Influenza Surveillance in Ireland - Weekly Update

Influenza Week 4 2010 (25th to 31st January 2010)

Summary

- Influenza activity in Ireland decreased during week 4:
  - The sentinel GP influenza-like illness (ILI) consultation rate was 7.5 per 100,000 population during week 4, a decrease compared to the updated rate of 12.5 per 100,000 reported during week 3*.This rate is below the Irish baseline threshold of 17.8 per 100,000 population.
  - The highest sentinel GP age-specific ILI consultation rate occurred in the 15-64 year age group (9.6 per 100,000 population) during week 4.
  - The number of laboratory confirmed cases of pandemic (H1N1) 2009 remained stable at two.
  - The number of hospitalised cases of confirmed pandemic (H1N1) 2009 also remained stable at one.
  - One hospitalised case of confirmed pandemic (H1N1) 2009 was admitted to ICU.
  - The proportion of flu–related calls to GP Out-of-Hours services remained stable.
  - No pandemic (H1N1) 2009, influenza or ILI outbreaks were reported.
  - Pandemic (H1N1) 2009 is the only influenza virus circulating; 100% of specimens positive for influenza were pandemic (H1N1) 2009
  - Respiratory Syncytial Virus (RSV) activity increased.
- Based on the surveillance of laboratory confirmed cases of pandemic (H1N1) 2009, as of 30th January:
  - 4,576 confirmed cases have been notified in Ireland.
  - Children and young adults remain the most affected groups; 80.1% of cases are less than 35 years of age.
  - Clinical illness continues to be mild in the majority of cases.
- Twenty-two deaths in confirmed cases of pandemic (H1N1) 2009 have been reported to date (3rd February).

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.

* Since the last report, extra information on the number of ILI consultations and positive influenza specimens occurring in week 3 was provided by sentinel GPs and the NVRL and the rate for the week was adjusted accordingly

1. GP sentinel surveillance system

Clinical Data

During week 4 2010, 53 of 60 (88.3%) ICGP sentinel general practices provided data, with 12 practices (20.0%) reporting 16 influenza-like illness (ILI) cases and 48 practices reporting no ILI cases. This corresponds to an ILI consultation rate of 7.5 per 100,000 population, which is a decrease compared to the updated rate of 12.5 per 100,000 population reported during week 3 2010 and is below the Irish baseline threshold[†].

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.

