

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 42 2018 (15th – 21st October 2018)



Summary

All indicators of influenza activity in Ireland were at low levels during week 42 2018 (week ending 21st October 2018).

- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate was 3.3 per 100,000 population in week 42 2018, remaining low and stable compared to the updated rate of 4.4 per 100,000 reported during week 41 2018.
 - ILI rates were below the Irish baseline threshold (17.5 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 42 2018.
- **National Virus Reference Laboratory (NVRL):**
 - Influenza positivity reported by the NVRL was at very low levels during week 42 2018, at 0.3%.
 - One confirmed influenza A (H1N1)pdm09 positive specimen was reported from a non-sentinel source during week 42 2018.
 - No confirmed influenza positive specimens were reported from the sentinel GP network during week 42 2018.
 - Sporadic positive specimens of influenza A(H3N2) and A(H1N1)pdm09 were reported throughout the 2018 summer period; the majority of these were positive for influenza A(H1N1)pdm09.
 - Sporadic detections of respiratory syncytial virus (RSV), parainfluenza virus, adenovirus and human metapneumovirus (hMPV) were reported during week 42 2018 and throughout the summer period.
 - An increase in picornavirus positive detections, which includes both rhinoviruses and enteroviruses, has been reported in September and October.
- **Hospitalisations:** One confirmed influenza A(H3N2) hospitalised case was notified to HPSC during week 42 2018.
- **Critical care admissions:** No confirmed influenza cases were admitted to critical care units and reported to HPSC during week 42 2018.
- **Mortality:** There were no reports of influenza-associated deaths occurring during the 2018/2019 influenza season to date.
- **Outbreaks:** Two acute respiratory infection (ARI) outbreaks were reported to HPSC during week 42 2018. Neither were due to influenza.
- **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 42 2018, nine influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 3.3 per 100,000 population, remaining low and stable compared to the updated rate of 4.4 per 100,000 reported during week 41 2018. The ILI rate for week 42 2018 is below the Irish baseline ILI threshold (17.5/100,000 population) (figure 1).
- ILI age specific rates were low in all age groups during week 42 2018 (figure 2).
- HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) has revised the Irish baseline ILI threshold for the 2018/2019 influenza season to 17.5 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 (17.5/100,000 population), medium (62.3/100,000 population) and high (122.2/100,000 population) intensity ILI thresholds are shown in figure 1.

