

# Influenza Surveillance in Ireland – Weekly Report

Influenza Week 20 2013 (13<sup>th</sup> – 19<sup>th</sup> May 2013)



*This is the final report of the 2012/2013 influenza season. Influenza activity will continue to be monitored during the summer period and brief reports will be published throughout the summer.*

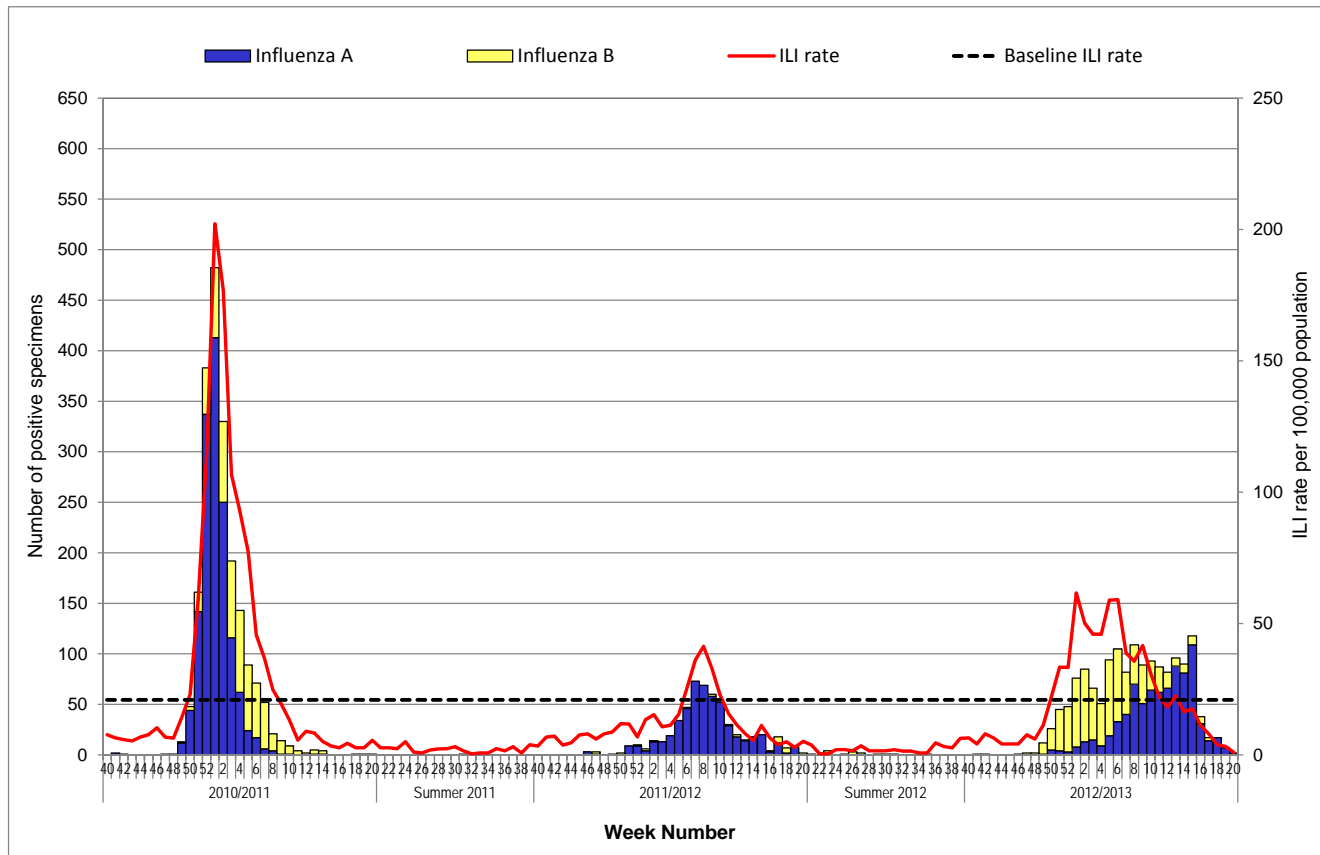
## Summary

- **Influenza activity in Ireland decreased during week 20 2013 and was at low levels.**
- The sentinel GP influenza-like illness (ILI) consultation rate was 1.0 per 100,000 population in week 20 2013, a decrease compared to the rate of 3.3 per 100,000 during week 19 2013.
- The ILI consultation rate was below the Irish baseline threshold (21.0 per 100,000 population) and has been for seven 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 20 2013.
- Influenza positivity remained at low levels during week 20 2013 at 1.3%, compared to 4.3% during the previous week. One influenza A(H3) and one influenza A (not subtyped) positive specimens were reported from the NVRL for week 20 2013. No specimens taken by sentinel GPs have tested positive for influenza virus since week 16 2013.
- Positivity levels for respiratory syncytial virus (RSV), parainfluenza viruses and adenoviruses were low during week 20 2013.
- Positivity levels for human metapneumovirus (hMPV) increased during weeks 19 and 20 2013, reaching the highest levels reported for the 2012/2013 season.
- During week 20 2013, two confirmed influenza cases were reported as hospitalised, both associated with influenza A. To date this season, 454 confirmed influenza cases were reported as hospitalised, 52.6% associated with influenza A and 47.4% associated with influenza B.
- Twenty-eight adults and ten paediatric confirmed influenza cases were admitted to critical care during the 2012/2013 season. Of these 38 cases, 16 were associated with influenza A (H1)pdm09, five influenza A (H3), two with influenza A (not subtyped) and 15 with influenza B. Thirty-two RSV paediatric cases were also admitted to critical care this season.
- For the 2012/2013 influenza season, 16 confirmed influenza associated deaths have been reported to HPSC to date, four associated with influenza A(H3), one influenza A (H1)pdm09, five with influenza A (not subtyped) and six associated with influenza B.
- No new acute respiratory outbreaks were reported to HPSC during week 20 2013. During the 2012/2013 season, 86 acute respiratory outbreaks were reported to HPSC.
- The 2012/2013 influenza season is coming to an end with inter-seasonal influenza levels reported in most of North America, Europe, and northern Asia.
- 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](#).
- Further information on Middle Eastern Respiratory Syndrome Coronavirus (MERS-CoV) is available on the [WHO website](#) and [ECDC website](#).

