

# Influenza Surveillance in Ireland – Weekly Report

Influenza Week 50 2012 (10<sup>th</sup> – 16<sup>th</sup> December 2012)



## Summary

- **All indicators of influenza activity in Ireland increased during week 50 2012, however remained at low levels:**
  - The sentinel GP influenza-like illness (ILI) consultation rate was 24.9 per 100,000 population in week 50 2012, an increase compared to the updated rate of 11.3 per 100,000 reported during week 49 2012.
    - ◆ **ILI rates are above the Irish baseline threshold (21.0 per 100,000 population)\*, for the first time this season.**
    - ◆ There was an increase in ILI rates in all age groups, with the exception of those aged 65 years or older.
- The proportion of influenza-related calls to GP Out-of-Hours services increased during week 50 2012.
- Influenza positivity increased during week 50 2012, compared to the previous week. One influenza A (H1N1)pdm09, three influenza A (H3) and nine influenza B positive specimens were reported from the NVRL for week 50 2012.
- Respiratory syncytial virus (RSV) positivity levels remained high during week 50 2012, as expected for this time of year.
- Two adenovirus, one parainfluenza virus type 3, six human metapneumovirus positive specimens were reported from the NVRL from sentinel and non-sentinel sources during week 50 2012.
- During week 50 2012, one confirmed influenza B case was reported as hospitalised and admitted to ICU.
- There were no reports of any influenza-associated deaths occurring during this period.
- No ILI/influenza outbreaks were reported to HPSC during week 50 2012.
- Influenza transmission for the 2012/2013 season appears to have started in Europe, based on increasing proportions of specimens testing positive for influenza.

## Surveillance Systems

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

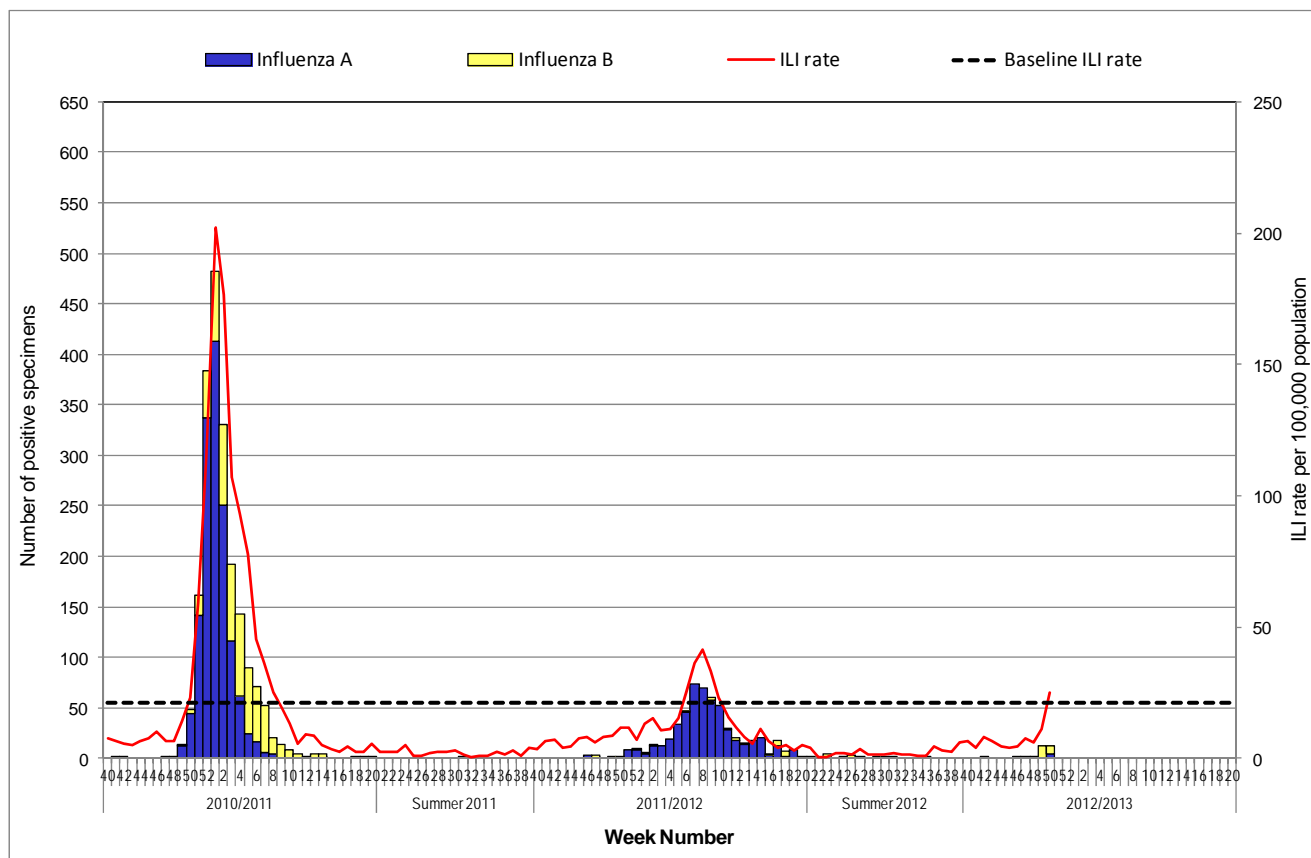
1. Irish College of General Practitioners (ICGP) GP sentinel surveillance system
2. Virological data from the National Virus Reference Laboratory (NVRL)
3. GP Out-of-Hours surveillance system
4. Influenza notifications reported on the Computerised Infectious Disease Reporting system (CIDR)
5. Enhanced 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 50 2012, 54 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 24.9 per 100,000 population, an increase compared to the updated rate of 11.3 per 100,000 reported during week 49 2012. Forty-nine of 60 (81.7%) sentinel general practices provided data during week 50 2012, with 23 practices (46.9%) reporting 54 ILI cases. The ILI consultation rate for week 50 2012 increased above the Irish baseline threshold (21.0 per 100,000 population) for the first time this season. 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 increased in all age groups, with the exception of those aged 65 years or older during week 50 2012. The highest age specific ILI rates were in the 5-14 year age group (figure 2 2012). Four ILI cases were reported in the 0-4 year age group (23.9 per 100,000), 13 ILI cases was reported in the 5-14 year age

