

# Influenza Surveillance in Ireland – Weekly Report

## Influenza Week 48 2010 (29<sup>th</sup> November – 5<sup>th</sup> December 2010)



### Summary

- During week 48 2010, all indicators of influenza activity in Ireland are at low levels.
  - ◆ The sentinel GP ILI consultation rate was 6.6 per 100,000 population in week 48 2010, remaining stable compared to the updated rate of 6.5 per 100,000 reported during week 47 2010.
    - ILI rates remain at low levels in all age groups.
  - ◆ No influenza positive specimens were detected by the National Virus Reference Laboratory during week 48 2010.
    - To date this season, only two positive influenza cases have been detected, both of which were influenza A (H1N1 2009).
  - ◆ The current proportion of respiratory syncytial virus (RSV) positive detections although increasing remains at low levels.
  - ◆ Sporadic detections of adenovirus and parainfluenza virus types -1, -2 and -3 have been reported since week 40 2010.
  - ◆ The proportion of influenza-related calls to GP Out-of-Hours services remains at low levels.

### Surveillance Systems

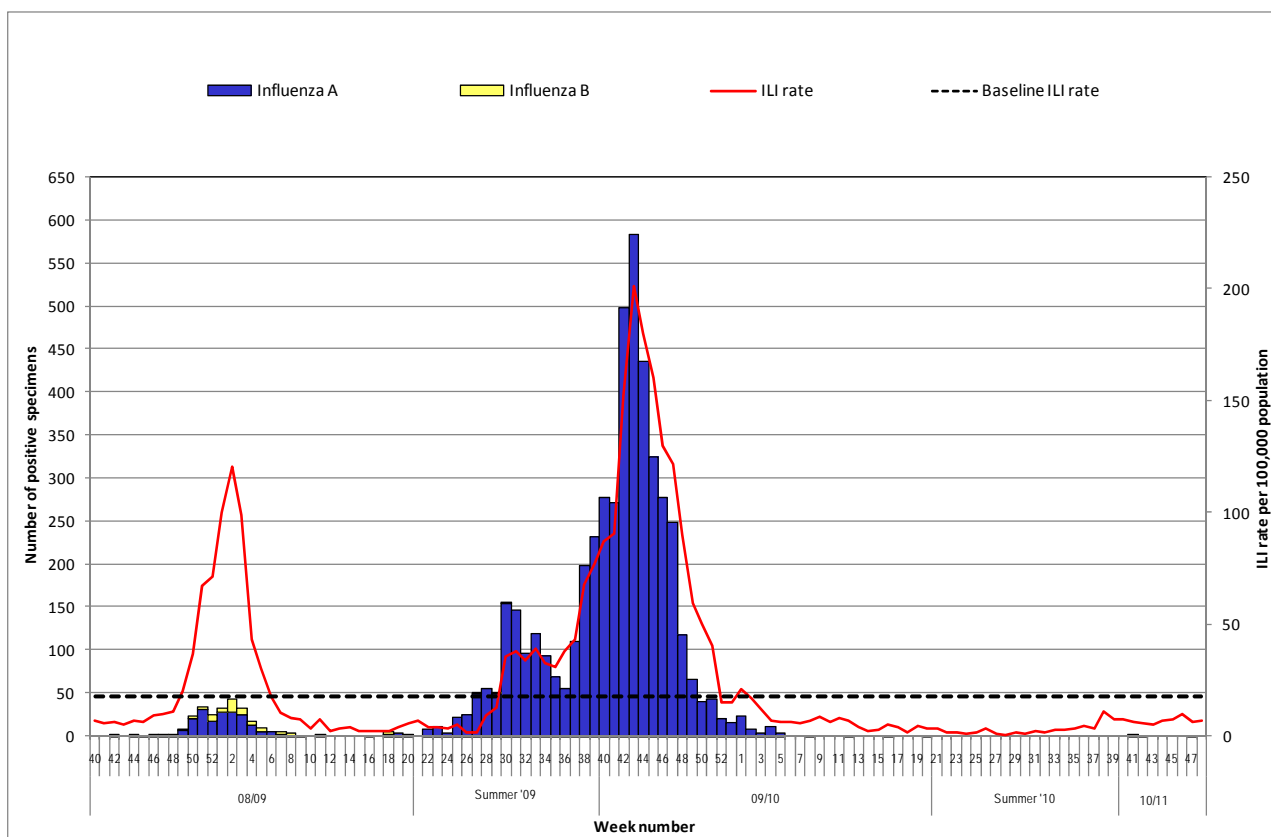
In order to monitor influenza activity in Ireland a number of surveillance systems are currently in place:

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. Intensive Care Society of Ireland (ICSI) enhanced surveillance of all critical care patients with confirmed influenza A (H1N1 2009)
7. Outbreak reporting on CIDR
8. Network of sentinel schools reporting absenteeism and sentinel hospitals reporting admission data

## 1. GP sentinel surveillance system

### Clinical Data

During week 48 2010, 51 of 60 (85.0%) sentinel general practices provided data, with 10 practices (19.6%) reporting 14 influenza-like illness (ILI) cases. This corresponds to an ILI consultation rate of 6.6 per 100,000 population, remaining stable compared to the updated rate of 6.5 per 100,000 reported during week 47 2010. ILI rates remain well below the Irish baseline threshold (17.8 per 100,000 population). Forty-one (80.4%) practices reported no ILI cases during week 48 2010. Figure 1 shows the ILI consultation rates, the baseline threshold rate and the number of positive specimens detected by the NVRL.



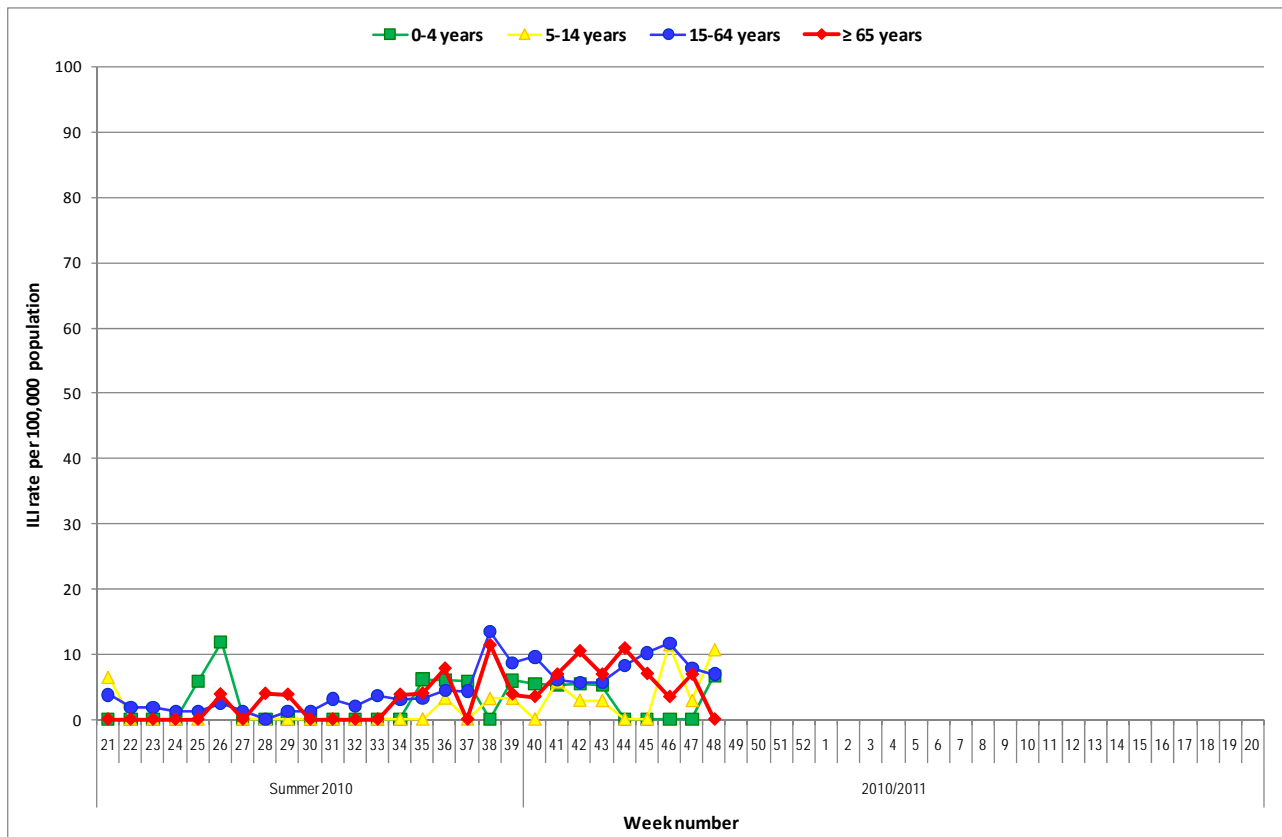
**Figure 1. ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza A and B specimens, by influenza week and season.**

