Influenza Week 48 2022 (28th November – 4th December 2022)

Summary

Influenza activity continued to increase in Ireland during week 48 2022 (week ending 04/12/2022). Detections of influenza A(H3), A(H1)pdm09 and B have been reported this season to date with a slightly higher proportion of A(H1)pdm09 detections observed. Respiratory syncytial virus (RSV) activity increased during week 48 compared to week 47 2022 and is at very high levels in Ireland. Given the increase in most influenza surveillance indicators, HPSC considers that influenza viruses are now circulating in Ireland. It is now recommended that antivirals are used for the treatment and prophylaxis of influenza in clinical at-risk groups and in those with severe influenza disease.

- Influenza-like illness (ILI): The sentinel GP influenza-like illness (ILI) ILI consultation rate was 28.1 per 100,000 population during week 48 2022 and above the Irish baseline threshold (18.1/100,000 population), this is an increase compared to the updated rate of 21.4 per 100,000 during week 47 2022.
- Sentinel GP ILI age specific consultation rates were above baseline threshold levels in all age groups, and at moderate thresholds levels (57.5/100,000 population) in those aged ≥65 years (65.8/100,000 population).
- National Virus Reference Laboratory (NVRL): Of 125 sentinel GP ARI specimens tested and reported by the NVRL during week 48 2022, 13.6% (17/125) were positive for influenza: 8 A(H3), 8 A(H1)pdm09, and one influenza B, 12.8% (16/125) were positive for RSV and 6.4% (8/125) were positive for COVID-19. As of 9th of November 2022, the acute respiratory infection (ARI) case definition is being used by sentinel GPs for referral of specimens for respiratory virus testing to NVRL.
- Of 570 non-sentinel respiratory specimens tested and reported by the NVRL during weeks 47 & 48 2022, 51 (8.9%) were positive for influenza: 13 A(H3), 30 A(H1)pdm09, six A (not subtyped) and two influenza B.
- Respiratory syncytial virus (RSV) positivity (non-sentinel respiratory specimens) remained very high in recent weeks, at 17.5% (55/314) during week 47 2022 and 14.5% (37/256) during week 48 2022.
- Influenza notifications: 370 laboratory confirmed influenza cases were notified during week 48 2022 – 14 A(H3), 27 A(H1)pdm09, 313 influenza A (not subtyped), 15 influenza B and one coinfection influenza A(H3) & B. The number of influenza notifications increased during week 48 to 370, compared to 222 during week 47 2022.
- RSV notifications: 678 RSV cases including 239 hospitalised cases were notified during week 48 2022. During week 48 2022, 49% of notified RSV cases were in the 0-4 year age group and 25% were in those aged ≥65 years.
- Hospitalisations and Critical care admissions: During week 48 2022, 123 laboratory confirmed influenza cases were reported as hospital inpatients: 6 influenza A(H1)pdm09, 3 A(H3), 112 influenza A (not subtyped) and two influenza B. This is an increase compared to 65 laboratory confirmed influenza notifications reported as hospital inpatients during week 47 2022. Two laboratory confirmed influenza A: cases (not subtyped (n=1) and AH3 (n=1))were admitted to critical care and notified to HPSC during week 48 2022. During weeks 40-48, 15 laboratory confirmed influenza cases– two influenza A(H3), two A(H1)pdm09 and 11 influenza A (not subtyped) have been admitted to critical care and notified to HPSC.
- Mortality: Two deaths in notified influenza cases were reported to HPSC during week 48 2022. During the 2022/2023 season to date, six deaths in notified influenza cases were reported to HPSC – two influenza AH3, one influenza A(H1)pdm09 and three influenza A (not subtyped).
- Outbreaks: Nine influenza outbreaks (six hospital , one nursing home, two Residential Institution), four RSV outbreaks (two nursing home, one Hospital , one Comm. Hosp/Long-stay unit) and one ARI outbreak (Rhino/Entero) were notified during week 48 2022.
- International: In Europe, the sentinel ILI or ARI is above the ECDC influenza positivity threshold set at 10% for the third consecutive week and increased to 14% from 13% during week 47 2022. Scotland Germany, Kazakhstan, Portugal, Russian Federation, Turkey reported widespread activity. WHO is 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 48 2022, 83 sentinel GP influenza-like illness (ILI) consultations were reported from the Irish sentinel GP network, corresponding to an ILI consultation rate of 28.1 per 100,000 population, an increase compared to the updated rate of 21.4 per 100,000 during week 47 2022 (Figure 1).
- The sentinel GP ILI consultation rate during the 2022/2023 was below baseline during weeks 40-44 2022 and above the Irish sentinel GP ILI baseline threshold (18.1/100,000 population) during weeks 45-48 2022.
- Sentinel GP ILI age specific consultation rates were above age specific baseline thresholds in those aged 0-14 (24.0/100,000) and those aged 15-64 (21.7/100,000) and ≥65 years (65.8/100,000) during week 48 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.

