

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 40 2019 (30th September – 6th October 2019)



Summary

This is the first influenza surveillance report of the 2019/2020 influenza season. All indicators of influenza activity in Ireland were at low levels during week 40 2019 (week ending 6th October 2019).

- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate was 5.0 per 100,000 population in week 40 2019, a slight increase compared to the rate of 2.6 per 100,000 reported during week 39 2019.
 - ILI rates were below the Irish baseline threshold (18.1 per 100,000 population).
 - ILI age specific 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 40 2019.
- **National Virus Reference Laboratory (NVRL):**
 - Influenza positivity reported by the NVRL was at very low levels during week 40 2019, at 0.8%.
 - Three confirmed influenza A(H3N2) positive specimens were reported from non-sentinel sources during week 40 2019.
 - No confirmed influenza positive specimens were reported from the sentinel GP network during week 40 2019.
 - Sporadic positive specimens of influenza A(H3N2), A(H1N1)pdm09 and influenza B were reported throughout the 2019 summer period; the majority of these were influenza A(H3N2).
 - Sporadic detections of respiratory syncytial virus (RSV), parainfluenza virus, adenovirus and human metapneumovirus (hMPV) were reported during week 40 2019 and throughout the summer period.
 - An increase in picornavirus positive detections, which includes both rhinoviruses and enteroviruses, has been reported in September and October to date.
- **Hospitalisations:** One confirmed influenza hospitalised case was notified to HPSC during week 40 2019.
- **Critical care admissions:** No confirmed influenza cases were admitted to critical care units and reported to HPSC during week 40 2019.
- **Mortality:** There were no reports of influenza-associated deaths during week 40 2019.
- **Outbreaks:** One acute respiratory infection outbreak was reported to HPSC during week 40 2019.
- **International:** As is usual for this time of year, influenza activity remained at low levels in the temperate zone of the northern hemisphere.

1. GP sentinel surveillance system - Clinical Data

- During week 40 2019, eleven influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 5.0 per 100,000 population, a slight increase compared to the rate of 2.6 per 100,000 reported during week 39 2019. The ILI rate for week 40 2019 is below the Irish baseline ILI threshold (18.1/100,000 population) (figure 1).
- ILI age specific rates were low in all age groups during week 40 2019 (figure 2).
- HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) has revised the Irish baseline ILI threshold for the 2019/2020 influenza season to 18.1 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 (18.1/100,000 population), medium (57.5/100,000 population) and high (86.5/100,000 population) intensity ILI thresholds are shown in figure 1.

