

# Influenza Surveillance in Ireland – Weekly Report

Influenza Week 40 2010 (4<sup>th</sup> – 10<sup>th</sup> October 2010)



## Summary

- All indicators of influenza activity in Ireland are at low levels:
  - ◆ The sentinel GP ILI consultation rate was 7.1 per 100,000 population in week 40 2010, remaining unchanged from the updated rate of 7.5 per 100,000 reported during week 39 2010.
    - ILI rates remain below the Irish baseline threshold (17.8 per 100,000 population)
    - ILI rates remain at low levels in all age groups
  - ◆ No positive influenza specimens were detected by the National Virus Reference Laboratory (NVRL) from sentinel or non-sentinel sources during week 40 2010.
  - ◆ Respiratory syncytial virus (RSV) and parainfluenza virus type 1 (PIV-1) positive detections were reported from the NVRL during week 40 2010.
  - ◆ No significant increases in the proportion of respiratory admissions were reported from sentinel hospitals.
  - ◆ The proportion of influenza-related calls to GP Out-of-Hours services was low during week 40 2010, compared to the same time period last year.
- During the summer period, GP ILI consultation rates remained below baseline levels and no influenza positive detections were reported. Adenovirus and PIV-3 positive detections were reported sporadically throughout the summer period.

## Introduction

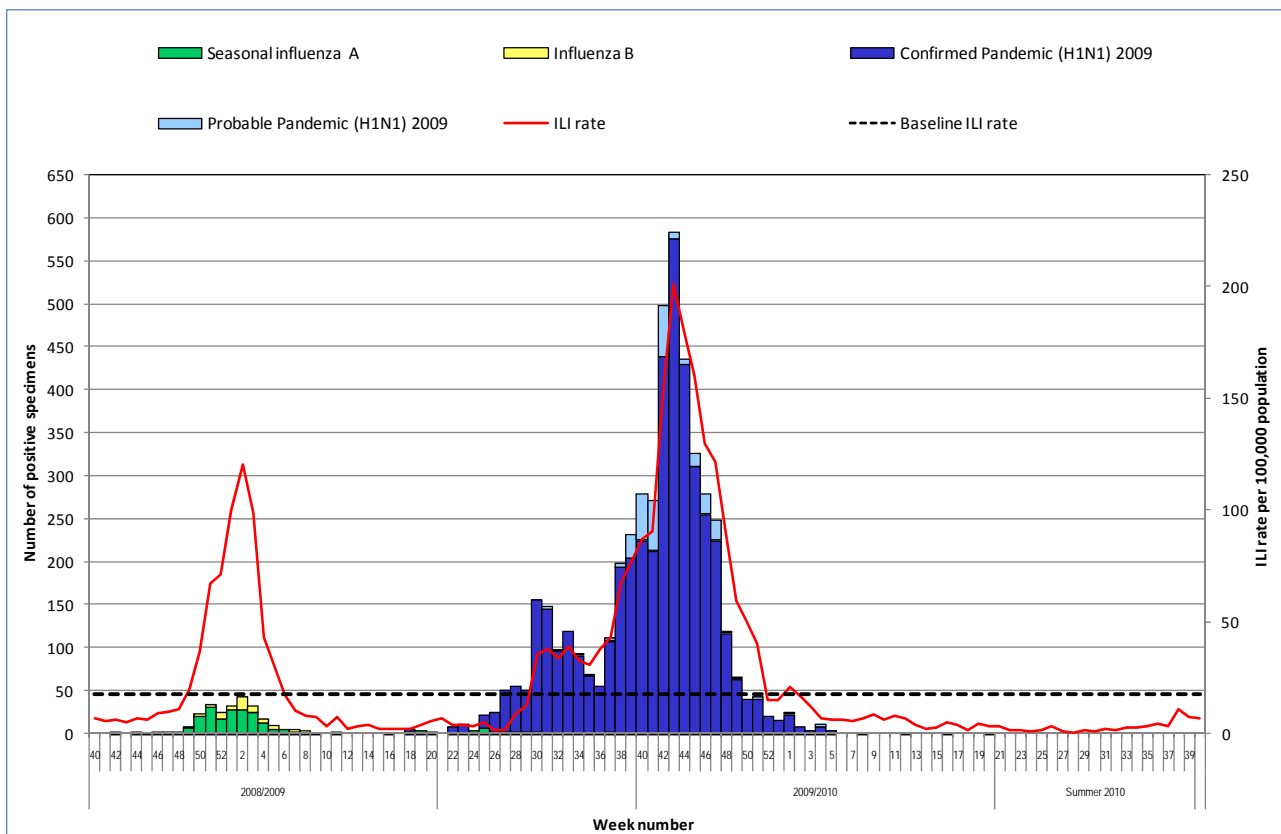
In order to monitor influenza activity in Ireland a number of surveillance systems are currently in place:

1. Irish College of General Practitioners (ICGP) GP sentinel surveillance system
2. Virological data from the National Virus Reference Laboratory (NVRL)
3. GP Out-of-Hours surveillance system
4. Influenza notifications reported on the Computerised Infectious Disease Reporting system (CIDR)
5. Enhanced surveillance of all hospitalised confirmed influenza cases aged 0-14 years
6. Outbreak reporting on CIDR
7. Network of sentinel schools reporting absenteeism and sentinel hospitals reporting admission data
8. Additional surveillance activities will be implemented once pandemic (H1N1) 2009 virus is circulating in Ireland.

## 1. GP sentinel surveillance system

### Clinical Data

During week 40 2010, 49 of 60 (81.7%) sentinel general practices provided data, with 15 practices (25.0%) reporting 16 influenza-like illness (ILI) cases and 45 practices reporting no ILI cases. This corresponds to an ILI consultation rate of 7.1 per 100,000 population, remaining unchanged from the updated rate of 7.5 per 100,000 reported during week 39 2010. Figure 1 shows the ILI consultation rates, the baseline threshold rate (17.8 per 100,000 population) and the number of positive specimens detected by the NVRL<sup>1</sup>.



**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: Clinical ILI data from ICGP and virological data from the NVRL<sup>\*\*†</sup>

\* Please note that in addition to the NVRL, Cork University Hospital (CUH) and Galway University Hospital(s) (GUH) also tested for pandemic (H1N1) 2009 during the pandemic period.

† Sentinel GP consultations and virological data from the NVRL are updated on an ongoing basis, ILI rates and virological data are adjusted accordingly.

During week 40 2010, sentinel GPs reported one ILI case in the 0-4 year age group (6.2 per 100,000 population) and 15 ILI cases in the 15-64 year age group (9.7 per 100,000 population). No ILI cases were reported in the 5-14 and 65+ year age groups (figure 2). ILI rates per 100,000 population remained at low levels in all age groups throughout the summer of 2010.

