Influenza Surveillance in Ireland - Weekly Update

Influenza Week 45 2009 (2nd to 8th November 2009)

Summary

- There is now clear evidence of continuing widespread influenza activity in Ireland, with a further decrease noted in most indices during week 45:
  - The sentinel GP influenza-like illness (ILI) consultation rate was 174.8 per 100,000 population in week 45, a slight decrease compared to the updated rate of 179.1 per 100,000 reported during week 44.*
  - In week 45, the highest sentinel GP age-specific ILI consultation rates occurred in the 0-4 and 5-14 year age groups. Rates in these age groups have decreased compared to week 44.
  - The number of laboratory confirmed cases of pandemic (H1N1) 2009 remained stable.
  - The number of hospitalised cases of confirmed pandemic (H1N1) 2009 decreased by 10% this week.
  - The number of hospitalised cases of confirmed pandemic (H1N1) 2009 admitted to ICU this week was 7, a decrease compared to 13 ICU admissions during the previous week.
  - No increase in the proportion of respiratory admissions from any of the sentinel hospitals was reported during influenza week 45 2009 while two hospitals reported a decrease.
  - The number of pandemic (H1N1) 2009 and ILI outbreaks reported decreased further during week 45 with four outbreaks reported.
  - The proportion of flu–related calls to GP Out-of-Hours services increased slightly during week 45.
  - Pandemic (H1N1) 2009 is the only influenza virus circulating; in week 45, 100% of specimens positive for influenza were pandemic (H1N1) 2009.
  - The proportion of sentinel specimens testing positive for pandemic (H1N1) 2009 was 35.8% during week 45, a decrease compared to 57.6% positive during week 44.*
- Based on the surveillance of laboratory confirmed cases of pandemic (H1N1) 2009, as of 7th November:
  - 3,647 confirmed cases have been notified in Ireland.
  - Children and young adults remain the most affected groups; 81.1% of cases are less than 35 years of age.
  - Clinical illness continues to be mild in the majority of cases .
- Fifteen deaths in confirmed cases of pandemic (H1N1) 2009 have been reported to date (11th November).

*Since the last report, extra information on the number of ILI consultations and positive influenza specimens occurring in week 44 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 45 2009, 49 of 61 (80.3%) ICGP sentinel general practices provided data, with 43 practices (70.5%) reporting 321 influenza-like illness (ILI) cases and 18 practices reporting no ILI cases. This corresponds to an ILI consultation rate of 174.8 per 100,000 population, which is a slight decrease compared to the updated rate of 179.1 per 100,000 population reported during week 44 2009.[†] 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 unsubtyped isolates (probable pandemic (H1N1) 2009) are specimens that are awaiting laboratory confirmation as pandemic (H1N1) 2009.

[†] Since the last report, extra information on the number of ILI consultations occurring in week 44 was provided by sentinel GPs and the rate for the week was adjusted accordingly

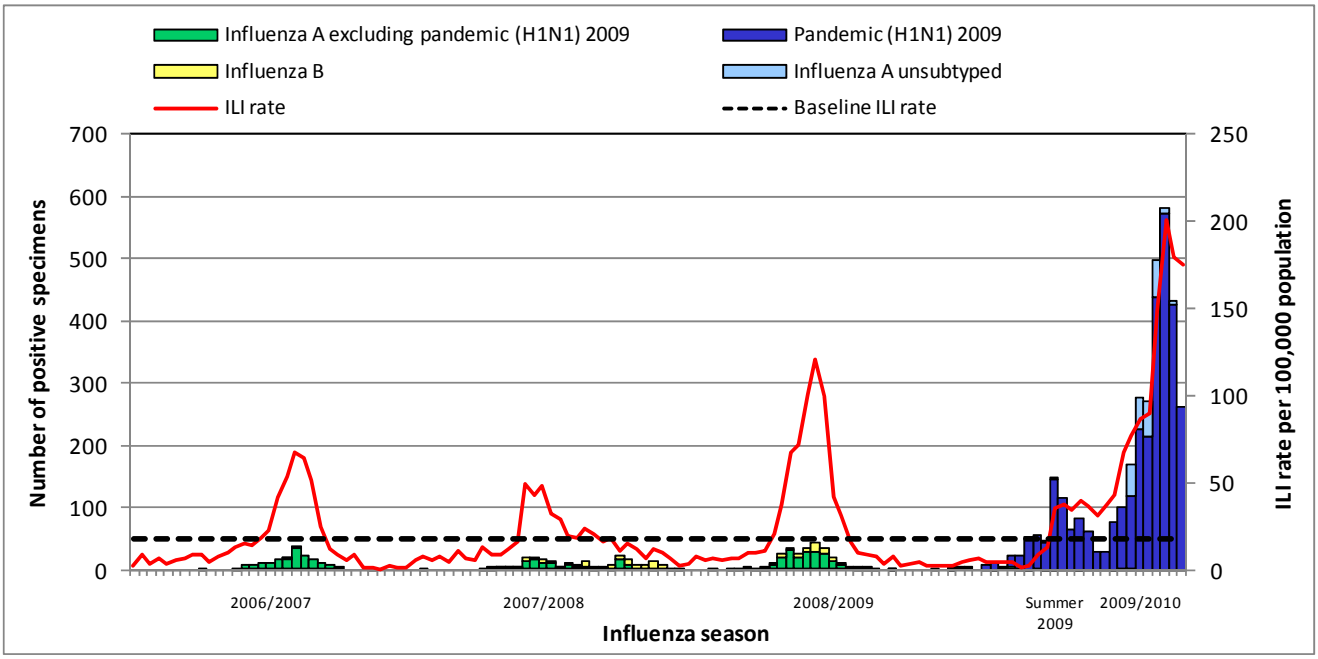

Figure 1. ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza specimens, by influenza week and season[‡]

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

During week 45 2009, sentinel GPs reported 35 ILI cases in the 0-4 year age group (267.3 per 100,000 population), 57 cases in the 5-14 year age group (234.1 per 100,000 population), 226 cases in the 15-64 year age group (179.5 per 100,000 population) and three cases in those aged 65 years and older (14.8 per 100,000 population) (figure 2).