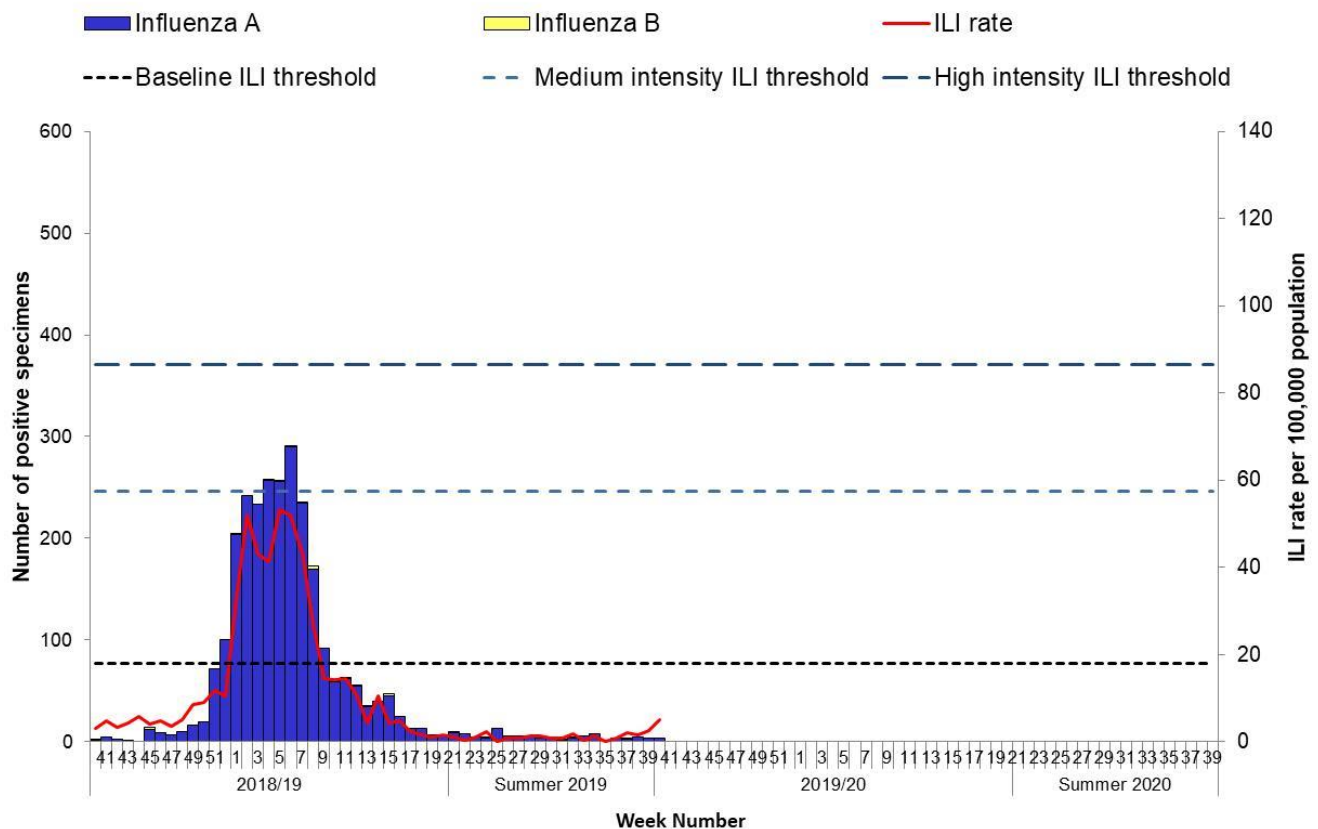


Figure 1: ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds* and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.
Source: ICGP and NVRL

