

# Influenza Surveillance in Ireland – Weekly Report

Influenza Week 18 2013 (29<sup>th</sup> April – 5<sup>th</sup> May 2013)



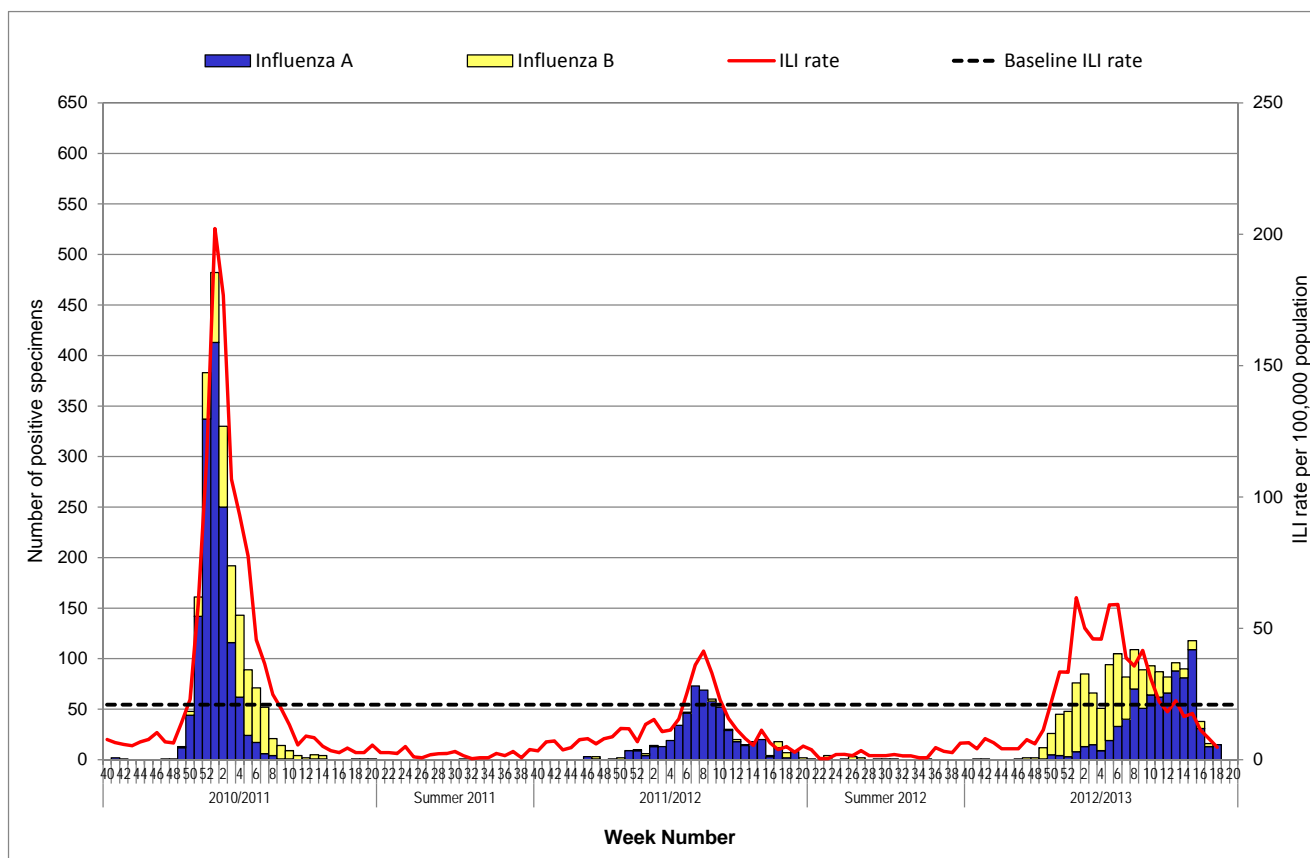
## Summary

- **Influenza activity in Ireland decreased during week 18 2013 and was at low levels.**
- The sentinel GP influenza-like illness (ILI) consultation rate was 4.8 per 100,000 population in week 18 2013, a decrease compared to the updated rate of 8.1 per 100,000 during week 17 2013.
  - ♦ The ILI consultation rate was below the Irish baseline threshold (21.0 per 100,000 population) and has been for four consecutive weeks.
  - ♦ ILI age specific rates were low in all age groups
- The proportion of influenza-related calls to GP Out-of-Hours services was low during week 18 2013.
- Influenza positivity remained at low levels during week 18 2013 at 7.5%, compared to 7.1% during the previous week. Ten influenza A(H3), 1 influenza A(H1)pdm09 and 4 influenza A (not subtyped) positive specimens were reported from the NVRL for week 18 2013. No specimens taken by sentinel GPs tested positive for influenza virus during weeks 17 and 18 2013.
- Positivity levels for respiratory syncytial virus (RSV), human metapneumovirus, parainfluenza viruses and adenoviruses were low during week 18 2013.
- During week 18 2013, six confirmed influenza cases were reported as hospitalised, all associated with influenza A. To date this season, 445 confirmed influenza cases were reported as hospitalised, 51.7% associated with influenza A and 48.3% associated with influenza B.
- Twenty-seven adults and ten paediatric confirmed influenza cases have been admitted to critical care to date this season. Of these 37 cases, 15 were associated with influenza B, 15 with influenza A (H1)pdm09, five influenza A (H3) and two with influenza A (not subtyped). Thirty-two RSV paediatric cases were also admitted to critical care this season.
- To date this season, 10 confirmed influenza associated deaths have been reported to HPSC, five associated with influenza B, two with influenza A(H3), one influenza A (H1)pdm09 and two with influenza A (not subtyped).
- One new acute respiratory outbreak was reported to HPSC during week 18 2013. To date this season, 84 acute respiratory outbreaks have been reported to HPSC.
- In Europe, influenza activity continued to decline or has already returned to baseline levels. After more than four months of active influenza transmission, the 2012/2013 influenza season is coming to an end.
- For up to date information on human infection with avian influenza A(H7N9) virus in China including the current case numbers and the WHO assessment of the situation please see [here](#). The European Centre for Disease Prevention and Control has published additional information including an updated rapid risk assessment of the situation, see [here](#).

