

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 45 2016 (7th – 13th November 2016)



Summary

All indicators of influenza activity in Ireland were at low levels during week 45 2016 (week ending 13th November 2016). A second confirmed influenza outbreak has been reported, an influenza A(H3) outbreak in a residential care facility. Positive detections of respiratory syncytial virus (RSV) have continued to increase, and are now at higher levels than are usually observed at this time of year.

- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate was 8.8 per 100,000 population in week 45 2016, a slight increase compared to the updated rate of 4.1 per 100,000 reported during week 44 2016.
 - ILI rates were below the Irish baseline threshold (18.3 per 100,000 population).
 - ILI rates were at low levels in all age groups.
- **GP Out of Hours:** The proportion of influenza-related calls to GP Out-of-Hours services was at low levels during week 45 2016.
- **National Virus Reference Laboratory (NVRL):**
 - Five confirmed influenza A(H3) specimens were detected by the NVRL from non-sentinel sources during week 45 2016. To date this season, there have been no confirmed influenza cases reported from the sentinel GP network.
 - The majority of confirmed influenza specimens detected this season to date were influenza A(H3).
 - Positive detections of respiratory syncytial virus (RSV) have continued to increase and are at higher levels than are usually observed at this time of year.
 - Positive detections of adenovirus, human metapneumovirus (hMPV) and parainfluenza viruses have increased in the last four weeks, compared to levels detected in September and early October.
- **Respiratory admissions:** Respiratory admissions reported from a network of sentinel hospitals increased for the third consecutive week during week 45 2016 and are at higher levels than are usually observed at this time of year.
- **Hospitalisations:** Two confirmed influenza A hospitalised cases were notified to HPSC during week 45.
- **Critical care admissions:** No confirmed influenza cases were admitted to critical care units and reported to HPSC during week 45 2016 or for the 2016/2017 season to date.
- **Mortality:** There were no reports of any influenza-associated deaths during week 45 2016.
- **Outbreaks:** One confirmed influenza outbreak in HSE-SE was reported to HPSC during week 45 2016; this is the second confirmed influenza outbreak this season, both were associated with influenza A(H3) in residential care facilities.
- **International:** Influenza activity remained low with sporadic detections of influenza across the European Region. The majority of influenza viruses detected to date this season in the European Region were influenza A, with most of those subtyped being A(H3N2).

1. GP sentinel surveillance system - Clinical Data

- During week 45 2016, 21 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 8.8 per 100,000 population, a slight increase compared to the updated rate of 4.1 per 100,000 reported during week 44 2016. The ILI rate for week 45 2016 is below the Irish baseline ILI threshold (18.3/100,000 population) (figure 1).
- ILI age specific rates were low in all age groups during week 45 2016 (figure 2).
- HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) has revised the Irish baseline ILI threshold for the 2016/2017 influenza season to 18.3 per 100,000 population; this threshold indicates the likelihood that influenza is circulating in the community. The Moving Epidemic Method (MEM) has been adopted by ECDC to calculate thresholds for GP ILI consultations in a standardised approach across Europe.¹
- The baseline ILI threshold, medium (58.7/100,000 population) and high (113.3/100,000 population) intensity ILI thresholds are shown in figure 1.

