

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 46 2016 (14th – 20th November 2016)



Summary

All indicators of influenza activity in Ireland were at low levels during week 46 2016 (week ending 20th November 2016). Positive detections of respiratory syncytial virus (RSV) remain elevated and 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 9.6 per 100,000 population in week 46 2016, a slight increase compared to the updated rate of 8.7 per 100,000 reported during week 45 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 46 2016.
- **National Virus Reference Laboratory (NVRL):**
 - Influenza positivity remained low during week 46 2016, with nine (3.3%) influenza positive specimens reported from the NVRL from sentinel GP and non-sentinel sources: 8 A(H3) and 1 A (not subtyped).
 - During week 46 2016, confirmed influenza positive specimens were detected by the sentinel GP network for this first time this season.
 - The majority of confirmed influenza specimens detected this season to date were influenza A(H3).
 - Positive detections of respiratory syncytial virus (RSV) remain elevated and at higher levels than are usually observed at this time of year.
 - Adenovirus, human metapneumovirus (hMPV) and parainfluenza virus positive detections continue to be reported.
- **Respiratory admissions:** Respiratory admissions reported from a network of sentinel hospitals remained elevated during week 46 2016.
- **Hospitalisations:** One confirmed influenza A(H3) hospitalised case was notified to HPSC during week 46.
- **Critical care admissions:** No confirmed influenza cases were admitted to critical care units and reported to HPSC during week 46 2016 or for the 2016/17 season to date.
- **Mortality:** There were no reports of any influenza-associated deaths during week 46 2016 or for the 2016/17 season to date.
- **Outbreaks:** One confirmed influenza A(H3) outbreak in a residential care facility in HSE-SE was reported to HPSC during week 46 2016.
- **International:** Influenza activity remained low 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 46 2016, 22 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 9.6 per 100,000 population, a slight increase compared to the updated rate of 8.7 per 100,000 reported during week 45 2016. The ILI rate for week 46 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 46 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.