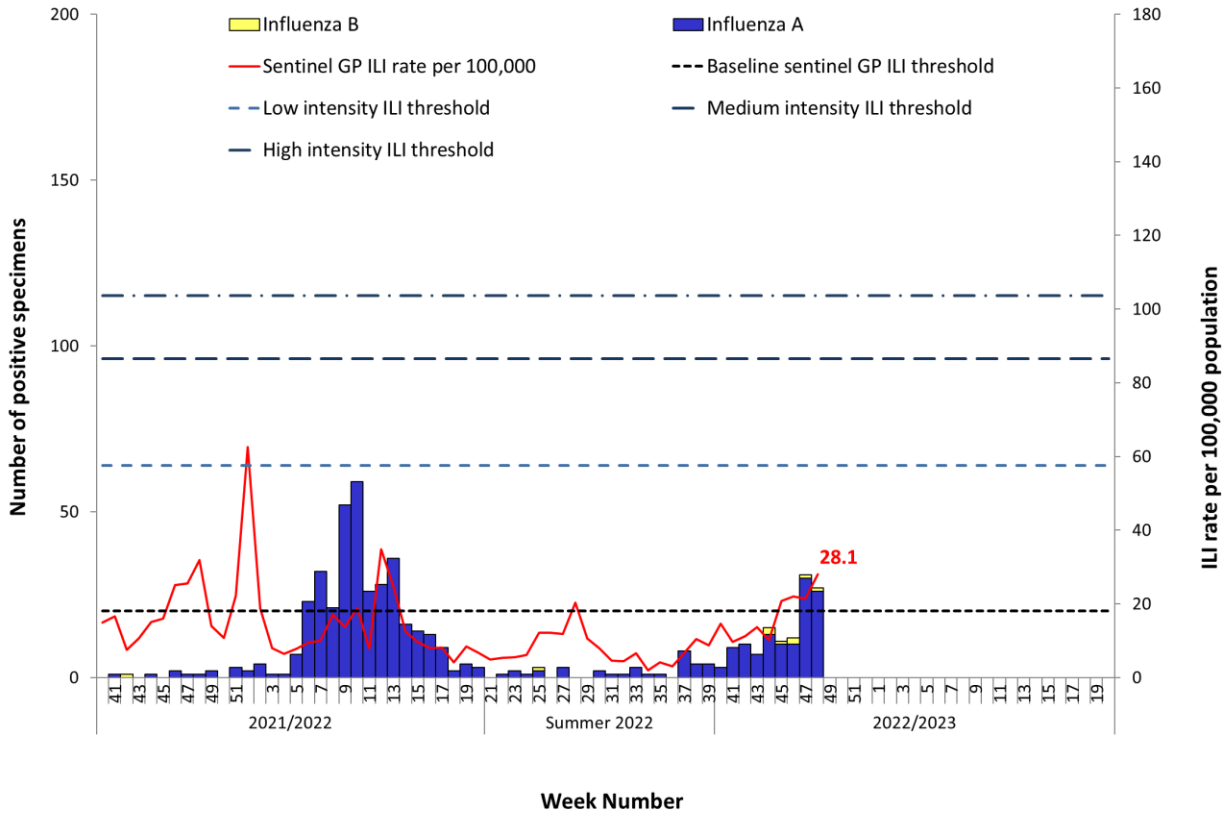

Figure 1: Sentinel GP Influenza-like illness (ILI) consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season. *Source: ICGP and NVRL*

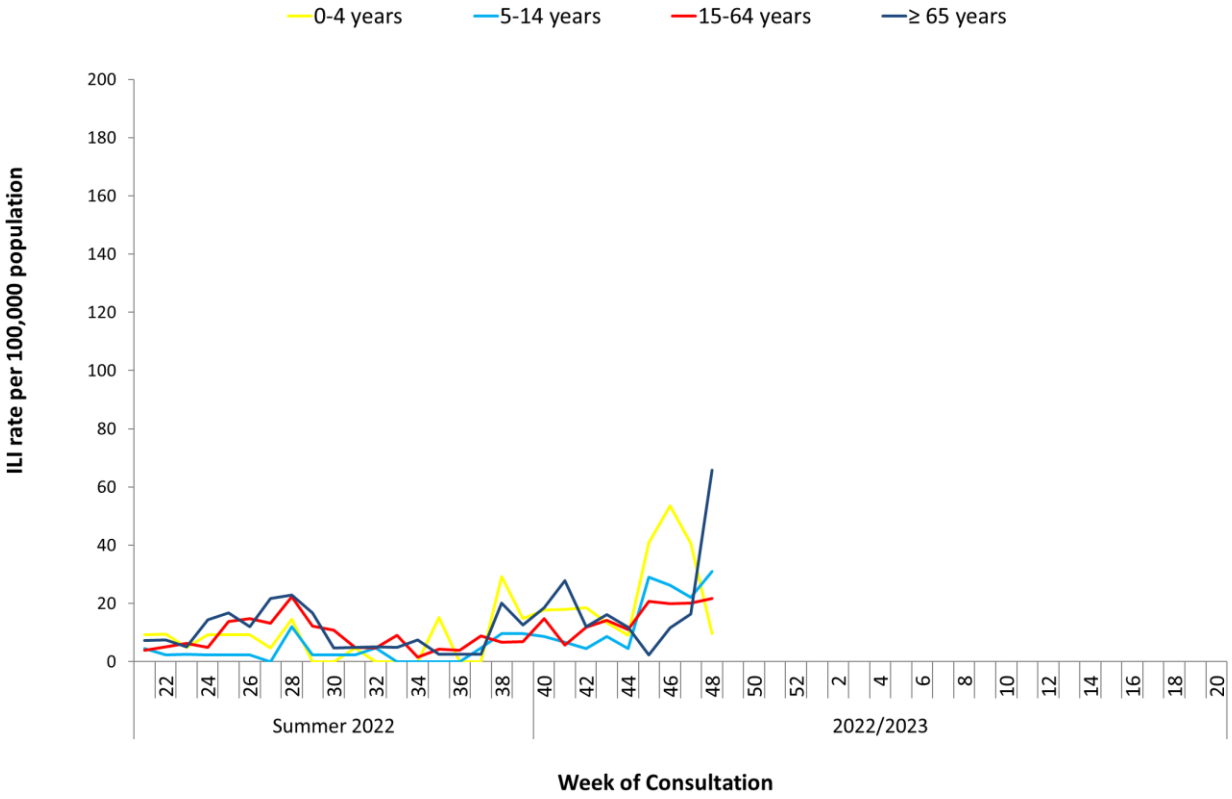

Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2022 and the 2022/2023 influenza season to date. *Source: ICGP.*

Table 1: Age specific sentinel GP ILI consultation rate per 100,000 population by week (weeks 40-48 2022), colour coded by sentinel GP ILI age specific Moving Epidemic Method (MEM) threshold levels. *Source: ICGP.*

MEM Threshold Levels	Below Baseline	Low	Moderate	High	Extraordinary

Age group (years)	40	41	42	43	44	45	46	47	48
All Ages	14.6	9.7	11.3	13.7	10.1	20.8	22.0	21.4	28.1
<15 yrs	11.7	10.3	9.1	10.3	6.0	32.8	35.2	28.2	24.0
15-64 yrs	14.7	5.7	11.8	14.2	11.1	20.7	19.9	20.1	21.7
≥65 yrs	18.5	27.9	12.0	16.2	11.8	2.4	11.6	16.4	65.8
Reporting practices (N=61)	60	59	58	60	58	58	60	59	53

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/ARI 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. Please note: As of 9th of November 2022, the acute respiratory (ARI) case definition is being used by sentinel GPs to identify cases for referral of specimens for respiratory virus testing to NVRL. Case definitions are available in Section 12. Sentinel GPs commenced in surgery swabbing of ARI patients on November 16th 2022.