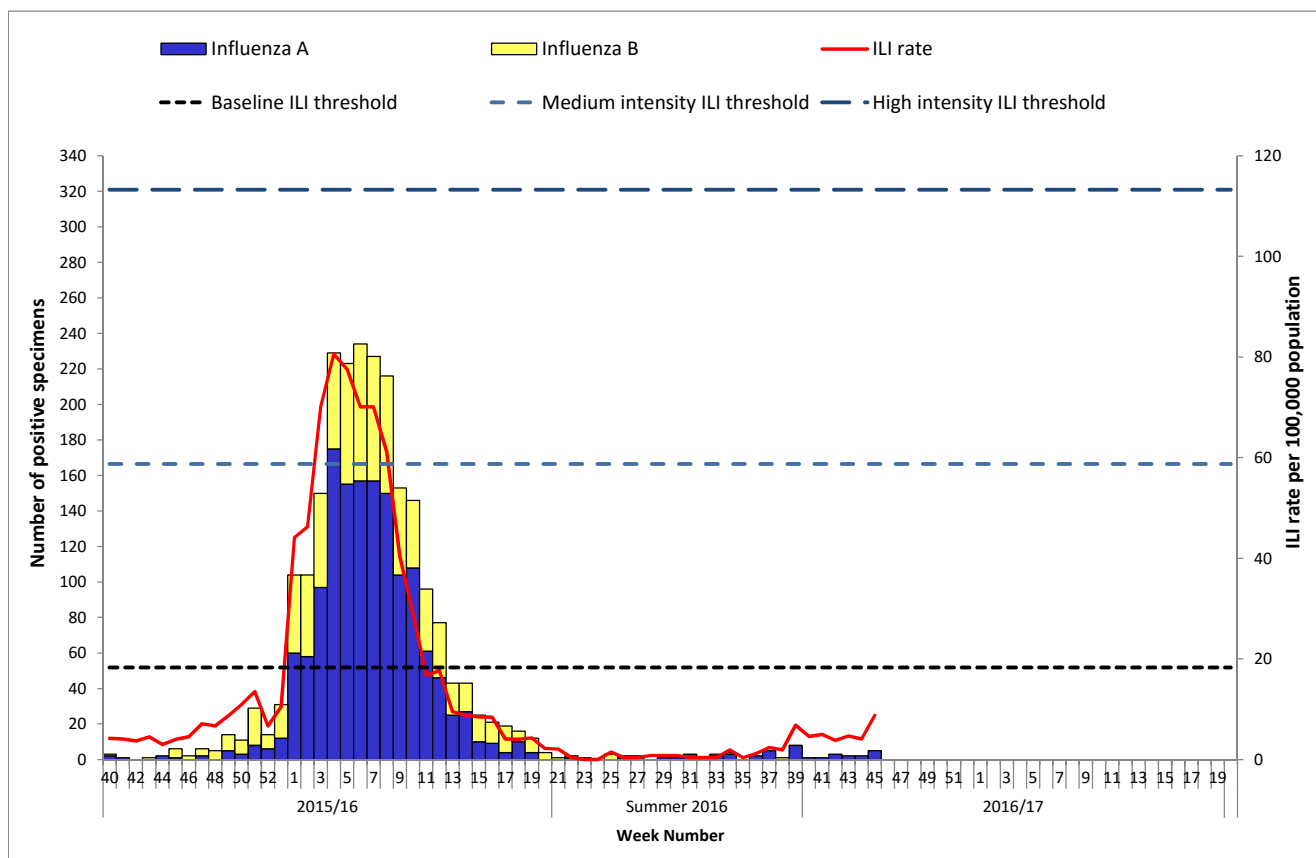


Figure 1: ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds¹ and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.
 Source: ICGP and NVRL

¹ For further information on the Moving Epidemic Method (MEM) to calculate ILI thresholds:
<http://www.ncbi.nlm.nih.gov/pubmed/22897919>