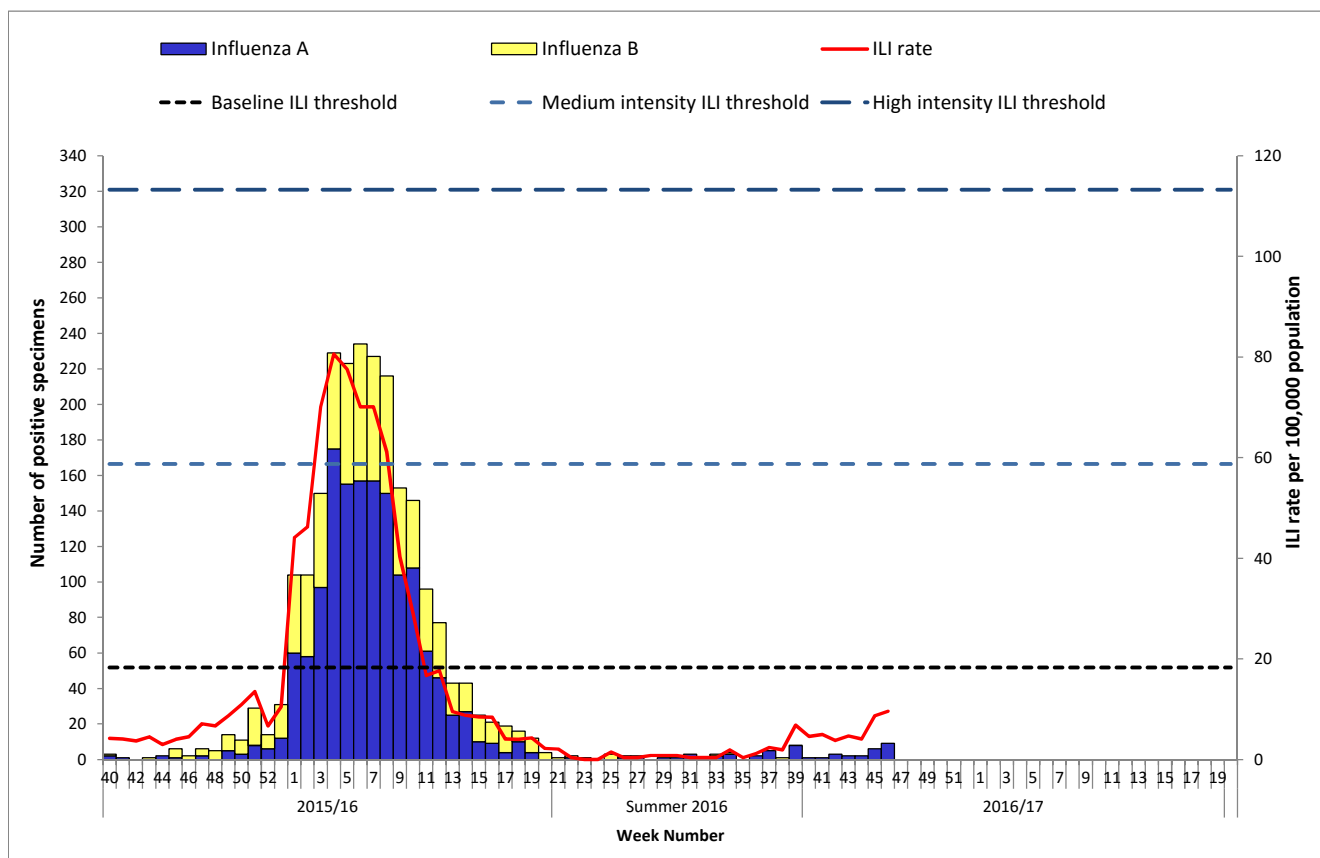


Figure 1: ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds¹ and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.

