

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 45 2021 (8th – 14th November 2021)



 **Intensive Care Society of Ireland**

Summary

One laboratory confirmed influenza case was notified to HPSC during week 45 2021. In Europe, sporadic influenza detections at a low level have been reported in recent weeks, predominately influenza A(H3). Respiratory syncytial virus (RSV) activity has continued to increase and is at very high levels in Ireland. Whilst the majority of RSV cases are in the 0-4-year age group, detections in older age groups are increasing in recent weeks. COVID-19 epidemiology reports are published on www.hpsc.ie.

- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate was 16.0/100,000 population during week 45 2021, a slight increase compared to 15.1/100,000 during week 44 2021.
- Sentinel GP ILI consultation rates were below the Irish baseline threshold (18.1/100,000 population).
- Sentinel GP ILI rates were above age specific baseline levels in those aged ≥ 65 years (26.6/100,000) and below baseline in those aged 0-14 (18.5/100,000) and 15-64 (13.1/100,000) years.
- **National Virus Reference Laboratory (NVRL):**
- Of 59 sentinel GP ILI and 217 non-sentinel respiratory specimens tested and reported by the NVRL during week 45 2021, all were negative for influenza.
- For weeks 40-45 2021, two (0.1%) non-sentinel respiratory specimen were positive; one influenza A(H3) and one influenza B.
- RSV positivity (non-sentinel sources) remains high, at 22.6% (49/217) during week 45 2021, compared to a median positivity of 15.0% for the same week in the 2014-2019 time period.
- Rhinovirus/enterovirus positive detections (non-sentinel sources) continue to be reported, with positivity levels at 11.5% (25/217) during week 45 2021. Other respiratory viruses (ORVs) are being detected at lower levels, compared to RSV and rhinovirus/enterovirus. Coinfections continue to be detected.
- **Influenza notifications:** One laboratory confirmed influenza case - influenza A(H3) was notified to HPSC during week 45 2021; bringing the season total to three laboratory confirmed influenza cases notified during weeks 40-45 2021. Influenza RNA can be detected in PCR tests in children within 14 days of receipt of Live Attenuated Influenza Vaccine (LAIV). These LAIV vaccine virus detections are not notified as confirmed cases.
- **RSV notifications:** 510 RSV cases were notified during week 45 2021, an increase compared to 483 cases during week 44 2021. Over 75% of RSV cases notified during week 45 2021 were in the 0-4-year age group (compared to 95% in early October), with detections in other age groups increasing in recent weeks, notably in those aged ≥ 65 years. During week 45 2021, 239 notified RSV cases were reported as hospital inpatients, compared to 258 during week 44 2021.
- **Hospitalisations and Critical care admissions:** No confirmed influenza hospitalised or critical care cases were notified to HPSC during weeks 40-45 2021.
- **Mortality:** One death occurred in a notified influenza case during week 45 2021. No excess all-cause mortality was reported during week 44 2021 (data are reported with one-week lag time).
- **Outbreaks:** One RSV acute hospital outbreak was notified to HPSC during week 45 2021.
- **International:** During week 44 2021, influenza activity was low throughout the European Region, with sporadic influenza detections reported, mostly of influenza A(H3). <https://flunewseurope.org/>

1. GP sentinel surveillance system - Clinical Data

- During week 45 2021, 45 influenza-like illness (ILI) cases were reported from the Irish sentinel GP network, corresponding to an ILI consultation rate of 16.0 per 100,000 population, a slight increase compared to the updated rate of 15.1 per 100,000 reported during week 44 2021 (Figure 1). Sentinel GP respiratory consultations are currently via phone consultations.
- With only a small number of sporadic laboratory confirmed influenza cases detected/notified in Ireland during the 2021/2022 season, sentinel GP ILI consultations are likely to be currently reflecting circulation of SARS-CoV-2, RSV and other respiratory viruses (ORVs) in the community, rather than influenza viruses.
- The sentinel GP ILI consultation rate during week 45 2021 was below the Irish sentinel GP ILI baseline threshold (18.1/100,000 population).
- Sentinel GP ILI age specific rates were above age specific baseline levels in those aged ≥ 65 years (26.6/100,000) and were below baseline in those aged 0-14 (18.5/100,000) and the 15-64 13.1/100,000) year age group. (Figure 2, Table 1).
- HPSC has reviewed the Irish sentinel baseline ILI threshold for the 2021/2022 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.