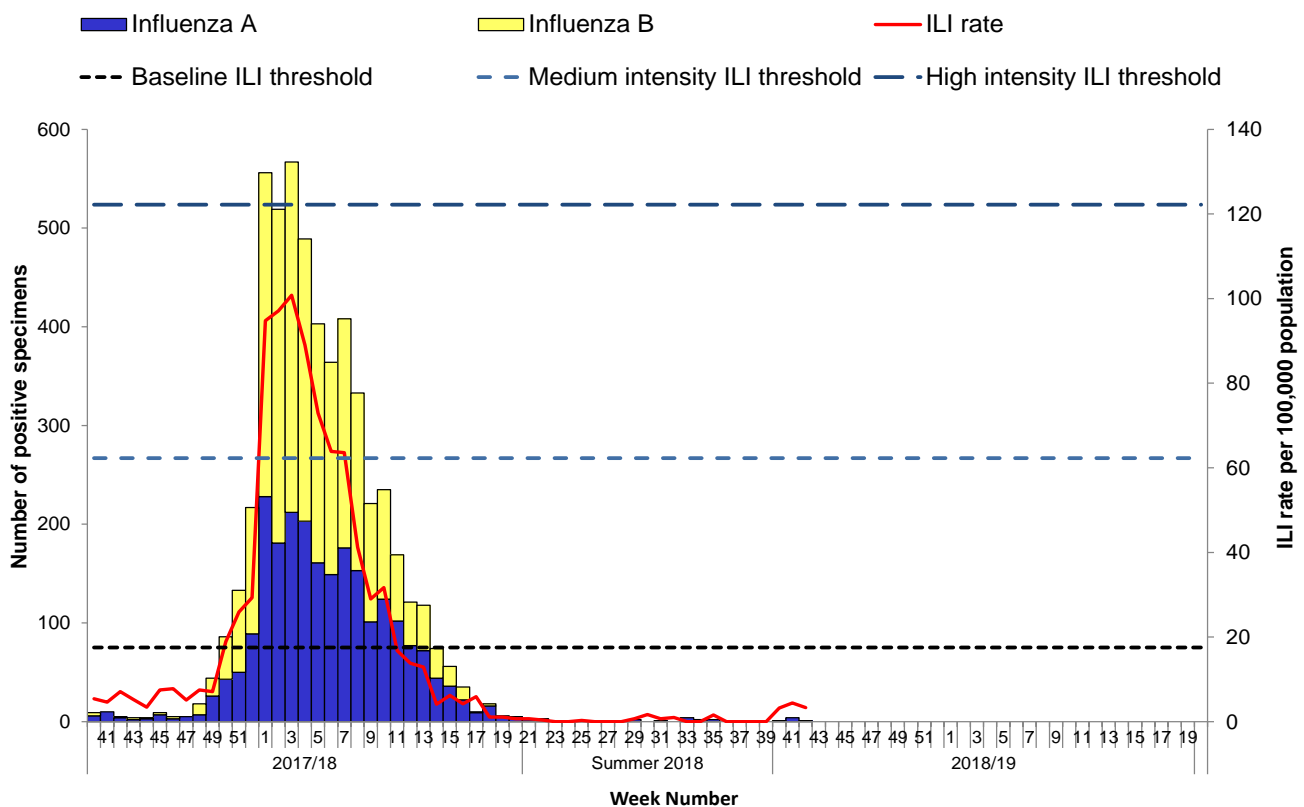


Figure 1: ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds* and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.
 Source: ICGP and NVRL

