

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 40 2022 (3rd - 9th October 2022)



 **Intensive Care Society of Ireland**

Summary – First influenza surveillance report of 2022/2023 season

Some indicators of influenza activity increased in Ireland during week 40 2022 (week ending 09/10/2022), however remained at relatively low levels. In Europe influenza activity remained at inter-seasonal levels, with influenza A(H3) detections increasing in some countries. Respiratory syncytial virus (RSV) activity in Ireland has increased throughout September and October; indicating an early RSV season, similar to the 2021/2022 season.

- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate was 14.8/100,000 population during week 40 2022, an increase compared to the updated rate of 8.5/100,000 during week 39 2022. Sentinel GP ILI consultations are currently reflecting circulation of SARS-CoV-2, RSV and other respiratory viruses (ORVs) in the community.
- Sentinel GP ILI consultation rates were below the Irish baseline threshold (18.1/100,000 population) during week 40 2022.
- Sentinel GP ILI age specific rates were above baseline in the ≥ 65 -year age group (20.1/100,000) and below baseline levels in the 15-64 (14.4/100,000) and 0-14-year age groups (12.7/100,000).

National Virus Reference Laboratory (NVRL):

- Of 15 sentinel GP ILI specimens tested by the NVRL during weeks 39 and 40, none were positive for influenza. Of 146 non-sentinel respiratory specimens tested and reported during week 40 2022, one was positive for influenza (0.7%). During week 39 2022, 146 non-sentinel respiratory specimens were tested, 11 (7.5%) were positive for influenza A; a lag time with testing and reporting is noted. Of the 12 influenza positive detections during weeks 39 and 40 2022, all were influenza A(H3).
- RSV positivity (non-sentinel respiratory specimens) was elevated in recent weeks, at 9.5% (13/146) during week 40 2022 and 4.8% (7/146) during week 39 2022. During week 40 2022, 14.3% (1/7) of sentinel GP ILI specimens were RSV positive.
- Rhinovirus/enterovirus positive (non-sentinel respiratory specimens) detections increased in recent weeks, with positivity at 13.9% (19/137) during week 40 and 24.7% (36/146) during week 39 2022. Other respiratory viruses (ORVs) are being detected at lower levels.
- **Influenza notifications:** 62 laboratory confirmed influenza cases were notified during week 40 2022 – 10 A(H3), 1 A(H1)pdm09, 3 influenza B, and 48 influenza A (not subtyped). This is an increase compared to 41 influenza notifications during week 39 2022.
- **RSV notifications:** 171 RSV cases were notified during week 40 2022, an increase compared to 114 cases notified during week 39 2022.
- **Hospitalisations and Critical care admissions:** 17 confirmed influenza hospitalised cases were notified during week 40 2022. No confirmed critical care influenza cases were notified to HPSC during week 40 2022.
- **Mortality:** There were no reports of deaths occurring in notified influenza cases during week 40 2022.
- **Outbreaks:** One influenza A outbreak in a nursing home was notified during week 40 2022. One RSV and one acute respiratory infection (ARI-SARS-CoV-2 negative) outbreak was also notified to HPSC during week 40 2022.
- **International:** In Europe, overall influenza activity remained at inter-seasonal levels, with influenza A(H3N2) detections increasing in a few countries. WHO are advising countries to remain vigilant for the likelihood of influenza circulating and to be prepared for co-circulation of SARS-CoV-2 and influenza.

1. GP sentinel surveillance system - Clinical Data

- During week 40 2022, 44 sentinel GP influenza-like illness (ILI) consultations were reported from the Irish sentinel GP network, corresponding to an ILI consultation rate of 14.8 per 100,000 population, an increase compared to the updated rate of 8.7 per 100,000 reported during week 39 2022 (Figure 1).
- The sentinel GP ILI consultation rate during week 40 2022 was below the Irish sentinel GP ILI baseline threshold (18.1/100,000 population).
- Sentinel GP ILI age specific consultation rates were above baseline in the ≥ 65 -year age group (20.1/100,000) and below baseline levels in the 15-64 (14.4/100,000) and 0-14 (12.7/100,000) year age groups during week 40 2022 (Figure 2, Table 1).
- HPSC has reviewed the Irish sentinel baseline ILI threshold for the 2022/2023 influenza season, which will remain at 18.1 per 100,000 population. ILI rates above this baseline threshold combined with sentinel GP influenza positivity $>10\%$ indicate the likelihood that influenza is circulating in the community. The Moving Epidemic Method (MEM) is used to calculate thresholds for GP ILI consultations in a standardised approach across Europe. 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. Age specific MEM threshold levels are shown in Table 1.