## 1. GP sentinel surveillance system

### Clinical Data

During week 20 2013, two influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 1.0 per 100,000 population, a decrease compared to the rate of 3.3 per 100,000 in week 19 2013. Forty-eight of 61 (78.7%) sentinel general practices provided data during week 20 2013, with two practices (4.2%) reporting ILI cases. The ILI consultation rate has been below the Irish baseline threshold (21.0 per 100,000 population)\* since week 14 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 ICGPand virological data from the NVRL<sup>†</sup>

ILI age specific rates have been at low levels in all age groups since week 16 2013. No ILI cases were reported in 0-4 and 5-14 year olds and in those aged 65 years or older during week 20 2013. Two ILI cases were reported in the 15-64 year age group (1.5 per 100,000) during week 20 2013 (figure 2).

\* 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.

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

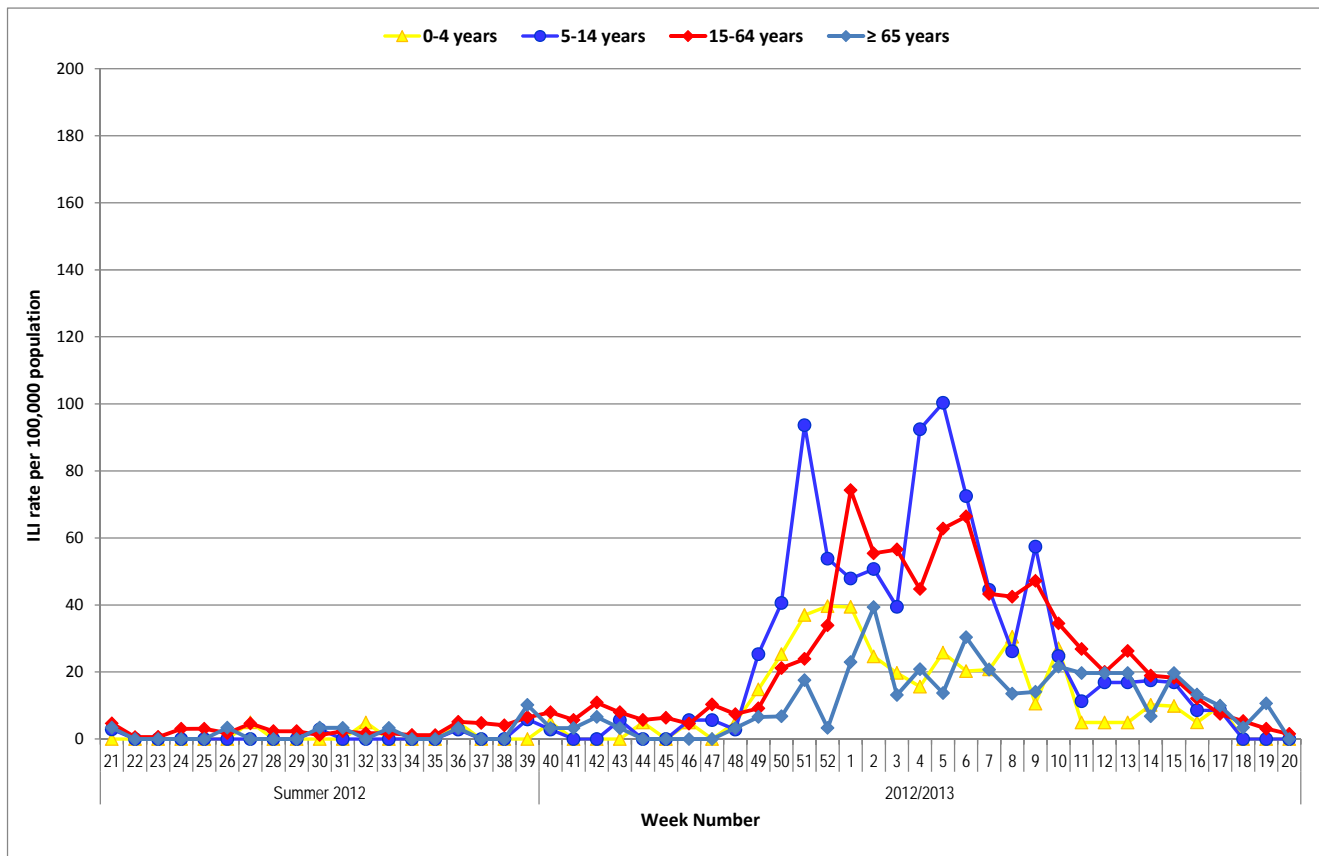


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2012 and the 2012/2013 influenza season to date. Source: ICGP ILI clinical data

## 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 20 2013, a total of 149 specimens (1 sentinel and 148 non-sentinel<sup>†</sup> specimens) were tested by the NVRL. A total of two (2/149; 1.3%) sentinel and non-sentinel specimens tested positive for influenza virus during week 20 2013. No sentinel specimens have tested positive for influenza since week 16 2013. Two (2/148; 1.4%) non-sentinel specimens tested positive for influenza during week 20 2013: 1 A(H3) and 1 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.