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

group (44.4 per 100,000), 36 cases in the 15-64 year age group (24.9 per 100,000) and one ILI case was reported in those aged 65 years or older (4.0 per 100,000) during week 50 2012.

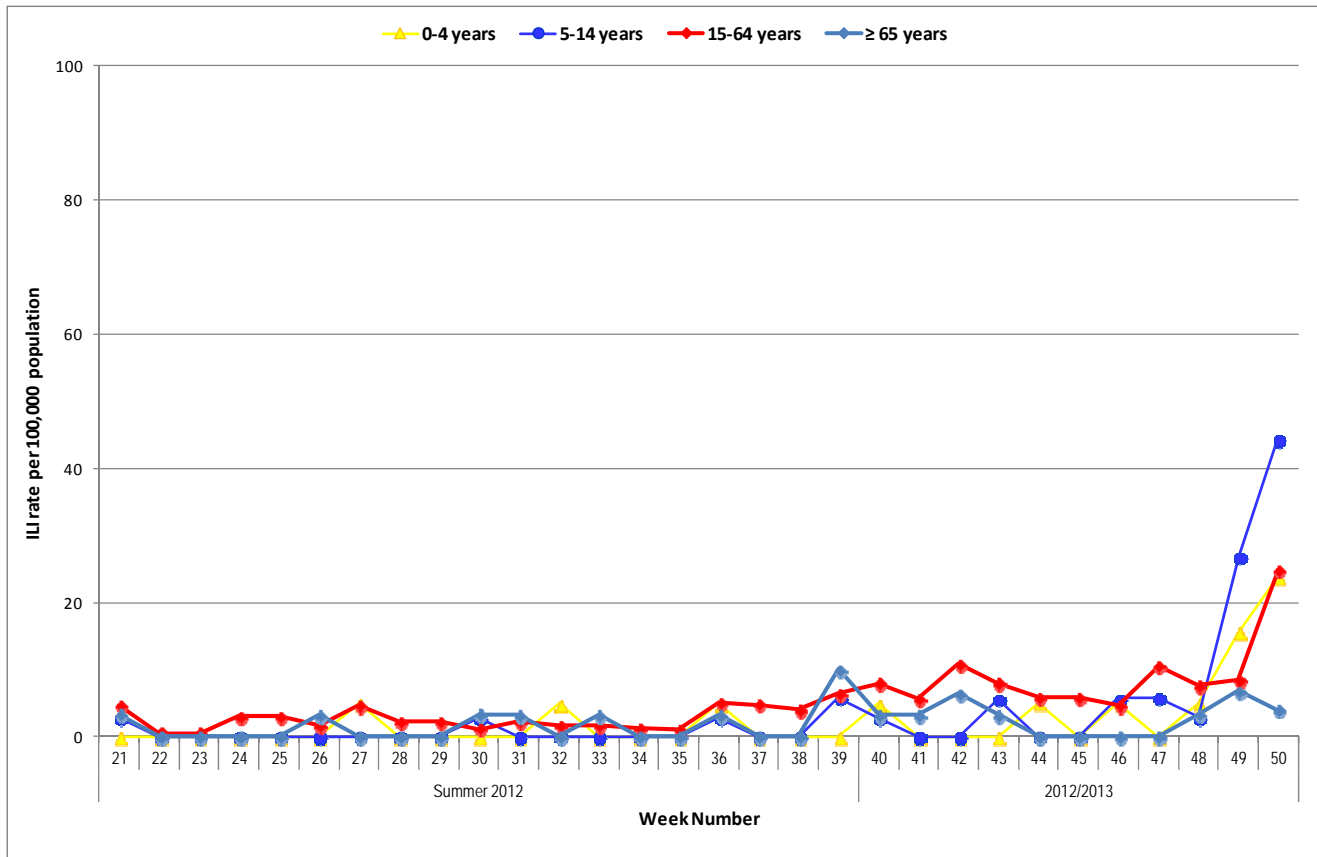


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2012 and the 2012/2013 influenza season to date Source: ICGP ILI clinical data

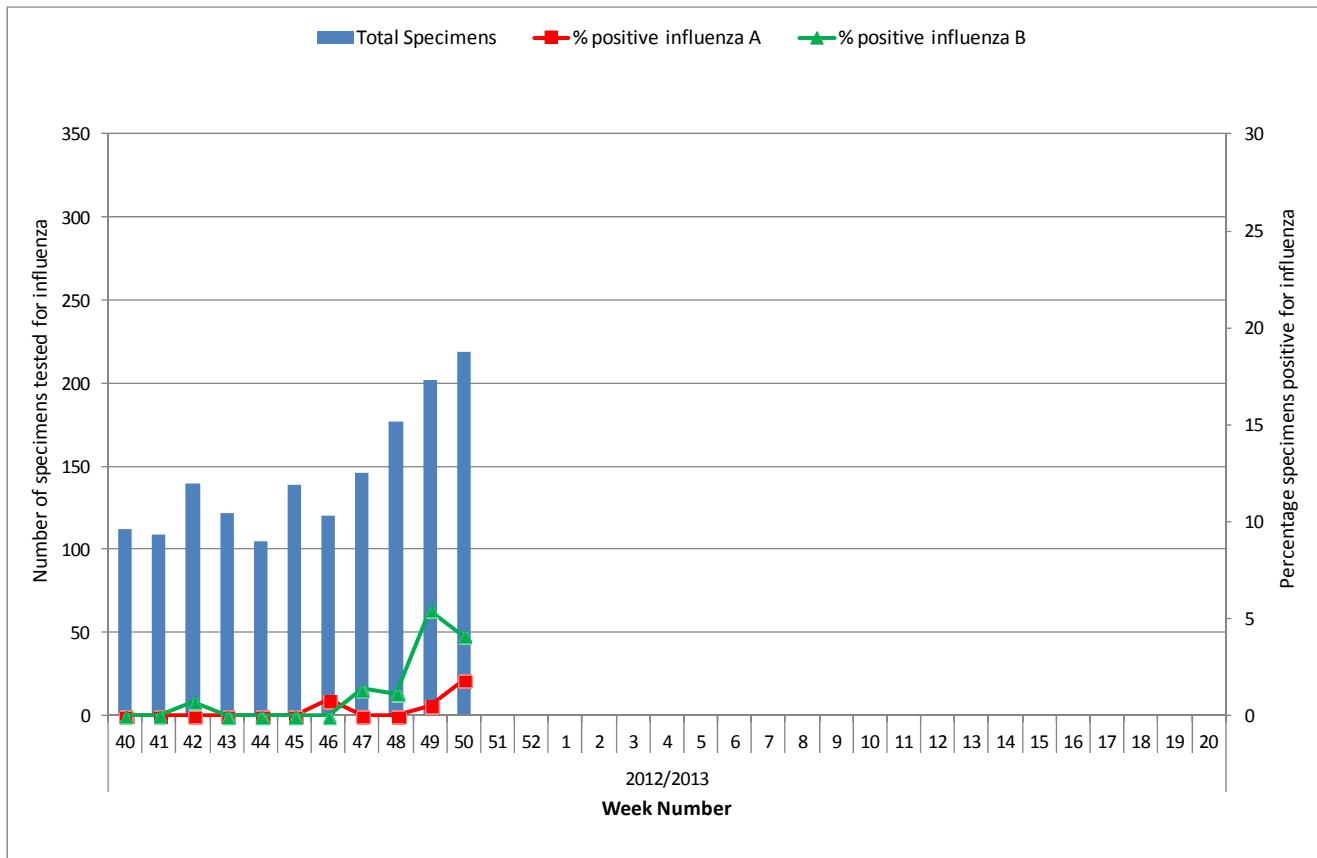
## 2. Influenza and Other Respiratory Virus Detections - National Virus Reference Laboratory

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 219 specimens (29 sentinel and 190 non-sentinel<sup>‡</sup> specimens) were tested by the NVRL during week 50 2012. Thirteen (13/219; 5.9%) sentinel and non-sentinel specimens tested positive for influenza virus during week 50 2012, one influenza A (H1N1)pdm09, three influenza A (H3) and nine influenza B. Seven (7/29; 24.1%) sentinel specimens tested positive for influenza virus during week 50 2012, one influenza A (H1)pdm09, one influenza A (H3) and five influenza B positive specimens. Six (6/190; 3.2%) non-sentinel specimens tested positive for influenza virus during week 50 2012, two influenza A (H3) and four influenza B.

