

# Influenza Surveillance in Ireland – Weekly Report

Influenza Week 1 2015 (29<sup>th</sup> December 2014 – 4<sup>th</sup> January 2015)



 Intensive Care Society of Ireland

*Data for week 52 2014 & week 1 2015 should be interpreted with caution, as reporting levels are affected during the Christmas/New Year Holiday period.*

## Summary

**Most indicators of influenza activity in Ireland increased during week 1 2015, however remained at low levels.**

- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate was 15.2 per 100,000 population in week 1 2015, remaining low, however increasing compared to the rate of 7.6 per 100,000 reported during week 52 2014.
  - ILI rates remain below the Irish baseline threshold (21.0 per 100,000 population)
  - ILI rates remain at low levels in all age groups, however increased slightly in the 15-64 year age group and those aged 65 years or older.
- **GP Out of Hours:** The proportion of influenza-related calls to GP Out-of-Hours services increased significantly during week 1 2015.
- **National Virus Reference Laboratory (NVRL):**
  - Influenza positivity remained stable during weeks 52 2014 and 1 2015, with 18 influenza positive specimens reported from the NVRL: 17 influenza A(H3) and 1 influenza A (not subtyped).
  - Respiratory syncytial virus (RSV) positivity decreased during week 1 2015, however remained at elevated levels, as expected at this time of year.
  - Positive detections of human metapneumovirus (hMPV) have increased in recent weeks.
- **Respiratory admissions:** The latest complete data on respiratory admissions reported from a network of sentinel hospitals were elevated, as expected at this time of year.
- **Hospitalisations:** Three confirmed influenza hospitalised cases were notified to HPSC during week 52 2014 (week ending 28<sup>th</sup> December 2014) and week 1 2015 (week ending January 4<sup>th</sup> 2015).
- **Critical care admissions:** One confirmed influenza A(H3) case was admitted to critical care and reported to HPSC.
- **Mortality:** One confirmed influenza A(H3)-associated death was reported to HPSC.
- **Outbreaks:** No acute respiratory outbreaks were reported to HPSC during week 52 2014 (week ending 28<sup>th</sup> December 2014) and week 1 2015 (week ending January 4<sup>th</sup> 2015).
- **International:** Globally, influenza activity has continued to increase in the northern hemisphere, with influenza A(H3N2) viruses predominating this season to date. While there have been difficulties in characterising A(H3N2) viruses antigenically in Europe, as in the United States of America, the majority of the A(H3N2) viruses characterised genetically have fallen into genetic subgroups containing viruses that have drifted antigenically compared to the virus recommended for use in the 2014/2015 northern hemisphere influenza vaccine. Although this may compromise the effectiveness of the A(H3N2) component of the vaccine, it is still important that people are vaccinated, particularly those at risk of developing severe influenza symptoms. Vaccination remains the most effective means of preventing infection by seasonal influenza viruses. The latest ECDC rapid risk assessment is available [here](#).

## 1. GP sentinel surveillance system - Clinical Data

During week 1 2015, 39 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 15.2 per 100,000 population, remaining low, however increasing compared to the rate of 7.6 per 100,000 population reported during week 52 2014. The ILI rate remained below the Irish baseline threshold (21/100,000 population). ILI age specific rates were low in all age groups during week 1 2015, however increased slightly in the 15-64 year age group and those over 65 years of age (figures 1 & 2).

