

# Influenza Surveillance in Ireland – Weekly Report

Influenza Week 46 2012 (12<sup>th</sup> – 18<sup>th</sup> November 2012)



## Summary

- **All indicators of influenza activity in Ireland were at low levels during week 46 2012:**
  - The sentinel GP influenza-like illness (ILI) consultation rate was 3.3 per 100,000 population in week 46 2012, remaining unchanged from the updated rate of 4.1 per 100,000 reported during week 45 2012.
    - ◆ ILI rates remain below the Irish baseline threshold (21.0 per 100,000 population)\*
    - ◆ ILI rates remain at low levels in all age groups
- The proportion of influenza-related calls to GP Out-of-Hours services remained at low levels during week 46 2012.
- One influenza positive specimen (influenza A(H3)) was reported from the NVRL from non-sentinel sources for week 46 2012.
- Respiratory syncytial virus (RSV) positivity levels continued to increase during week 46 2012, as expected for this time of year.
- Two adenovirus and one human metapneumovirus positive specimens were reported from the NVRL from non-sentinel sources during week 46 2012.
- During week 46 2012, one confirmed influenza case was hospitalised. There were no reports of confirmed influenza cases admitted to ICU or of any influenza-associated deaths occurring during this period.
- No influenza/ILI outbreaks were reported to HPSC during week 46 2012.
- Significant influenza transmission has yet to begin this season in Europe. Some European countries are reporting rising ILI rates that are likely due to other respiratory viruses.

## Surveillance Systems

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

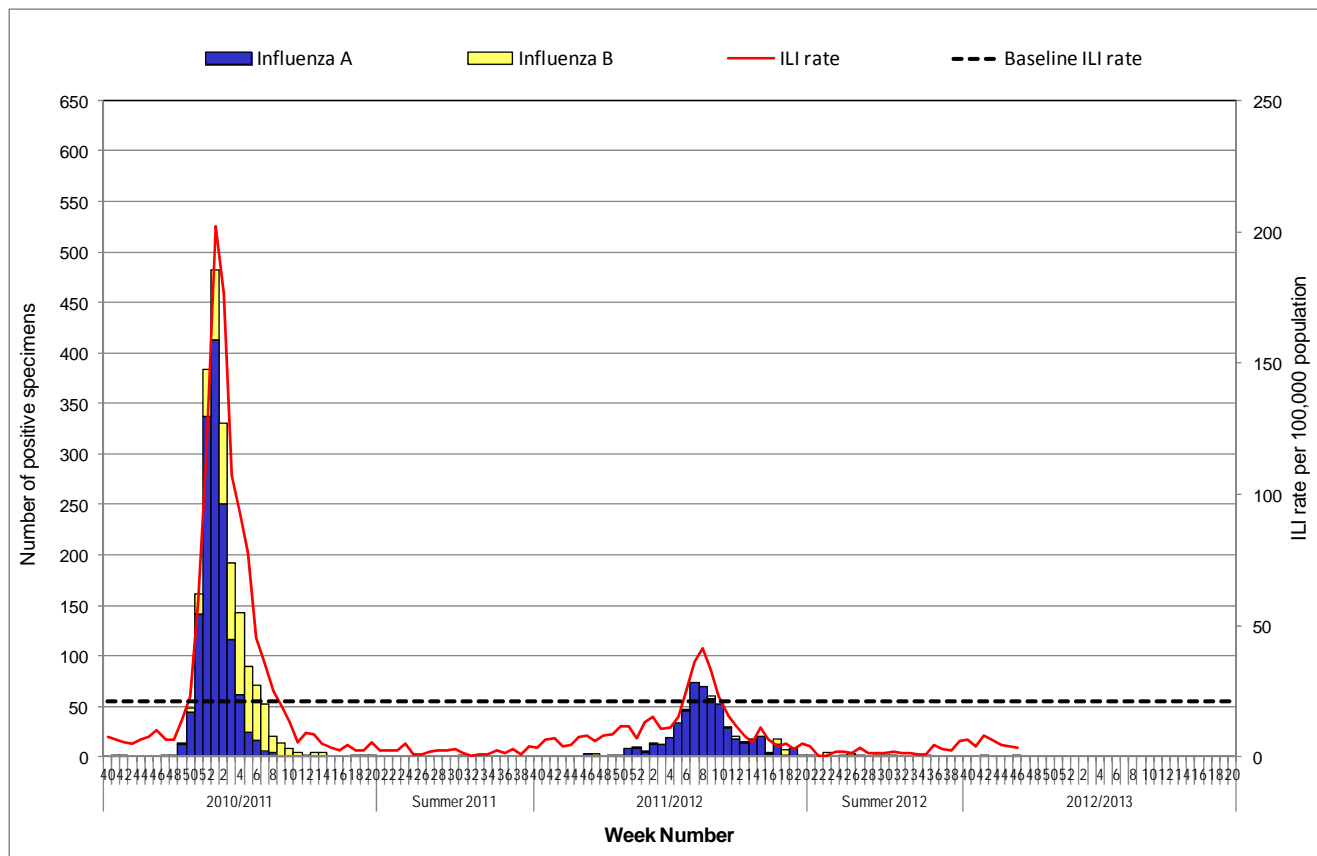
1. Irish College of General Practitioners (ICGP) GP sentinel surveillance system
2. Virological data from the National Virus Reference Laboratory (NVRL)
3. GP Out-of-Hours surveillance system
4. Influenza notifications reported on the Computerised Infectious Disease Reporting system (CIDR)
5. Enhanced 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 and enhanced surveillance of all severe acute respiratory infections (SARI) in two pilot ICU sites.
7. Outbreak reporting on CIDR
8. Network of sentinel hospitals reporting admission data

\* HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) have revised the Irish baseline threshold for the 2012/2013 influenza season to 21.0 per 100,000 population.

## 1. GP sentinel surveillance system

### Clinical Data

During week 46 2012, seven influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 3.3 per 100,000 population, remaining unchanged compared to the updated rate of 4.1 per 100,000 reported during week 45 2012. Fifty-one of 60 (85.0%) sentinel general practices provided data during week 46 2012, with 7 practices (13.7%) reporting 7 ILI cases. The ILI consultation rate for week 46 2012 remained below the Irish baseline threshold (21.0 per 100,000 population). HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) have revised the Irish baseline threshold for the 2012/2013 influenza season to 21.0 per 100,000 population. Figure 1 shows the ILI consultation rates, the baseline threshold rate and the number of positive specimens detected by the NVRL.



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

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

ILI age specific rates were low in all age groups during week 46 2012 and for the 2012/2013 influenza season to date (figure 2 2012). One ILI case was reported in the 0-4 year age group (6.1 per 100,000), two ILI cases were reported in the 5-14 year age group (7.0 per 100,000) and four ILI cases were reported in the 15-64 year age group (2.8 per 100,000) during week 46 2012. No ILI cases were reported in those aged 65 years or older during week 46 2012.

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

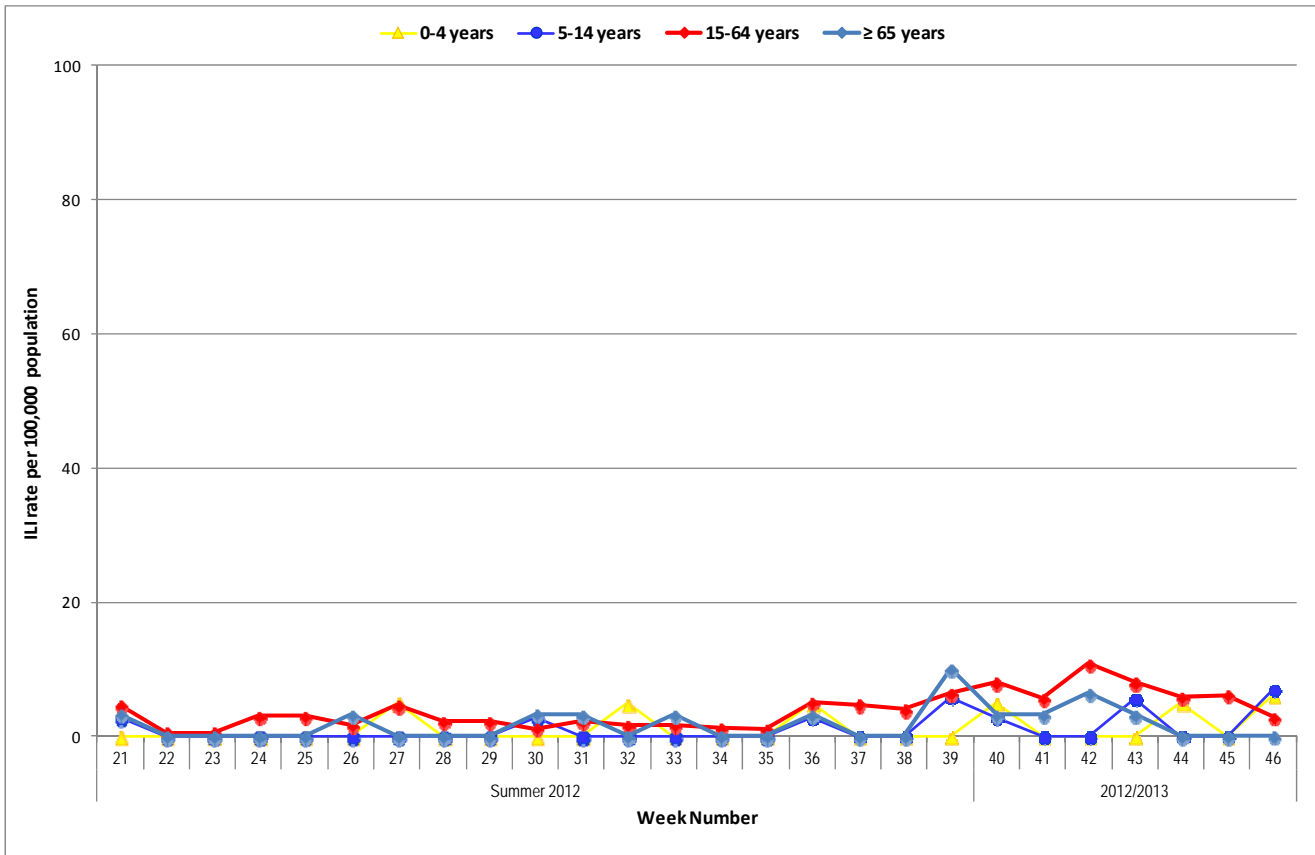


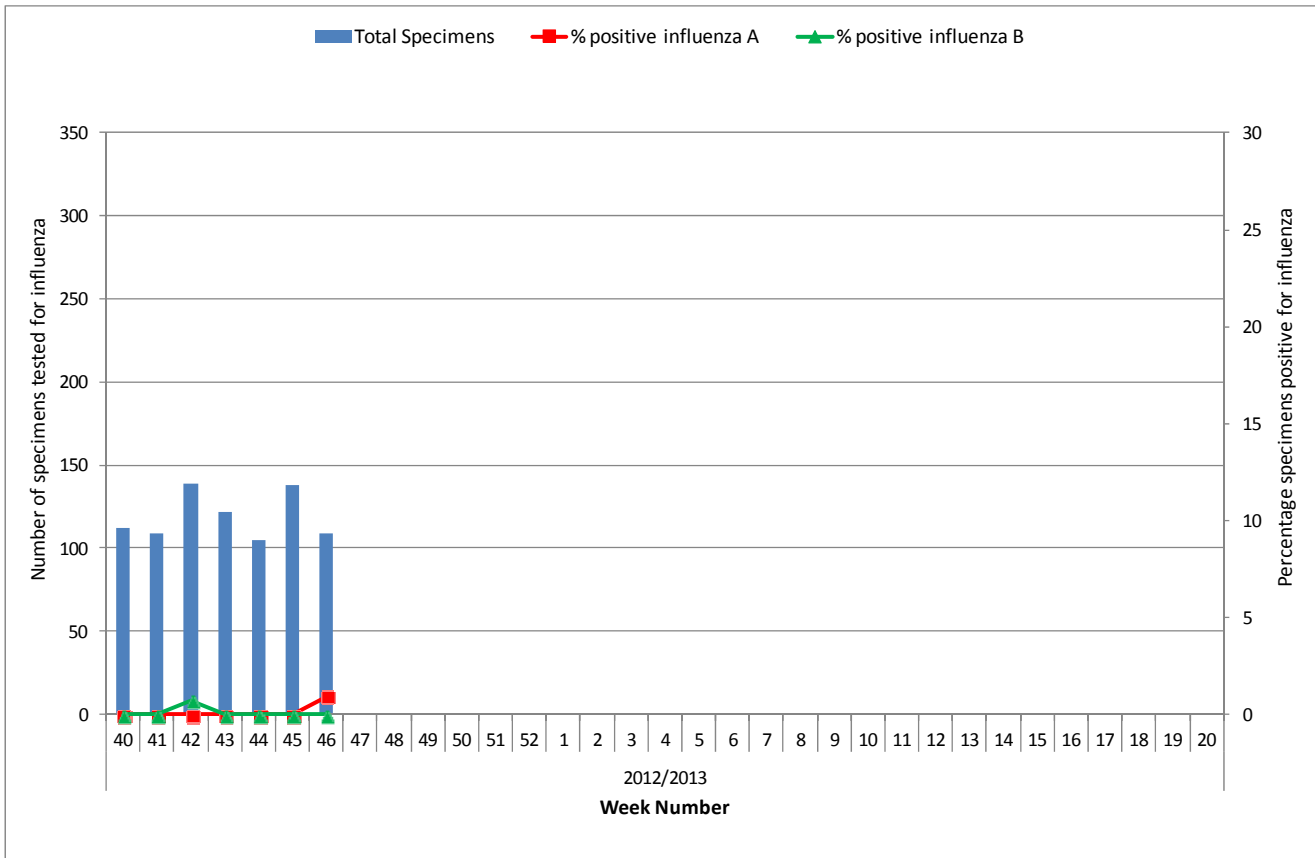
Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2012 and the 2012/2013 influenza season to date *Source: ICGP ILI clinical data*

## 2. Influenza and Other Respiratory Virus Detections - National Virus Reference Laboratory

The data reported in this section for the 2012/2013 influenza season refers to specimens tested by the National Virus Reference Laboratory (NVRL). The NVRL are now testing all sentinel and non-sentinel specimens for a panel of respiratory viruses: influenza A and B, respiratory syncytial virus (RSV), adenovirus, parainfluenza viruses types 1, 2, and 3 (PIV-1, -2 & -3) and human metapneumovirus.