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

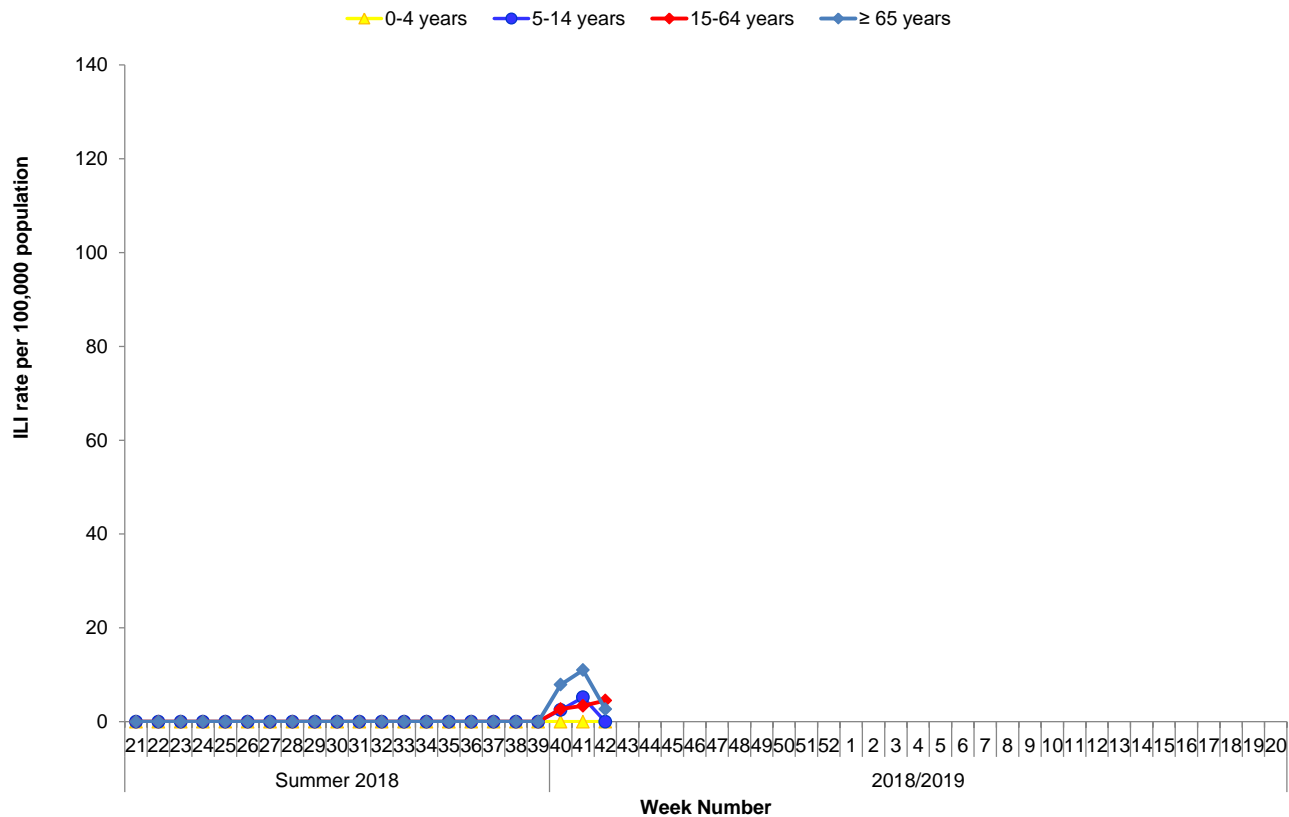


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2018 and the 2018/2019 influenza season to date. Source: ICGP.

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2018/2019 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 42 2018, at 0.3%.
- One confirmed influenza A(H1N1)pdm09 positive specimen was reported from a non-sentinel source during week 42 2018. No confirmed influenza positive specimens were reported from the sentinel GP network during week 42 2018. Data from the NVRL for week 42 2018 are detailed in tables 1 and 2.
- Sporadic positive specimens of influenza A(H3N2) and A(H1N1)pdm09 were reported throughout the 2018 summer period; the majority of which were positive for influenza A(H1N1)pdm09.
- Sporadic detections of respiratory syncytial virus (RSV), parainfluenza virus, adenovirus and human metapneumovirus (hMPV) were reported during week 42 2018 (table 2) and throughout the summer 2018 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).
*Respiratory viruses routinely tested for by the NVRL and reported in the influenza surveillance report are detailed above.

