

# Influenza Surveillance in Ireland - Weekly Update

## Influenza Week 48 2009 (23<sup>rd</sup> to 29<sup>th</sup> November 2009)



### Summary

- Influenza activity in Ireland continued to decrease during week 48 but still remains at high levels:
  - ♦ The sentinel GP influenza-like illness (ILI) consultation rate was 93.6 per 100,000 population in week 48, a marked decrease compared to the updated rate of 122.8 per 100,000 reported during week 47\*.
  - ♦ 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 decreased.
  - ♦ The number of hospitalised cases of confirmed pandemic (H1N1) 2009 decreased.
  - ♦ The number of hospitalised cases of confirmed pandemic (H1N1) 2009 admitted to ICU this week was 3, a decrease compared to 6 ICU admissions during the previous week.
  - ♦ The proportion of sentinel specimens testing positive for pandemic (H1N1) 2009 decreased from 43.7% in week 47 to 24.0% during week 48.
  - ♦ The proportion of flu-related calls to GP Out-of-Hours services decreased.
  - ♦ No pandemic (H1N1) 2009, influenza or ILI outbreaks were reported during influenza week 48.
  - ♦ Pandemic (H1N1) 2009 is the only influenza virus circulating; 100% of specimens positive for influenza were pandemic (H1N1) 2009 during week 48.
  - ♦ Respiratory Syncytial Virus (RSV) activity remained stable during week 48.
- Based on the surveillance of laboratory confirmed cases of pandemic (H1N1) 2009, as of 28<sup>th</sup> November:
  - ♦ 4,321 confirmed cases have been notified in Ireland.
  - ♦ Children and young adults remain the most affected groups; 80.5% of cases are less than 35 years of age.
  - ♦ Clinical illness continues to be mild in the majority of cases.
- Eighteen deaths in confirmed cases of pandemic (H1N1) 2009 have been reported to date (2<sup>nd</sup> December).

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\* Since the last report, extra information on the number of ILI consultations and positive influenza specimens occurring in week 47 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)
6. Pandemic (H1N1) ICU enhanced surveillance system

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

### 1. GP sentinel surveillance system

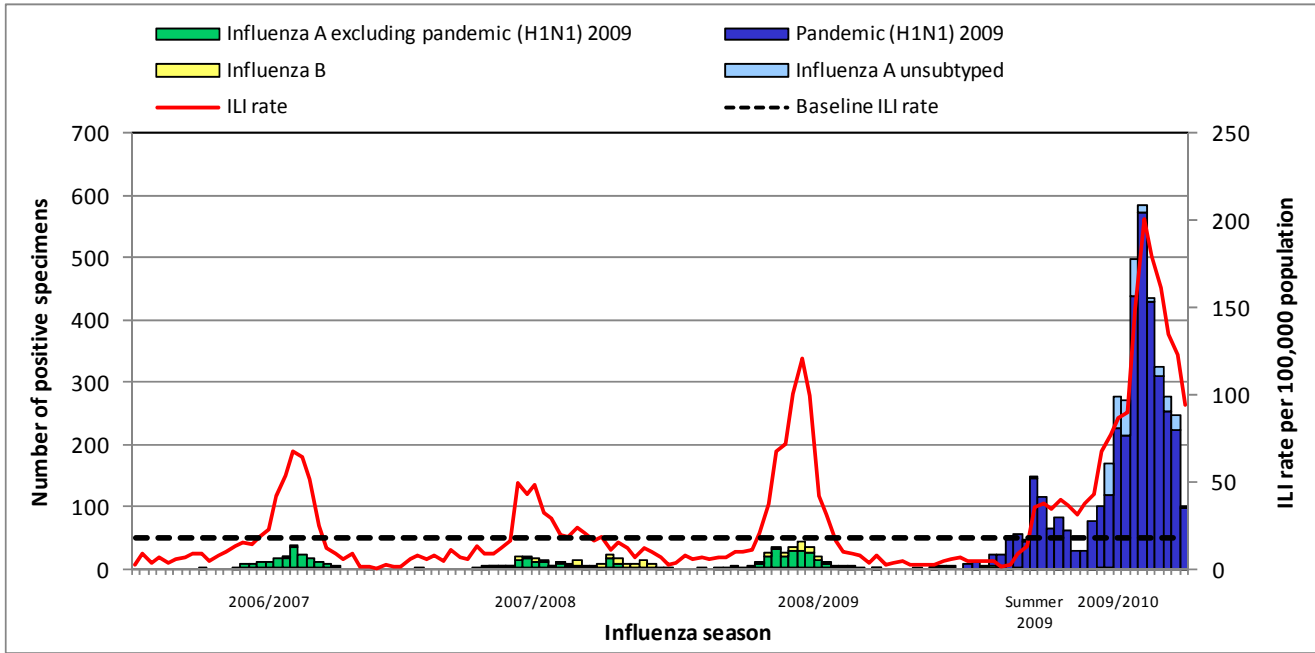
#### Clinical Data

During week 48 2009, 56 of 61 (91.8%) ICGP sentinel general practices provided data, with 49 practices (80.3%) reporting 202 influenza-like illness (ILI) cases and 12 practices reporting no ILI cases. This corresponds to an ILI consultation rate of 93.6 per 100,000 population, which is a marked decrease compared to the updated rate of 122.8 per 100,000 population reported during week 47 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 untyped isolates (probable pandemic (H1N1) 2009) are specimens that are awaiting laboratory confirmation as pandemic (H1N1) 2009.