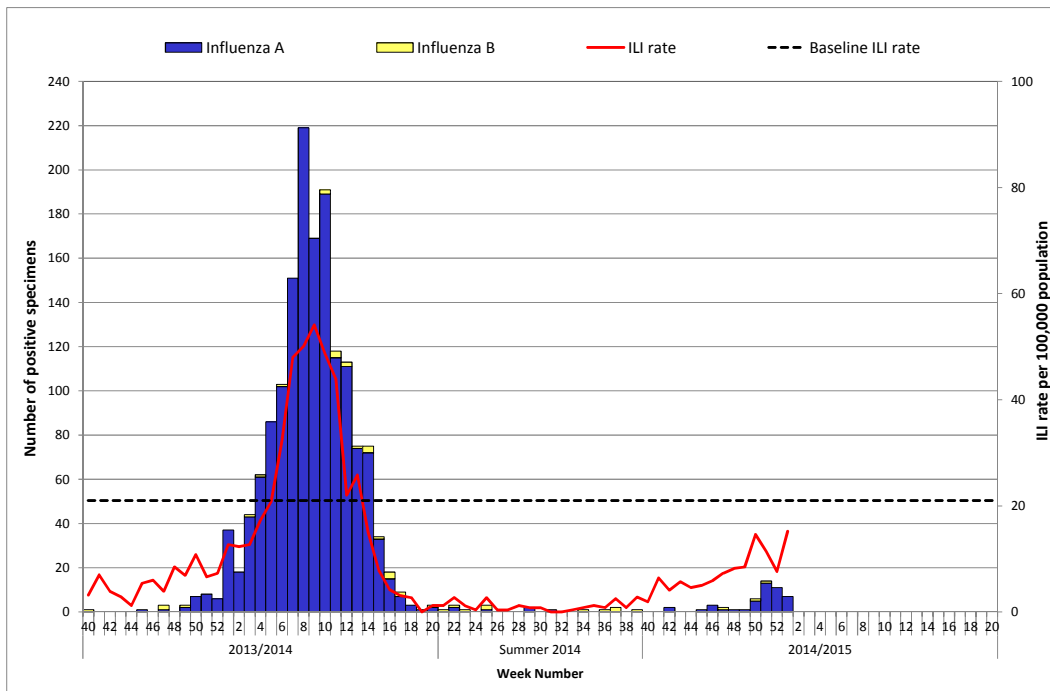


Figure 1. ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season. *Source: ICGP and NVRL*

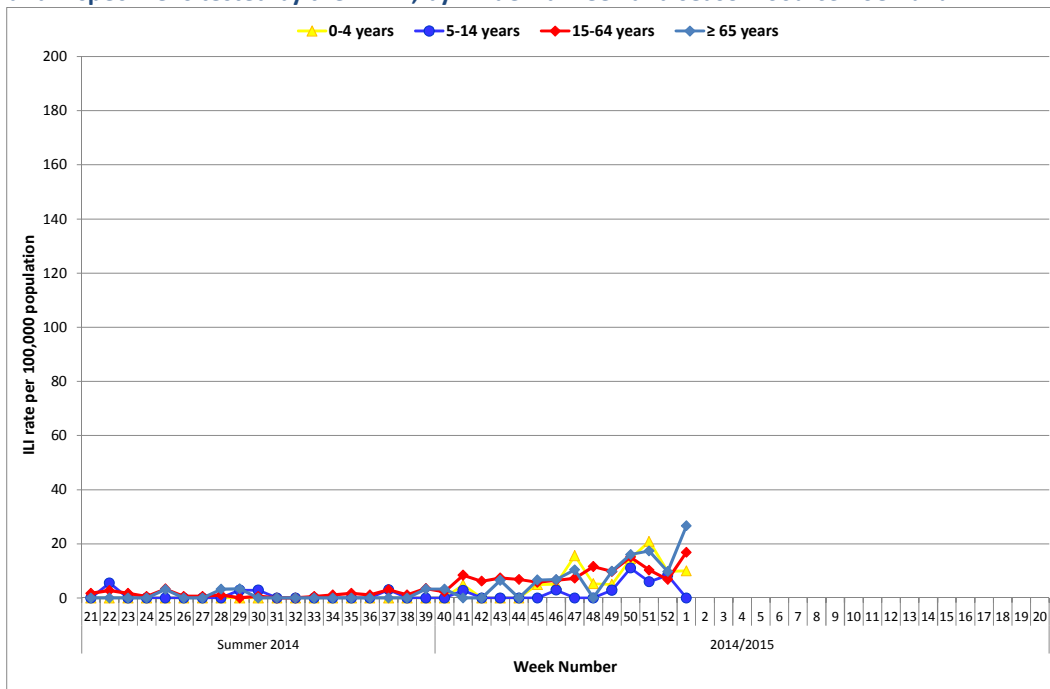


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2014 and the 2014/2015 influenza season to date. *Source: ICGP.*