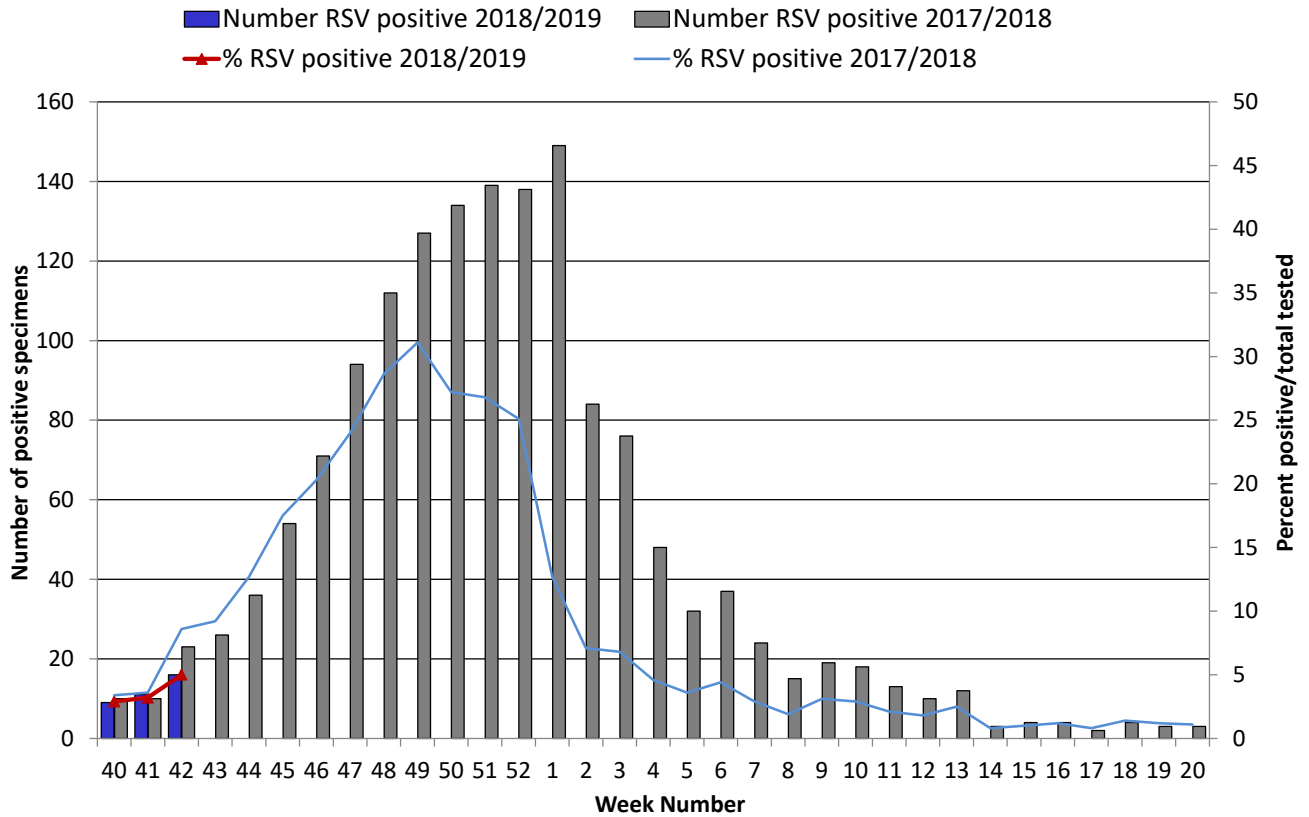


Figure 3: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2018/2019 season, compared to the 2017/2018 season. Source: NVRL.

Table 1: Number of sentinel and non-sentinel[†] respiratory specimens tested by the NVRL and positive influenza results, for week 42 2018. 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 | |
| 42 2018 | Sentinel | 4 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 |
| | Non-sentinel | 321 | 1 | 0.3 | 1 | 0 | 0 | 1 | 0 |
| | Total | 325 | 1 | 0.3 | 1 | 0 | 0 | 1 | 0 |
| 2018/2019 | Sentinel | 15 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 |
| | Non-sentinel | 980 | 6 | 0.6 | 3 | 2 | 0 | 5 | 1 |
| | Total | 995 | 6 | 0.6 | 3 | 2 | 0 | 5 | 1 |

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 42 2018. 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 |
|------------------|---------------|--------------|-----------|------------|------------|--------------|----------|------------|----------|------------|----------|------------|-----------|------------|-----------|------------|
| 42 2018 | Sentinel | 4 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| | Non-sentinel | 321 | 16 | 5.0 | 8 | 2.5 | 0 | 0.0 | 1 | 0.3 | 1 | 0.3 | 12 | 3.7 | 7 | 2.2 |
| | Total | 325 | 16 | 4.9 | 8 | 2.5 | 0 | 0.0 | 1 | 0.3 | 1 | 0.3 | 12 | 3.7 | 7 | 2.2 |
| 2018/2019 | Sentinel | 15 | 0 | 0.0 | 0 | 0.0 | 1 | 6.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 6.7 |
| | Non-sentinel | 980 | 36 | 3.7 | 26 | 2.7 | 0 | 0.0 | 2 | 0.2 | 7 | 0.7 | 38 | 3.9 | 21 | 2.1 |
| | Total | 995 | 36 | 3.6 | 26 | 2.6 | 1 | 0.1 | 2 | 0.2 | 7 | 0.7 | 38 | 3.8 | 22 | 2.2 |

[†] 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.

Sporadic influenza activity (based on ILI cases and/or laboratory confirmed influenza cases) was reported in HSE-East and -Midwest, during week 42 2018. No influenza activity was reported in HSE-Midlands, -Northeast -Northwest, -South, Southeast, and -West during week 42 2018 (figure 4).

