Influenza Surveillance in Ireland – Weekly Report

Influenza Week 19 2022 (9th May – 15th May 2022)

Summary

Most indicators of influenza activity continue to decline and are at low levels in Ireland during week 19 2022. Influenza A(H3) viruses are the predominant influenza viruses circulating in Ireland during the 2021/2022 season.

- Influenza-like illness (ILI): The sentinel GP influenza-like illness (ILI) consultation rate remains below baseline levels at 8.5/100,000 population during week 19 2022, compared to an updated rate of 4.2/100,000 during week 18 2022. The sentinel GP ILI consultation rate has been below the Irish baseline threshold level (18.1/100,000 population) for six consecutive weeks. Sentinel GP ILI consultations are currently reflecting the co-circulation of influenza, SARS-CoV-2 and other respiratory viruses.
- Sentinel GP ILI consultation rates were above age specific thresholds for those aged ≥65 years and below age specific thresholds for those aged <15 years and 15-64 years during week 19 2022.
- GP Out of Hours: The proportion of self-reported 'flu' calls to GP Out-of-Hours services remained below baseline levels, at 0.4% (42/10,417) during week 19 2022 and remained stable compared to 0.3% (43/12,435) during week 18 2022. The proportion of cough calls increased to 41.1% (4275/10,417) during week 19 2022, compared to 38.5% (4783/12,435) during week 18 2022.
- National Virus Reference Laboratory (NVRL): The influenza positivity rate reported by the NVRL for sentinel GP ILI and non-sentinel respiratory specimens tested was 1.5% (2/134) during week 19 2022 and 1.4% (2/144) during week 18 2022, a lag time with testing and reporting is noted. Of the four influenza positive detections reported from the NVRL during weeks 18 and 19 2022, three were A(H3) and one was A(H1)pdm09. For the 2021/2022 season (weeks 40 2021–19 2022), of 1,700 sentinel GP ILI specimens and 6,118 non-sentinel respiratory specimens tested, 362 (4.6%) were positive for influenza: 350 A(H3), 5 A(H1)pdm09, 5 A (not subtyped) and 2 influenza B.
- One RSV positive sample was detected from the NVRL in weeks 18 and 19 2022. Rhinovirus/enterovirus, human metapneumovirus and other respiratory viruses continue to be detected.
- Influenza and RSV notifications: 18 laboratory confirmed influenza cases - 1 A(H3), 1 A(H1)pdm09 and 16 A (not subtyped) were notified during week 19 2022. During weeks 40 2021 - 19 2022, 2,165 laboratory confirmed influenza cases were notified: 2,155 influenza A (401 A(H3), 8 A(H1)pdm09 and 1,746 A not subtyped), 9 influenza B and 1 with influenza type not reported. Four RSV cases were notified during week 18 2022.
- Hospitalisations: Three laboratory confirmed influenza A (not subtyped) hospitalised cases - were notified during week 19 2022. During weeks 40 2021 – 19 2022, 514 laboratory confirmed influenza hospitalised cases were notified: 125 A(H3), one A(H1)pdm09, 386 influenza A (not subtyped) and two influenza B cases.
- Critical care admissions: No laboratory confirmed influenza cases were admitted to critical care units and reported to HPSC during week 19 2022. For the 2021/2022 season, 15 laboratory confirmed influenza A cases were admitted to critical care units: 8 A (H3) and 7 A (not subtyped).
- Mortality: No deaths in notified influenza cases were reported to HPSC during week 19 2022. No excess all-cause mortality was reported during week 18 2022; data reported with one-week time lag.
- Outbreaks: No influenza, RSV or acute respiratory infection (ARI) (SARS-CoV-2 negative) outbreaks were notified to HPSC during week 19 2022.
- International: In Europe, during week 18 2022 (week ending 08/05/2022) overall influenza activity appeared to decline, with influenza A(H3N2) predominant. The percentage of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms that tested positive for an influenza virus decreased to 14%, from 17% in the previous week.

1. GP sentinel surveillance system - Clinical Data

- During week 19 2022, 26 influenza-like illness (ILI) GP phone consultations were reported from the Irish sentinel GP network, corresponding to an ILI consultation rate of 8.5/100,000 population, an increase compared to the updated rate of 4.2/100,000 during week 18 2022 (Figure 1). The sentinel GP ILI consultation rate has been below the Irish sentinel GP ILI baseline threshold (18.1/100,000 population) for six consecutive weeks.
- Sentinel GP age specific ILI consultation rates were above the age specific baseline levels for those aged ≥65 years (31.8/100,000) in week 19 2022, an increase from 4.5/100,000 in week 18 2022. The sentinel GP age specific ILI consultation rates remained below age specific baseline levels for those aged <15 years and those aged 15-64 years during week 19 2022. Figure 2 & Table 1.
- The Irish sentinel baseline ILI threshold for the 2021/2022 influenza season is 18.1/100,000 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), medium (57.5/100,000) and high (86.5/100,000) intensity ILI thresholds are shown in Figure 1. Age specific MEM threshold levels are shown in Table 1.

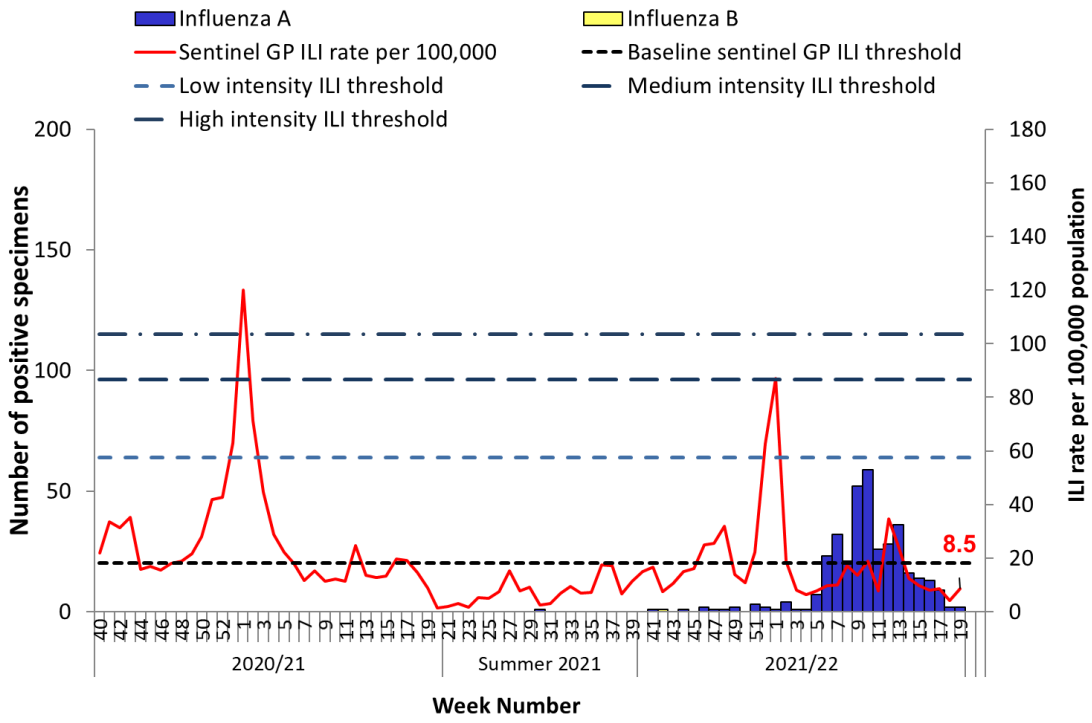

Figure 1: Sentinel GP Influenza-like illness (ILI) consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season. The current week sentinel GP ILI consultation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

