Influenza Surveillance in Ireland - Weekly Update

Influenza Weeks 52 & 53 2009 (21st December 2009 to 3rd January 2010)

Summary

- Influenza activity in Ireland continued to decrease during weeks 52 and 53:
  - The sentinel GP influenza-like illness (ILI) consultation rate was 16.6 and 16.5 per 100,000 population during weeks 52 and 53 respectively, a decrease compared to the updated rate of 40.4 per 100,000 reported during week 51*.These rates are now below the Irish baseline threshold.
  - The highest sentinel GP age-specific ILI consultation rates occurred in the 0-4 year age group during week 52 and the 5-14 year age group during week 53.
  - The number of laboratory confirmed cases of pandemic (H1N1) 2009 continued to decrease.
  - The number of hospitalised cases of confirmed pandemic (H1N1) 2009 remained stable.
  - No hospitalised cases of confirmed pandemic (H1N1) 2009 were admitted to ICU.
  - The proportion of flu–related calls to GP Out-of-Hours services continued to decrease.
  - 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 decreased.
- Based on the surveillance of laboratory confirmed cases of pandemic (H1N1) 2009, as of 2nd January:
  - 4,521 confirmed cases have been notified in Ireland.
  - Children and young adults remain the most affected groups; 80.2% 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 (6th January).

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 51 was provided by sentinel GPs and the NVRL and the rate for the week was adjusted accordingly

1. GP sentinel surveillance system

Clinical Data

Week 52:

During week 52 2009, 52 of 61 (85.2%) ICGP sentinel general practices provided data, with 19 practices (31.1%) reporting 35 influenza-like illness (ILI) cases and 42 practices reporting no ILI cases. This corresponds to an ILI consultation rate of 16.6 per 100,000 population, which is a decrease compared to the updated rate of 40.4 per 100,000 population reported during week 51 2009 and is below the Irish baseline threshold[†].

Week 53:

During week 53 2009, 47 of 61 (77.0%) ICGP sentinel general practices provided data, with 20 practices (32.8%) reporting 33 influenza-like illness (ILI) cases and 41 practices reporting no ILI cases. This corresponds to an ILI consultation rate of 16.5 per 100,000 population, which remains stable in comparison to the rate of 16.6 per 100,000 population reported during week 52 2009, 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.

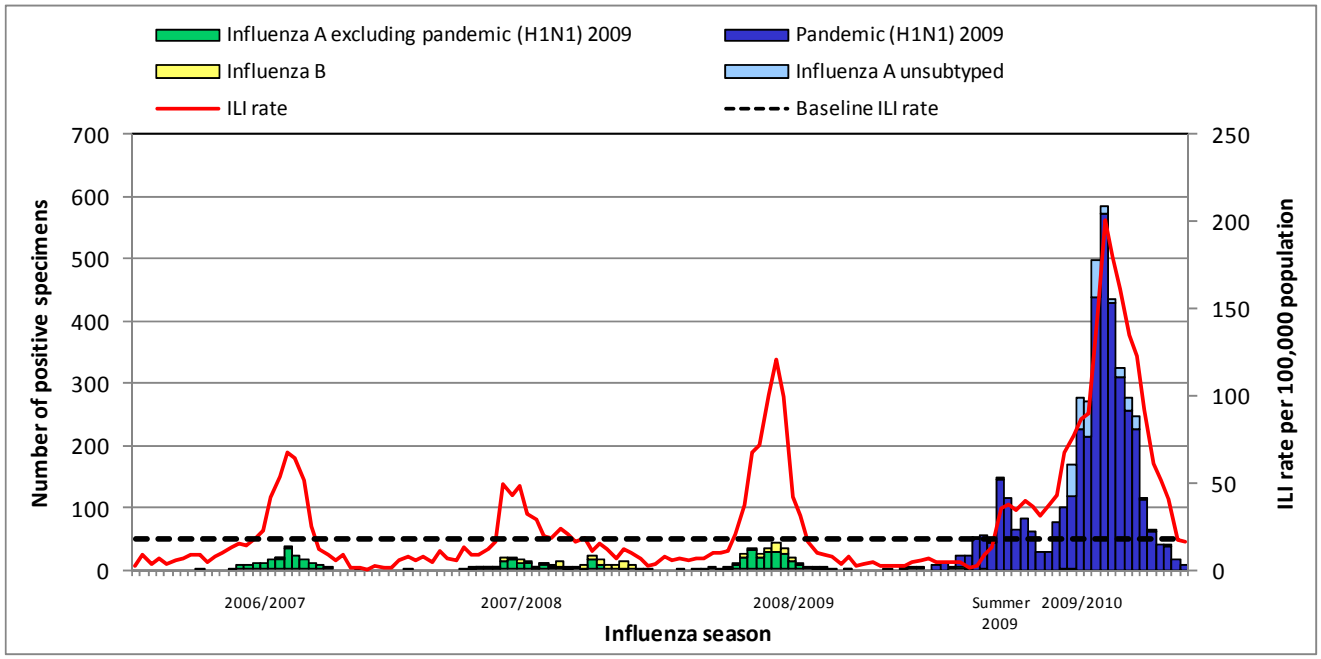

Figure 1: ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza specimens, by influenza week and season[‡]

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

[†] Since the last report, extra information on the number of ILI consultations and positive influenza specimens occurring in week 51 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.