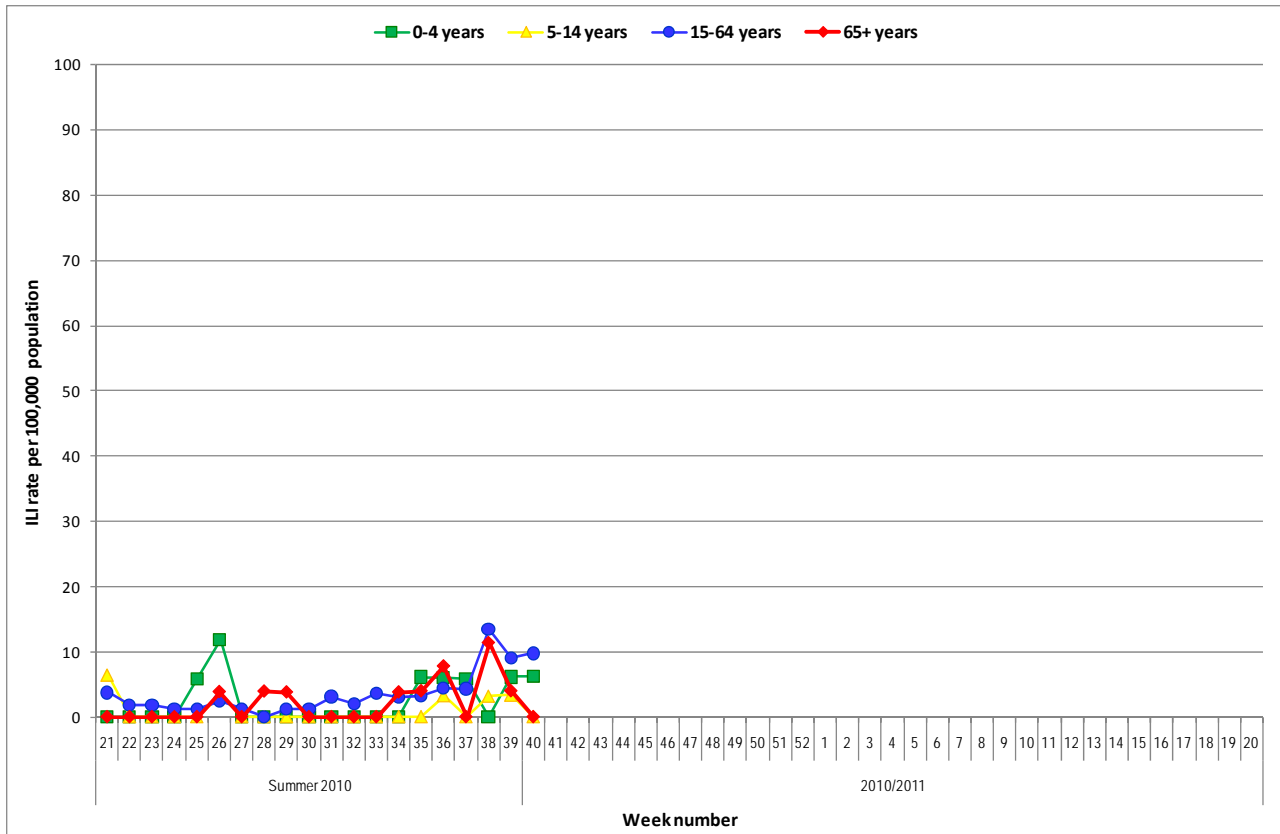


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the Summer of 2010 and the 2010/2011 influenza season to date

Source: ICGP ILI clinical data

## 2. Virological Data from the National Virus Reference Laboratory (NVRL)

A total of 63 specimens (13 sentinel and 50 non-sentinel) were tested by the NVRL during week 40 2010, all of which were negative for influenza virus. Of the 50 non-sentinel specimens tested during week 40 2010, four (8.0%) were positive for RSV and one (2.0%) was positive for parainfluenza virus type 1 (PIV-1) (Table 1 & 2 and figure 3). Adenovirus and PIV-3 positive detections were reported sporadically throughout the summer of 2010. The percentage of positive RSV specimens (8.0%) for week 40 2010, is slightly above average, compared to the same time period for previous seasons. Figure 4 shows the number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2010/2011 and 2009/2010 seasons.<sup>‡</sup>

<sup>‡</sup> 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.