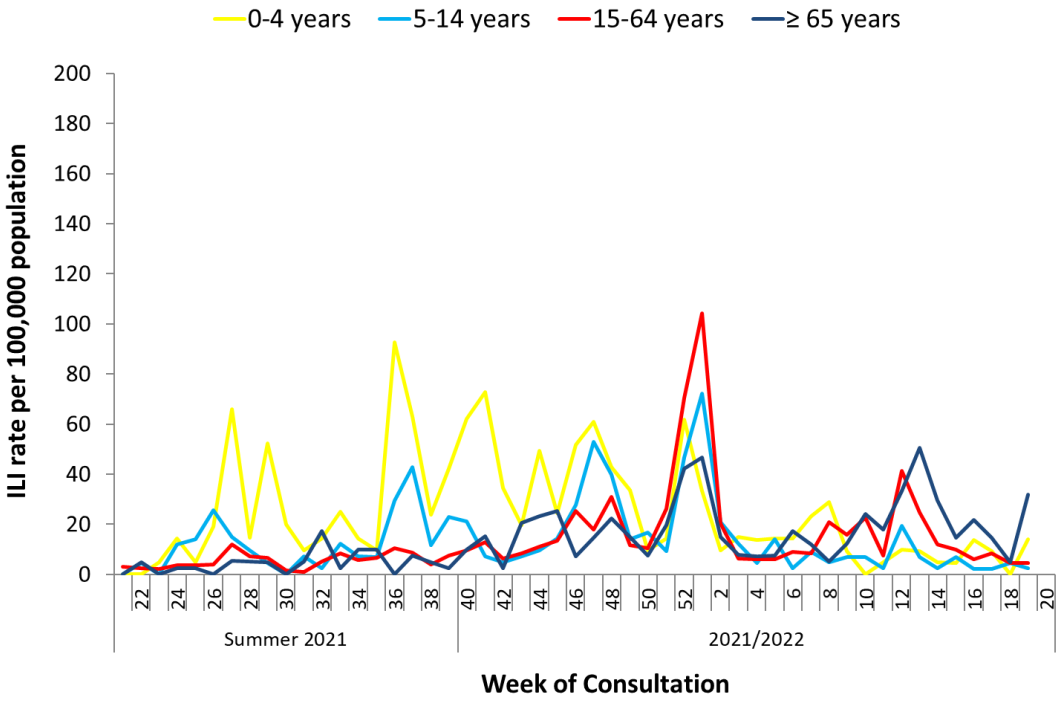

Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2021 and the 2021/2022 influenza season to date. *Source: ICGP.*

Table 1: Age specific sentinel GP ILI consultation rate per 100,000 population by week for the 2021/2022 season, 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)	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
All Ages	14.9	16.6	7.6	10.6	15.1	16.0	25.1	25.5	31.9	14.0	10.8	22.1	62.6	87.1	18.8	8.0	6.4	7.9	9.6	10.0	17.1	13.7	19.0	7.9	34.8	24.5	12.5	9.7	8.0	8.5	4.2	8.5
<15 yrs	34.6	28.8	14.6	11.3	22.8	17.7	35.5	55.6	40.8	20.5	14.4	10.9	51.7	59.3	17.2	13.2	7.6	14.1	6.3	13.7	12.7	7.7	4.6	3.3	16.2	7.6	3.1	6.1	6.1	4.6	3.1	6.2
15-64 yrs	9.6	12.9	6.3	8.4	11.0	13.5	25.4	18.0	30.9	11.7	10.3	26.2	70.4	104.3	20.1	6.4	5.9	6.1	9.1	8.4	21.0	16.0	22.6	7.4	41.2	24.6	12.1	9.9	5.9	8.5	4.5	4.5
≥65 yrs	9.9	15.2	2.6	20.4	23.1	25.4	7.3	14.6	22.3	14.9	7.6	19.7	42.1	46.8	14.8	7.8	7.2	7.4	17.4	12.0	5.0	12.2	24.0	18.0	33.2	50.5	29.5	14.5	21.6	14.7	4.8	31.8
Reporting practices (N=61)	57	56	54	55	54	55	57	57	55	54	55	56	55	56	56	55	57	55	55	57	55	56	57	55	53	57	55	56	57	55	56	55

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.

During the COVID-19 pandemic, there may be a lag time receiving data for the current week from the NVRL and laboratories under the clinical governance of the NVRL, caution is advised therefore interpreting the most recent week's data. These data are continuously updated.

- During week 19 2022, no sentinel GP ILI (n=0/21) and two (n=2/113, 1.8%) non-sentinel respiratory specimens tested and reported by the NVRL were positive for influenza. The overall influenza positivity for sentinel GP ILI and non-sentinel respiratory specimens during week 19 2022 was 1.5% (2/134).
- During week 18 2022, no sentinel GP ILI (n=0/15) and two (2/129, 1.6%) non-sentinel respiratory specimens tested and reported by the NVRL were positive for influenza. The overall influenza positivity for sentinel GP ILI and non-sentinel respiratory specimens during week 18 2022 was 1.4% (2/144)
- During weeks 18 and 19 2022, four influenza A positive specimens were detected by the NVRL, three influenza A(H3) and one influenza A(H1)pdm09.
- For the 2021/2022 season (weeks 40 2021 - 19 2022), of 1,700 sentinel GP ILI and 6,118 non-sentinel respiratory specimens tested, 362 were positive for influenza: 350 A(H3), 5 A(H1)pdm09, 5 A (not subtyped) and 2 B (one B/Victoria and one B/lineage not specified), Figures 3 & 4.
- Only one RSV positive sample was detected by the NVRL during weeks 18 and 19 2022, a non-sentinel respiratory specimen, Table 3; Figure 5.
- Rhinovirus/enterovirus, human metapneumovirus and other respiratory virus (ORV) positive detections continue to be reported (Figure 6, Tables 4 and 5).
- The NVRL has genetically characterised and reported data on 147 positive influenza samples in Ireland to date this season: one influenza A(H1)pdm09 and 146 influenza A(H3). One influenza A(H1)pdm09 virus sample was genetically characterised and belonged to the genetic subgroup, 6B.1A.5a.2, clustering in a subgroup that is represented by the 2021/2022 northern hemisphere vaccine virus strain (A/Victoria/2570/2019 (H1N1)pdm09-like virus). One hundred and forty-six influenza A(H3) positive samples were genetically characterised by the NVRL, of those 145/146 clustered in the A(H3) genetic clade subgroup 3C.2a1b.**2a.2**, that is represented by the A/Bangladesh/4005/2020 virus, the predominant subgroup circulating globally. A/Bangladesh viruses are antigenically diverse to the A(H3)/Cambodia/e0826360/2020 vaccine strain which was chosen for the northern hemisphere 2021/2022 vaccine. One positive influenza A(H3) sample fell into the genetic subgroup 3C.2a1b.1a, represented by the A/Denmark/3264/2019 virus, which has been identified less frequently this season. Whilst these A(H3) viruses are antigenically distinct from the 2021/2022 vaccine strain, preliminary influenza vaccine effectiveness data for the 2021/2022 influenza season reported by the European Centre for Disease Prevention and Control indicates a moderate level of protection against laboratory confirmed influenza infection.