<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.

To date this season, the majority of influenza positive sentinel and non-sentinel specimens were influenza B (25/31; 80.6%) (Figure 3, tables 1 & 2).



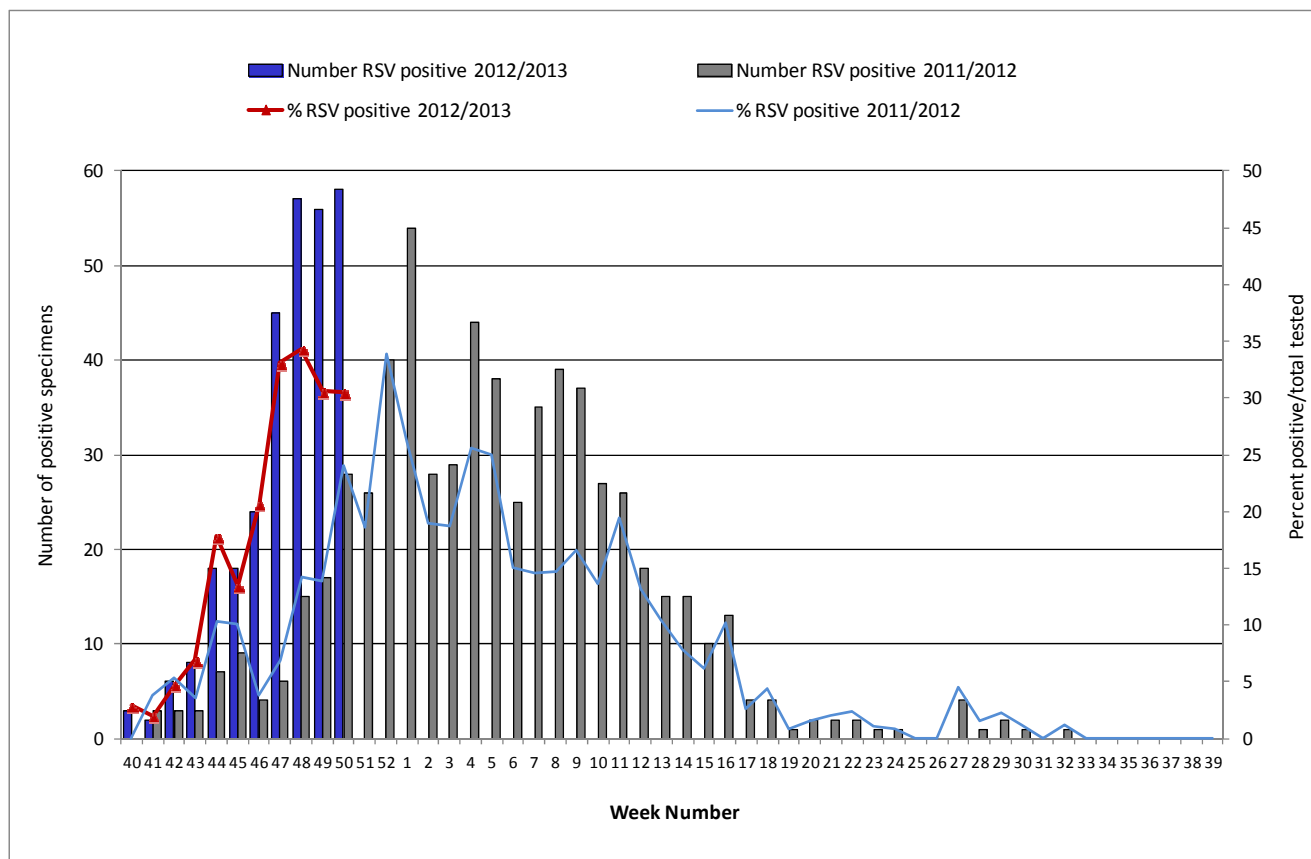
**Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive by week for the 2012/2013 influenza season. Source: NVRL**

### Respiratory Syncytial Virus (RSV)

The proportion of non-sentinel specimens positive for RSV for week 50 2012 remained at high levels as expected for this time of year (figure 4). Fifty-eight (30.5%) RSV positive detections from non-sentinel sources were reported from the NVRL<sup>§</sup> during week 50 2012. One (1/29; 3.4%) RSV positive specimen was also detected from sentinel sources during week 50 2012.