## 1. GP sentinel surveillance system

### Clinical Data

During week 18 2013, nine influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 4.8 per 100,000 population, a decrease compared to the updated rate of 8.1 per 100,000 in week 17 2013. Forty-two of 60 (70.0%) sentinel general practices provided data during week 18 2013, with six practices (14.3%) reporting ILI cases. The ILI consultation rate was below the Irish baseline threshold (21.0 per 100,000 population)\* during week 18 2013. 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 at low levels in all age groups during week 18 2013. No ILI cases were reported in 0-14 year olds. Eight ILI cases were reported in the 15-64 year age group (6.4 per 100,000) and one ILI case was reported in those aged 65 years and older (4.6 per 100,000) during week 18 2013 (figure 2).

\* HPSIC 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.

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

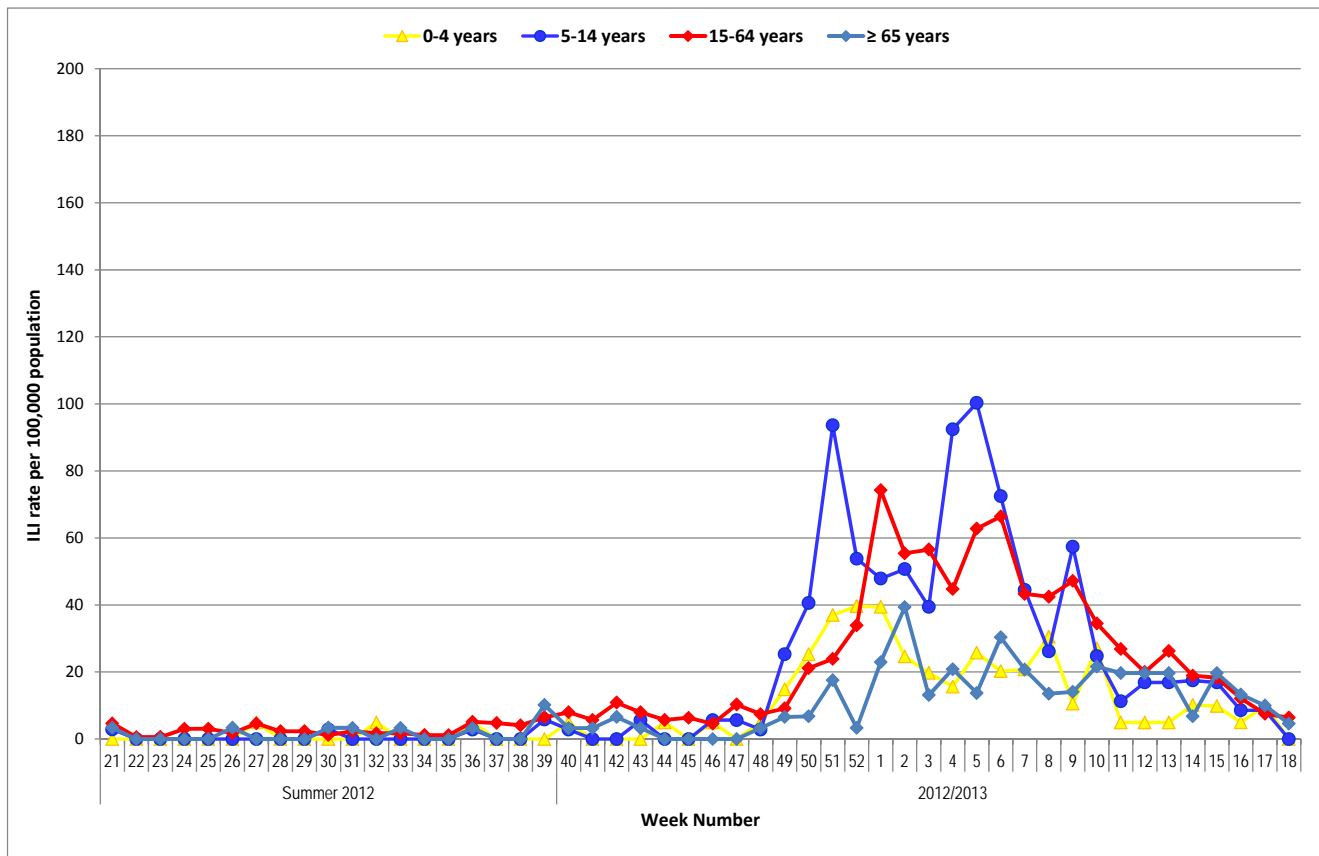


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2012 and the 2012/2013 influenza season to date. Source: ICGP ILI clinical data