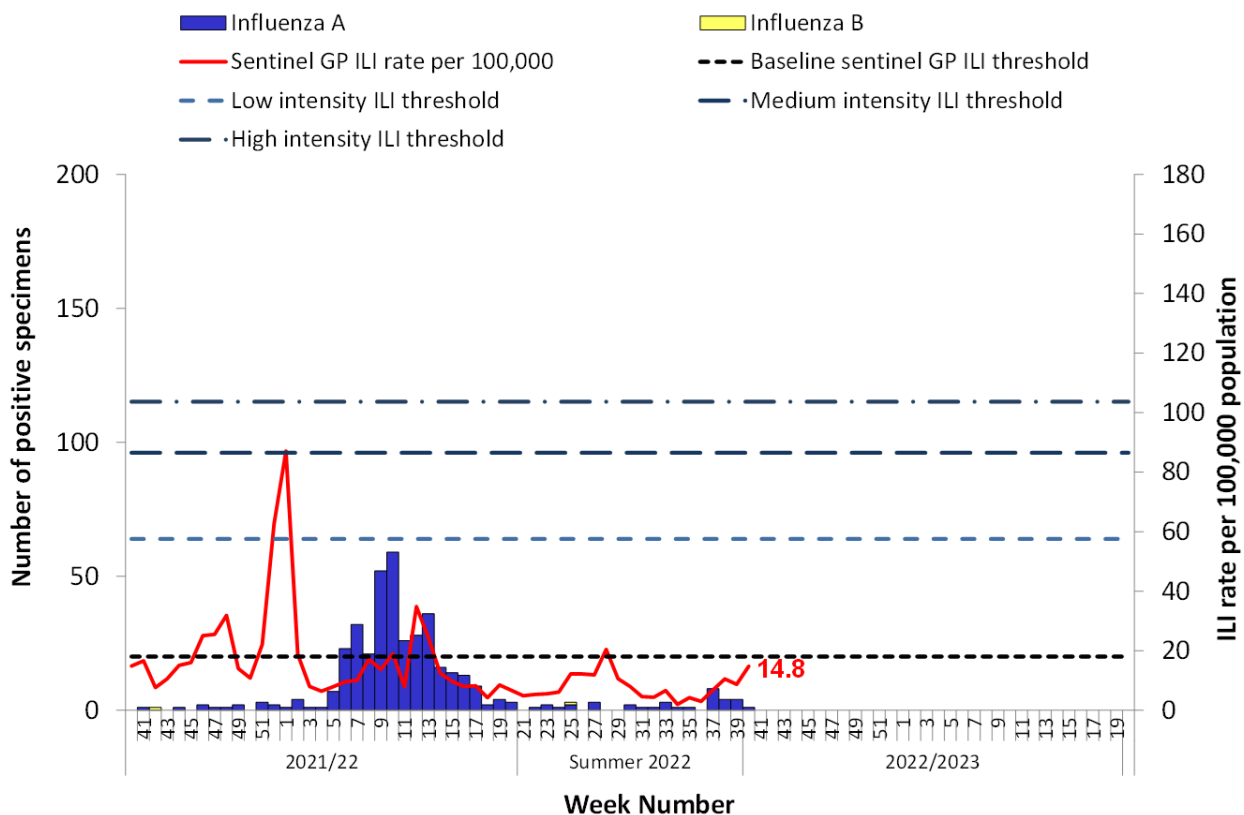


Figure 1: Sentinel GP Influenza-like illness (ILI) consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season. *Source: ICGP and NVRL*

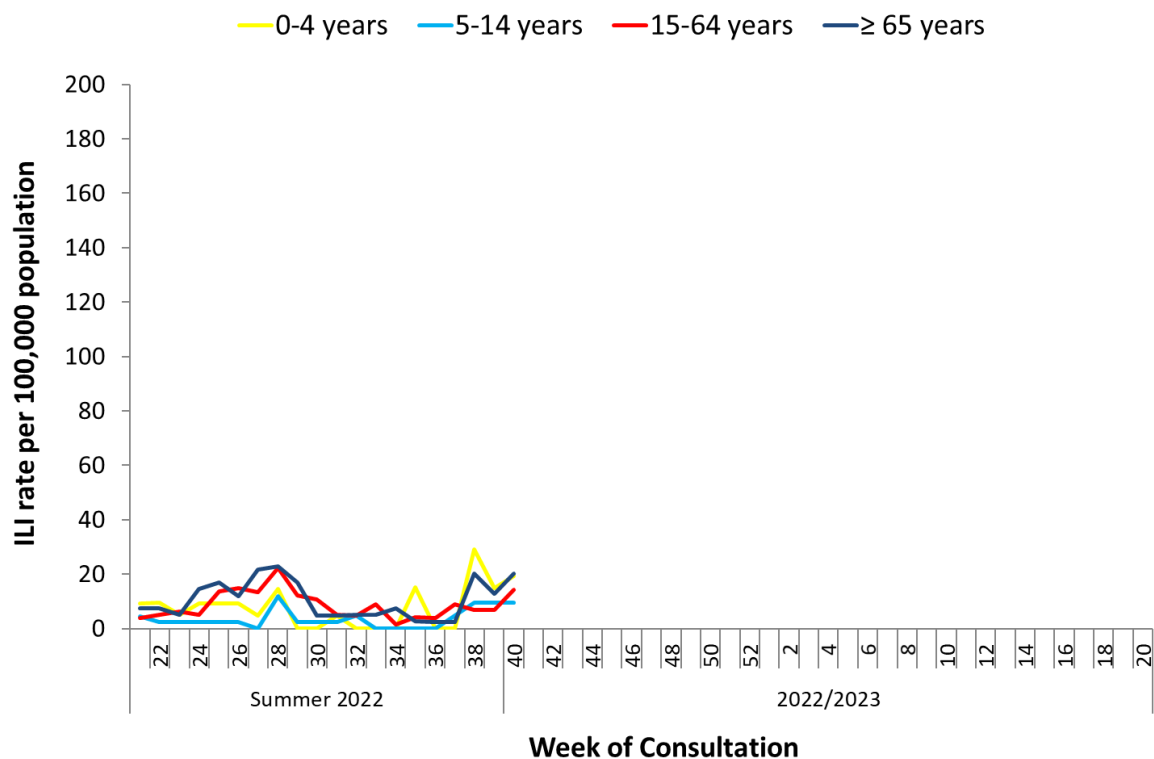


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2022 and the 2022/2023 influenza season to date. *Source: ICGP.*

Table 1: Age specific sentinel GP ILI consultation rate per 100,000 population by week (weeks 21-40 2022), colour coded by sentinel GP ILI age specific Moving Epidemic Method (MEM) threshold levels. *Source: ICGP.*