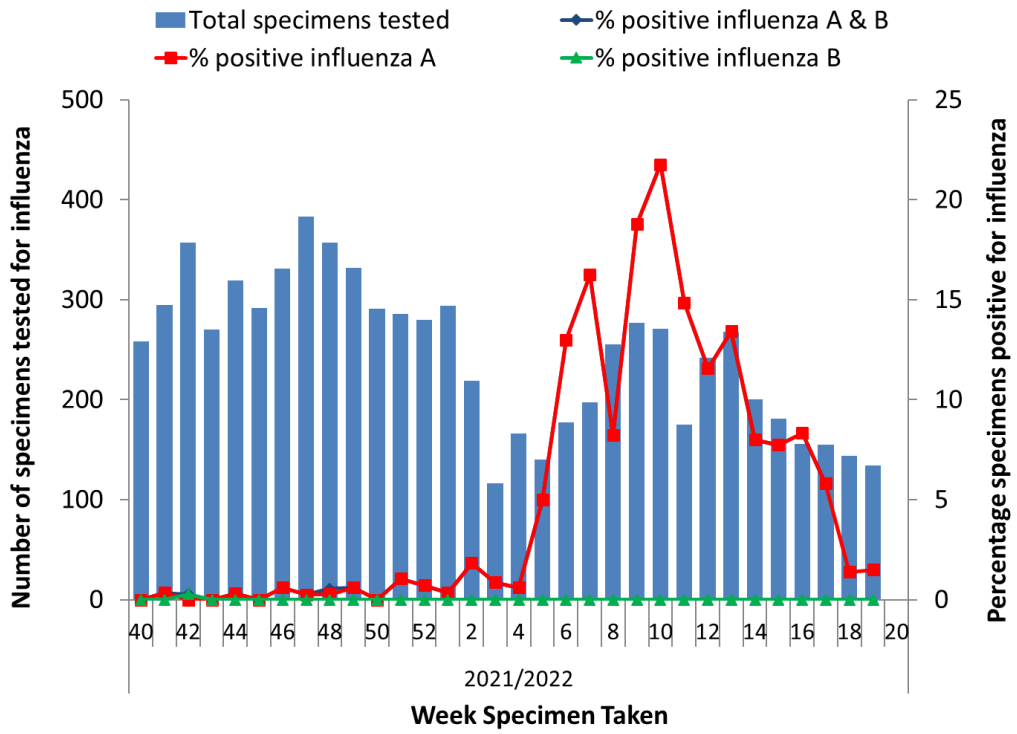

Figure 3: Number of specimens (from sentinel GP ILI and non-sentinel respiratory sources) tested by the NVRL for influenza and percentage influenza positive by week for the 2021/2022 influenza season. *Source: NVRL.*

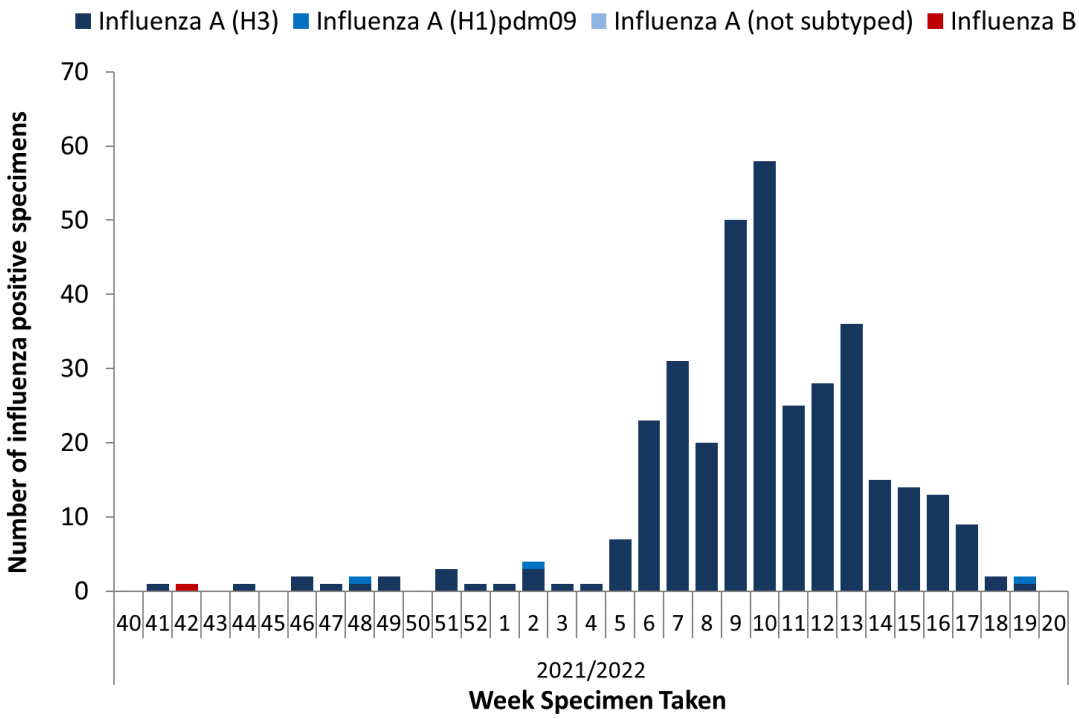

Figure 4: Number of positive influenza specimens (from sentinel GP ILI and non-sentinel respiratory sources) tested by the NVRL by influenza type/subtype and by week for the 2021/2022 influenza season. *Source: NVRL.*

Table 2: Number of sentinel GP ILI and non-sentinel respiratory specimens tested by the NVRL and positive influenza results, for week 18 and week 19 2022 and the 2021/2022 season (weeks 40 2021- 19 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
19 2022	Sentinel GP ILI referral	21	0	0.0	0	0	0	0	0	0	0	0
	Non-sentinel	113	2	1.8	1	1	0	2	0	0	0	0
	Total	**134**	**2**	**1.5**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**0**
18 2022	Sentinel GP ILI referral	15	0	0.0	0	0	0	0	0	0	0	0
	Non-sentinel	129	2	1.6	0	2	0	2	0	0	0	0
	Total	**144**	**2**	**1.4**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**
2021/2022	Sentinel GP ILI referral	1700	72	4.2	1	71	0	72	0	0	0	0
	Non-sentinel	6118	290	4.7	4	279	5	288	1	1	0	2
	Total	**7818**	**362**	**4.6**	**5**	**350**	**5**	**360**	**1**	**1**	**0**	**2**

Table 3: Number of sentinel GP ILI and non-sentinel respiratory specimens tested by the NVRL and positive RSV results, for week 18 and week 19 2022 and the 2021/2022 season (weeks 40 2021-19 2022). *Source: NVRL*

Surveillance period	Specimen type	Total tested	Number RSV positive	% RSV positive	RSV A	RSV B	RSV (unspecified)
Week 19 2022	Sentinel GP ILI	21	0	0.0	0	0	0
	Non-sentinel	113	0	0.0	0	0	0
	Total	**134**	**0**	**0.0**	**0**	**0**	**0**
Week 18 2022	Sentinel GP ILI	15	0	0.0	0	0	0
	Non-sentinel	129	1	0.8	0	1	0
	Total	**144**	**1**	**0.7**	**0**	**1**	**0**
2021/2022	Sentinel GP ILI	1700	81	4.8	43	38	0
	Non-sentinel	6118	707	11.6	396	310	1
	Total	**7818**	**788**	**10.1**	**439**	**348**	**1**