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>

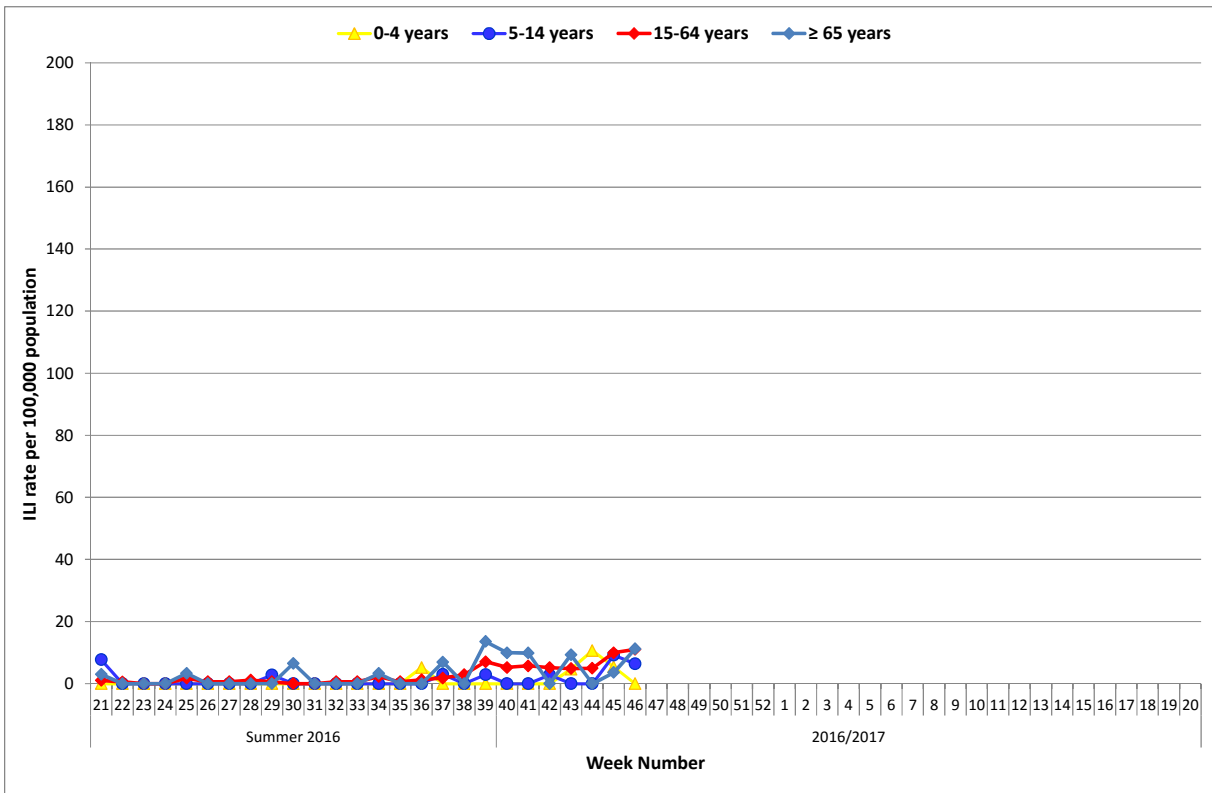


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2016 and the 2016/2017 influenza season to date. Source: ICGP.

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 46 2016, with nine (3.3%) influenza positive specimens reported: 8 A(H3) and 1 A (not subtyped).
 - 4 of 15 (26.7%) sentinel specimens were influenza positive, all influenza A(H3). These are the first influenza positive specimens detected by the sentinel GP network this season.
 - 5 of 255 (2.0%) non-sentinel specimens were influenza positive: 4 A(H3) and 1 A (unsubtyped).
- To date this season, sporadic cases of influenza A(H3) have been reported from the NVRL. No confirmed influenza A(H1)pdm09 or influenza B positives specimens have been detected by the NVRL this season.
- Data from the NVRL for week 46 2016 and the 2016/2017 season to date are detailed in tables 1 and 2.
- Sixty-four (64/255; 25.1%) respiratory syncytial virus (RSV) positive non-sentinel specimens were reported during week 46 2016. RSV positivity is currently at higher levels than is 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, five 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 46 2016 (table 2).
- The overall proportion of non-sentinel specimens positive for respiratory viruses*, decreased slightly during week 46 2016, to 34.5%, compared to 36.6% during week 45 2016.

* Respiratory viruses routinely tested for by the NVRL are detailed above.

