

# Influenza Weekly Surveillance Report



A REPORT BY THE HEALTH PROTECTION

SURVEILLANCE CENTRE IN COLLABORATION WITH THE IRISH COLLEGE OF GENERAL PRACTITIONERS,  
THE NATIONAL VIRUS REFERENCE LABORATORY & THE DEPARTMENTS OF PUBLIC HEALTH

## Influenza Week 29 2009 (13<sup>th</sup> July-19<sup>th</sup> July 2009)

### Summary

During *influenza week 29 2009*, influenza-like illness (ILI) consultation rates increased but are still below baseline thresholds levels (17.8/100,000): 13.1 per 100,000 population. Four sentinel specimens tested positive for influenza A(H1N1)v (4 cases).

### Background

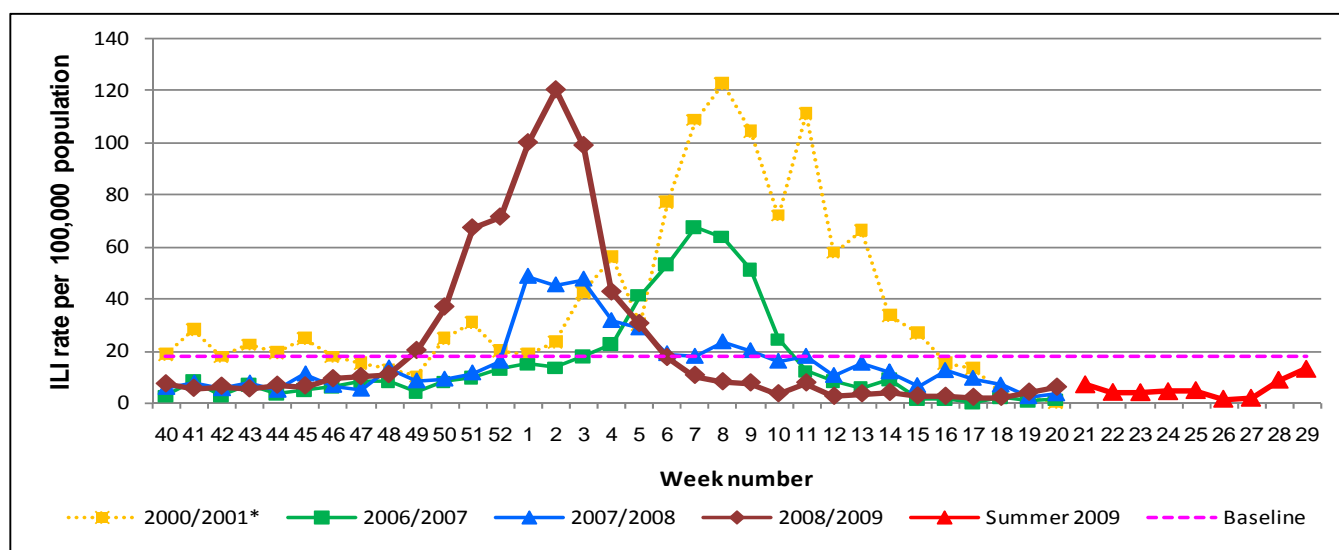
This is the ninth season of influenza surveillance using computerised sentinel general practices in Ireland. The Health Protection Surveillance Centre (HPSC) is working in collaboration with the Irish College of General Practitioners (ICGP), the National Virus Reference Laboratory (NVRL) and the Departments of Public Health on this sentinel surveillance project. Sixty sentinel general practices 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. This report includes data on ILI cases reported by sentinel GPs, influenza test results from the NVRL, influenza notifications, registered deaths attributed to influenza, and regional influenza activity reported by the Departments of Public Health.

### Results

#### Clinical Data

Fifty-five of 60 (92%) sentinel general practices reported during *influenza week 29 2009*, with 20 practices reporting the 30 ILI cases. This corresponds to an ILI consultation rate of 13.1 per 100,000 population, which is an increase in comparison to the updated rate of 8.8 per 100,000 population reported during *influenza week 28 2009* (figure 1). This rate remains below the baseline threshold of 17.8 per 100,000 population.