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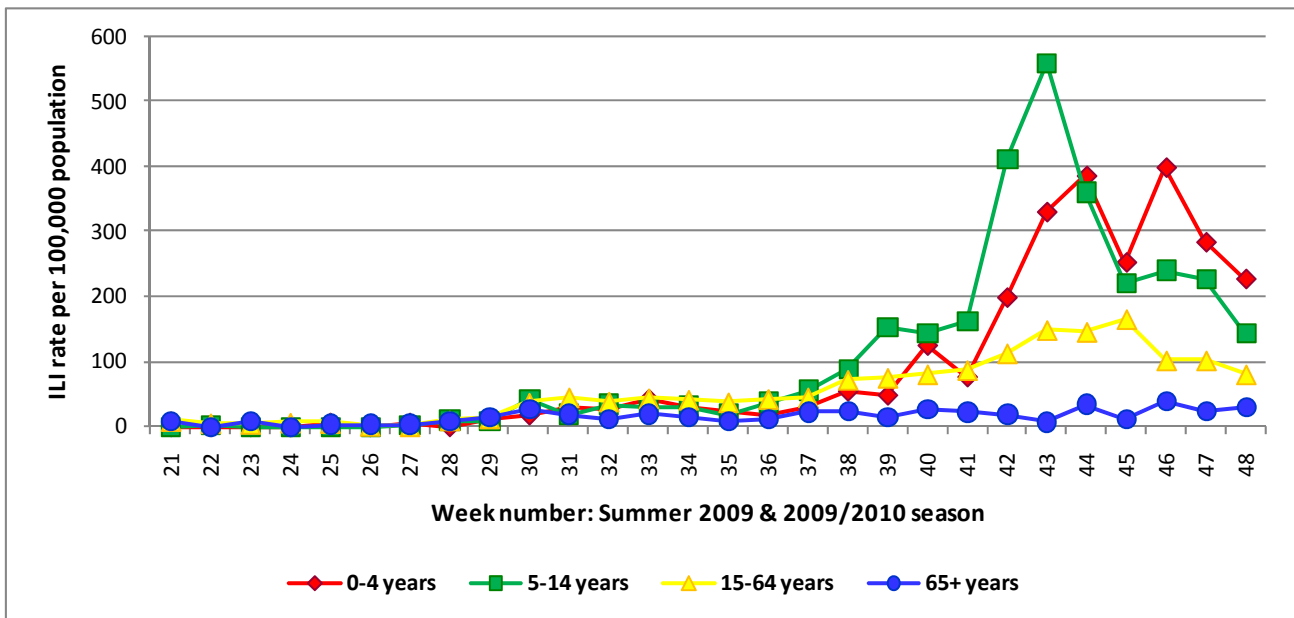
<sup>†</sup> Since the last report, extra information on the number of ILI consultations and positive influenza specimens occurring in week 47 was provided by sentinel GPs and the NVRL and the rate for the week was adjusted accordingly



**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 48 2009, sentinel GPs reported 35 ILI cases in the 0-4 year age group (227.5 per 100,000 population), 41 cases in the 5-14 year age group (143.3 per 100,000 population), 119 cases in the 15-64 year age group (80.4 per 100,000 population) and 7 cases in those aged 65 years and older (29.4 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 for NVRL is for all seasons, for CUH is from week 31 2009 and for UCHG is from week 36 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 48 2009, sporadic activity (due to isolated cases of ILI and/or isolated laboratory confirmed cases of influenza) was reported by HSE-NW, 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, -S, and -W and 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-E, -MW, -NE and -SE (figure 3).

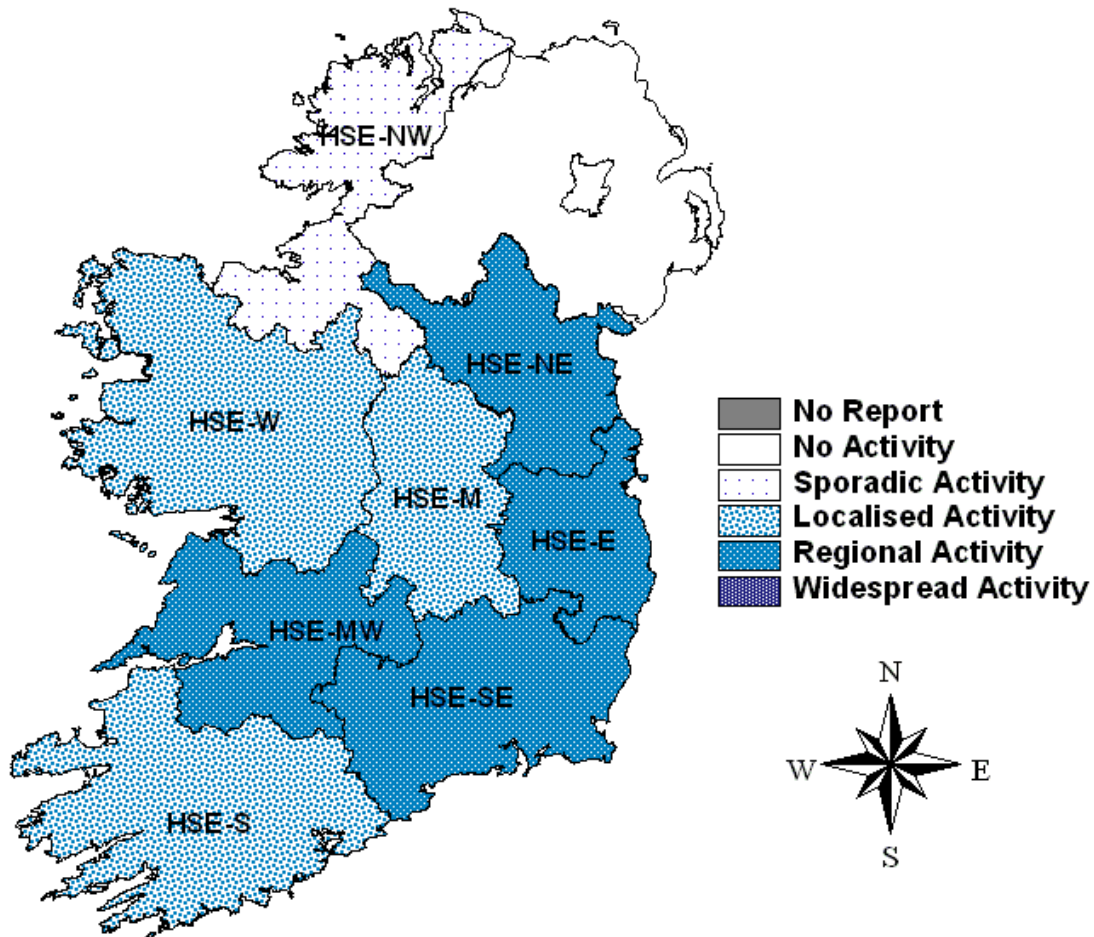


Figure 3: Map of provisional influenza activity by HSE area during influenza week 48 2009

### 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 48 2009, sentinel hospital and school data were received from seven of the eight HSE areas. No increase in the proportion of respiratory admissions was reported from sentinel hospitals and no increase in absenteeism was reported from sentinel schools during influenza week 48 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. The percentage of flu-related calls was 7.3% during week 48, a decrease compared to the proportion (9.1%) reported during week 47 (figure 4).