Table 4: Number of **sentinel GP influenza-like illness (ILI)** specimens tested by the NVRL for influenza, SARS-CoV-2 and other respiratory viruses (ORVs) and positive results, for weeks 18-19 2022 and the 2021/2022 season (weeks 40 2021-19 2022). *Source: NVRL*

Virus	Week 19 2021 (N=21)		Week 18 2021 (N=15)		2021/2022 (N=1700)	
	Total positive	% positive	Total positive	% positive	Total positive	% positive
Influenza virus	0	0.0	0	0.0	72	4.2
Respiratory Synctial Virus (RSV)	0	0.0	0	0.0	81	4.8
Rhino/enterovirus	0	0.0	0	0.0	184	10.8
Adenovirus	0	0.0	0	0.0	3	0.2
Bocavirus	0	0.0	0	0.0	32	1.9
Human metapneumovirus (hMPV)	5	23.8	0	0.0	56	3.3
Parainfluenza virus type 1 (PIV-1)	0	0.0	0	0.0	0	0.0
Parainfluenza virus type 2 (PIV-2)	0	0.0	0	0.0	2	0.1
Parainfluenza virus type 3 (PIV-3)	0	0.0	1	6.7	21	1.2
Parainfluenza virus type 4 (PIV-4)	0	0.0	0	0.0	20	1.2
SARS-CoV-2	1	4.8	1	6.7	420	24.7

Table 5: Number of **non-sentinel respiratory specimens** tested by the NVRL for other respiratory viruses (ORVs) and positive results, for week 18 and week 19 2022 and the 2021/2022 season (weeks 40 2021-19 2022). *Source: NVRL*

Virus	Week 19 2021 (N=113)		Week 18 2021 (N=129)		2021/2022 (N=6118)	
	Total positive	% positive	Total positive	% positive	Total positive	% positive
Influenza virus	2	1.8	2	1.6	290	4.7
Respiratory Synctial Virus (RSV)	0	0.0	1	0.8	707	11.6
Rhino/enterovirus	22	19.5	25	19.4	1227	20.1
Adenovirus	0	0.0	3	2.3	100	1.6
Bocavirus	1	0.9	1	0.8	149	2.4
Human metapneumovirus (hMPV)	8	7.1	3	2.3	216	3.5
Parainfluenza virus type 1 (PIV-1)	0	0.0	0	0.0	0	0.0
Parainfluenza virus type 2 (PIV-2)	0	0.0	0	0.0	5	0.1
Parainfluenza virus type 3 (PIV-3)	8	7.1	6	4.7	126	2.1
Parainfluenza virus type 4 (PIV-4)	0	0.0	1	0.8	70	1.1

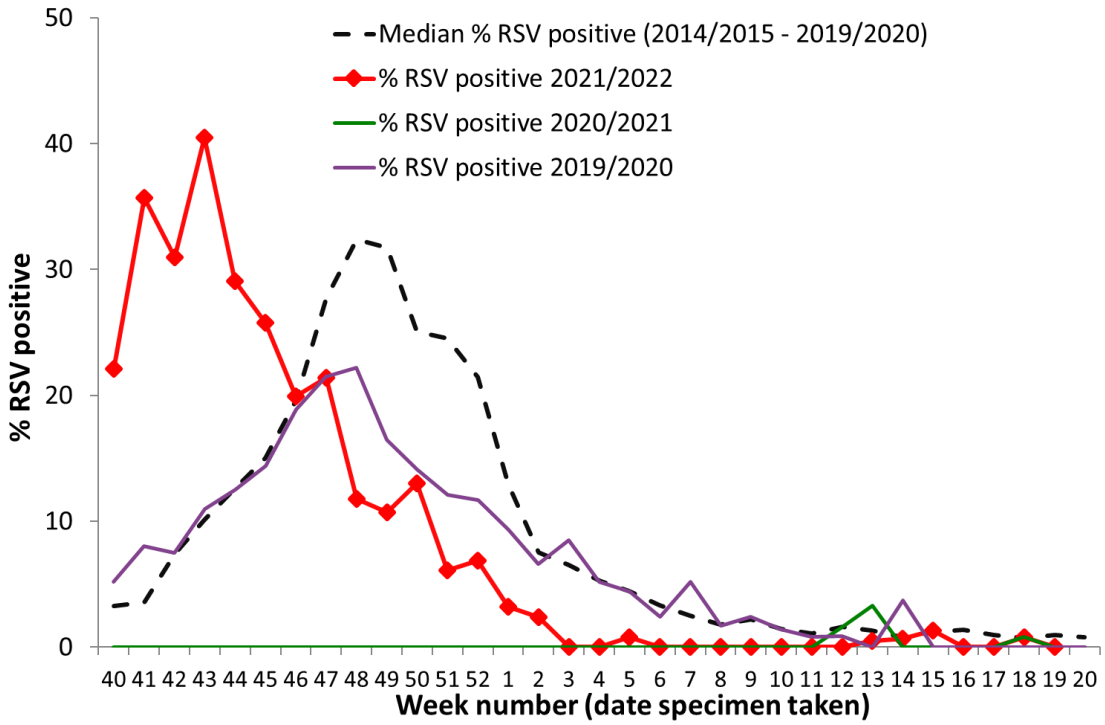

Figure 5: NVRL non-sentinel RSV positivity by week specimen was taken for 2021/2022, 2020/2021 and 2019/2020 seasons compared to median % RSV positivity (2014/2015-2019/2020). *Source: NVRL.*

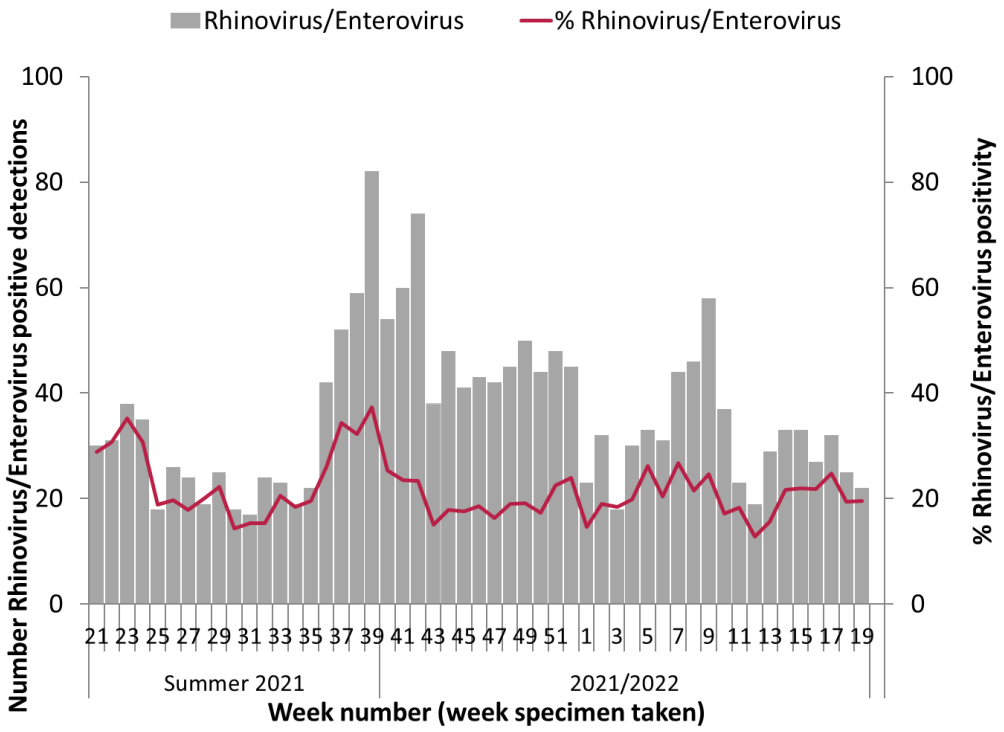

Figure 6: Number (and percentage) of non-sentinel rhinovirus/enterovirus positive detections by week specimen was taken for summer 2021 and 2021/2022 season. *Source: NVRL*

5. 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.