A total of 109 specimens (3 sentinel and 106 non-sentinel<sup>‡</sup> specimens) were tested by the NVRL during week 46 2012. One (0.9%) specimen tested positive for influenza virus during week 46 2012, an influenza A (H3) positive specimen from non-sentinel sources. To date this season, the NVRL has reported one influenza B specimen from sentinel GP sources and one influenza A (H3) positive specimen from non-sentinel sources (figure 3, tables 1 & 2).

<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.



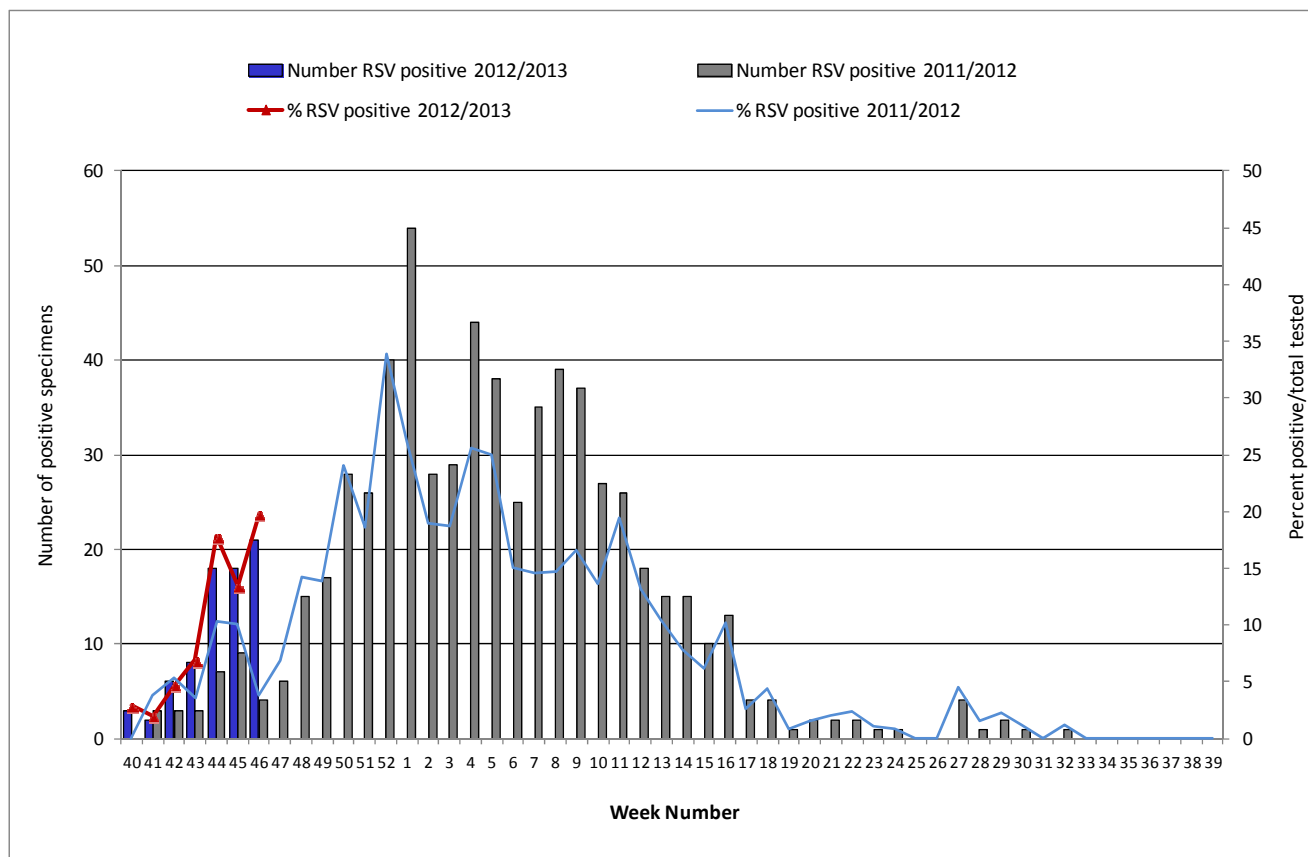
**Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive by week for the 2012/2013 influenza season. Source: NVRL**

### Respiratory Syncytial Virus (RSV)

Respiratory syncytial virus (RSV) positivity levels have increased over the last three weeks, as expected for the time of year (figure 4). The proportion of non-sentinel specimens positive for RSV was higher for week 46 2012, compared to the same time period last season, however it was within expected levels when compared to the same time period for the last 10 seasons. Twenty-one (19.8%) RSV positive detections from non-sentinel sources were reported from the NVRL<sup>§</sup> during week 46 2012. One (1/3; 33.3%) RSV positive specimen was detected from sentinel specimens during week 46 2012, this is the first positive detection of RSV from sentinel specimens this season.

RSV was made notifiable in Ireland on 1<sup>st</sup> January 2012. During week 46 2012, 39 laboratory notifications of RSV were reported on Ireland’s Computerised Infectious Disease Reporting System (CIDR). Laboratory notifications of RSV are reported in more detail in the [Weekly Infectious Disease Report for Ireland](#).