## 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.

During week 18 2013, a total of 201 specimens (6 sentinel and 195 non-sentinel<sup>†</sup> specimens) were tested by the NVRL. A total of 15 (15/201; 7.5%) sentinel and non-sentinel specimens tested positive for influenza virus during week 18 2013. No sentinel specimens tested positive for influenza during week 18 2013. Fifteen (15/195; 7.7%) non-sentinel specimens tested positive for influenza during week 18 2013: 10 A(H3N2), 1 A(H1N1)pdm09 and 4 A (not subtyped) (tables 1 & 2; figures 3 & 4).

### Influenza Virus Characterisation

Influenza B viruses dominated during the first part of the 2012/2013 influenza season in Ireland, followed by influenza A(H3N2) viruses which have been dominant for the last nine weeks, co-circulating with influenza A(H1N1)pdm09 viruses. The National Virus Reference Laboratory (NVRL) has genetically characterised 66 influenza viruses this season. Of 43 influenza B viruses analysed, 38 (88.4%) belong to the B/Yamagata lineage (which is included in the 2012/2013 influenza vaccine) and five (11.6%) belong to the B/Victoria lineage. Seventeen influenza A(H3N2) viruses were genetically characterised and were similar to the vaccine strain

<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.

A/Victoria/361/2011. Sequence analysis of six influenza A(H1N1)pdm09 viruses identified them as related to the vaccine strain A/California/07/2009. As part of the WHO Global influenza surveillance programme, a proportion of influenza viruses are submitted to the WHO Collaborating Centre for Reference and Research on Influenza (Mill Hill, London) for further antigenic characterisation and confirmatory testing.

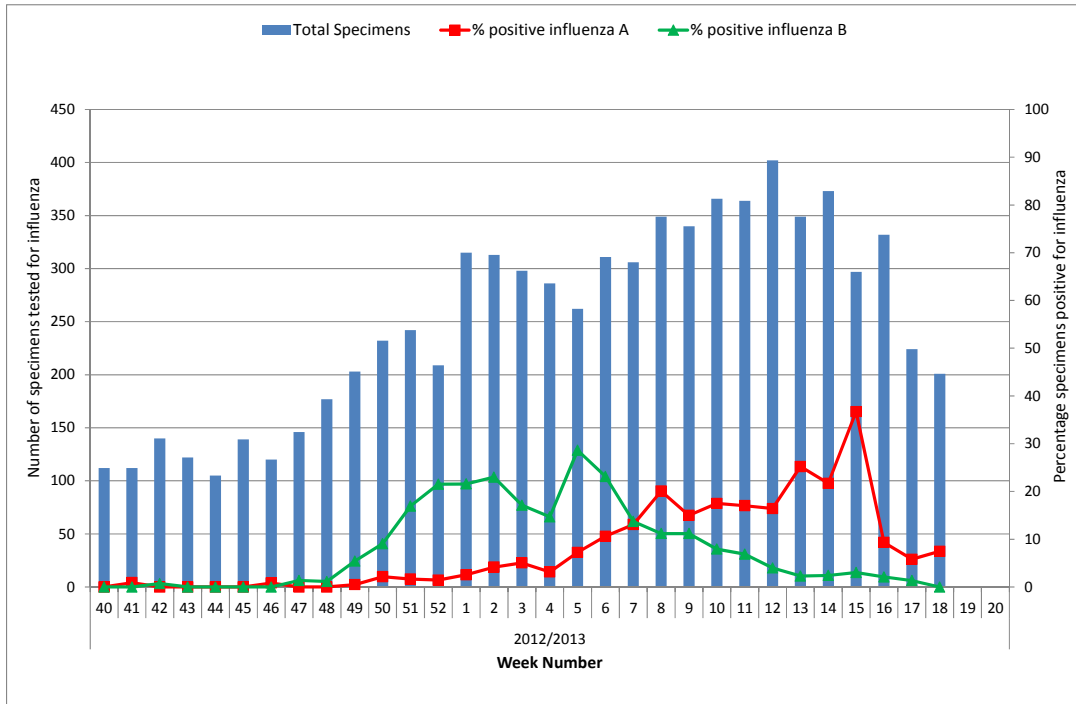


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage of specimens tested positive for influenza A and B by week for the 2012/2013 influenza season. Source: NVRL