During week 52 2009, sentinel GPs reported eight ILI cases in the 0-4 year age group (53.1 per 100,000 population), six cases in the 5-14 year age group (21.4 per 100,000 population) and 21 cases in the 15-64 year age group (14.5 per 100,000 population). No ILI cases were reported in those aged 65 years and older during week 52 (figure 2).

During week 53 2009, sentinel GPs reported one ILI case in the 0-4 year age group (7.0 per 100,000 population), seven cases in the 5-14 year age group (26.4 per 100,000 population) and 25 cases in the 15-64 year age group (18.3 per 100,000 population). No ILI cases were reported in those aged 65 years and older during week 53 (figure 2).

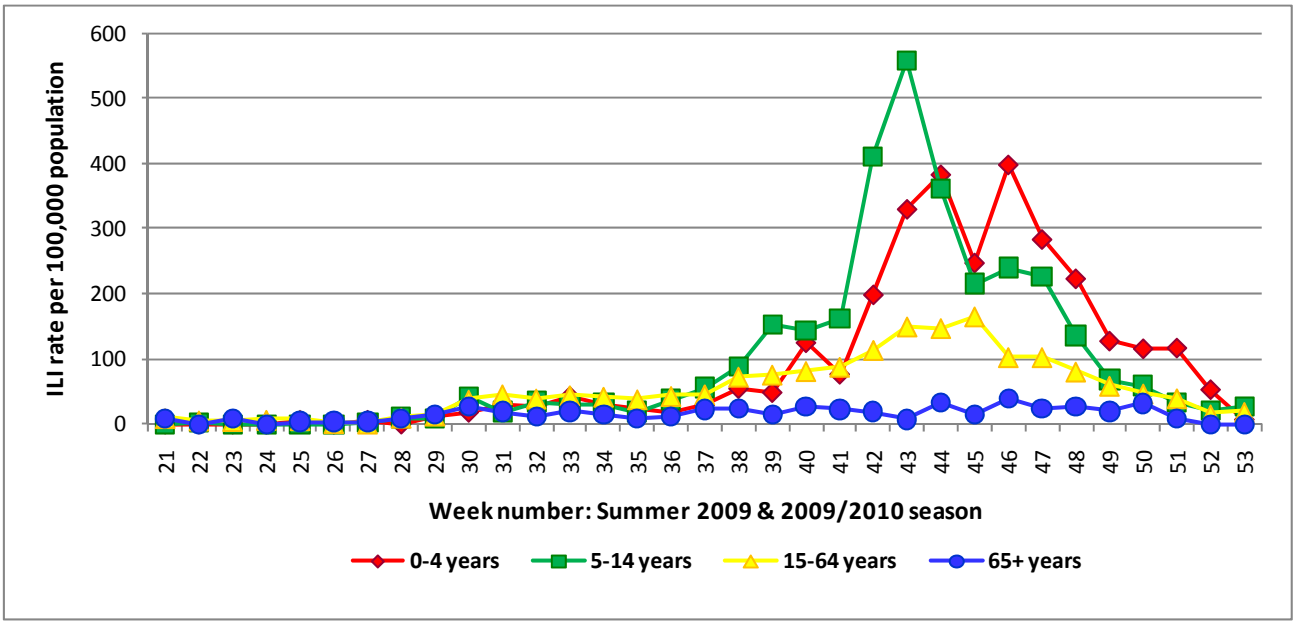

Figure 2: Age specific sentinel GP consultation rate for ILI per 100,000 population by week during the Summer 2009 and 2009/2010 influenza seasons

Source: ICGP ILI clinical data

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 53 2009, no activity was reported in HSE-M while sporadic activity (due to isolated cases of ILI and/or isolated laboratory confirmed cases of influenza) was reported by HSE-E, -MW, -NE, -NW, -S, -SE and -W (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 hospital data were received from six HSE areas during week 52 and four during week 53. Two sentinel hospitals (HSE-E & -M) reported an increase in the proportion of respiratory admissions during week 53. No increases in the proportion of respiratory admissions were reported during week 52. Sentinel schools were closed during weeks 52 and 53.