<sup>§</sup> It should be noted that these data only include specimens referred to the NVRL for RSV testing. Not all hospitals refer respiratory specimens for RSV testing to the NVRL.



**Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2012/2013 season, compared to the 2011/2012 season. Source: NVRL**

### Other Respiratory Viruses

There were no positive detections of adenovirus, parainfluenza viruses or human metapneumovirus (hMPV) reported by the NVRL from sentinel GP sources for week 46 2012.

Two (1.9%) adenovirus and one (0.9%) hMPV positive detections were reported by the NVRL from non-sentinel sources during week 46 2012 (table 2). There were no positive detections of parainfluenza viruses reported by the NVRL from non-sentinel sources for week 46 2012.

**Table 1: Number of sentinel and non-sentinel\*\* respiratory specimens tested by the NVRL and positive influenza results, for week 46 2012 and the 2012/2013 season to date. Source: NVRL**

Week	Specimen type	Total tested	Number influenza positive	% Influenza positive	Influenza A					Influenza B
					A (H1) 2009	A (H3)	A (H1)	A (unsubtyped)	Total influenza A	
<b>46 2012</b>	Sentinel	3	0	0.0	0	0	0	0	0	0
	Non-sentinel	106	1	0.9	0	1	0	0	1	0
	<b>Total</b>	<b>109</b>	<b>1</b>	<b>0.9</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>
<b>2012/2013</b>	Sentinel	46	1	2.2	0	0	0	0	0	1
	Non-sentinel	788	1	0.1	0	1	0	0	1	0
	<b>Total</b>	<b>834</b>	<b>2</b>	<b>0.2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>

**Table 2: Number of sentinel and non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 46 2012 and the 2012/2013 season to date. Source: NVRL**

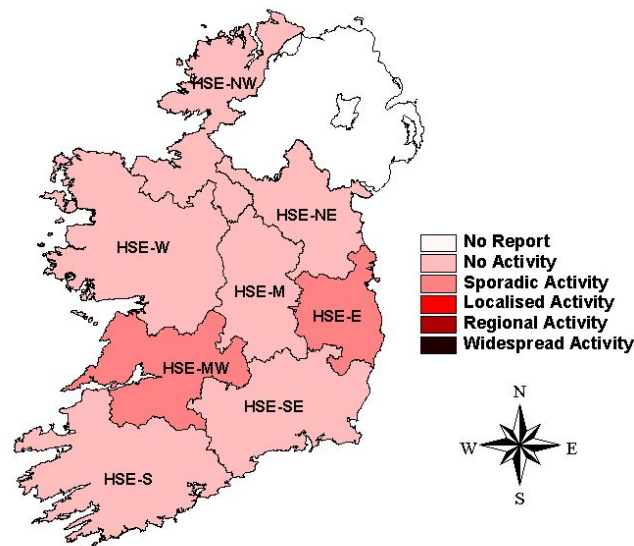
Week	Specimen type	Total tested	RSV	% RSV	Adenovirus	% Adenovirus	PIV-1	% PIV-1	PIV-2	% PIV-2	PIV-3	% PIV-3	hMPV	% hMPV
<b>46 2012</b>	Sentinel	3	1	33.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	106	21	19.8	2	1.9	0	0.0	0	0.0	0	0.0	1	0.9
	<b>Total</b>	<b>109</b>	<b>22</b>	<b>20.2</b>	<b>2</b>	<b>1.8</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.9</b>
<b>2012/2013</b>	Sentinel	46	1	2.2	1	2.2	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	788	76	9.6	10	1.3	0	0.0	1	0.1	8	1.0	6	0.8
	<b>Total</b>	<b>834</b>	<b>77</b>	<b>9.2</b>	<b>11</b>	<b>1.3</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.1</b>	<b>8</b>	<b>1.0</b>	<b>6</b>	<b>0.7</b>

\*\* 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

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.

Sporadic influenza activity (based on ILI cases) was reported from HSE-E and –MW during week 46 2012. No influenza activity was reported from HSE-M, -NE, -NW, -SE, -S and -W during week 46 2012 (figure 5).