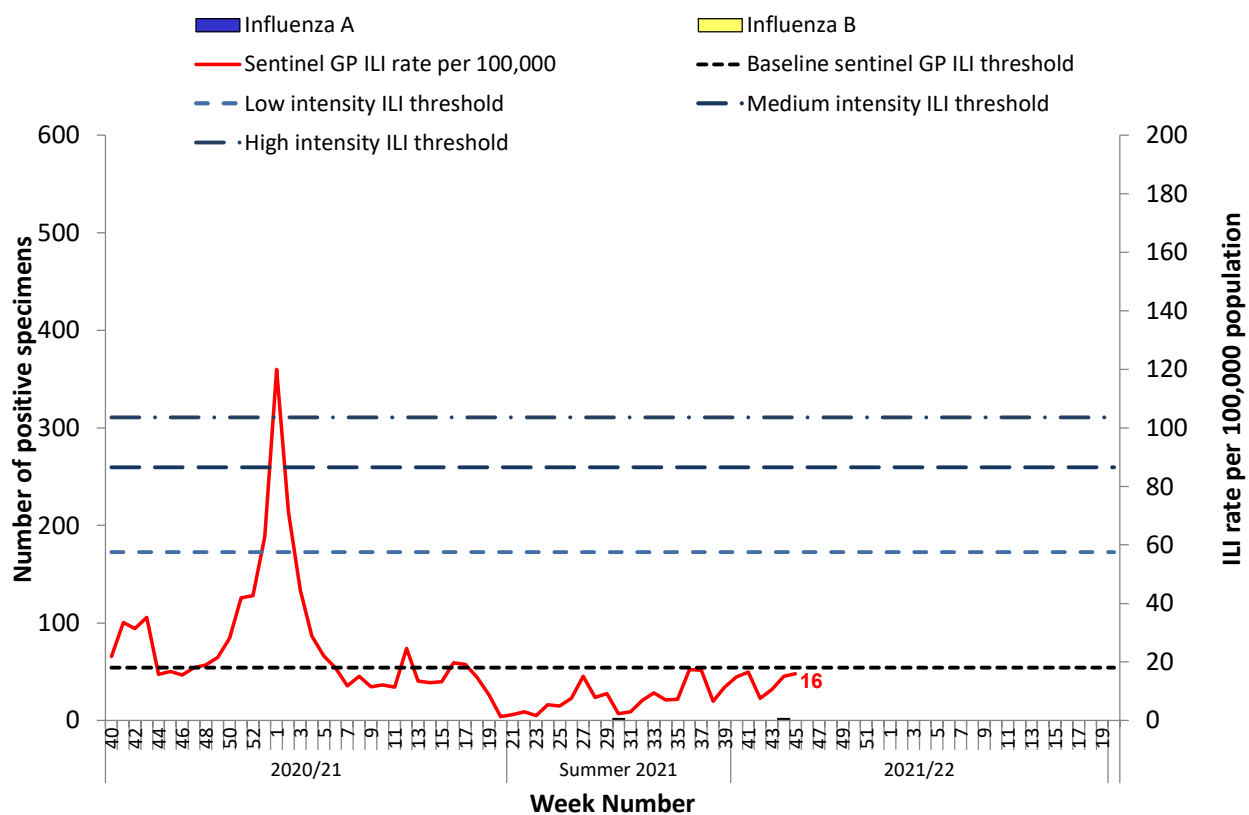


Figure 1: Sentinel GP Influenza-like illness (ILI) consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season. The current week sentinel GP ILI consultation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