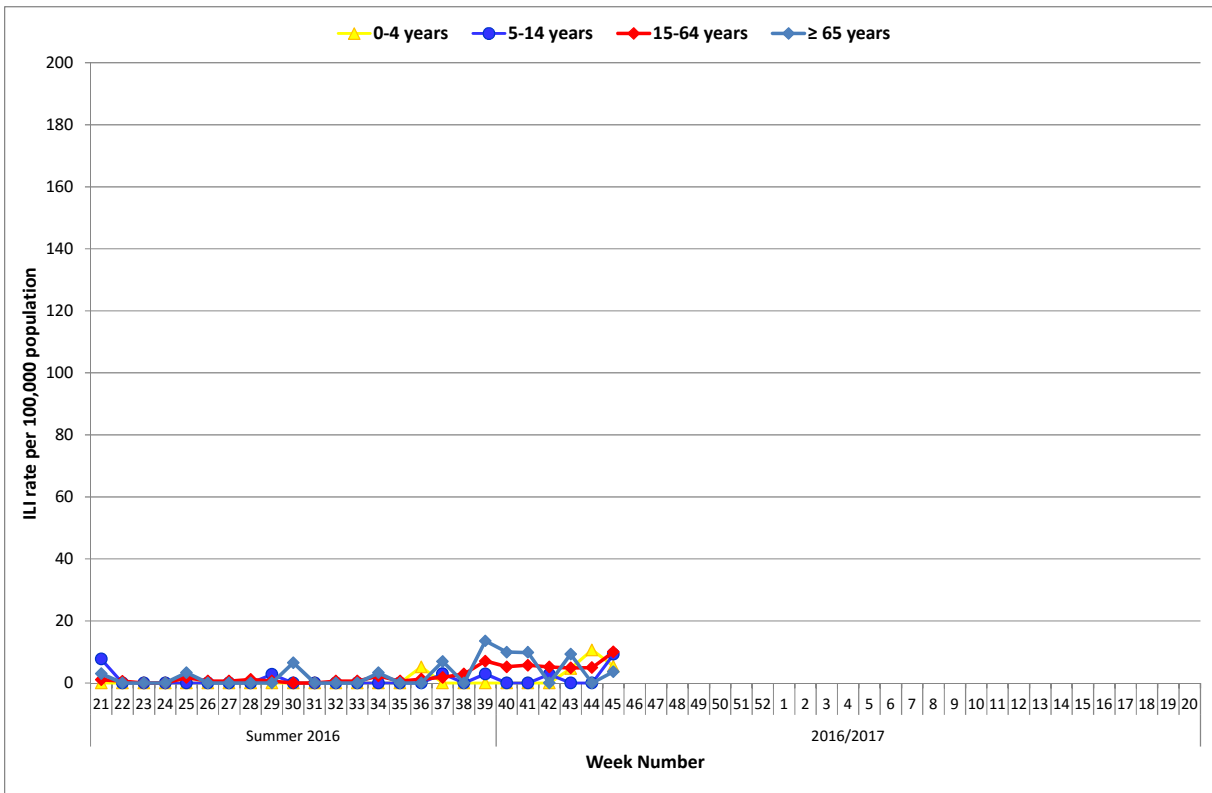


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2016 and the 2016/2017 influenza season to date. Source: ICGP.

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2016/2017 influenza season refers to sentinel and non-sentinel respiratory specimens routinely tested for influenza, respiratory syncytial virus (RSV), adenovirus, parainfluenza viruses types 1, 2, 3 & 4 (PIV-1, -2, -3 & -4) and human metapneumovirus (hMPV) by the National Virus Reference Laboratory (NVRL) (figures 3 & 4, tables 1 & 2).

- Influenza positivity reported from the NVRL remained low during week 45 2016, with five (1.6%) influenza positive specimens reported: all influenza A(H3)
 - 5 of 291 (1.7%) non-sentinel specimens were influenza positive, all were influenza A(H3).
 - No influenza positive specimens were detected from sentinel GP sources during week 45 2016.
- To date this season, sporadic cases of influenza A(H3) have been reported from non-sentinel sources. No influenza positive specimens have been detected from sentinel GP sources.
- Data from the NVRL for week 45 2016 and the 2016/2017 season to date are detailed in tables 1 and 2.
- Seventy-three (73/291; 25.1%) respiratory syncytial virus (RSV) positive non-sentinel specimens were reported during week 45 2016. RSV positivity is currently at higher levels than are usually observed at this time of year. Figure 4 shows the number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2016/2017 season, compared to the 2015/2016 season. For the 2016/2017 season to date, two RSV positive specimens have been detected from sentinel GP sources.
- Adenovirus, parainfluenza virus (PIV) and human metapneumovirus (hMPV) positive specimens were reported by the NVRL during week 45 2016 (table 2).
- The overall proportion (109/291; 37.5%) of non-sentinel specimens positive for respiratory viruses*, increased significantly during week 45 2016, to 37.5%, compared to 30.4% during week 44 2016.
 - * Respiratory viruses routinely tested for by the NVRL are detailed above.