## 2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section refers to sentinel and non-sentinel respiratory specimens routinely tested for influenza, respiratory syncytial virus (RSV) and human metapneumovirus (hMPV) by the National Virus Reference Laboratory (NVRL). The NVRL also test respiratory specimens for adenovirus and parainfluenza viruses types 1, 2 & 3 (PIV-1, -2, & -3) upon clinical request (figure 3 & tables 1 & 2).

- Influenza positivity remained stable during weeks 52 2014 and 1 2015, with 18 influenza positive specimens reported from the National Virus Reference Laboratory (NVRL): 17 influenza A(H3) and 1 influenza A (not subtyped). To date this season, of the 48 confirmed influenza positive specimens reported by the NVRL, 83% (n=40) were positive for influenza A(H3).
- Week 52 2014:
  - 3 of 9 (33.3%) sentinel specimens were influenza positive: 3 A(H3).
  - 8 of 241 (3.3%) non-sentinel specimens were influenza positive: 7 A(H3) and 1 A (not subtyped).
- Week 1 2015:
  - 2 of 11 (18.2%) sentinel specimens were influenza positive: 2 A(H3).
  - 5 of 138 (3.6%) non-sentinel specimens were influenza positive: 5 A(H3).
- Twenty-eight (28/149; 18.8%) respiratory syncytial virus (RSV) positive sentinel GP and non-sentinel specimens were reported during week 1 2015, a significant decrease from 30.4% during week 52 2014.
  - Respiratory syncytial virus (RSV) positivity remained elevated during week 1 2015, however has decreased significantly compared to recent weeks (figure 3).
- Positive detections of human metapneumovirus (hMPV) from sentinel GP and non-sentinel sources have increased slightly since week 50 2014.
- Sporadic detections of adenovirus and parainfluenza virus types -1, -3 & -4 have been reported for the season to date.