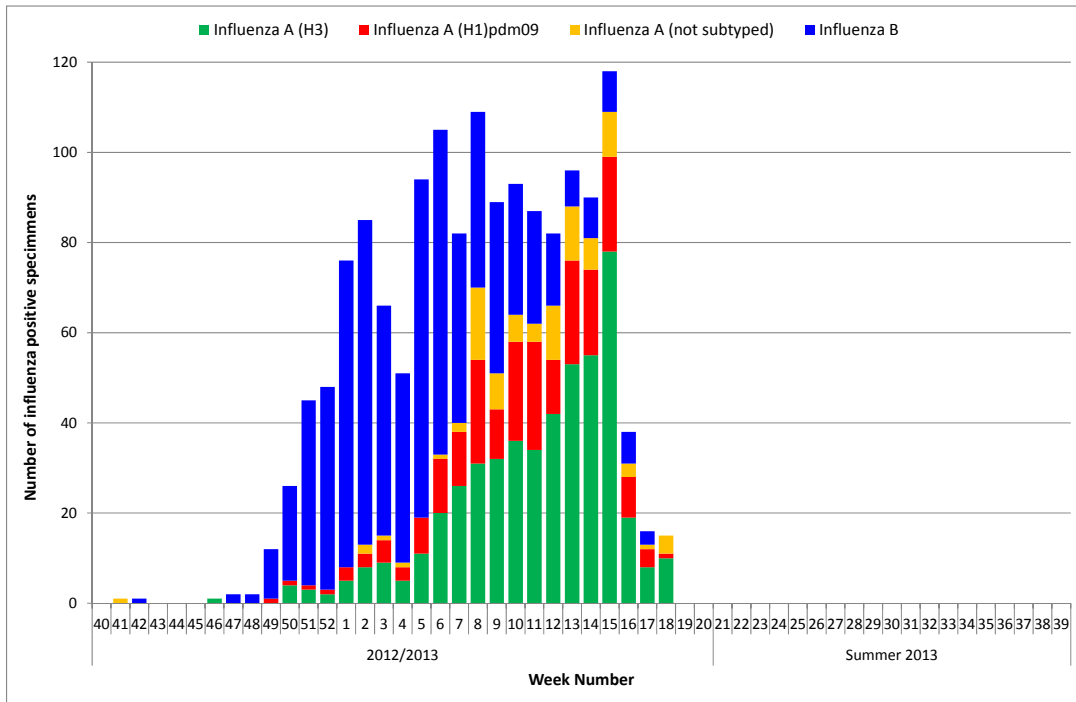


Figure 4: Number of positive influenza specimens by influenza type/subtype from sentinel and non-sentinel sources tested by the NVRL, by week for the 2012/2013 influenza season. Source: NVRL

## Respiratory Syncytial Virus (RSV)

Respiratory syncytial virus (RSV) positivity reported from the NVRL (non-sentinel sources) remained at low levels at 0.5% (1/195) during week 18 2013. RSV positivity peaked at 36.7% during week 51 2012 (figure 5). Sporadic cases of RSV have been detected this season from sentinel GP sources (table 2).

RSV was made notifiable in Ireland on 1<sup>st</sup> January 2012. During week 18 2013, seven 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](#).

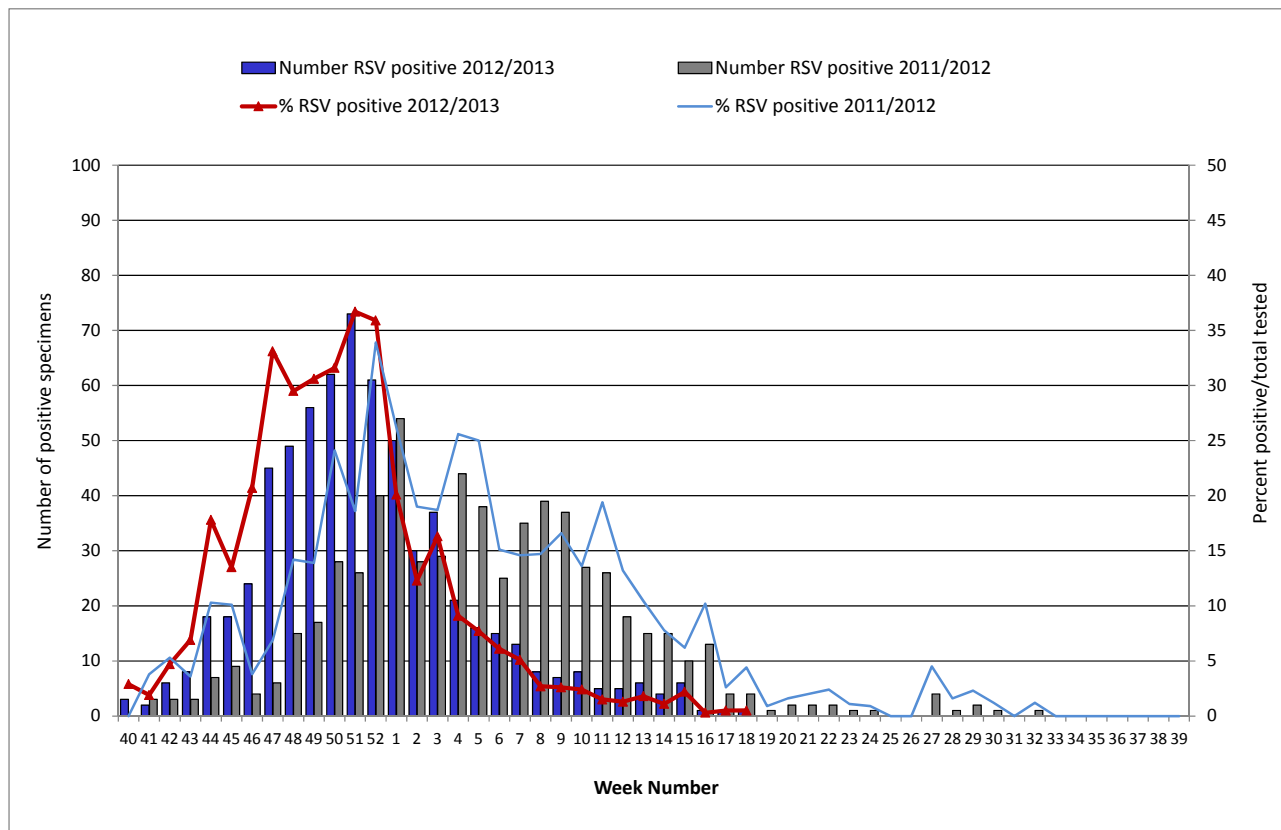


Figure 5: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2012/2013 season, compared to the 2011/2012 season. Source: NVRL