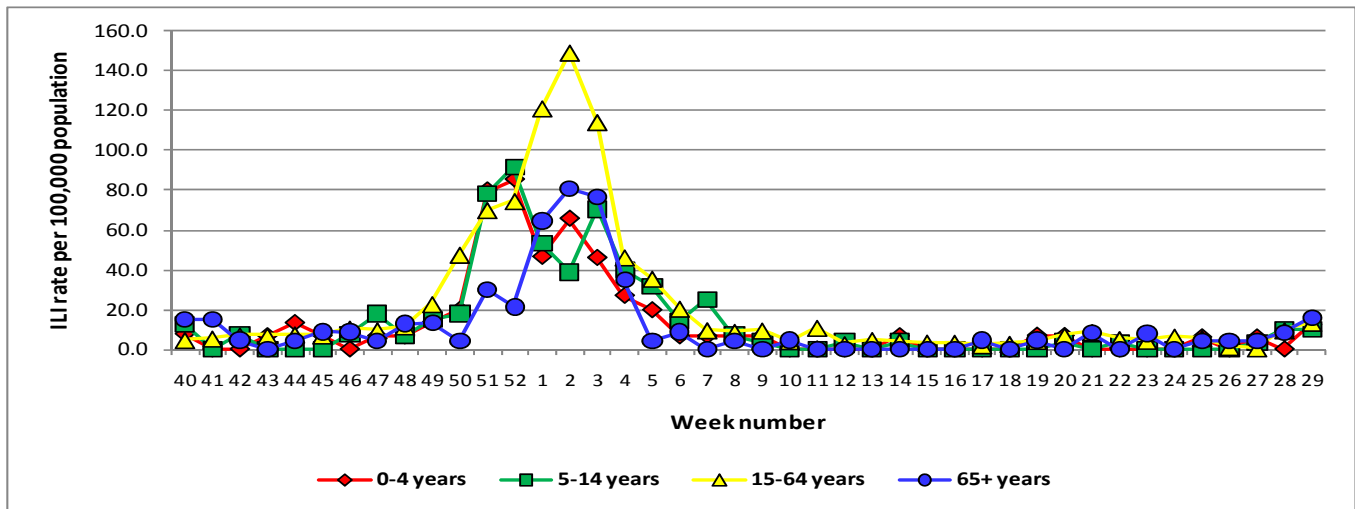


**Figure 1:** Influenza baseline activity threshold and GP consultation rate for ILI per 100,000 population by week, during the 2000/2001\*, 2006/2007, 2007/2008, 2008/2009 and Summer 2009 influenza seasons

\*Highest recorded levels of ILI activity since initiation of sentinel surveillance

## Results (continued)

During *influenza week 29 2009*, two ILI cases were reported in the 0-4 year age group (12.3 per 100,000 population), three cases in the 5-14 year age group (9.9 per 100,000 population), 21 cases in the 15-64 year age group (13.4 per 100,000 population) and four cases in the 65+ years and older age group (15.9 per 100,000 population) as shown in figure 2.



**Figure 2:** Age specific GP consultation rate for ILI per 100,000 population by week during the 2008/2009 and Summer 2009 influenza seasons

### *Influenza A(H1N1)v infection*

Please see separate report by HPSC on Influenza A(H1N1)v infection for *epidemiological week 29 2009*, available at: <http://www.hpsc.ie/hpsc/A-Z/EmergencyPlanning/AvianPandemicInfluenza/SwineInfluenza/Surveillance%20Reports/>

### *Oseltamivir Resistance in Europe*

During the 2008/2009 influenza season, the NVRL has conducted nucleotide sequencing on 10 influenza A(H1) specimens taken by sentinel GPs in Ireland, nine (90%) of which were resistant to oseltamivir and one was sensitive. During the 2007/2008-influenza season, seven of 63 specimens (11.1%) tested by the NVRL showed resistance to oseltamivir.