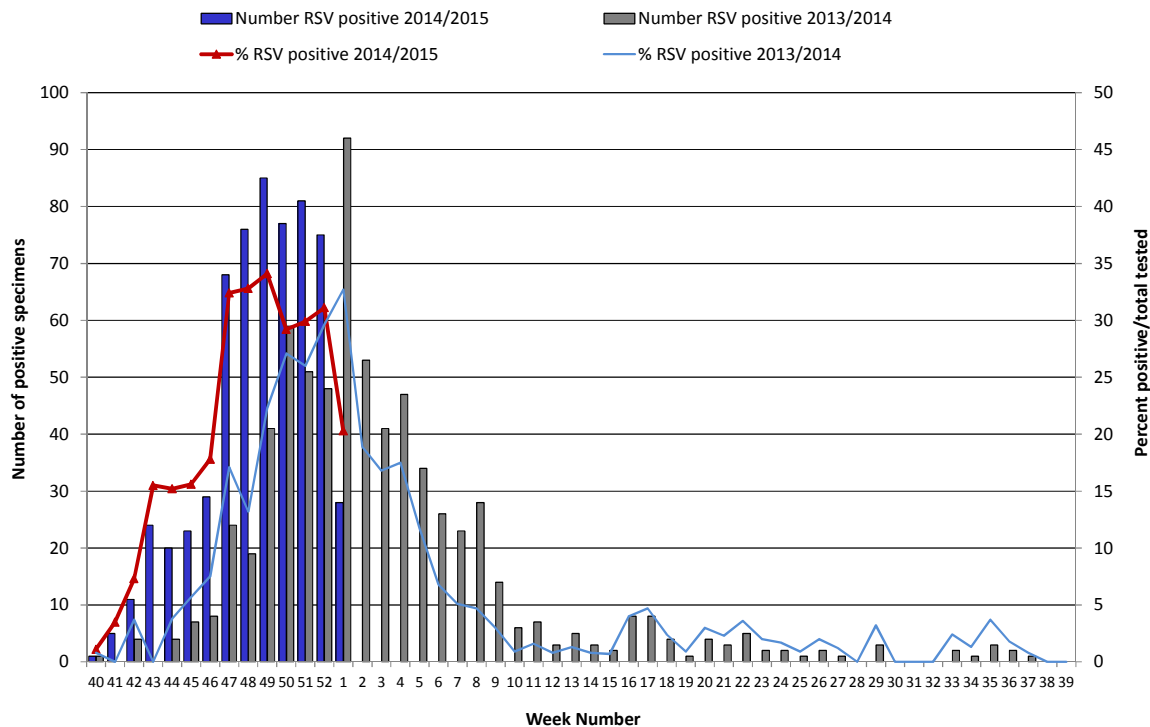


Figure 3: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2014/2015 season, compared to the 2013/2014 season. Source: NVRL.

**Table 1: Number of sentinel and non-sentinel\* respiratory specimens tested by the NVRL and positive influenza results, for weeks 52 2014 and 1 2015, and the 2014/2015 season to date. Source: NVRL**

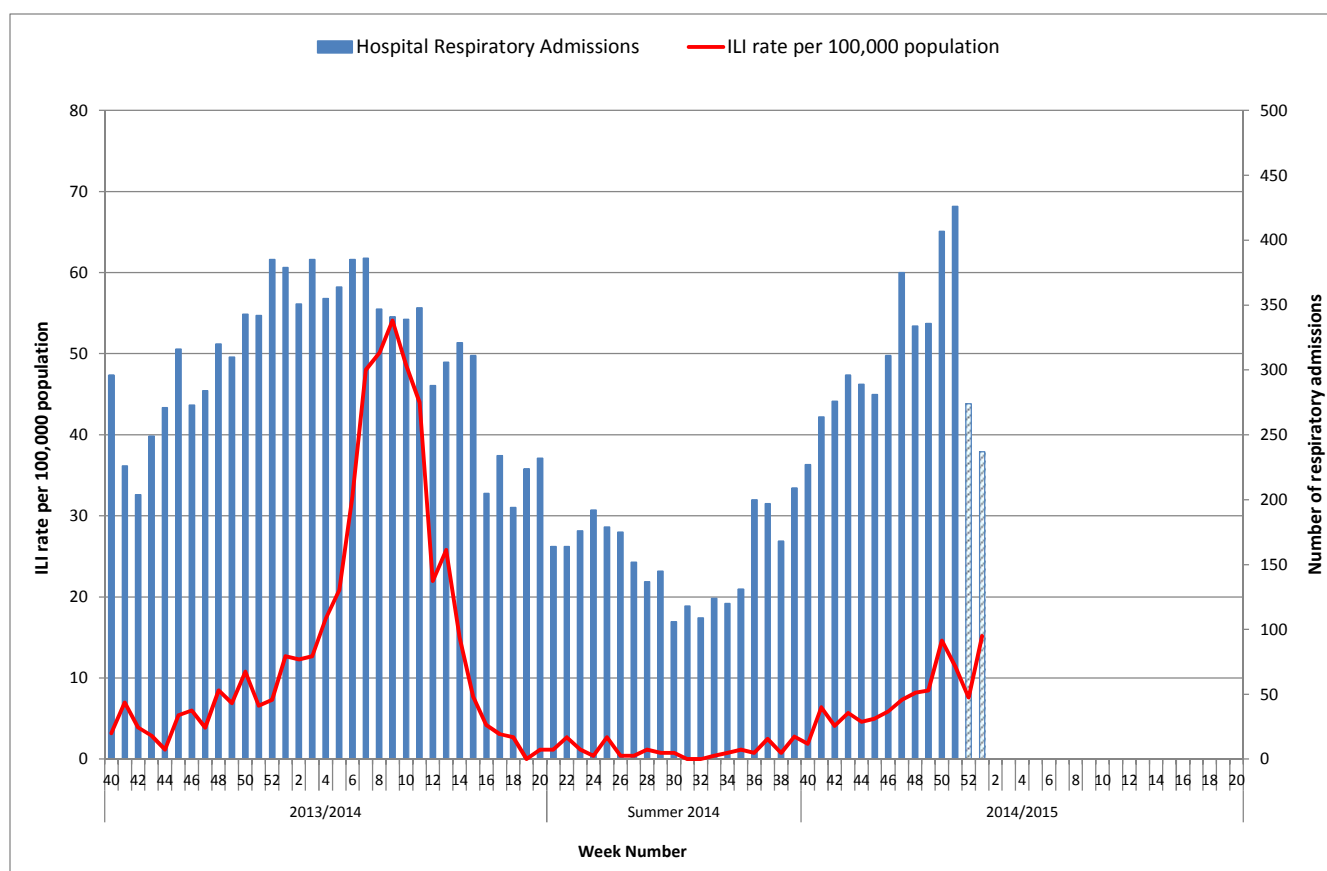
Week	Specimen type	Total tested	Number influenza positive	% Influenza positive	Influenza A				Influenza B
					A(H1)pdm09	A(H3)	A (not subtyped)	Total influenza A	
<b>52 2014</b>	Sentinel	9	3	33.3	0	3	0	3	0
	Non-sentinel	241	8	3.3	0	7	1	8	0
	<b>Total</b>	<b>250</b>	<b>11</b>	<b>4.4</b>	<b>0</b>	<b>10</b>	<b>1</b>	<b>11</b>	<b>0</b>
<b>1 2015</b>	Sentinel	11	2	18.2	0	2	0	2	0
	Non-sentinel	138	5	3.6	0	5	0	5	0
	<b>Total</b>	<b>149</b>	<b>7</b>	<b>4.7</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>7</b>	<b>0</b>
<b>2014/2015</b>	Sentinel	159	14	8.8	0	13	0	13	1
	Non-sentinel	2587	34	1.3	1	27	4	32	2
	<b>Total</b>	<b>2746</b>	<b>48</b>	<b>1.7</b>	<b>1</b>	<b>40</b>	<b>4</b>	<b>45</b>	<b>3</b>

**Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for weeks 52 2014 and 1 2015 and the 2014/2015 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	PIV-4	% PIV-4	hMPV	% hMPV
<b>52 2014</b>	Sentinel	9	1	11.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	241	75	31.1	0	0.0	0	0.0	0	0.0	6	2.5	0	0.0	9	3.7
	<b>Total</b>	<b>250</b>	<b>76</b>	<b>30.4</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>6</b>	<b>2.4</b>	<b>0</b>	<b>0.0</b>	<b>9</b>	<b>3.6</b>
<b>1 2015</b>	Sentinel	11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	138	28	20.3	0	0.0	0	0.0	0	0.0	2	1.4	0	0.0	5	3.6
	<b>Total</b>	<b>149</b>	<b>28</b>	<b>18.8</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>2</b>	<b>1.3</b>	<b>0</b>	<b>0.0</b>	<b>5</b>	<b>3.4</b>
<b>2014/2015</b>	Sentinel	159	10	6.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	12	7.5
	Non-sentinel	2587	603	23.3	9	0.3	1	0.0	0	0.0	45	1.7	3	0.1	47	1.8
	<b>Total</b>	<b>2746</b>	<b>613</b>	<b>22.3</b>	<b>9</b>	<b>0.3</b>	<b>1</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>45</b>	<b>1.6</b>	<b>3</b>	<b>0.1</b>	<b>59</b>	<b>2.1</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.