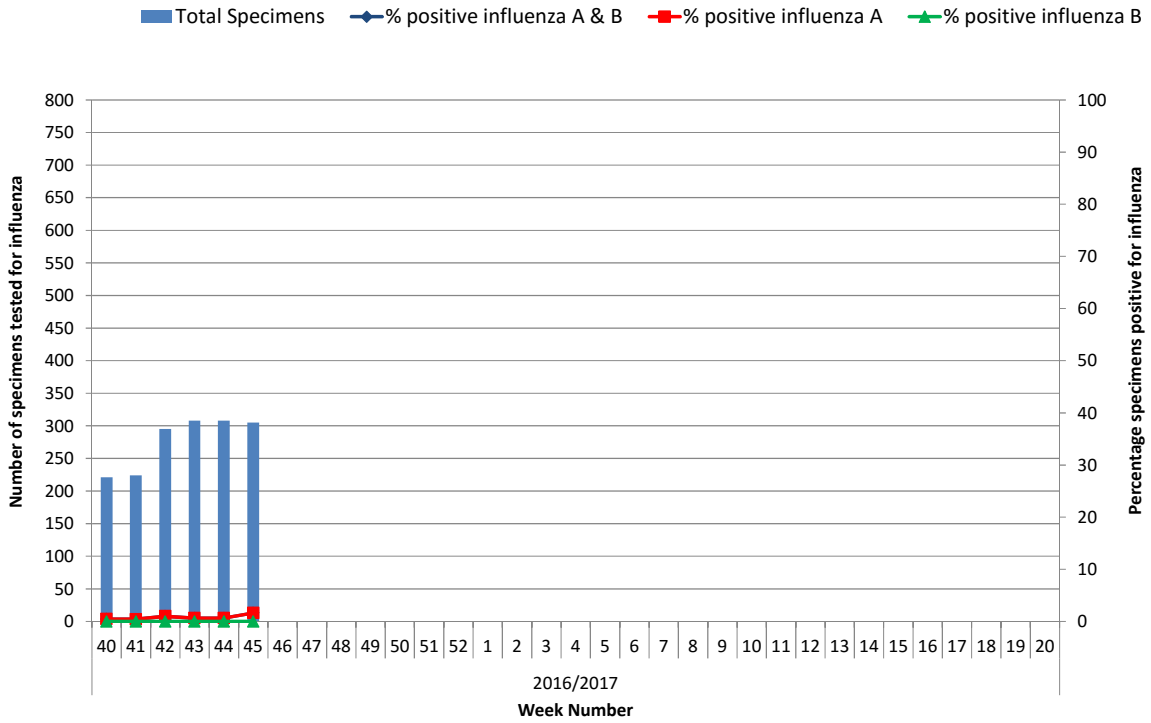


Figure 3: Number of sentinel and non-sentinel specimens tested by the NVRL for influenza and percentage influenza positive by week for the 2016/2017 influenza season. Source: NVRL