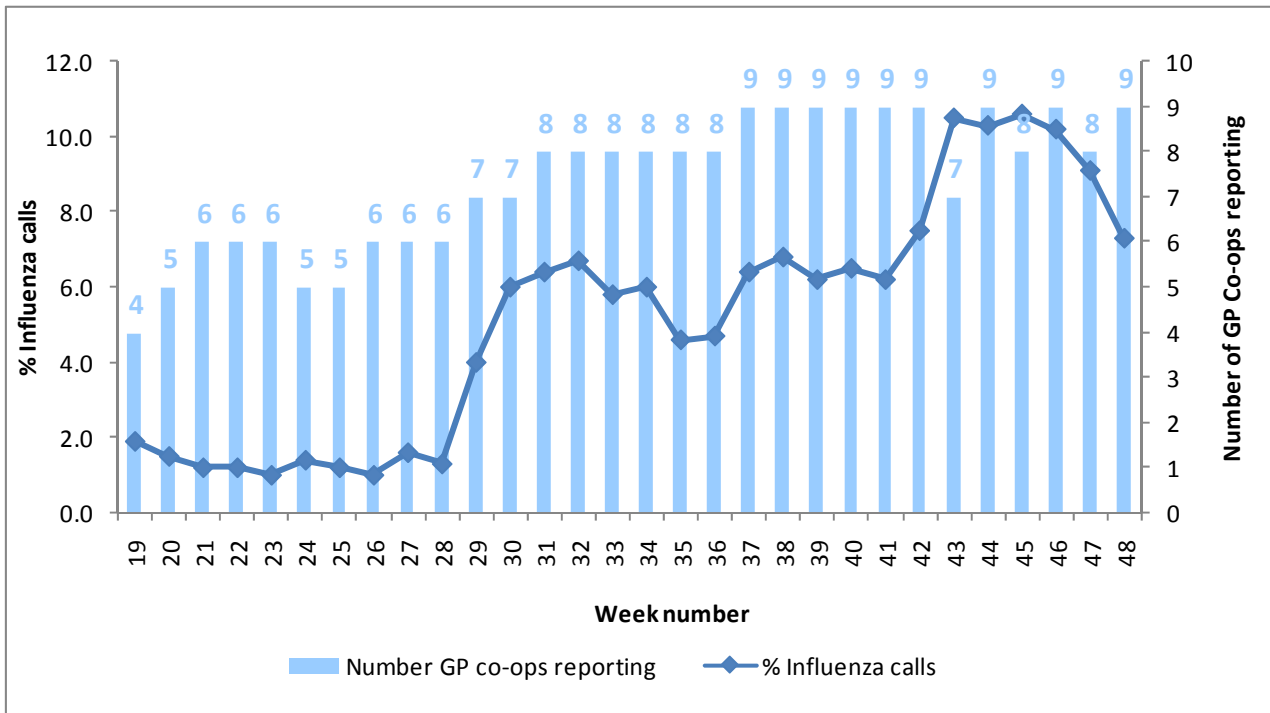


Figure 4: Flu-related calls as a proportion of total calls to Out-of-Hours GP Co-ops by week<sup>§</sup>

Source: HSE-NE.

<sup>§</sup> Week 48: data received from CARE-Doc, D-Doc, K-Doc, MI-Doc, NE-Doc, NoW-Doc, Shan-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) and University College Hospital, Galway (UCHG)

Seventy-five specimens from sentinel GPs were tested by the NVRL during week 48 2009, 18 (24.0%) of which were positive for pandemic (H1N1) 2009.

The NVRL also tested 561 non-sentinel specimens taken during the same week. \*\* Of these, 58 (10.3%) were positive for pandemic (H1N1) 2009 and 28 specimens (5.0%) tested positive for RSV (table 1 and table 3). No specimens were positive for other influenza A subtypes, influenza B, adenovirus or parainfluenza virus. 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 30 non-sentinel specimens taken during week 48 2009, 2 (6.7%) of which were positive for pandemic (H1N1) 2009 (table 2).

CUH tested 105 non-sentinel specimens taken during week 48 2009, 21 (20.0%) of which were positive for pandemic (H1N1) 2009 (table 2).

Pandemic (H1N1) 2009 is the only influenza virus circulating. During week 48, 100% of specimens positive for influenza were pandemic (H1N1) 2009. For 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 48, the percentage of sentinel and non-sentinel specimens testing positive for pandemic (H1N1) 2009 was 12.8%, a sharp decrease compared to 22.8% positive during week 48. 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

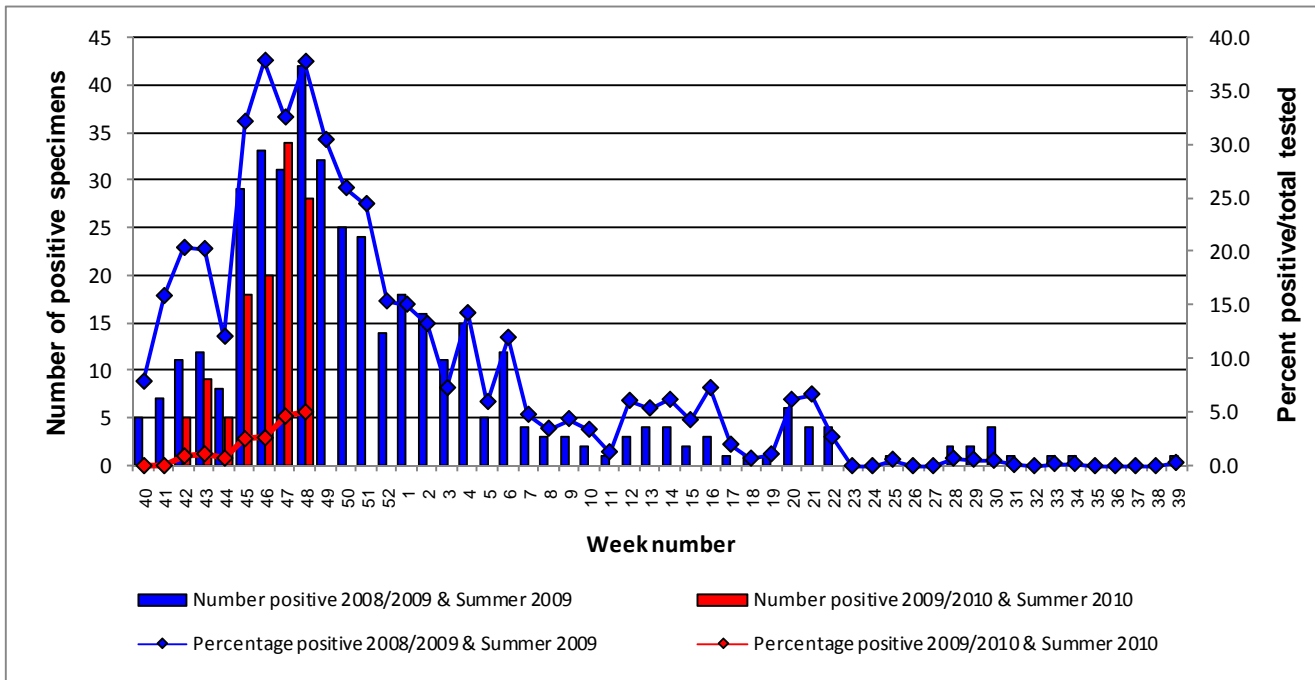


Figure 5: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2009/2010 and Summer 2010 influenza seasons, compared to the 2008/2009 and Summer 2009 influenza seasons