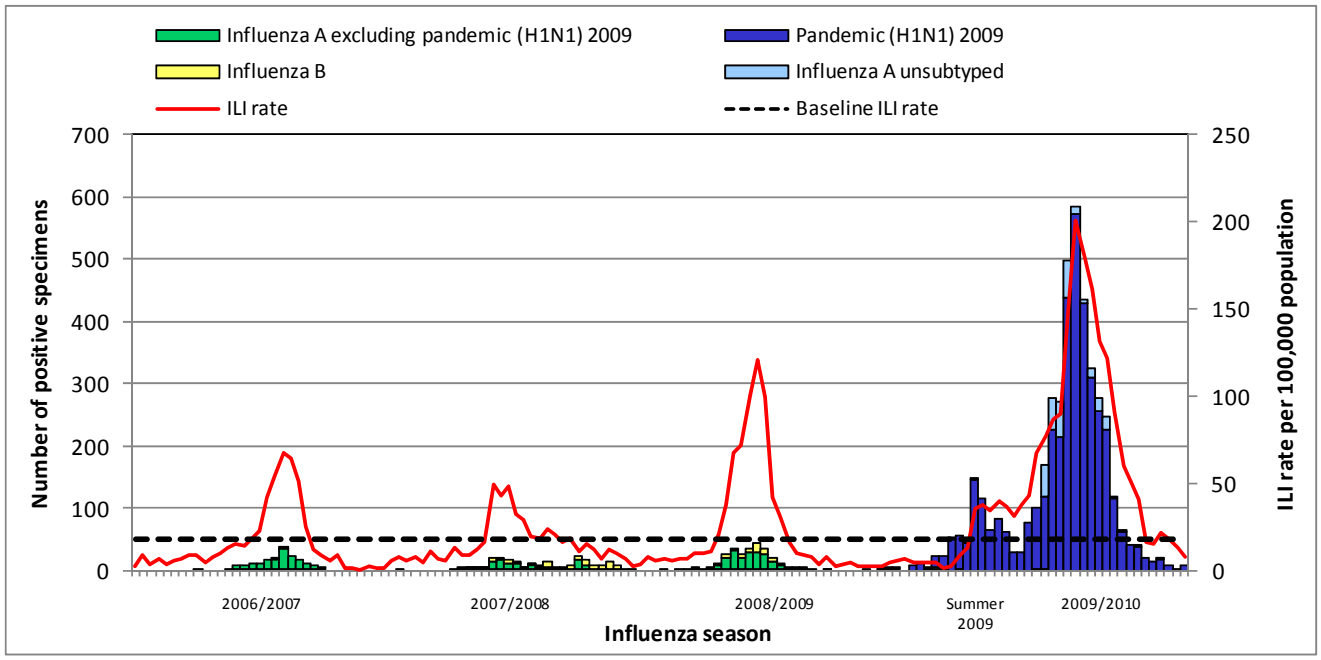

Figure 1: ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza specimens, by influenza week and season[‡]

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

During week 4 2010, sentinel GPs reported one ILI case in the 5-14 year age group (3.5 per 100,000 population), 14 cases in the 15-64 year age group (9.6 per 100,000 population) and one case was reported in those aged 65 years and older (4.2 per 100,000 population). No ILI cases were reported in the 0-4 year age group (figure 2).

[†] Since the last report, extra information on the number of ILI consultations and positive influenza specimens occurring in week 3 was provided by sentinel GPs and the NVRL and the rate for the week was adjusted accordingly

[‡] 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.

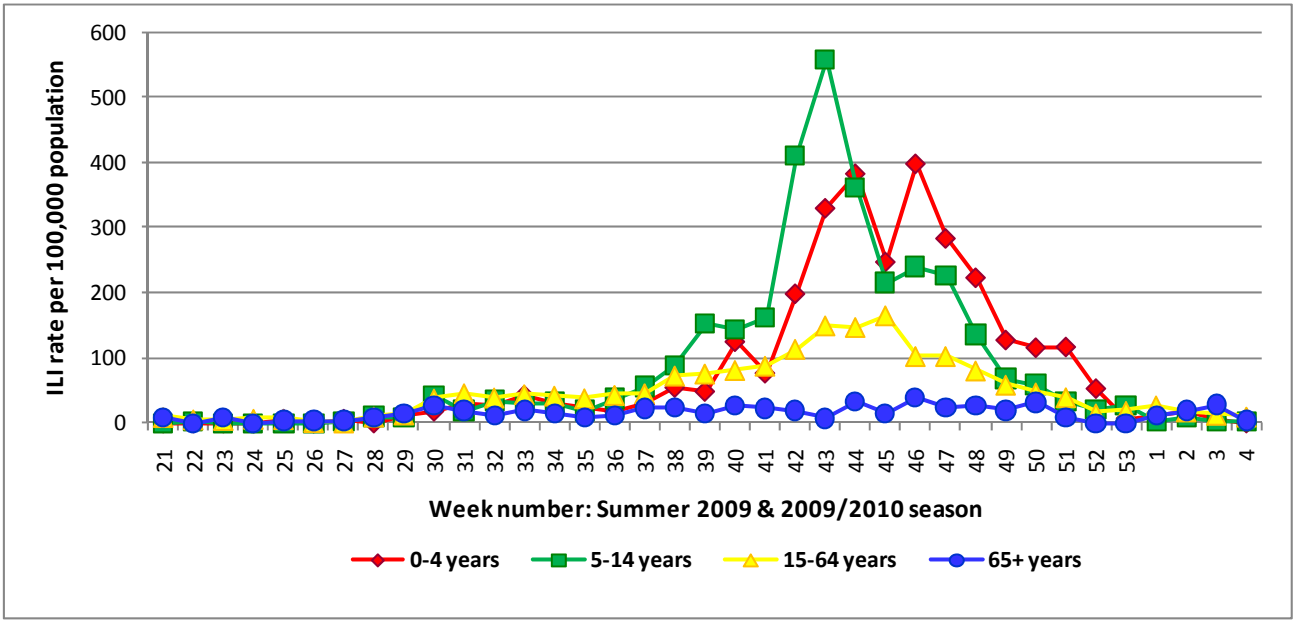

Figure 2: Age specific sentinel GP consultation rate for ILI per 100,000 population by week during the Summer 2009 and 2009/2010 influenza season

Source: ICGP ILI clinical data

Regional Influenza Activity by HSE-Area

Influenza activity is reported on a weekly basis from the Departments of Public Health in each HSE area. Influenza activity is based on sentinel GP ILI consultation rates, laboratory confirmed influenza cases and ILI/influenza outbreaks. During week 4 2010, no activity was reported by HSE-W while sporadic activity (due to isolated cases of ILI and/or isolated laboratory confirmed cases of influenza) was reported by the remaining seven HSE areas (figure 3).