| Sentinel GP ILI Threshold Levels | Below Baseline | | Low | | | | | Moderate | | | | High | | Extraordinary | | | | | | |
|----------------------------------|----------------|-----|-----|------|------|------|------|----------|------|------|-----|------|-----|---------------|-----|-----|-----|------|------|------|
| Age group (years) | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| All Ages | 4.9 | 5.3 | 5.5 | 6.1 | 12.2 | 12.2 | 11.9 | 20.4 | 10.6 | 8.0 | 4.6 | 4.4 | 6.6 | 2.0 | 4.2 | 3.0 | 6.8 | 10.5 | 8.7 | 14.8 |
| <15 yrs | 6.1 | 4.7 | 3.3 | 4.6 | 4.6 | 4.6 | 1.5 | 12.9 | 1.5 | 1.5 | 3.1 | 3.2 | 0.0 | 0.0 | 5.0 | 0.0 | 3.2 | 16.0 | 11.3 | 12.7 |
| 15-64 yrs | 4.0 | 5.1 | 6.3 | 4.9 | 13.8 | 14.7 | 13.3 | 22.3 | 12.3 | 10.8 | 5.0 | 4.6 | 9.0 | 1.5 | 4.3 | 4.0 | 8.8 | 6.7 | 6.8 | 14.4 |
| ≥65 yrs | 7.3 | 7.4 | 5.2 | 14.4 | 16.8 | 12.0 | 21.6 | 22.8 | 16.8 | 4.8 | 4.9 | 5.0 | 4.9 | 7.5 | 2.6 | 2.5 | 2.5 | 20.2 | 12.7 | 20.1 |
| Reporting practices (N=61) | 56 | 55 | 56 | 57 | 57 | 57 | 57 | 55 | 57 | 57 | 56 | 54 | 57 | 56 | 57 | 58 | 57 | 57 | 56 | 54 |

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2022/2023 influenza season refers to sentinel GP ILI and non-sentinel respiratory specimens routinely tested for influenza, respiratory syncytial virus (RSV), adenovirus, parainfluenza virus types 1-4 (PIV-1-4), human metapneumovirus (hMPV) and rhino/enteroviruses by the National Virus Reference Laboratory (NVRL) (Tables 2 & 3, Figure 3). In Ireland, virological surveillance for influenza, RSV and other respiratory viruses (ORVs) undertaken by the Irish sentinel GP network is integrated into current testing structures for COVID-19 primary care referrals.

- Of 15 sentinel GP ILI specimens tested during weeks 39 and 40 2022, none were positive for influenza. Of 146 non-sentinel respiratory specimens tested and reported by the NVRL during week 40 2022, one was positive for influenza (0.7%). During week 39 2022, of 146 non-sentinel respiratory specimens tested, 11 were positive for influenza (7.5%); a lag time with testing and reporting is noted. Of the 12 influenza positive detections during weeks 39 and 40 2022, all were positive for influenza A(H3).
- Respiratory syncytial virus (RSV) positivity (non-sentinel respiratory specimens) was elevated in recent weeks, at 9.5% (13/146) during week 40 2022 and 4.8% (7/146) during week 39 2022. During week 40 2022, 14.3% (1/7) of sentinel GP ILI specimens were RSV positive.
- Rhinovirus/enterovirus positive detections from non-sentinel respiratory specimens increased in recent weeks, with positivity at 13.9% (19/137) during week 40 2022 and 24.7% (36/146) during week 39 2022 (Figure 5).
- Other respiratory viruses (ORVs) are being detected at lower levels (Figure 3).

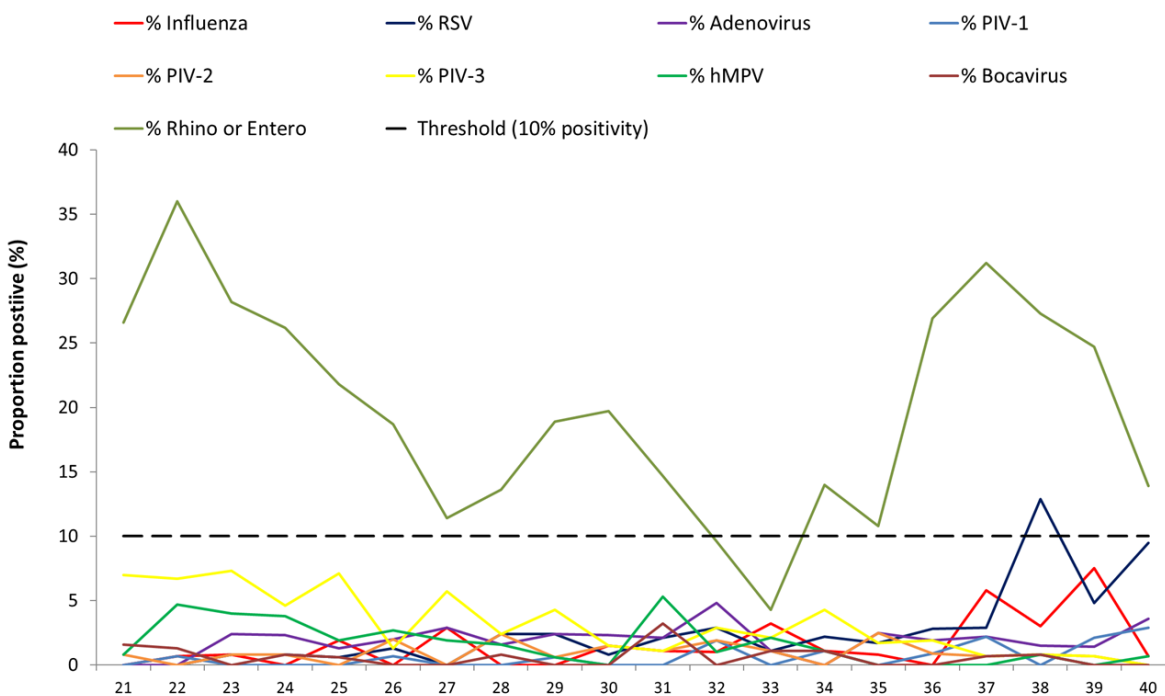


Figure 3: Percentage positive results for non-sentinel respiratory specimens tested by the NVRL for influenza, RSV and other respiratory viruses, weeks 21-40 2022. *Source: ICGP.*

Table 2: Number of sentinel GP ILI and non-sentinel respiratory specimens tested by the NVRL and positive influenza results, for weeks 39 and 40 2022. *Source: NVRL*

| Surveillance period | 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 (unspecified) | B Victoria lineage | B Yamagata lineage | Total influenza B |
| 40 2022 | Sentinel GP ILI referral | 7 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-sentinel | 137 | 1 | 0.7 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| | Total | 144 | 1 | 0.7 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 39 2022 | Sentinel GP ILI referral | 8 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-sentinel | 146 | 11 | 7.5 | 0 | 11 | 0 | 11 | 0 | 0 | 0 | 0 |
| | Total | 154 | 11 | 7.1 | 0 | 11 | 0 | 11 | 0 | 0 | 0 | 0 |