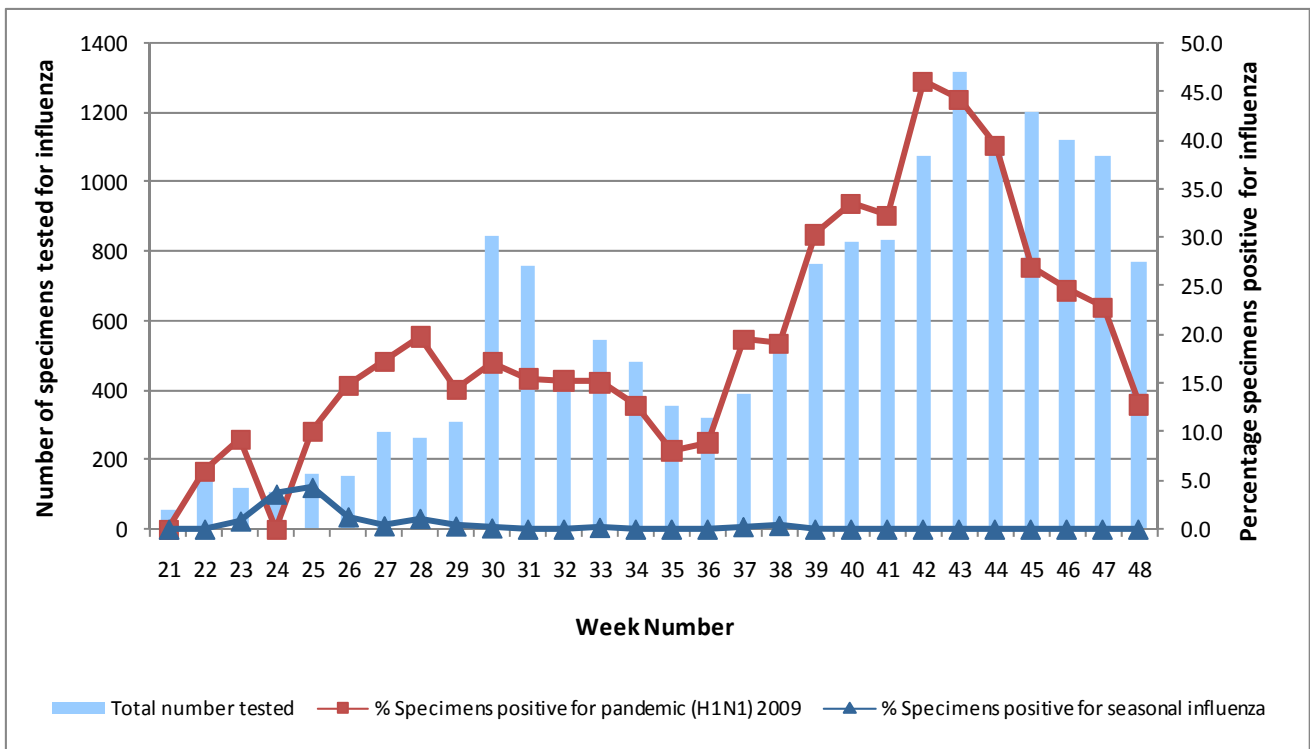


Figure 6: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive<sup>††</sup>  
 Source: NVRL, CUH & UCHG

<sup>††</sup> Please note that virological data for NVRL is from week 21 2009, for CUH is from week 31 2009 and for UCHG is from week 36 2009.

**Table 1: Number of sentinel and non-sentinel respiratory specimens tested and positive results, influenza week 48 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>48 2009</b>	Sentinel	75	18	24.0	18	0	0	0	0	0	100.0
	Non-sentinel	696	81	11.6	80	1	0	0	0	0	100.0
	<b>Total</b>	<b>771</b>	<b>99</b>	<b>12.8</b>	<b>98</b>	<b>1</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	1878	711	37.9	708	0	3	0	0	0	99.6
	Non-sentinel	15445	3708	24.0	3393	290	0	0	22	3	99.3
	<b>Total</b>	<b>17323</b>	<b>4419</b>	<b>25.5</b>	<b>4101</b>	<b>290</b>	<b>3</b>	<b>0</b>	<b>22</b>	<b>3</b>	<b>99.4</b>

**Table 2: Number of non-sentinel respiratory specimens tested and positive results by laboratory, influenza week 48 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>48 2009</b>	NVRL	561	58	10.3	58	0	100.0	0	0
	CUH	105	21	20.0	20	1	100.0	0	0
	UCHG	30	2	6.7	2	0	100.0	0	0
	<b>Total</b>	<b>696</b>	<b>81</b>	<b>11.6</b>	<b>80</b>	<b>1</b>	<b>100.0</b>	<b>0</b>	<b>0</b>
<b>Summer 2009 &amp; 2009/2010 season to date</b>	NVRL	11882	2457	20.7	2429	4	99.0	21	3
	CUH	2463	780	31.7	494	286	100.0	0	0
	UCHG	1100	471	42.8	470	0	99.8	1	0
	<b>Total</b>	<b>15445</b>	<b>3708</b>	<b>24.0</b>	<b>3393</b>	<b>290</b>	<b>99.3</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 48 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>48 2009</b>	561	28	5.0	0	0.0	0	0.0	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>	5789	119	2.1	2	0.0	4	0.1	1	0.0	1	0.0

\*\* Please note that virological data for NVRL is from week 21 2009, for CUH is from week 31 2009 and for UCHG is from week 36 2009.



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

During the current pandemic phase of mitigation, testing is focused on cases hospitalised for influenza, cases with severe clinical illness and in other situations such as clusters of ILI in institutions or unusual clusters of serious illness.

As of 28<sup>th</sup> November 2009, a total of 4,321 confirmed cases of pandemic (H1N1) 2009 infection were reported.<sup>§§</sup> Figure 7 shows the number of confirmed pandemic (H1N1) 2009 cases by week of notification and hospitalisation status.