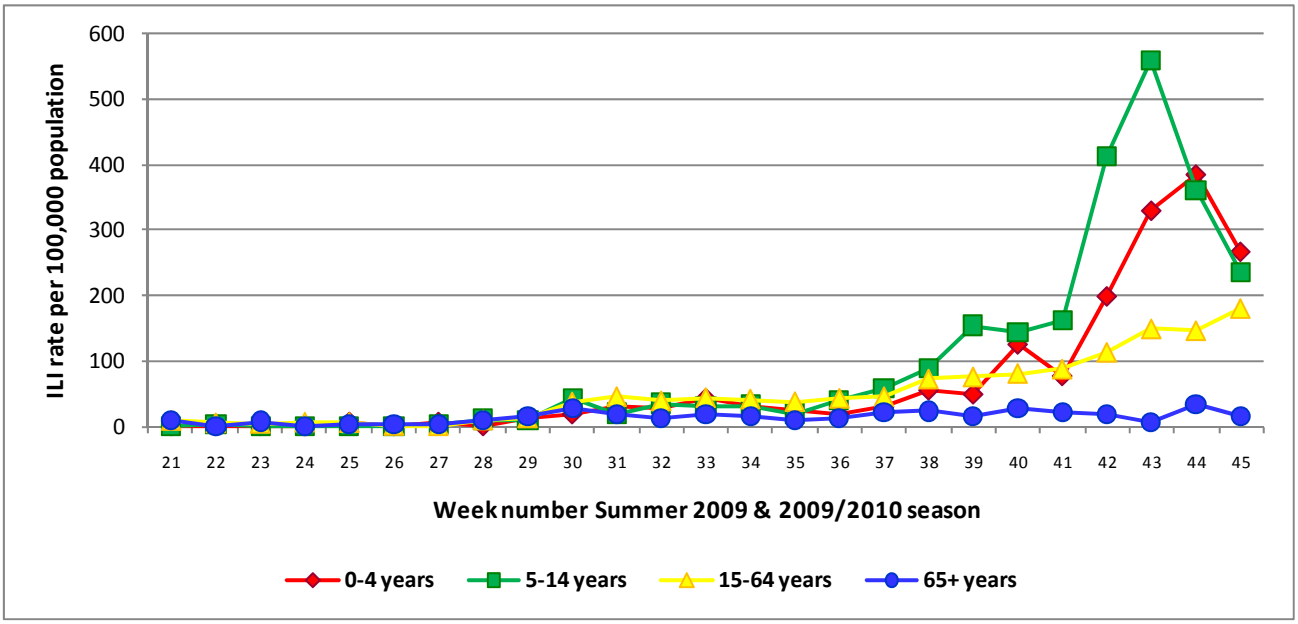

Figure 2: Age specific sentinel GP consultation rate for ILI per 100,000 population by week during the Summer 2009 and 2009/2010 influenza seasons

Source: ICGP ILI clinical data

[‡] 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 45 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, -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-MW, -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).

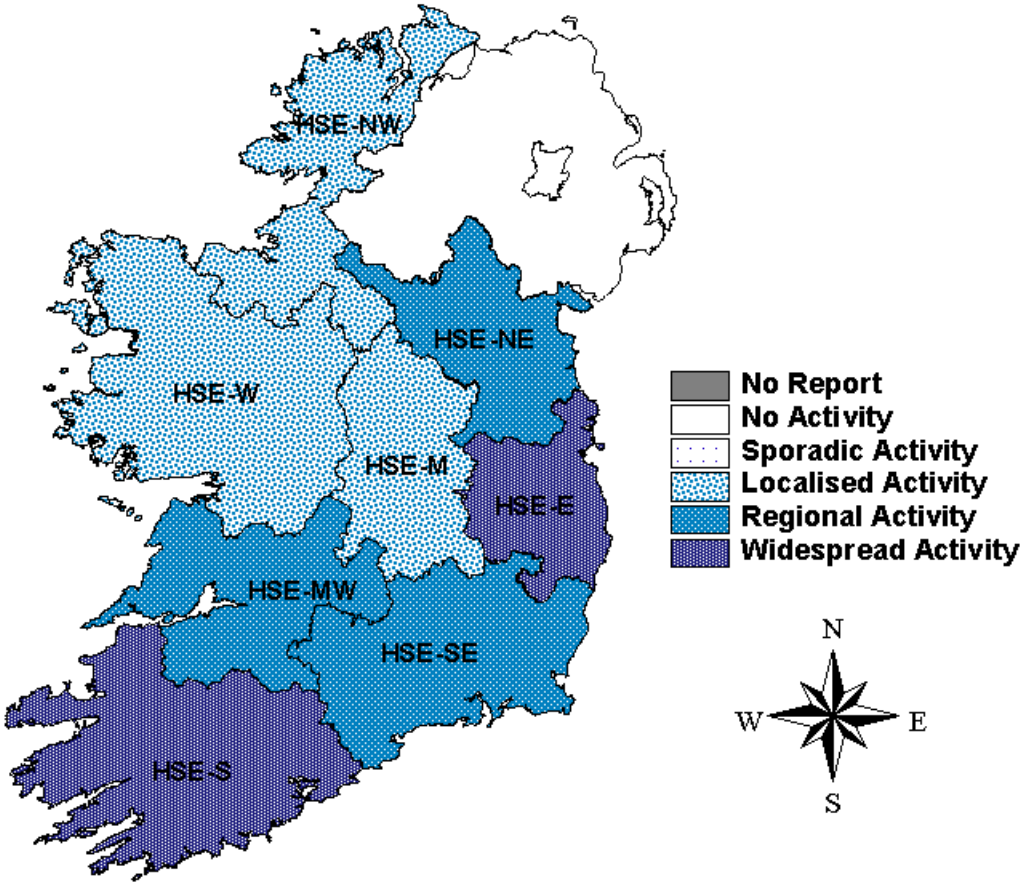

Figure 3: Map of provisional influenza activity by HSE area during influenza week 45 2009

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 45 2009, hospital and school sentinel data were received from all eight HSE areas. No increase in the proportion of respiratory admissions from any of the sentinel hospitals was reported during influenza week 45 2009. Three primary schools (HSE-MW & -SE) and one secondary school (HSE-NW) reported a moderate increase in absenteeism during week 45.