RSV was made notifiable in Ireland on 1<sup>st</sup> January 2012. During week 50 2012, 172 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

One (0.5%) adenovirus, one (0.5%) parainfluenza virus type 3 and six (3.2%) human metapneumovirus (hMPV) positive specimens were reported from the NVRL from non-sentinel sources during week 50 2012. The proportion of hMPV positive specimens decreased during week 50 2012, following an increase during the previous week.

There was one positive detection of adenovirus (1/29; 3.4%) from sentinel sources during week 50 2012. There were no positive detections of parainfluenza viruses or human metapneumovirus (hMPV) reported by the NVRL from sentinel GP sources for week 50 2012 (table 2).

**Table 1: Number of sentinel and non-sentinel\*\* respiratory specimens tested by the NVRL and positive influenza results, for week 50 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)pdm09 | A (H3)   | A (H1)   | A (unsubtyped) | Total influenza A |             |
| 50 2012   | Sentinel      | 29           | 7                         | 24.1                 | 1           | 1        | 0        | 0              | 2                 | 5           |
|           | Non-sentinel  | 190          | 6                         | 3.2                  | 0           | 2        | 0        | 0              | 2                 | 4           |
|           | <b>Total</b>  | <b>219</b>   | <b>13</b>                 | <b>5.9</b>           | <b>1</b>    | <b>3</b> | <b>0</b> | <b>0</b>       | <b>4</b>          | <b>9</b>    |
| 2012/2013 | Sentinel      | 118          | 21                        | 17.8                 | 2           | 1        | 0        | 0              | 3                 | 18          |
|           | Non-sentinel  | 1473         | 10                        | 0.7                  | 0           | 3        | 0        | 0              | 3                 | 7           |
|           | <b>Total</b>  | <b>1591</b>  | <b>31</b>                 | <b>1.9</b>           | <b>2</b>    | <b>4</b> | <b>0</b> | <b>0</b>       | <b>6</b>          | <b>25</b>   |

**Table 2: Number of sentinel and non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 50 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     |
|-----------|---------------|--------------|------------|-------------|------------|--------------|----------|------------|----------|------------|-----------|------------|-----------|------------|
| 50 2012   | Sentinel      | 29           | 1          | 3.4         | 1          | 3.4          | 0        | 0.0        | 0        | 0.0        | 0         | 0.0        | 0         | 0.0        |
|           | Non-sentinel  | 190          | 58         | 30.5        | 1          | 0.5          | 0        | 0.0        | 0        | 0.0        | 1         | 0.5        | 6         | 3.2        |
|           | <b>Total</b>  | <b>219</b>   | <b>59</b>  | <b>26.9</b> | <b>2</b>   | <b>0.9</b>   | <b>0</b> | <b>0.0</b> | <b>0</b> | <b>0.0</b> | <b>1</b>  | <b>0.5</b> | <b>6</b>  | <b>2.7</b> |
| 2012/2013 | Sentinel      | 118          | 2          | 1.7         | 4          | 3.4          | 0        | 0.0        | 0        | 0.0        | 0         | 0.0        | 0         | 0.0        |
|           | Non-sentinel  | 1473         | 295        | 20.0        | 19         | 1.3          | 0        | 0.0        | 2        | 0.1        | 15        | 1.0        | 28        | 1.9        |
|           | <b>Total</b>  | <b>1591</b>  | <b>297</b> | <b>18.7</b> | <b>23</b>  | <b>1.4</b>   | <b>0</b> | <b>0.0</b> | <b>2</b> | <b>0.1</b> | <b>15</b> | <b>0.9</b> | <b>28</b> | <b>1.8</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.

Localised influenza activity was reported from HSE-MW during week 50 2012. Sporadic influenza activity was reported from HSE-E, -NE, -NW, -S, -SE and -W during week 50 2012. No influenza activity was reported from HSE-M during week 50 2012 (figure 5).