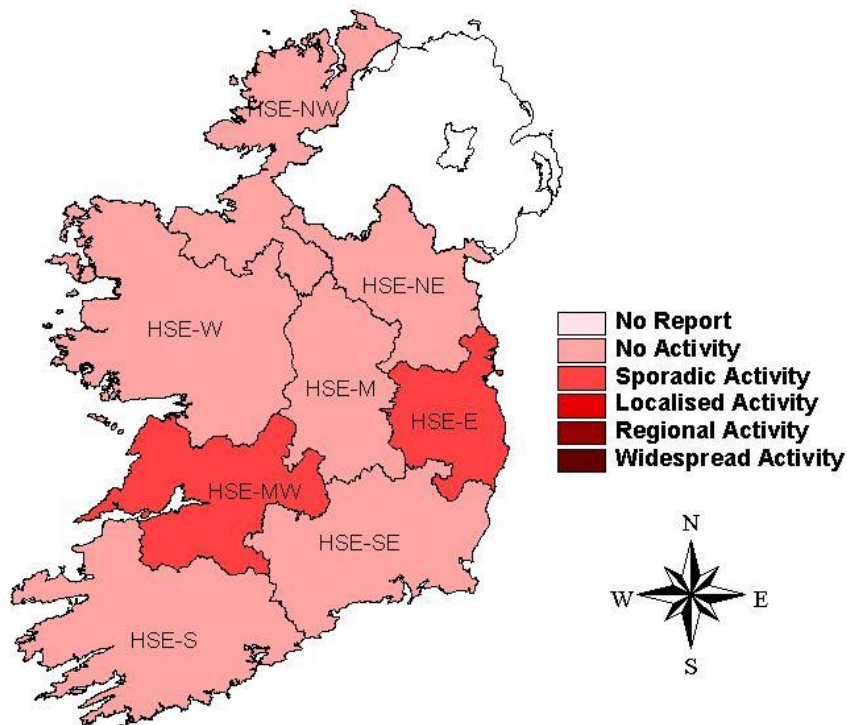


Figure 4: Map of provisional influenza activity by HSE-Area during influenza week 42 2018

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 low levels, at 248, during week 42 2018 (figure 5).