- Of 125 sentinel GP ARI specimens tested and reported by the NVRL during week 48 2022, 13.6% (17/125) were positive for influenza: 8 A(H3), 8 A(H1)pdm09, and one influenza B, 12.8% (16/125) were positive for RSV and 6.4% (8/125) were positive for COVID-19.
- During week 47 2022, of 101 GP ARI specimens, seven (6.9%) were positive for influenza A (AH3 n=4, A(H1)pdm09 n=3), twenty one (20.8%) were positive for RSV and eleven (10.9%) were positive for COVID-19.
- Of 570 non-sentinel respiratory specimens tested and reported by the NVRL during weeks 47 & 48 2022, 51 (8.9%) were positive for influenza: 13 A(H3), 30 A(H1)pdm09, six A (not subtyped) and two influenza B, (Figure 3b). A lag time with testing and reporting is noted.
- Respiratory syncytial virus (RSV) positivity (non-sentinel respiratory specimens) remained very high in recent weeks, at 17.5% (55/314) during week 47 2022 and 14.5% (37/246) during week 48 2022.
- Rhinovirus/enterovirus positive detections from non-sentinel respiratory specimens were detected at a positivity rate of 14.5% (37/256) during week 48 2022, a decrease from 12.4% (39/314) during week 47 2022 (Figure 3a).
- Other respiratory viruses (ORVs) are being detected at lower levels (Figure 3a).
- As of 9th of November 2022, the acute respiratory infection (ARI) case definition is being used by sentinel GPs to identify cases for referral of specimens for respiratory virus testing to NVRL.

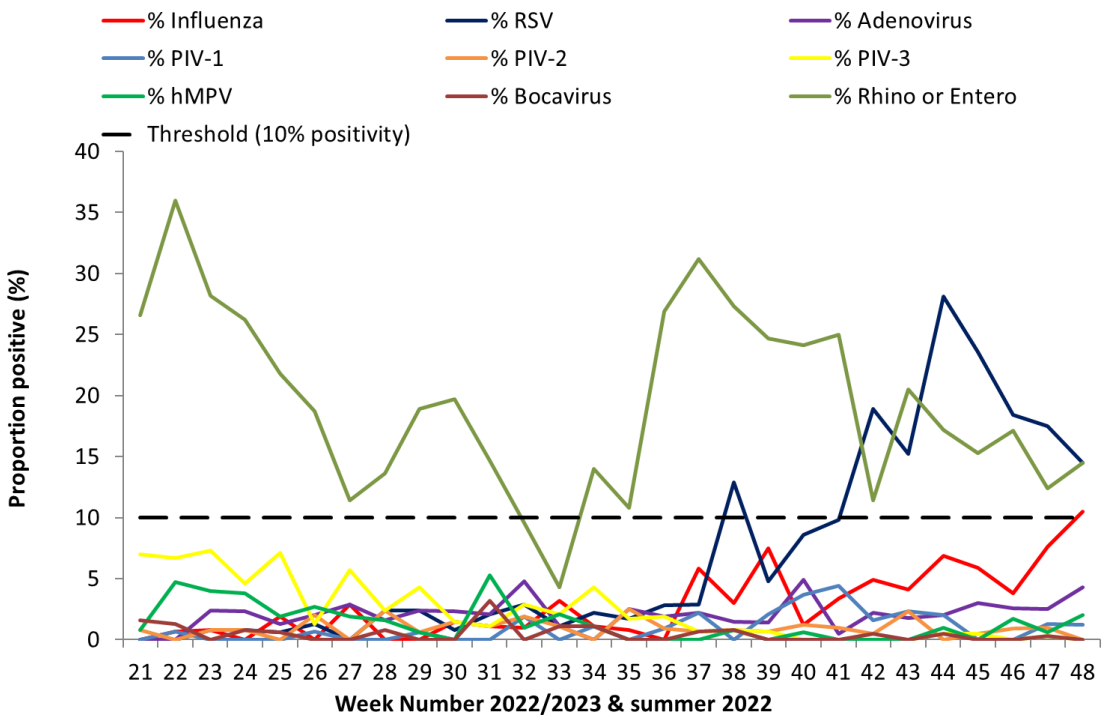

Figure 3a: Percentage positive results for non-sentinel respiratory specimens tested by the NVRL for influenza, RSV and other respiratory viruses, weeks 21-48 2022. *Source: NVRL.*

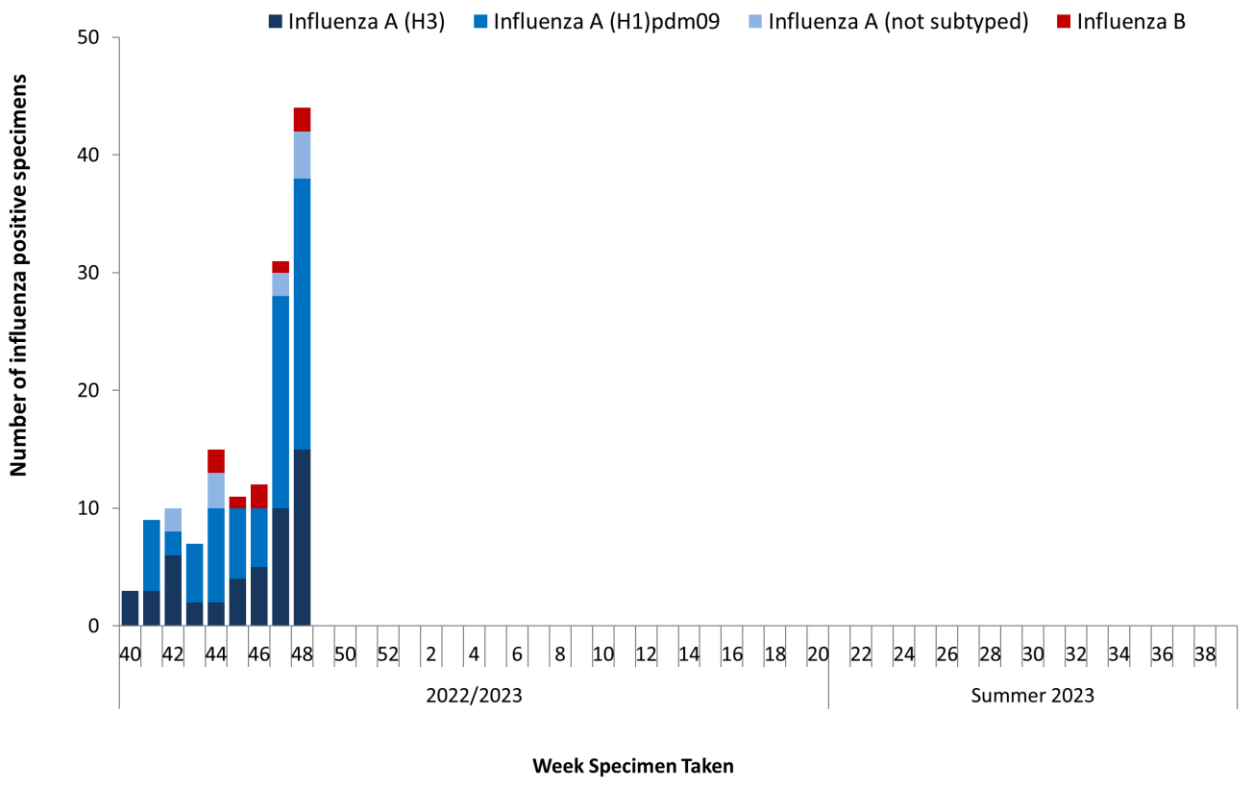

Figure 3b: Number of positive influenza specimens (from sentinel GP ILI and non-sentinel respiratory sources) tested by the NVRL by influenza type/subtype and by week for the 2022/2023 influenza season. *Source: NVRL.*