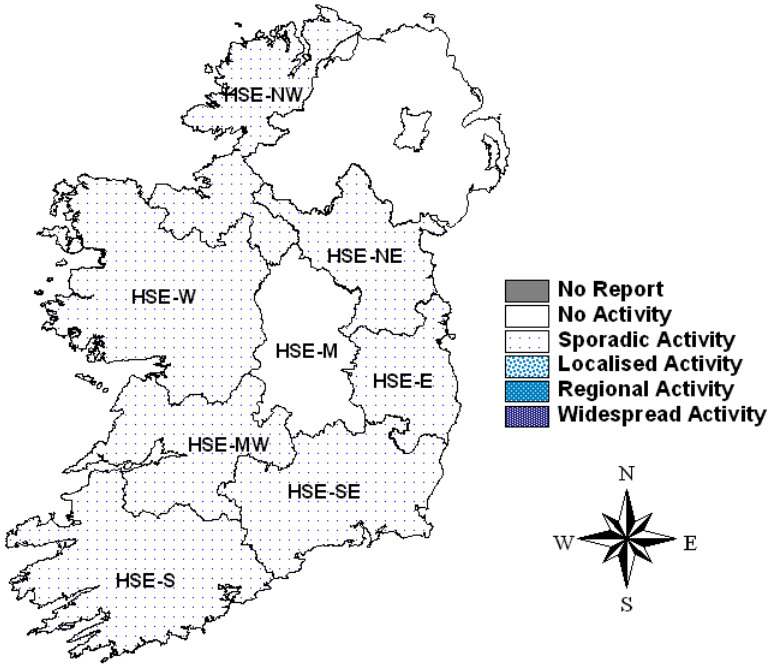

Figure 3: Map of provisional influenza activity by HSE area during influenza week 53 2009

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 3.3% during week 52 and 3.1% during week 53. Both rates are a decrease compared to the proportion (5.7%) reported during week 51 (figure 4).

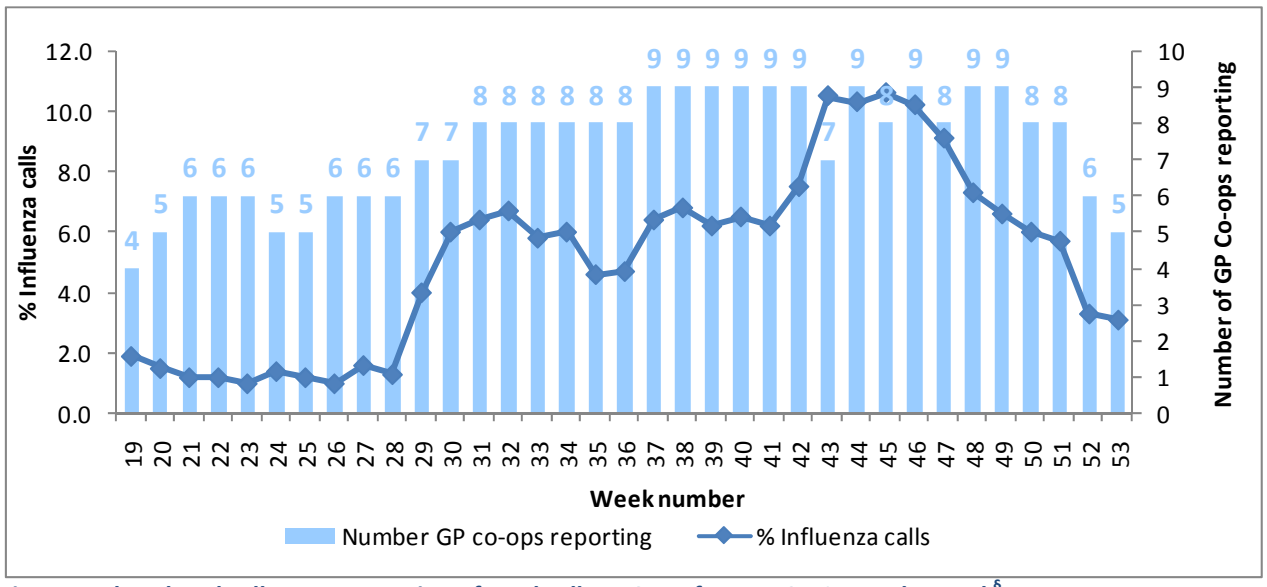

Figure 4: Flu-related calls as a proportion of total calls to Out-of-Hours GP Co-ops by week[§]

Source: HSE-NE.

[§] Week 53: data received from D-Doc, MI-Doc, NE-Doc, Shan-Doc and 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)

Fifteen specimens from sentinel GPs were tested by the NVRL during week 52 2009, five (33.3%) of which were positive for pandemic (H1N1) 2009. Nine specimens from sentinel GPs were tested by the NVRL during week 53 2009, three (33.3%) of which were positive for pandemic (H1N1) 2009.

The NVRL tested 239 non-sentinel specimens taken during week 52, 10 (4.2%) of which were positive for pandemic (H1N1) 2009, 51 specimens (21.3%) were positive for RSV and one specimen (0.4%) was positive for adenovirus. The NVRL tested 169 non-sentinel specimens taken during week 53, two (1.2%) of which were positive for pandemic (H1N1) 2009 and 28 specimens (16.6%) were positive for RSV. No specimens were positive for other influenza A subtypes, influenza B 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 nine non-sentinel specimens taken during week 52 2009, none of which were positive for influenza and eight non-sentinel specimens taken during week 53 2009, one (12.5%) of which was positive for pandemic (H1N1) 2009 (table 2).

CUH tested 33 non-sentinel specimens taken during week 52 2009, three (9.1%) of which were positive for pandemic (H1N1) 2009 and 11 non-sentinel specimens taken during week 53 2009, two (18.2%) of which were positive for pandemic (H1N1) 2009 (table 2).