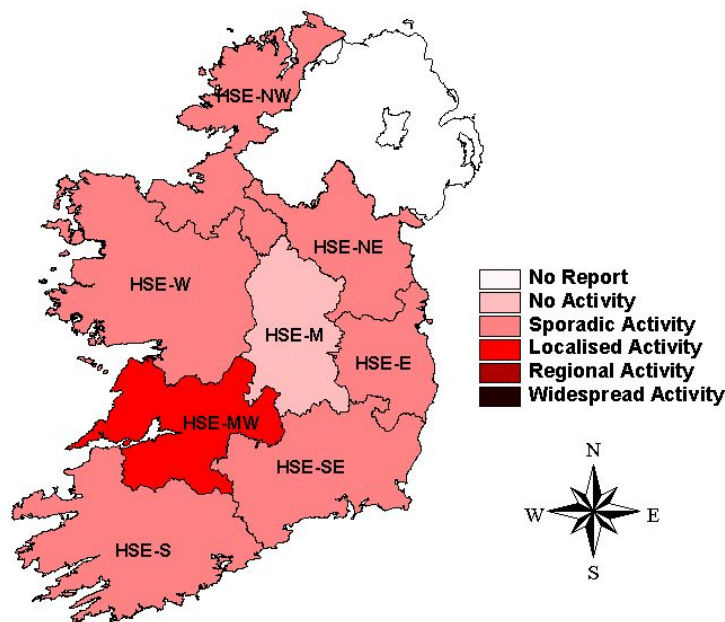
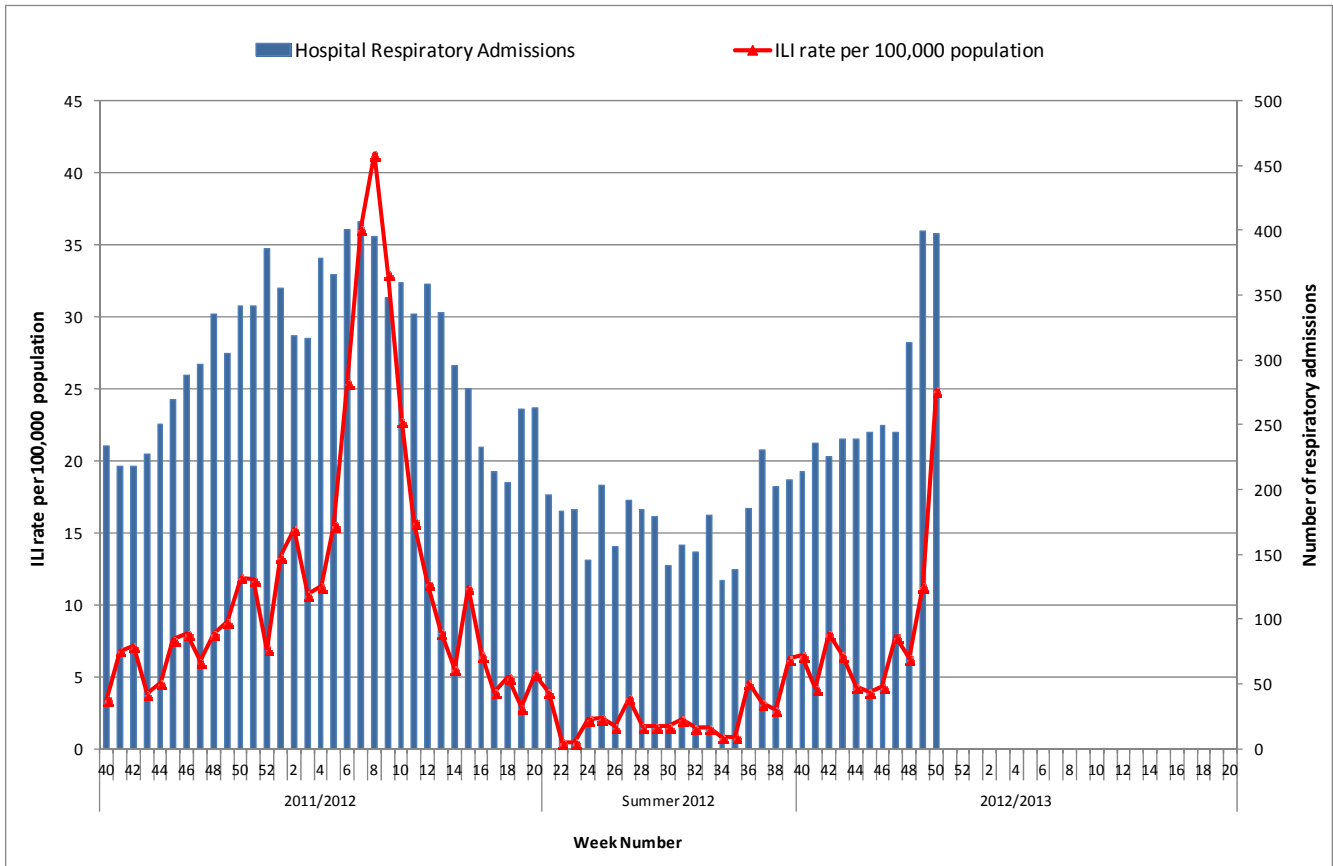


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 50 2012

#### 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 increased during weeks 49 and 50 2012 to 399 and 397, respectively. It should be noted that respiratory admissions data reported from sentinel hospitals were incomplete for week 50 2012 (figure 6).