Table 2: Number of sentinel GP ARI and non-sentinel respiratory specimens tested by the NVRL and positive influenza results, for weeks 47 and 48 2022 and the 2022/2023 season (weeks 40-48 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
48 2022	Sentinel GP ARI referral	125	17	13.6	8	8	0	16	1	0	0	1
	Non-sentinel	256	27	10.5	15	7	4	26	1	0	0	1
	Total	**381**	**44**	**11.5**	**23**	**15**	**4**	**42**	**2**	**0**	**0**	**2**
47 2022	Sentinel GP ARI referral	101	7	6.9	3	4	0	7	0	0	0	0
	Non-sentinel	314	24	7.6	15	6	2	23	1	0	0	1
	Total	**415**	**31**	**7.5**	**18**	**10**	**2**	**30**	**1**	**0**	**0**	**1**
2022/2023	Sentinel GP ILI/ARI referral	293	33	11.3	16	15	0	31	2	0	0	2
	Non-sentinel	1932	111	5.7	57	35	11	103	6	1	1	8
	Total	**2225**	**144**	**6.5**	**73**	**50**	**11**	**134**	**8**	**1**	**1**	**10**

Table 3: Number of sentinel GP ARI and non-sentinel respiratory specimens tested by the NVRL and positive RSV results, for weeks 47 and 48 2022 and the 2022/2023 season (weeks 40-48 2022). *Source: NVRL*

Surveillance period	Specimen type	Total tested	Number RSV positive	% RSV positive	RSV A	RSV B	RSV (unspecified)
Week 48 2022	Sentinel GP ARI	125	16	12.8	2	14	0
	Non-sentinel	256	37	14.5	3	34	0
	Total	**381**	**53**	**13.9**	**5**	**48**	**0**
Week 47 2022	Sentinel GP ARI	101	21	20.8	0	21	0
	Non-sentinel	314	55	17.5	0	55	0
	Total	**415**	**76**	**18.3**	**0**	**76**	**0**
2022/2023	Sentinel GP ILI/ARI	293	53	18.1	2	51	0
	Non-sentinel	1932	335	17.3	46	289	0
	Total	**2225**	**388**	**17.4**	**48**	**340**	**0**

Table 4: Number of non-sentinel respiratory specimens tested by the NVRL for respiratory viruses and positive results, for weeks 47 and 48 2022 and 2022/2023 season (weeks 40-48 2022). *Source: NVRL*

Virus	Week 48 2022 (N=256)		Week 47 2022 (N=314)		2022/2023 (N=1932)	
	Total positive	% positive	Total positive	% positive	Total positive	% positive
Influenza virus	27	10.5	24	7.6	111	5.7
Respiratory Synctial Virus (RSV)	37	14.5	55	17.5	335	17.3
Rhino/enterovirus	37	14.5	39	12.4	328	17.0
Adenovirus	11	4.3	8	2.5	51	2.6
Bocavirus	0	0.0	1	0.3	3	0.2
Human metapneumovirus (hMPV)	5	2.0	2	0.6	14	0.7
Parainfluenza virus type 1 (PIV-1)	3	1.2	4	1.3	33	0.7
Parainfluenza virus type 2 (PIV-2)	0	0.0	3	1.0	15	0.8
Parainfluenza virus type 3 (PIV-3)	0	0.0	1	0.3	3	0.2
Parainfluenza virus type 4 (PIV-4)	0	0.0	1	0.3	12	0.6

Table 5: Number of sentinel GP ILI/ARI specimens tested by the NVRL for respiratory viruses and positive results, for weeks 47 and 48 2022 and 2022/2023 season (weeks 40-48 2022). *Source: NVRL*

Virus	Week 48 2022 (N=125)		Week 47 2022 (N=101)		2022/2023 (N=293)	
	Total positive	% positive	Total positive	% positive	Total positive	% positive
Influenza virus	17	13.6	7	6.9	33	11.3
Respiratory Synctial Virus (RSV)	16	12.8	21	20.8	53	18.1
Rhino/enterovirus	13	10.4	13	12.9	38	13.0
Adenovirus	6	4.8	2	2.0	8	2.7
Bocavirus	1	0.8	0	0.0	1	0.3
Human metapneumovirus (hMPV)	2	1.6	3	3.0	5	1.7
Parainfluenza virus type 1 (PIV-1)	2	1.6	2	2.0	4	1.4
Parainfluenza virus type 2 (PIV-2)	0	0.0	0	0.0	1	0.3
Parainfluenza virus type 3 (PIV-3)	0	0.0	0	0.0	0	0.0
Parainfluenza virus type 4 (PIV-4)	1	0.8	0	0.0	3	1.0
SARS-CoV-2	8	6.4	11	10.9	22	7.5

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.

- 6,712 (43.3% of total calls; N=15,509) self-reported cough calls were reported by a network of GP OOHs services during week 48 2022, which was above baseline levels (10.7%) (Figure 4). An increase in the number and percentage of cough calls in the 0 – 4 year age group in recent weeks is evident.
- 189 (1.2% of total calls; N=15,509) self-reported 'flu' calls were reported by a network of GP OOHs services during week 48 2022. The baseline threshold level for self-reported 'flu' calls is 2.3% (Figure 6).
- Five GP OOH services provided data for week 48 2022.