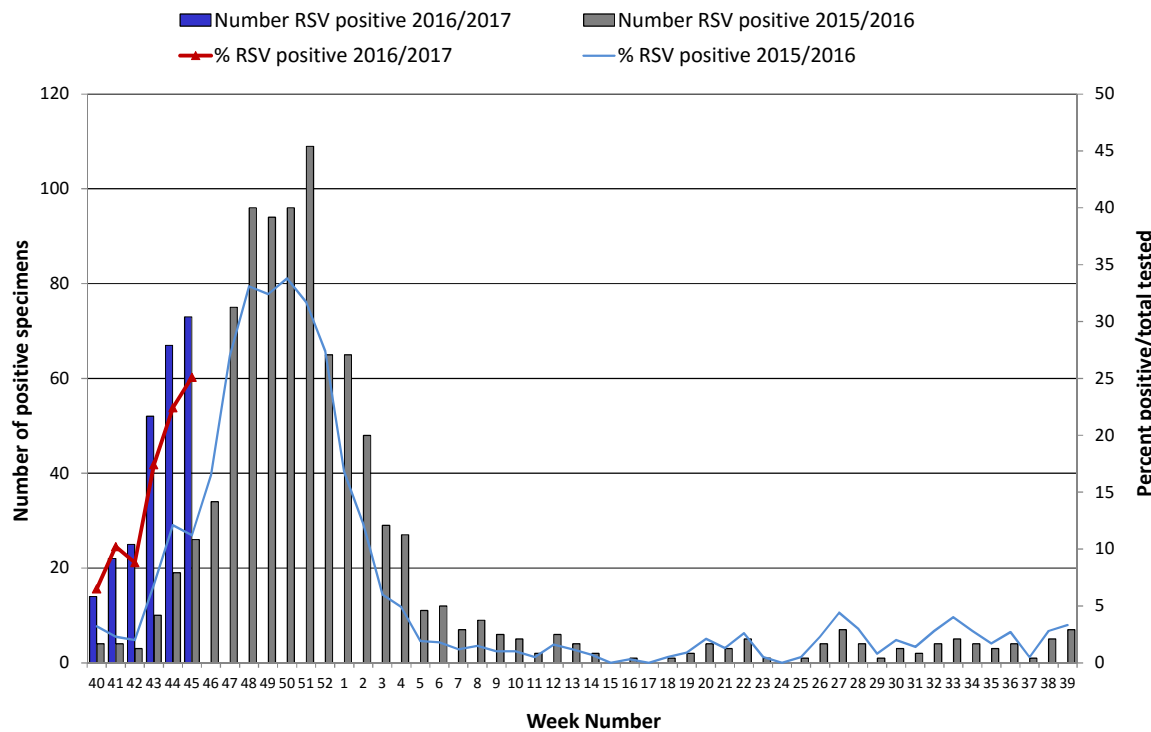


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2016/2017 season, compared to the 2015/2016 season. Source: NVRL.

Table 1: Number of sentinel and non-sentinel[†] respiratory specimens tested by the NVRL and positive influenza results, for week 45 2016 and the 2016/2017 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	
45 2016	Sentinel	14	0	0.0	0	0	0	0	0
	Non-sentinel	291	5	1.7	0	5	0	5	0
	Total	305	5	1.6	0	5	0	5	0
2016/2017	Sentinel	56	0	0.0	0	0	0	0	0
	Non-sentinel	1605	14	0.9	0	13	1	14	0
	Total	1661	14	0.8	0	13	1	14	0

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 45 2016 and the 2016/2017 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
45 2016	Sentinel	14	1	7.1	0	0.0	0	0.0	0	0.0	1	7.1	0	0.0	1	7.1
	Non-sentinel	291	73	25.1	11	3.8	1	0.3	0	0.0	7	2.4	9	3.1	3	1.0
	Total	305	74	24.3	11	3.6	1	0.3	0	0.0	8	2.6	9	3.0	4	1.3
2016/2017	Sentinel	56	2	3.6	0	0.0	0	0.0	0	0.0	1	1.8	1	1.8	2	3.6
	Non-sentinel	1605	253	15.8	33	2.1	1	0.1	4	0.2	21	1.3	28	1.7	27	1.7
	Total	1661	255	15.4	33	2.0	1	0.1	4	0.2	22	1.3	29	1.7	29	1.7

[†] 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

The geographical spread of influenza activity is reviewed on a weekly basis using sentinel GP ILI consultation rates, laboratory data and outbreak data.

The geographical spread of influenza/ILI during week 45 2016 is shown in figure 5. Sporadic influenza activity (based on ILI cases only and one confirmed influenza outbreak in HSE-SE) was reported in HSE-E, -MW and -SE and no influenza activity was reported in all other HSE-Areas during week 45 2016.