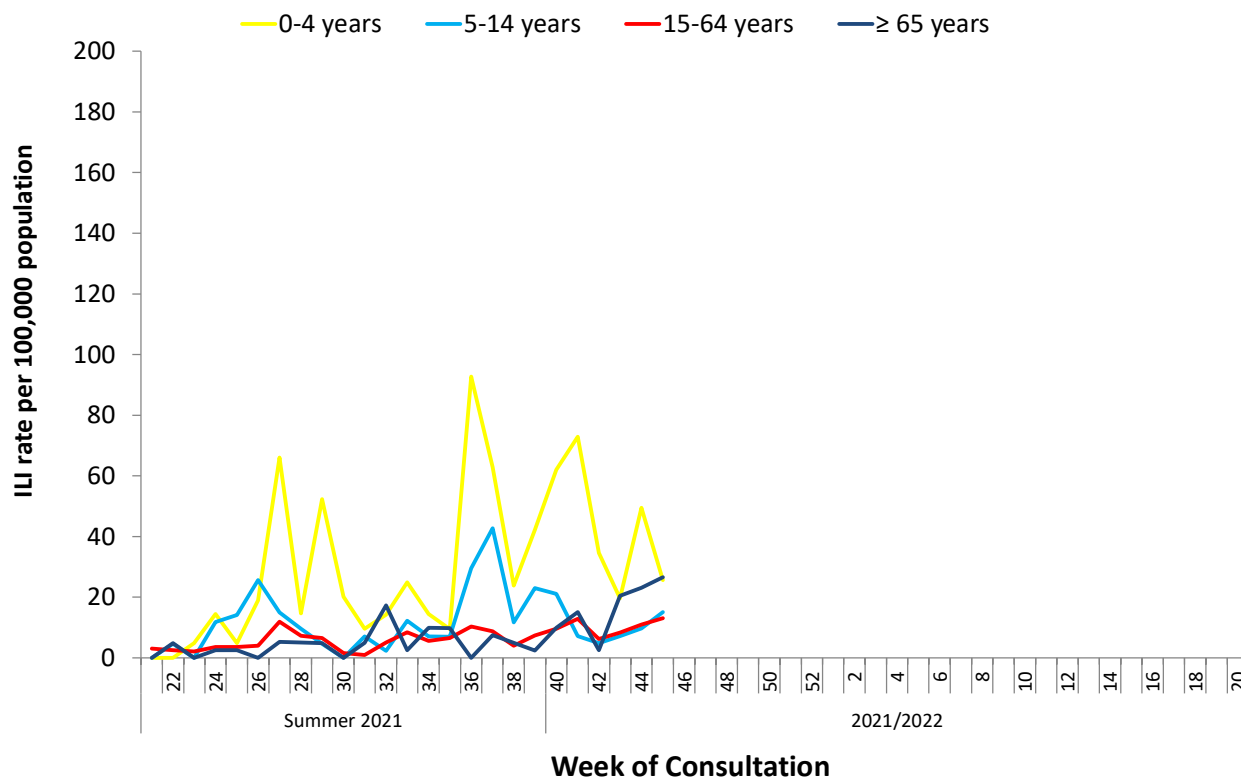


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2021 and the 2021/2022 influenza season to date. *Source: ICGP.*

Table 1: Age specific sentinel GP ILI consultation rate per 100,000 population by week (weeks 21-45 2021), 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	41	42	43	44	45
All Ages	2.0	3.0	1.7	5.4	5.0	7.6	15.2	7.9	9.3	2.4	3.0	6.9	9.4	7.0	7.3	17.4	17.2	6.6	11.4	14.9	16.6	7.6	10.6	15.1	16.0
<15 yrs	0.0	3.1	1.6	12.7	11.1	23.5	31.8	11.3	20.3	6.6	7.9	6.3	16.4	9.5	7.8	50.4	49.3	15.7	29.3	34.6	28.8	14.6	11.3	22.8	18.5
15-64 yrs	3.0	2.5	2.1	3.6	3.6	4.0	11.9	7.3	6.6	1.6	1.0	5.1	8.5	5.6	6.6	10.4	8.7	4.1	7.5	9.6	12.9	6.3	8.4	11.0	13.1
≥65 yrs	0.0	4.9	0.0	2.5	2.5	0.0	5.3	5.1	4.9	0.0	5.0	17.3	2.6	10.0	9.9	0.0	7.5	5.0	2.4	9.9	15.2	2.6	20.4	23.1	26.6
Reporting practices (N=61)	56	56	55	55	55	56	55	55	56	51	55	56	52	56	55	58	56	56	57	57	56	54	55	54	51

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2021/2022 influenza season refer 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. Non-sentinel respiratory specimens relate to specimens referred to the NVRL (other than sentinel GP specimens) and may include more than one specimen from each case.

- Of 59 sentinel GP ILI and 217 non-sentinel respiratory specimens tested and reported by the NVRL during week 45 2021, all were negative for influenza (Table 2).
- During the 2021/2022 season (weeks 40-45 2021), 252 sentinel GP ILI and 1521 non-sentinel respiratory specimens were tested and reported by the NVRL and only two (0.1%) were positive for influenza: one influenza A(H3) and one influenza B.
- RSV positivity (non-sentinel sources) remains high, with positivity levels at 22.6% (49/217) during week 45 2021, compared to a median positivity of 15% for the same week in the 2014-2019 time period. There is an indication of declining RSV positivity levels during weeks 44 and 45 2021, data will be closely observed over the coming weeks (Table 3; Figure 3).
- Rhinovirus/enterovirus positive detections (non-sentinel sources) continue to be reported, with positivity levels at 11.5% (25/216) during week 45 2021 (Figure 4). Other respiratory viruses (ORVs) are being detected at lower levels, compared to RSV and rhinovirus/enterovirus positivity levels (Table 4).
- Coinfections of respiratory viruses continue to be detected during weeks 40-45 2021.
- During the COVID-19 pandemic, there may be a lag time receiving data from NVRL and laboratories under the clinical governance of the NVRL. The data reported on sentinel GP ILI and non-sentinel respiratory specimens tested by the NVRL for the current week, may be under reported and are updated in subsequent weeks. Recent recoding of RSV positive detections has resulted in an increased number of detections reported for the 2021/2022 season.