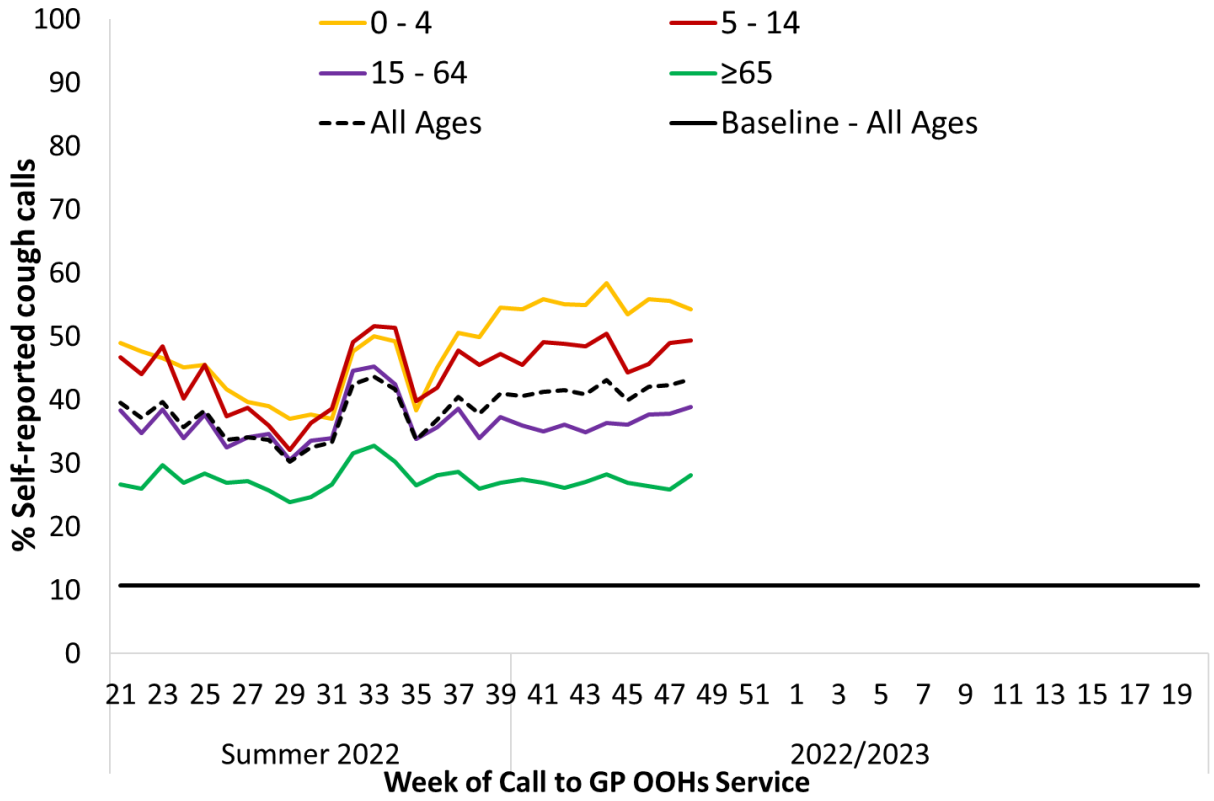

Figure 4: Percentage of self-reported COUGH calls for all ages and by age group as a proportion of total calls to GP Out-of-Hours services by week of call, summer 2022 and the 2022/2023 season. The % cough calls baseline for all ages calculated using the MEM method on historic data is shown. *Source: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

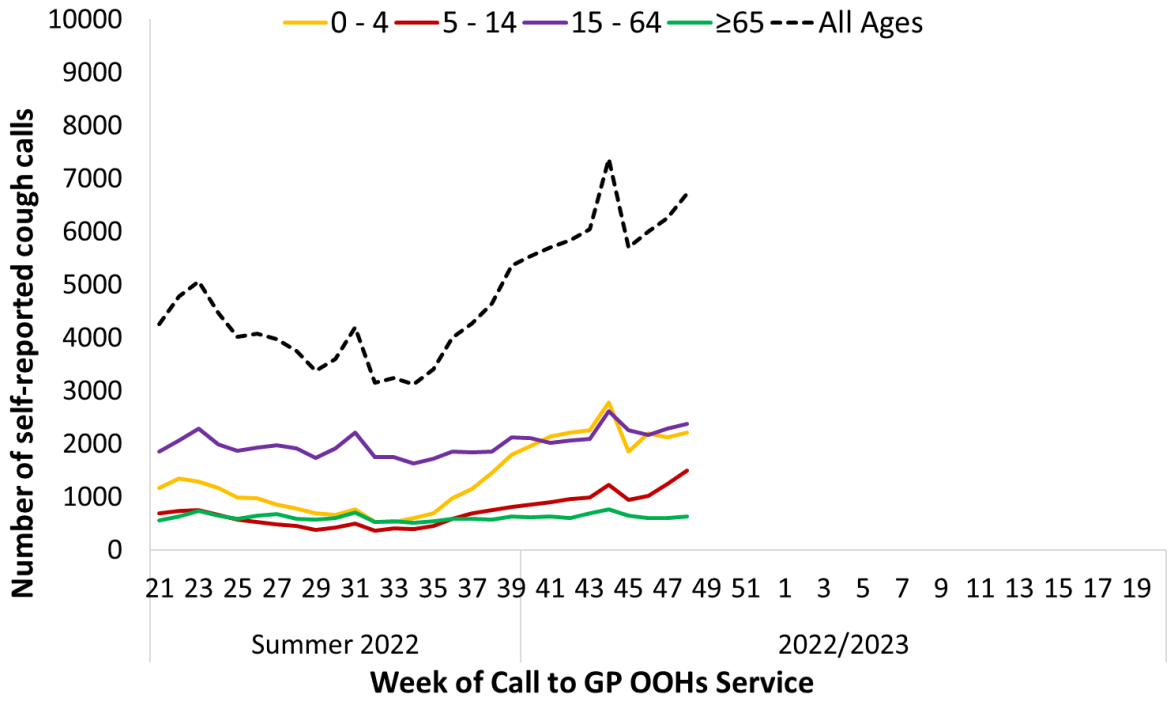

Figure 5: Number of self-reported COUGH calls for all ages and by age group to GP Out-of-Hours services by week of call, Summer 2022 and 2022/2023. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE & ICGP).*