Sentinel hospitals and schools

The Departments of Public Health have established at least one sentinel hospital in each HSE area (n=8), 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. Sentinel school and hospital data were received from four HSE areas during week 4. One sentinel hospital in HSE-S reported an increase in the proportion of respiratory admissions. No increases in absenteeism were reported by sentinel schools during week 4.

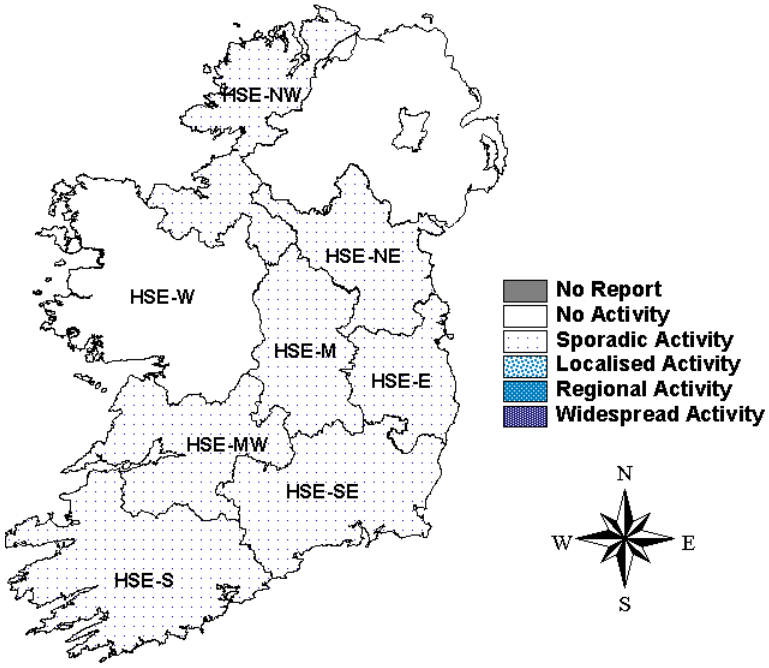

Figure 3: Map of provisional influenza activity by HSE area during influenza week 4 2010

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 1.9% during week 4, the same as the proportion reported during week 3 (figure 4).

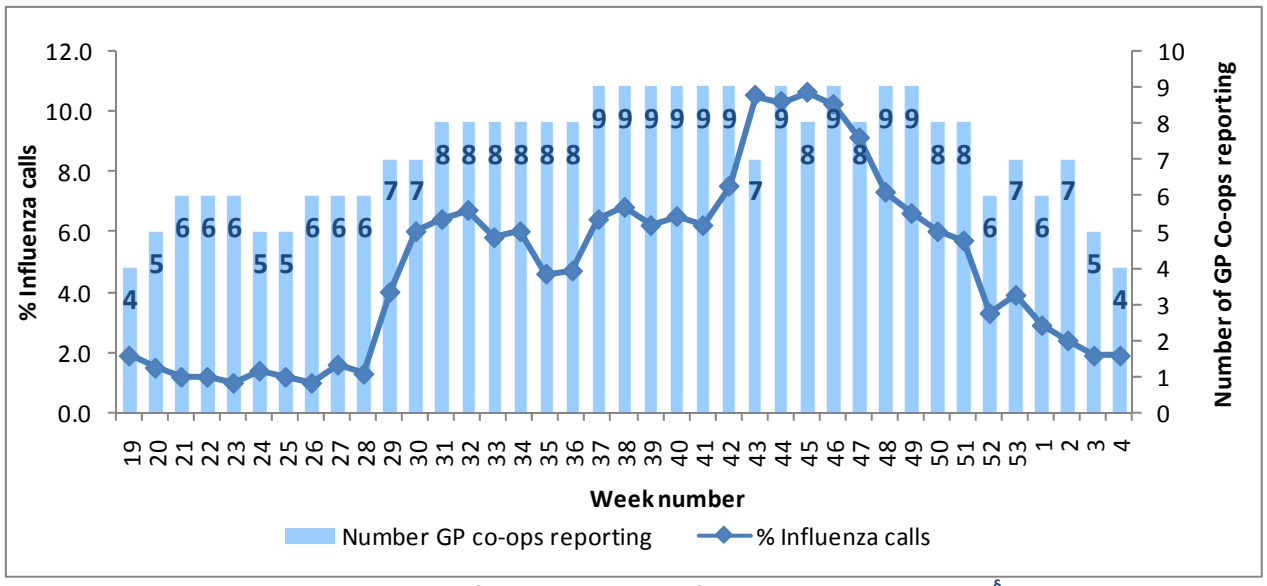

Figure 4: Flu-related calls as a proportion of total calls to Out-of-Hours GP Co-ops by week[§] *Source: HSE-NE.*

[§] Week 4: data received from CARE-Doc, D-Doc, Shan-Doc & South-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)

Seven specimens from sentinel GPs were tested by the NVRL during week 4 2010, none of which were positive for influenza.