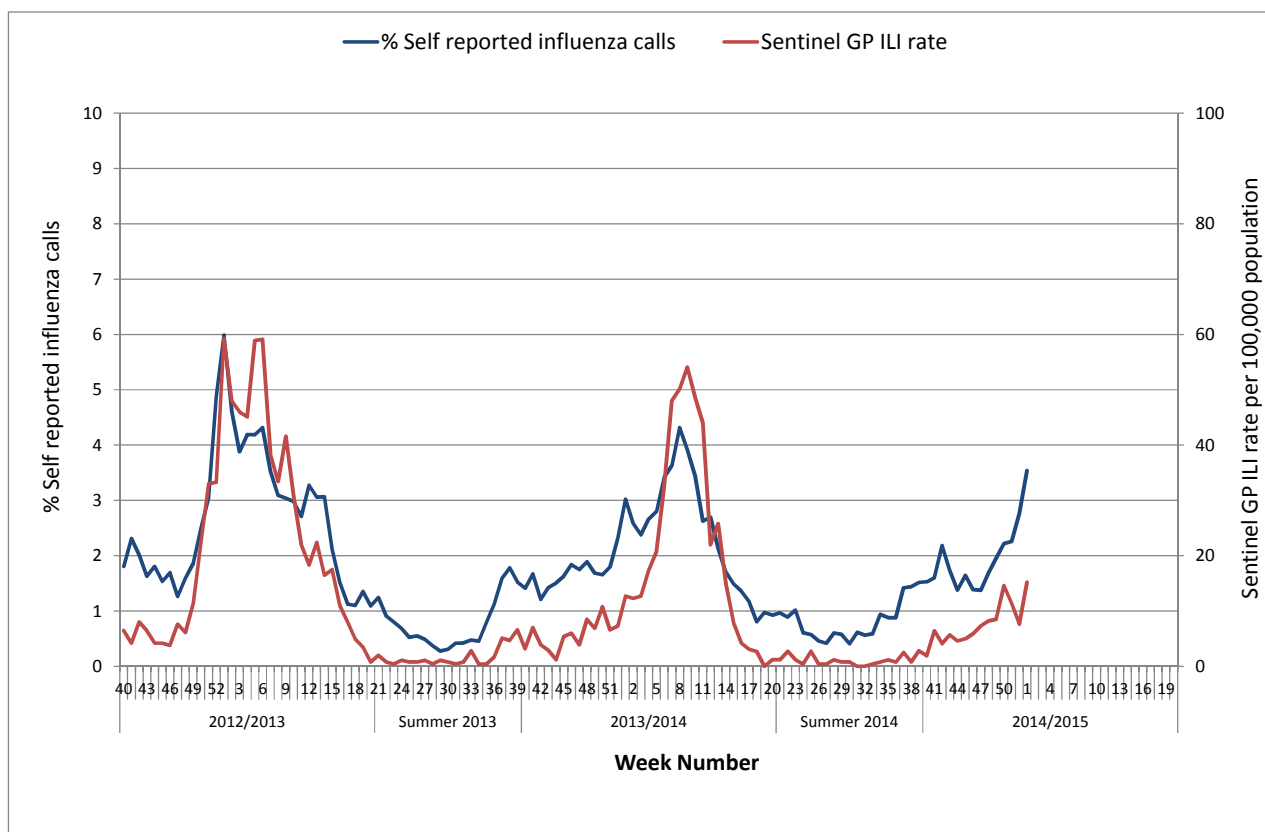


**Figure 5: Number of respiratory admissions reported from sentinel hospitals and ILI sentinel GP consultation rate per 100,000 population by week and season.** Source: Departments of Public Health - Sentinel Hospitals & ICGP. *It should be noted that data for weeks 51 and 52 2014 and 1 2015 were incomplete.*

#### 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. 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 increased for the sixth consecutive week during week 1 2015, to 3.5%. The proportion of influenza-related calls increased in week 52 2014 to 2.8% from 2.3% in week 51 2014 (figure 6).



**Figure 6: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season.** Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

## 5. Influenza & RSV notifications

Influenza and RSV cases notifications are reported on Ireland’s Computerised Infectious Disease Reporting System (CIDR), including all positive influenza /RSV specimens reported from all laboratories testing for influenza/RSV and reporting to CIDR.

Influenza and RSV notifications are reported in the [Weekly Infectious Disease Report for Ireland](#).