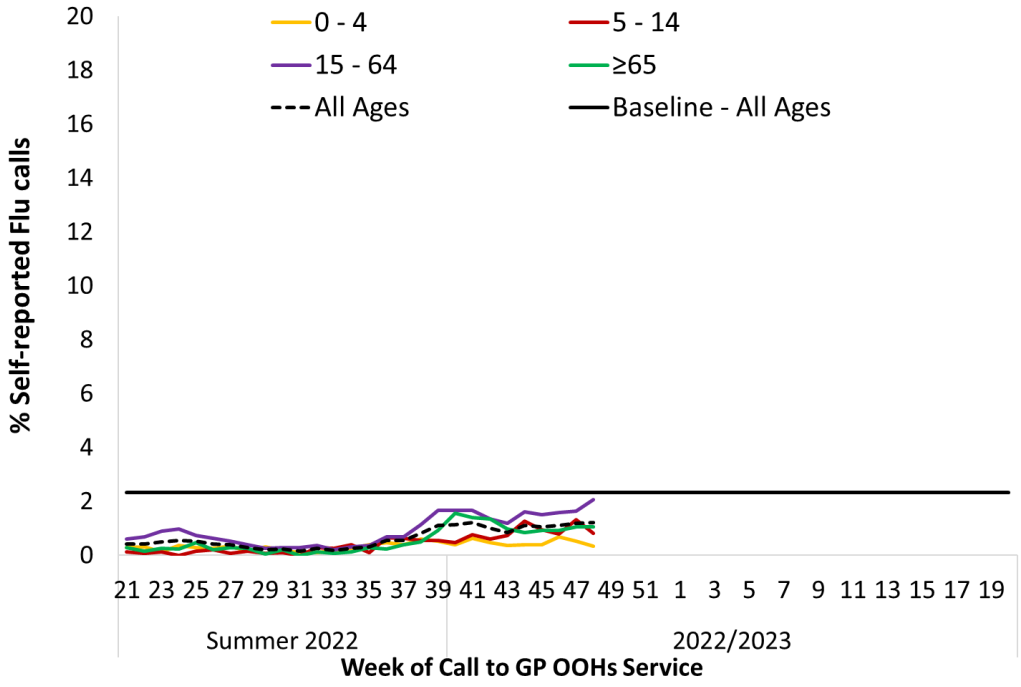

Figure 6: Percentage of self-reported FLU calls for all ages and by age group as a proportion of total calls to GP Out-of-Hours services by week of call, Summer 2022 and 2022/2023. The % flu calls baseline for all ages calculated using the MEM method on historic data is shown. *Source: GP Out-Of-Hours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

- 370 laboratory confirmed influenza cases were notified during week 48 2022 – 14 A(H3), 27 A(H1)pdm09, 313 influenza A (not subtyped) 15 influenza B and one coinfection influenza A(H3) & B. The number of influenza notifications increased during week 48 to 370, compared to 222 during week 47 2022. During the 2022/2023 season to date (weeks 40-48 2022) 1421 laboratory confirmed influenza cases have been notified to HPSC.
- Confirmed influenza cases for week 48 2022 were notified in different HSE areas as outlined in Table 6.
- Age specific rates in notified laboratory confirmed influenza cases were highest in those aged 0-4 years (Figure 8).
- 678 RSV cases were notified during week 48 2022, an increase compared to 610 cases notified during week 47 2022 (Figure 9).
- During week 48 2022, age specific rates in notified laboratory confirmed RSV cases were highest in those aged 0-4 years (Figure 10).

Table 6: Summary of confirmed influenza notifications by HSE area during the 2022/2023 season (weeks 40-48 2022) and week 48 2022 *Source: CIDR*

HSE area	Confirmed cases week 48 2022	Influenza confirmed cases-season to date
HSE-E	139	518
HSE-M	21	73
HSE-MW	34	110
HSE-NE	31	148
HSE-NW	49	257
HSE-SE	21	74
HSE-S	37	119
HSE-W	38	122
Total	**370**	**1421**

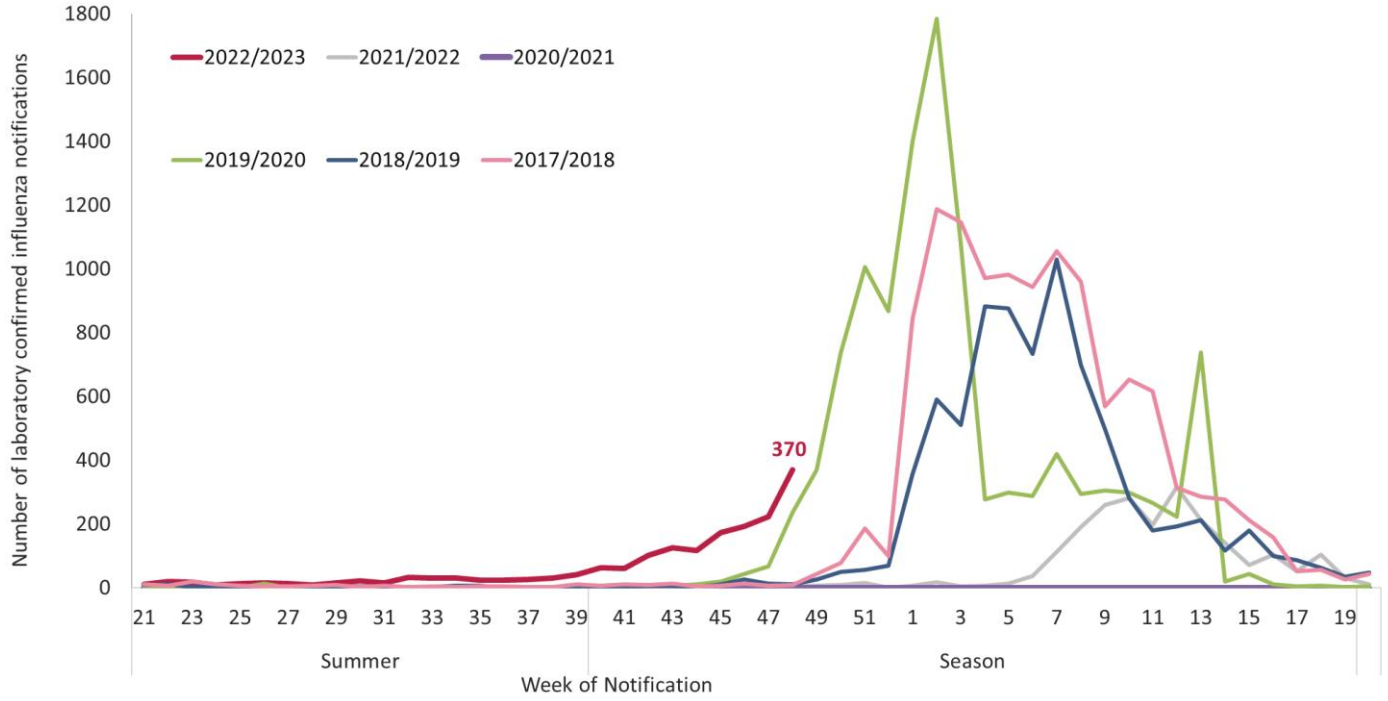

Figure 7: Laboratory confirmed influenza notifications to HPSC by week and season of notification, 2017/2018 to 2022/2023 influenza seasons. *Source: Ireland's Computerised Infectious Disease Reporting System.*