The NVRL also tested 103 non-sentinel specimens taken during week 4, 2 (1.9%) of which were positive for pandemic (H1N1) 2009 and 19 specimens (18.4%) were positive for RSV. No specimens were positive for other influenza A subtypes, influenza B, adenovirus or parainfluenza virus (table 1 and table 3). Figure 5 shows the number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2009/2010 influenza season compared to the 2008/2009 influenza season. [**]

UCHG tested six non-sentinel specimens taken during week 4 2010, none of which were positive for influenza (table 2).

CUH tested 32 non-sentinel specimens taken during week 4 2010, seven (21.9%) of which were positive for pandemic (H1N1) 2009 (table 2).

Pandemic (H1N1) 2009 is the only influenza virus circulating. During week 4, 100% of specimens positive for influenza were pandemic (H1N1) 2009. For summer 2009 and 2009/2010 influenza seasons to date, confirmed pandemic (H1N1) 2009 has accounted for 99.4% of influenza positive specimens (table 1).

During week 4, the percentage of sentinel and non-sentinel specimens testing positive for pandemic (H1N1) 2009 was 6.1%, an increase compared to 2.3% of specimens testing positive during week 3. 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 season.

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

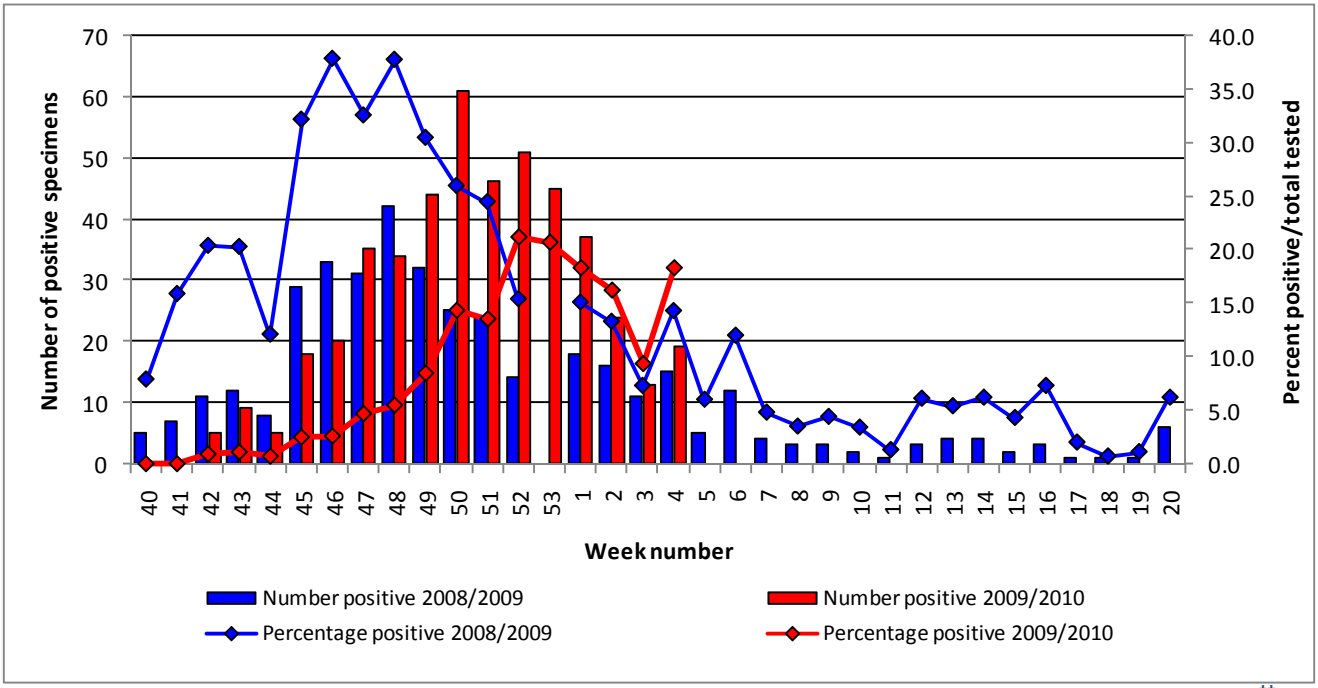

Figure 5: NVRL non-sentinel RSV activity for influenza season 2009/2010 compared to influenza season 2008/2009[††]