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

ILI rates remained at low levels in all age groups during week 48 2010, with the highest rates reported from the 5-14 year age group. One ILI case was reported in the 0-4 year age group (6.6 per 100,000), three in the 5-14 year age group (10.7 per 100,000) and 10 cases were reported in the 15-64 year age group (6.9 per 100,000). No ILI cases were reported in those aged 65 years or older.

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

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



**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 99 specimens (9 sentinel and 90 non-sentinel) were tested by the NVRL during week 48 2010. No specimens were positive for influenza during this period (figure 3). To date this season, four specimens have tested positive for influenza virus: two A (H1N1 2009) and two A (unsubtyped). The four positive specimens were from two cases: one sentinel GP case in the 15-64 year age group and one hospitalised case in the 0-4 year age group.

Of the 90 non-sentinel specimens tested during week 48 2010, 14.4% (13) were positive for RSV, an increase from 7.0% during week 47 2010 (Tables 1 & 2). The current proportion of RSV positive detections although increasing and higher than the 2009/2010 season, remains at low levels compared to average levels for the same period over the last 10 years. 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> To date this season, there have been sporadic detections of adenovirus and parainfluenza virus (PIV) types -1, -2 and -3.

<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.

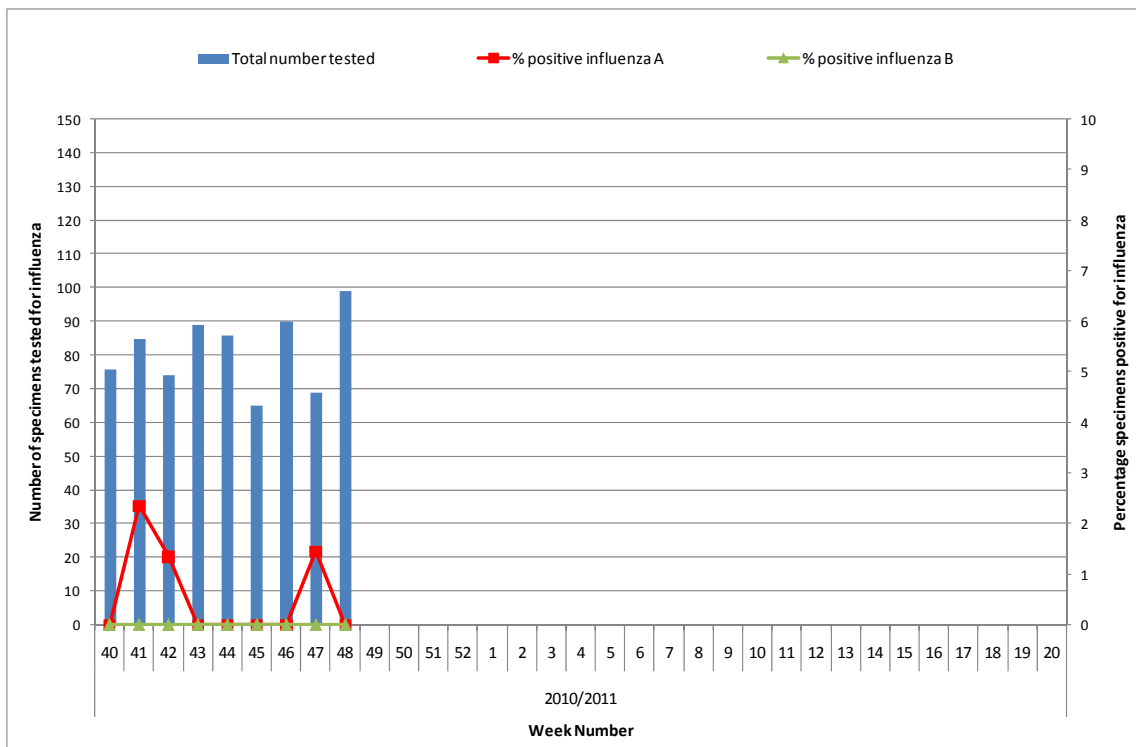


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive  
 Source: NVRL<sup>§</sup>

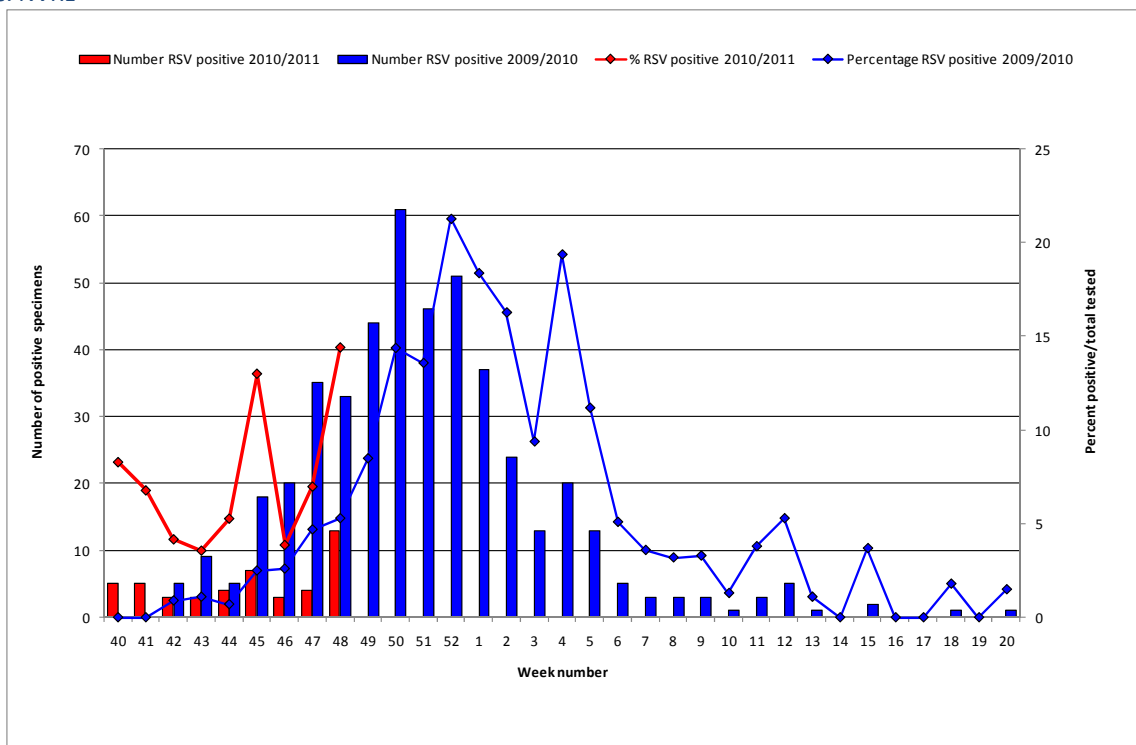


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2010/2011 season, compared to the 2009/2010 season. Source: NVRL

<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.

