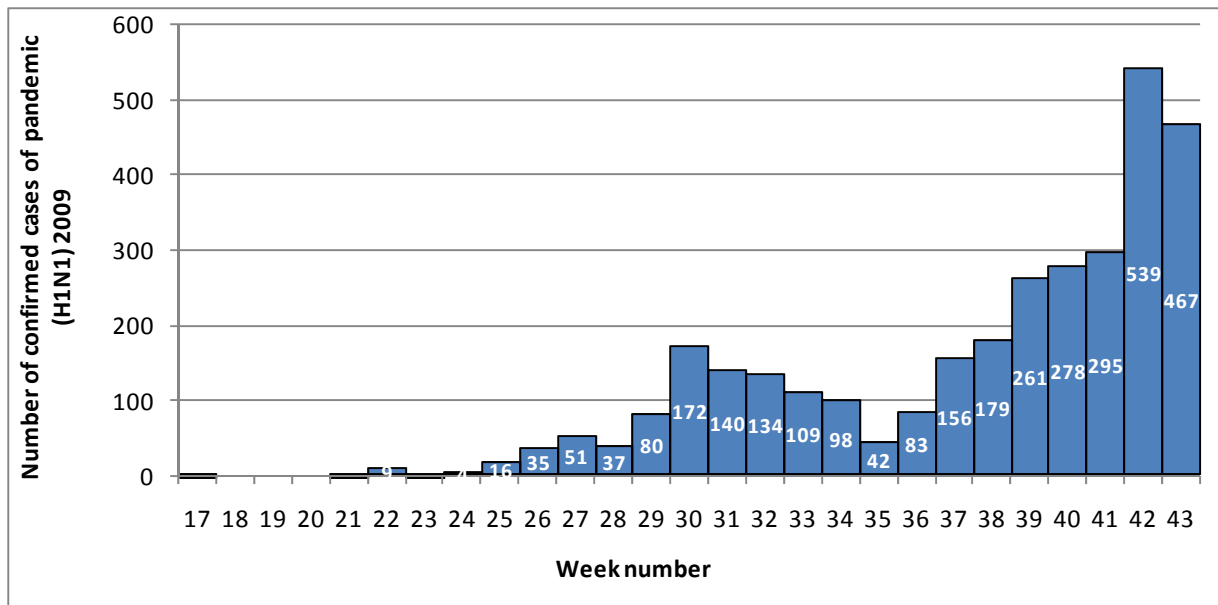


Figure 7: Number of confirmed cases of pandemic (H1N1) 2009 by week of notification<sup>§§</sup>

Source: CIDR

#### Age and Sex

Of the 3,189 confirmed cases reported to 31<sup>st</sup> October, 1,701 were female (53.3%), 1,473 were male (46.2%) and sex was not reported for 15 cases (0.5%). The median age of cases was 18 years (range: 0-82 years) and 81.4% 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 age specific rates per 100,000 population of confirmed cases of pandemic (H1N1) 2009 by week of notification. The highest age specific rates are noted in the 5-14, 0-4 and 15-24 year olds since week 40<sup>§§</sup>.

<sup>§§</sup> 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 17-43 above is equivalent to weeks 18-44 on the influenza system.