Source: NVRL

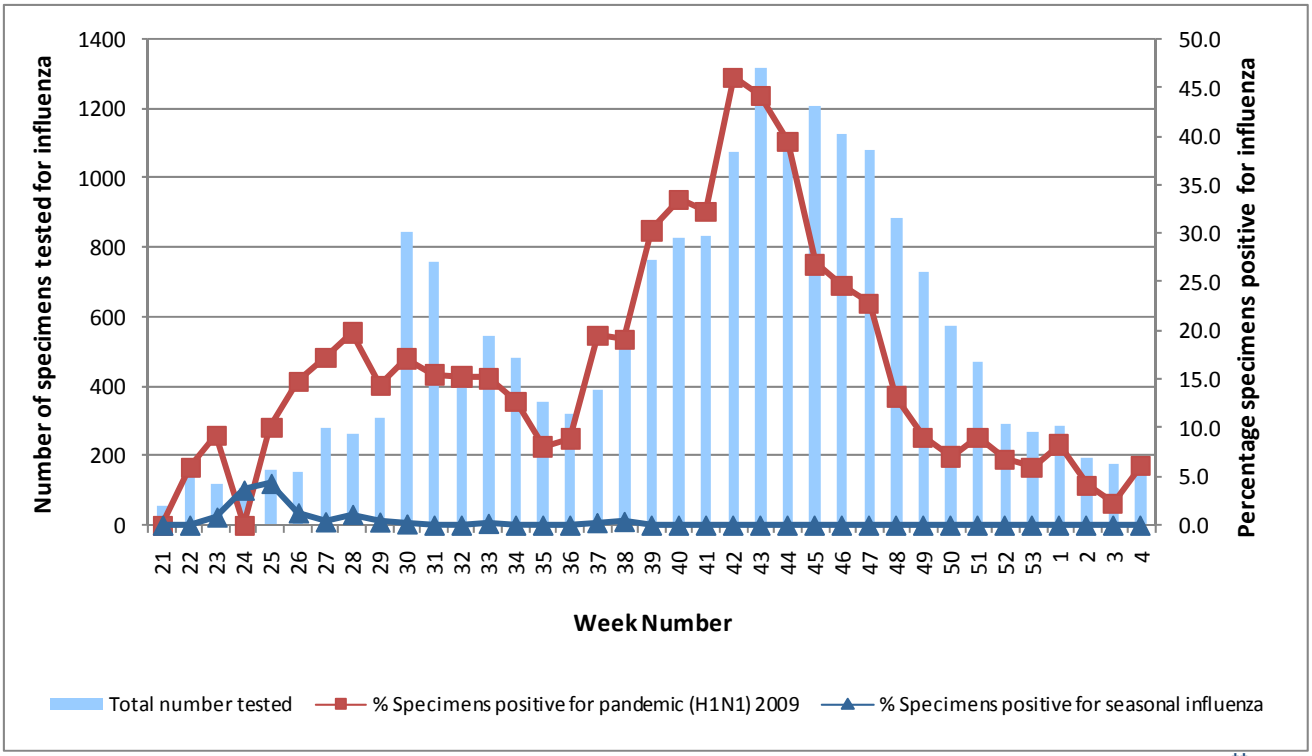

Figure 6: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive[‡‡]

Source: NVRL, CUH & UCHG

†† Please note there was no week 53 in 2008.

‡‡ 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 4 2010 and Summer 2009 & 2009/2010 season 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
4 2010	Sentinel	7	0	0.0	0	0	0	0	0	0	0.0
	Non-sentinel	141	9	6.4	9	0	0	0	0	0	100.0
	Total	**148**	**9**	**6.1**	**9**	**0**	**0**	**0**	**0**	**0**	100.0
Summer 2009 & 2009/2010 season to date	Sentinel	2162	772	35.7	769	0	3	0	0	0	99.6
	Non-sentinel	18449	3900	21.1	3578	297	0	0	22	3	99.4
	Total	**20611**	**4672**	**22.7**	**4347**	**297**	**3**	**0**	**22**	**3**	99.4