## Other Respiratory Viruses

Two adenovirus, seven parainfluenza virus (PIV) type 3 and three human metapneumovirus (hMPV) positive specimens from sentinel and non-sentinel sources were reported by the NVRL during week 18 2013. Positivity levels for PIV-3 from non-sentinel sources decreased to 3.6% during week 18 2013, compared to 11.3% during week 17 2013 (table 2).

**Table 1: Number of sentinel and non-sentinel<sup>§</sup> respiratory specimens tested by the NVRL and positive influenza results, for week 18 2013 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 (unsubtyped)	Total influenza A	
<b>18 2013</b>	Sentinel	6	0	0.0	0	0	0	0	0
	Non-sentinel	195	15	7.7	1	10	4	15	0
	<b>Total</b>	<b>201</b>	<b>15</b>	<b>7.5</b>	<b>1</b>	<b>10</b>	<b>4</b>	<b>15</b>	<b>0</b>
<b>2012/2013</b>	Sentinel	923	510	55.3	51	86	9	146	364
	Non-sentinel	6824	1020	14.9	168	406	82	656	364
	<b>Total</b>	<b>7747</b>	<b>1530</b>	<b>19.7</b>	<b>219</b>	<b>492</b>	<b>91</b>	<b>802</b>	<b>728</b>

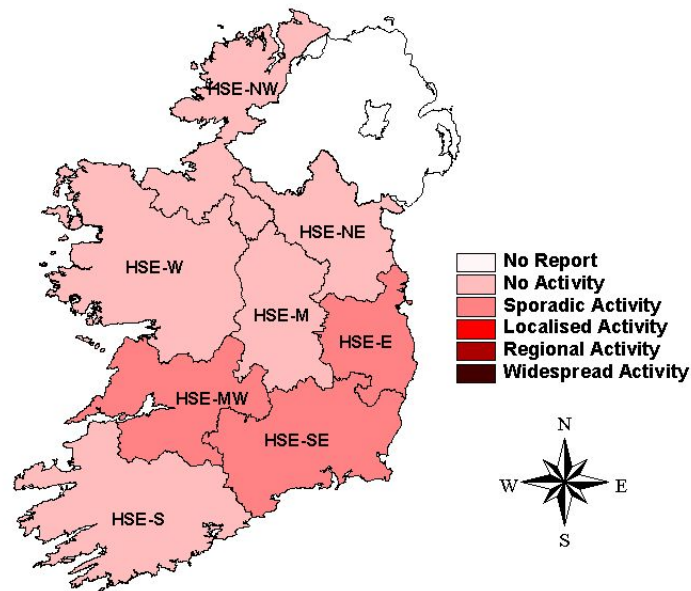
**Table 2: Number of sentinel and non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 18 2013 and the 2012/2013 season to date. Source: NVRL**

Week	Specimen type	Total tested	RSV	% RSV	Adenovirus	% Adenovirus	PIV-1	% PIV-1	PIV-2	% PIV-2	PIV-3	% PIV-3	hMPV	% hMPV
<b>18 2013</b>	Sentinel	6	0	0.0	2	33.3	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	195	1	0.5	0	0.0	0	0.0	0	0.0	7	3.6	3	1.5
	<b>Total</b>	<b>201</b>	<b>1</b>	<b>0.5</b>	<b>2</b>	<b>1.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>7</b>	<b>3.5</b>	<b>3</b>	<b>1.5</b>
<b>2012/2013</b>	Sentinel	923	14	1.5	30	3.3	1	0.1	0	0.0	4	0.4	12	1.3
	Non-sentinel	6824	659	9.7	127	1.9	4	0.1	4	0.1	199	2.9	138	2.0
	<b>Total</b>	<b>7747</b>	<b>673</b>	<b>8.7</b>	<b>157</b>	<b>2.0</b>	<b>5</b>	<b>0.1</b>	<b>4</b>	<b>0.1</b>	<b>203</b>	<b>2.6</b>	<b>150</b>	<b>1.9</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.