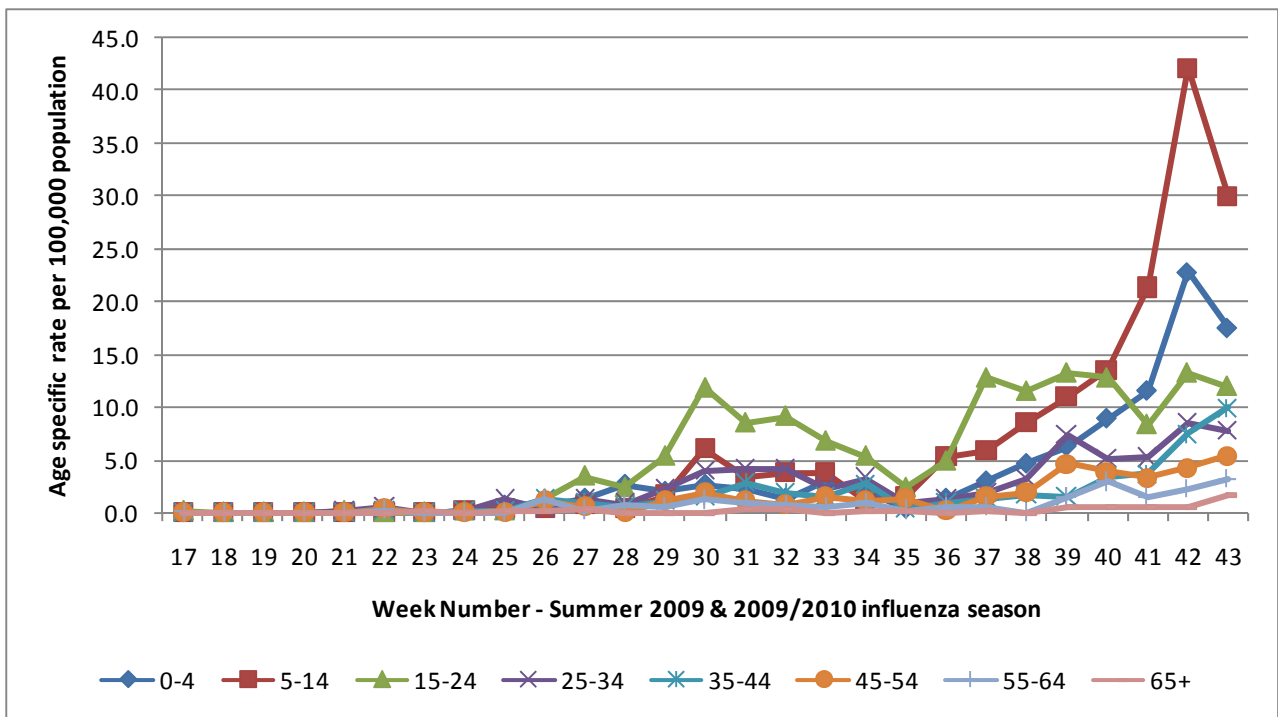


Figure 8: Notification rate per 100,000 population of confirmed cases of pandemic (H1N1) 2009 by age group (years) and by week of notification\*\*\*

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 43 was in HSE-S (19.5 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 43***: 25 <sup>th</sup> to 31 <sup>st</sup> October 2009		Week 17 - Week 43 2009	
	Number of confirmed cases	Rate per 100,000 population	Number of confirmed cases	Rate per 100,000 population
HSE-E	196	13.1	1018	67.9
HSE-M	16	6.4	101	40.1
HSE-MW	15	4.2	186	51.5
HSE-NE	19	4.8	245	62.2
HSE-NW	24	10.1	168	70.9
HSE-SE	45	9.8	197	42.7
HSE-S	121	19.5	662	106.6
HSE-W	31	7.5	612	147.7
<b>Total</b>	<b>467</b>	<b>11.0</b>	<b>3189</b>	<b>75.2</b>

\*\*\* Week number in figure 8 and table 4 is based on infectious disease notification week number, which is one week behind the international influenza week number. Therefore week 43 above is equivalent to week 44 on the influenza system.

### Severity of illness

As of 31<sup>st</sup> October 2009, clinical illness continues to be mild in the majority of cases. Of the 3,189 confirmed cases, outcome was reported for 968 (30.4%) cases. Of the 968 confirmed cases where outcome was reported, 900 have recovered or are recovering (93.0%), 54 are still ill (5.6%). To date (4<sup>th</sup> November) 14 laboratory confirmed cases have died. Table 5 shows the number of deaths in confirmed cases of pandemic (H1N1) 2009.

**Table 5: Number of deaths due to pandemic (H1N1) 2009**

Week number	Number of deaths due to pandemic (H1N1) 2009
31	1
32	0
33	1
34	0
35	0
36	0
37	0
38	0
39	2
40	0
41	3
42	2
43	3
44 ( to 4 <sup>th</sup> November)	2
<b>Total</b>	<b>14</b>

Reported complications have been mostly respiratory in nature; 100 cases developed pneumonia and 36 developed acute respiratory distress syndrome (ARDS) (24 of these also had pneumonia). Other reported complications included chest infections, acute renal failure and multi-organ failure.

### Hospitalised cases

Of the 3,189 confirmed cases, 586 (18.3%) were admitted to hospital. Of these, 54 (9.2%) were admitted to ICU. Figure 9 shows the number of hospitalised cases of confirmed pandemic (H1N1) 2009 by week number, Table 6 shows the number of hospitalised cases by age group (years) and sex and Table 7 shows the cumulative number of hospitalised cases by risk group. The number of laboratory confirmed cases who were hospitalised and admitted to ICU in week 43 was 14, unchanged from the number admitted to ICU in week 42. Two hundred and forty-five (41.8%) 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  $\geq$ 40) and pregnancy.