Table 2: Number of non-sentinel respiratory specimens tested and positive results by laboratory, influenza week 4 2010 and Summer 2009 & 2009/2010 season 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
4 2010	NVRL	103	2	1.9	2	0	100.0	0	0
	CUH	32	7	21.9	7	0	100.0	0	0
	UCHG	6	0	0.0	0	0	0.0	0	0
	Total	**141**	**9**	**6.4**	**9**	**0**	**100.0**	**0**	**0**
Summer 2009 & 2009/2010 season to date	NVRL	14266	2585	18.1	2556	5	99.1	21	3
	CUH	2946	832	28.2	540	292	100.0	0	0
	UCHG	1237	483	39.0	482	0	99.8	1	0
	Total	**18449**	**3900**	**21.1**	**3578**	**297**	99.4	**22**	**3**

Table 3: Number of non-sentinel specimens tested by the NVRL for other respiratory pathogens and positive results, influenza week 4 2010 and Summer 2009 & 2009/2010 season 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
4 2010	103	19	18.4	0	0.0	0	0.0	0	0.0	0	0.0
Summer 2009	6093	21	0.3	4	0.1	4	0.1	0	0.0	6	0.1
2009/2010 season to date	8173	465	5.7	5	0.1	6	0.1	3	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)

As of 30th January 2010, a total of 4,576 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.

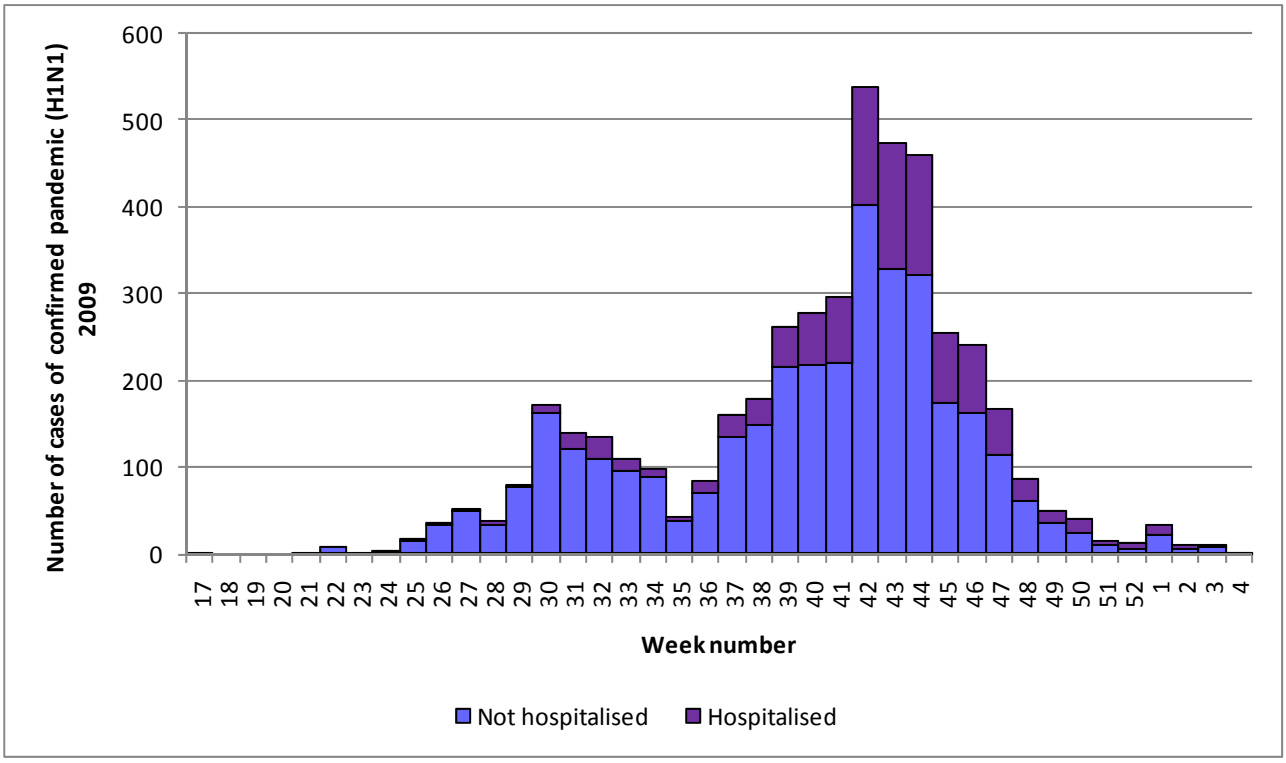

Figure 7: Number of confirmed cases of pandemic (H1N1) 2009 by week of notification and hospitalisation status†††

Source: CIDR

Age and Sex

Of the 4,576 confirmed cases reported to 30th January, 2,439 were female (53.3%), 2,112 were male (46.2%) and sex was not reported for 25 cases (0.5%). The median age of cases was 18 years (range: 0-84 years) and 80.1% were less than 35 years of age. The highest age specific rates are in the 0-4 year age group since week 40 but have decreased in recent weeks.