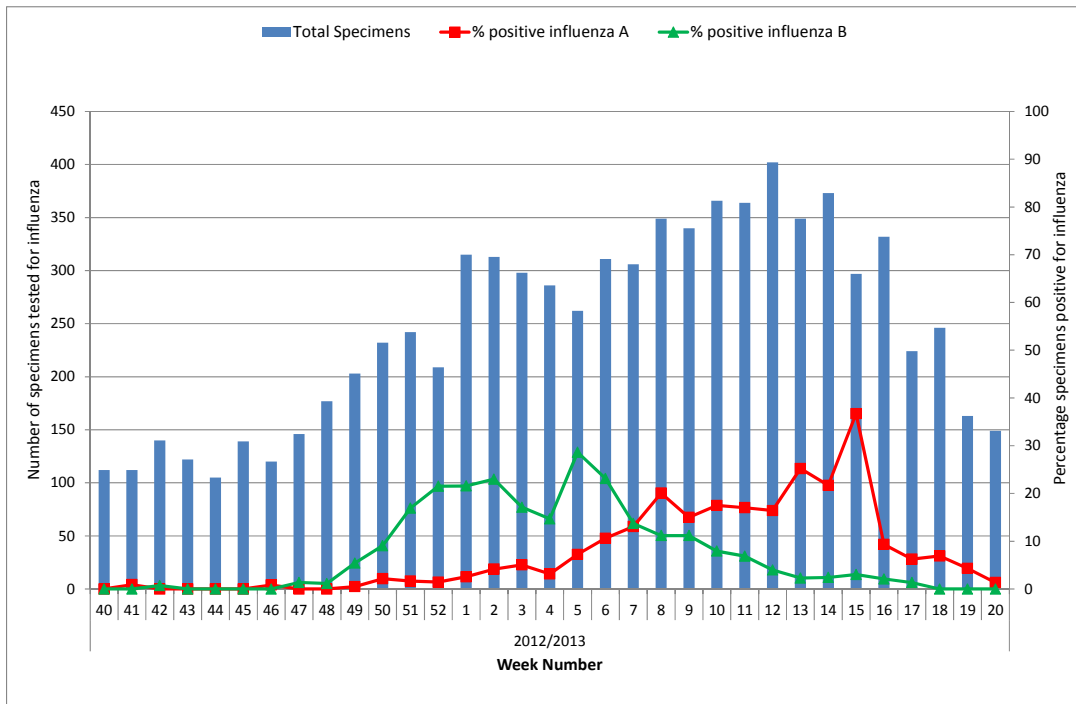


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage of specimens tested positive for influenza A and B by week for the 2012/2013 influenza season. Source: NVRL

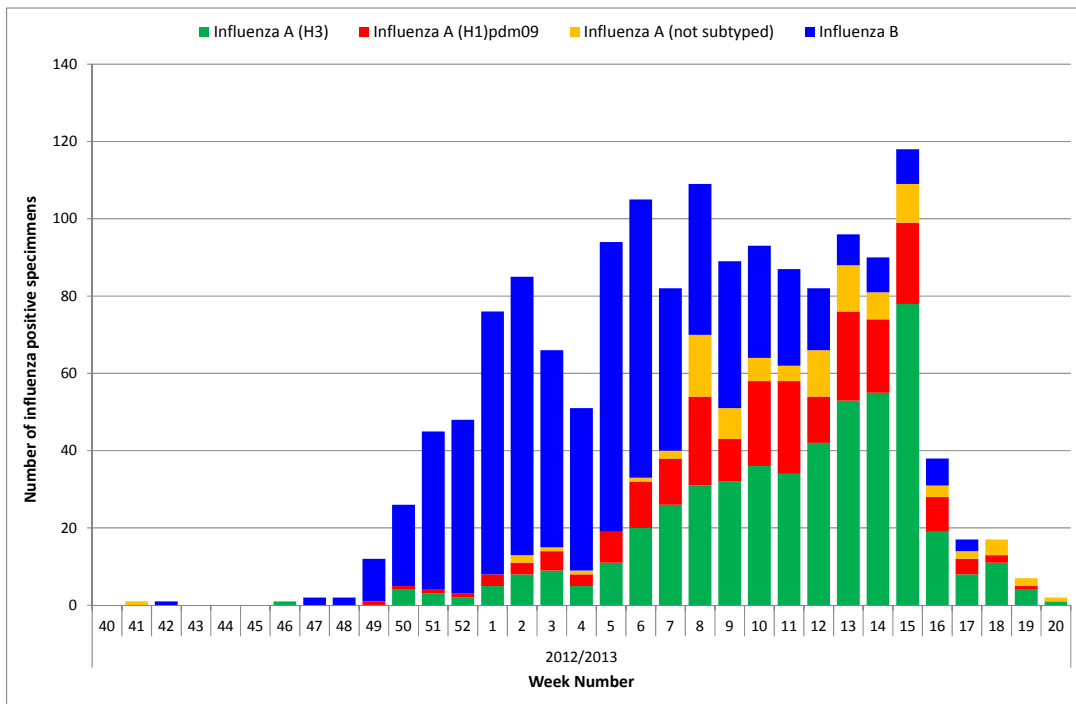


Figure 4: Number of positive influenza specimens by influenza type/subtype from sentinel and non-sentinel sources tested by the NVRL, by week for the 2012/2013 influenza season. Source: NVRL

## Respiratory Syncytial Virus (RSV)

Respiratory syncytial virus (RSV) positivity reported from the NVRL (non-sentinel sources) remained at low levels at 3.4% (5/148) during week 20 2013. RSV positivity peaked during the 2012/2013 influenza season 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 20 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](#).