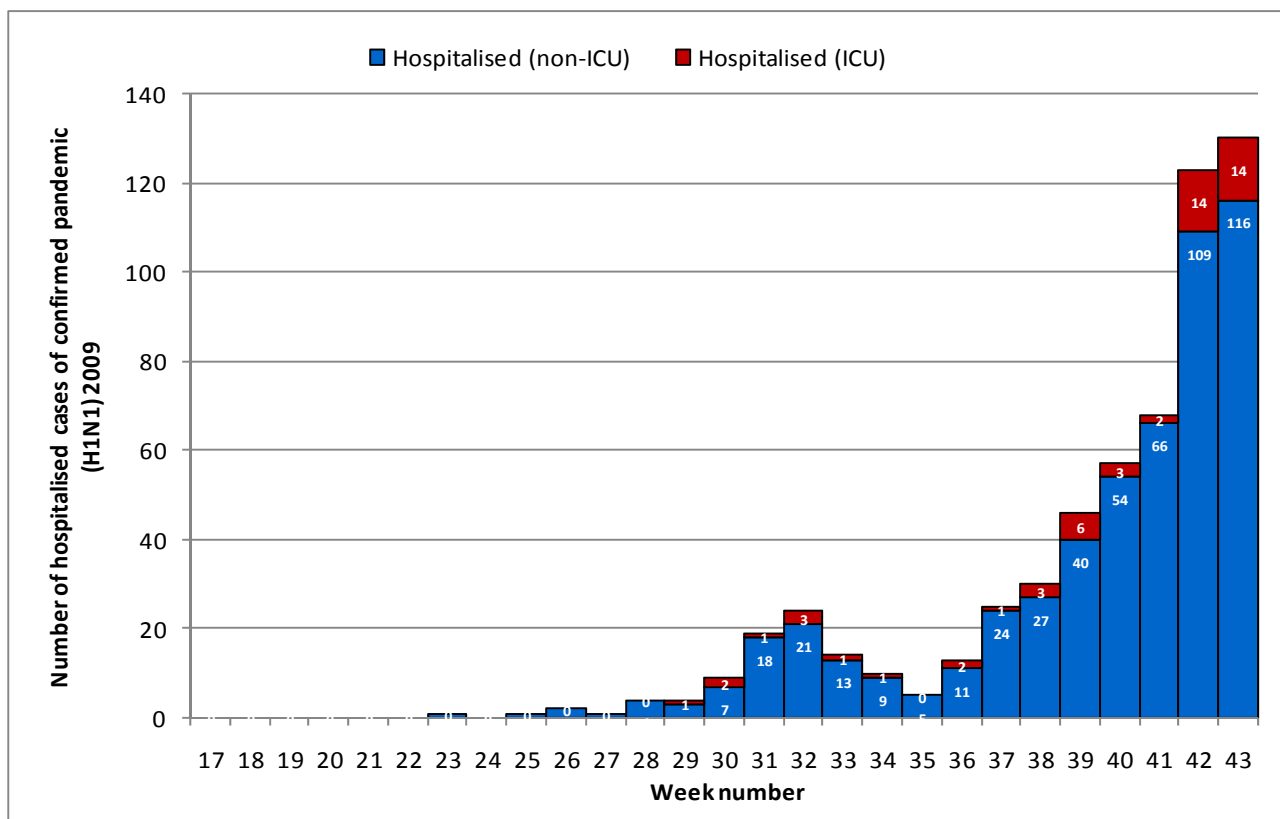


Figure 9: Number of hospitalised cases of confirmed pandemic (H1N1) 2009 by week number<sup>†††</sup>

Source: CIDR

Table 6: Cumulative number of hospitalised cases of confirmed pandemic (H1N1) 2009 by age group (years) and sex (Wk 17 – 43)

Source: CIDR

Age group (years)	Female	Male	Total	% of Total
0-4	45	60	105	17.9%
5-9	32	40	72	12.3%
10-14	17	40	58	9.9%
15-19	34	29	63	10.8%
20-24	39	18	57	9.7%
25-29	35	13	48	8.2%
30-34	23	13	36	6.1%
35-39	17	8	25	4.3%
40-44	21	13	34	5.8%
45-49	14	7	21	3.6%
50-54	9	6	15	2.6%
55-59	6	7	13	2.2%
60-64	10	13	23	3.9%
65-69	3	3	6	1.0%
70-74	1	3	4	0.7%
75+	4	2	6	1.0%
<b>Total</b>	<b>310</b>	<b>275</b>	<b>586</b>	<b>100%</b>

<sup>†††</sup> 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 43 above is equivalent to week 44 on the influenza system.