Table 3: Number of sentinel GP ILI and non-sentinel respiratory specimens tested by the NVRL and positive RSV results, for weeks 39 and 40 2022. *Source: NVRL*

| Surveillance period | Specimen type | Total tested | Number RSV positive | % RSV positive | RSV A | RSV B | RSV (unspecified) |
|---------------------|-----------------|--------------|---------------------|----------------|----------|----------|-------------------|
| Week 40 2022 | Sentinel GP ILI | 7 | 1 | 14.3 | 0 | 1 | 0 |
| | Non-sentinel | 137 | 13 | 9.5 | 7 | 6 | 0 |
| | Total | 144 | 14 | 9.7 | 7 | 7 | 0 |
| Week 39 2022 | Sentinel GP ILI | 8 | 0 | 0.0 | 0 | 0 | 0 |
| | Non-sentinel | 146 | 7 | 4.8 | 2 | 5 | 0 |
| | Total | 154 | 7 | 4.5 | 2 | 5 | 0 |

Table 4: Number of non-sentinel respiratory specimens tested by the NVRL for respiratory viruses and positive results, for weeks 39 and 40 2022. *Source: NVRL*

| Virus | Week 40 2022 (N=137) | | Week 39 2022 (N=146) | |
|------------------------------------|----------------------|------------|----------------------|------------|
| | Total positive | % positive | Total positive | % positive |
| Influenza virus | 1 | 0.7 | 11 | 7.5 |
| Respiratory Syncytial Virus (RSV) | 13 | 9.5 | 7 | 4.8 |
| Rhino/enterovirus | 19 | 13.9 | 36 | 24.7 |
| Adenovirus | 5 | 3.6 | 2 | 1.4 |
| Bocavirus | 0 | 0.0 | 0 | 0.0 |
| Human metapneumovirus (hMPV) | 1 | 0.7 | 0 | 0.0 |
| Parainfluenza virus type 1 (PIV-1) | 4 | 2.9 | 3 | 2.1 |
| Parainfluenza virus type 2 (PIV-2) | 0 | 0.0 | 1 | 0.7 |
| Parainfluenza virus type 3 (PIV-3) | 0 | 0.0 | 1 | 0.7 |
| Parainfluenza virus type 4 (PIV-4) | 0 | 0.0 | 1 | 0.7 |

Table 5: Number of sentinel GP ILI specimens tested by the NVRL for respiratory viruses and positive results, for weeks 39 and 40 2022. *Source: NVRL*

| Virus | Week 40 2022 (N=7) | | Week 39 2022 (N=8) | |
|------------------------------------|--------------------|------------|--------------------|------------|
| | Total positive | % positive | Total positive | % positive |
| Influenza virus | 0 | 0.0 | 0 | 0.0 |
| Respiratory Syncytial Virus (RSV) | 1 | 14.3 | 0 | 0.0 |
| Rhino/enterovirus | 1 | 14.3 | 2 | 25.0 |
| Adenovirus | 0 | 0.0 | 0 | 0.0 |
| Bocavirus | 0 | 0.0 | 0 | 0.0 |
| Human metapneumovirus (hMPV) | 0 | 0.0 | 0 | 0.0 |
| Parainfluenza virus type 1 (PIV-1) | 0 | 0.0 | 0 | 0.0 |
| Parainfluenza virus type 2 (PIV-2) | 0 | 0.0 | 1 | 12.5 |
| Parainfluenza virus type 3 (PIV-3) | 0 | 0.0 | 0 | 0.0 |
| Parainfluenza virus type 4 (PIV-4) | 0 | 0.0 | 0 | 0.0 |
| SARS-CoV-2 | 0 | 0.0 | 2 | 25.0 |

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/influenza or cough are extracted for analysis. This information may act as an early indicator of circulation of influenza, SARS-CoV-2 or other respiratory viruses. Data are self-reported by callers and are not based on coded diagnoses.

- 5,535 (40.7% of total calls; N=13,613) self-reported cough calls were reported by a network of GP OOHs services during week 40 2022, which is above baseline levels (10.7%) and high in recent weeks (Figures 6).
- 155 (1.1% of total calls; N=13,613) self-reported 'flu' calls were reported by a network of GP OOHs services during week 40 2022. The baseline threshold level for self-reported 'flu' calls is 2.3%. (Figure 7).
- Five GP OOH services provided data for week 40 2022.