## 6. Influenza Hospitalisations

Three confirmed influenza hospitalised cases were notified to HPSC during weeks 52 2014 and 1 2015, one associated with influenza A(H3), one with influenza A (not subtyped) and one with influenza B. For the 2015/2015 season to date (up to week ending 4<sup>th</sup> January 2015), seven confirmed influenza cases were reported as hospitalised to HPSC, three associated with influenza A(H3), two influenza A (not subtyped) and two associated with influenza B.

## 7. 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. HPSC process and report on this information on behalf of the regional Directors of Public Health/Medical Officers of Health.

One confirmed influenza A(H3) case was admitted to critical care and reported to HPSC during week 1 2015 (week ending 4<sup>th</sup> January 2015), this is the first confirmed influenza case admitted to critical care and reported to HPSC this season.

## 8. Mortality Surveillance

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. These data are provisional due to the time delay in deaths' registration in Ireland. <http://www.euromomo.eu/>

- One confirmed influenza A(H3)-associated death was reported to HPSC during week 1 2015.
- During weeks 52 2014 and 1 2015, no excess all-cause mortality was reported in Ireland after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm.
- No indications of increased mortality due to influenza have been reported through the European monitoring of excess mortality for public health action. <http://www.euromomo.eu>

## 9. Outbreak Surveillance

No acute respiratory outbreaks were reported to HPSC during weeks 52 2014 (week ending 28<sup>th</sup> December 2014) and week 1 2015 (week ending January 4<sup>th</sup> 2015). To date this season, four acute respiratory outbreaks (one associated with influenza A(H3) and three with no pathogens identified) were reported to HPSC.

## 10. International Summary

Globally, influenza activity has continued to increase in the northern hemisphere, with influenza A(H3N2) viruses predominating this season to date. In Europe overall influenza activity, mainly associated with A(H3N2) viruses, continued to increase, but remained at low levels. The proportion of influenza positive sentinel specimens in Europe increased to over 10%. In North America, influenza A(H3N2) viruses were predominating, with levels of influenza activity continuing to increase and have passed the seasonal thresholds. While there have been difficulties in characterising A(H3N2) viruses antigenically in Europe, as in the United States of America, the majority of the A(H3N2) viruses characterised genetically have fallen into genetic subgroups containing viruses that have drifted antigenically compared to the virus recommended for use in the 2014/2015 northern hemisphere influenza vaccine. Although this may compromise the effectiveness of the A(H3N2) component of the vaccine, it is still important that people are vaccinated, particularly those at risk of developing severe influenza symptoms. Vaccination remains the most effective means of preventing infection by seasonal influenza viruses. The latest ECDC rapid risk assessment is available [here](#). See [ECDC](#) and [WHO](#) influenza surveillance reports for further information.

- Further information is available on the following websites:
  - Northern Ireland <http://www.fluawareni.info/>
  - Europe – ECDC <http://ecdc.europa.eu/>
  - Public Health England <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/>
  - United States CDC <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>
  - Public Health Agency of Canada <http://www.phac-aspc.gc.ca/fluwatch/index-eng.php>
- 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](#).
- For information on highly pathogenic avian influenza A(H5N8) in Germany, please see [here](#).
- For information on human infection with avian influenza A(H5N1) in Egypt, please see [here](#).
- Information on Middle Eastern Respiratory Syndrome Coronavirus (MERS-CoV), including the latest ECDC rapid risk assessment is available on the [ECDC website](#). Further information and guidance documents are also available on the [HPSC website](#).
- Information on Enterovirus 68 (EV-D68), including the ECDC rapid risk assessment is available on the [ECDC website](#).



## 11. WHO recommendations on the composition of influenza virus vaccines

The WHO vaccine strain selection committee recommended that vaccines for use in the 2014/2015 influenza season (northern hemisphere winter) contain the following: an A/California/7/2009 (H1N1)pdm09-like virus; an A/Texas/50/2012 (H3N2)-like virus; a B/Massachusetts/2/2012-like virus.

Further information on influenza in Ireland is available at [www.hpsc.ie](http://www.hpsc.ie)

### Acknowledgements

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