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 slight increase in the percentage of flu-related calls from 10.3% during week 44 to 11.1% during week 45 (figure 4).

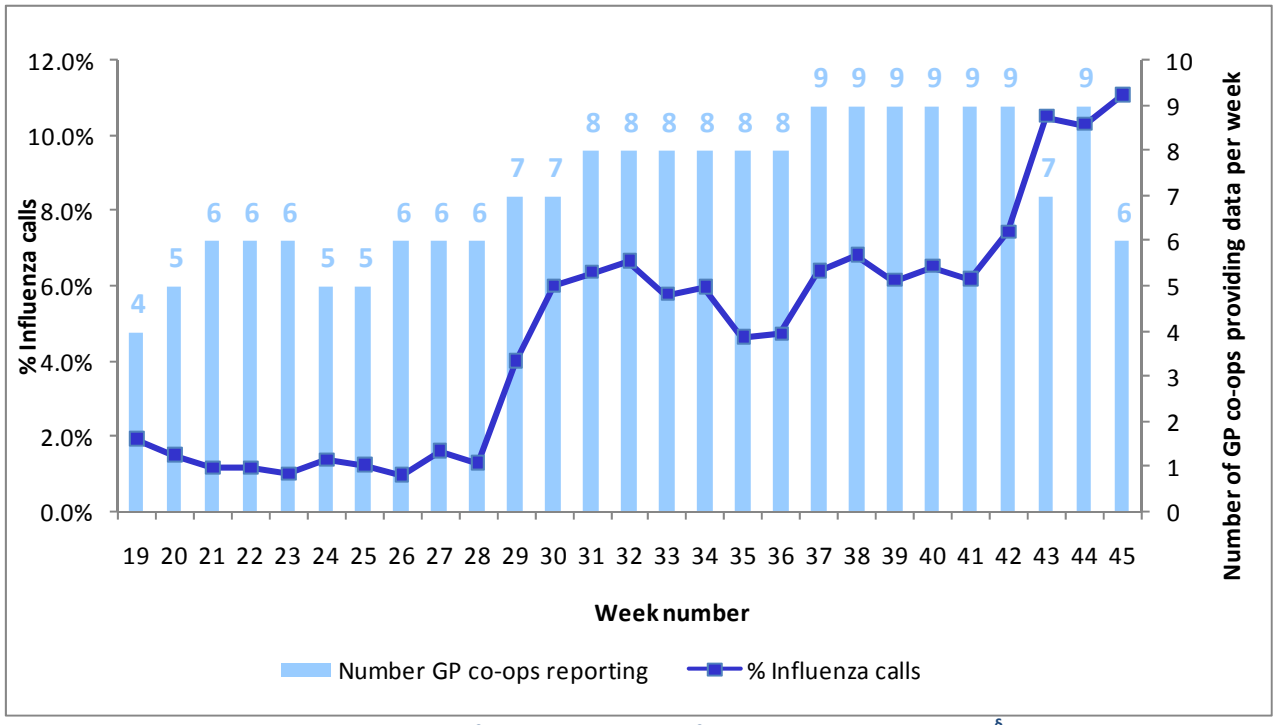

Figure 4: Flu-related calls as a proportion of total calls to Out-of-Hours GP Co-ops by week[§]

Source: HSE-NE.

[§] Week 45: data received from CARE-Doc, D-Doc, K-Doc, NE-Doc, NoW-Doc, Shan-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)

One hundred and nine specimens from sentinel GPs were tested by the NVRL during week 45 2009, 39 (35.8%) of which were positive for pandemic (H1N1) 2009.

The NVRL also tested 616 non-sentinel specimens taken during the same week. Of these, 151 (24.5%) were positive for pandemic (H1N1) 2009. Ten specimens tested positive for RSV (1.6%) and one specimen was positive for parainfluenza virus type 1 (table 1 and table 3). No specimens were positive for other influenza A subtypes, influenza B, adenovirus 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 96 non-sentinel specimens taken during week 45 2009, 30 (31.2%) of which were positive for pandemic (H1N1) 2009 (table 2).

CUH tested 175 non-sentinel specimens taken during week 45 2009, 43 (24.6%) of which were positive for pandemic (H1N1) 2009 (table 2).

Pandemic (H1N1) 2009 is the main influenza virus circulating. During week 45, 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 99.2% of influenza positive specimens (table 1).

During week 45, the percentage of sentinel and non-sentinel specimens testing positive for pandemic (H1N1) 2009 was 26.4%, a decrease compared to 39.5% positive during week 44. 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.