Table 2: Number of sentinel GP ILI and non-sentinel respiratory specimens tested by the NVRL and positive influenza results, for the current week and 2021/2022 season (weeks 40-45 2021). *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
45 2021	Sentinel GP ILI referral	59	0	0.0	0	0	0	0	0	0	0	0
	Non-sentinel	217	0	0.0	0	0	0	0	0	0	0	0
	Total	276	0	0.0	0	0	0	0	0	0	0	0
2021/2022	Sentinel GP ILI referral	252	0	0.0	0	0	0	0	0	0	0	0
	Non-sentinel	1521	2	0.1	0	1	0	1	1	0	0	1
	Total	1773	2	0.1	0	1	0	1	1	0	0	1

Table 3: Number of sentinel GP ILI and non-sentinel respiratory specimens tested by the NVRL and positive RSV results, for the current week and 2021/2022 season (weeks 40-45 2021). *Source: NVRL*

Surveillance period	Specimen type	Total tested	Number RSV positive	% RSV positive	RSV A	RSV B	RSV (unspecified)
Week 45 2021	Sentinel GP ILI	59	11	18.6	8	3	0
	Non-sentinel	217	49	22.6	25	24	0
	Total	276	60	21.7	33	27	0
2021/2022	Sentinel GP ILI	252	28	11.1	16	12	0
	Non-sentinel	1521	466	30.6	275	191	0
	Total	1773	494	27.9	291	203	0

Table 4: Number of non-sentinel respiratory specimens tested by the NVRL for other respiratory viruses (ORVs) and positive results, for the current week and the 2021/2022 season (weeks 40-45 2021). *Source: NVRL*

Virus	Week 45 2021 (N=217)		2021/2022 (N=1521)	
	Total positive	% positive	Total positive	% positive
Influenza virus	0	0.0	2	0.1
Respiratory Syncytial Virus (RSV)	49	22.6	466	30.6
Rhino/enterovirus	25	11.5	299	19.7
Adenovirus	3	1.4	10	0.7
Bocavirus	3	1.4	50	3.3
Human metapneumovirus (hMPV)	5	2.3	21	1.4
Parainfluenza virus type 1 (PIV-1)	0	0.0	0	0.0
Parainfluenza virus type 2 (PIV-2)	0	0.0	1	0.1
Parainfluenza virus type 3 (PIV-3)	6	2.8	53	3.5
Parainfluenza virus type 4 (PIV-4)	1	0.5	23	1.5