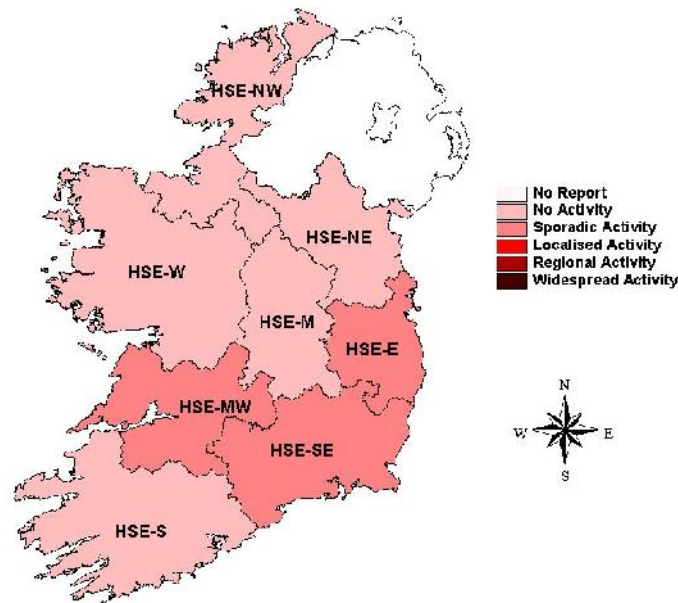


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 45 2016

Sentinel hospitals

The Departments of Public Health have established at least one sentinel hospital in each HSE-Area, to report data on total, emergency and respiratory admissions on a weekly basis. For the 2016/2017 influenza season, eight sentinel hospitals are regularly reporting respiratory admissions data in a timely manner.

Respiratory admissions reported from a network of sentinel hospitals increased during weeks 44 and 45 2016 to 347 and 353, compared to 311 during week 43 2016 (figure 6). All eight sentinel hospitals have reported each week for the 2016/2017 season to date.