[**] 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

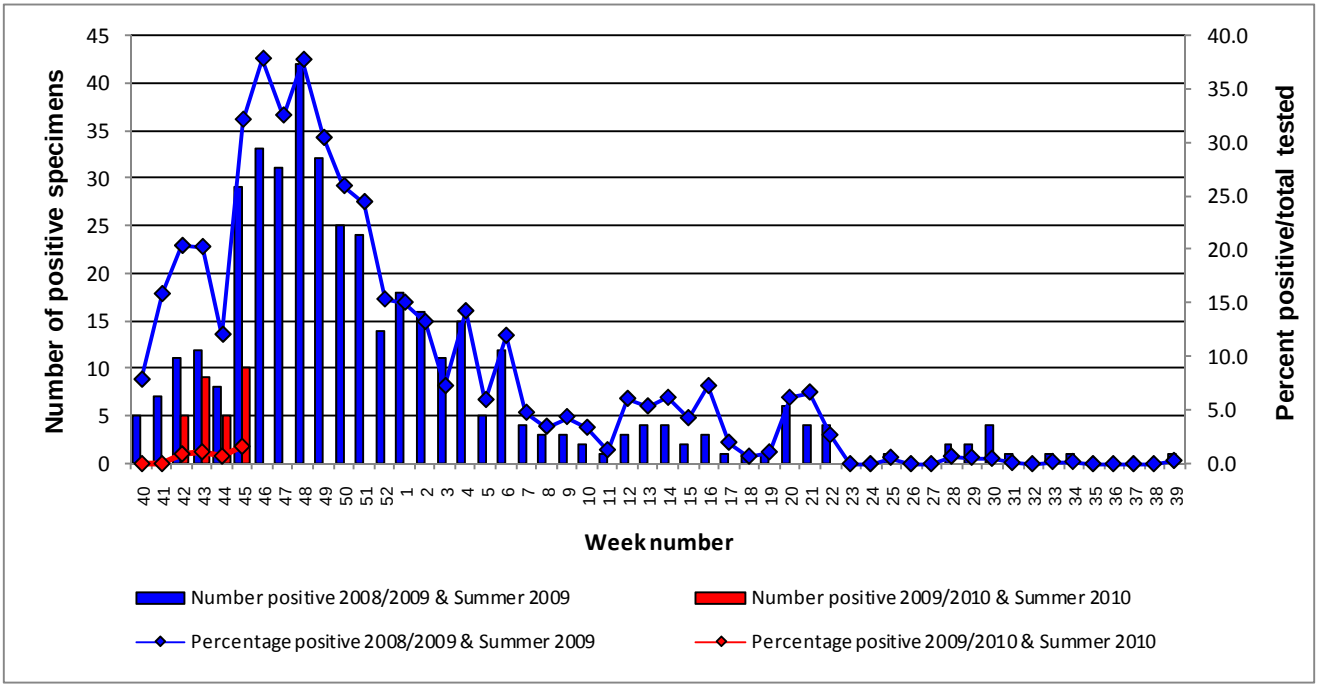

Figure 5: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2009/2010 and Summer 2010 influenza seasons, compared to the 2008/2009 and Summer 2009 influenza seasons

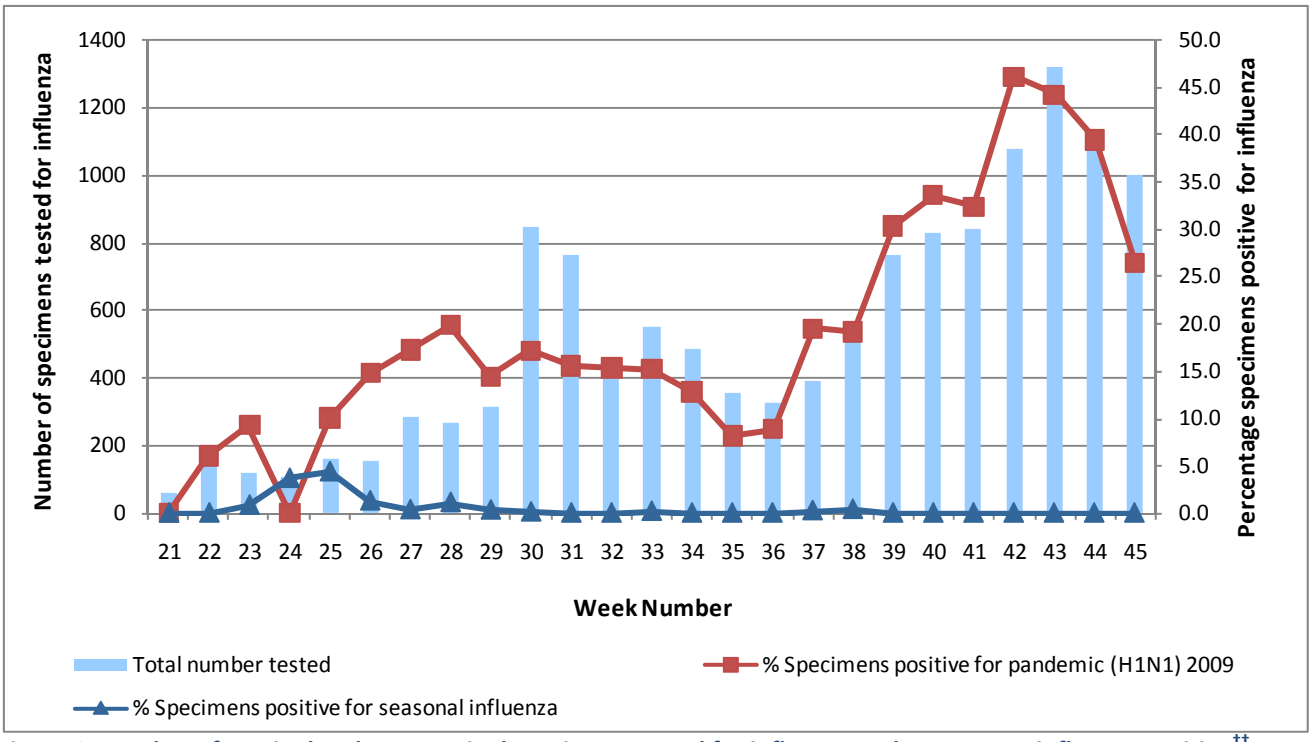

Figure 6: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive[††]

Source: NVRL, CUH & UCHG

[††] Please note that virological data 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 45 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
45 2009	Sentinel	109	39	35.8	39	0	0	0	0	0	100.0
	Non-sentinel	887	224	25.3	224	0	0	0	0	0	100.0
	Total	**996**	**263**	**26.4**	**263**	**0**	**0**	**0**	**0**	**0**	100.0
Summer 2009 & 2009/2010 seasons to date	Sentinel	1540	573	37.2	570	0	3	0	0	0	99.5
	Non-sentinel	12586	3157	25.1	2906	226	0	0	22	3	99.2
	Total	**14126**	**3730**	**26.4**	**3476**	**226**	**3**	**0**	**22**	**3**	99.2