- 4,275 (41.0% of total calls; N=10,417) self-reported cough calls were reported by a network of GP OOHs services during week 19 2022, which is above baseline levels (10.7%) and an increase compared to the updated percentage of 38.5% (4783/12,435) during week 18 2022, (Figures 7 & 8).
- 42 (0.4% of total calls; N=10,417) self-reported 'flu' calls were reported by a network of GP OOHs services during week 19 2022, the rate remains stable compared to 43 (0.3% of total calls; N=12,435) self-reported 'flu' calls during week 18 2022. The baseline threshold level for self-reported 'flu' calls is 2.3%. (Figure 9).
- Four GP OOH services provided data for week 19 2022.

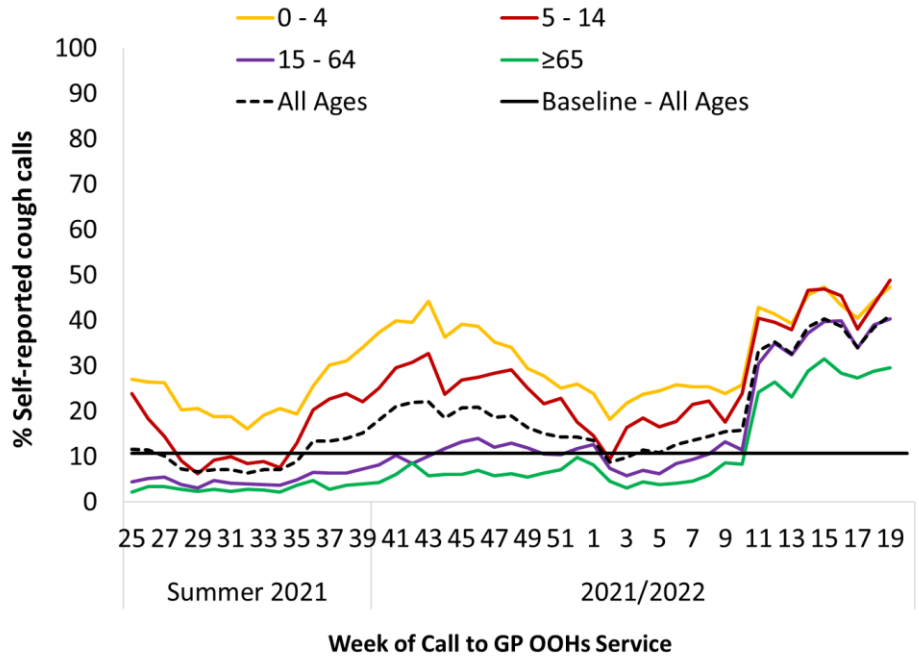

Figure 7: Percentage of self-reported COUGH calls for all ages and by age group as a proportion of total calls to GP Out-of-Hours services by week of call, 2021-2022. The % cough calls baseline for all ages calculated using the MEM method on historic data is shown. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

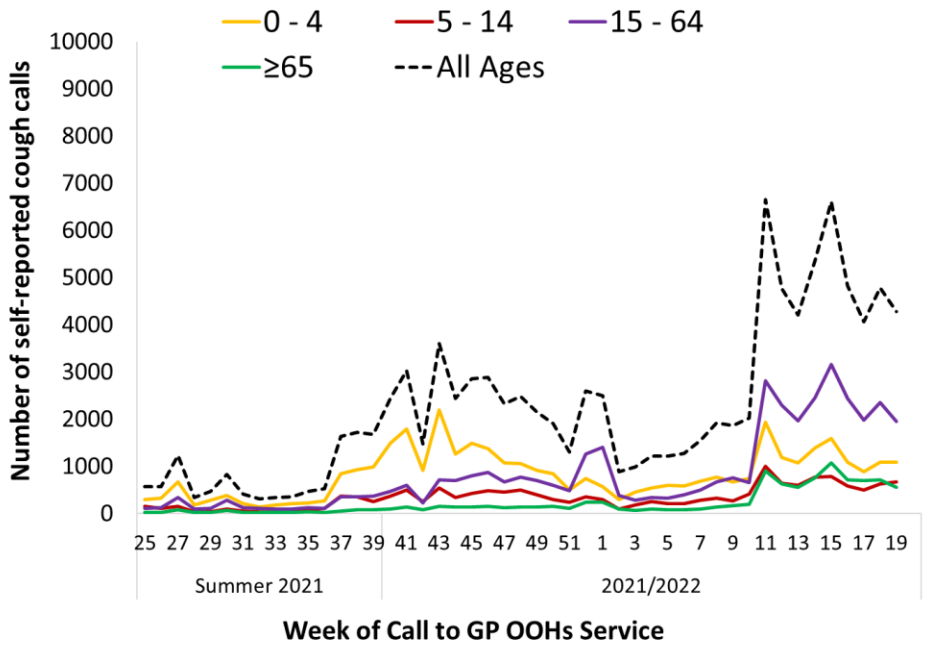

Figure 8: Number of self-reported COUGH calls for all ages and by age group to GP Out-of-Hours services by week of call, 2021-2022. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

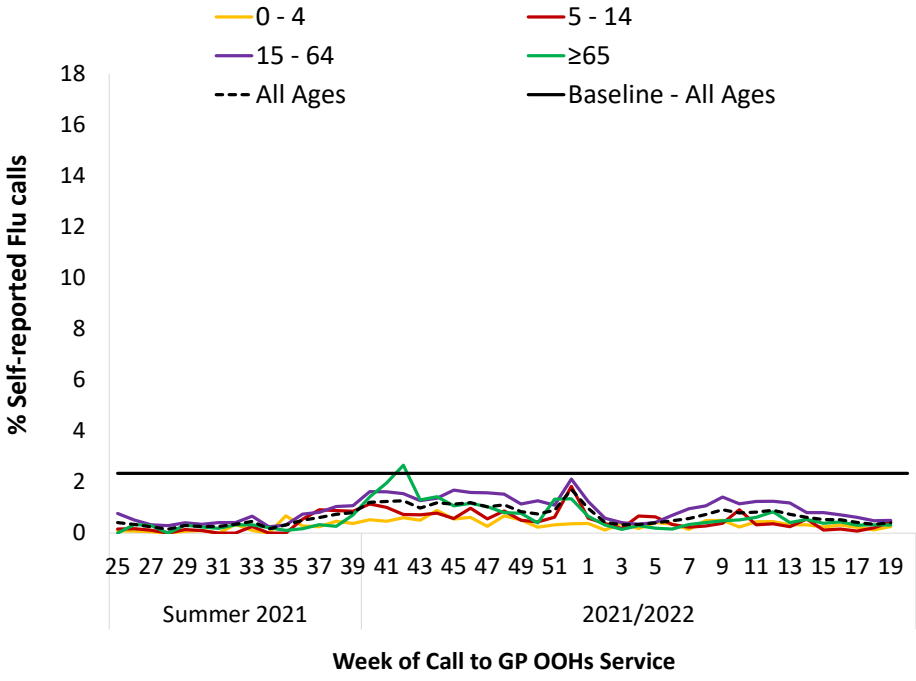

Figure 9: Percentage of self-reported FLU calls for all ages and by age group as a proportion of total calls to GP Out-of-Hours services by week of call, 2021-2022. The % flu calls baseline for all ages calculated using the MEM method on historic data is shown. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP*

6. 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.