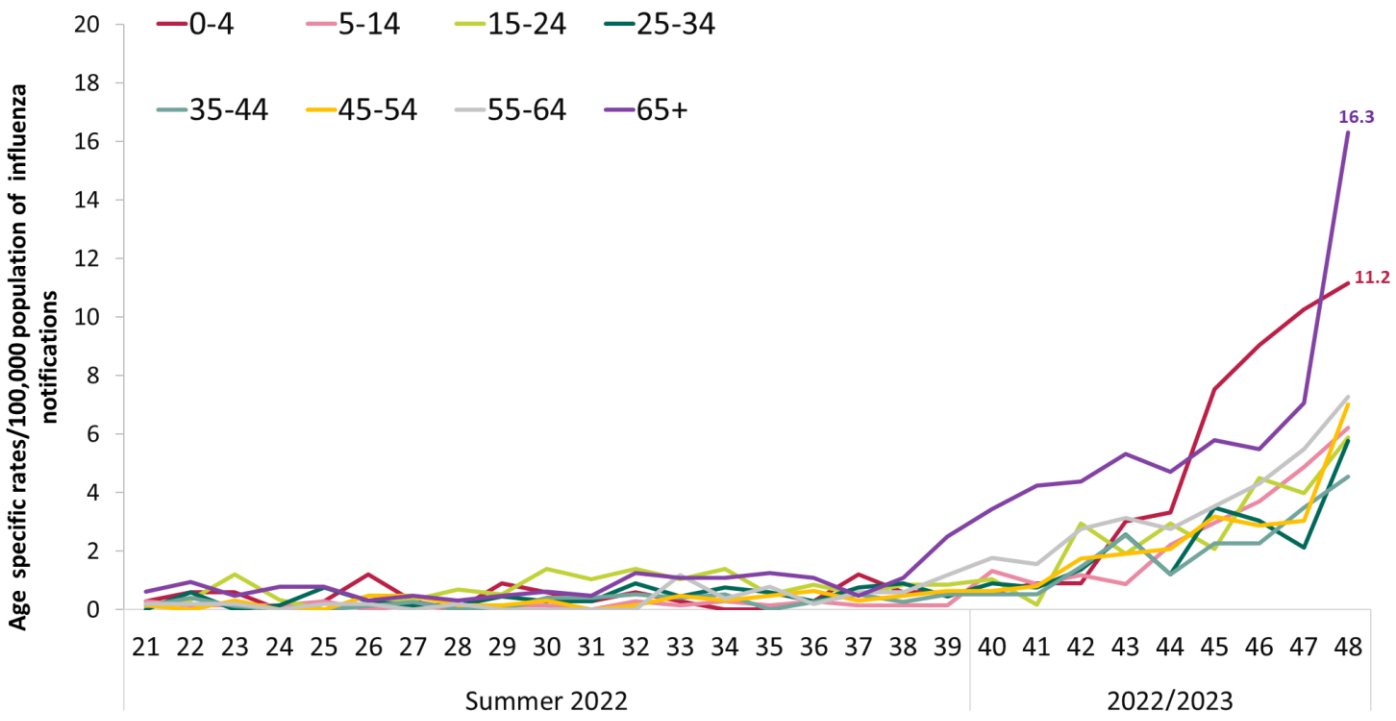

Figure 8: Age specific rates per 100,000 population for laboratory confirmed influenza notifications to HPSC by week of notification. *Source: Ireland's Computerised Infectious Disease Reporting System.*

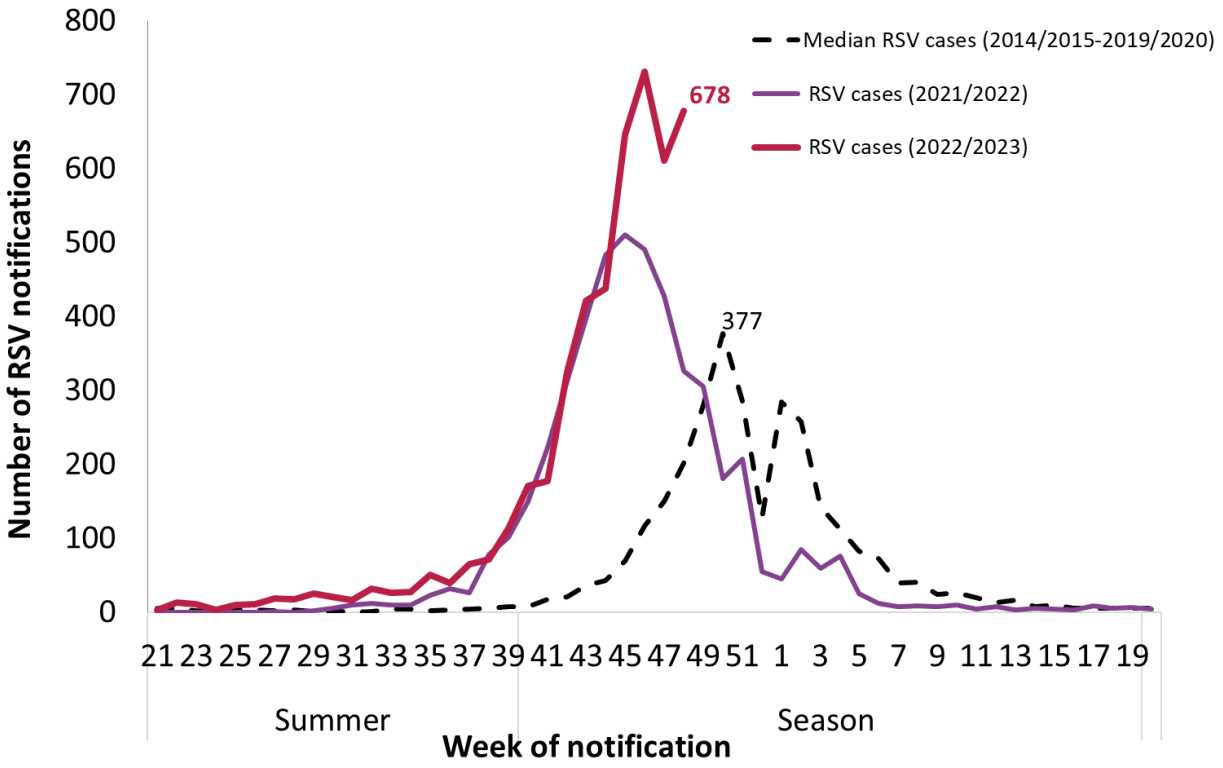

Figure 9: Number of laboratory confirmed RSV notifications to HPSC by week of notification 2022/2023 season 2021/2022 season and median number of RSV notifications by week (2014/2015-2019/2020). *Source: Ireland's Computerised Infectious Disease Reporting System.*