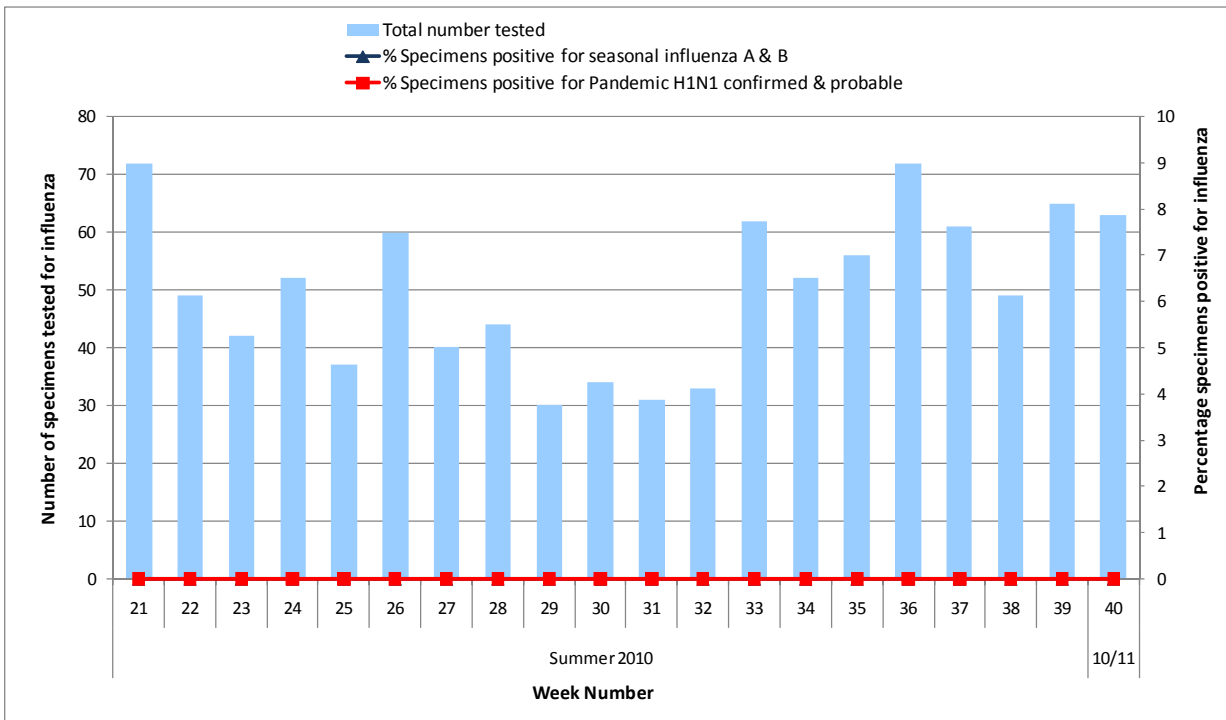


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive  
 Source: NVRL

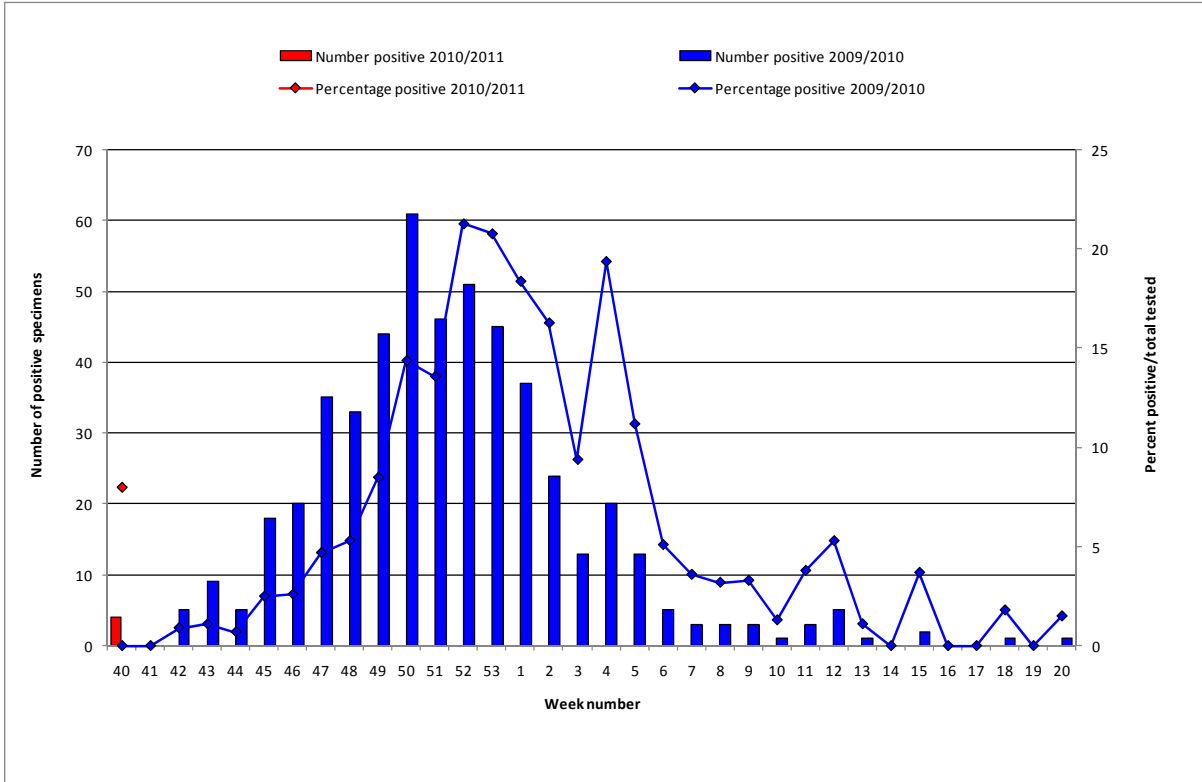


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2010/2011 season, compared to the 2009/2010 season. Source: NVRL