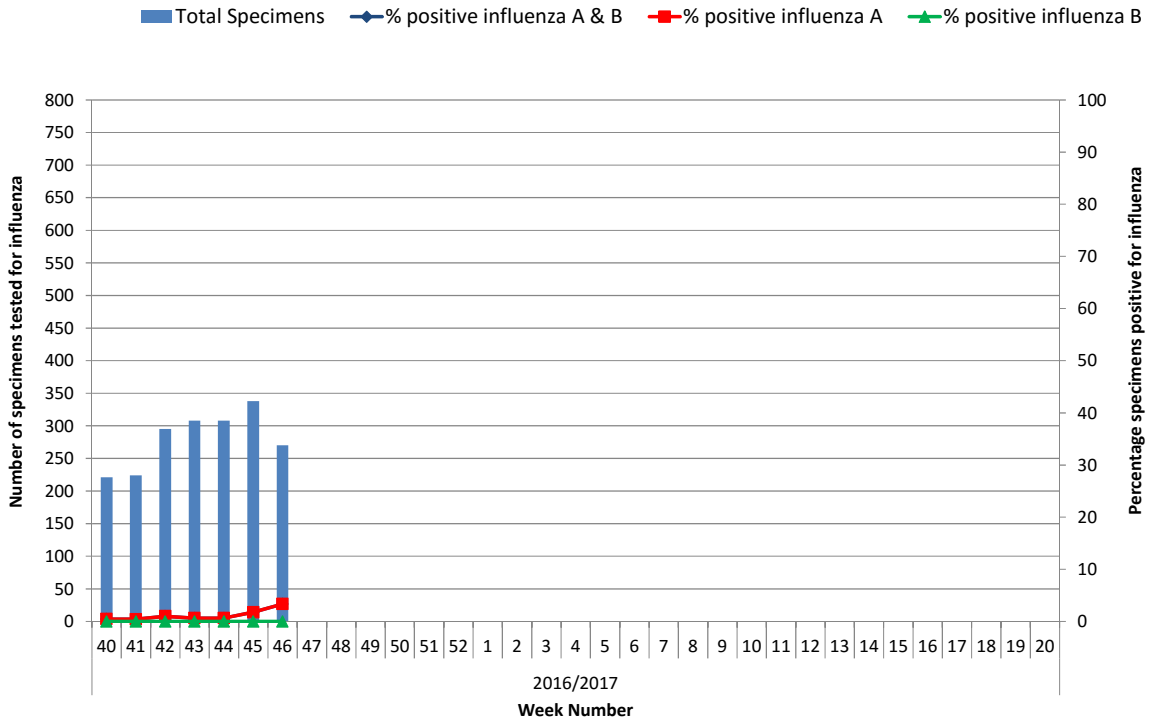


Figure 3: Number of sentinel and non-sentinel specimens tested by the NVRL for influenza and percentage influenza positive by week for the 2016/2017 influenza season. Source: NVRL

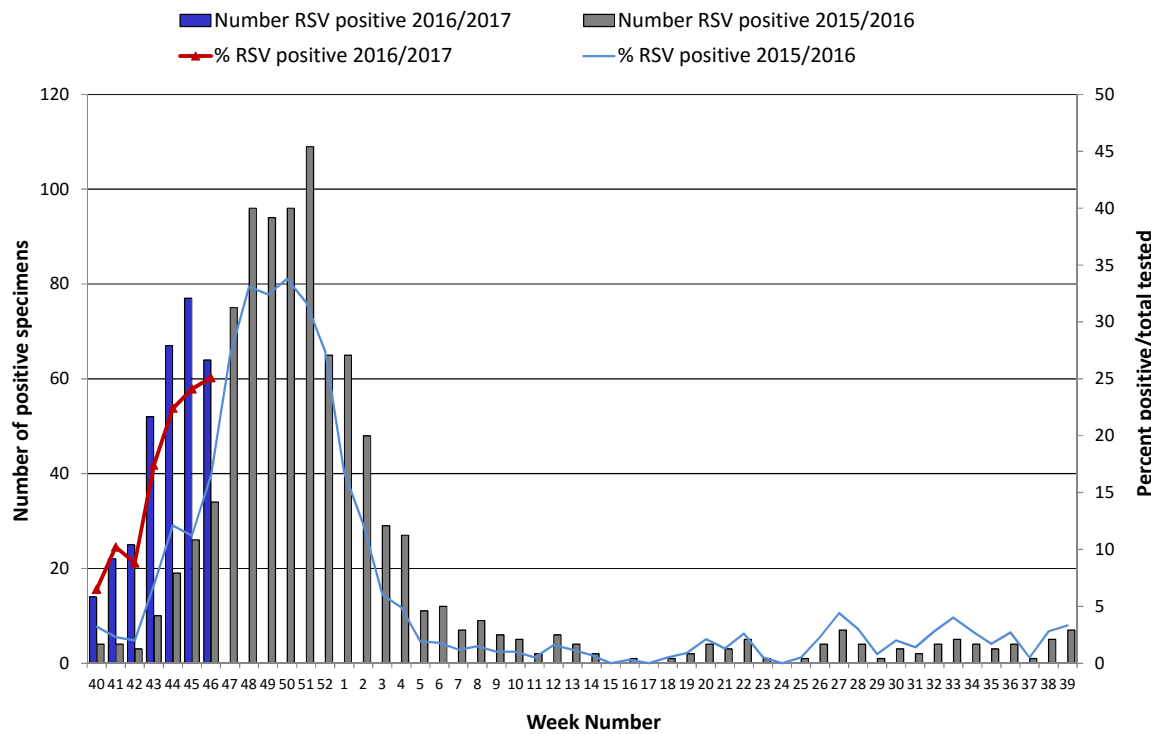


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2016/2017 season, compared to the 2015/2016 season. Source: NVRL.