Table 2: Number of non-sentinel respiratory specimens tested and positive results by laboratory, influenza week 45 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
45 2009	NVRL	616	151	24.5	151	0	100.0	0	0
	CUH	175	43	24.6	43	0	100.0	0	0
	UCHG	96	30	31.2	30	0	100.0	0	0
	Total	**887**	**224**	**25.3**	**224**	**0**	**100.0**	**0**	**0**
Summer 2009 & 2009/2010 season to date	NVRL	9685	2082	21.5	2054	4	98.8	21	3
	CUH	1954	643	32.9	421	222	100.0	0	0
	UCHG	947	432	45.6	431	0	99.8	1	0
	Total	**12586**	**3157**	**25.1**	**2906**	**226**	99.2	**22**	**3**

Table 3: Number of non-sentinel specimens tested by the NVRL for other respiratory pathogens and positive results, influenza week 45 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
45 2009	616	10	1.6	0	0.0	1	0.2	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	3592	29	0.8	2	0.1	4	0.1	0	0.0	0	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 7th November 2009, a total of 3,647 confirmed cases of pandemic (H1N1) 2009 infection were reported. [§§] Figure 7 shows the number of confirmed pandemic (H1N1) 2009 cases by week of notification and hospitalisation status.

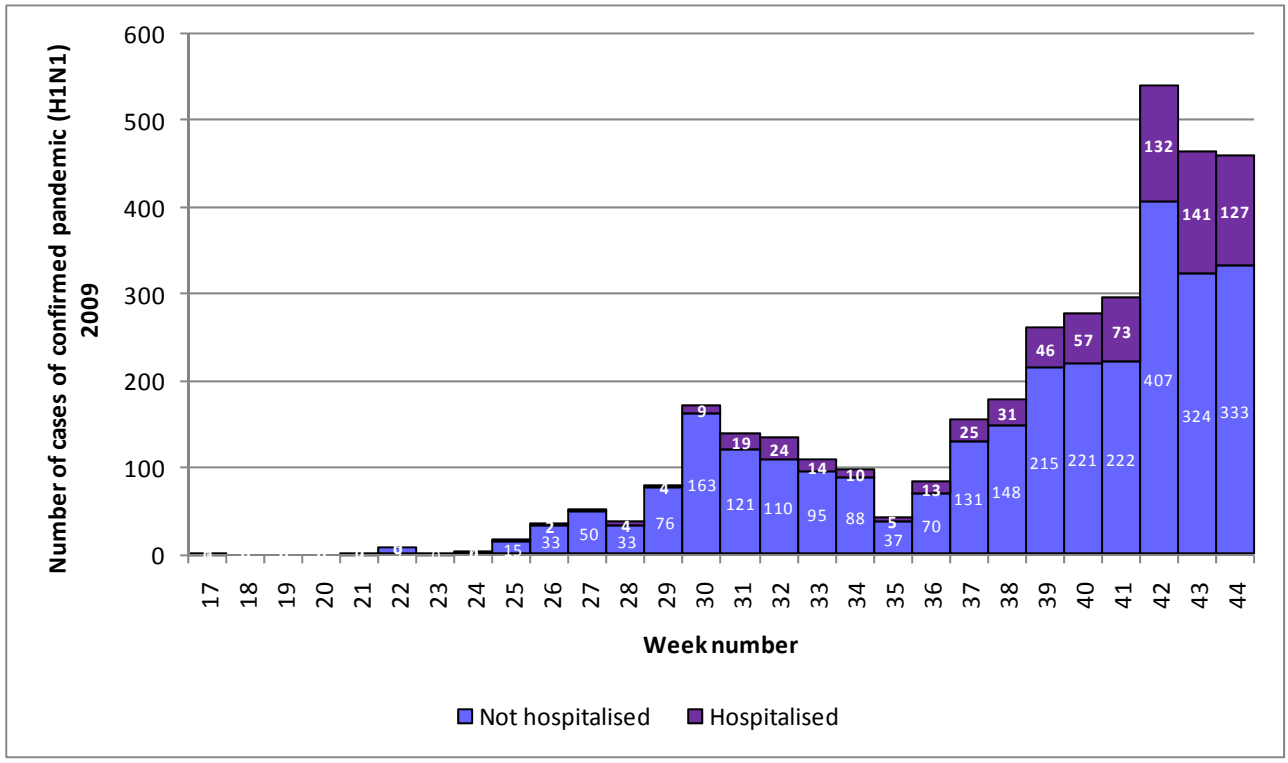

Figure 7: Number of confirmed cases of pandemic (H1N1) 2009 by week of notification and hospitalisation status [***]
Source: CIDR

Age and Sex

Of the 3,647 confirmed cases reported to 7th November, 1,953 were female (53.6%), 1,678 were male (46.0%) and sex was not reported for 16 cases (0.4%). The median age of cases was 18 years (range: 0-84 years) and 81.1% 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 noted in the 0-4 year age group since week 40.

[§§] 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 17-44 above is equivalent to weeks 18-45 on the influenza system.