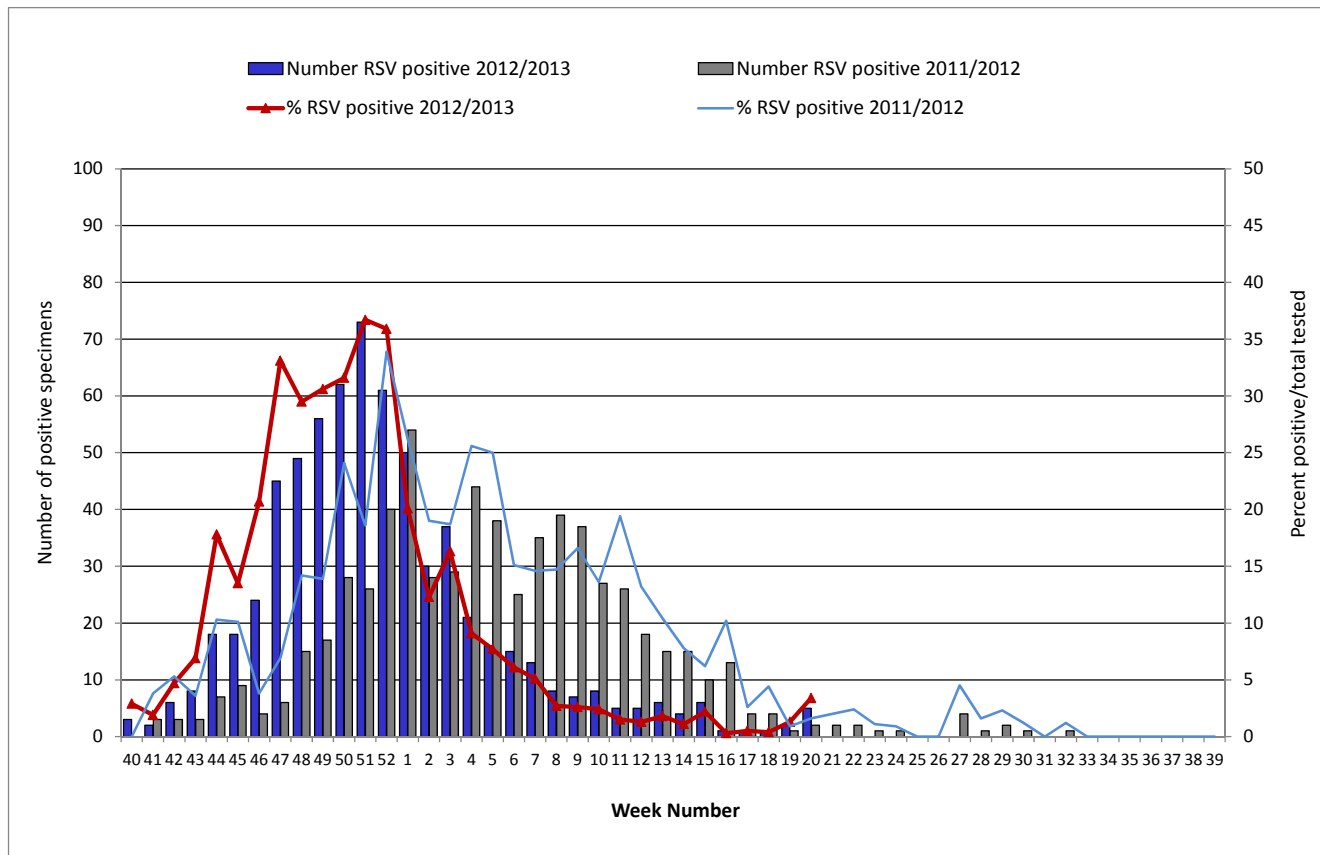


Figure 5: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2012/2013 season, compared to the 2011/2012 season. Source: NVRL