Table 1: Number of sentinel and non-sentinel[†] respiratory specimens tested by the NVRL and positive influenza results, for week 46 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	
46 2016	Sentinel	15	4	26.7	0	4	0	4	0
	Non-sentinel	255	5	2.0	0	4	1	5	0
	Total	270	9	3.3	0	8	1	9	0
2016/2017	Sentinel	75	4	5.3	0	4	0	4	0
	Non-sentinel	1889	20	1.1	0	18	2	20	0
	Total	1964	24	1.2	0	22	2	24	0

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 46 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
46 2016	Sentinel	15	1	6.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	255	64	25.1	4	1.6	0	0.0	2	0.8	4	1.6	1	0.4	8	3.1
	Total	270	65	24.1	4	1.5	0	0.0	2	0.7	4	1.5	1	0.4	8	3.0
2016/2017	Sentinel	75	5	6.7	0	0.0	0	0.0	0	0.0	2	2.7	2	2.7	2	2.7
	Non-sentinel	1889	321	17.0	39	2.1	1	0.1	6	0.3	26	1.4	29	1.5	35	1.9
	Total	1964	326	16.6	39	2.0	1	0.1	6	0.3	28	1.4	31	1.6	37	1.9

[†] 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 46 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 all areas during week 46 2016, with the exception of HSE-M where no influenza activity was reported.

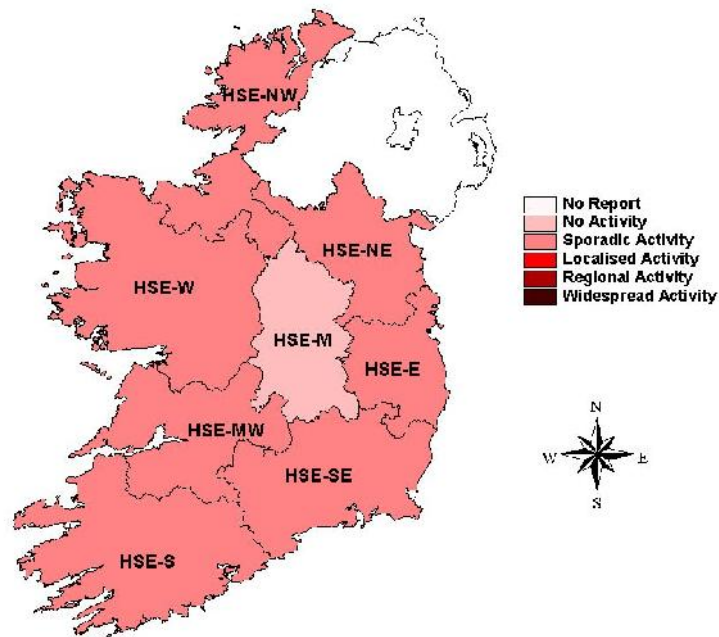


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 46 2016

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 remained elevated during weeks 45 and 46 2016, at 353 and 338 respectively (figure 6). Seven of eight sentinel hospitals reported during week 46 2016.