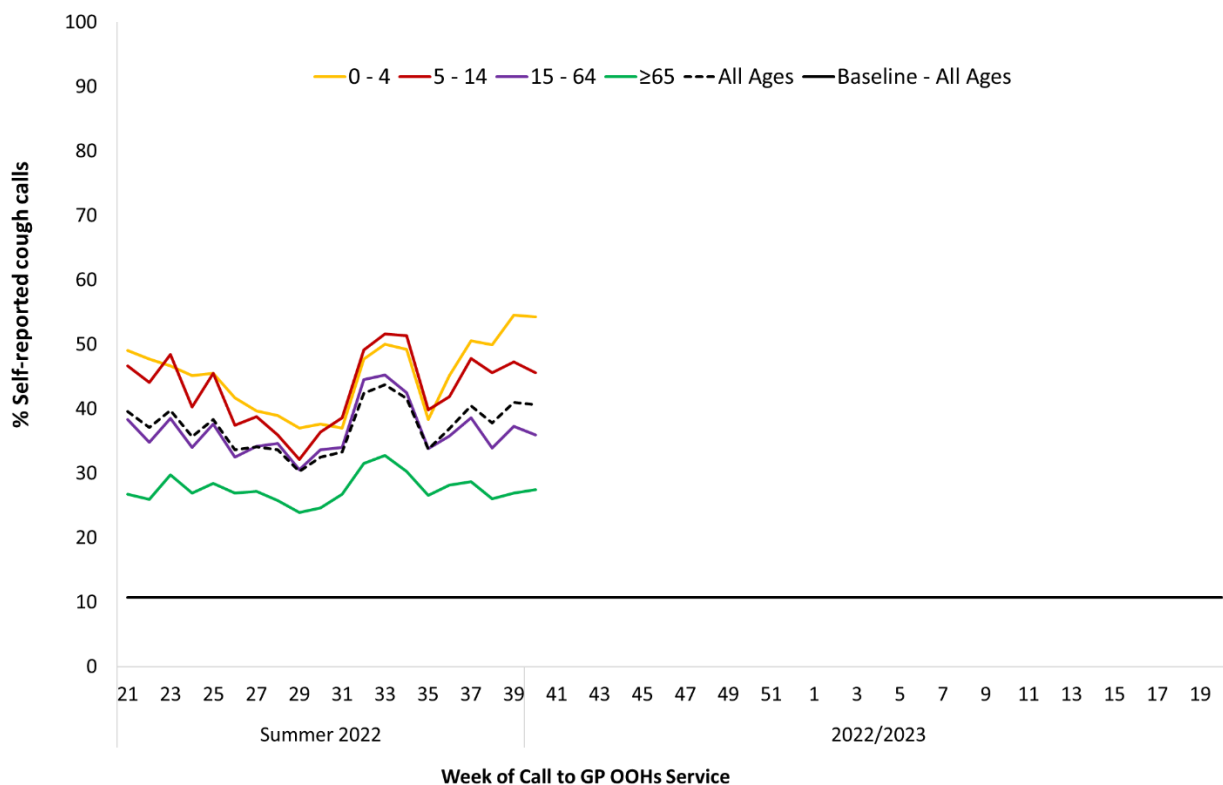


Figure 4: Percentage of self-reported COUGH calls for all ages and by age group as a proportion of total calls to GP Out-of-Hours services by week of call, summer 2022 and the 2022/2023 season. The % cough calls baseline for all ages calculated using the MEM method on historic data is shown. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

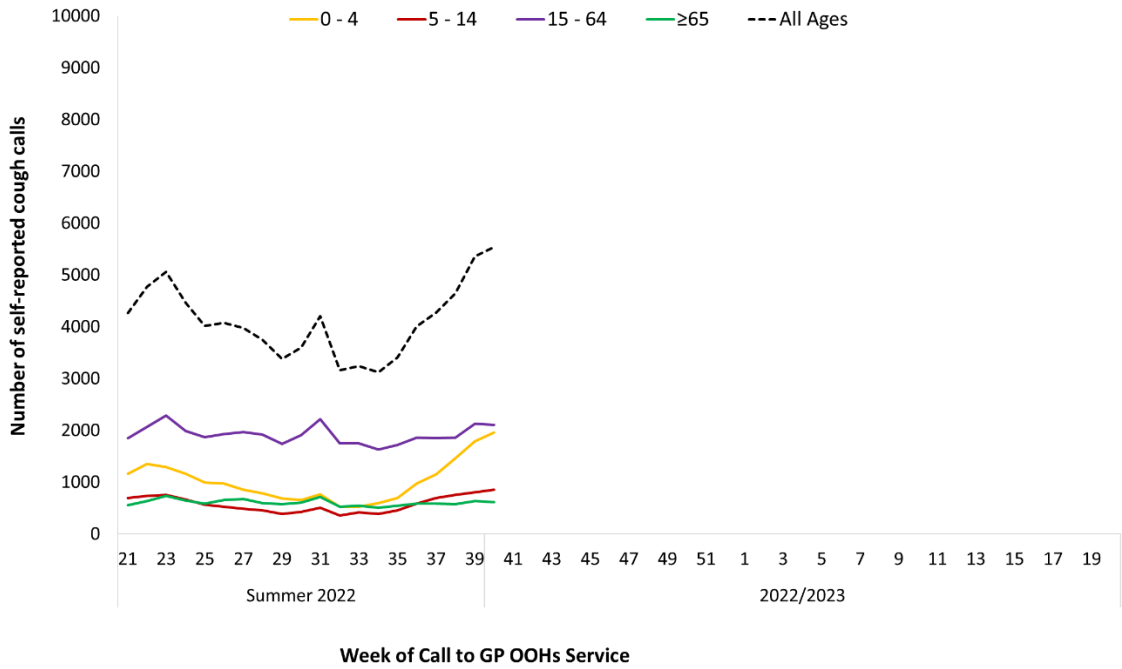


Figure 5: Number of self-reported COUGH calls for all ages and by age group to GP Out-of-Hours services by week of call, 2021-2022. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