**Table 1: Number of sentinel and non-sentinel\*\* respiratory specimens tested and positive influenza results, for week 48 and the season to date**

Source: NVRL

Week number	Specimen type	Total specimens tested	Number influenza positive	% Influenza positive	Influenza A					Influenza B
					Total influenza A	A (H1N1 2009)	A (H3)	A (H1)	A (unsubtyped)	
48 2010	Sentinel	9	0	0.0	0	0	0	0	0	0
	Non-sentinel	90	0	0.0	0	0	0	0	0	0
	<b>Total</b>	<b>99</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2010/2011 season	Sentinel	91	1	1.1	1	1	0	0	0	0
	Non-sentinel	642	3	0.5	3	1	0	0	2	0
	<b>Total</b>	<b>733</b>	<b>4</b>	<b>0.5</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>

**Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 48 and the season to date** Source: NVRL

Week number	Total specimens tested	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
48 2010	90	13	14.4	0	0.0	0	0.0	0	0.0	0	0.0
2010/2011 season	642	47	7.3	5	0.8	5	0.8	2	0.3	1	0.2

\*\* 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.

### 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 48 2010, sporadic influenza activity (based on sporadic ILI cases and/or positive influenza detections) was reported from two HSE-Areas (HSE-E and -MW). All other areas reported no influenza activity during week 48 2010 (figure 5).

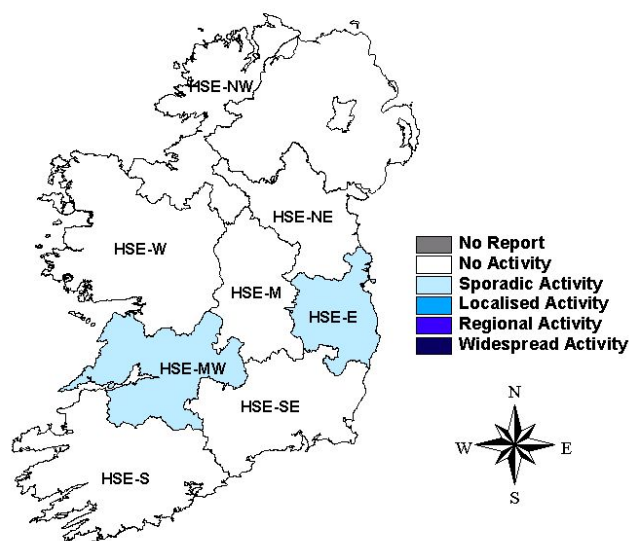


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 48 2010

#### 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. Hospital admissions and school absenteeism data act as a crude indicator for influenza activity.

One sentinel paediatric hospital has reported increases each week in the proportion of respiratory admissions for the last four consecutive weeks.<sup>††</sup> During week 48 2010, a large proportion of sentinel schools were either closed or experienced increased absenteeism due to severe weather conditions.

<sup>††</sup> It should be noted that this paediatric hospital joined the sentinel scheme during the current influenza season and therefore no baseline data are available.

#### 4. GP Out-Of-Hours services surveillance

The Department of Public Health in 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 48 2010, the proportion of influenza-related calls to GP Out-of-Hours services remained at low levels, at 1.6%, a slight increase from the updated data for week 47 2010 of 1.4% (figure 6). Four GP Out-of-Hours services reported during week 48 2010.