**Table 1: Number of sentinel and non-sentinel respiratory specimens tested and positive results, week 40 2010**

Source: NVRL

Week number	Specimen type	Total Specimens tested	Number Influenza Positive	% Influenza Positive	Confirmed Pandemic (H1N1) 2009	Influenza A(H3)	Influenza A(H1)	Influenza A (unsubtyped)	Influenza B
40 2010	Sentinel	13	0	0.0	0	0	0	0	0
	Non-sentinel	50	0	0.0	0	0	0	0	0
	<b>Total</b>	<b>63</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, week 40 2010**

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
40 2010	50	4	8.0	0	0.0	1	2.0	0	0.0	0	0.0

### 3. Regional Influenza Activity by HSE-Area

Regional influenza activity is reported on a weekly basis for each HSE area. Influenza activity is based on sentinel GP ILI consultation rates, laboratory confirmed influenza cases and ILI/influenza outbreaks.

During week 40 2010, sporadic influenza activity (based on sporadic ILI cases) was reported from three HSE-Areas (HSE-E, -MW and -S). All other areas reported no influenza activity during week 40 2010 (figure 5).

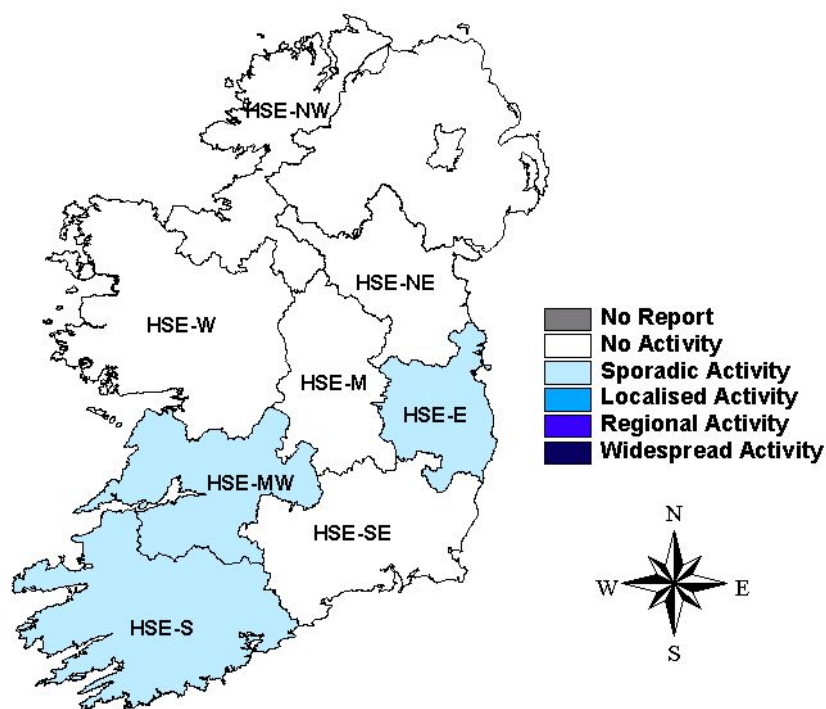


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 40 2010

#### 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 HSE-Area, in close proximity to the sentinel GPs, to report absenteeism data on a weekly basis. There were no significant increases in the proportion of respiratory admissions reported from sentinel hospitals during week 40 2010. There was also no significant increase in absenteeism reported from sentinel schools during this period.

#### 4. 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. During week 40 2010, 1.9% of all calls received were influenza-related calls (figure 6). Eight GP Out-of-Hours services reported during week 40 2010.