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

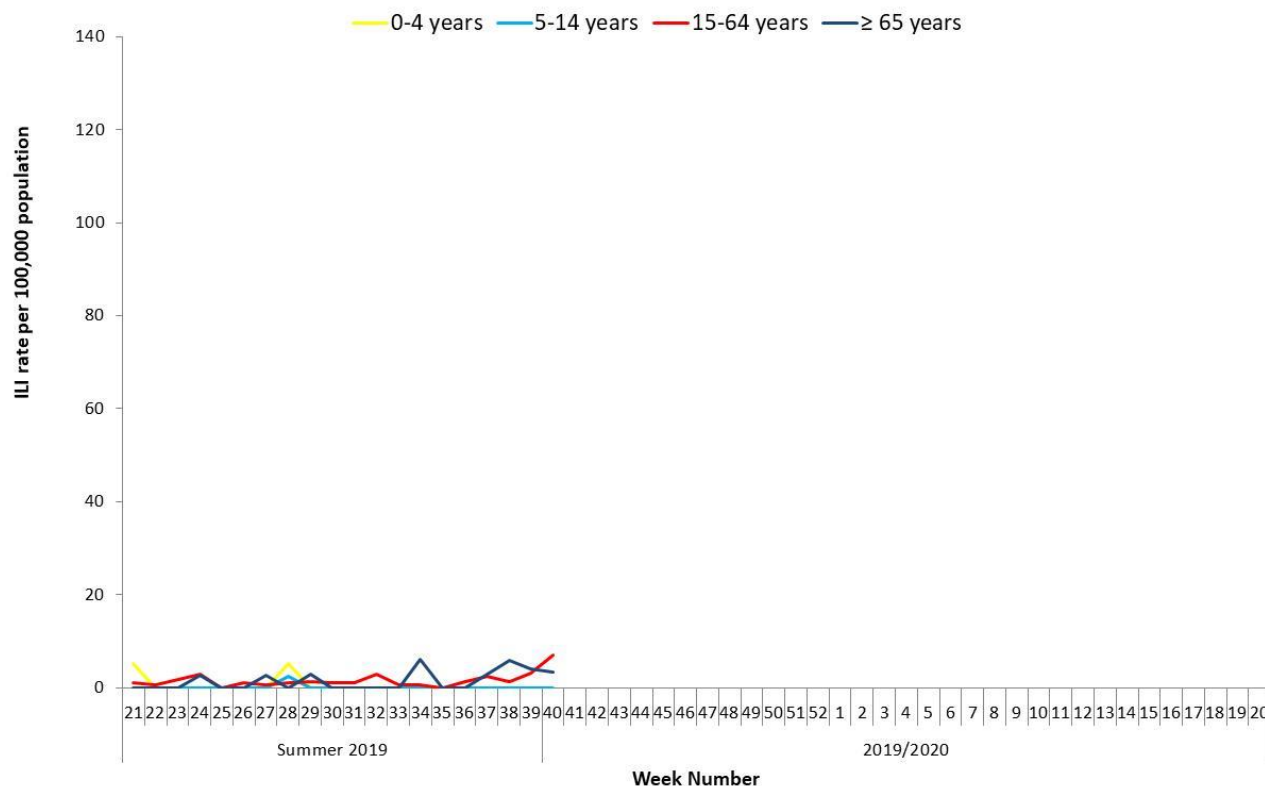


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2019 and the 2019/2020 influenza season to date. Source: ICGP.

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2019/2020 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) (figure 3 and tables 1 & 2).

- Influenza positivity reported by the NVRL was at very low levels during week 40 2019, at 0.8%.
- Three confirmed influenza A(H3N2) positive specimens were reported from non-sentinel sources during week 40 2019. No confirmed influenza positive specimens were reported from the sentinel GP network during week 40 2019. Data from the NVRL for week 40 2019 are detailed in tables 1 and 2.
- Sporadic positive specimens of influenza A(H3N2), A(H1N1)pdm09 and influenza B were reported throughout the 2019 summer period; the majority of which were influenza A(H3N2)
- Sporadic detections of respiratory syncytial virus (RSV), parainfluenza virus, adenovirus and human metapneumovirus (hMPV) were reported during week 40 2019 (table 2) and throughout the summer 2019 period.
- An increase in picornavirus positive detections, which includes both rhinoviruses and enteroviruses, has been reported in September and October (data on picornaviruses* are not included in this report).