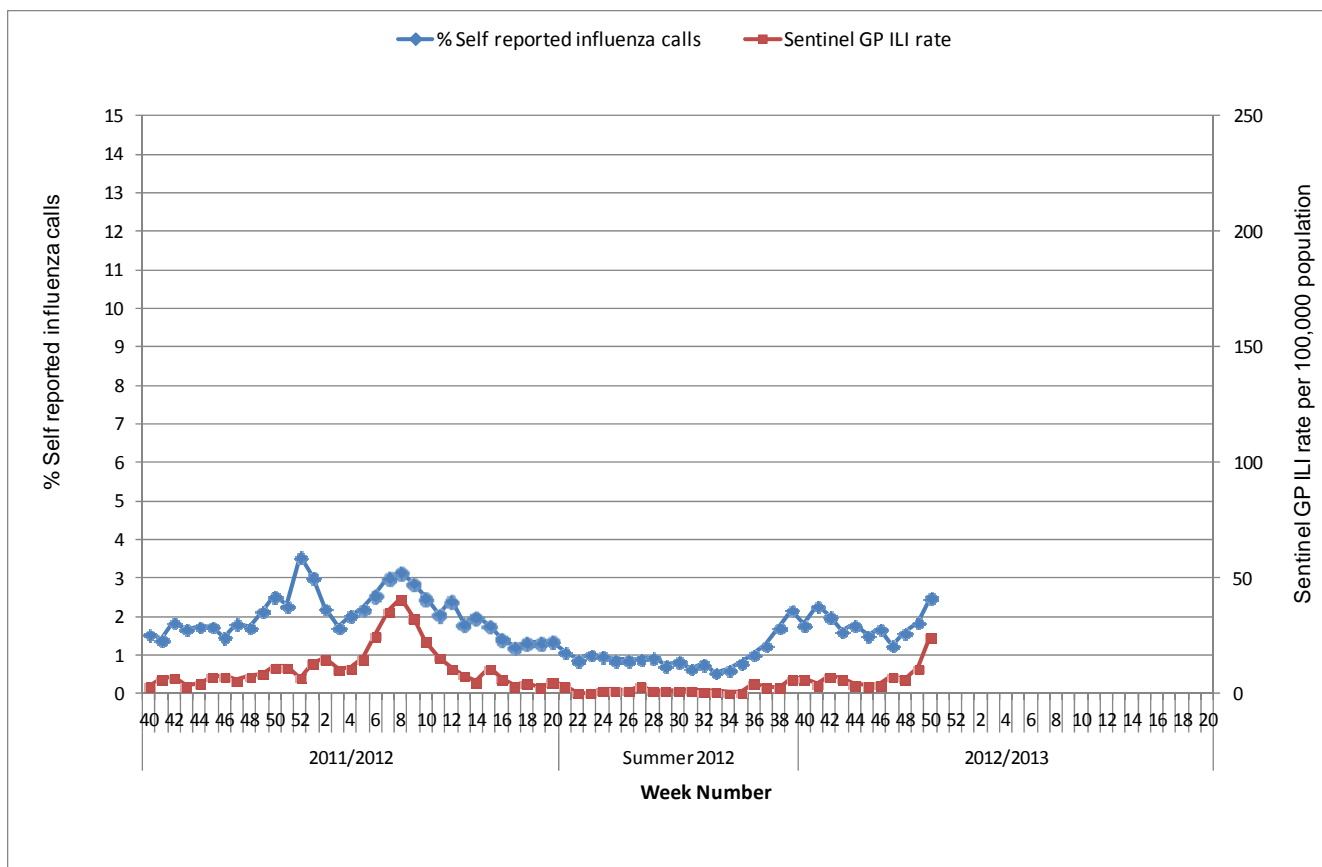


**Figure 6: Number of respiratory admissions reported from sentinel hospitals and national sentinel GP ILI consultation rate per 100,000 population by week for the 2011/2012 season, summer 2012 and the 2012/2013 season to date.**  
 Source: Departments of Public Health - Sentinel Hospitals & ICGP.

#### 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 50 2012 increased slightly to 2.5%, compared to 1.9% in the previous week. Six GP Out-of-Hours services reported during week 50 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. Thirteen laboratory confirmed influenza cases were notified during week 50 2012, one influenza A (H3), two influenza A (H1N1)pdm09 and 10 influenza B. One influenza B case was reported as hospitalised during week 50 2012.

## 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. One confirmed influenza B case was admitted to critical care and reported to HPSC during week 50 2012.

## 7. Mortality surveillance

There were no reports of any influenza-associated deaths occurring during week 50 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 50 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 50 2012. To date this influenza season, only three acute respiratory outbreaks have been reported to HPSC, one associated with human metapneumovirus and two associated with unidentified pathogens.