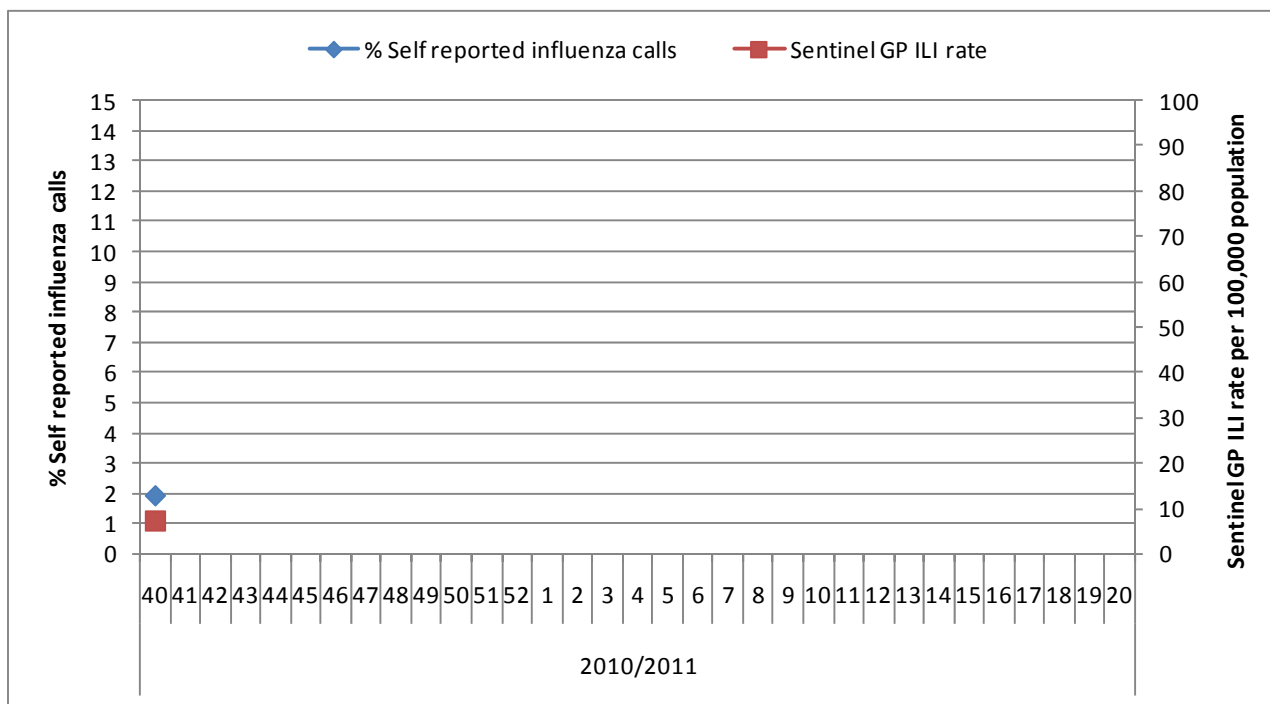


Figure 6: Self reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and national sentinel GP ILI consultation rate per 100,000 population by week for the 2010/2011 season

Source: HSE-NE & ICGP.

## 5. Influenza notifications and outbreak surveillance (CIDR)

As of 13<sup>th</sup> October 2010, no influenza notifications or general outbreaks of ILI/influenza/pandemic (H1N1) 2009 have been reported to CIDR during the summer of 2010 or the 2010/2011 season to date.

## 6. International summary

### United Kingdom

During week 39 2010, influenza activity remains low across the UK, though slight increases in GP consultation rates were observed in Scotland and Northern Ireland. The RCGP weekly ILI consultation rate in England was 4.6 per 100,000, in Wales the influenza rate was 1.0 per 100,000, in Northern Ireland the combined influenza and ILI rate was 23.4 (increased from 10.9) per 100,000 and in Scotland the ILI rate was 32.7 (increased from 23.3) per 100,000. In all schemes, the rate remains below the baseline level. There were no respiratory specimens collected through the English GP sentinel virological schemes in week 39 2010. Of the 11 collected in week 38, none were positive for influenza. The RCGP consultation rates for acute bronchitis and RSV and parainfluenza detections remain low.

[http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb\\_C/1243928258754](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1243928258754)

### Europe

During weeks 38 and 39 2010, sporadic ILI/ARI activity was reported in Cyprus, France and the UK (England and Wales). No influenza viruses were detected from sentinel practices during this period. Non-sentinel specimens yielded 12 influenza detections: 11 influenza A and one influenza B. Only three influenza A viruses were sub-typed, one 2009 pandemic A (H1N1) virus and two A (H3).

[http://ecdc.europa.eu/en/healthtopics/influenza/epidemiological\\_data/Pages/Weekly\\_Influenza\\_Surveillance\\_Overview.aspx](http://ecdc.europa.eu/en/healthtopics/influenza/epidemiological_data/Pages/Weekly_Influenza_Surveillance_Overview.aspx)

### USA

The first weekly influenza surveillance report of the 2010/2011 season will be published on October 15<sup>th</sup> 2010.

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

### Canada

Overall influenza activity in Canada increased slightly during weeks 37 and 38 2010, but remained relatively low with most of the influenza surveillance regions reporting no activity. Two outbreaks were reported during this period (one in a school and one in a long-term care facility). The proportion of positive influenza specimens reported increased slightly in weeks 37 and 38, with 11 positive specimens (out of 2,246): five were reported as influenza A (H3N2) and six specimens were reported as influenza A (unsubtyped).