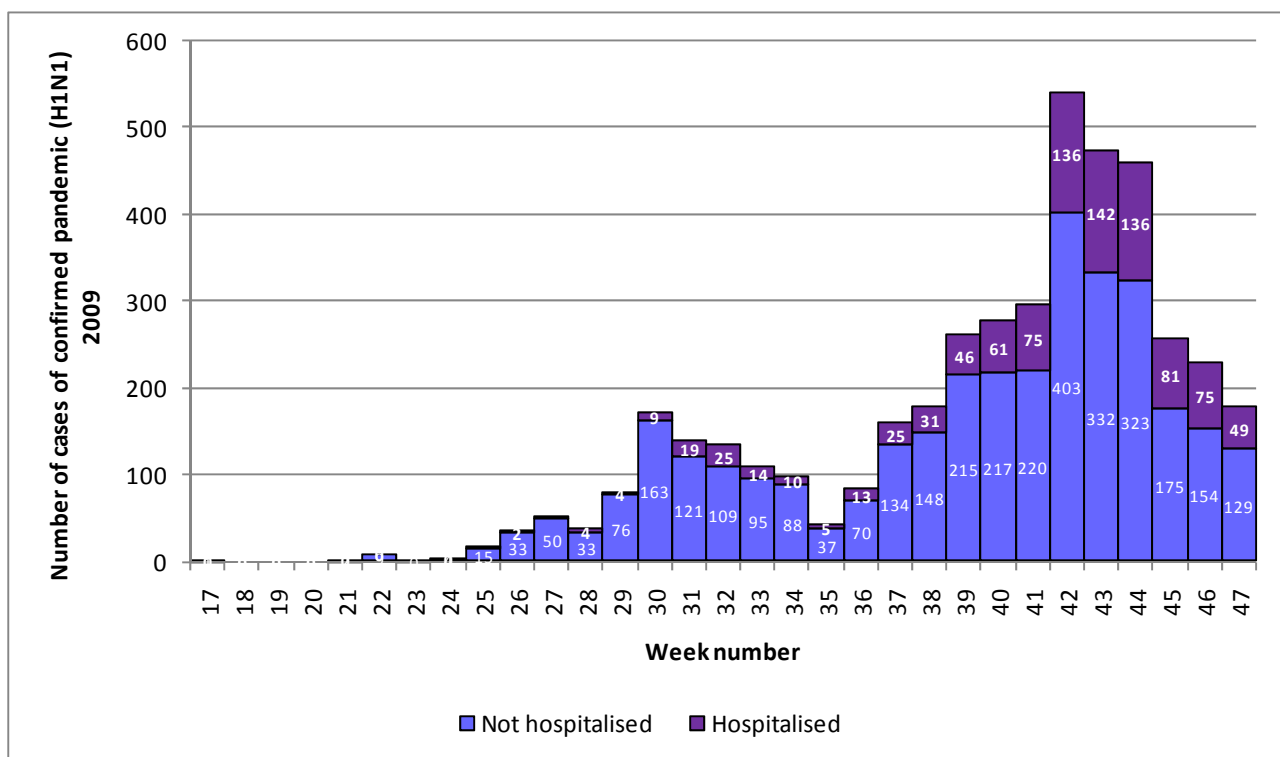


Figure 7: Number of confirmed cases of pandemic (H1N1) 2009 by week of notification and hospitalisation status<sup>\*\*\*</sup>  
Source: CIDR

#### Age and Sex

Of the 4,321 confirmed cases reported to 28<sup>th</sup> November, 2,302 were female (53.3%), 1,996 were male (46.2%) and sex was not reported for 23 cases (0.5%). The median age of cases was 17 years (range: 0-84 years) and 80.5% were less than 35 years of age. 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 in the 0-4 year age group since week 40 but have recently decreased. During week 47, the age specific notification rate decreased in all age groups.

<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.

<sup>\*\*\*</sup> 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 17-47 above is equivalent to weeks 18-48 on the influenza system.

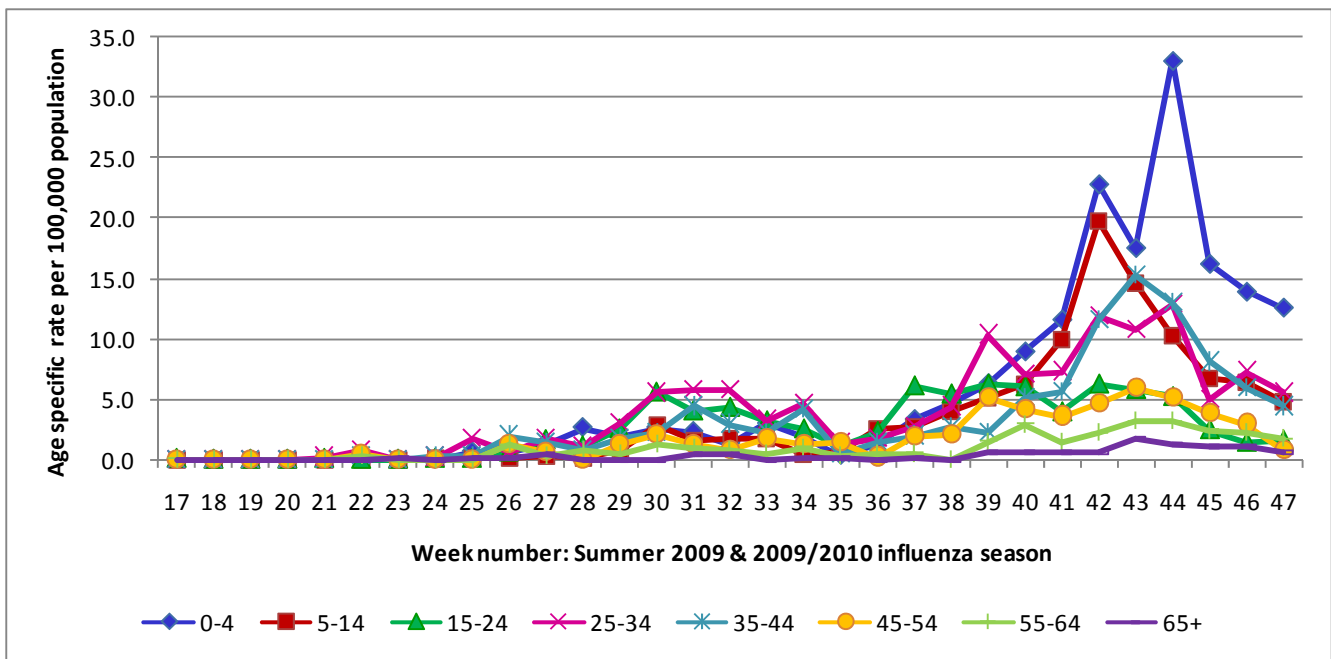


Figure 8: Age specific notification rate per 100,000 population of confirmed cases of pandemic (H1N1) 2009 by week of notification<sup>+++</sup>

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 47 was in HSE-MW (8.0 per 100,000 population).