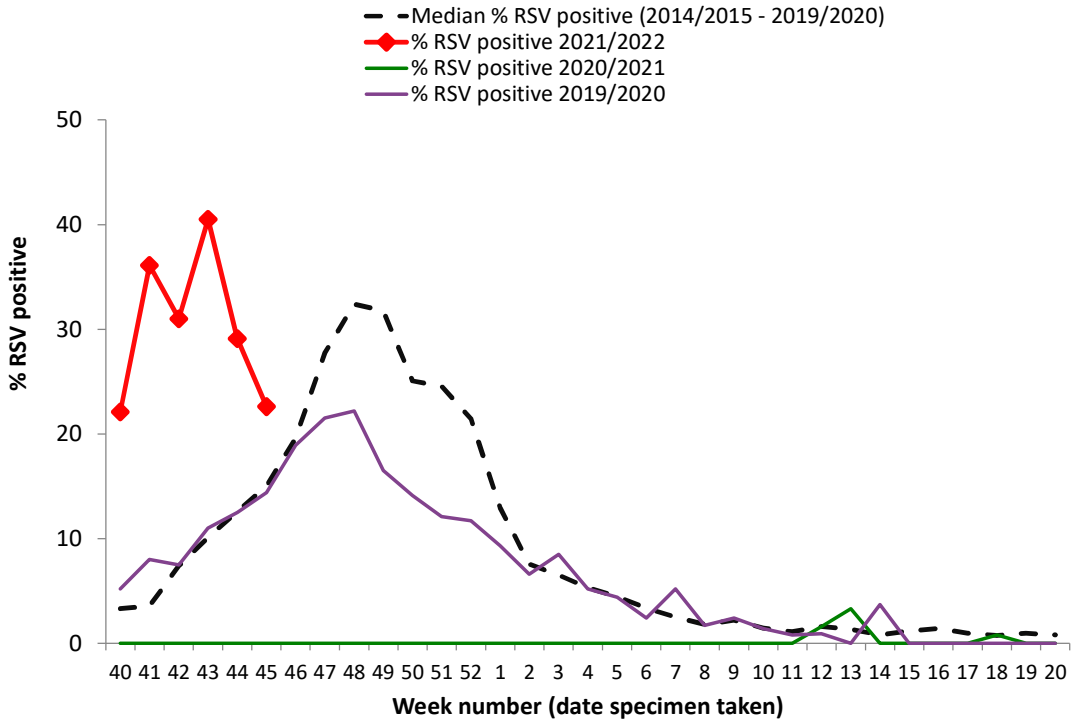


Figure 3: NVRL non-sentinel RSV positivity by week specimen was taken for 2021/2022, 2020/2021 and 2019/2020 seasons compared to median % RSV positivity (2014/2015-2019/2020). *Source: NVRL.*

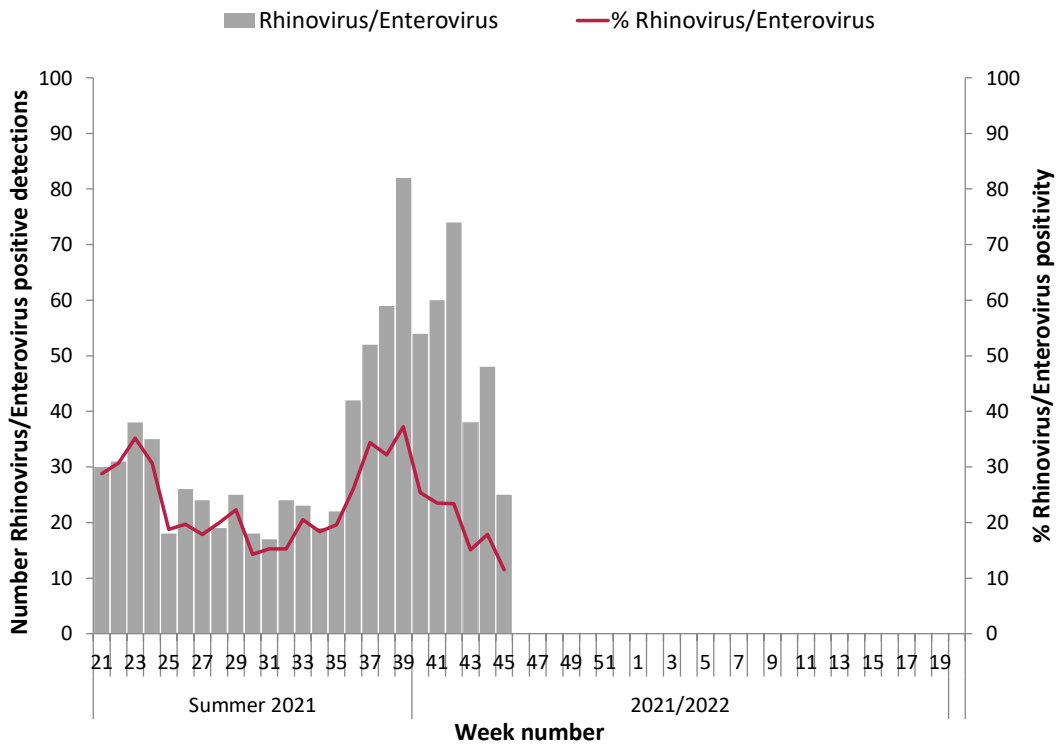


Figure 4: Number (and percentage) of non-sentinel rhinovirus/enterovirus positive detections by week specimen was taken for summer 2021 and 2021/2022 season. *Source: NVRL.*

3. Regional Influenza Activity by HSE-Area

Regional influenza activity levels will be based on laboratory confirmed influenza cases and/or outbreaks.

As no confirmed influenza cases (i.e. >1 case) or laboratory confirmed influenza outbreaks were notified in Ireland during week 45 2021, **no confirmed influenza activity was reported for any HSE-Area.**

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 (GP OOHs) 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.

- 2852 (20.8% of total calls; N=13723) self-reported cough calls were reported by a network of GP OOHs services during week 45 2021, remaining above baseline levels for 10 consecutive weeks (Figures 5 & 6). The baseline threshold level for self-reported cough calls is 10.7%.
- Inclusion of data on self-reported 'flu' calls in this report will resume, once influenza viruses are circulating in the community.