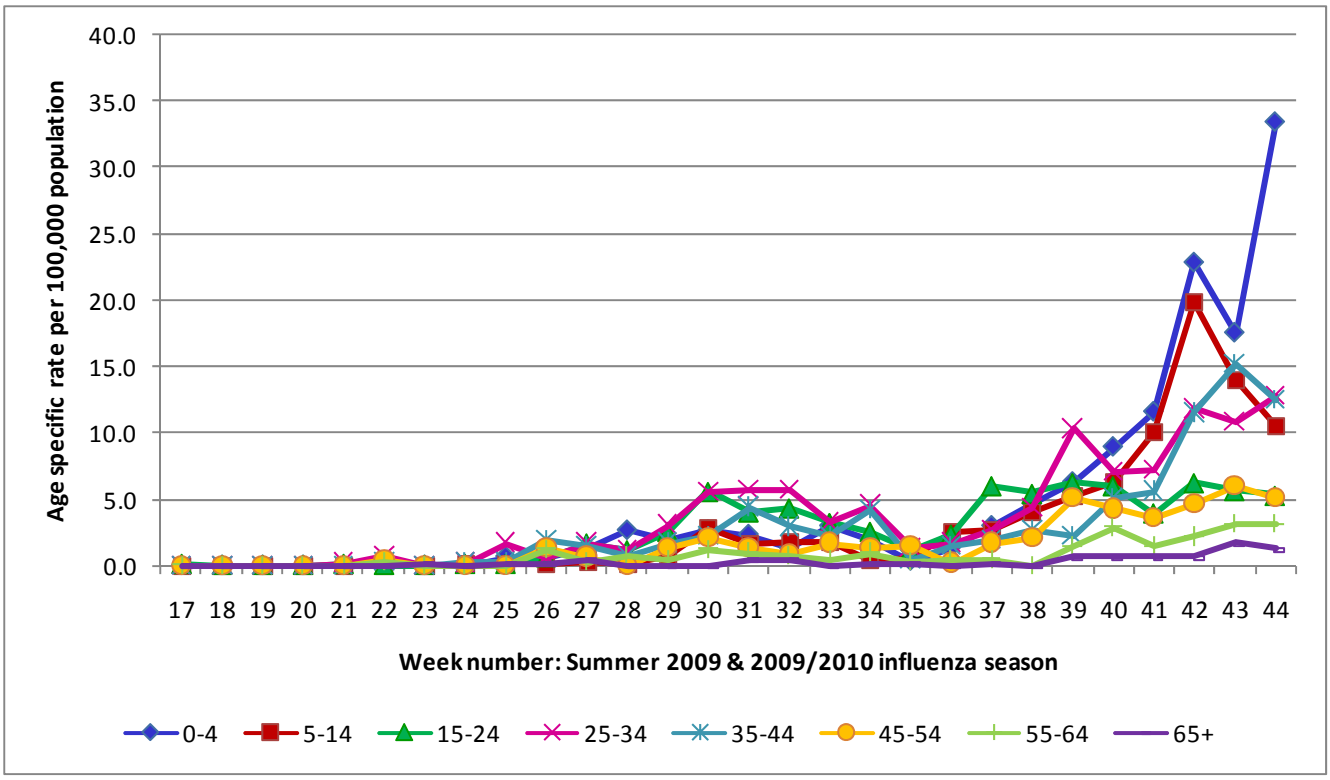

Figure 8: Age specific notification rate per 100,000 population of confirmed cases of pandemic (H1N1) 2009 by week of notification***

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 44 was in HSE-S (16.1 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 44[†††]: 1st to 7th November2009		Week 17 - Week 44 2009	
	Number of confirmed cases	Rate per 100,000 population	Number of confirmed cases	Rate per 100,000 population
HSE-E	170	11.3	1185	79.0
HSE-M	23	9.1	124	49.3
HSE-MW	22	6.1	208	57.6
HSE-NE	21	5.3	266	67.5
HSE-NW	21	8.9	189	79.7
HSE-SE	51	11.1	249	54.0
HSE-S	100	16.1	762	122.7
HSE-W	52	12.6	664	160.3
Total	**460**	**10.8**	**3647**	**86.0**

[†††] 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 44 above is equivalent to week 45 on the influenza system.

Severity of illness

As of 7th November 2009, clinical illness continues to be mild in the majority of cases. Of the 3,647 confirmed cases, outcome was reported for 1,076 (29.5%) cases. Of the 1,076 confirmed cases where outcome was reported, 999 have recovered or are recovering (92.8%) and 61 are still ill (5.7%). To date (11th November) 15 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	2
45	1
Total	**15**

Reported complications have been mostly respiratory in nature; 122 cases developed pneumonia and 44 developed acute respiratory distress syndrome (ARDS). Other reported complications included chest infections, acute renal failure and multi-organ failure.

Hospitalised cases

Of the 3,647 confirmed cases, 739 (20.3%) were admitted to hospital. Of these, 65 (8.8%) were admitted to ICU. The number of laboratory confirmed cases who were hospitalised and admitted to ICU in week 44 was 7, a decrease compared to 13 cases admitted to ICU in week 43.‡‡‡ 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.

‡‡‡ ICU figures taken from the pandemic (H1N1) ICU enhanced surveillance system.