## Other Respiratory Viruses

Five adenovirus, one parainfluenza virus (PIV) type 2, 5 PIV-3 and 14 human metapneumovirus (hMPV) positive specimens from sentinel and non-sentinel sources were reported by the NVRL during week 20 2013. Positivity levels for hMPV increased during weeks 19 and 20 2013, reaching 9.5% during week 20 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 20 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>20 2013</b>	Sentinel	1	0	0.0	0	0	0	0	0
	Non-sentinel	148	2	1.4	0	1	1	2	0
	<b>Total</b>	<b>149</b>	<b>2</b>	<b>1.3</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>
<b>2012/2013</b>	Sentinel	928	510	55.0	51	86	9	146	364
	Non-sentinel	7176	1032	14.4	170	412	86	668	364
	<b>Total</b>	<b>8104</b>	<b>1542</b>	<b>19.0</b>	<b>221</b>	<b>498</b>	<b>95</b>	<b>814</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 20 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>20 2013</b>	Sentinel	1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	148	5	3.4	5	3.4	0	0.0	1	0.7	5	3.4	14	9.5
	<b>Total</b>	<b>149</b>	<b>5</b>	<b>3.4</b>	<b>5</b>	<b>3.4</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.7</b>	<b>5</b>	<b>3.4</b>	<b>14</b>	<b>9.4</b>
<b>2012/2013</b>	Sentinel	928	14	1.5	30	3.2	1	0.1	0	0.0	4	0.4	12	1.3
	Non-sentinel	7176	666	9.3	135	1.9	9	0.1	5	0.1	218	3.0	163	2.3
	<b>Total</b>	<b>8104</b>	<b>680</b>	<b>8.4</b>	<b>165</b>	<b>2.0</b>	<b>10</b>	<b>0.1</b>	<b>5</b>	<b>0.1</b>	<b>222</b>	<b>2.7</b>	<b>175</b>	<b>2.2</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. During week 19 2013, sporadic influenza activity was reported from HSE-E, -SE, -S and -W and no influenza activity was reported from all other areas. During week 20 2013, sporadic influenza activity was reported from HSE-E and -SE and no influenza activity was reported from all other areas (figure 6).

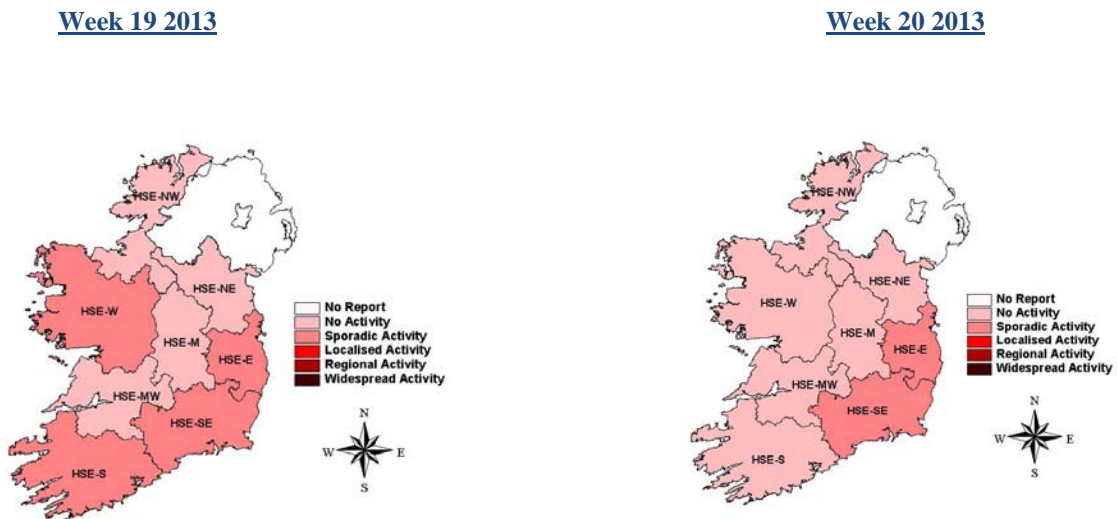
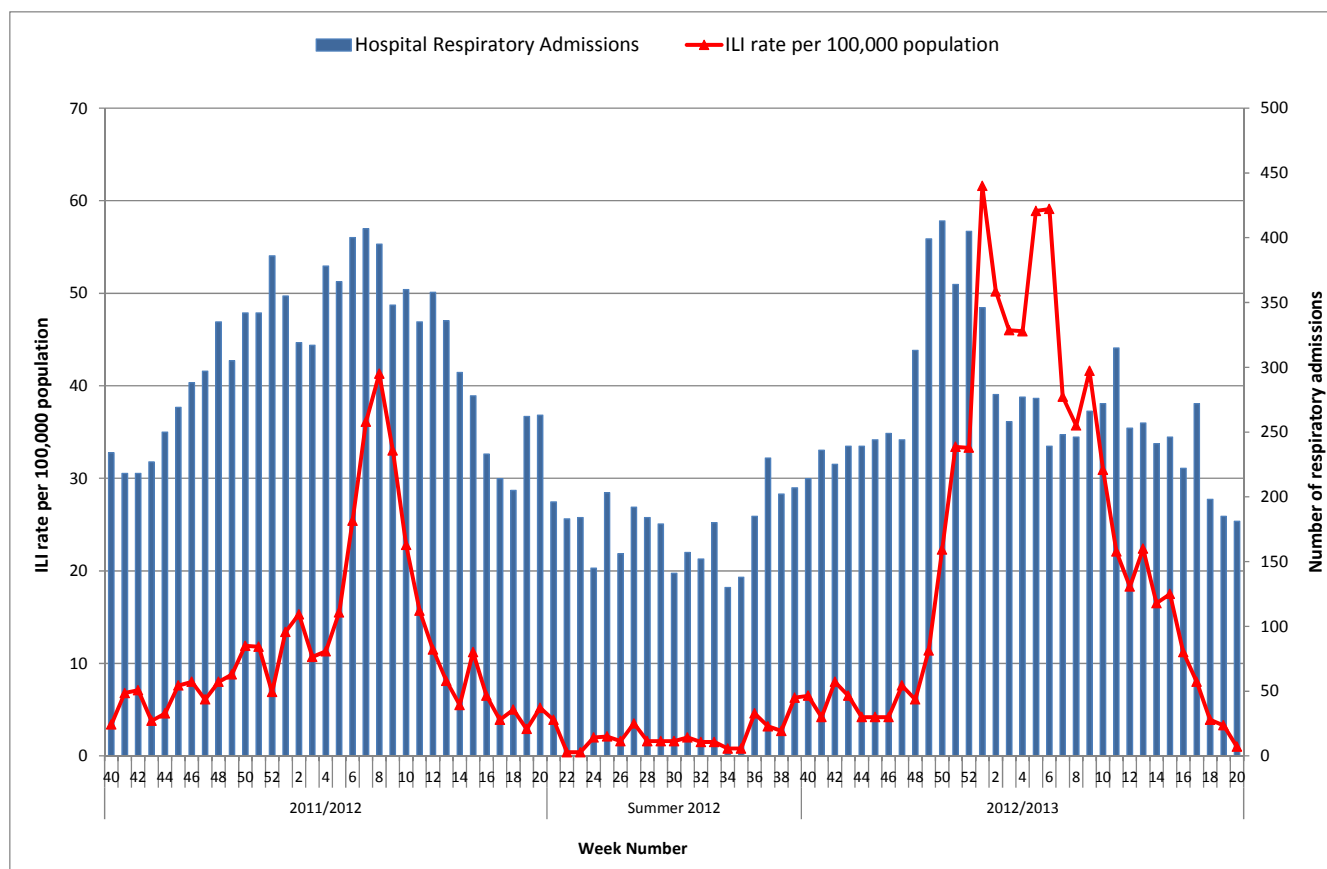