Preliminary results from antiviral drug susceptibility testing among seasonal influenza viruses circulating in Europe have revealed that some of the influenza A (H1N1) viruses in circulation this season are resistant to the antiviral drug, oseltamivir. The latest set of figures were published on the ECDC website on the 12<sup>th</sup> June 2009. In Europe, all influenza A(H3N2) viruses tested were sensitive to oseltamivir (n=653) and zanamivir (n=612), whereas 100% of the 644 A(H3N2) viruses tested were resistant to M2 inhibitors. Of the influenza A(H1N1) viruses analysed, 100% were sensitive to zanamivir (n=259) and 99.2% were sensitive to M2 inhibitors (n=124) but 98% were resistant to oseltamivir (n=255). Of the influenza A(H1N1)v viruses analysed, 100% were sensitive to both zanamivir and oseltamivir (n=26) and 100% were sensitive to M2 inhibitors (n=28). One hundred and seventeen influenza B isolates were analysed and all were sensitive to oseltamivir and 113 influenza B isolates were all sensitive to zanamivir.

*Latest information on oseltamivir resistance in Europe:*

[http://ecdc.europa.eu/en/Health\\_topics/Seasonal%20Influenza/Epidemiological\\_updates.aspx](http://ecdc.europa.eu/en/Health_topics/Seasonal%20Influenza/Epidemiological_updates.aspx)  
[http://ecdc.europa.eu/en/Health\\_Topics/influenza/antivirals.aspx](http://ecdc.europa.eu/en/Health_Topics/influenza/antivirals.aspx)

In the UK, since *influenza week 40 2008* all of the 237 influenza A(H3) isolates that have been tested for drug sensitivity have been found to be sensitive to oseltamivir and zanamivir, but resistant to amantadine. Eighty-six influenza A(H1) specimens have been tested for anti-viral drug resistance, 85 (98.8%) of these were resistant to oseltamivir and all were sensitive to zanamivir and amantadine. Fifty-five influenza B specimens have been tested and all were sensitive to oseltamivir and zanamivir.

*Latest information on oseltamivir resistance in the UK:*

<http://www.hpa.org.uk/web/HPAweb&Page&HPAwebAutoListName/Page/1191942171468>

### ***Virological Data from the NVRL***

Seventeen sentinel specimens were tested by the NVRL during *influenza week 29 2009*, four of which were positive for influenza [all A(H1N1)v] (4 cases). The NVRL tested 216 non-sentinel specimens taken during *influenza week 29 2009*. Source details were available on only a subset of these non-sentinel specimens, but of these most were from hospitals (n=21) or GP clinics or Public Health Departments (n=13). Twenty-three non-sentinel specimens tested positive for influenza A(H1N1)v (23 cases) and one was positive for influenza B. One specimen tested positive for respiratory syncytial virus (RSV) during *influenza week 29 2009* (table 1).

Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case.

Table 2 shows the number and percentage of sentinel specimens that tested positive for influenza, by type and subtype, for the Summer 2009 influenza season to date. Influenza positive specimens by HSE area and age group (in years), for *influenza week 29 2009* and the Summer 2009 season to date are shown in tables 3 and 4, respectively. Figure 3 compares the ILI consultation rates by season and the number of positive influenza specimens tested by the NVRL. Figure 4 compares the number and percentage of non-sentinel RSV positive specimens detected during the 2007/2008 and 2008/2009 influenza seasons and the respective Summer 2008 and 2009 seasons.

**Table 1:** Number of sentinel and non-sentinel\* respiratory specimens and positive results for *influenza week 29 2009* and Summer 2009 season to date

<i>Influenza week Number</i>	<i>Specimen Type</i>	<i>Total Specimens</i>	<i>No. Influenza Positive</i>	<i>% Influenza Positive</i>	<i>Influenza A</i>	<i>Influenza B</i>	<i>RSV</i>	<i>% RSV Positive</i>
<b>29 2009</b>	Sentinel	17	4	23.5	4	0	NA	NA
	Non-Sentinel	216	24	11.1	23	1	1	0.5
	<b>Total</b>	<b>233</b>	<b>28</b>	<b>12.0</b>	<b>27</b>	<b>1</b>	<b>1</b>	<b>0.4</b>
<b>Summer 2009 season to date</b>	Sentinel	68	6	8.8	6	0	NA	NA
	Non-Sentinel	1469	201	13.7	199	2	10	0.7
	<b>Total</b>	<b>1537</b>	<b>207</b>	<b>13.5</b>	<b>205</b>	<b>2</b>	<b>10</b>	<b>0.7</b>