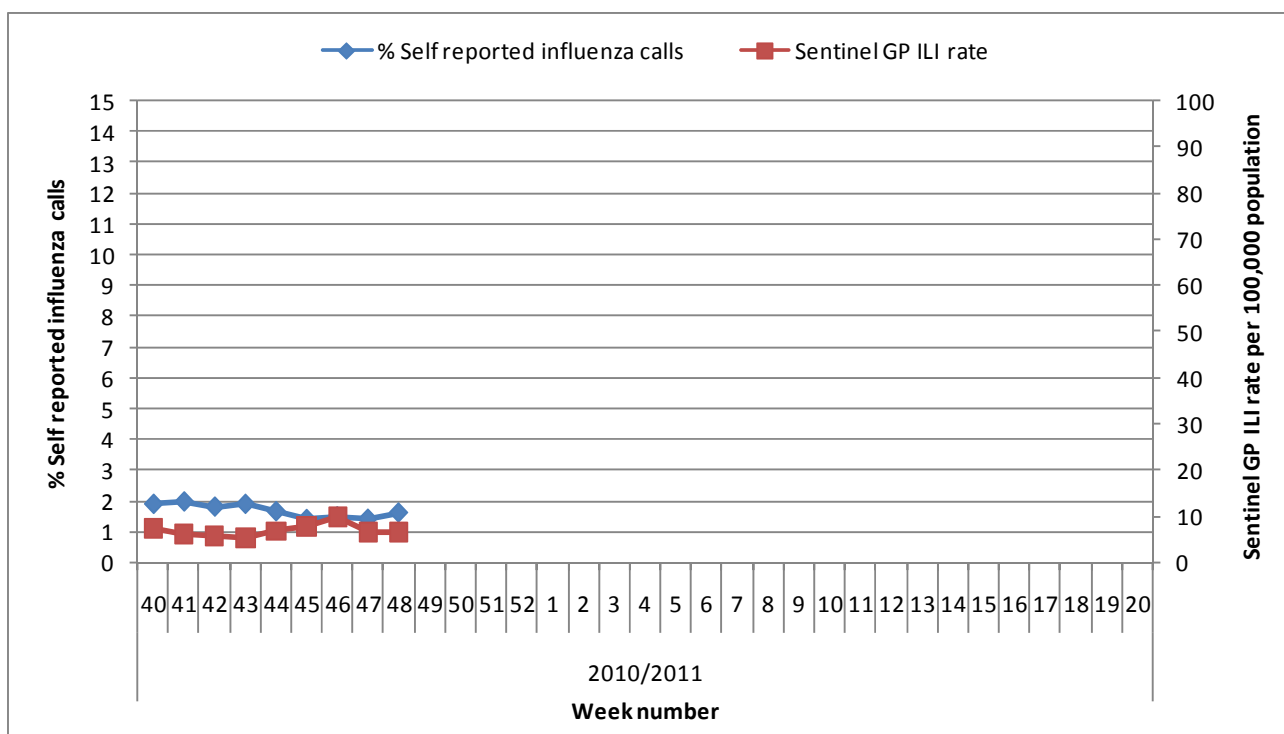


Figure 6: Self reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and national sentinel GP ILI consultation rate per 100,000 population by week for the 2010/2011 season

Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

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

As of 8<sup>th</sup> December 2010, no general outbreaks of ILI/influenza/influenza A (H1N1 2009) have been reported to CIDR during the 2010/2011 influenza season. To date this season, there have been two confirmed cases of influenza A (H1N1 2009) notified on CIDR, one during week 43 and one during week 47 2010.

## 6. International summary

### United Kingdom

Influenza activity remains low, but is increasing across the UK. In week 47 2010, the weekly influenza/ILI consultation rates increased in England from 8.3 to 11.8 per 100,000, in Wales from 7.6 to 8.1 per 100,000, in Scotland from 37.3 to 44.7 per 100,000 and in Northern Ireland from 23.8 to 25.4 per 100,000. However, all rates remained below baseline levels. Acute bronchitis consultation rates increased in all age groups during this period. The pneumonia rate increased from 0.8 to 1.7 per 100,000. The proportion of calls for colds/influenza to NHS Direct in England and Wales increased from 1.2% to 1.5%; above the baseline level. Eleven ILI outbreaks have been reported in week 47; four were associated with influenza A (H1N1 2009) and two with influenza B. Thirteen (19.7%) of 66 specimens taken in week 47 2010 through the English GP sentinel surveillance system tested positive for influenza: 1 A (unsubtyped), 7 B and 5 A (H1N1 2009). Proportions of RSV and rhinovirus increased from 21.5% to 27.2% and 11.5% to 21.7% in week 47, respectively. All influenza B isolates characterised to date this season were B/Malaysia-like, similar to the current vaccine strain B/Brisbane/60/2008. Of 49 A (H1N1 2009) viruses tested for antiviral susceptibility this season, one has been found to carry the H275Y mutation which confers resistance to the antiviral drug oseltamivir. <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/>