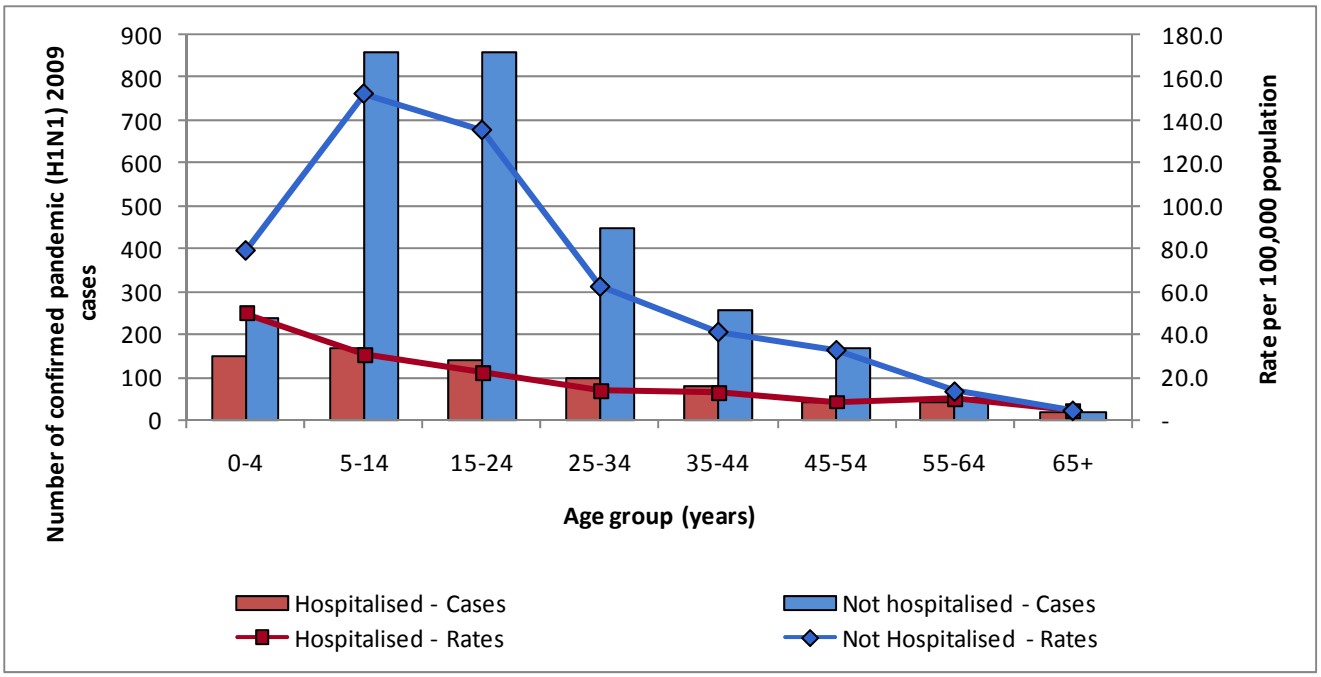

Figure 9: Cumulative numbers and age specific rates for confirmed cases of pandemic (H1N1) 2009 by hospitalisation status

Table 6: Cumulative number of hospitalised cases of confirmed pandemic (H1N1) 2009 by age group (years) and sex (Wk 17 – 44)

Source: CIDR

Age group (years)	Female	Male	Unknown	Total	Age specific hospitalisation Rate per 100,000 population	% of Total
0-4	71	79	0	**150**	*49.6*	*20.3*
5-14	67	102	1	**170**	*30.2*	*23.0*
15-24	85	54	0	**139**	*22.0*	*18.8*
25-34	68	29	0	**97**	*13.4*	*13.1*
35-44	49	27	1	**77**	*12.4*	*10.4*
45-54	25	18	0	**43**	*8.2*	*5.8*
55-64	19	22	0	**41**	*10.1*	*5.5*
65+	9	10	0	**19**	*4.1*	*2.6*
Age unknown	2	1	0	3	*n/a*	*0.4*
Total	**395**	**342**	**2**	**739**	*17.4*	*100.0*

Two hundred and ninety-eight (40.3%) 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 ≥40) and pregnancy. Approximately 25% (8 of 31) of 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 – 44)[§§§]
Source: CIDR

Risk group	Number of cases	% of hospitalised cases
On medication for asthma	90	12.2
Chronic respiratory disease	64	8.7
Immunosuppressed	49	6.6
Pregnant	45	6.1
Chronic heart disease	35	4.7
Chronic neurological disease	29	3.9
Diabetes mellitus	22	3.0
Haemoglobinopathies	21	2.8
Renal disease	17	2.3
Chronic liver disease	9	1.2
Severely obese (BMI ≥ 40)	6	0.8

[§§§] Cases may belong to more than one risk group

5. Outbreak surveillance (CIDR)

As of 7th November 2009, 102 general outbreaks of pandemic (H1N1) 2009 and ILI have been reported in Ireland since week 23 2009. These outbreaks involved 2,300 people in total, of which 186 (8.1%) 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 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 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).

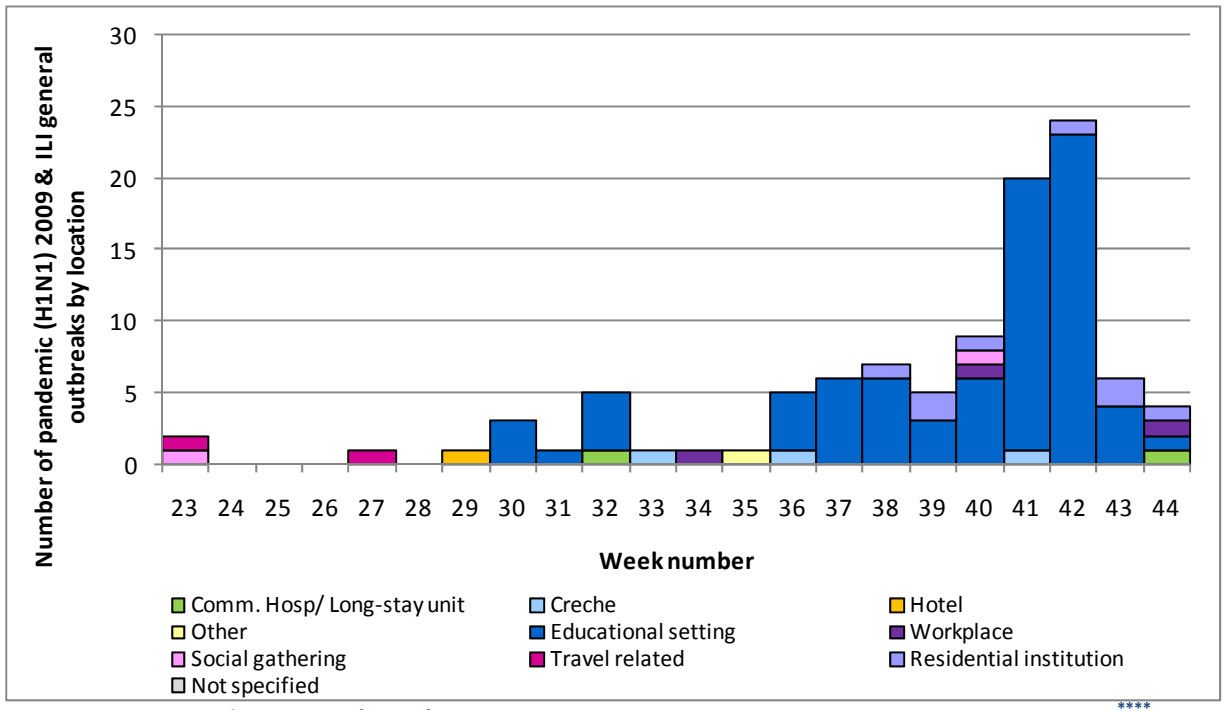

Figure 10: Number of pandemic (H1N1) 2009 and ILI general outbreaks by location and week number ****