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

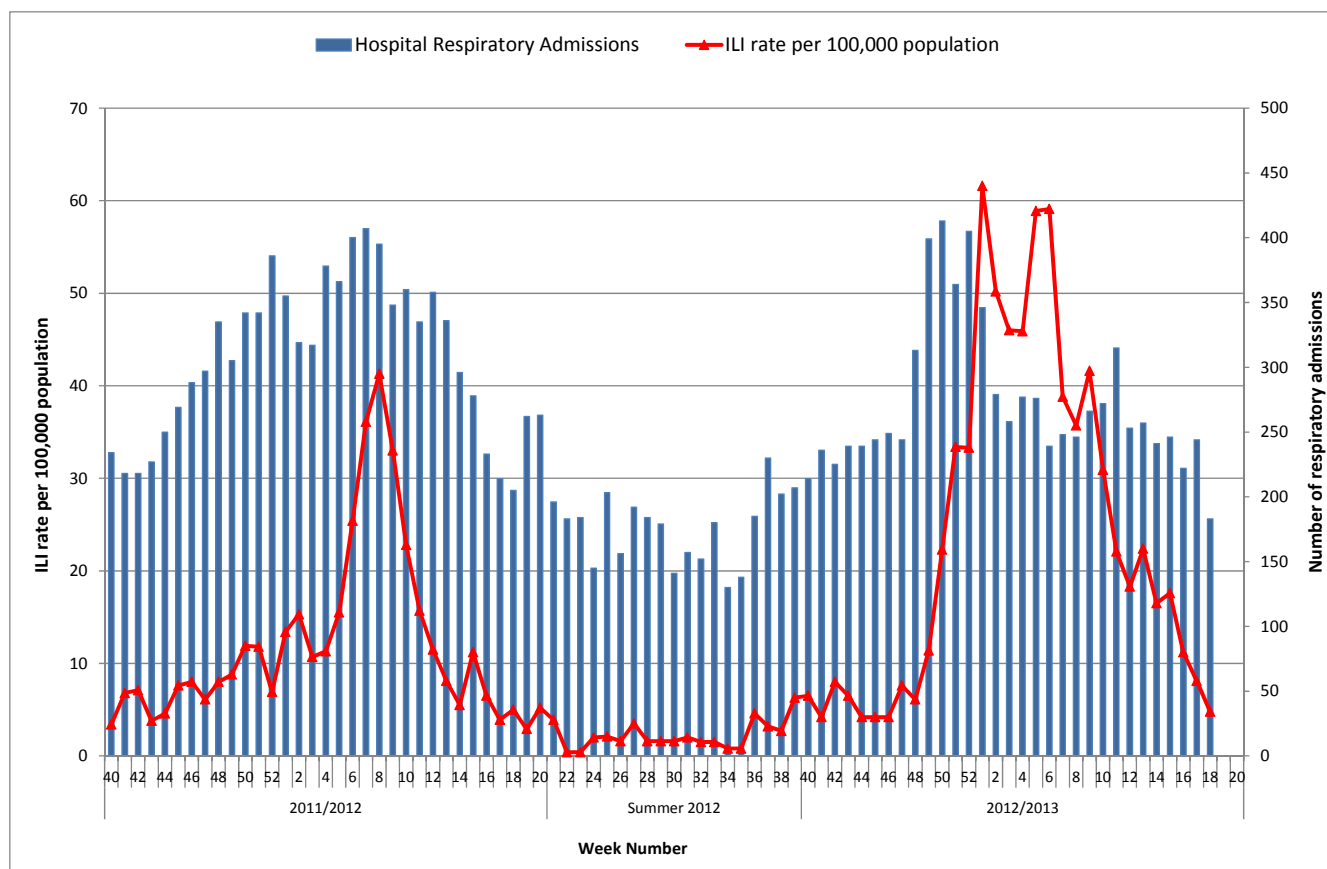
Influenza activity is based on sentinel GP ILI consultation rates, laboratory confirmed influenza cases and ILI/influenza outbreaks. Sporadic influenza activity was reported from HSE-E, -SE and -MW and no influenza activity was reported from all other areas during week 18 2013 (figure 6).



**Figure 6: Map of provisional influenza activity by HSE-Area during week 18 2013**

#### Sentinel Hospitals – Admissions Data

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 was 183 during week 18 2013, a decrease compared to 244 during week 18 2012. It should be noted that data for week 18 2013 were incomplete. To date this season, hospital respiratory admissions peaked at 413 during week 50 2012 (figure 7).