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

Source: CIDR

HSE Area	Week 47: 22 <sup>nd</sup> to 28 <sup>th</sup> November 2009		Week 17 - Week 47 2009	
	Number of confirmed cases	Rate per 100,000 population	Number of confirmed cases	Rate per 100,000 population
HSE-E	50	3.3	1397	93.2
HSE-M	12	4.8	158	62.8
HSE-MW	29	8.0	296	82.0
HSE-NE	8	2.0	309	78.4
HSE-NW	6	2.5	215	90.7
HSE-SE	33	7.2	356	77.3
HSE-S	27	4.3	872	140.4
HSE-W	13	3.1	718	173.3
<b>Total</b>	<b>178</b>	<b>4.2</b>	<b>4321</b>	<b>101.9</b>

<sup>+++</sup> 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 47 above is equivalent to week 48 on the influenza system.

### Severity of illness

As of 28<sup>th</sup> November 2009, clinical illness continues to be mild in the majority of cases. Of the 4,321 confirmed cases, outcome was reported for 1,274 (29.5%) cases. Of the 1,274 confirmed cases where outcome was reported, 1,183 have recovered or are recovering (92.9%) and 73 are still ill (5.7%). To date (2<sup>nd</sup> December) 18 laboratory confirmed cases have died. Table 5 shows the number of deaths in confirmed cases of pandemic (H1N1) 2009 by week.

**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	1
42	4
43	3
44	2
45	2
46	1
47	1
<b>Total</b>	<b>18</b>

Reported complications have been mostly respiratory in nature; 158 cases developed pneumonia and 60 developed acute respiratory distress syndrome (ARDS). Other reported complications included chest infections, acute renal failure and multi-organ failure.

### Hospitalised cases

Of the 4,321 confirmed cases, 965 (22.3%) were admitted to hospital. Of these, 82 (8.5%) were admitted to ICU. The number of laboratory confirmed cases who were hospitalised and admitted to ICU in week 47 was 3, a decrease compared to 6 cases admitted to ICU in week 46.<sup>+++</sup> Table 6 shows the number of hospitalised cases by age group (years), sex and age-specific hospitalisation rate while figure 9 shows the cumulative numbers and age specific rates by hospitalisation status.

The highest age-specific rates for hospitalised patients are seen in the 0-4 year age group while the highest age-specific rates for non-hospitalised cases are seen in the 5-14 year age group. The median age of hospitalised cases was 17 years. Of the 965 hospitalised cases, 493 (51.1%) were female, 468 (48.5%) were male and sex was not reported for 4 cases (0.4%).

<sup>+++</sup> ICU figures taken from the pandemic (H1N1) ICU enhanced surveillance system.

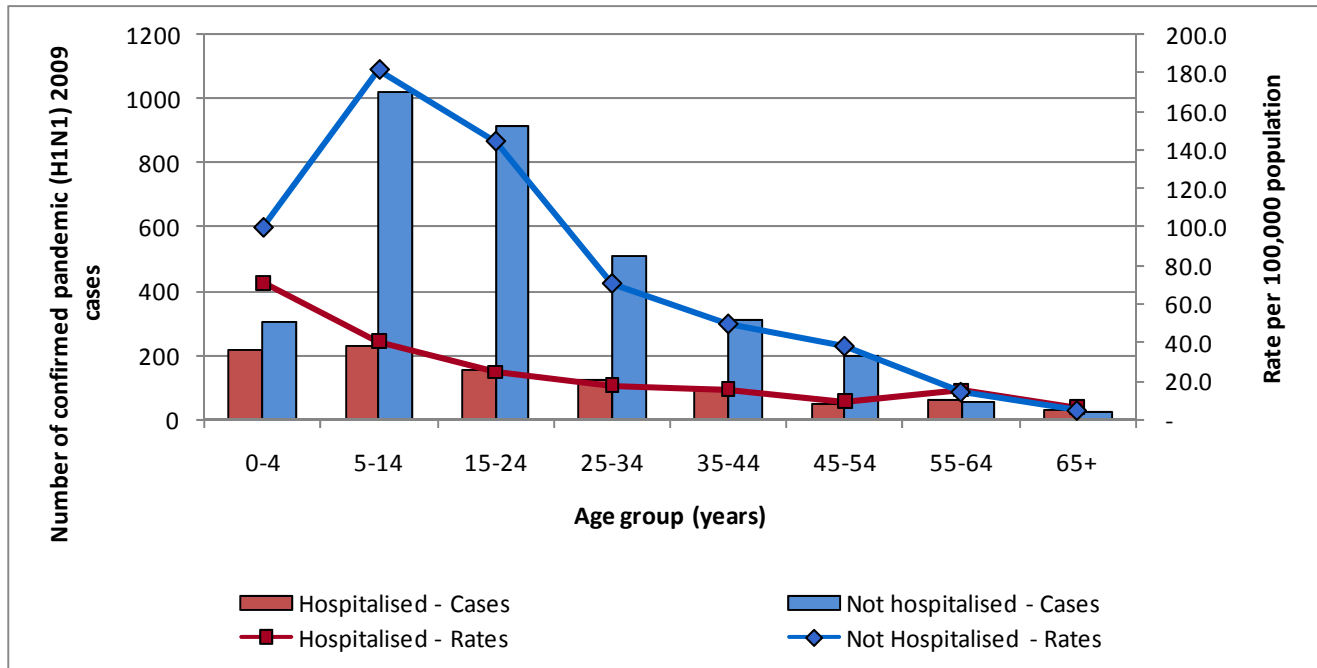


Figure 9: Cumulative numbers and age specific rates for confirmed cases of pandemic (H1N1) 2009 by hospitalisation status

Table 6: Cumulative number of hospitalised cases of confirmed pandemic (H1N1) 2009 by age group (years) and sex (Week 17 – 47)

Source: CIDR

Age group (years)	Female	Male	Unknown	Total	Age specific hospitalisation Rate per 100,000 population	% of Total
0-4	89	126	1	<b>216</b>	71.5	22.4
5-14	86	141	1	<b>228</b>	40.6	23.6
15-24	96	60	0	<b>156</b>	24.7	16.2
25-34	86	40	1	<b>127</b>	17.6	13.2
35-44	65	32	1	<b>98</b>	15.7	10.2
45-54	28	21	0	<b>49</b>	9.4	5.1
55-64	30	31	0	<b>61</b>	15.0	6.3
65+	12	16	0	<b>28</b>	6.0	2.9
Age unknown	1	1	0	<b>2</b>	n/a	0.2
<b>Total</b>	<b>493</b>	<b>468</b>	<b>4</b>	<b>965</b>	<b>22.8</b>	<b>100.0</b>

Of the 965 confirmed cases hospitalised, 408 (42.3%) 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. Eleven out of 47 (23.4%) hospitalised cases with a chronic neurological disease were reported to have cerebral palsy. Table 7 shows the cumulative number of hospitalised cases by risk group.