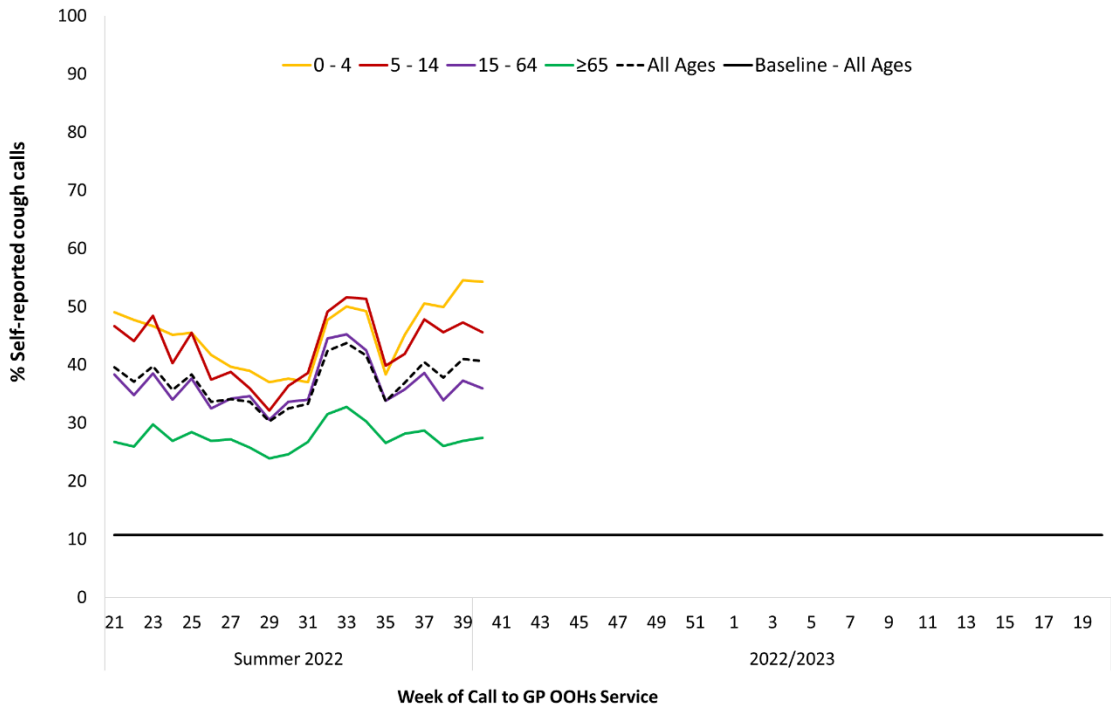


Figure 6: Percentage of self-reported FLU calls for all ages and by age group as a proportion of total calls to GP Out-of-Hours services by week of call, Summer 2021 and 2022/2023. The % flu calls baseline for all ages calculated using the MEM method on historic data is shown. *Source: GP Out-Of-Hours 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](#).

- 62 laboratory confirmed influenza cases were notified during week 40 2022 – 10 A(H3), 1 A(H1)pdm09, 3 influenza B, and 48 influenza A (not subtyped). This is an increase compared to 41 laboratory confirmed influenza notifications during week 39 2022 (Figure 8)
- Confirmed influenza cases were notified in the following HSE areas: HSE-East (n=35), HSE-Mid West (n=3), HSE-Northeast (n=4), HSE-Northwest (n=4), HSE-Southeast (n=3), HSE-South (n=9) and HSE-West (n=4)
- RSV notifications increased throughout September and October 2022.
- 171 RSV cases were notified during week 40 2022, an increase compared to 114 cases notified during week 39 2022. During week 40 2022, 67% of notified RSV cases were in the 0-4-year age group. Of the 171 RSV cases, 78 were reported as hospital inpatients (Figure 9 & 10).

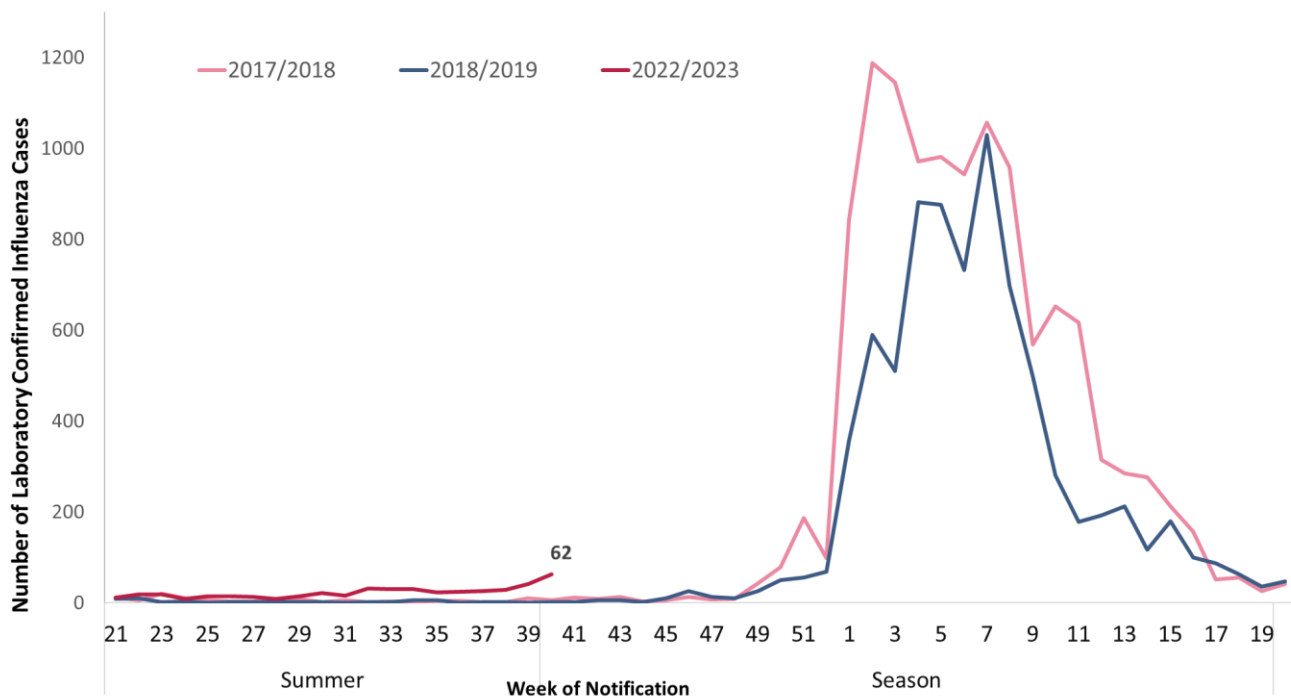


Figure 7: Laboratory confirmed influenza notifications to HSPC by week of notification for 2022 and for the 2017/2018 and 2018/2019 influenza seasons. *Source: Ireland's Computerised Infectious Disease Reporting System.*