Figure 6: Maps of provisional influenza activity by HSE-Area during weeks 19 and 20 2013

#### 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 181 during week 20 2013, remaining stable compared to 185 during week 19 2013. It should be noted that data for week 20 2013 were incomplete. During the 2012/2013 season, hospital respiratory admissions peaked at 413 during week 50 2012 (figure 7).



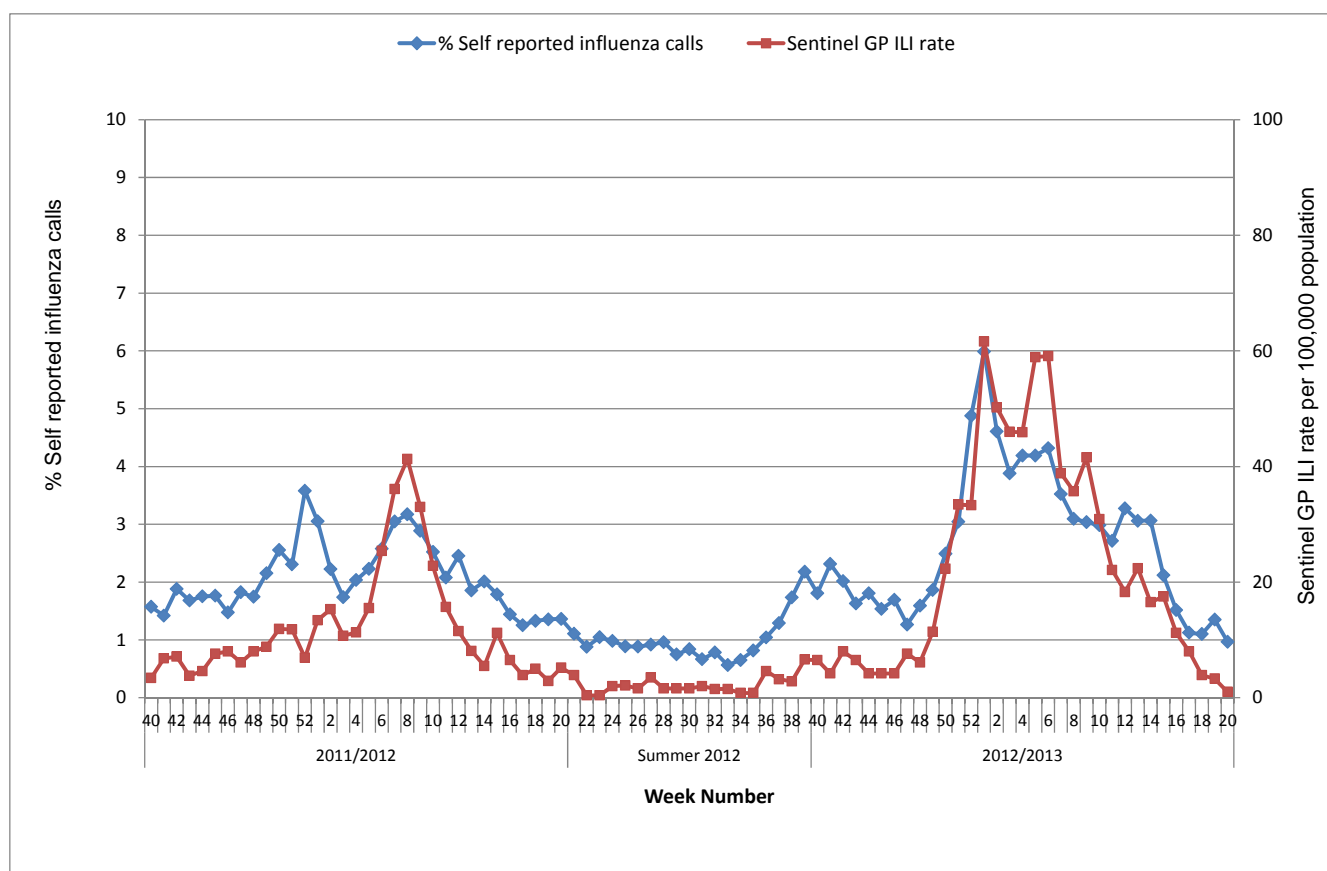
**Figure 7: Number of respiratory admissions reported from sentinel hospitals and national sentinel GP ILI consultation rate per 100,000 population by week for the 2011/2012 season, summer 2012 and the 2012/2013 season to date.**  
 Source: Departments of Public Health - Sentinel Hospitals & ICGP.