Pandemic (H1N1) 2009 is the only influenza virus circulating. During weeks 52 and 53, 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 weeks 52 and 53, the percentage of sentinel and non-sentinel specimens testing positive for pandemic (H1N1) 2009 was 6.1% and 4.1%, respectively. Both of which represent a decrease compared to 9.1% of specimens testing positive during week 51. 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

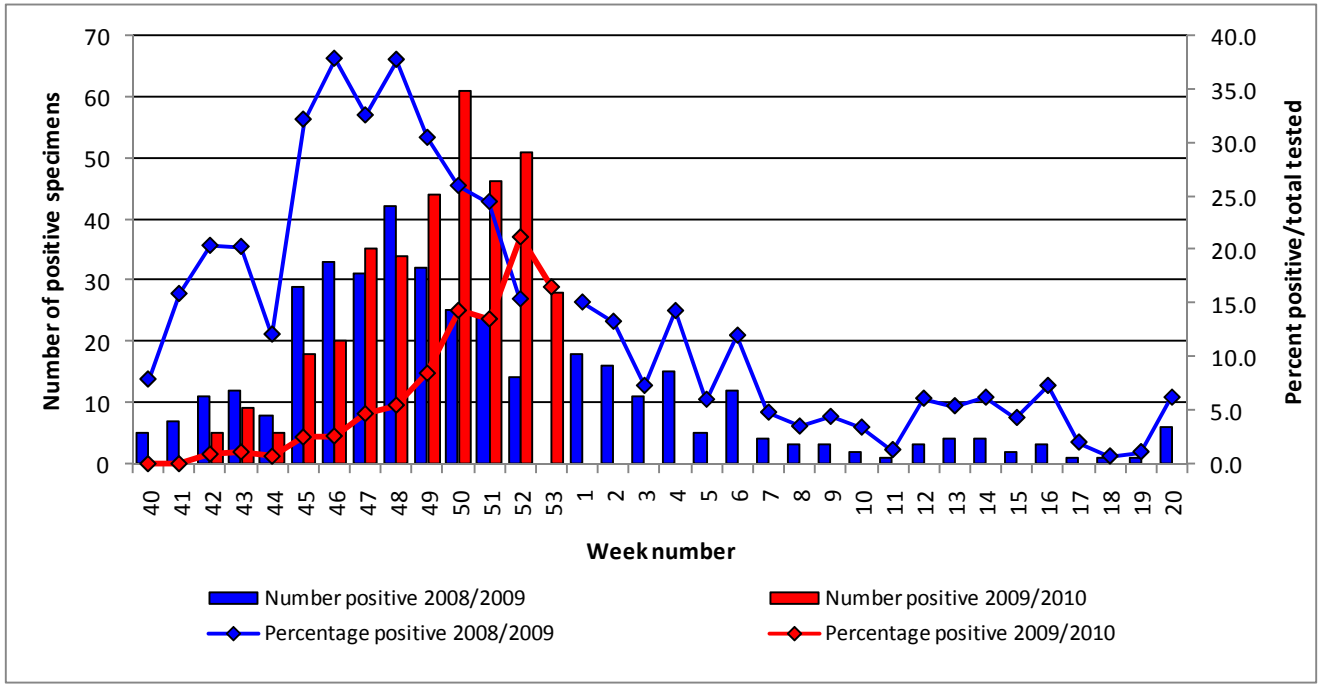

Figure 5: NVRL non-sentinel RSV activity for influenza season 2008/2009 compared to influenza season 2009/2010