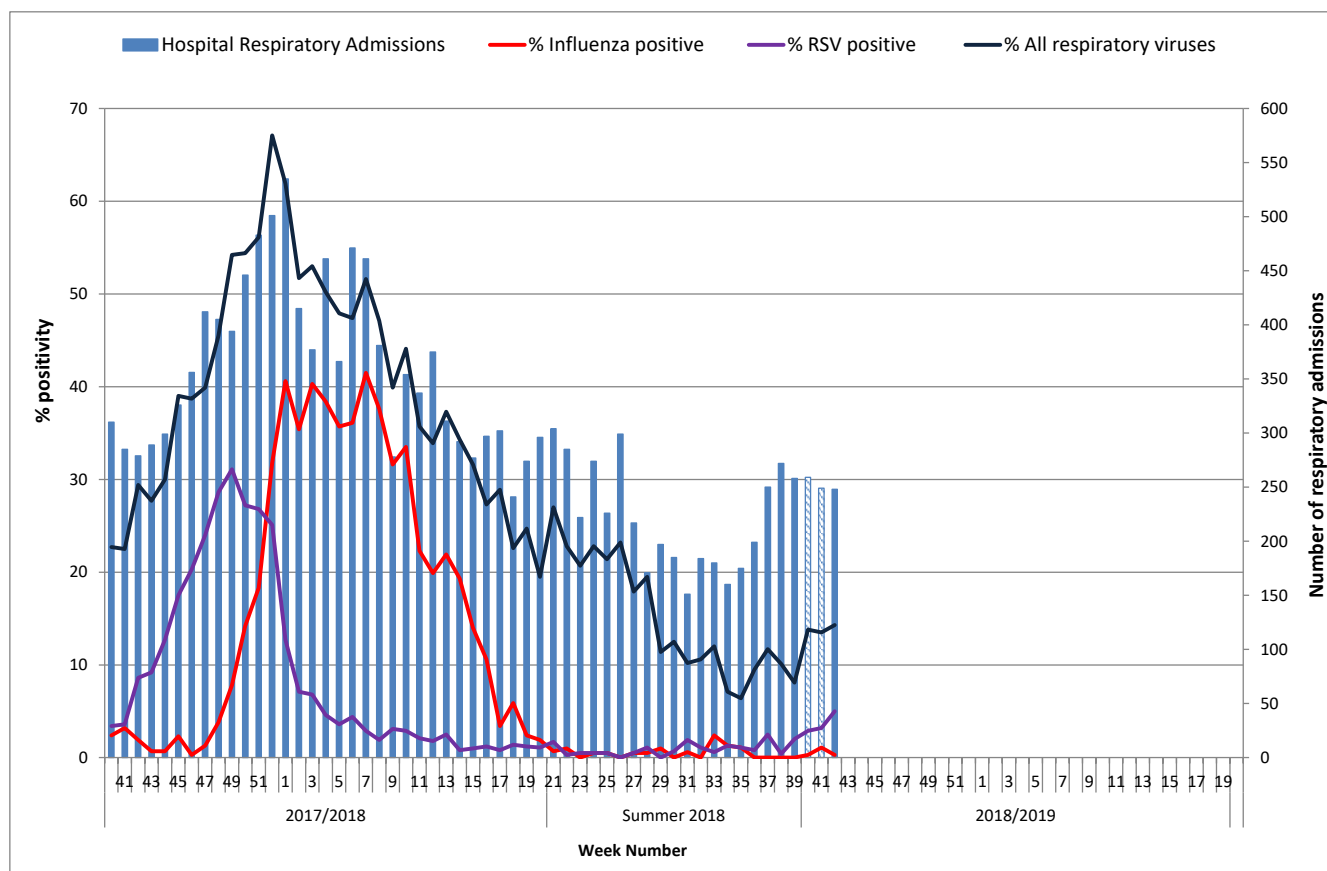


Figure 5: Number of respiratory admissions reported from the sentinel hospital network and % positivity for influenza, RSV and all seasonal respiratory viruses tested* by the NVRL by week and season. *Source: Departments of Public Health - Sentinel Hospitals & NVRL. *All seasonal respiratory viruses 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 remained at low levels during week 42 2018 at 1.7%, which is stable in comparison to 1.6% reported during week 41 2018. However, reports were only received from three services in week 42. A slight increase in the proportion of influenza-related calls to GP Out-of-Hours services occurred between weeks 36-39 2018; this increase is usually observed each September when schools return from the summer break (figure 6).