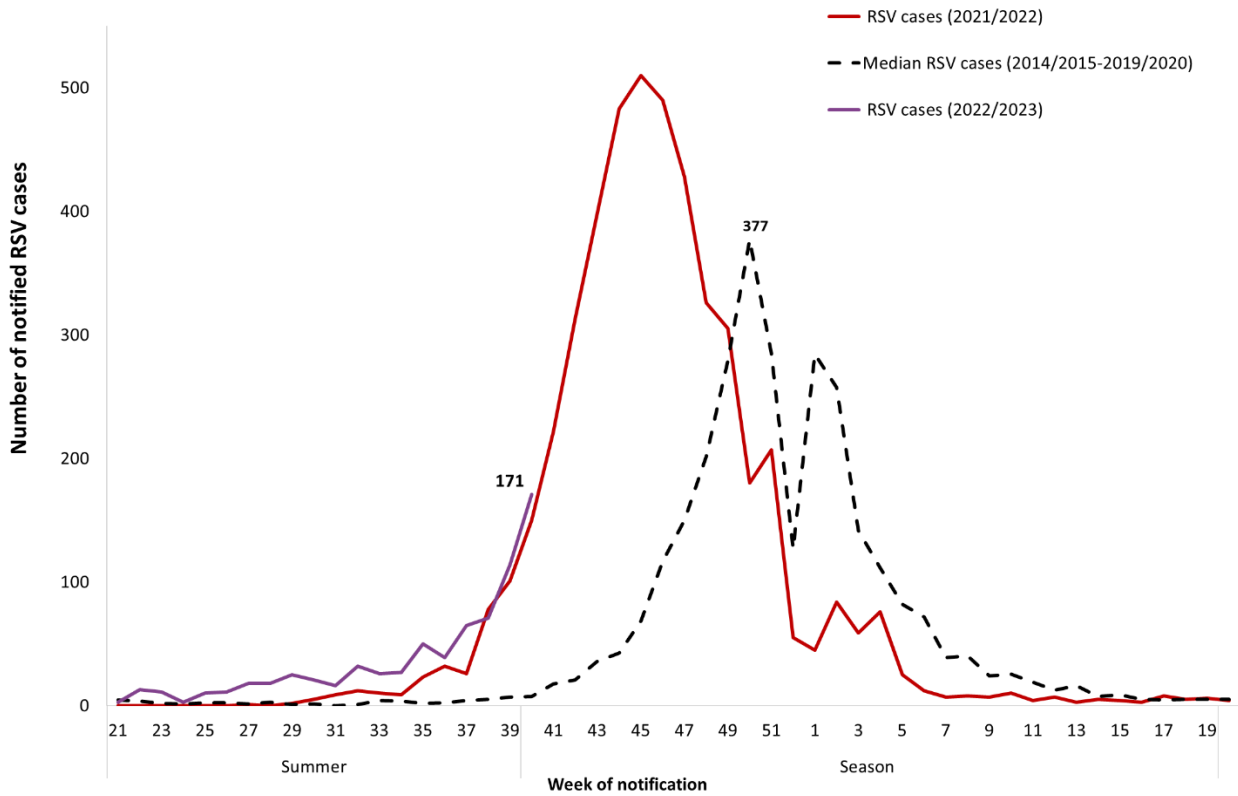


Figure 8: Number of laboratory confirmed RSV notifications to HPSC by week of notification and median number of RSV notifications by week (2014/2015-2019/2020). *Source: Ireland’s Computerised Infectious Disease Reporting System.*

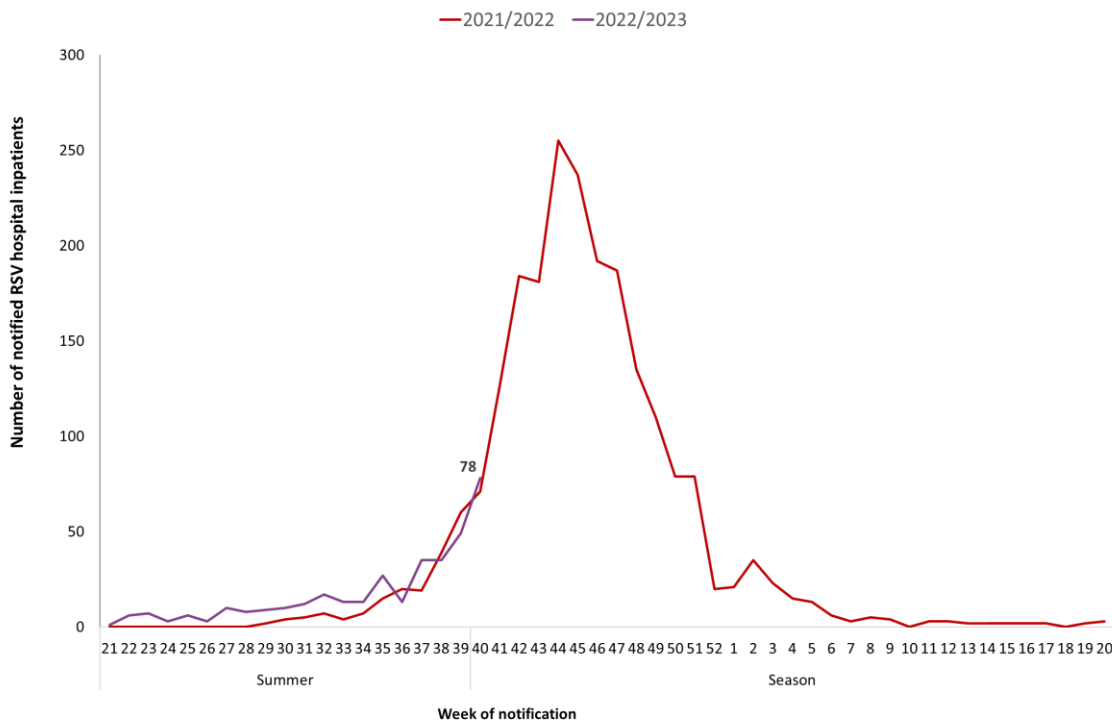


Figure 9: Number of notified RSV cases reported as hospital inpatients, by week of notification and season. *Source: Ireland’s Computerised Infectious Disease Reporting System.*

6. Influenza Hospitalisations

During week 40 2022, 17 laboratory confirmed influenza A cases were reported as hospital inpatients, - one AH3 and 16 influenza A (not subtyped) (Figure 11). This is an increase compared to 10 influenza A hospital inpatients reported during week 39 2022.