- Eighteen laboratory confirmed influenza cases - 1 A(H3), 1 A(H1)pdm09 and 16 A (not subtyped) were notified during week 19 2022 (Figure 10).
- **Please note: Influenza notifications increased during week 18 2022, due to retrospective notification of cases from March 2022.**
- The median age of laboratory confirmed cases notified during week 19 2022 was 28 years (interquartile range 7-63 years). Laboratory confirmed influenza cases were notified from: HSE-East (n=10), HSE-South (n=2), HSE-Midwest (n=2), HSE-Midlands (n=1), HSE-Northeast (n=2), and HSE-Northwest (n=1).
- 2,165 laboratory confirmed influenza cases were notified during the 2021/2022 season (weeks 40 2021 – 19 2022): 2,155 influenza A (401 A(H3), 8 A(H1)pdm09 and 1,746 A not subtyped), 9 influenza B and 1 with influenza type not reported. The median age of notified cases for the 2021/2022 season to date is 32 years (interquartile range 21-65 years).
- During week 19 2022, four RSV cases were notified; one of these cases was reported as a hospital inpatient (Figures 11 & 12). It should be noted that patient type is not always reported/updated for RSV notified cases; an RSV patient may be admitted to hospital and patient type not updated on CIDR.

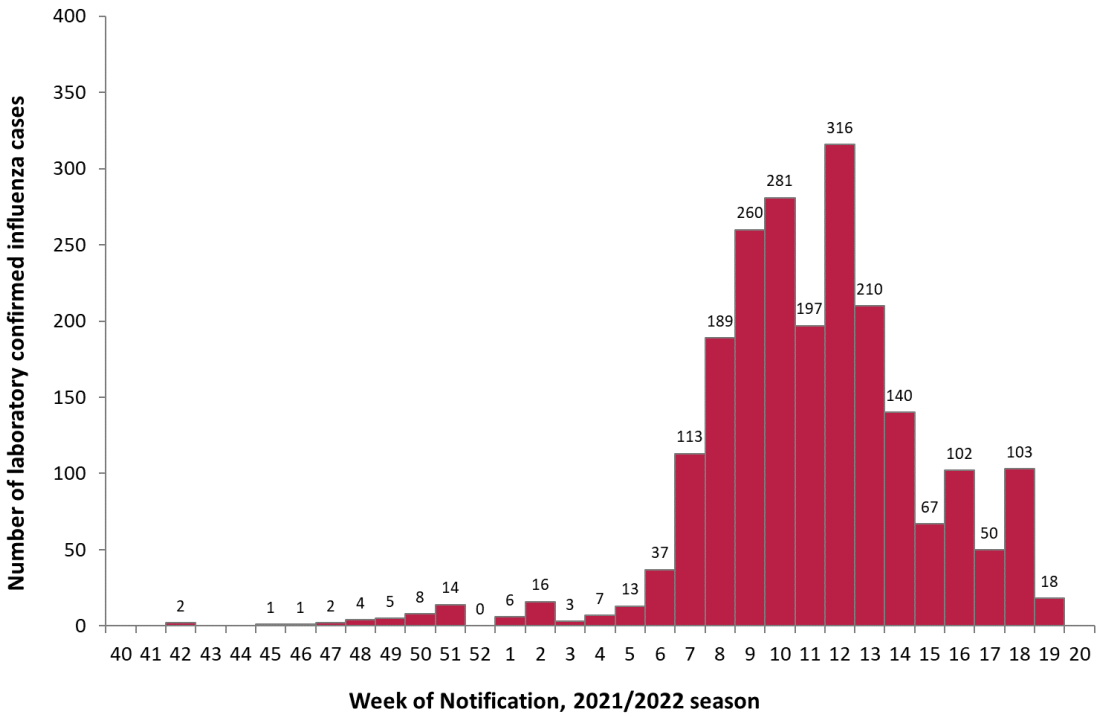

Figure 10: Number of laboratory confirmed influenza cases notified by week of notification, 2021/2022. *Source: Ireland's Computerised Infectious Disease Reporting System*

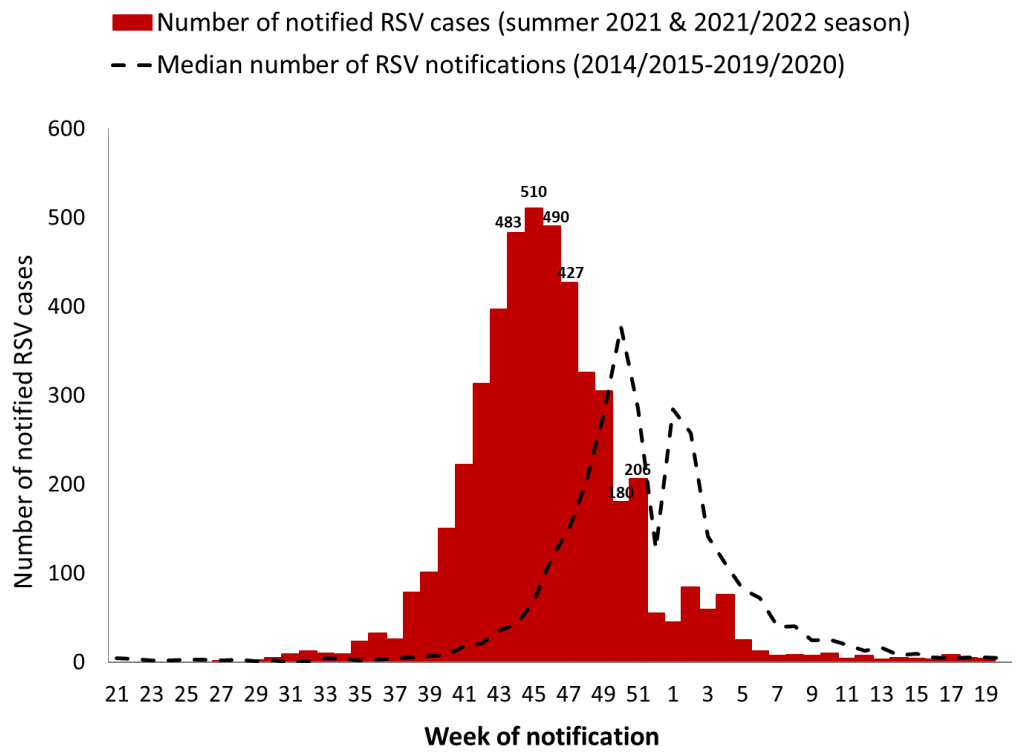

Figure 11: Number of RSV cases notified by week of notification, summer 2021 and 2021/2022, and median number of RSV notifications by week (2014/2015-2019/2020). *Source: Ireland's Computerised Infectious Disease Reporting System.*