### Europe

During week 47 2010, all countries reporting to the European Influenza Surveillance Network (EISN) experienced influenza activity at low intensity. The number of countries reporting sporadic activity increased (from 6 in week 46 to 12 in week 47). Malta reported localised activity. In week 47 2010, 604 sentinel specimens were tested, 31 (5.1%) of which were positive for influenza virus. Of the 124 influenza viruses detected (from sentinel and non-sentinel sources) during week 47 2010, 68 (55%) were type A and 56 (45%) were type B. Of the 31 subtyped A viruses, 26 (84%) were A (H1N1 2009) and five (16%) were A (H3). To date this season, 39 influenza viruses have been antigenically characterised: 21 as A/California/7/2009 (H1N1)-like; seven as A/Perth/16/2009 (H3N2)-like; 10 as B/Brisbane/60/2008-like (Victoria lineage); all of which are components of the 2010/2011 influenza vaccine and one as B/Florida/4/2006-like (Yamagata lineage). [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

During week 47 2010, influenza activity in the United States remained relatively low overall. The proportion of outpatient ILI visits was below the national baseline. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. No influenza-associated paediatric deaths were reported. Of the 3,430 specimens tested during week 47, 366 (10.7%) were positive for influenza: 7 A (H1N1 2009), 127 A (H3), 47 A (unsubtyped) and 185 B. CDC has antigenically characterised four A (H1N1 2009) viruses as A/California/7/2009-like, eight A (H3N2) viruses as A/Perth/16/2009-like and six B viruses as B/Brisbane/60/2008-like, all of which are components of the 2010/2011 influenza vaccine. <http://www.cdc.gov/flu/weekly/>

### Canada

During week 47 2010, the overall influenza activity in Canada remained relatively low, however, activity level in some regions has slightly increased. The proportion of positive influenza specimens reported during week 47 doubled compared to week 46, with 111 specimens out of 2,418 (4.59%) testing positive: 39 A (H3N2), 63 A (unsubtyped) and 9 B. To date this season, influenza A (H3N2) has been the predominant subtype circulating in Canada, representing 96% of subtyped influenza A specimens. <http://www.phac-aspc.gc.ca/fluwatch/index-eng.php>



## Worldwide (WHO)

The WHO Global Influenza Programme monitors influenza activity worldwide and publishes an update every two weeks. As of December 3<sup>rd</sup> 2010, worldwide, influenza activity remained low, except in areas of South Asia and central and western Africa, which have seen recent surges in influenza A (H1N1 2009) virus detections. As the northern hemisphere winter approaches, with few exceptions, most countries in the temperate zone of the northern hemisphere continued to report low levels of ILI and influenza virus detections. Except for a few countries in Southeast Asia, most countries in the tropics of the Americas and Asia have recently reported low levels of influenza activity. Globally, there continued to be co-circulation of A (H1N1 2009), A (H3N2) and B viruses, with the latter two being predominant. <http://www.who.int/csr/disease/influenza/en/>

## 7. 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>\*\*</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	<a href="http://www.hpsc.ie">www.hpsc.ie</a>
Northern Ireland	<a href="http://www.cdscni.org.uk/">http://www.cdscni.org.uk/</a>
Europe – ECDC	<a href="http://ecdc.europa.eu/">http://ecdc.europa.eu/</a>
Europe – EISN	<a href="http://ecdc.europa.eu/en/activities/surveillance/EISN/Pages/home.aspx">http://ecdc.europa.eu/en/activities/surveillance/EISN/Pages/home.aspx</a>

## Acknowledgements

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