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 44 above is equivalent to week 45 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	3	31	5
Hotel	1	3	1
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
Total	**102**	**2300**	**186**

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	27	539	38
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
Total	**102**	**2300**	**186**

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	87	7	0	921	**2300**

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 1st November 2009

WHO Region	Cumulative total as of 1st November 2009	
	Cases††††	Deaths
Africa (AFRO)	14109	76
Americas (AMRO)	185067	4399
Eastern Mediterranean (EMRO)	22689	137
Europe (EURO)	Over 78000	At least 300
South-East Asia (SEARO)	44147	661
Western Pacific (WPRO)	138288	498
Total	**Over 482300**	**At least 6071**

United Kingdom

During week 44 pandemic influenza activity decreased across the UK, but remained above the winter baseline thresholds, in England, Scotland and Northern Ireland. Week 44 (26th October to 1st November) was the half-term holiday for most schools across the UK and this may have affected some of the indicators, although it is unclear to what extent. Although most cases continue to be mild, 151 people have died to date. There were a total of 1431 new patients hospitalised in England with suspected pandemic influenza in the week from 29th October to 4th November, an increase from 1200 in the previous week. The highest hospitalisation rates have consistently been in the under 5-year age group and have increased in all age groups recently. Three of 2,437 (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

Europe

During week 44 2009, Iceland and Ireland reported very high activity, while Bulgaria, Italy, the Netherlands, Norway, Sweden and the UK (Northern Ireland) reported high activity. Eight countries reported medium activity. In countries where influenza levels have risen above baseline activity levels, the most affected age group has been 0–15 year-olds. Ten countries reported widespread activity and three reported regional activity. An updated pandemic risk assessment was published by ECDC on the 6th November which is available at:http://www.ecdc.europa.eu/en/healthtopics/Pages/Influenza_A%28H1N1%29_Risk_Assessment.aspx
http://ecdc.europa.eu/en/publications/Pages/Publications.aspx

USA

During week 44 (October 25th-31st, 2009), influenza activity remained elevated in the U.S. The proportion of outpatient visits for influenza-like illness (ILI) was 7.7%, a decrease from last week (8.0%) and 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 (7.4%) was above the epidemic threshold (6.7%). Eighteen

†††† 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.

influenza-associated paediatric deaths were reported in week 44, fifteen associated with Pandemic (H1N1) 2009, and three associated with influenza A with subtype undetermined. During week 44, 5,258 (37.2%) 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 44 (October 25th-31st, 2009), considerable increases in overall influenza activity were reported with the proportion of positive influenza tests being more than 35%, the national ILI consultation rate higher than 100 per 1,000 visits and over 700 influenza outbreaks reported. This increased activity occurred in almost all provinces and territories. The national ILI consultation rate was 111 consultations per 1,000 visits, an increase compared to the previous week's reported rate (59 per 1,000 visits), and is above the expected range for this time of the year. During week 44, the intensity of Pandemic (H1N1) 2009 in the population was high with 661 hospitalisations and 8 deaths reported. Numbers of new hospitalizations were more than three times higher than last week.
Since the beginning of the pandemic (April 12, 2009 to October 31, 2009), the national cumulative crude hospitalization rate is 7.3 per 100,000 population and the national cumulative crude mortality rate is 0.3 per 100,000 population.
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 44 (26th October - 1st November 2009). The highest ILI consultation rates have been reported among children and teenagers aged 0 to 19 years. During week 44, a total of 2 swabs were received by the virology laboratories, one was 2009 influenza A (H1N1) and one was influenza A with subtype undetermined.
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 30th 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 6th November 2009

- **Ukraine:** As of 8th November, the country has now recorded more than 969, 247 cases of influenza-like illness. A total of 48,972 persons have been hospitalised and of them 155 people died. Influenza A (H1N1) has been identified in a number of samples in domestic laboratories and confirmed by the WHO's reference laboratory in London. A 9-person WHO outbreak assessment team, including experts from ECDC and EU Member States has been deployed at the request of the ministry of health in Ukraine to characterize the clinical and epidemiological features of the outbreak. More information is available at: EpiNorth
- **East Asia**: In East Asia, intense and increasing influenza activity continues to be reported in Mongolia. In China, after an earlier wave of mixed influenza activity (seasonal H3N2 and pandemic H1N1), pandemic H1N1 influenza activity now predominates and is increasing. Sharp increases in pandemic influenza activity continue to be reported throughout Japan with highest rates of illness being reported on the northern island.
- **Africa**: As of 9th November, 29 countries in Africa have officially reported 14,868 laboratory confirmed human cases of pandemic (H1N1) 2009 including 103 deaths. The vast majority of the confirmed cases were reported by South Africa, with 12,619 cases.
- **Tropical zones:** Active influenza transmission and increasing levels of respiratory diseases continues to be reported in parts of the Caribbean. Mexico has reported more confirmed cases since September than during the springtime epidemic. Most other countries in the tropical region of Central and South America continue to report declining influenza activity. With the exception of Nepal, Sri Lanka, and Cambodia, overall transmission continues to decline in most but not all parts of tropical 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 18th 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	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 5th 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