**Table 7: Cumulative number of hospitalised cases of confirmed pandemic (H1N1) 2009 by risk group (Wk 17 – 43)<sup>\*\*\*</sup>**

Source: CIDR

Risk group	Number of cases	% of hospitalised cases
On medication for asthma	74	12.6%
Chronic respiratory disease	58	9.9%
Immunosuppressed	40	6.8%
Pregnant	37	6.3%
Chronic heart disease	31	5.3%
Chronic neurological disease	21	3.6%
Diabetes mellitus	20	3.4%
Haemoglobinopathies	17	2.9%
Renal disease	12	2.0%
Chronic liver disease	7	1.2%
Severely obese (BMI $\geq$ 40)	4	0.7%

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<sup>\*\*\*</sup> Cases may belong to more than one risk group

## 5. Outbreak surveillance (CIDR)

As of 4<sup>th</sup> November 2009 at 18.00 hours, 101 general outbreaks of pandemic (H1N1) 2009 and ILI have been reported in Ireland since week 23 2009. These outbreaks involved 2,295 people in total, of which 184 (8.0%) were laboratory confirmed cases of pandemic (H1N1) 2009. The number ill per outbreak has ranged between two and 150 people.

The majority of these outbreaks (80) occurred in educational settings. Eight outbreaks occurred in residential institutions, three in crèches, three were in a workplace, two were travel related, two were related to social gatherings and one each were in a community hospital/long-stay unit, a hotel and an intellectual disability unit (figure 10). Table 7 summarises the pandemic (H1N1) 2009 and ILI outbreaks to date by location, while table 8 summarises the pandemic (H1N1) 2009 and ILI outbreaks by HSE area. Table 9 shows the number of outbreak associated pandemic (H1N1) 2009 and ILI cases by age group (years).

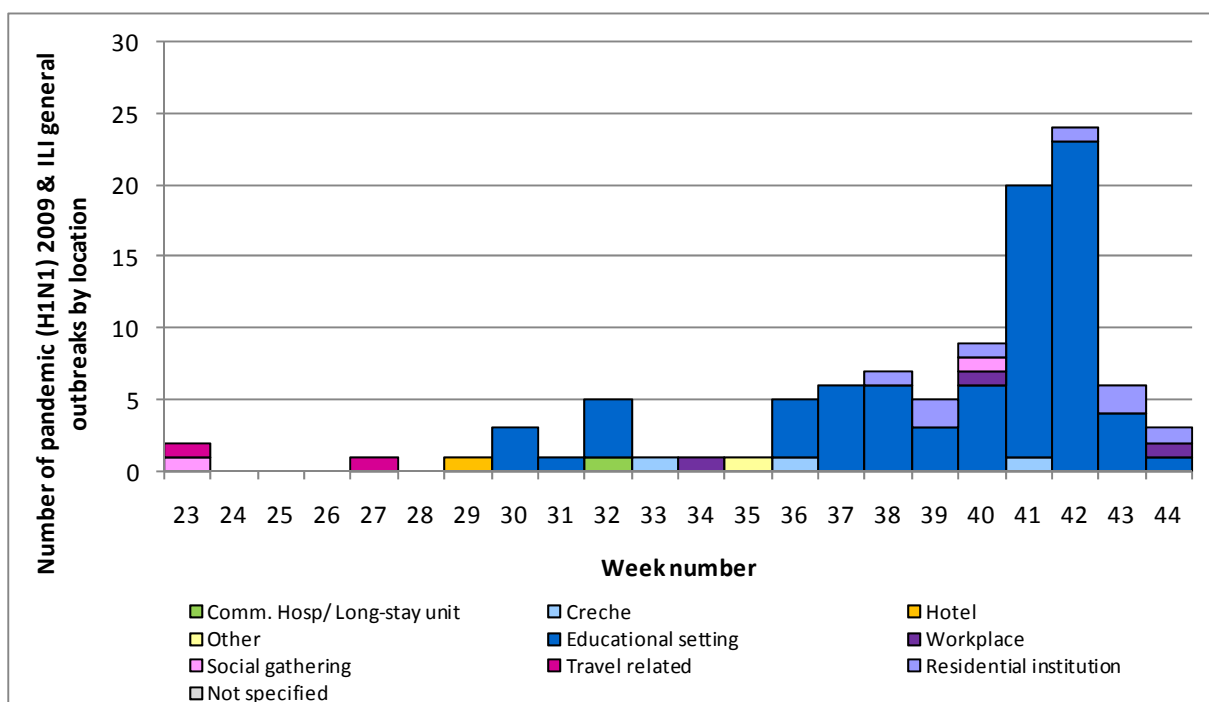


Figure 10: Number of pandemic (H1N1) 2009 and ILI general outbreaks by location and week number<sup>§§§</sup>