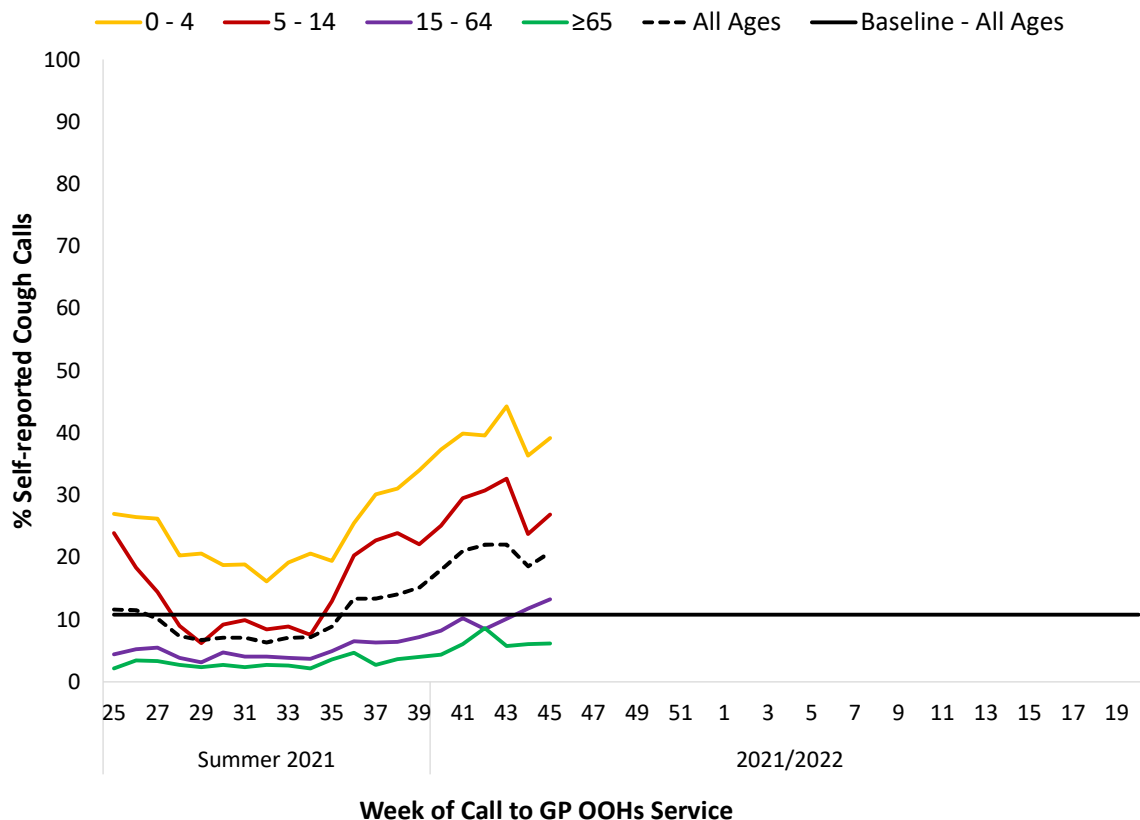


Figure 5: Percentage of self-reported COUGH calls for all ages and by age group as a proportion of total calls to GP Out-of-Hours services by week of call, 2021-2022. The % cough calls baseline for all ages calculated using the MEM method on historic data is shown. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