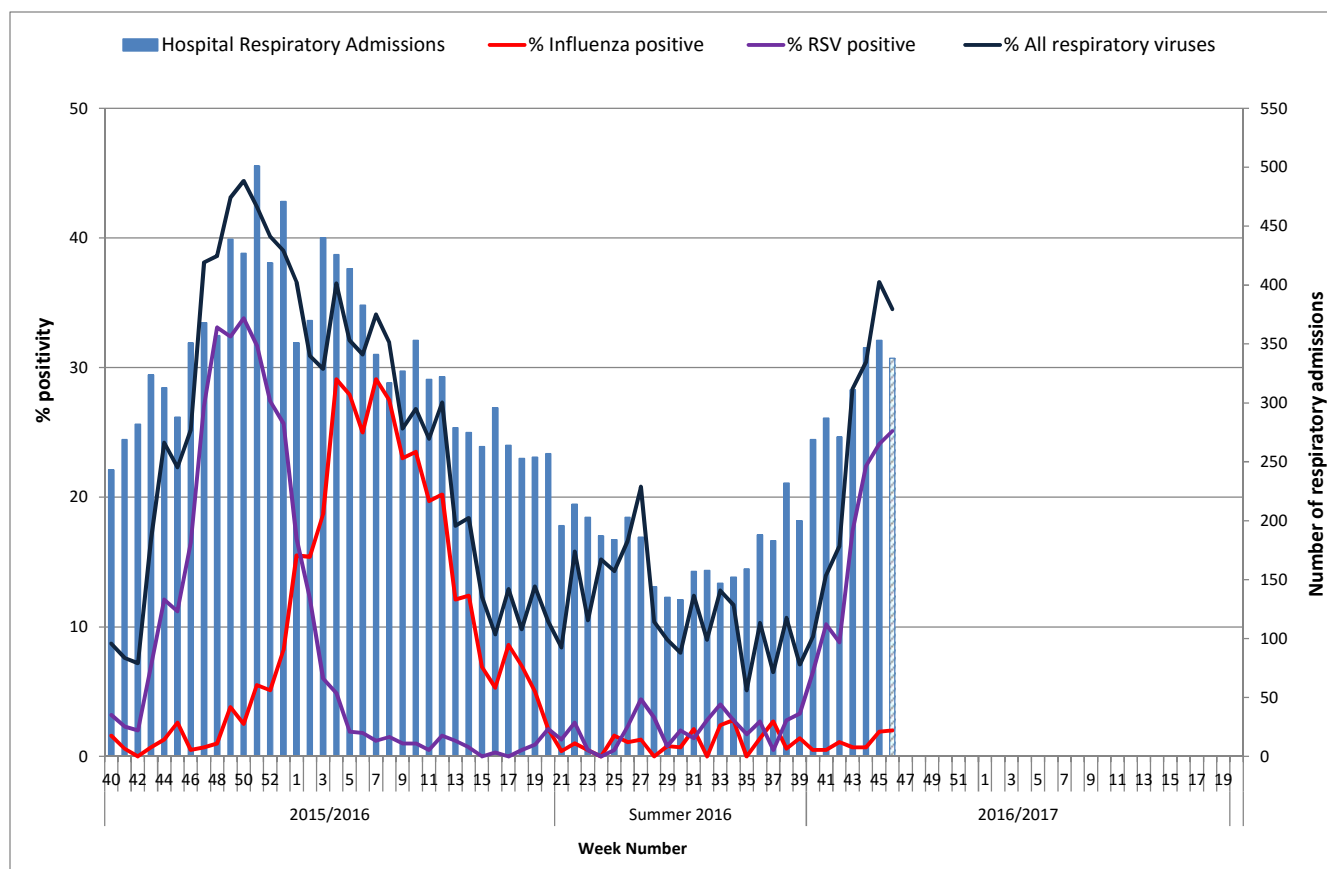


Figure 6: Number of respiratory admissions reported from sentinel hospitals and % positivity for influenza, RSV and all respiratory viruses tested* by the NVRL by week and season. Source: Departments of Public Health - Sentinel Hospitals & NVRL. *All respiratory viruses tested refer to non-sentinel respiratory specimens routinely tested by the NVRL including influenza, RSV, adenovirus, parainfluenza viruses and human metapneumovirus (hMPV). Data were missing from one sentinel hospital during week 46 2016, represented by the hatched bar.

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 46 2016 at 1.4%, compared to 1.6% during week 45 2016 (figure 7).