**Table 2:** Number and percentage of positive sentinel specimens by type and subtype, Summer 2009 season to date

Summer 2009 season to date <sup>†</sup>						
<i>Influenza (all types)</i>		<i>Influenza A (all subtypes)</i>	<i>Influenza B</i>	<i>Influenza A Unsubtyped</i>	<i>Influenza A(H1N1)v</i>	<i>Influenza A(H3)</i>
		<i>(n=6)</i>		<i>(n=6)</i>		
<b>Number positive</b>	6	6	0	0	4	2
<b>% Positive</b>	<b>8.8</b>	<b>100.0</b>	<b>0.0</b>	<b>0.0</b>	<b>66.7</b>	<b>33.3</b>

**Table 3:** Total number of sentinel and non-sentinel<sup>†</sup> influenza A and B positive specimens by HSE area for *influenza week 29 2009* and the Summer 2009 season to date

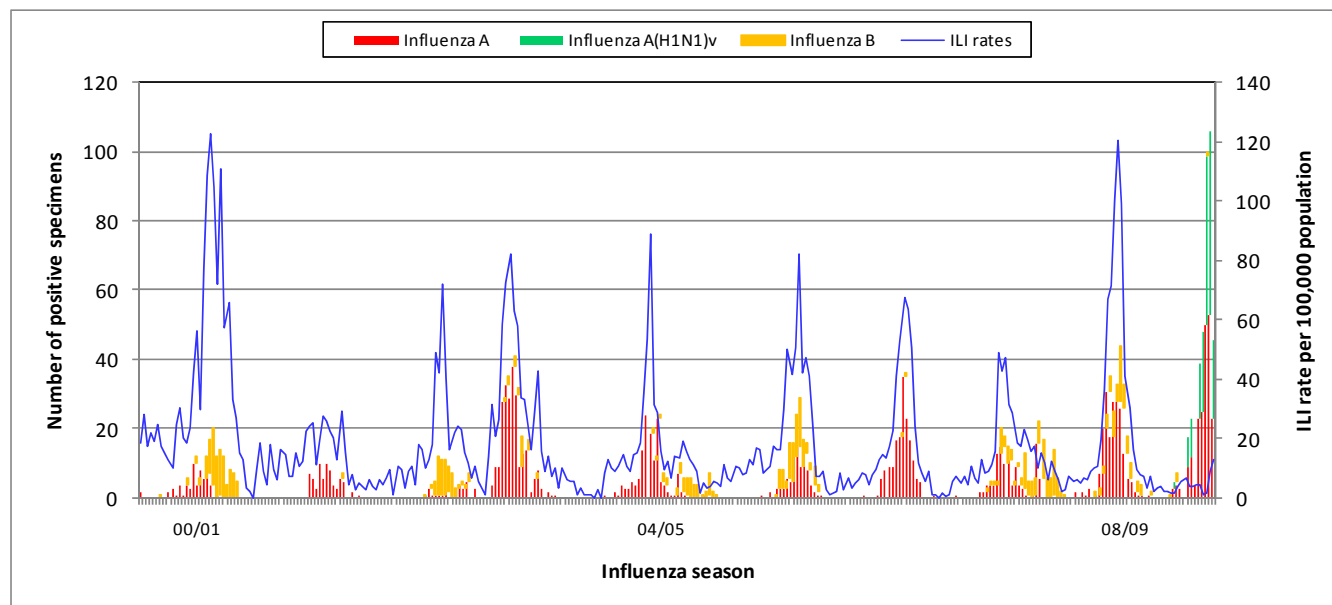
	<i>Influenza week 29 2009</i>			<i>Summer 2009 season to date</i>		
	<i>Flu A</i>	<i>Flu B</i>	<i>Total</i>	<i>Flu A</i>	<i>Flu B</i>	<i>Total</i>
<b>HSE-ER</b>	19	0	<b>19</b>	89	1	<b>90</b>
<b>HSE-M</b>	2	0	<b>2</b>	5	0	<b>5</b>
<b>HSE-MW</b>	2	0	<b>2</b>	14	0	<b>14</b>
<b>HSE-NE</b>	2	0	<b>2</b>	20	0	<b>20</b>
<b>HSE-NW</b>	1	0	<b>1</b>	7	0	<b>7</b>
<b>HSE-SE</b>	0	0	<b>0</b>	26	0	<b>26</b>
<b>HSE-S</b>	0	1	<b>1</b>	17	1	<b>18</b>
<b>HSE-W</b>	1	0	<b>1</b>	23	0	<b>23</b>
<b>HSE area unknown</b>	0	0	<b>0</b>	4	0	<b>4</b>
<b>Total</b>	<b>27</b>	<b>1</b>	<b>28</b>	<b>205</b>	<b>2</b>	<b>207</b>

\* Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case

<sup>†</sup> Number of sentinel specimens tested = 17

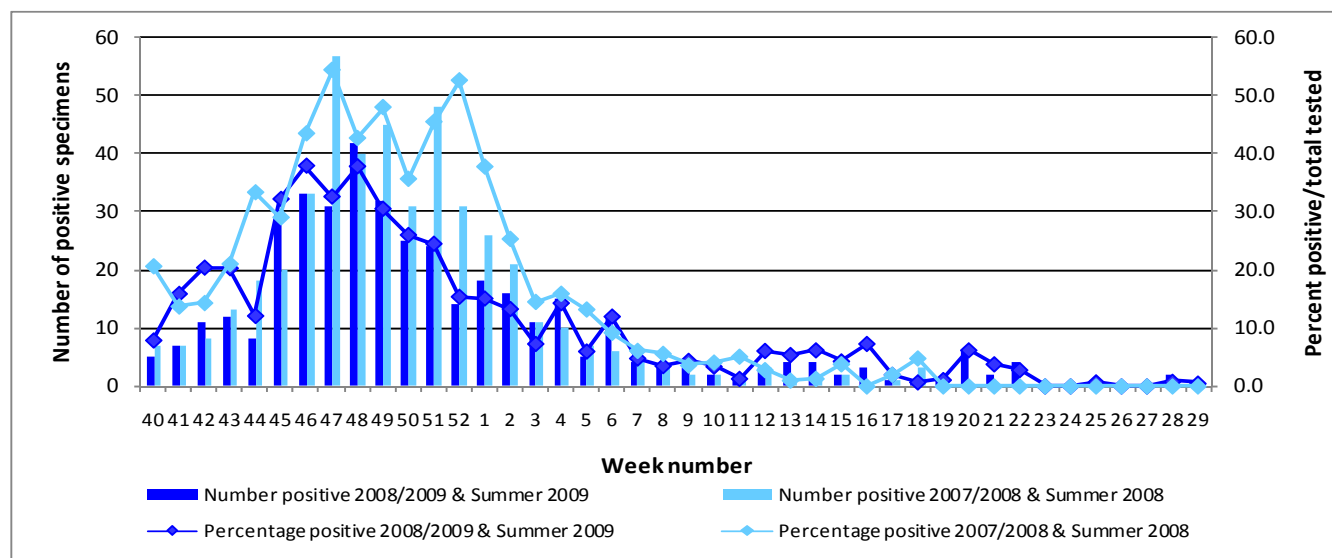
**Table 4:** Total number of sentinel and non-sentinel† influenza A and B positive specimens by age group (in years) for influenza week 29 2009 and the Summer 2009 season to date

	Influenza week 29 2009			Summer 2009 season to date		
	Flu A	Flu B	Total	Flu A	Flu B	Total
0-4 years	5	0	5	21	0	21
5-14 years	1	0	1	16	0	16
15-64 years	20	1	21	150	2	152
65 years and older	0	0	0	5	0	5
Age group unknown	1	0	1	13	0	13
<b>Total</b>	<b>27</b>	<b>1</b>	<b>28</b>	<b>205</b>	<b>2</b>	<b>207</b>



**Figure 3:** GP ILI consultation rate per 100,000 population and the number of positive influenza specimens detected by the NVRL by influenza week and season, 2000/2001 - 2008/2009, including Summer 2009