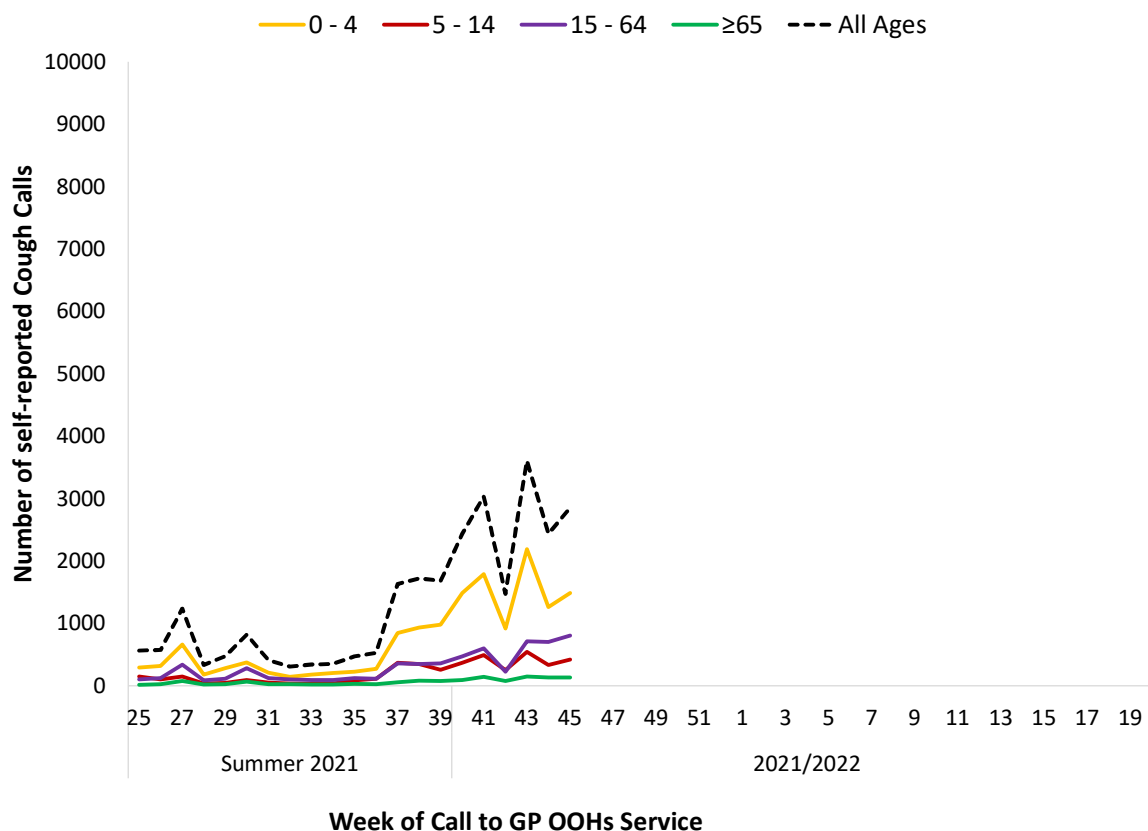


Figure 6: Number of self-reported COUGH calls for all ages and by age group to GP Out-of-Hours services by week of call, 2021-2022. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

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](#).

- One laboratory confirmed influenza case (an influenza A(H3)) was notified during week 45 2021.
- Only three confirmed influenza (two influenza A(H3) and one influenza B) cases were notified during the 2021/2022 season (weeks 40-45 2021).
- A number of possible influenza cases in children recently vaccinated with LAIV were notified and are undergoing further investigation. Influenza RNA can be detected in PCR tests in children within 14 days of receipt of Live Attenuated Influenza Vaccine (LAIV). These LAIV vaccine virus detections are not notified as confirmed influenza cases.
- RSV notifications are at very high levels and continuing to increase.
 - During week 45 2021, 510 RSV cases were notified, an increase compared to 483 cases during week 44 2021 (Figure 7).
 - Over 75% of RSV cases notified during week 45 2021 were in the 0-4-year age group, compared to 95% during week 40 2021, with detections in other age groups increasing in recent weeks, notably in those aged 65 years and older.
 - During week 45 2021, 239 notified RSV cases were reported as hospital inpatients, compared to 258 during week 44 2021 (Figure 8). It should be noted that patient type is not always reported/updated for RSV notified cases; a patient may be admitted to hospital and patient type not updated on CIDR.