#### 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 weeks 19 and 20 2013 remained at low levels at 1.4% and 1.0%, respectively. During the 2012/2013 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. Ten laboratory confirmed influenza cases were notified during week 20 2013, remaining stable compared to 10 notifications during week 19 2013. All influenza notifications during weeks 19 and 20 2013 were associated with influenza A. The number of confirmed influenza cases reported as hospitalised during week 20 2013 was 2, compared to 6 during week 19 2013. All eight confirmed influenza cases reported as hospitalised during weeks 19 and 20 2013 were associated with influenza A.

During the 2012/2013 influenza season, 454 confirmed influenza cases (106 influenza A(H3), 74 A(H1)pdm09, 59 influenza A (not subtyped) and 215 influenza B) were reported as hospitalised, 52.6% of these cases were associated with influenza A and 47.4% were associated with influenza B. The number of confirmed influenza cases reported as hospitalised by week is shown in figure 9.

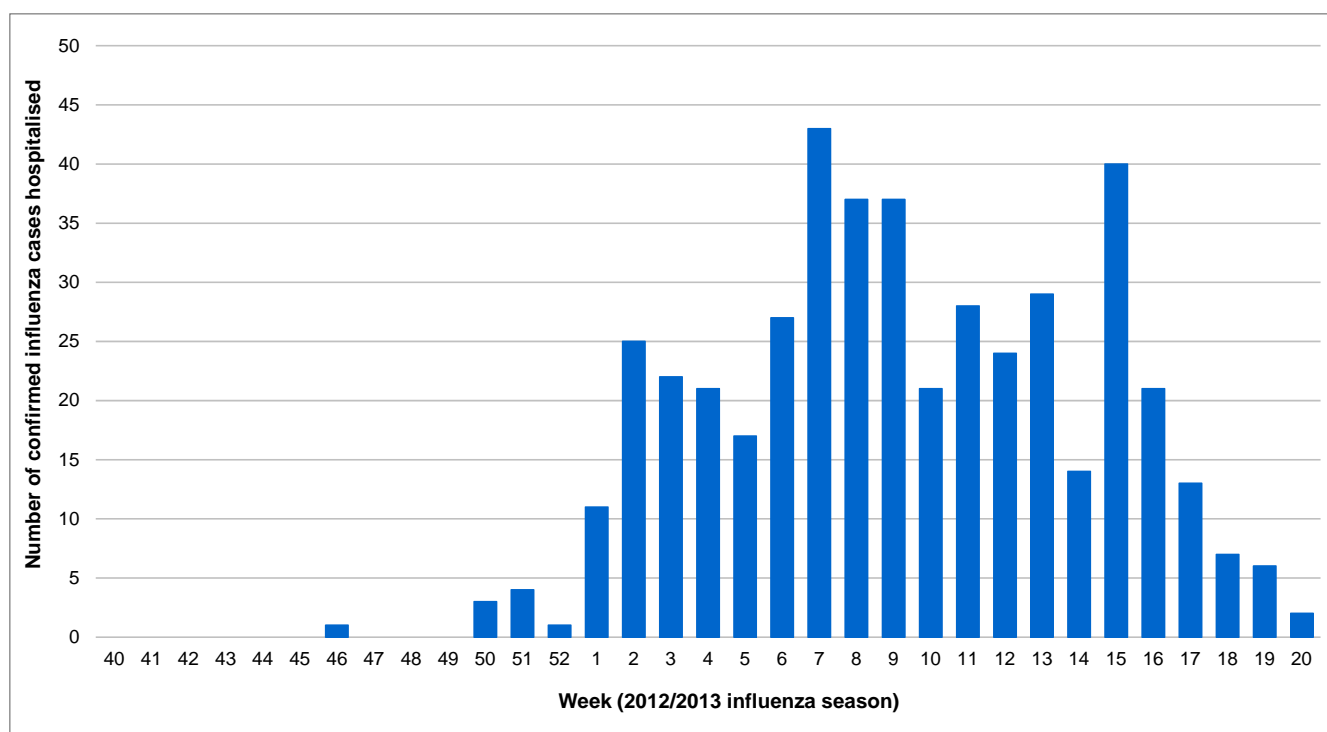


Figure 9: Number of notified confirmed influenza cases reported as hospitalised by week during the 2012/2013 influenza season. *Source: CIDR*

## 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. For the 2012/2013 season, 28 adults and 10 paediatric confirmed influenza cases have been admitted to critical care. Of these 38 cases, 16 were associated with influenza A (H1)pdm09, five influenza A (H3), two with influenza A (not subtyped) and 15 were associated with influenza B. The majority of these reported influenza cases were admitted to critical care between early January and mid-April 2013. Thirty-two RSV paediatric cases were also reported as 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