Severity of illness

To date (3rd February) 22 laboratory confirmed cases have died. No deaths were reported during week 4 2010.

Hospitalised cases

Of the 4,576 confirmed cases, 1,058 (23.1%) were admitted to hospital. Of these, 95 (9.0%) were admitted to ICU. One laboratory confirmed case was hospitalised during week 4, which is a slight decrease compared to two cases hospitalised during week 3. One case was admitted to ICU during week 4 compared to no cases

*** 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 was one week behind the international influenza week number during 2009. Therefore weeks 17-52 above is equivalent to weeks 18-53 on the influenza system. Epidemiological and influenza week numbering systems are the same for 2010.

admitted to ICU in week 3. The highest age-specific rates for hospitalised patients are seen in the 0-4 year age group. Of the 1,058 confirmed cases hospitalised, 455 (43.0%) had pre-existing clinical conditions.

5. Outbreak surveillance (CIDR)

No new outbreaks of pandemic (H1N1) 2009, influenza or ILI were reported during week 4 2010. As of 30th January 2010, 109 general outbreaks of pandemic (H1N1) 2009 and ILI have been reported in Ireland since week 23 2009. These outbreaks involved 2,399 people in total, of which 200 (8.3%) were laboratory confirmed cases of pandemic (H1N1) 2009. The number ill per outbreak has ranged between two and 150 people.

International summary

The total numbers of confirmed deaths reported worldwide by the World Health Organization (WHO) region are shown in table 4

Table 4: Reported number of confirmed pandemic (H1N1) 2009 deaths by WHO region
Source: WHO 29th January 2010

WHO Region	Cumulative total as of 29th January 2010
	Deaths
Africa (AFRO)	133
Americas (AMRO)	At least 7166
Eastern Mediterranean (EMRO)	1002
Europe (EURO)	At least 3429
South-East Asia (SEARO)	1426
Western Pacific (WPRO)	1555
Total	**At least 14,711**

United Kingdom

During week 3 (ending 24th January 2010), the weekly influenza/influenza-like illness (ILI) consultation rate decreased or remained stable in all schemes across the UK. The cumulative number of deaths reported to be due to pandemic (H1N1) 2009 is 391. 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. As of 20th January, a total of 2,613 laboratory confirmed cases of pandemic (H1N1) 2009 have been hospitalised in England, 1,531 in Scotland, 446 in Wales and 574 in Northern Ireland. Thirty-six of 4,975 pandemic viruses tested have been confirmed to carry a mutation which confers resistance to the antiviral drug oseltamivir; 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 3 (18th to 24th January), 26 out of 29 countries reported epidemiological data. Five countries (Bulgaria, Malta, Poland, Romania and Slovakia) reported medium intensity while all other remaining countries reported low intensity. Widespread activity was reported in Greece and in the UK (Wales) and local or regional activity was reported in Austria, Bulgaria, Czech Republic, Estonia, France, Germany, Malta, Romania, Slovakia, Sweden and the UK (Scotland). Sporadic or no activity was reported in the remaining 14 countries and the UK (England and Northern Ireland).
While the total number of influenza-positive samples continued to decline, the 2009 pandemic influenza A (H1N1) virus still accounted for 99% of all subtyped viruses in sentinel patients. Oseltamivir resistance was detected in 35 (2.7%) of the 1,280 viruses tested and reported to EISN to date. Resistance to zanamivir was not detected in any of the 1,274 strains tested.
http://ecdc.europa.eu/en/publications/Pages/Publications.aspx

USA

During week 3 (17th to 23rd January), influenza activity remained at approximately the same level as the previous week. The proportion of outpatient visits for influenza-like illness (ILI) was 1.7%, which is below the national baseline of 2.3%. Two of ten regions reported ILI rates equal to their region-specific baseline level. The proportion of deaths attributed to pneumonia and influenza (8.3%) in week 3 was above the epidemic threshold (7.7%) for the second consecutive week. Five influenza associated paediatric deaths were reported during week 3. Four deaths were associated with pandemic influenza A (H1N1) 2009 infection and one was associated with an influenza A virus, for which the subtype was undetermined. During week 3, 164 (4.6%) specimens tested by collaborating laboratories and reported to CDC/Influenza Division were positive for influenza. Of the subtyped influenza A viruses being reported to CDC, 100% were pandemic influenza A (H1N1) 2009 viruses. No states reported geographically widespread influenza activity.
http://www.cdc.gov/flu/weekly/