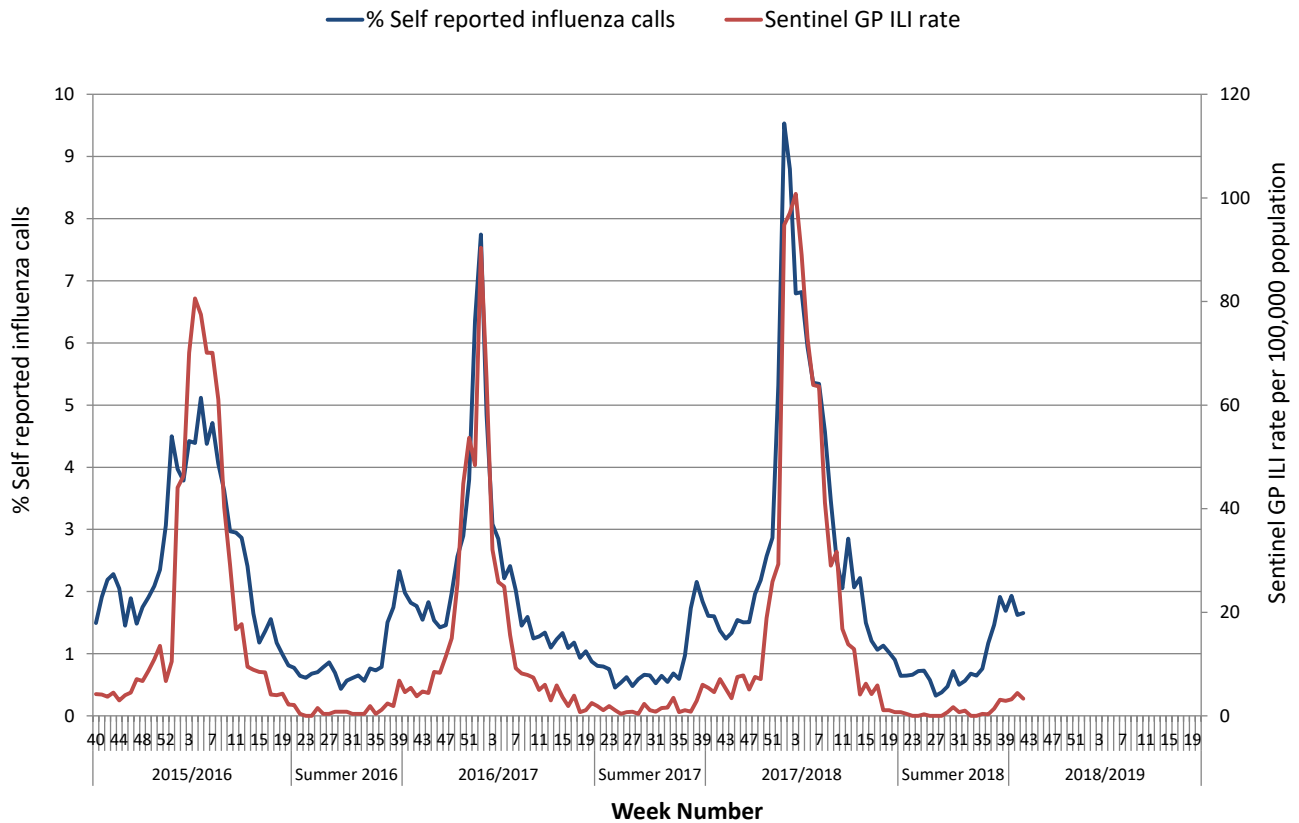


Figure 6: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

5. Influenza & RSV notifications

Influenza and RSV case 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 increased slightly but remained at low levels during week 42 2018, with six confirmed influenza cases notified. One of these was a late notification of a case diagnosed in early 2018. The remaining five cases were all diagnosed during the 2018/2019 influenza season. Three were infected with influenza A(H1N1)pdm09 and two were infected with influenza A(H3N2). RSV notifications were also at low levels, with eighteen cases notified during week 42 2018.

6. Influenza Hospitalisations

One confirmed influenza A(H3N2) hospitalised case was notified to HPSC during week 42 2018.

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 42 2018.

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 the 2018/2019 influenza season to date.
- During week 42 2018, no excess all-cause mortality was reported in Ireland after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm.

9. Outbreak Surveillance

Two acute respiratory infection outbreaks were reported to HPSC during week 42 2018. One was in a nursing home and was associated with rhinovirus. One was in a community hospital/long-stay unit and although no organism has yet been identified, swabs from affected patients tested negative for influenza.

10. International Summary

As is usual for this time of year, influenza activity was low throughout the European Region. Influenza viruses were detected sporadically in specimens from persons with respiratory illness presenting to medical care. Both influenza A and B type viruses were detected. For week 41 2018, data from the 21 countries or regions reporting to the EuroMOMO project indicated all-cause mortality to be at expected levels for this time of the year. As of October 15th 2018, in the temperate zones of the southern hemisphere, influenza activity appeared to decrease overall though influenza percent positivity remained elevated in Southern Africa. In Australia and New Zealand, influenza activity remained at low levels and even below the seasonal threshold during the entire season. Increased influenza detections were reported in some countries of Southern and South-East Asia. In the temperate zone of the northern hemisphere influenza activity remained at inter-seasonal levels. 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

On February 22nd, 2018, the WHO vaccine strain selection committee recommended that trivalent vaccines for use in the 2018/2019 northern hemisphere influenza season contain the following:

an A/Michigan/45/2015 (H1N1)pdm09-like virus, an A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus and a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage). It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage). http://www.who.int/influenza/vaccines/virus/recommendations/2018_19_north/en/

On September 27, 2018, the WHO vaccine strain selection committee recommended that trivalent vaccines for use in the 2019 southern hemisphere influenza season contain the following: an A/Michigan/45/2015 (H1N1)pdm09-like virus; an A/Switzerland/8060/2017 (H3N2)-like virus and a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage). It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage).

<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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