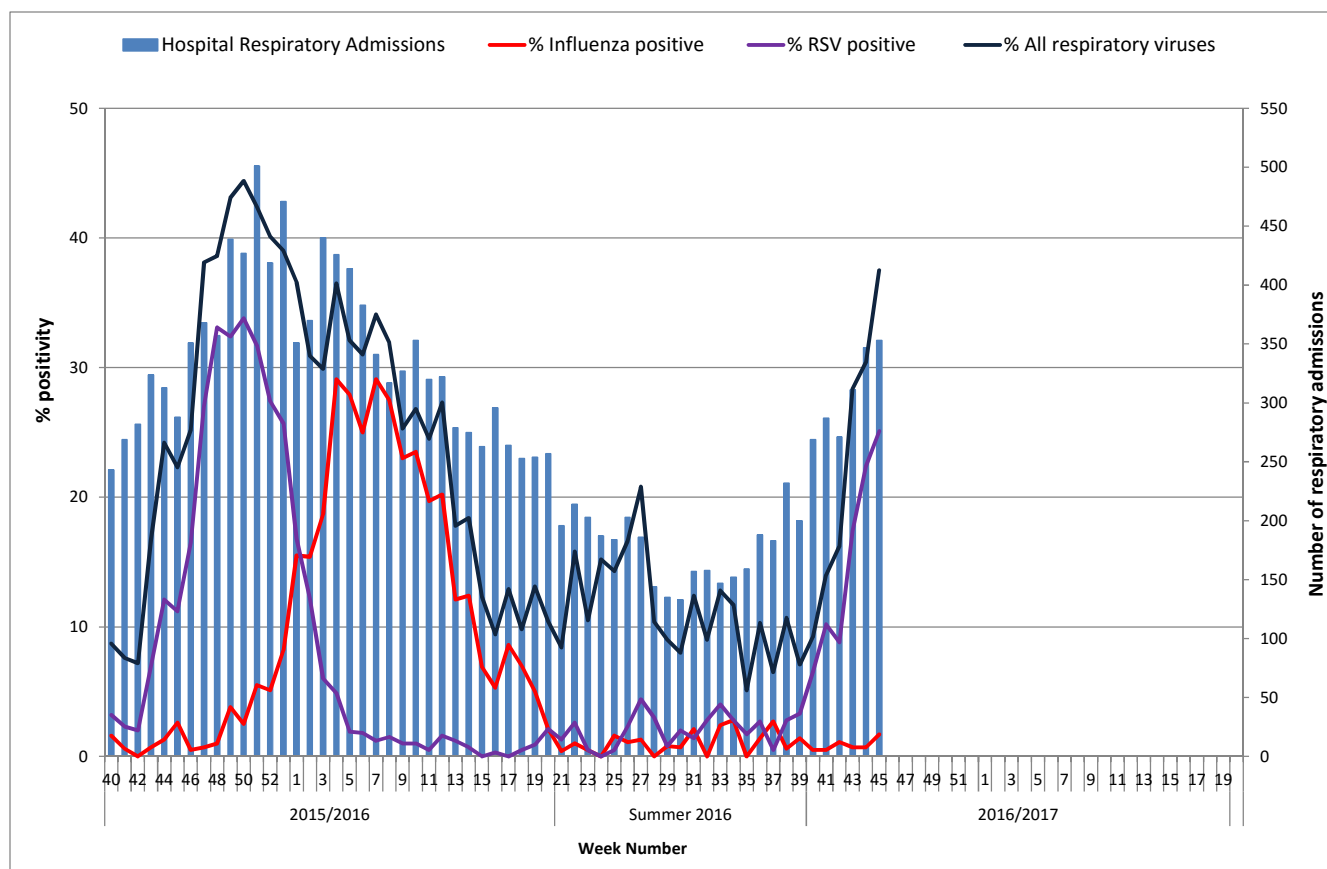


Figure 6: Number of respiratory admissions reported from sentinel hospitals and % positivity for influenza, RSV and all respiratory viruses tested* by the NVRL by week and season. *Source: Departments of Public Health - Sentinel Hospitals & NVRL. *All respiratory viruses tested refer to non-sentinel respiratory specimens routinely tested by the NVRL including influenza, RSV, adenovirus, parainfluenza viruses and human metapneumovirus (hMPV).*

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 remained stable and at low levels during week 45 2016 at 1.5%, compared to 1.8% during week 44 2016 (figure 7).