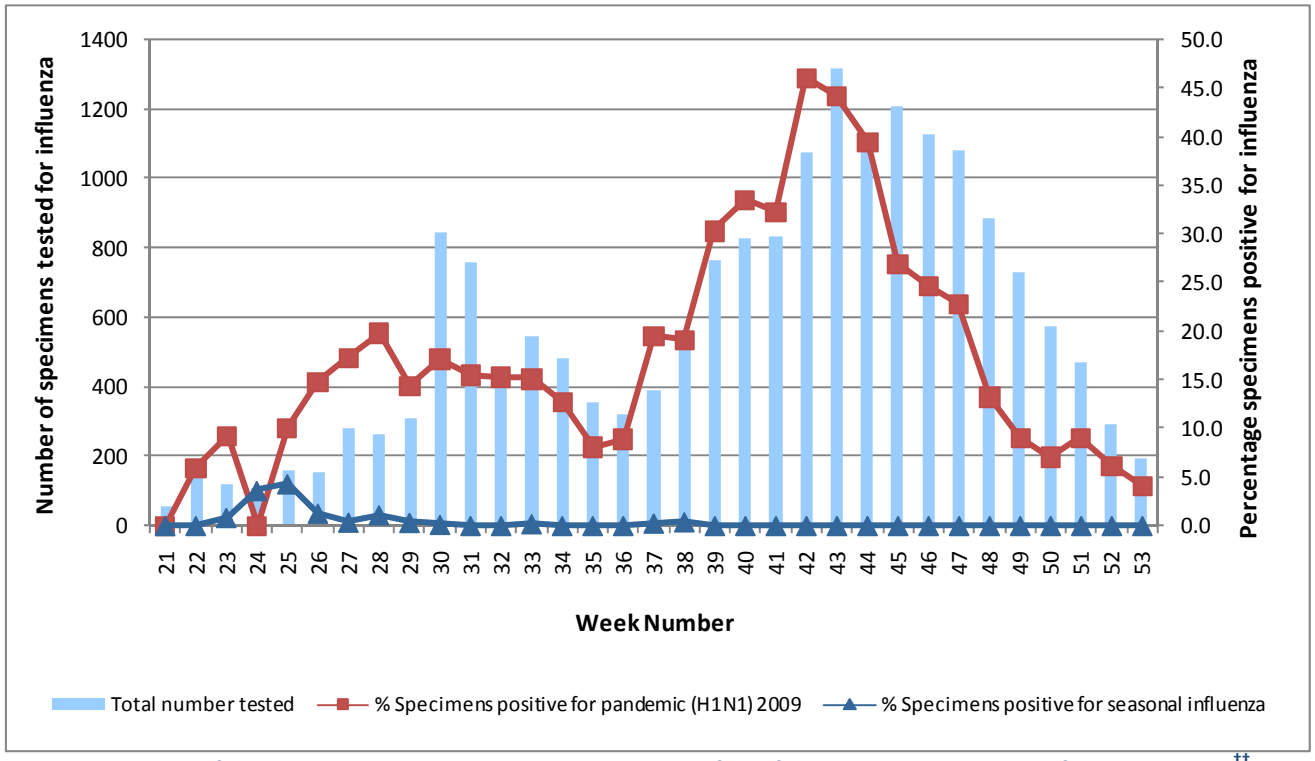

Figure 6: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive[††]

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 52-53 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
52	Sentinel	15	5	33.3	5	0	0	0	0	0	100.0
	Non-sentinel	281	13	4.6	13	0	0	0	0	0	100.0
	Total	**296**	**18**	**6.1**	**18**	**0**	**0**	**0**	**0**	**0**	**100.0**
53	Sentinel	9	3	33.3	3	0	0	0	0	0	100.0
	Non-sentinel	188	5	2.7	5	0	0	0	0	0	100.0
	Total	**197**	**8**	**4.1**	**8**	**0**	**0**	**0**	**0**	**0**	100.0
21-53	Sentinel	2106	764	36.3	761	0	3	0	0	0	99.6
	Non-sentinel	17624	3854	21.9	3533	296	0	0	22	3	99.4
	Total	**19730**	**4618**	**23.4**	**4294**	**296**	**3**	**0**	**22**	**3**	99.4

Table 2: Number of non-sentinel respiratory specimens tested and positive results by laboratory, influenza week 52-53 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
52	NVRL	239	10	4.2	10	0	100.0	0	0
	CUH	33	3	9.1	3	0	100.0	0	0
	UCHG	9	0	0.0	0	0	100.0	0	0
	Total	**281**	**13**	**4.6**	**13**	**0**	**100.0**	**0**	**0**
53	NVRL	169	2	1.2	2	0	100.0	0	0
	CUH	11	2	18.2	2	0	100.0	0	0
	UCHG	8	1	12.5	1	0	100.0	0	0
	Total	**188**	**5**	**2.7**	**5**	**0**	**100.0**	**0**	**0**
21-53	NVRL	13629	2559	18.8	2530	5	99.1	21	3
	CUH	2794	814	29.1	523	291	100.0	0	0
	UCHG	1201	481	40.0	480	0	99.8	1	0
	Total	**17624**	**3854**	**21.9**	**3533**	**296**	99.4	**22**	**3**

Table 3: Number of non-sentinel specimens tested by the NVRL for other respiratory pathogens and positive results, influenza week 52-53 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
52	239	51	21.3	1	0.4	0	0.0	0	0.0	0	0.0
53	169	28	16.6	0	0.0	0	0.0	0	0.0	0	0.0
21-39	6093	21	0.3	4	0.1	4	0.1	0	0.0	6	0.1
40-53	7536	356	4.7	3	0.04	5	0.1	1	0.01	1	0.01

‡‡ 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 for influenza is focused on hospitalised cases, cases with severe clinical illness and in other situations such as clusters of ILI in institutions or unusual clusters of serious illness.

As of 2nd January 2010, a total of 4,521 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.