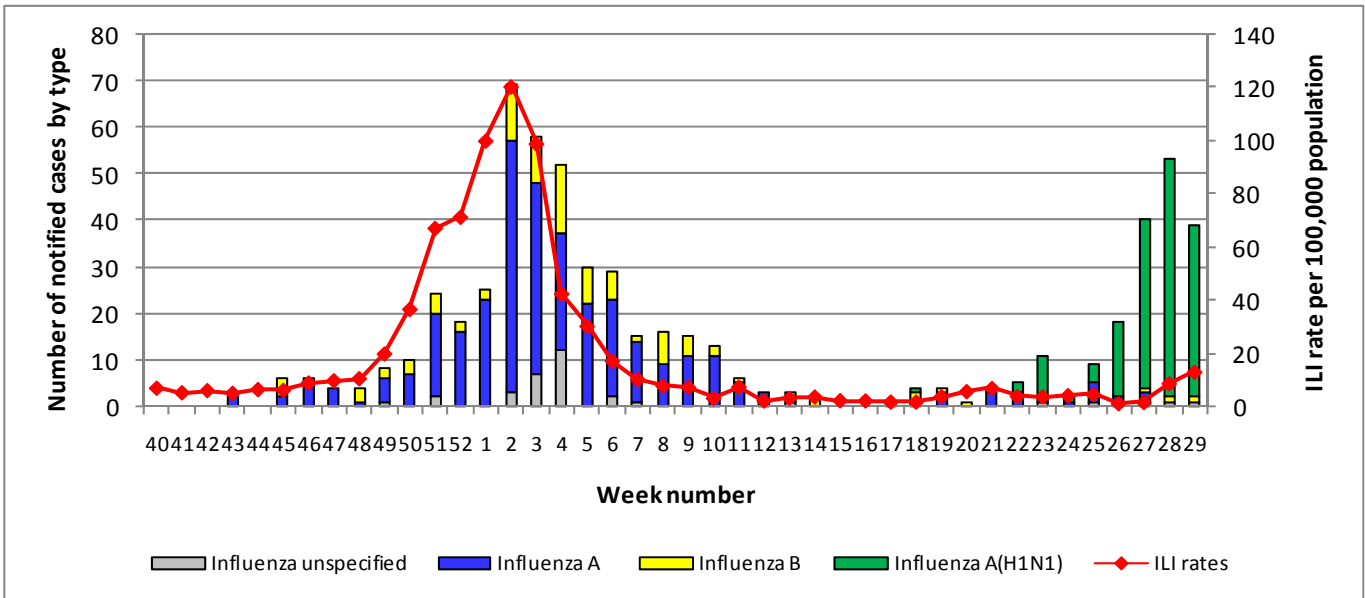
†Please note that non-sentinel specimens include all specimens referred to the NVRL, these specimens are mainly from hospitals and some GPs and may include more than one specimen from each case



**Figure 4.** Number and percentage of non-sentinel RSV positive specimens detected during the 2007/2008 and 2008/2009 influenza seasons (data points from influenza week number 21 onwards represent the summer seasons for 2008 and 2009)

### Weekly Influenza Notifications

During influenza week 29 2009 (week 28 2009 of epidemiological calendar), 37 influenza A(H1N1)v cases (22 in HSE-E, four in HSE-NE, three in HSE-W, two each in HSE-M, -NW and -SE, and one each in HSE-MW and -S), one influenza B case (in HSE-S) and one influenza unspecified case (in HSE-E) were notified to HPSC. Influenza cases, including those with influenza A(H1N1)v, notified to HPSC during the 2008/2009 and Summer 2009 influenza seasons are shown in figure 5 and compared to GP ILI consultation rates.



**Figure 5:** Number of notifications of influenza by type and week of notification compared to sentinel GP ILI consultation rates per 100,000 population during the 2008/2009 and the summer 2009 influenza seasons<sup>‡</sup>

### Baseline thresholds

A baseline threshold of 17.8 cases per 100,000 population will be used alongside expert opinion to assess influenza activity during the 2008/2009 and Summer 2009 influenza season in Ireland. This baseline was derived from the EISS method using a mathematical algorithm to identify the influenza activity period of the previous eight seasons.

### Mortality Data

No deaths attributed to influenza were reported to HPSC by the General Register Office during influenza week 29 2009.