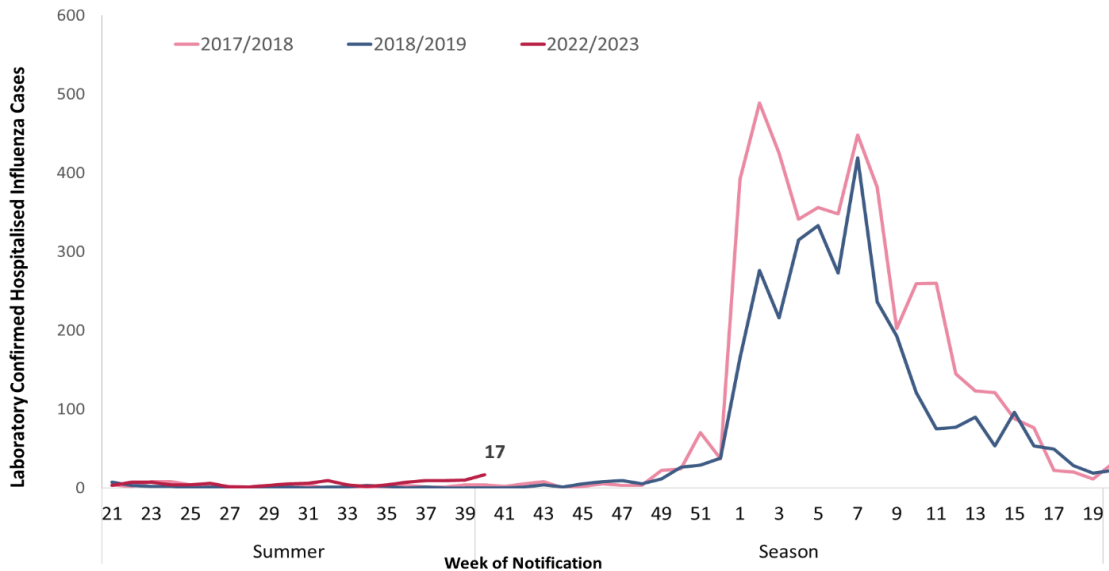


Figure 10: Number of notified laboratory confirmed influenza cases reported as hospital inpatients, for the 2017/2018, 2018/2019 and 2022/2023 season. *Source: Ireland's Computerised Infectious Disease Reporting System*

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 laboratory confirmed influenza cases were admitted to critical care and notified to HPSC during week 40 2022.

Table 6: Number (and age specific rate per 100,000 population) of laboratory confirmed notified influenza hospitalised and critical care cases, weeks 40 2022. *Source: Ireland's Computerised infectious Disease Reporting System.*

| Age (years) | Hospitalised | | Admitted to ICU | |
|--------------|--------------|------------------------------------|-----------------|------------------------------------|
| | Number | Age specific rate per 100,000 pop. | Number | Age specific rate per 100,000 pop. |
| <1 | 0 | 0.0 | 0 | 0.0 |
| 1-4 | 0 | 0.0 | 0 | 0.0 |
| 5-14 | 5 | 0.7 | 0 | 0.0 |
| 15-24 | 1 | 0.2 | 0 | 0.0 |
| 25-34 | 0 | 0.0 | 0 | 0.0 |
| 35-44 | 0 | 0.0 | 0 | 0.0 |
| 45-54 | 1 | 0.2 | 0 | 0.0 |
| 55-64 | 2 | 0.4 | 0 | 0.0 |
| ≥65 | 8 | 1.3 | 0 | 0.0 |
| Unknown | | - | | - |
| Total | 17 | 0.4 | 0 | 0.0 |

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 deaths occurring in notified influenza cases occurring during week 40 2022
- Inclusion of excess all-cause mortality data in this report will resume in the week 41 2022 report.

9. Outbreak Surveillance

COVID-19 outbreaks are not included in this report; surveillance data on COVID-19 outbreaks are detailed on the HPSC website. <https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/casesinireland/>

- One influenza A outbreak in a nursing home in HSE-South was notified to HPSC during week 40 2022.
- One RSV outbreak in a private house and one ARI (SARS-CoV-2 negative) outbreak in community hospital/long-stay unit was notified to HPSC during week 40 2022.

10. International Summary

In Europe, overall influenza activity remained at inter-seasonal levels, with influenza A(H3N2) detections increasing in a few countries. Globally, influenza activity remained low, with influenza A(H3) viruses predominating. WHO are advising countries to remain vigilant for the likelihood of influenza circulating and to be prepared for co-circulation of SARS-CoV-2 and influenza. See [ECDC](#) and [WHO](#) influenza surveillance reports for further information.

- Further information on influenza is available on the following websites:
 - Europe – ECDC <http://ecdc.europa.eu/>
 - Public Health England <https://www.gov.uk/government/collections/weekly-national-flu-reports>
 - 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>
- Influenza case definition in Ireland <https://www.hpsc.ie/a-z/respiratory/influenza/casedefinitions/>
- COVID-19 case definition in Ireland <https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/casedefinitions/>
- Avian influenza overview May – August 2020 <https://www.ecdc.europa.eu/en/publications-data/avian-influenza-overview-may-august-2020>
- Avian influenza: EU on alert for new outbreaks <https://www.ecdc.europa.eu/en/news-events/avian-influenza-eu-alert-new-outbreaks>
- Information on COVID-19 in Ireland is available on the HPSC website <https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/>
- The WHO categorised COVID-19 as a pandemic on 11 March 2020. For more information about the situation in the WHO European Region visit:
 - WHO website: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
 - ECDC website: <https://www.ecdc.europa.eu/en/novel-coronavirus-china>

11. WHO recommendations on the composition of influenza virus vaccines

The WHO vaccine strain selection committee recommend that quadrivalent egg-based vaccines for use in the 2022/2023 northern hemisphere influenza season contain the following:

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus;
- an A/Darwin/9/2021 (H3N2)-like virus;
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus

<https://www.who.int/teams/global-influenza-programme/vaccines/who-recommendations>

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

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