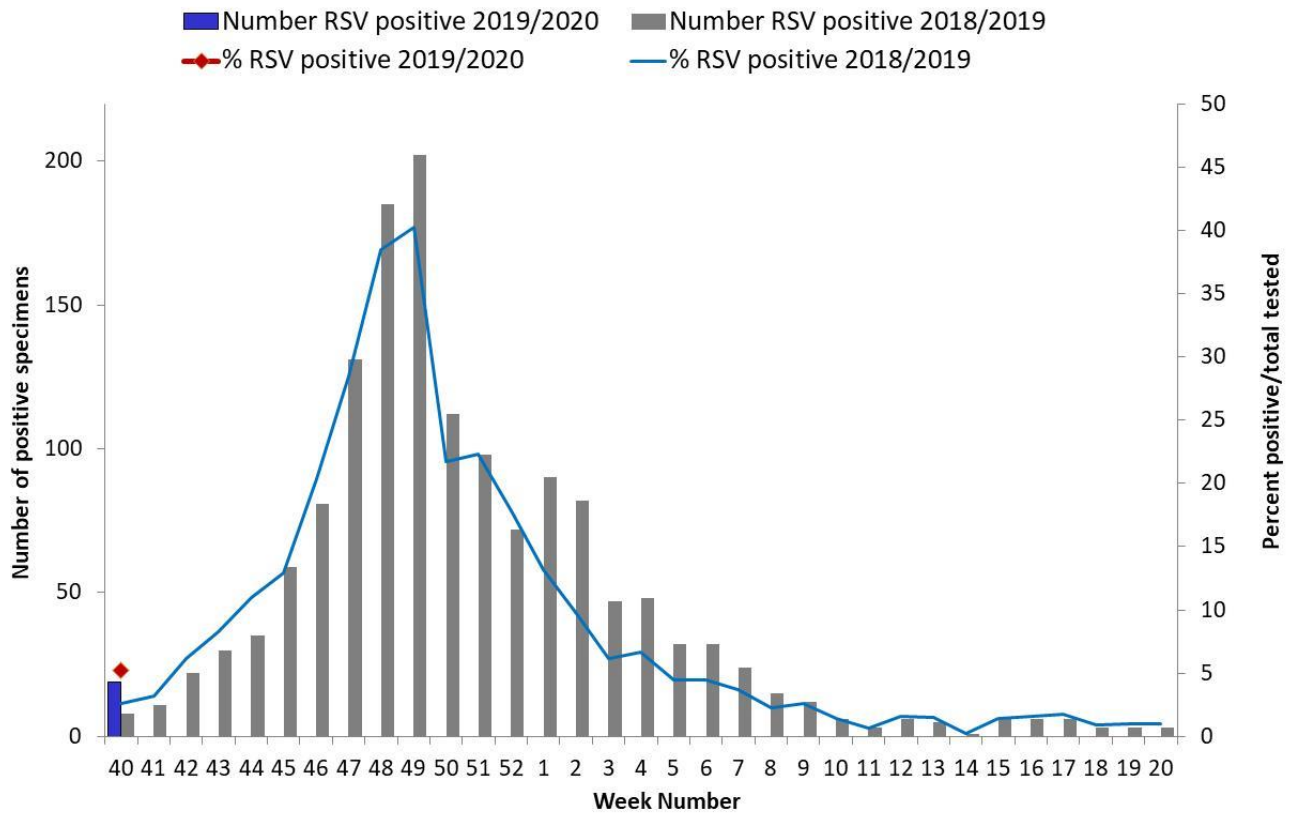


Figure 3: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2019/2020 season, compared to the 2018/2019 season. Source: NVRL.

Table 1: Number of sentinel and non-sentinel[†] respiratory specimens tested by the NVRL and positive influenza results, for week 40 2019. 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	
40 2019	Sentinel	2	0	0.0	0	0	0	0	0
	Non-sentinel	364	3	0.8	0	3	0	3	0
	Total	366	3	0.8	0	3	0	3	0
2019/2020	Sentinel	2	0	0.0	0	0	0	0	0
	Non-sentinel	364	3	0.8	0	3	0	3	0
	Total	366	3	0.8	0	3	0	3	0

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 40 2019. 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
40 2019	Sentinel	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	364	19	5.2	6	1.6	12	3.3	4	1.1	2	0.5	1	0.3	14	3.8
	Total	366	19	5.2	6	1.6	12	3.3	4	1.1	2	0.5	1	0.3	14	3.8
2019/2020	Sentinel	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	364	19	5.2	6	1.6	12	3.3	4	1.1	2	0.5	1	0.3	14	3.8
	Total	366	19	5.2	6	1.6	12	3.3	4	1.1	2	0.5	1	0.3	14	3.8

[†] 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 data and outbreaks.

The geographical spread of influenza/ILI during week 40 2019 is shown in figure 4. Sporadic influenza activity (based on ILI cases and/or laboratory confirmed influenza cases) was reported in HSE-East, -Midwest, -Northeast, -Northwest and -South during week 40 2019. No influenza activity was reported in all other areas (figure 4).