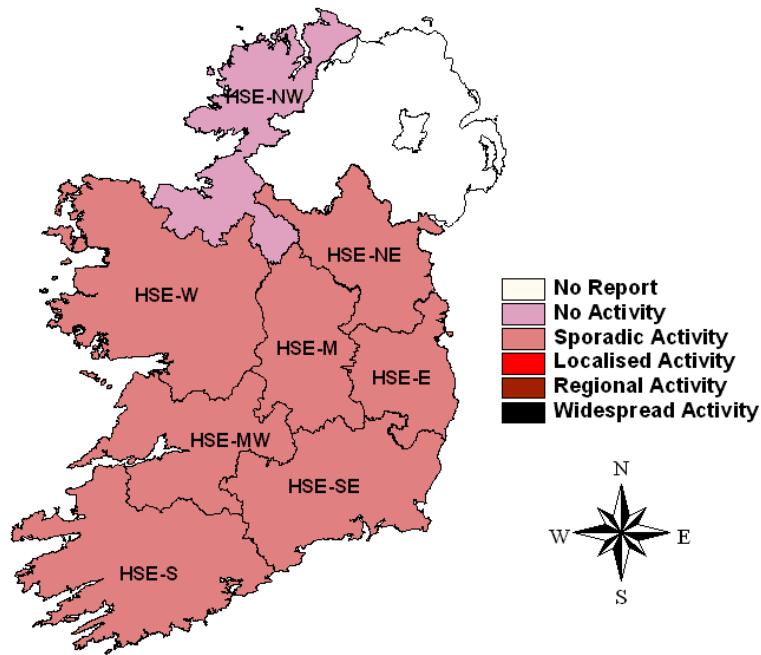
### Outbreak Reports

No seasonal influenza/ILI outbreaks were reported to HPSC during influenza week 29 2009. During the 2008/2009 season and the Summer 2009 influenza season to date, six seasonal influenza/ILI outbreaks have been reported to HPSC.

### Regional Influenza Activity by HSE-Area

Influenza activity is reported on a weekly basis from the Departments of Public Health. Influenza activity is based on sentinel GP ILI consultation rates, laboratory confirmed influenza cases and ILI/influenza outbreaks. Each Department of Public Health has established at least one sentinel hospital in each HSE area, to report total hospital admissions, total emergency admissions and total respiratory admissions data on a weekly basis. Sentinel primary and secondary schools were also established in each HSE area in close proximity to the sentinel GPs, reporting absenteeism data on a weekly basis. During influenza week 28 2009, no increases in respiratory admissions were reported by sentinel hospitals. All sentinel schools are now closed. No activity was reported by HSE-NW while sporadic influenza activity (based on isolated cases of ILI and/or virological results) was reported by HSE-E, -M, -MW, -NE, -S, -SE and -W during influenza week 28 2009 (figure 6).

<sup>‡</sup> Notification data are provisional and were extracted from [CIDR](#) on the 21/07/2009 at 12.00



**Figure 6:** Map of influenza activity by HSE area during *influenza week 28 2009*

### ***Influenza Activity in Northern Ireland***

During *influenza week 29 2009*, 14 cases of influenza and 48 cases of ILI were reported in Northern Ireland, corresponding to a combined rate of 31.1 per 100,000 population, a slight increase compared to the updated rate of 30.1 per 100,000 population reported during *influenza week 28 2009*. During *influenza week 29 2009*, 13 specimens tested positive for influenza A(H1N1)v and one tested positive for influenza A(H3). For more details see: <http://www.cdscni.org.uk/>

### ***Influenza Activity in England, Scotland & Wales***

In *influenza week 28* GP consultation rates for influenza and influenza-like illness increased in England, Wales and Scotland. The overall threshold level in England and Wales (as determined by RCGP) is 30 consultations per 100,000 population, a separate threshold for Wales is 25 consultations per 100,000 population and in Scotland it is 50 consultations per 100,000 population. The RCGP combined rate for England and Wales is now above the baseline threshold for normal seasonal flu activity, while in Scotland and Wales rates remain below baseline levels: England and Wales (RCGP), 73.4 per 100,000 population (compared to 51.9 per 100,000 population in *influenza week 27*); Wales (separate data), 15.8 per 100,000 population (compared to 5.1 per 100,000 population for *influenza week 27*) and Scotland, 25 per 100,000 population (compared to 15 per 100,000 population for *influenza week 27*). The QSurveillance® UK rate was 86.8 per 100,000 population in *influenza week 28* compared to 30.4 per 100,000 population in *influenza week 27*. Please note that the GP consultation rates for England and Wales, Scotland and QSurveillance® are for ILI, while for Northern Ireland (see previous section) it is a combined ILI and influenza rate where thresholds have not been set. The Centre for Infections' Respiratory Virus Unit (RVU) reported 61 positive specimens for *influenza week 27* [60 A(H1N1)v and one A(H3)].