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

### Worldwide (WHO)

As of October 8<sup>th</sup> 2010, influenza activity is decreasing in most parts of the temperate Southern Hemisphere and the season does not yet appear to have definitively started in the temperate areas of the Northern Hemisphere. Influenza A (H3N2) is now the predominant influenza virus world wide after several weeks of increasing detections in much of the world, but many areas still have active transmission of pandemic H1N1 (2009) influenza. Most of the influenza A (H3N2) viruses detected are A/Perth/16/2009-like, which is the strain included in the seasonal vaccine for the Northern and Southern Hemispheres.

The most common virus types associated with the influenza season of 2010 in the temperate southern hemisphere have varied greatly depending on the location. In Australia, ILI activity, hospital, and intensive care unit admissions related to influenza have all decreased in the past week. The H1N1 (2009) influenza virus is still the most frequently detected virus in Australia, with a lower number of influenza type B and A (H3N2) viruses.



ILI rates in New Zealand are below baseline levels for the second week, with a low rate of influenza virus detection. The most common influenza virus detected in New Zealand this season is H1N1 (2009), with very few other subtypes detected. In South America, overall respiratory disease activity is decreasing, with a mixed picture of influenza viruses. In Chile the seasonal outbreak arrived later than normal and respiratory disease activity is still high but decreasing, indicating that the peak activity has passed. Reported cases of severe acute respiratory infections caused by influenza have decreased and emergency consultations for pneumonia have also declined. Although some regions of the country have experienced higher ILI activity this year than during last year's outbreak of H1N1 (2009), at a national level overall activity has been much lower. The most frequently detected virus in Chile this season has been A (H3N2), with co-circulation of smaller numbers of H1N1 (2009) and type B viruses. The influenza season in South Africa has peaked and is declining; influenza type B was the predominant virus co-circulating with H1N1 (2009) and A(H3N2). The median age of influenza cases in South Africa was lower for those with H1N1 (2009) and influenza B infections than for those with influenza A (H3N2).

Influenza activity in the tropical areas of the world has been varied and discordant in time. While most tropical areas experienced recent peaks in transmission that are now decreasing, Southeast Asia is currently experiencing increasing levels of influenza activity. The viruses identified in tropical areas have varied and co-circulation of multiple types has been observed. Mexico has detected an increase in ILI and acute respiratory disease since August. This activity has coincided with an increased proportion of samples testing positive for influenza, but during September this proportion has again decreased. The majority of positive influenza samples have been influenza A (H3N2) viruses and a subset that was further characterised was all the A/Perth/16/2009-like strain, which is included in both the 2010/2011 Northern Hemisphere and the 2010 Southern Hemisphere influenza vaccine. <http://www.who.int/csr/disease/influenza/update/en/index.html>

#### **Northern hemisphere influenza vaccine for the 2010/2011 season:**

For the 2010/2011 influenza season in the Northern Hemisphere, the members of the WHO Collaborating Centres on Influenza have recommended that seasonal influenza vaccines contain the following strains:

- an A/California/7/2009 (H1N1)-like virus
- an A/Perth/16/2009 (H3N2)-like virus<sup>5</sup>
- a B/Brisbane/60/2008-like virus

[http://www.who.int/csr/disease/influenza/recommendations2010\\_11north/en/index.html](http://www.who.int/csr/disease/influenza/recommendations2010_11north/en/index.html)  
[http://www.who.int/csr/disease/influenza/201002\\_Recommendation.pdf](http://www.who.int/csr/disease/influenza/201002_Recommendation.pdf)

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

Ireland [www.hpsc.ie](http://www.hpsc.ie)  
Northern Ireland <http://www.cdscni.org.uk/>  
Europe – ECDC <http://ecdc.europa.eu/>  
Europe – EISN <http://ecdc.europa.eu/en/activities/surveillance/EISN/Pages/home.aspx>

#### **Acknowledgements**

**HPSC wishes to thank the Departments of Public Health, HSE-NE, ICGP, NVRL, CUH and UCHG for providing data for this report**

<sup>5</sup> A/Wisconsin/15/2009 is an A/Perth/16/2009 (H3N2)-like virus and is a 2010 southern hemisphere vaccine virus.