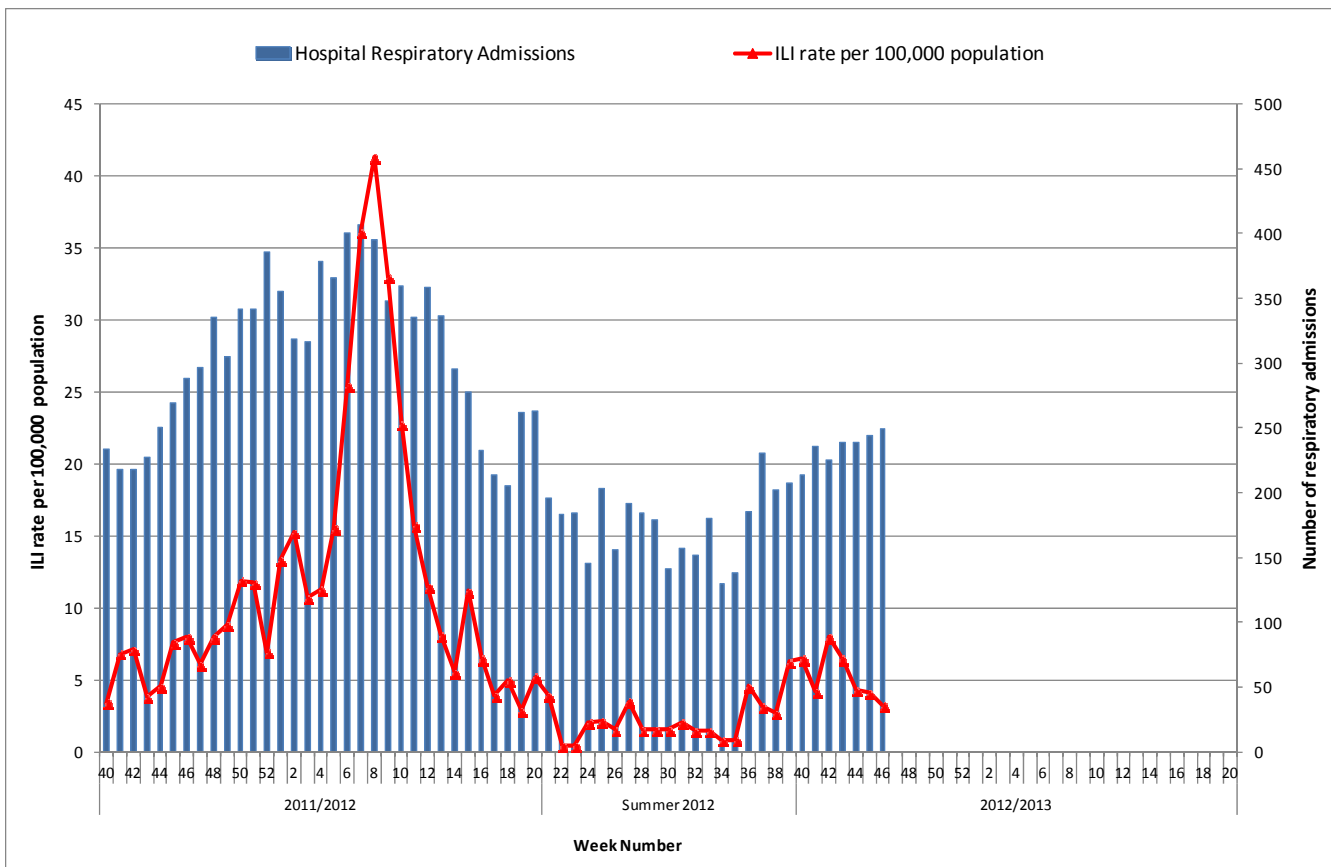


**Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 46 2012**

#### Sentinel hospitals

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. Hospital admissions data act as a crude indicator for influenza activity.

Overall, the total number of respiratory admissions reported from sentinel hospitals during week 46 2012 remained stable and at low levels (n=249). Respiratory admissions are within expected levels for this time of year. Respiratory admissions data reported from sentinel hospitals were incomplete for week 46 2012 (figure 6).