Seasonal influenza surveillance data for the UK can be accessed at the following link:

<http://www.hpa.org.uk/servlet/Satellite?c=Page&childpagename=HPAweb%2FPage%2FHPAwebAutoListName&cid=1153999752025&p=1153999752025&pagename=HPAwebWrapper&searchmode=simple&searchterm=National+Influenza+Report>

Influenza A(H1N1)v surveillance data for the UK can be accessed at the following link:

<http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1240732817665?p=1240732817665>

### ***Influenza Activity in Europe***

Seasonal influenza surveillance data for Europe can be accessed at the following link:

<http://www.eiss.org/index.cgiUU>

Influenza A(H1N1)v surveillance data for Europe can be accessed at the following link:

<http://ecdc.europa.eu/>



### ***Influenza Activity in Canada***

Seasonal influenza surveillance data for Canada can be accessed at the following link:

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

Influenza A(H1N1)v surveillance data for Canada can be accessed at the following link:

[http://www.phac-aspc.gc.ca/alert-alerte/swine\\_200904-eng.php?utm\\_source=phac-goc-departments-eng&utm\\_medium=banner&utm\\_content=swineflu-landing-page&utm\\_campaign=swineflu](http://www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php?utm_source=phac-goc-departments-eng&utm_medium=banner&utm_content=swineflu-landing-page&utm_campaign=swineflu)

### ***Influenza Activity in the United States***

Seasonal influenza surveillance data for the United States can be accessed at the following link:

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

Influenza A(H1N1)v surveillance data for the United States can be accessed at the following link:

<http://www.cdc.gov/h1n1flu/>

### ***Influenza Activity Worldwide***

Global seasonal influenza surveillance data can be accessed at the following link:

<http://gamapserver.who.int/GlobalAtlas/home.asp>

Global influenza A(H1N1)v surveillance data can be accessed at the following link:

<http://www.who.int/en/>

### ***Avian Influenza***

No further reports of avian influenza activity on the WHO website (latest information: 1<sup>st</sup> July 2009).

As of 1<sup>st</sup> July 2009, 436 confirmed human cases and 262 (60.1%) deaths from avian influenza A(H5N1) have been reported to the WHO from Azerbaijan, Bangladesh, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Lao Peoples Democratic Republic, Myanmar, Nigeria, Pakistan, Thailand, Turkey and Viet Nam.

WHO [http://www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)

HPSC <http://www.ndsc.ie/hpsc/A-Z/Respiratory/AvianInfluenza/>

ECDC <http://ecdc.europa.eu/en/>

### ***Northern Hemisphere Influenza Vaccine for the 2009/2010 Season***

For the 2009/2010 influenza season in the Northern Hemisphere, the members of the WHO Collaborating Centres on Influenza have recommended that influenza vaccines for the contain the following strains:

- an A/Brisbane/59/2007 (H1N1)-like virus<sup>\*\*</sup>
- an A/Brisbane/10/2007 (H3N2)-like virus<sup>††</sup>
- a B/Brisbane/60/2008-like virus<sup>‡‡</sup>

<sup>\*\*</sup>A/Brisbane/59/2007 is a current vaccine virus; A/South Dakota/6/2007 (an A/Brisbane/59/2007-like virus) is a current vaccine virus used in live attenuated vaccines.

<sup>††</sup>A/Brisbane/10/2007 and A/Uruguay/716/2007 (an A/Brisbane/10/2007-like virus) are current vaccine viruses.

<sup>‡‡</sup>B/Brisbane/33/2008 is a B/Brisbane/60/2008-like virus.

[http://www.who.int/csr/disease/influenza/recommendations2009\\_10north/en/index.html](http://www.who.int/csr/disease/influenza/recommendations2009_10north/en/index.html).

**Further information on influenza can be found on the [HPSC website](#)**

### **Acknowledgements**

HPSC, ICGP and NVRL wish to thank the sentinel GPs who have participated in the GP sentinel surveillance system and who have contributed towards this report

**This report was produced by Stephen Murchan and Dr Joan O'Donnell, HPSC**