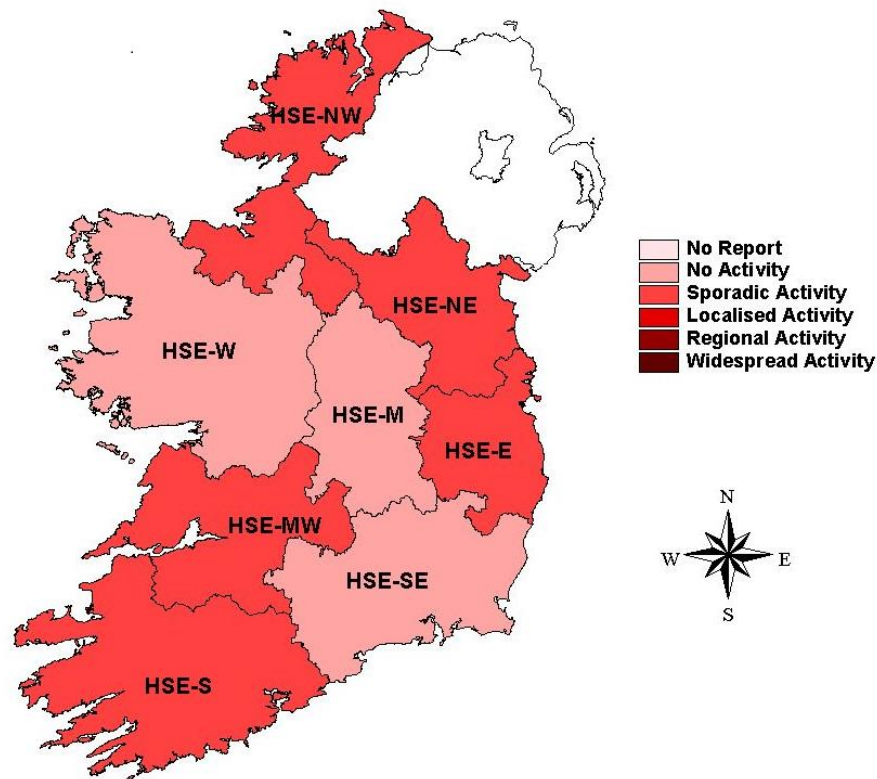


Figure 4: Map of provisional influenza activity by HSE-Area during influenza week 40 2019

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.

Respiratory admissions reported from a network of sentinel hospitals were at moderate levels at 274 during week 40 2019 (figure 5). It should be noted that data for week 40 were missing for two of the eight sentinel hospitals. The increase seen in week 40 compared to week 39 2019 was due to a large hospital reporting data in week 40, but not throughout the summer period.