**Table 7: Cumulative number of hospitalised cases of confirmed pandemic (H1N1) 2009 by risk group (Wk 17 – 47)<sup>§§§</sup>**

Source: CIDR

Risk group	Number of cases	% of hospitalised cases
<b>On medication for asthma</b>	115	11.9
<b>Chronic respiratory disease</b>	99	10.3
<b>Pregnant</b>	63	6.5
<b>Immunosuppressed</b>	61	6.3
<b>Chronic heart disease</b>	48	5.0
<b>Chronic neurological disease</b>	47	4.9
<b>Diabetes mellitus</b>	34	3.5
<b>Haemoglobinopathies</b>	24	2.5
<b>Renal disease</b>	21	2.2
<b>Chronic liver disease</b>	11	1.1
<b>Severely obese (BMI &gt;= 40)</b>	10	1.0

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

## 5. Outbreak surveillance (CIDR)

As of 28<sup>th</sup> November 2009, 108 general outbreaks of pandemic (H1N1) 2009 and ILI have been reported in Ireland since week 23 2009. These outbreaks involved 2,395 people in total, of which 197 (8.2%) were laboratory confirmed cases of pandemic (H1N1) 2009. The number ill per outbreak has ranged between two and 150 people. No general outbreaks of pandemic (H1N1) 2009, influenza or ILI were reported during week 47 2009.

The majority of these outbreaks (82) occurred in educational settings. Ten outbreaks occurred in residential institutions, four in crèches, two in workplaces, two were in a community hospital/long-stay unit, two were travel related, two were related to social gatherings and one each occurred in a hotel, an intellectual disability unit, a barracks and a prison (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).

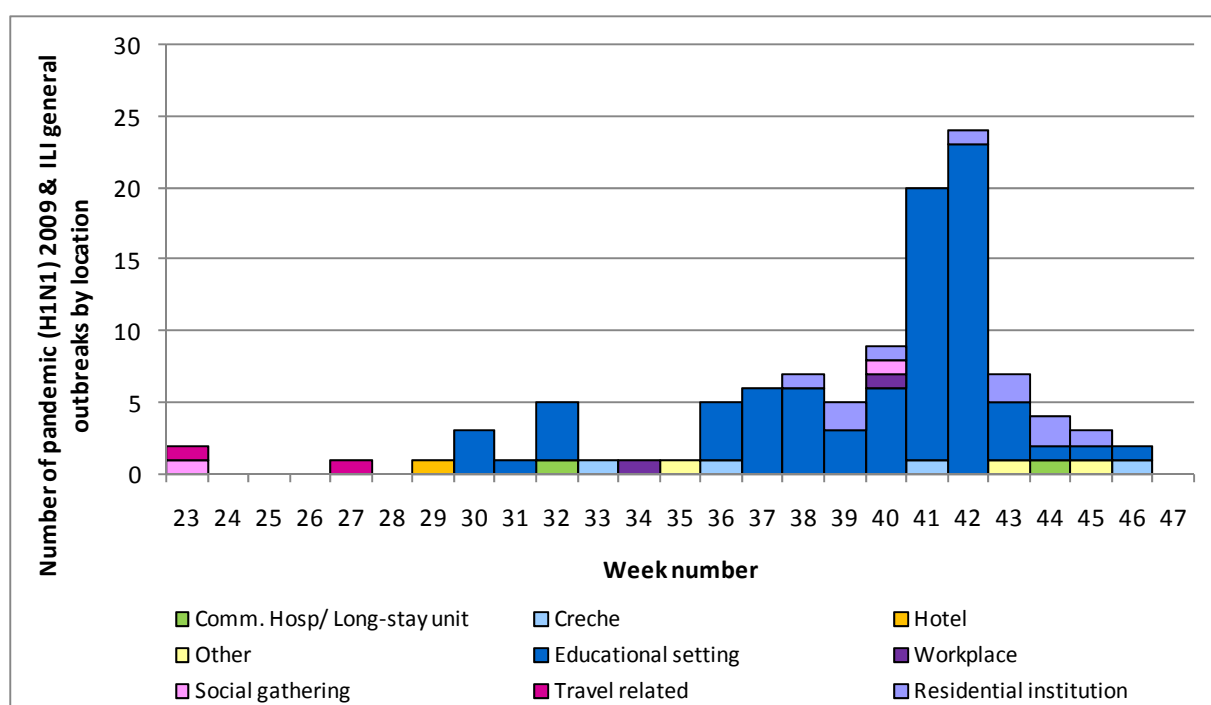


Figure 10: Number of pandemic (H1N1) 2009 and ILI general outbreaks by location and week number \*\*\*\*

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 47 above is equivalent to week 48 on the influenza system.

**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	2	10	4
Crèche	4	41	6
Hotel	1	3	1
Other	3	30	8
Educational setting	82	2203	131
Residential institution	10	90	34
Social gathering	2	4	3
Travel related	2	9	8
Workplace	2	5	2
<b>Total</b>	<b>108</b>	<b>2395</b>	<b>197</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	28	543	42
HSE-M	0	0	0
HSE-MW	7	32	21
HSE-NE	15	528	31
HSE-NW	10	384	29
HSE-SE	10	193	10
HSE-S	27	293	35
HSE-W	11	422	29
<b>Total</b>	<b>108</b>	<b>2395</b>	<b>197</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	33	264	1033	90	7	0	960	<b>2395</b>

## International summary

The total numbers of confirmed cases and deaths reported worldwide by the World Health Organization (WHO) region are shown in table 11. The data shown are likely to underestimate the actual number of cases as many countries have now moved to selective testing policies.

**Table 11: Reported number of confirmed pandemic (H1N1) 2009 cases and deaths by WHO region**

Source: WHO 22<sup>nd</sup> November 2009

WHO Region	Cumulative total as of 22 <sup>nd</sup> November 2009	
	Cases <sup>++++</sup>	Deaths
Africa (AFRO)	15,503	104
Americas (AMRO)	190,765	5,360
Eastern Mediterranean (EMRO)	38,359	330
Europe (EURO)	Over 154,000	At least 650
South-East Asia (SEARO)	47,059	738
Western Pacific (WPRO)	176,796	644
<b>Total</b>	<b>Over 622,482</b>	<b>At least 7,826</b>

## United Kingdom

During week 47 (16-22 November 2009), the weekly influenza/ILI consultation rate increased slightly in England and decreased or remained stable in Scotland, Wales and Northern Ireland. The majority of pandemic influenza cases continue to be mild. The cumulative number of deaths reported to be due to pandemic (H1N1) 2009 is 240. There were 1,463 patients hospitalised in England with suspected pandemic influenza in the week from 19-25 November, a decrease from 1,483 in the previous week. The hospitalisation rates have increased in the under 5-year age group, but have decreased in most other age groups recently. The main influenza virus circulating in the UK continues to be the pandemic (H1N1) 2009 strain, with few influenza H1 (non-pandemic), H3 and B viruses detected.