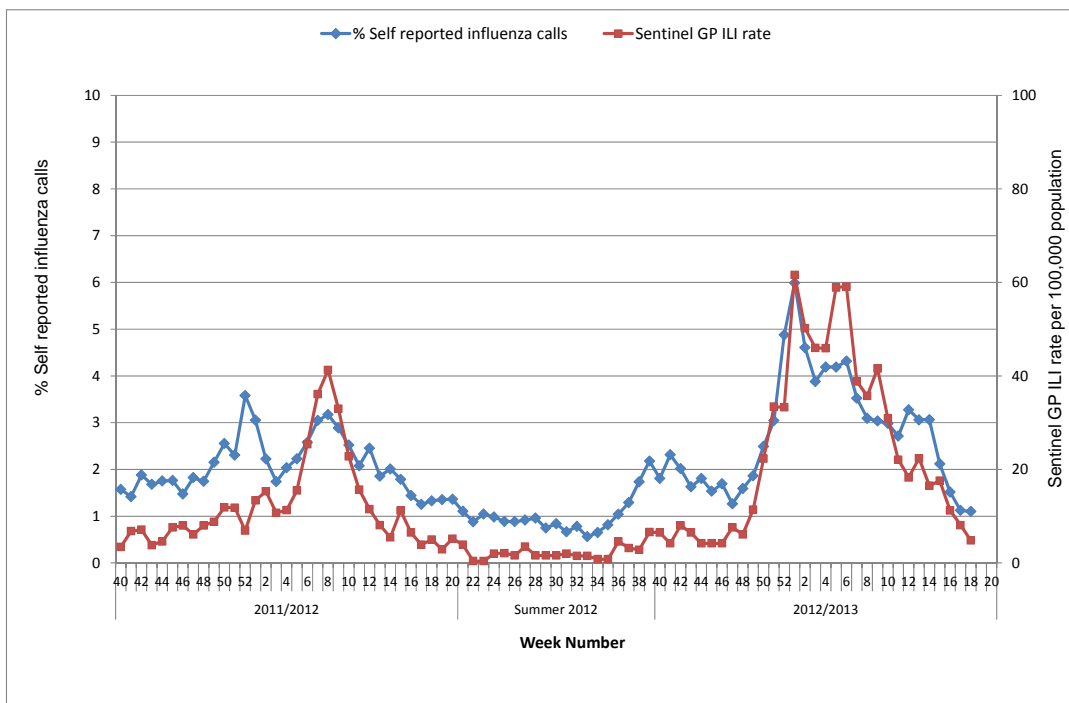
**Figure 7: Number of respiratory admissions reported from sentinel hospitals and national sentinel GP ILI consultation rate per 100,000 population by week for the 2011/2012 season, summer 2012 and the 2012/2013 season to date.**  
 Source: Departments of Public Health - Sentinel Hospitals & ICGP.

#### 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 18 2013 remained at low levels at 1.1%, unchanged from the updated proportion of 1.1% in the previous week. Six GP Out-of-Hours services reported during week 18 2013. To date this season, the proportion of influenza-related calls to GP Out-of-Hours services peaked at 6.0% during week 1 2013 (figure 8).





**Figure 8: 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. Twenty-eight laboratory confirmed influenza cases were notified during week 18 2013, a significant decrease compared to 46 notifications during week 17 2013. Of the 28 cases reported during week 18 2013, 25 were associated with influenza A (11 A(H3), 3 A(H1)pdm09 & 11 A(not subtyped)) and 3 with influenza B. The number of confirmed influenza cases reported as hospitalised during week 18 2013 was 6, compared to 13 during week 17 2013. Of the 6 cases reported as hospitalised during week 18 2013, all were associated with influenza A: 5 A(H3) and 1 A(H1)pdm09. To date this season, 445 confirmed influenza cases (215 influenza B, 102 influenza A(H3), 72 A(H1)pdm09 and 56 influenza A (not subtyped)) have been reported as hospitalised, 51.7% of these cases were associated with influenza A and 48.3% were associated with influenza B.

## 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 continued 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 and ICSI. To date this season, 27 adults and 10 paediatric confirmed influenza cases have been admitted to critical care. Of these 37 cases, 15 were associated with influenza B, 15 with influenza A (H1)pdm09, five influenza A (H3) and two with influenza A (not subtyped). Thirty-two RSV paediatric cases were also admitted to critical care this season. The majority (90.6%) of these reported RSV admissions to critical care were admitted during November and December 2012.

## 7. Mortality surveillance

To date this season, 10 confirmed influenza-associated deaths have been reported to HPSC, five associated with influenza B, two with influenza A(H3), one influenza A (H1)pdm09 and two with influenza A (not subtyped). 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 18 2013, no excess all-cause mortality was reported in Ireland after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm. However, during weeks 45, 50 and 52 2012 and weeks 1, 4-6, 9-11, 14 and 15 2013, excess all-cause mortality was reported. These data are provisional due to the time delay in deaths' registration in Ireland. <http://www.euromomo.eu/>

## 8. Outbreak surveillance

One new acute respiratory outbreak was reported to HPSC during week 18 2013, this outbreak was associated with influenza A (H3) in a community hospital/long stay unit in HSE-E. To date this influenza season, 84 acute respiratory outbreaks have been reported to HPSC, 63 outbreaks were associated with influenza [49 influenza A (35 A(H3), 3 A(H1)pdm09 and 11 A(not subtyped)), 11 influenza B, three with both influenza A and B co-circulating], one outbreak was associated with RSV, four with hMPV, two with parainfluenza virus type 3 and 14 associated with unidentified pathogens. The majority of these outbreaks have been associated with residential care facilities/long stay units for the elderly. It should be noted that family outbreaks are not recorded in this report. The number of influenza/ILI outbreaks reported to HPSC is shown in figure 9.