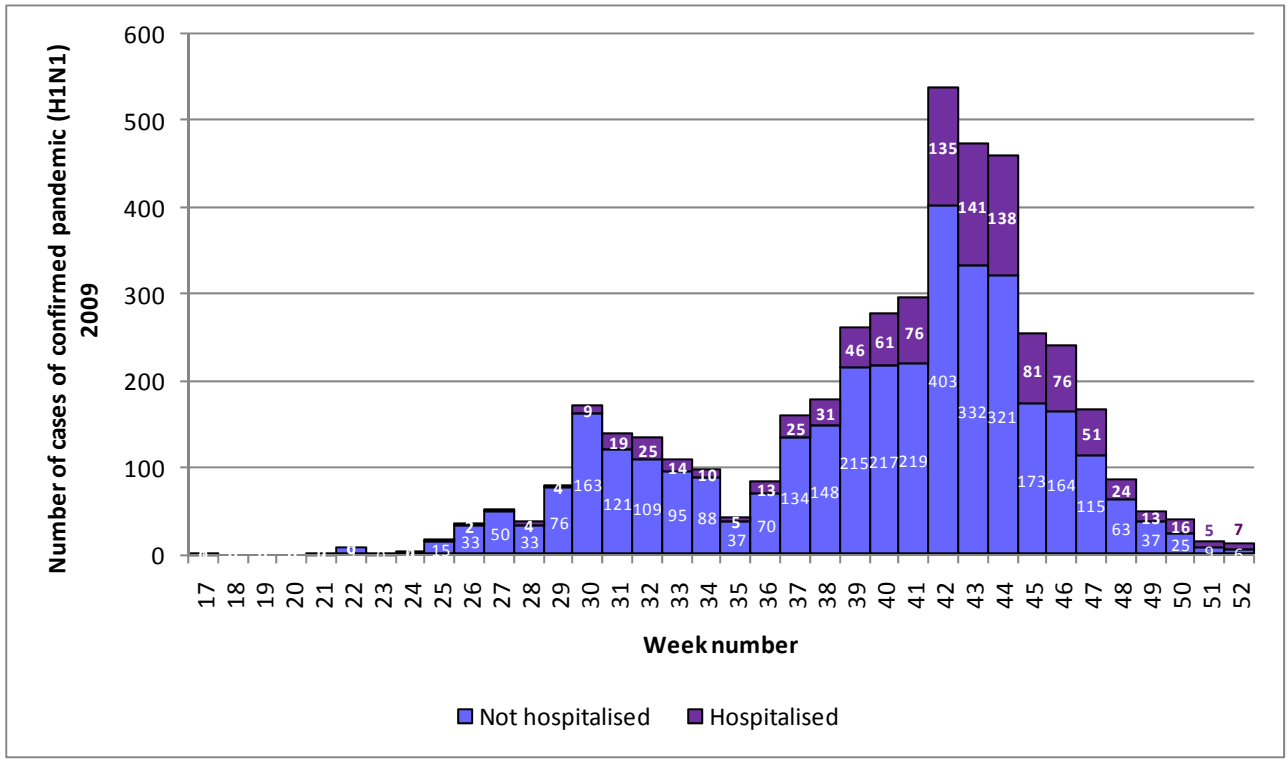

Figure 7: Number of confirmed cases of pandemic (H1N1) 2009 by week of notification and hospitalisation status[***]

Source: CIDR

Age and Sex

Of the 4,521 confirmed cases reported to 2nd January, 2,412 were female (53.4%), 2,081 were male (46.0%) and sex was not reported for 28 cases (0.6%). The median age of cases was 17 years (range: 0-84 years) and 80.2% 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 decreased in recent weeks. During week 51, the age specific notification rate decreased in all age groups and then remained stable during week 52.

[§§] 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 17-52 above is equivalent to weeks 18-53 on the influenza system.

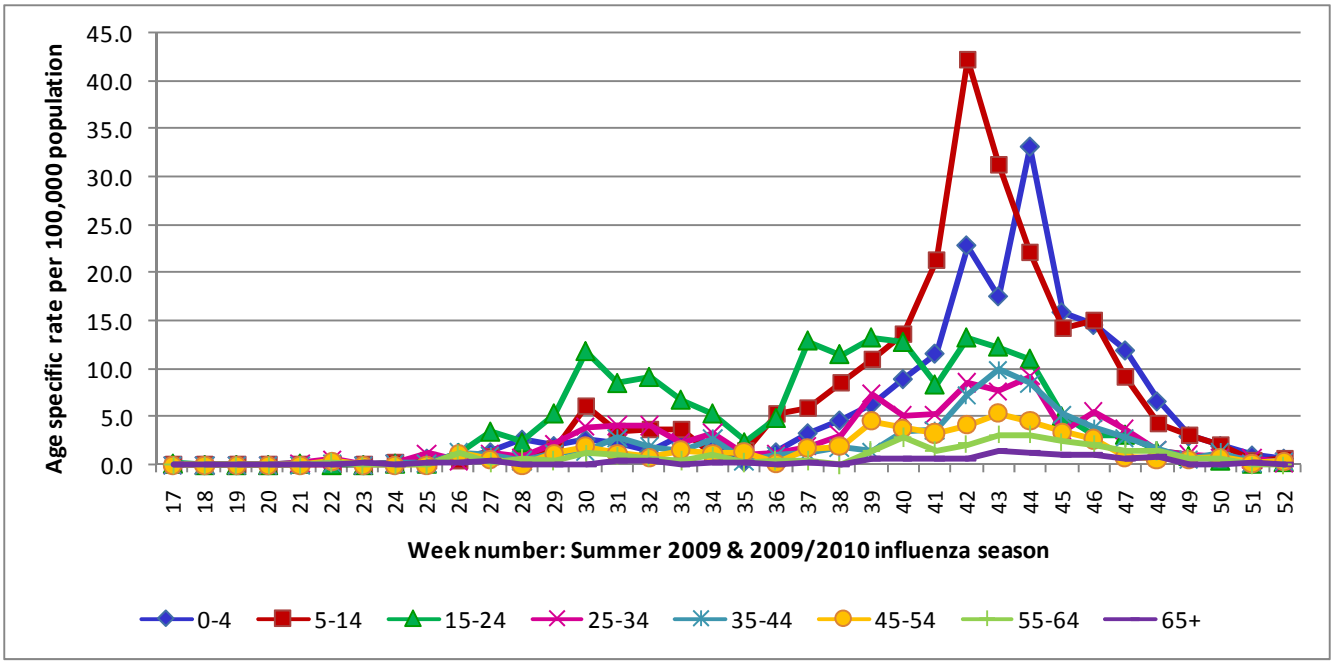

Figure 8: Age specific notification rate per 100,000 population of confirmed cases of pandemic (H1N1) 2009 by week of notification[†††]