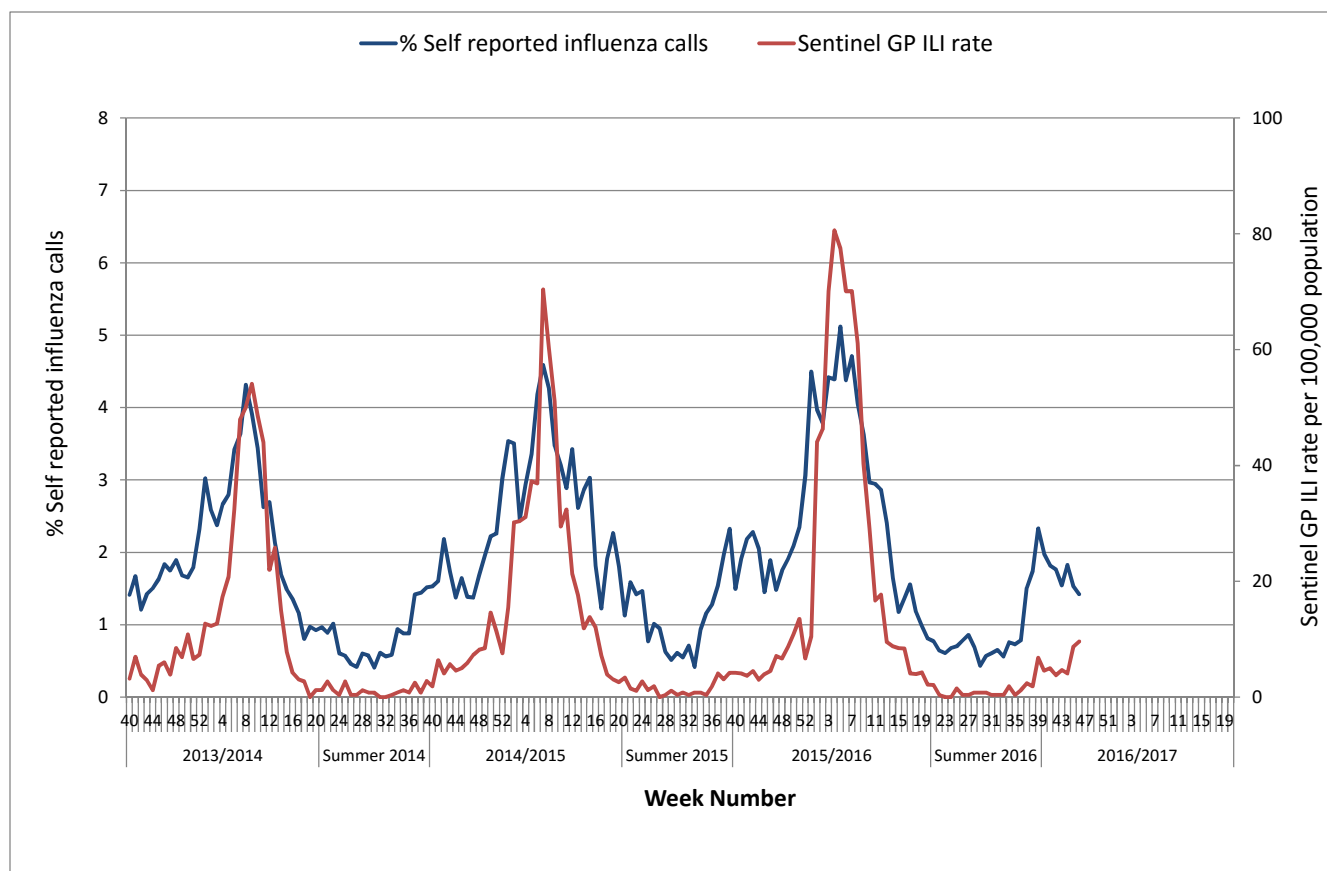


Figure 7: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

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 46 2016, with four confirmed influenza A(H3) cases notified. RSV notifications remained elevated, with 120 cases notified during week 46 2016, compared to 137 during the previous week.

6. Influenza Hospitalisations

One confirmed influenza A(H3) hospitalised case was notified to HPSC during week 46 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 46 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 46 2016 or for the 2016/2017 season to date.
- During week 46 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 46 2016; this is the third confirmed influenza outbreak of the 2016/2017 season, all were associated with influenza A(H3) in residential care facilities.

10. International Summary

Overall, influenza activity remained low in the European Region, and is at levels similar to that observed for the same period in recent seasons. Increased activity was reported from countries in Northern Europe. Since week 40 2016, influenza A viruses have predominated, 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 ECDC and WHO risk assessments on influenza A(H5N8) have been published on the [ECDC](#) and [WHO websites](#).
- 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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