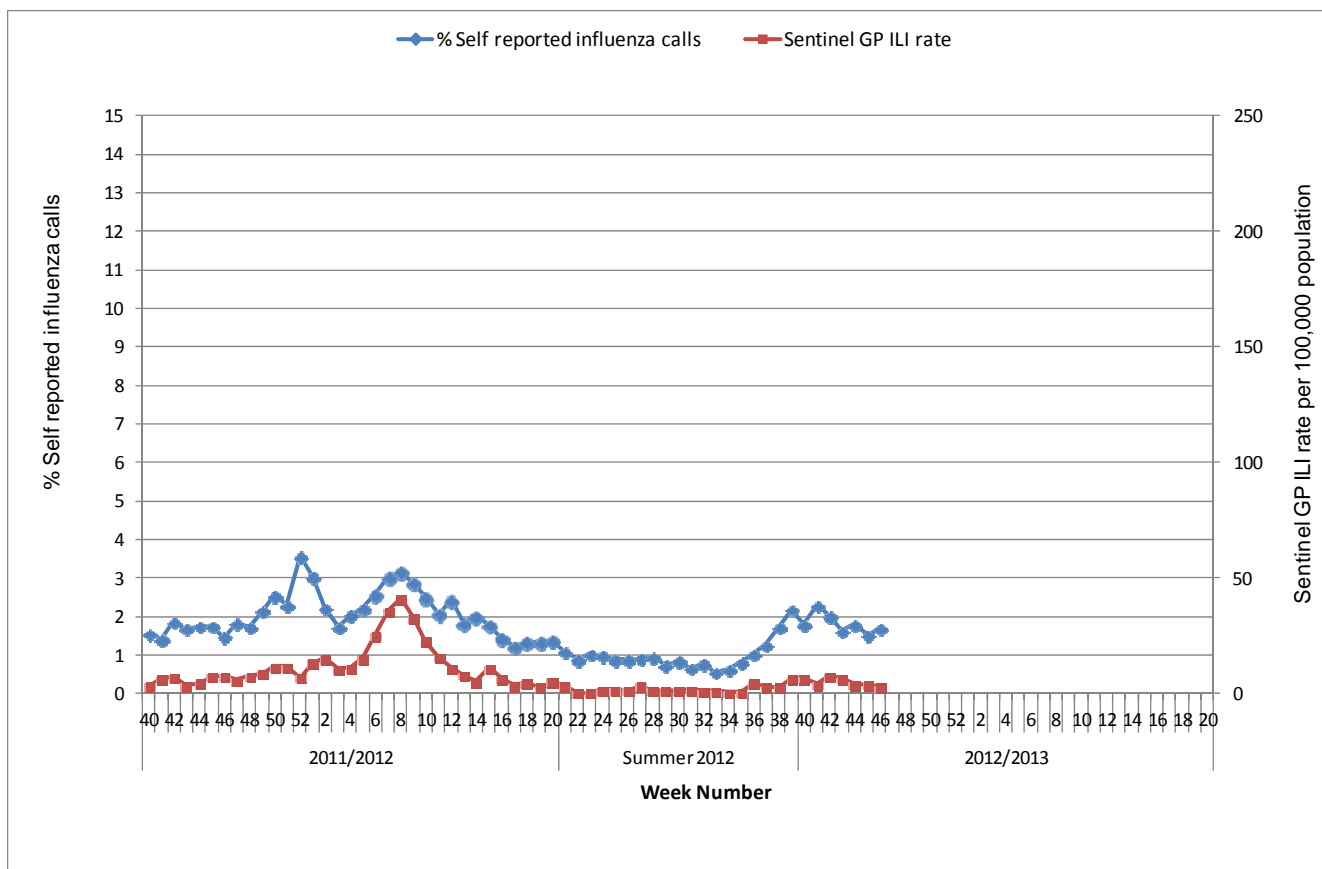


**Figure 6: Number of respiratory admissions reported from sentinel hospitals and national sentinel GP ILI consultation rate per 100,000 population by week for the 2011/2012 season, summer 2012 and the 2012/2013 season to date.**  
 Source: Departments of Public Health - Sentinel Hospitals & ICGP.

#### 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. The proportion of influenza-related calls to GP Out-of-Hours services during week 46 2012 remained at low levels (at 1.7%). Six GP Out-of-Hours services reported during week 46 2012 (figure 7).





**Figure 7: 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 2011/2012 and 2012/2013 seasons**

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

## 5. Influenza notifications and hospitalisation status

Laboratory confirmed influenza cases notified on Ireland's Computerised Infectious Disease Reporting System (CIDR) include all positive influenza specimens reported from all laboratories testing for influenza and reporting to CIDR. Currently, the NVRL is the only laboratory subtyping positive influenza A specimens for *all* influenza A subtypes. One laboratory confirmed influenza case was notified during week 46 2012, a hospitalised influenza A (H3) case.

## 6. Critical care surveillance

The Intensive Care Society of Ireland (ICSI) are continuing with the enhanced surveillance system set up during the 2009 pandemic, on all critical care patients with confirmed influenza. A study on severe acute respiratory infections (SARI) in critical care at two pilot ICU sites which commenced during the 2011/2012 season will continue during the 2012/2013 season. HPSC process and report on this information on behalf of the regional Directors of Public Health/Medical Officers of Health. No confirmed influenza cases or severe acute respiratory infections (SARI) were admitted to critical care and reported to HPSC during week 46 2012 or the 2012/2013 season to date.

## 7. Mortality surveillance

There were no reports of any influenza-associated deaths occurring during week 46 2012 or the 2012/2013 season to date. Influenza-associated deaths include all deaths where influenza is reported as the primary/main cause of death by the physician or if influenza is listed anywhere on the death certificate as the cause of death.

HPSC receives daily mortality data from the General Register Office (GRO) on all deaths from all causes registered in Ireland. These data have been used to monitor excess all-cause and influenza and pneumonia deaths as part of the influenza surveillance system and the European Mortality Monitoring Project (Euro MoMo). During week 46 2012 and the 2012/2013 season to date, no excess all-cause mortality was reported in Ireland after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm. These data are provisional due to the time delay in deaths' registration in Ireland. <http://www.euromomo.eu/>

## 8. Outbreak surveillance

No influenza/ILI outbreaks were reported to HPSC during week 46 2012. To date this influenza season, only one acute respiratory outbreak has been reported to HPSC.