## 9. International summary

### United Kingdom

Increases were reported for several indicators of influenza activity in the 5-14 year age group, in particular GP consultations and school respiratory outbreaks. In week 49 2012, the weekly primary care ILI consultation rate was low but increasing in England (14.3 per 100,000), Scotland (11.2 per 100,000), Northern Ireland (15.1 per 100,000) and Wales (6.6 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 49. Sixteen new acute respiratory disease outbreaks from schools have been reported in the past seven days. Out of the five with a virological result available, three were confirmed as influenza B. Forty-five (4.8%) of the 942 respiratory specimens reported to DataMart (England) tested positive for influenza in week 49 (5 A(H3), 4 A subtype not known and 36 B). The influenza B positivity in 5-14 year olds was 21.1%. The proportion of samples positive remained stable for RSV, rhinovirus, adenovirus, parainfluenza and hMPV. Six influenza A(H3) and three influenza B positive detections were recorded through the two English GP-based sentinel schemes in week 49, giving an overall positivity of 34.6%. Six new admissions to ICU/HDU with confirmed influenza (two A(H1N1pdm09), two A(subtype not known) and two B) were reported across the UK in week 49. Eleven new hospitalised confirmed influenza cases (seven due to influenza B) have been reported through the USSS sentinel hospital network across England. No excess all-cause mortality was reported by age group or region in week 49 across the UK as calculated with the EuroMOMO algorithm.

### Europe

In week 49 2012, all 24 countries reporting experienced low-intensity levels of ILI or acute respiratory infection. For the first time this season, the majority of the countries reported sporadic geographic spread and eight countries experienced increasing trends. Of 573 sentinel specimens tested in 24 countries, 76 (13.3%) were positive for influenza virus. This is the second consecutive week with a notable increase in the proportion of influenza-positive samples since the start of the season. Since week 40 2012, 53% of influenza virus detections in sentinel specimens have been type A and 47% type B viruses. Of the A viruses subtyped, 47% were A(H3) and 53% were A(H1). The number of RSV detections remained high. In week 49 2012, one hospitalised laboratory-confirmed influenza case due to influenza B virus infection was reported. The viruses circulating this season remain well-matched with the 2012/2013 seasonal vaccine viruses. Based on reports of local or sporadic spread from the majority of countries and the increasing proportion of specimens testing positive for influenza virus, the season of influenza transmission appears to have started in EU/EEA countries.

### United States of America

During week 49 2012, influenza activity increased in the U.S. The proportion of outpatient visits for ILI was 2.8%, which is above the national baseline of 2.2%. Of 7,663 specimens tested and reported during week 49, 2,172 (28.3%) were positive for influenza: 791 A (H3), 14 A (H1N1)pdm09, 850 A (unsubtyped) and 517 B. One infection with an influenza A (H3N2) variant virus (H3N2v) was reported to CDC during week 49. The proportion

of deaths attributed to pneumonia and influenza was below the epidemic threshold. One influenza B associated paediatric death was reported.

### Canada

Influenza activity in Canada continued to increase in week 49; one region reported widespread activity, and more regions reported sporadic or localised activity. The ILI consultation rate decreased compared to the previous week and is within the expected range for this time of year. A total of 816 laboratory detections of influenza were reported, of which 96.4% were for influenza A viruses, predominantly A(H3N2). Twenty-two influenza outbreaks were reported: 12 in long-term-care facilities, 5 in schools and 5 in other facilities. Twenty-five paediatric influenza-associated hospitalisations were reported: 24 influenza A and one influenza B.

### Worldwide

The WHO Global Influenza Programme monitors influenza activity worldwide and publishes an update every two weeks. The most recent update of 7<sup>th</sup> December 2012, reported that many countries of the northern hemisphere temperate region, especially in North America, reported increasing influenza virus detections. Canada and the United States of America (USA) crossed their seasonal threshold but activity was highest in the southern part of the USA. Influenza activity remained low in Europe but has continued to increase slightly. Low levels of influenza activity were reported in countries in southern and Southeast Asia, except Cambodia. In Sub-Saharan Africa, influenza activity remained at low levels. Influenza activity in the temperate countries of the southern hemisphere continued at inter-seasonal levels.

## **Human Avian Influenza and Novel Coronavirus Updates**

### Human Avian Influenza

As of 17<sup>th</sup> December 2012, WHO reported 32 confirmed human cases of avian influenza A(H5N1) and 20 associated deaths for 2012.

### Novel Coronavirus

Information from WHO on novel coronaviruses can be found here: <http://www.euro.who.int/en/what-we-do/health-topics/communicable-diseases/influenza/coronavirus-infections>

## **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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