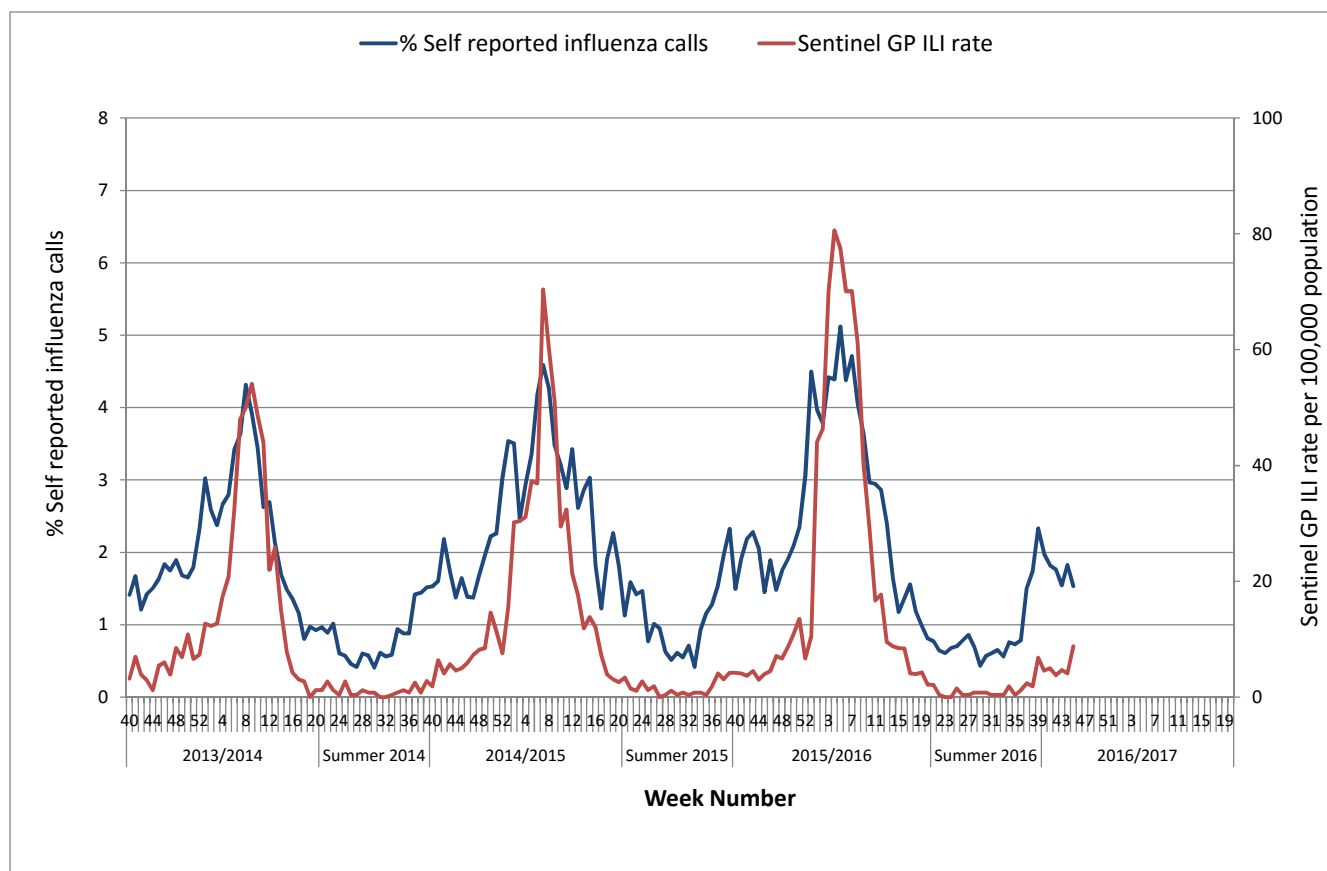


Figure 7: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

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](#). Influenza notifications were at low levels during week 45 2016, with four confirmed influenza cases notified (2 A-not subtyped and 2 A(H3)). RSV notifications increased significantly, with 137 cases notified during week 45 2016, compared to 83 during the previous week.

6. Influenza Hospitalisations

Two confirmed influenza A hospitalised cases were notified to HPSC during week 45 2016.

7. Critical Care Surveillance

The Intensive Care Society of Ireland (ICSI) and the HSE Critical Care Programme 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.

No confirmed influenza cases were admitted to critical care and reported to HPSC during week 45 2016 or during the 2016/2017 season to date.

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/>

- There were no reports of any influenza-associated deaths occurring during week 45 2016 or for the 2016/2017 season to date.
- During week 45 2016, no excess all-cause mortality was reported in Ireland after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm.

9. Outbreak Surveillance

One confirmed influenza A(H3) outbreak in a residential care facility in HSE-SE was reported to HPSC during week 45 2016; this is the second confirmed influenza outbreak of the 2016/2017 season. Both outbreaks were associated with influenza A(H3) in residential care facilities.

10. International Summary

Influenza activity remained low in the European Region, with sporadic detections of influenza viruses across the region. The majority of influenza viruses detected to date this season in the European Region were influenza A, with most of those subtyped being A(H3N2). As of November 14th 2016, globally, influenza activity in the temperate zone of the southern and northern hemispheres is at inter-seasonal levels. In North America, influenza activity was low with few influenza virus detections and ILI levels below seasonal thresholds. In the United States, RSV activity continued to be reported. 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>
- Information on Middle Eastern Respiratory Syndrome Coronavirus (MERS), including the latest ECDC rapid risk assessment is available on the [ECDC website](#). Further information and guidance documents are also available on the [HPSC](#) and [WHO](#) websites.
- The latest WHO risk assessment on influenza A(H5N8) has been published on the [WHO website](#).
- Further information on avian influenza is available on the [ECDC](#) website.

11. WHO recommendations on the composition of influenza virus vaccines

On February 25, 2016, the WHO vaccine strain selection committee recommended that trivalent vaccines for use in the 2016/2017 influenza season (northern hemisphere winter) contain the following: an A/California/7/2009 (H1N1)pdm09-like virus; an A/Hong Kong/4801/2014 (H3N2)-like virus; a B/Brisbane/60/2008-like virus. <http://www.who.int/influenza/vaccines/virus/recommendations/en/>

Further information on influenza in Ireland is available at www.hpsc.ie

Acknowledgements

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