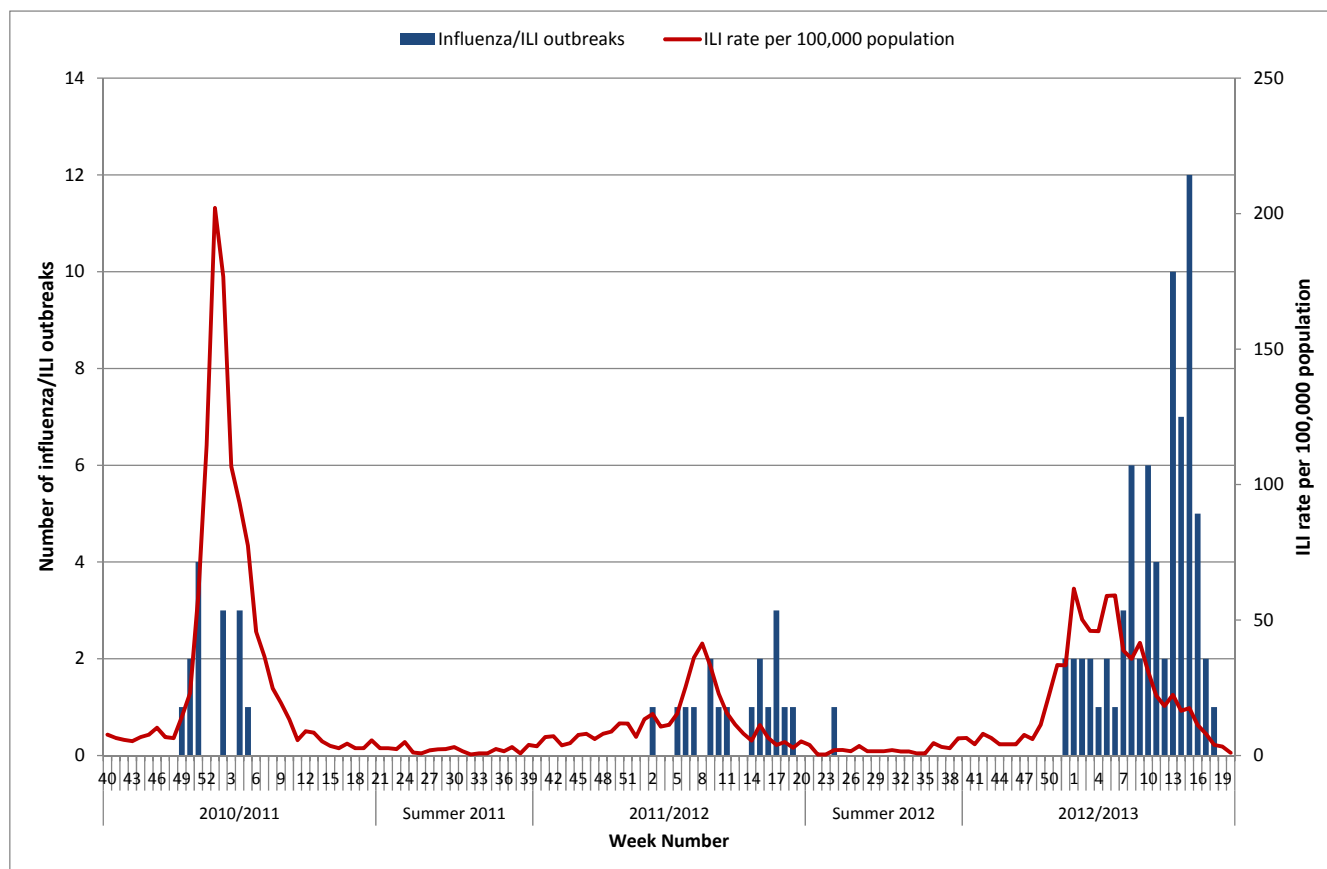
For the 2012/2013 influenza season, 16 confirmed influenza-associated deaths have been reported to HPSC to date, four associated with influenza A(H3), one influenza A (H1)pdm09, five with influenza A (not subtyped) and six associated with influenza B. It is expected that the number of reported influenza-associated deaths for the 2012/2013 influenza season will increase following further registration of influenza deaths with the General Register Office (GRO).

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 20 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, 2, 4-6, 9, 11, and 13-15 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

No new acute respiratory outbreaks were reported to HPSC during week 20 2013. Two new acute respiratory outbreaks were reported to HPSC during week 19 2013. For the 2012/2013 influenza season, 86 acute respiratory outbreaks were 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 16 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 10.



**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 10<sup>th</sup> May 2013, stated that the influenza season was coming to an end with inter-seasonal influenza levels reported in much of North America, Europe, and northern Asia, although low level persistent transmission was still observed in a few countries. The persistence of transmission at low levels in the northern hemisphere temperate regions has been associated with increasing numbers of influenza B virus appearing late in the season across North America and parts of 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. The majority of influenza A viruses characterised to date this season have been antigenically related to those contained in the current trivalent vaccine. Among the B viruses characterised, those of the B/Yamagata lineage were antigenically related to the viruses recommended for the trivalent vaccine. Although, 10-30% of reported influenza B viruses characterised were of the B/Victoria lineage. Very low numbers of oseltamivir and zanamivir resistant viruses were detected during the 2012/2013 influenza season.

- For up to date information on avian 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 Middle Eastern Respiratory Syndrome Coronavirus (MERS-CoV) 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

This report was prepared by Lisa Domegan and Joan O'Donnell, HPSC. HPSC wishes to thank the sentinel GPs, the ICGP, NVRL, Departments of Public Health, ICSI and HSE-NE for providing data for this report.