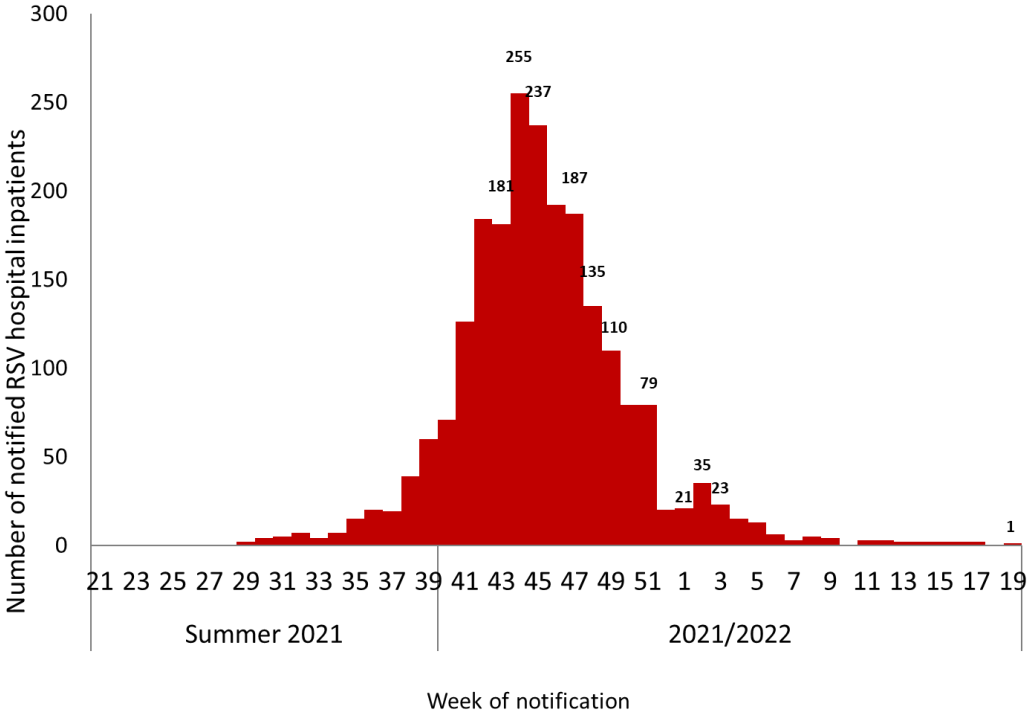

Figure 12: Number of notified RSV cases reported as hospital inpatients, by week of notification, summer 2021 and 2021/2022. *Source: Ireland's Computerised Infectious Disease Reporting System.*

7. Influenza Hospitalisations

- During week 19 2022, three laboratory confirmed influenza A notified cases were reported as hospital inpatients: all three were influenza A (not subtyped) positive cases, aged <65 years. During week 19 2022, confirmed influenza hospitalised cases have been notified from HSE-Midwest (n=1), -Northwest (n=1) and HSE-Midlands (n=1).
- **Please note, influenza notifications increased during week 18 2022, due to retrospective notification of cases from March 2022.**
- During weeks 40 2021 - 19 2022, 514 laboratory confirmed influenza cases reported as hospital inpatients were notified: 125 A(H3), one A(H1)pdm09, 386 influenza A (not subtyped) and two influenza B cases. Figures 13 & 14.

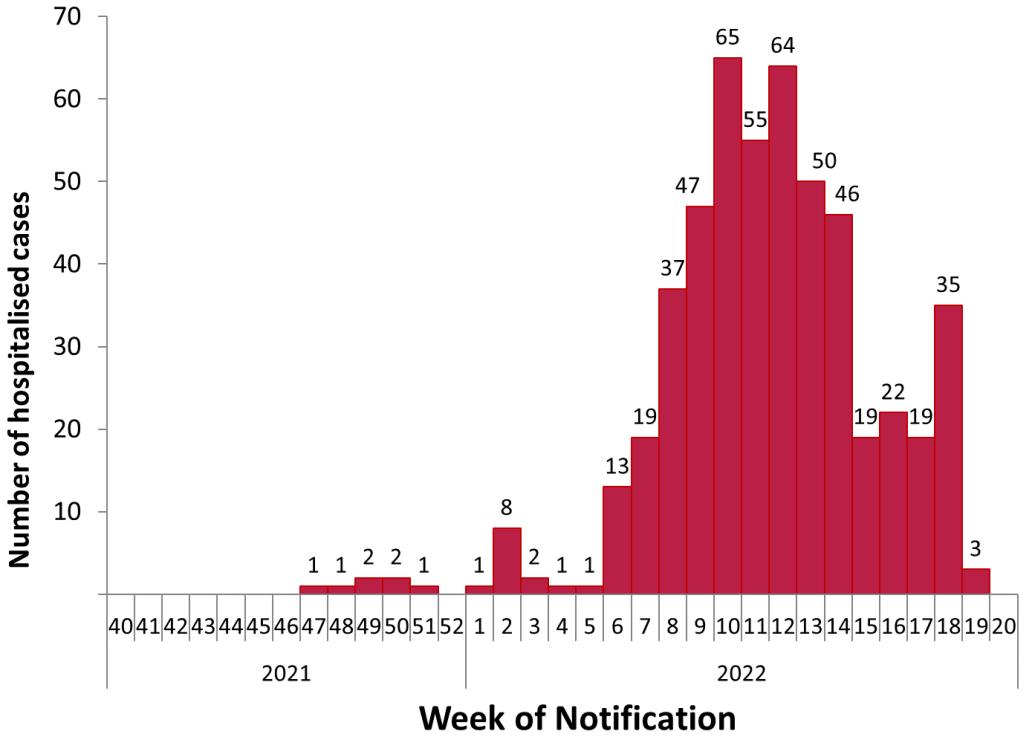

Figure 13: Number of notified laboratory confirmed influenza cases reported as hospital inpatients, by week of notification 2021/2022. *Source: Ireland's Computerised Infectious Disease Reporting System*. Please note, influenza notifications increased during week 18 2022, due to retrospective notification of cases from March 2022.