Source: CIDR

Severity of illness

As of 2nd January 2010, clinical illness continues to be mild in the majority of cases. Of the 4,521 confirmed cases, outcome was reported for 1,353 (29.9%) cases. Of the 1,353 confirmed cases where outcome was reported, 1,261 have recovered or are recovering (93.2%) and 70 are still ill (5.2%). To date (6th January) 22 laboratory confirmed cases have died. Table 4 shows the number of deaths in confirmed cases of pandemic (H1N1) 2009 by week.

Reported complications have been mostly respiratory in nature; 176 cases developed pneumonia and 68 developed acute respiratory distress syndrome (ARDS). Other reported complications included chest infections, acute renal failure and multi-organ failure.

[†††] Week number in figure 8 is based on infectious disease notification week number, which is one week behind the international influenza week number. Therefore week 52 above is equivalent to week 53 on the influenza system.

Table 4: 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	4
46	2
47	0
48	0
49	2
50	0
51	0
52	0
1	0
Total	**22**

Hospitalised cases

Of the 4,521 confirmed cases, 1,034 (22.9%) were admitted to hospital. Of these, 87 (8.4%) were admitted to ICU. No laboratory confirmed cases were hospitalised and admitted to ICU in weeks 51 and 52, a decrease compared to two cases admitted to ICU in week 50.[‡‡‡] Table 5 shows the number of hospitalised cases by age group (years), sex and age-specific hospitalisation rate.

The highest age-specific rates for hospitalised patients are seen in the 0-4 year age group. The median age of hospitalised cases was 17 years. Of the 1,034 hospitalised cases, 524 (50.7%) were female, 505 (48.8%) were male and sex was not reported for five cases (0.5%).

Of the 1,034 confirmed cases hospitalised, 444 (42.9%) 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.

[‡‡‡] ICU figures taken from the pandemic (H1N1) ICU enhanced surveillance system. Week number is based on infectious disease notification week number, which is one week behind the international influenza week number. Therefore weeks 51-52 above are equivalent to weeks 52-53, respectively on the influenza system.

Table 5: Cumulative number of hospitalised cases of confirmed pandemic (H1N1) 2009 by age group (years) and sex (Week 17 – 52)

Source: CIDR

Age group (years)	Female	Male	Unknown	Total	Age specific hospitalisation Rate per 100,000 population	% of Total
0-4	95	135	1	**231**	*76.4*	*22.3*
5-14	90	151	2	**243**	*43.2*	*23.5*
15-24	100	62	0	**162**	*25.6*	*15.7*
25-34	89	45	1	**135**	*18.7*	*13.1*
35-44	69	35	1	**105**	*16.8*	*10.2*
45-54	31	25	0	**56**	*10.7*	*5.4*
55-64	33	34	0	**67**	*16.5*	*6.5*
65+	16	17	0	**33**	*7.1*	*3.2*
Age unknown	1	1	0	2	*n/a*	*0.2*
Total	**524**	**505**	**5**	**1034**	*24.4*	*100.0*

5. Outbreak surveillance (CIDR)

No new outbreaks of pandemic (H1N1) 2009, influenza or ILI were reported during week 51 or 52 2009. As of 2nd 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 6.

Table 6: Reported number of confirmed pandemic (H1N1) 2009 deaths by WHO region

Source: WHO 30th December 2009

WHO Region	Cumulative total as of 30th December 2009
	Deaths
Africa (AFRO)	130
Americas (AMRO)	At least 6670
Eastern Mediterranean (EMRO)	693
Europe (EURO)	At least 2422
South-East Asia (SEARO)	1056
Western Pacific (WPRO)	1249
Total	**At least 12,220**