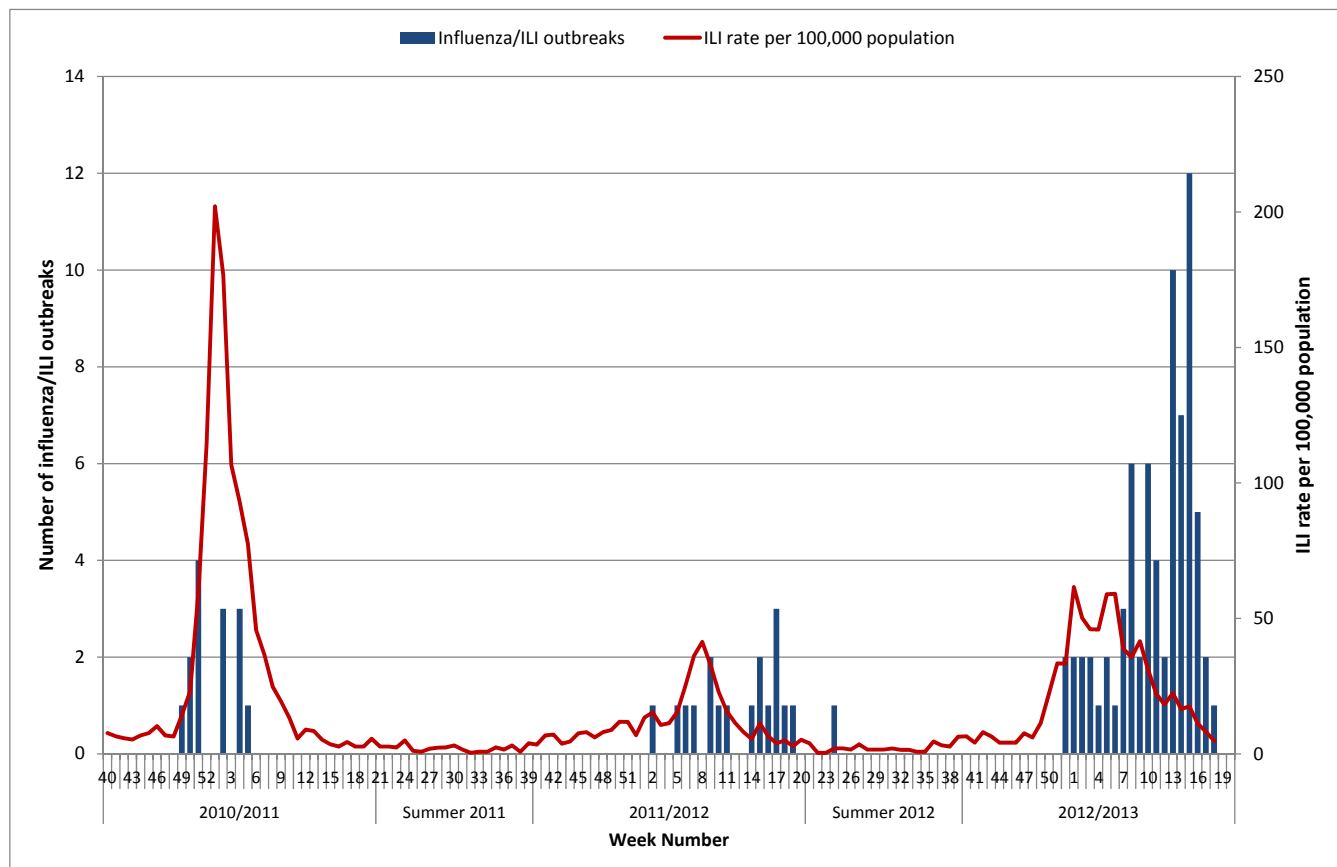


Figure 9: Number of influenza/ILI outbreaks and national sentinel GP ILI consultation rate per 100,000 population by week and influenza season. Source: Computerised Infectious Disease Reporting System (CIDR) & ICGP.

## 9. International summary

The WHO Global Influenza Programme monitors influenza activity worldwide and publishes an update every two weeks. The most recent update of 26<sup>th</sup> April 2013, stated that influenza activity across the northern temperate regions has continued to decline to near inter-seasonal levels in much of North America, Europe, and northern Asia although low level persistent transmission was still noted in many countries. The persistence of transmission in the northern hemisphere temperate regions has been associated with increasing numbers of influenza B virus appearing late in the season in a number of countries of North America and Europe. Prior to this, influenza A(H3N2) was the most commonly detected virus in North America, A(H1N1)pdm09 in Europe, and both in varying proportions in different countries of northern Asia. Low levels of influenza activity continued to be reported across the tropical regions of the world and activity in countries of the southern hemisphere remained at inter-seasonal levels. Nearly all influenza A viruses characterised this season have been antigenically related to those contained in the current trivalent vaccine. Among the B viruses characterised, those that were of the B/Yamagata lineage were antigenically related to the viruses recommended for the trivalent vaccine but a sizable number of B viruses were also of the B/Victoria lineage. Very low numbers of oseltamivir and zanamivir resistant viruses have been detected. In China, new cases of avian influenza H7N9 have been reported with 126 cases reported to date; for more information see links below.

- For up to date information on influenza A(H7N9) in China including the current case numbers and the WHO assessment of the situation please see [here](#). The European Centre for Disease Prevention and Control has published an updated rapid risk assessment of the A(H7N9) situation, see [here](#). Further information on influenza A(H5N1) is available [here](#).
- Further information on novel coronavirus is available on the [WHO website](#) and [ECDC website](#).

## 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>
Public Health England	<a href="http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/">http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/</a>
United States CDC	<a href="http://www.cdc.gov/flu/weekly/fluactivitysurv.htm">http://www.cdc.gov/flu/weekly/fluactivitysurv.htm</a>
Public Health Agency of Canada	<a href="http://www.phac-aspc.gc.ca/fluwatch/12-13/index-eng.php">http://www.phac-aspc.gc.ca/fluwatch/12-13/index-eng.php</a>

### Acknowledgements

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