Canada

During week 3 (ending January 23rd 2010), all influenza indicators continued to be either at baseline levels or were considerably under the expected levels for this time of the year. On January 27th, the Public Health Agency of Canada announced that the second wave of pandemic (H1N1) 2009 had tapered off. The ILI consultation rate was similar to that of the previous week and was still significantly below the expected range for this time of the year with only 0.04% of specimens testing positive for influenza. The number of hospitalised cases (39 vs. 29) and ICU admissions (14 vs. 1) was slightly higher while the number of deaths (3 vs. 4) was similar to the number reported in the previous week. From August 30th to January 23rd 2010, a total of 7,081 hospitalised cases including 1,155 cases admitted to ICU (16.3%), and 347 (4.9%) deaths have been reported.
http://www.phac-aspc.gc.ca/fluwatch/index-eng.php

New Zealand

During week 3 (18th to 24th January), there has been a decrease in consultations for influenza-like illness through sentinel surveillance (11.9 per 100,000 patient population) and the current rate is below the baseline. No influenza viruses were reported in week 3, either from sentinel or non-sentinel surveillance.
http://www.surv.esr.cri.nz/virology/influenza_weekly_update.php

Australia

During week 3 (16th to 22nd January), ILI rates at a national level were low and were below levels usually seen at this time of the year. As of 22nd January 2010, there were 37,584 confirmed cases of pandemic (H1N1) 2009 in Australia and 191 pandemic influenza-associated deaths.
http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflucurrent.htm

Other countries

As of 29th January 2010

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

- **Central and Eastern Europe:** In Europe, transmission of pandemic influenza virus remains geographically regional to widespread in the central, eastern and south eastern parts of the continent, however, overall activity continues to decline in most places. Several countries (Austria, Albania, Bulgaria, Slovakia and the Russian Federation) reported slight increases in the levels of ARI or ILI activity, however in most, levels remain well below recent peaks in activity. The overall rate of respiratory specimens testing positive for influenza (16%) continued to fall since peaking (45%) during early November 2009.
- **Southern Asia:** In South Asia, pandemic influenza activity remains active but geographically variable. Recent peaks in activity were noted during late December and early January 2010 in northern India, Nepal and Sri Lanka. Influenza activity remained stable but elevated in western India, continued to decline substantially in northern India and remained low overall in southern and eastern India. In

Bangladesh, regional spread of influenza activity and low intensity of respiratory disease activity was reported.

- **Eastern and South Eastern Asia:** In East Asia, transmission of pandemic influenza virus remains active, however, overall activity continued to decline in most countries. An increasing trend in respiratory disease activity with localised spread was reported for DPR Korea. In the Republic of Korea, transmission of pandemic influenza virus remains active (>20% of respiratory specimens tested positive for pandemic (H1N1) 2009), however, overall activity continued to decline since peaking during November 2009. In Japan, influenza activity continues to decline, however high levels of transmission persist on the southern island of Okinawa. In northern and southern China, pandemic influenza virus isolations have declined substantially since peaking in early to mid November 2009, however, in recent weeks detections of influenza type B viruses have increased. In Southeast Asia, transmission of pandemic influenza virus persists, but current activity levels are low. In Vietnam, influenza activity has declined substantially since peaking during October and November 2009. In Thailand, focal outbreaks of influenza were reported from a few provinces in northern and central parts of the country, however, overall ILI activity remains low.
- **Americas, the Caribbean and the Southern Hemisphere:** In the Americas, both in the tropical and northern temperate zones, overall pandemic influenza activity continued to decline or remained low in most places. Of note, detections of RSV have increased in a few countries in the Americas, which may partially account for elevated ILI activity in those areas, particularly among young children. In the US and Canada, pandemic influenza virus detections and the numbers of severe and fatal cases have declined substantially as rates of ILI have fallen below seasonal baselines. In Central America and the Caribbean, pandemic influenza virus transmission persists but overall activity remains low or unchanged in most places. In temperate regions of the southern hemisphere, sporadic cases of pandemic influenza continued to be reported without evidence of sustained community transmission.
- **North Africa and Western Asia:** In North Africa, limited data suggests that pandemic influenza virus transmission remains active and geographically widespread, particularly in Morocco, Algeria, Libyan Arab Jamahiriya and in Egypt, although most countries in the region appeared to have recently passed a peak of activity during December 2009 or January 2010. In West Asia, pandemic influenza activity continues to be geographically regional to widespread, however activity levels have continued to decline or remain low since December 2009.

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/

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 sentinel general practices covering 5.6% 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