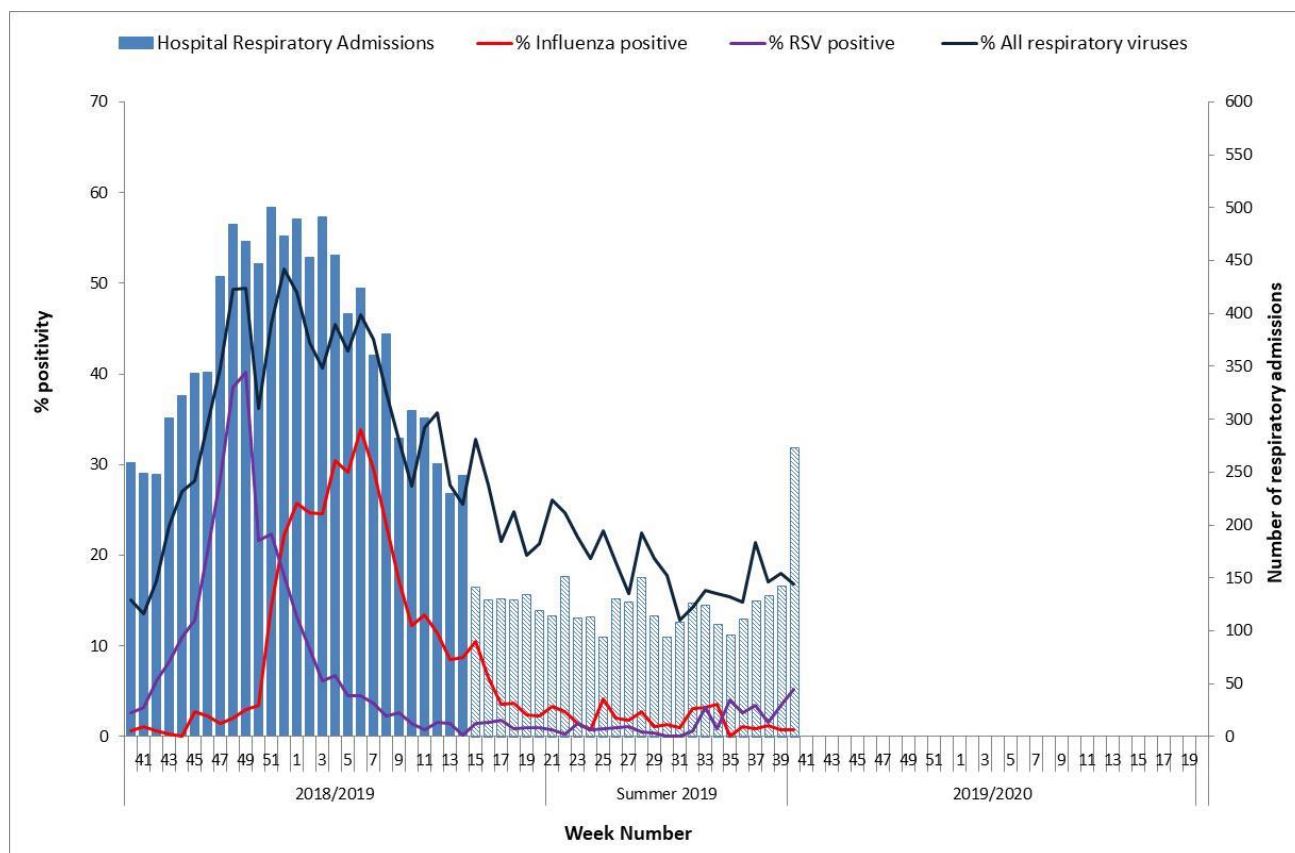


Figure 5: Number of respiratory admissions reported from the sentinel hospital network and % positivity for influenza, RSV and all seasonal respiratory viruses tested* by the NVRL by week and season. *Source: Departments of Public Health - Sentinel Hospitals & NVRL. *All seasonal respiratory viruses tested refer to non-sentinel respiratory specimens routinely tested by the NVRL including influenza, RSV, adenovirus, parainfluenza viruses and human metapneumovirus (hMPV). Weeks with missing data are 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 was at low levels during week 40 2019 at 1.6%, a slight decrease compared to 1.9% for week 39 2019. Four services reported data for week 40 and there were 173 calls relating to self-reported influenza.

A small increase in the proportion of influenza-related calls to GP Out-of-Hours services occurred between weeks 37-39 2019; this increase is usually observed each September when schools return from the summer break (figure 6).