[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 47, one country (Sweden) reported very high intensity, 14 countries (Bulgaria, Denmark, Estonia, Germany, Greece, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Norway, Poland, Slovenia and Spain) reported high intensity, nine countries reported medium intensity and no country reported low intensity.

Thirteen countries reported an increase in influenza activity compared to seventeen in the previous week. Countries in Central and Eastern Europe reported a sharp increase in activity. Luxemburg, Portugal, Spain, Sweden and parts of the UK (England and Scotland) reported stable activity. Six countries (Belgium, Bulgaria, Iceland, Ireland, Norway, Netherlands) and parts of the UK (Northern Ireland and Wales) reported decreasing trends. Belgium, Bulgaria, Iceland, Ireland, Norway and the UK (Northern Ireland), reported decreasing trends in week 46 as well.

In most countries where influenza activity has risen above baseline levels, the most affected group includes those younger than 15 years. The proportion of sentinel specimens that are confirmed influenza is 44%, a high level, normally only seen during the peaks of previous winter influenza epidemics.

A total of 858 deaths in Europe and EFTA countries have been reported since April 2009. Since week 41, the numbers of deaths each week has shown a steady increase almost doubling every fortnight over the last six

<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.



weeks, although there was only a 6% increase in week 47, compared to the previous week. While most deaths have been in Western Europe there are increasing numbers of deaths being reported from Central and Eastern Europe.

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

Following initial reports from Norway, WHO has noted that a spontaneous mutation in the haemagglutinin gene D222G has been observed in at least seven countries world-wide. These spontaneous mutations were first detected during the month of April in Mexico and the USA. Finnish and French virologists reported another three cases last week. As in a number of cases, the viruses were isolated from two patients with very severe illness who subsequently died. WHO and ECDC are currently assessing the public health significance of this mutation.

[http://www.ecdc.europa.eu/en/healthtopics/Documents/091130\\_Influenza\\_AH1N1\\_Situation\\_Report\\_0900hrs.pdf](http://www.ecdc.europa.eu/en/healthtopics/Documents/091130_Influenza_AH1N1_Situation_Report_0900hrs.pdf)

## **USA**

During week 47 (15-21 November), influenza activity continued to decrease in the U.S. The proportion of outpatient visits for influenza-like illness (ILI) was 4.3% which is above the national baseline of 2.3%. All 10 regions reported ILI above region-specific baseline levels. The proportion of deaths attributed to pneumonia and influenza (8.2%) in week 47 was above the epidemic threshold (7.0%) for the eighth consecutive week. Of the thirty-five influenza-associated pediatric deaths which were reported to CDC during week 47, 27 of these deaths were associated with pandemic influenza A (H1N1) 2009 infection, seven were associated with an influenza A virus for which the subtype is undetermined, and one was associated with a seasonal influenza A (H1) virus infection. This brings the total of paediatric deaths to 198. During week 47, 1,880 (20.5%) specimens tested by collaborating laboratories and reported to CDC/Influenza Division were positive for influenza. Over 99% of all subtyped influenza A viruses being reported to CDC were pandemic influenza A (H1N1) 2009 viruses. Thirty two states reported geographically widespread influenza activity.

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

## **Canada**

During week 47 (15-21 November 2009), the activity level decreased compared to the previous week. All influenza indicators declined during week 47. A possible influenza peak has been reached by all provinces and territories. The Pandemic (H1N1) 2009 strain accounted for nearly 100% of the positive influenza A subtyped specimens. During week 47, the intensity of Pandemic (H1N1) 2009 in the population was still high with 1,554 hospitalisations, 243 ICU admissions and 61 deaths reported. From August 30 to November 21 2009, a total of 5,507 hospitalised cases including 819 cases admitted to ICU (14.9%), as well as 203 deaths have been reported. While the number of hospitalised cases, ICU admissions and deaths reported in week 47 decreased, the number of hospitalisations was higher than the overall number of hospitalisations for the first wave. The proportion of severe cases (ICU admissions and deaths) among all hospitalised cases was lower in the second wave than in the first wave.

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

## **New Zealand**

During week 47 (16-22 November 2009), there was a slight increase in consultations for influenza-like illness through sentinel surveillance. The highest ILI consultation rates have been reported among children and teenagers aged 0 to 19 years. During week 47, one influenza virus was reported as pandemic (H1N1) 2009 from the sentinel surveillance.

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

## Australia

During week 47, (14-20 November), national influenza activity remained stable with ILI rates below the baseline level reached at the end of the 2007 and 2008 seasons. There were five new laboratory confirmed Pandemic (H1N1) 2009 cases reported in week 47. The number of people with Pandemic (H1N1) requiring hospitalisation continued to decrease. In total, 4,855 people had been hospitalised, with 13% admitted to ICU. Type A influenza is the predominant seasonal influenza type reported by all jurisdictions and the pandemic strain has almost replaced the current seasonal H1N1 virus. As of 20<sup>th</sup> November 2009, there were 37,269 confirmed cases of pandemic (H1N1) 2009 and 190 (0.5%) deaths associated with pandemic (H1N1) 2009. <http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflucurrent.htm>

## Other countries

As of 27<sup>th</sup> November 2009 <http://www.who.int/csr/disease/swineflu/updates/en/>

- **East Asia:** In East Asia, influenza transmission remains active. Intense influenza activity continues to be observed in Mongolia but has peaked already. In Japan, influenza activity remains stably elevated but may be decreasing slightly in populated urban areas.
- **South Asia:** ILI activity in India, Nepal and Sri Lanka has increased.
- **Central and South America:** In the tropical areas of Central and South America, most countries continue to report declining influenza activity, with the exception of Ecuador and Venezuela.

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

Ireland [www.hpsc.ie](http://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.

### ICU enhanced surveillance system:

On October 5<sup>th</sup> 2009, enhanced ICU surveillance system of confirmed cases of pandemic (H1N1) 2009 commenced in Ireland. It is a collaborative project between ICU medical and nursing staff, hospital administrators, departments of public health and the Health Protection Surveillance Centre. Forty hospitals (35 public and 5 private) currently participate in the surveillance scheme.

This system relates to adult, paediatric and neonatal confirmed and probable cases of pandemic (H1N1) 2009 admitted to intensive care units (ICU). The principal aim of the surveillance system is to report on the demographic profile (age, sex,) of all cases of pandemic (H1N1) 2009 admitted to ICU with details of predisposing risk factors, medical interventions and complications and clinical outcome. This information is used in conjunction with surveillance data from a number of other sources as follows: mortality data, data on laboratory confirmed cases, virology data and data on ILI consultation rates from sentinel GP practices.

A more detailed description of this system is available at:

<http://ndsc.newsweaver.ie/newepiinsight/rqnq2ayeg0sugy02flxkl0>