United Kingdom

During week 52 (21-27th December), the weekly influenza/influenza-like illness (ILI) consultation rate decreased in England, Wales and Northern Ireland and remained below baseline levels. In Scotland, the ILI rate was stable and remained just above the baseline level. The cumulative number of deaths reported as being due to pandemic (H1N1) 2009 is 305. There were 608 new patients hospitalised in England with suspected pandemic influenza in the week from 24-30th December. The hospitalisation rates have decreased in all age groups. 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. Thirty-one of 4,563 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 51 (14-20th December), Bulgaria reported an increasing trend in influenza-like illness (ILI) or acute respiratory infection (ARI) rates, while 17 countries and the UK (England and Northern Ireland) reported a decreasing trend and Cyprus and the UK (Scotland) indicated stable activity. Fourteen countries reported decreasing rates of ILI/ARI for at least the last two weeks with five (Belgium, Iceland, Ireland, Spain and part of the UK (Northern Ireland)) reaching levels below those registered in week 40. Thirteen countries are reporting medium influenza intensity with only Bulgaria and Greece reporting high levels. Belgium, Cyprus, Germany, the Netherlands and the UK (England and Northern Ireland) reported low intensity. Six countries reported widespread activity while eight countries and the UK (Scotland) reported regional activity and five countries and the UK (England and Northern Ireland) reported local or sporadic activity. In all countries collecting information on the age of patients, individuals younger than 15 years are the most affected age group. While the proportion of influenza-positive sentinel samples continued to decline, the 2009 pandemic influenza A (H1N1) virus still accounted for 99% of all subtyped viruses in sentinel patients and for 98% in severe acute respiratory infection (SARI) patients. Twenty-nine (11%) reported SARI patients were known to have required ICU admission and one ventilatory support. Oseltamivir resistance was detected in 19 of the 595 viruses tested and reported to EISN so far. Resistance to zanamivir was not detected in any of the 589 strains tested.
http://ecdc.europa.eu/en/publications/Pages/Publications.aspx

USA

During week 52 (20-26th December), influenza activity decreased slightly. The proportion of outpatient visits for influenza-like illness (ILI) was 3.2% which is above the national baseline of 2.3%. Two of the ten regions reported ILI below region-specific baseline levels. The proportion of deaths attributed to pneumonia and influenza (7.7%) in week 52 was above the epidemic threshold (7.4%). Four influenza associated paediatric deaths were reported during week 52, of which two were pandemic influenza A (H1N1) 2009. During week 52, 154 (3.9%) specimens tested by collaborating laboratories and reported to CDC/Influenza Division were positive for influenza. All subtyped influenza A viruses being reported to CDC were pandemic influenza A (H1N1) 2009 viruses. Four states reported geographically widespread influenza activity.
http://www.cdc.gov/flu/weekly/

Canada

During week 51 (13-19th December), the overall influenza activity decreased for the fifth consecutive week. The ILI consultation rate remained well below the expected range for this time of the year and only 3.7% of specimens tested were positive for influenza. Pandemic (H1N1) 2009 strain still accounted for nearly 100% of the positive influenza A subtyped specimens in week 51. The number of hospitalised cases (79 vs. 159), ICU admissions (21 vs. 40) and deaths (11 vs. 21) were about half of those reported in the previous week. From August 30th to December 19th 2009, a total of 6,951 hospitalised cases including 1,113 cases admitted to ICU (16%), as well as 324 (4.7%) deaths have been reported.
http://www.phac-aspc.gc.ca/fluwatch/index-eng.php

New Zealand

During week 51 (14-20th December), there has been a decrease in consultations for influenza-like illness through sentinel surveillance (7.09 per 100,000 patient population). Up to 13 December 2009, a total of 4898 influenza viruses have been reported through sentinel (624, 13%) and non-sentinel surveillance (4274, 87%).

Five influenza viruses were reported in week 51: three A/California/7/2009 (H1N1)v and two pandemic (H1N1) 2009 from the non-sentinel surveillance.
http://www.surv.esr.cri.nz/virology/influenza_weekly_update.php

Australia

During week 51, (12-18th December), ILI rates at a national level were below the baseline level reached at the end of the 2007 and 2008 seasons. As of 18th December 2009, there were 37,537 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 30th December 2009 http://www.who.int/csr/disease/swineflu/updates/en/

- **Central and Eastern Europe:** The most active areas of pandemic influenza transmission are currently in central and eastern Europe. Focal increases in rates of ILI/ARI during recent weeks were reported in at least three eastern European countries: Georgia, Montenegro, and Ukraine. A high intensity of respiratory disease activity with concurrent circulation of pandemic influenza persists in parts of southern and eastern Europe, particularly in Greece, Poland, Bulgaria, Serbia, Ukraine and the Urals Region of the Russian Federation.
- **Western and Central Asia:** In Central Asia, limited data suggest that influenza virus circulation remains active, but transmission may have recently peaked in some places. In West Asia, Israel, Iran, Iraq, Oman and Afghanistan also appear to have passed their peak period of transmission within the past month, though both areas continue to have some active transmission and levels of respiratory disease activity have not yet returned to baseline levels.
- **East and Southern Asia**: In East Asia, influenza transmission remains active but appears to be declining overall. Influenza/ILI activity continued to decline in Japan, in northern and southern China, Chinese Taipei, and Hong Kong SAR (China). Slight increases in ILI were reported in Mongolia after weeks of declining activity following a large peak of activity over one month ago. In southern Asia, influenza activity continues to be intense, particularly in northern India, Nepal, and Sri Lanka. Seasonal influenza A (H3N2) viruses are still being detected in very small numbers in China making up about 2.5% of the influenza A viruses detected there.
- **Central and South America and the Caribbean**: In the tropical regions of Central and South America and the Caribbean, influenza transmission remains geographically widespread but overall disease activity has been declining or remains unchanged in most parts, except for focal increases in respiratory disease activity in a few countries.
- **North Africa:** Limited available data indicate that active, high intensity transmission is occurring in Northern African countries along the Mediterranean coast (Algeria, Tunisia, and Egypt).

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