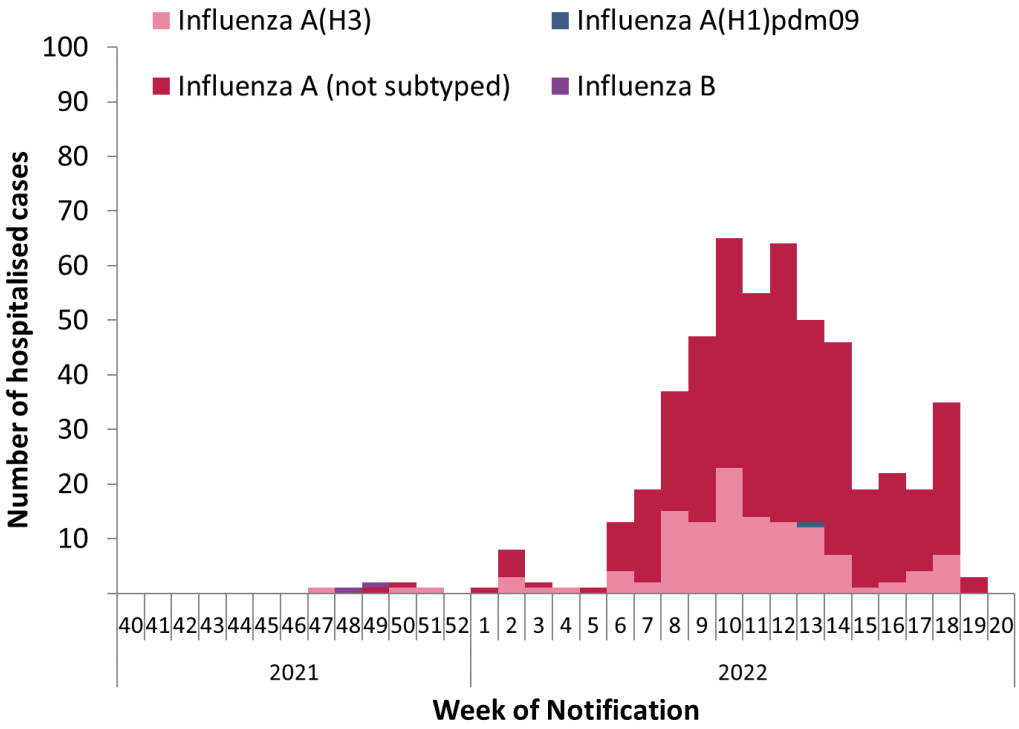

Figure 14: Number of notified laboratory confirmed influenza cases, reported as hospital inpatients, by influenza type/subtype and week of notification, 2021/2022 season *Source: Ireland's Computerised Infectious Disease Reporting System.* Please note, influenza notifications increased during week 18 2022, due to retrospective notification of cases from March 2022.

8. 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.

- During week 19 2022, no laboratory confirmed influenza cases admitted to critical care were reported to HPSC.
- During the 2021/2022 influenza season to date (week 40 2021 - week 19 2022), 15 laboratory confirmed influenza cases - 8 A(H3) and 7 A (not subtyped) - were admitted to critical care units and reported to HPSC (Table 6).

Table 6: Number (and age specific rate per 100,000 population) of laboratory confirmed notified influenza hospitalised and critical care cases, weeks 40 2021-19 2022. *Source: Ireland's Computerised infectious Disease Reporting System*.

	Hospitalised		Admitted to ICU	
Age (years)	Number	Age specific rate per 100,000 pop.	Number	Age specific rate per 100,000 pop.
<1	9	14.5	0	0.0
1-4	47	17.5	1	0.4
5-14	25	3.7	1	0.1
15-24	69	12.0	1	0.2
25-34	51	7.7	2	0.3
35-44	27	4.1	2	0.3
45-54	15	2.4	1	0.2
55-64	40	7.9	3	0.6
≥65	231	36.2	4	0.6
Unknown	0	-		-
Total	**514**	**10.8**	15	**0.3**

9. Severe Acute Respiratory Infection (SARI) surveillance

Severe Acute Respiratory Infection (SARI) surveillance was implemented in one tertiary care adult hospital; St. Vincent's University Hospital, Dublin (SVUH) on the 5th of July 2021. SARI cases are identified from new admissions (aged ≥15 years) through the SVUH Emergency Department. The current SARI ECDC case definition used is defined as a hospitalised person (hospitalised for at least 24 hours) with acute respiratory infection, with at least one of the following symptoms: cough, fever, shortness of breath OR sudden onset of anosmia, ageusia or dysgeusia with onset of symptoms within 14 days prior to hospital admission. SARI patients are tested for SARS-CoV-2, influenza and RSV.

- During week 19, 2022, 13 SARI cases were admitted to the SARI hospital site, corresponding to an incidence rate per emergency hospitalisation of 42.1/1,000; an increase on 23.6/1,000 in week 18, 2022.
- The SARI incidence rate per hospital catchment population was 4.3/100,000 population during week 19, an increase from 2.0/100,000 in week 18, 2022
- SARI SARS-CoV-2 positivity was 8.3% (1/12 tested) during week 19 2022, compared to 20% (1/5) during week 18 2022
- All SARI cases tested negative for influenza A and B during weeks 18 and 19 2022
- No SARI case tested positive for RSV during weeks 18 and 19 2022.

10. 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/

- No deaths in notified influenza cases were reported to HPSC during week 19 2022. During the 2021/2022 season (weeks 40 2021- 19 2022), 11 deaths in notified influenza cases were reported to HPSC: 6 A(H3) and 5 A (not subtyped).
- No excess all-cause mortality was reported during week 18 2022, 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 are reported with a one-week lag time.

11. 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/

- No influenza, RSV or acute respiratory infection (ARI) (SARS-CoV-2 negative) outbreaks were notified to HPSC during week 19 2022.
- During the 2021/2022 influenza season, 22 laboratory confirmed influenza outbreaks were notified: nine hospital outbreaks, seven nursing home outbreaks, three family outbreaks, two at other healthcare settings and one outbreak associated with a social gathering.
- For the 2021/2022 season to date (weeks 40 2021- 19 2022), 22 influenza outbreaks (14 Influenza A (not subtyped) and eight Influenza type not reported), five RSV and 16 ARI (SARS-CoV-2 negative) outbreaks were notified to HPSC. Of the 16 ARI outbreaks, three were associated with rhinovirus/enterovirus, five with seasonal coronavirus (OC43), two with human metapneumovirus and six with no pathogen identified.

12. Influenza Vaccinations

From 01/09/2021 up to the week ending 08/05/2022, seasonal influenza vaccination uptake for those aged 2-17 years was 16.5% (n=178,001/1,081,232) and 74.8% (n=556,125/743,087) for those aged ≥65 years. Data were provided by GPs, Pharmacists and PCRS staff.

13. International Summary

In the European region, during week 18 2022 (week ending 08/05/2022), widespread influenza activity was reported in 13 of 40 countries. The percentage of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms that tested positive for an influenza virus decreased to 14%, from 17% in the previous week. Two countries reported seasonal influenza activity above 30% positivity in sentinel primary care: Finland (70%) and the Netherlands (35%). Both influenza A and B viruses were detected, with A(H3) viruses being dominant across all monitoring systems. Hospitalised patients with laboratory confirmed influenza were infected with type A or B viruses. https://flunewseurope.org/

In the temperate zones of the northern hemisphere, influenza activity appeared to decrease except in North America. Detections were mainly influenza A(H3N2) viruses and B/Victoria lineage viruses. In North America, influenza activity continued to increase in recent weeks but remained lower than pre-COVID-19 pandemic levels at this time of the year and was predominantly due to influenza A viruses, with A(H3N2) predominant among the subtyped viruses. In Central Asia, sporadic influenza B detections were reported in Kazakhstan. In East Asia, influenza activity with mainly influenza B/Victoria lineage detections continued to decrease in China. ILI rate and pneumonia hospitalisations remained elevated in Mongolia. Elsewhere, influenza illness indicators and activity remained low. In Northern Africa, decreased detections of influenza A(H3N2) were reported in Tunisia. In Western Asia, Georgia reported increased detections of influenza A(H3N2). In the Caribbean and Central American countries, low influenza activity was reported with influenza A(H3N2) predominant. In tropical South America, low influenza activity was reported with influenza A(H3N2) predominant. In tropical Africa, influenza activity was reported mainly from Eastern Africa with influenza A(H3N2) predominating followed by influenza B viruses. In South-East Asia, only Malaysia reported influenza detections of influenza A(H3N2) and B viruses. In the temperate zones of the southern hemisphere, influenza activity remained low overall, although detections of influenza A viruses, predominant with A(H3N2), continued to be reported in some countries in temperate South America and South Africa. In Southern Asia, influenza virus detections were at low levels overall. https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring/influenza-updates/current-influenza-update

- 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

14. 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

This report was prepared by the HPSC influenza epidemiology team: Martha Neary, Lisa Domegan, Maeve McEnery, Eva Kelly, Adele McKenna, Amy Griffin, and Joan O'Donnell.

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