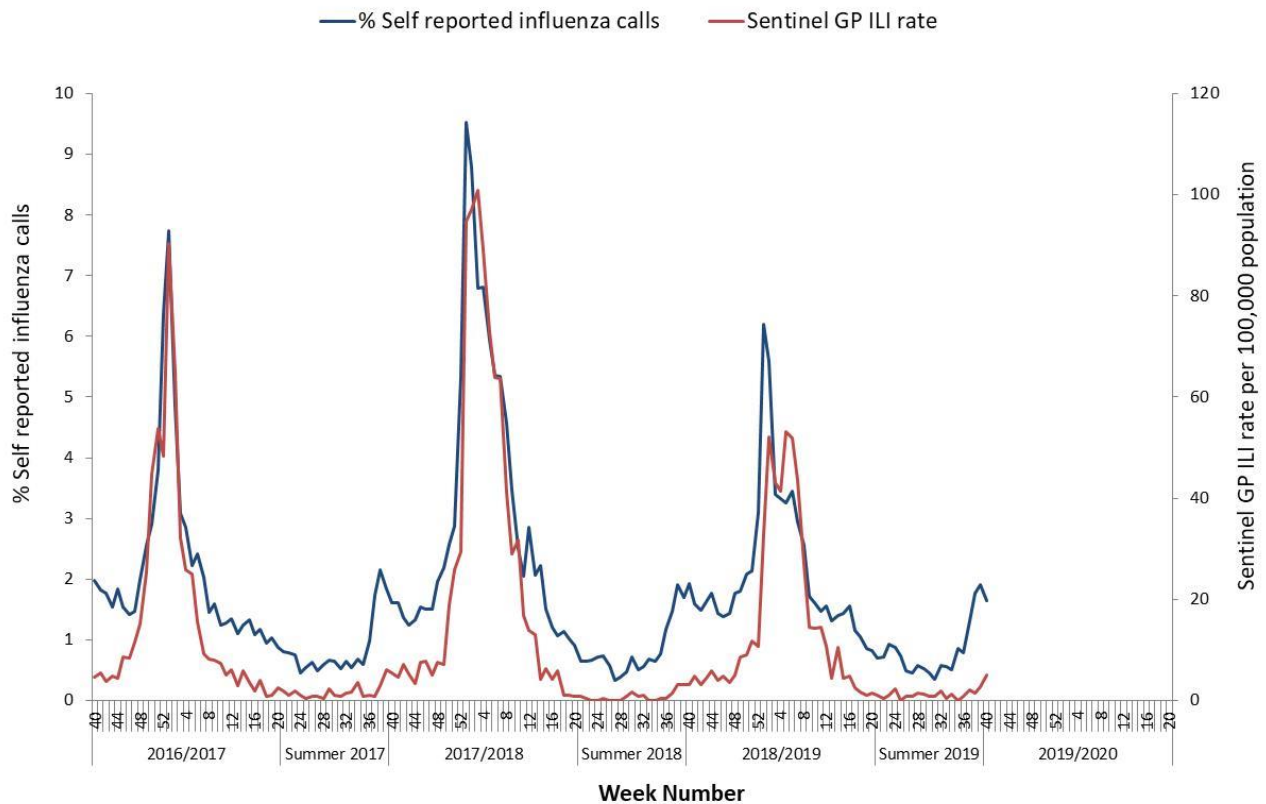


Figure 6: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

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](#). Influenza notifications were at low levels during week 40 2019, with five confirmed influenza cases notified. Two were due to influenza B, one was due to influenza A(H1N1)pdm09, one was due to influenza A(H3N2) and one was due to influenza A (not subtyped).

RSV notifications were also at low levels, with twenty cases notified during week 40 2019. The number of cases of RSV notified has been gradually increasing in recent weeks, as is usual at this time of year.

6. Influenza Hospitalisations

One confirmed influenza hospitalised case was notified to HPSC during week 40 2019.

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 processes and reports 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 40 2019.

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 40 2019.
- During week 40 2019, 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 acute respiratory infection outbreak was reported to HPSC during week 40 2019. The outbreak was in a nursing home and the pathogen has not yet been reported.

10. International Summary

As is usual for this time of year, influenza activity is low in the European region with out-of-season low intensity levels in all reporting countries during weeks 33 – 39 2019. Of 1,584 specimens from primary health care settings, eleven tested positive for influenza virus (<1%).

In the temperate zones of the southern hemisphere, influenza activity was low in most countries, except Chile where a second wave of influenza activity of predominantly B viruses was reported. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections.

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.
- Further information on avian influenza is available on the [ECDC website](#). The latest ECDC rapid risk assessment on highly pathogenic avian influenza A of H5 type is also available on the [ECDC website](#).

11. WHO recommendations on the composition of influenza virus vaccines

Ireland has changed from a trivalent vaccine to a quadrivalent vaccine for the 2019/2020 influenza season. Quadrivalent vaccines include a 2nd influenza B virus in addition to the 2 influenza A viruses found in trivalent vaccines.

The WHO vaccine strain selection committee recommend that quadrivalent vaccines for use in the 2019/2020 northern hemisphere influenza season contain the following:

- an A/Brisbane/02/2018 (H1N1)pdm09-like virus;
- an A/Kansas/14/2017 (H3N2)-like virus;
- a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage); and
- a B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage).

It is recommended that the influenza B virus component of trivalent vaccines for use in the 2019-2020 northern hemisphere influenza season be a B/Colorado/06/2017-like virus.

https://www.who.int/influenza/vaccines/virus/recommendations/201902_recommendation.pdf
https://www.who.int/influenza/vaccines/virus/recommendations/201902_recommendation_addendum.pdf

On September 27, 2019, the WHO vaccine strain selection committee recommended quadrivalent influenza vaccines for use in the 2020 southern hemisphere influenza season contain the following:

- an A/Brisbane/02/2018 (H1N1)pdm09-like virus;
- an A/South Australia/34/2019 (H3N2)-like virus;
- a B/Washington/02/2019-like (B/Victoria lineage) virus; and
- a B/Phuket/3073/2013-like (B/Yamagata lineage) virus.

It is recommended that the influenza B virus component of trivalent vaccines for use in the 2020 southern hemisphere influenza season be a B/Washington/02/2019-like virus.

https://www.who.int/influenza/vaccines/virus/recommendations/2020_south/en/

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

Acknowledgements

This report was prepared by Niamh Murphy, Rachel Fiegenbaum 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.