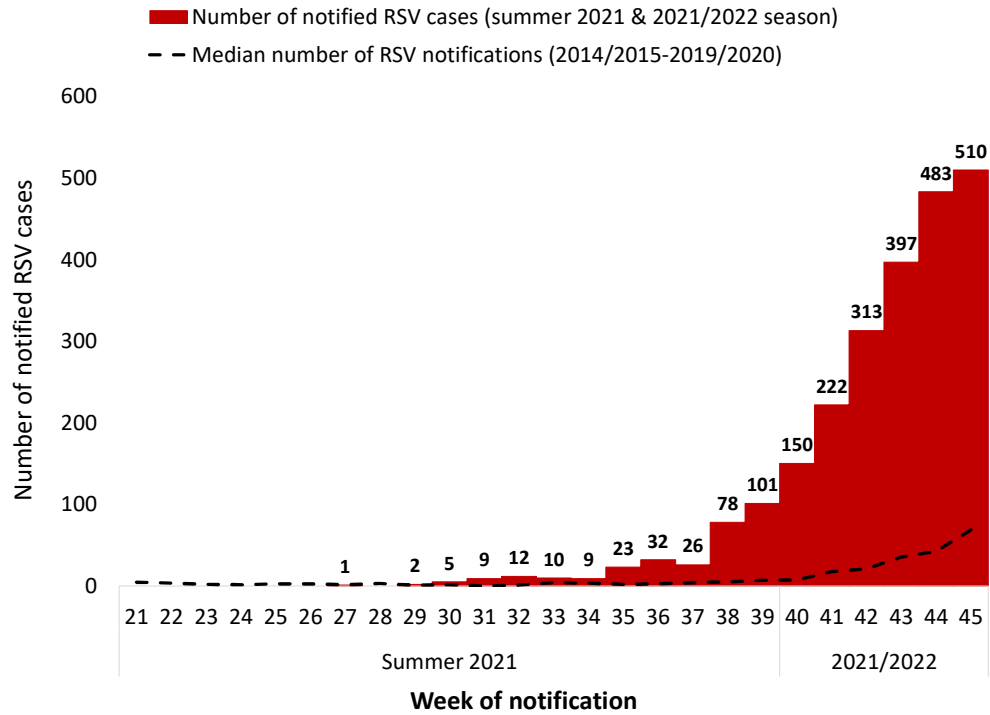


Figure 7: Number of RSV cases notified by week of notification, summer 2021 and 2021/2022, and median number of RSV notifications (2014/2015-2019/2020). *Source: Ireland's Computerised Infectious Disease Reporting System.*

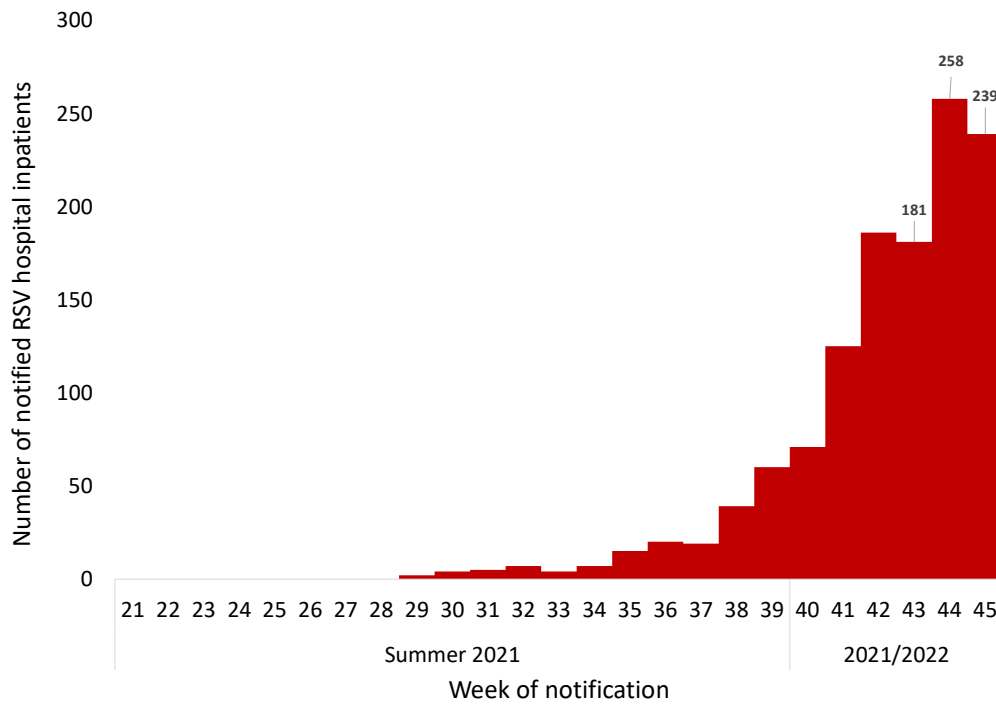


Figure 8: Number of notified RSV cases reported as hospital inpatients, by week of notification, summer 2021 and 2021/2022. *Source: Ireland's Computerised Infectious Disease Reporting System.*

6. Influenza Hospitalisations

No confirmed influenza hospitalised cases were notified to HPSC during weeks 40-45 2021.

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 weeks 40-45 2021.

8. Mortality Surveillance

Influenza 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/>

- One death in a notified influenza case was reported to HPSC during week 45 2021.
- No excess all-cause deaths were observed during week 44 2021, after correcting data for reporting delays with the standardised EuroMOMO algorithm. Due to delays in death registrations in Ireland, excess mortality data included in this report will be reported with one-week lag time.

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/surveillance/>

- One RSV acute hospital outbreak in HSE-North-East was notified to HPSC during week 45 2021.
- No laboratory confirmed influenza outbreaks were notified to HPSC during weeks 40-45 2021.

10. International Summary

Globally, influenza detections have increased in recent weeks, albeit at levels lower than expected for this time of the year. In the European region, influenza activity is at low levels, with sporadic influenza detections reported, mostly influenza A(H3). Circulation of influenza viruses across Europe is anticipated in the coming weeks/months. 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 2021/2022 northern hemisphere influenza season contain the following:

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus;
- an A/Cambodia/e0826360/2020 (H3N2)-like virus;
- a B/Washington/02/2019 (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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