Source: CIDR

<sup>§§§</sup> 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 44 above is equivalent to week 45 on the influenza system and only represents data from Sunday 31<sup>st</sup> October to Wednesday 4<sup>th</sup> November @ 18.00 hours

**Table 8: Summary of pandemic (H1N1) 2009 and ILI 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
Crèche	3	31	5
Hotel	1	3	1
Not specified	0	0	0
Other	1	3	3
Educational setting	80	2149	130
Residential institution	8	84	30
Social gathering	2	4	3
Travel related	2	9	8
Workplace	3	7	2
<b>Total</b>	<b>101</b>	<b>2295</b>	<b>184</b>

**Table 9: Summary of pandemic (H1N1) 2009 and ILI general outbreaks by HSE area, to date \$\$\$**

Source: CIDR

HSE Area	Number of outbreaks	Total number ill	Total number laboratory confirmed
HSE-E	26	534	36
HSE-M	0	0	0
HSE-MW	7	32	21
HSE-NE	15	528	31
HSE-NW	9	359	25
HSE-SE	9	143	10
HSE-S	24	277	32
HSE-W	11	422	29
<b>Total</b>	<b>101</b>	<b>2295</b>	<b>184</b>

**Table 10: Number of general outbreak associated pandemic (H1N1) and ILI 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	30	276	971	82	7	0	921	2295

\*\*\*\* Data taken from CIDR at Wednesday 4<sup>th</sup> November @ 18.00 hours

## International summary

The total numbers of confirmed cases and deaths reported worldwide by the World Health Organization (WHO) region are shown in table 10. 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 10: Reported number of confirmed pandemic (H1N1) 2009 cases and deaths by WHO region**

Source: WHO 25<sup>th</sup> October 2009

WHO Region	Cumulative total as of 25 <sup>th</sup> October 2009	
	Cases <sup>++++</sup>	Deaths
Africa (AFRO)	13536	75
Americas (AMRO)	174565	4175
Eastern Mediterranean (EMRO)	17150	111
Europe (EURO)	Over 64000	At least 281
South-East Asia (SEARO)	42901	605
Western Pacific (WPRO)	129509	465
<b>Total</b>	<b>Over 441661</b>	<b>At least 5712</b>

### United Kingdom

During week 43 pandemic influenza activity continued to increase across the UK with the main burden of disease remaining in school-aged children and young adults. Although most cases continue to be mild, 135 people have died to date. The highest hospitalisation rates have consistently been in the under 5-year age group, and have increased in all age groups recently. Three of 2,050 (0.1%) pandemic viruses tested have been confirmed to carry a mutation which confers resistance to the antiviral drug oseltamivir. All three are phenotypically resistant to the drug but retain sensitivity to zanamivir.

[http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb\\_C/1243928258754](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1243928258754)

### Europe

During week 43 2009, Iceland and Ireland reported very high levels of intensity, Sweden and the UK (Northern Ireland) reported high intensity and nine countries reported medium activity. Eight countries reported widespread activity and five reported regional activity.

<http://ecdc.europa.eu/en/publications/Pages/Publications.aspx>

### USA

During week 43 (18<sup>th</sup> to 24<sup>th</sup> October 2009), influenza activity increased in the United States. The proportion of outpatient visits for influenza-like illness (ILI) was 8.0%, an increase from last week (7.1%) and above the national baseline of 2.3%. The proportion of deaths attributed to pneumonia and influenza (7.1%) was above the epidemic threshold (6.6%). Twenty-two influenza-associated paediatric deaths were reported in week 42, nineteen associated with 2009 influenza A (H1N1), and three associated with influenza A with subtype undetermined. During week 43, 8,268 (42.1%) 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, 100% were pandemic (H1N1) 2009 viruses.

<http://www.cdc.gov/flu/weekly/>

<sup>++++</sup> 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.