## 9. International summary

### United Kingdom

GP consultation rates and indicators of influenza activity remained low during week 45 2012. The weekly primary care ILI consultation rate was low in England (4.5 per 100,000), Scotland (14.6 per 100,000), Northern Ireland (9.6 per 100,000) and Wales (3.7 per 100,000). The weekly proportion of NHS Direct calls for colds/influenza and fever (in 5-14 year olds) were below the early warning thresholds for influenza in week 45. One new acute respiratory disease outbreak was reported during week 45 2012. Nine (1.2%) of the 739 respiratory specimens reported to DataMart (England) tested positive for influenza in week 45 (1 A(H3), 2 A(H1N1)pdm09, 3 A subtype not known and 3 B). The proportion of samples positive increased for RSV, particularly in the under five year olds, and remained stable for rhinovirus, parainfluenza, adenovirus and hMPV. No influenza positive detections were recorded through the two English GP-based sentinel schemes in week 45. RSV activity was reported as elevated during week 45. Four new admissions to ICU/HDU with confirmed influenza (two A(H1N1)pdm09, one A subtype not known and one B) and one confirmed influenza death were reported across the UK in week 45. No excess all-cause mortality was reported by age group or region in week 45 across the UK as calculated with the EuroMOMO algorithm.

### Europe

During week 45 2012, all 27 countries reporting clinical data experienced low-intensity of influenza activity. Five countries reported increasing trends in respiratory illness, but not necessarily related to confirmed influenza. In week 45 2012, 21 countries tested 386 sentinel specimens, of which 13 (3.4%) were positive for influenza, which represents a slight increase compared to the previous week (0.7%). The positive detections were reported by eight countries and the UK (Scotland): nine were type A and four were type B. Four sentinel influenza A viruses were subtyped as A(H3). In week 45 2012, 65 non-sentinel source specimens, were positive for influenza virus: 39 were type A and 26 were type B. Of the 21 subtyped influenza A viruses, 18 (85.7%) were A(H1)pdm09 and three (14.3%) were A(H3). Five non-sentinel B viruses were of the Yamagata lineage. No hospitalised laboratory-confirmed influenza cases were reported. Despite some indications of rising ILI rates in five countries in week 45, there is no suggestion that substantial influenza transmission has begun in any European country as yet. The rising rates in five countries are likely to be explained by other respiratory viruses.

### United States of America

During week 46 2012, influenza activity increased in the U.S. The proportion of outpatient ILI visits was 1.6%, which is below the national baseline of 2.2%. Of 3,742 specimens tested and reported during week 46, 494 (13.2%) were positive for influenza: 5 A (H1N1)pdm09, 174 A (H3), 155 A (unsubtyped) and 160 B. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. One influenza-associated paediatric death was reported and was associated with an influenza A (H3) virus.

## Canada

Influenza activity in Canada increased compared to the previous week with more regions reporting increased activity, particularly in Ontario; however overall activity in Canada still remained relatively low, with the majority of regions of the country reporting no activity. The ILI consultation rate decreased slightly in week 45 but was within expected levels for this time of year. In week 45, a total of 106 laboratory detections of influenza were reported, of which 92.5% were for influenza A viruses, predominantly A(H3N2). Eight influenza outbreaks were reported in week 45: 5 in long-term care facilities and 3 in other settings. In week 45, 20 laboratory-confirmed influenza A-associated hospitalisations were reported, 15 were due to influenza A(H3N2) and five were due to influenza A (unsubtyped).

## Worldwide

The WHO Global Influenza Programme monitors influenza activity worldwide and publishes an update every two weeks. The most recent update of 9<sup>th</sup> November 2012, reported that many countries of the Northern Hemisphere temperate region reported increasing detections of influenza viruses, particularly in North America and Western Europe, however none have crossed their seasonal threshold for ILI/ARI consultation rates. Several countries in the tropical areas experienced active transmission of influenza virus in recent weeks. In the Americas, Nicaragua and Costa Rica reported mainly influenza B virus detections. In Asia, India, Sri Lanka, Nepal, and Cambodia all reported a mixture of influenza viruses [A (H1N1)pdm09, A (H3) and B]. In Sub-Saharan Africa, Cameroon and Ethiopia have reported an increase in influenza virus detections. Influenza activity in the temperate countries of the Southern Hemisphere is at inter-seasonal levels.

## **Human Avian and Swine Influenza Updates**

### Human Avian Influenza

No new cases of human avian influenza A (H5N1) infection have been reported by the WHO since August 10<sup>th</sup> 2012.

### Human Swine Influenza

No new cases of human swine influenza/variant influenza A virus infections were reported in recent weeks in the US. For latest surveillance data see here: <http://www.cdc.gov/flu/swineflu/variant.htm>

## **2012/2013 seasonal influenza vaccine recommendations – WHO**

The WHO vaccine strain selection committee recommended that vaccines for use in the 2012/2013 influenza season (northern hemisphere winter) contain the following:

- an A/California/7/2009 (H1N1)pdm09-like virus;
- an A/Victoria/361/2011 (H3N2)-like virus;
- a B/Wisconsin/1/2010-like virus.

## **Further information on influenza in Ireland and internationally**

Ireland	<a href="http://www.hpsc.ie">www.hpsc.ie</a>
Northern Ireland	<a href="http://www.fluawareni.info/">http://www.fluawareni.info/</a>
Europe – ECDC	<a href="http://ecdc.europa.eu/">http://ecdc.europa.eu/</a>

### **Acknowledgements**

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