## Canada

During week 43 (18<sup>th</sup> to 24<sup>th</sup> October 2009), striking increases in overall influenza activity were reported. All indicators (proportion of positive influenza tests, national ILI consultation rate, number of regions reporting widespread activity and number of influenza outbreaks) were considerably higher this week compared to the previous weeks. The national ILI consultation rate was 59 consultations per 1,000 visits, an increase compared to the previous week's reported rate (48 per 1,000 visits), and is above the expected range for this time of the year. During week 42, the intensity of Pandemic (H1N1) 2009 in the population was moderate with 175 hospitalisations and 9 deaths reported. The national hospitalisation rate was 5.3 per 100,000 population with the highest rates in children under 15 years of age (12.1 per 100,000). In comparison, the national mortality rate was 0.28 per 100,000 population with those 45 years and older having the highest mortality rate (0.40 per 100,000).

<http://www.phac-aspc.gc.ca/fluwatch/index-eng.php>

## New Zealand

There has been a decrease in consultations for influenza-like illness through sentinel surveillance in week 43 (19<sup>th</sup> to 25<sup>th</sup> October 2009). The highest ILI consultation rates have been reported among children and teenagers aged 0 to 19 years. During week 43 a total of 16 swabs were received by the virology laboratories. No influenza viruses were identified.

[http://www.surv.esr.cri.nz/virology/influenza\\_weekly\\_update.php](http://www.surv.esr.cri.nz/virology/influenza_weekly_update.php)

## Australia

National influenza activity continues to decrease. Most jurisdictions have reported that pandemic (H1N1) 2009 activity is at or near baseline levels. Type A influenza is the predominant seasonal influenza type reported by all jurisdictions. The pandemic strain has almost replaced the current seasonal H1N1 virus. The number of respiratory tests positive for influenza A is now very low, with the proportion of these that were pandemic (H1N1) 2009 being 56%. Of the seasonal influenza A notifications, A/H3N2 is the predominant subtype reported by most jurisdictions. As of 30<sup>th</sup> October 2009 there were 37,066 confirmed cases of pandemic (H1N1) 2009 and 187 (0.5%) deaths associated with pandemic (H1N1) 2009. The total number of hospitalisations in confirmed cases of pandemic (H1N1) 2009 is 4,932 (13.3 %).

<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

### As of 25<sup>th</sup> October 2009

- **Ukraine:** As of 3<sup>rd</sup> November, the country has now recorded more than 250 000 cases of influenza-like illness, with 235 patients requiring intensive care. As of 2<sup>nd</sup> November, 70 deaths from acute respiratory illness have been reported. Regions in western Ukraine continue to show the highest rates of acute respiratory illness/influenza-like illness. The level of activity in the Kyiv area is also increasing rapidly. Laboratory testing in Ukraine has confirmed pandemic H1N1 influenza virus in samples taken from patients in two of the most affected regions. As the pandemic virus has rapidly become the dominant influenza strain worldwide, it can be assumed that most cases of influenza in Ukraine are caused by the H1N1 virus. At the request of the Ukrainian government, a multi-disciplinary team of nine experts has been deployed by WHO and arrived in Kyiv on 2<sup>nd</sup> November. Team members will now

begin field investigations to characterize the clinical and epidemiological features of the outbreak. More information is available at: [http://www.who.int/csr/don/2009\\_11\\_03/en/index.html](http://www.who.int/csr/don/2009_11_03/en/index.html).

- **Central and Far East Asia:** Many countries in Central Asia are showing evidence of early influenza transmission including Russia and Turkey. Influenza activity has also increased sharply in Japan, especially on the northern island, approximately 10 weeks ahead of the usual start of the winter influenza season.
- **Tropical zones:** Pandemic influenza transmission remains active in many parts of the tropical zone of the Americas, most notably in several Caribbean countries. Mexico has reported more confirmed cases since September than during the springtime epidemic. Overall transmission continues to decline in most but not all parts of the tropical zone of South and Southeast Asia.
- **Temperate zones of the Southern Hemisphere:** Little influenza activity has been reported in the temperate region of the southern hemisphere since October 18<sup>th</sup> 2009.

<http://www.who.int/csr/disease/swineflu/updates/en/>

**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>
Europe – ECDC	<a href="http://ecdc.europa.eu/">http://ecdc.europa.eu/</a>
Europe – EISN	<a href="http://ecdc.europa.eu/en/activities/surveillance/EISN/Pages/home.aspx">http://ecdc.europa.eu/en/activities/surveillance/EISN/Pages/home.aspx</a>
Northern Ireland	<a href="http://www.cdscni.org.uk/">http://www.cdscni.org.uk/</a>

#### Acknowledgements

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

## 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.