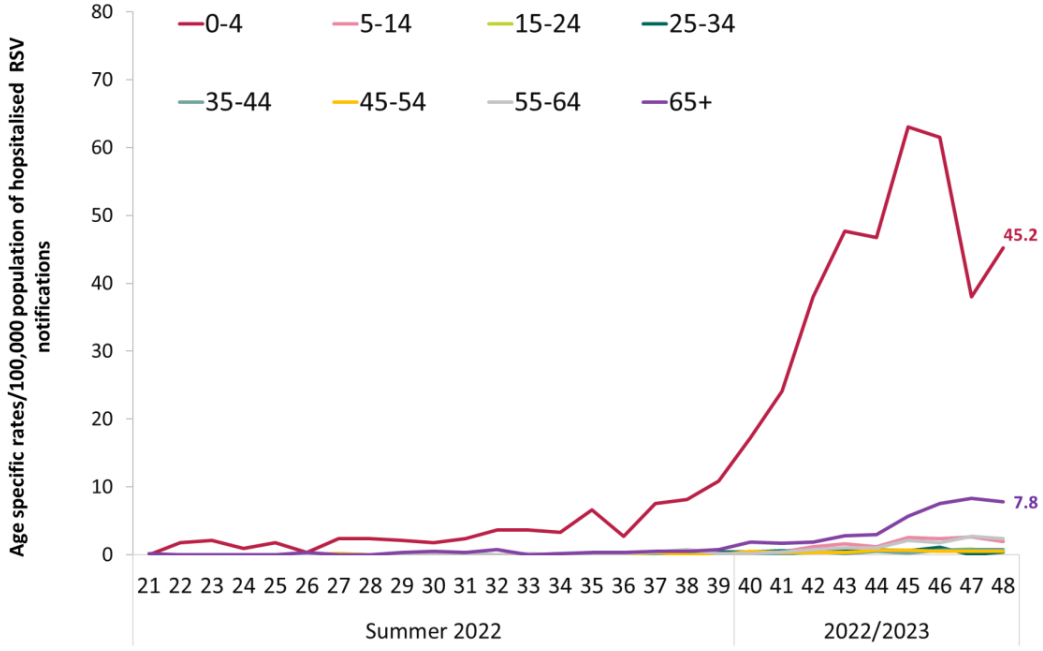

Figure 10: Age specific rates per 100,000 population for laboratory confirmed RSV notifications to HPSC by week of notification. *Source: Ireland's Computerised Infectious Disease Reporting System.*

6. Hospitalisations

- During week 48 2022, 123 laboratory confirmed influenza cases were reported as hospital inpatients (Figure 11): six influenza A(H1)pdm09, three A(H3), 112 influenza A (not subtyped) and two influenza B. This is an increase compared to 65 laboratory confirmed influenza notifications reported as hospital inpatients during week 47 2022. During the 2022/2023 season to date (weeks 40-48 2022), 483 laboratory confirmed influenza cases have been reported as being hospital inpatients.
- In week 48 2022, age specific rates in notified laboratory confirmed hospitalised influenza cases were highest in those aged ≥65 years (Figure 12).
- The number and age specific rate per 100,000 population of laboratory confirmed notified influenza hospitalised and critical care cases for the 2022/2023 season are detailed in Table 8.
- During week 48 2022, 239 RSV cases out of 678 (35%) were reported as hospital inpatients (Figure 13). Patient type of laboratory confirmed influenza and RSV notifications by week for the 2022/2023 season are reported in Tables 6 and 7. It should be noted that patient type is not always reported/updated for notified RSV cases.
- In week 48 2022, age specific rates in notified laboratory confirmed hospitalised RSV cases were highest in those aged 0-4 years and increased in those aged ≥65 years (Figure 14).

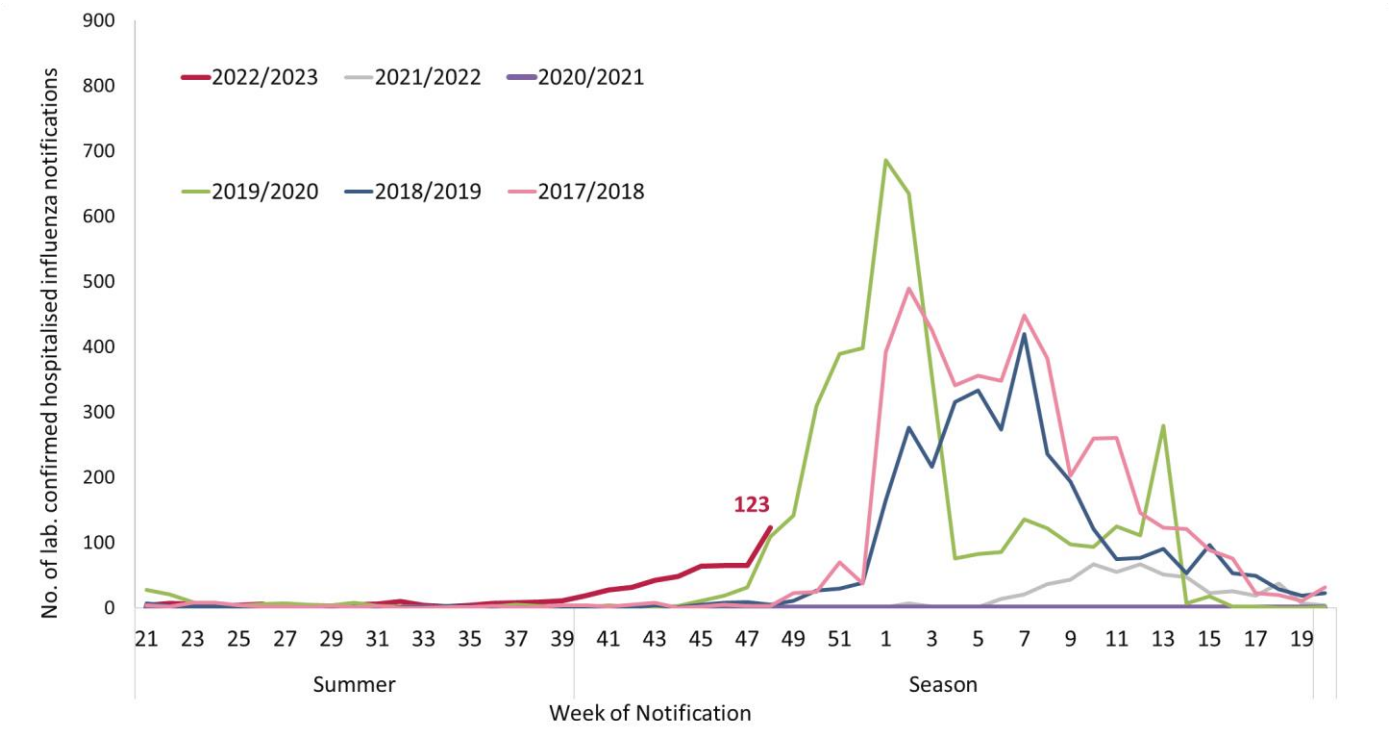

Figure 11: Number of notified laboratory confirmed influenza cases reported as hospital inpatients, for the 2017/2018 to 2022/2023 season. *Source: Ireland's Computerised Infectious Disease Reporting System*

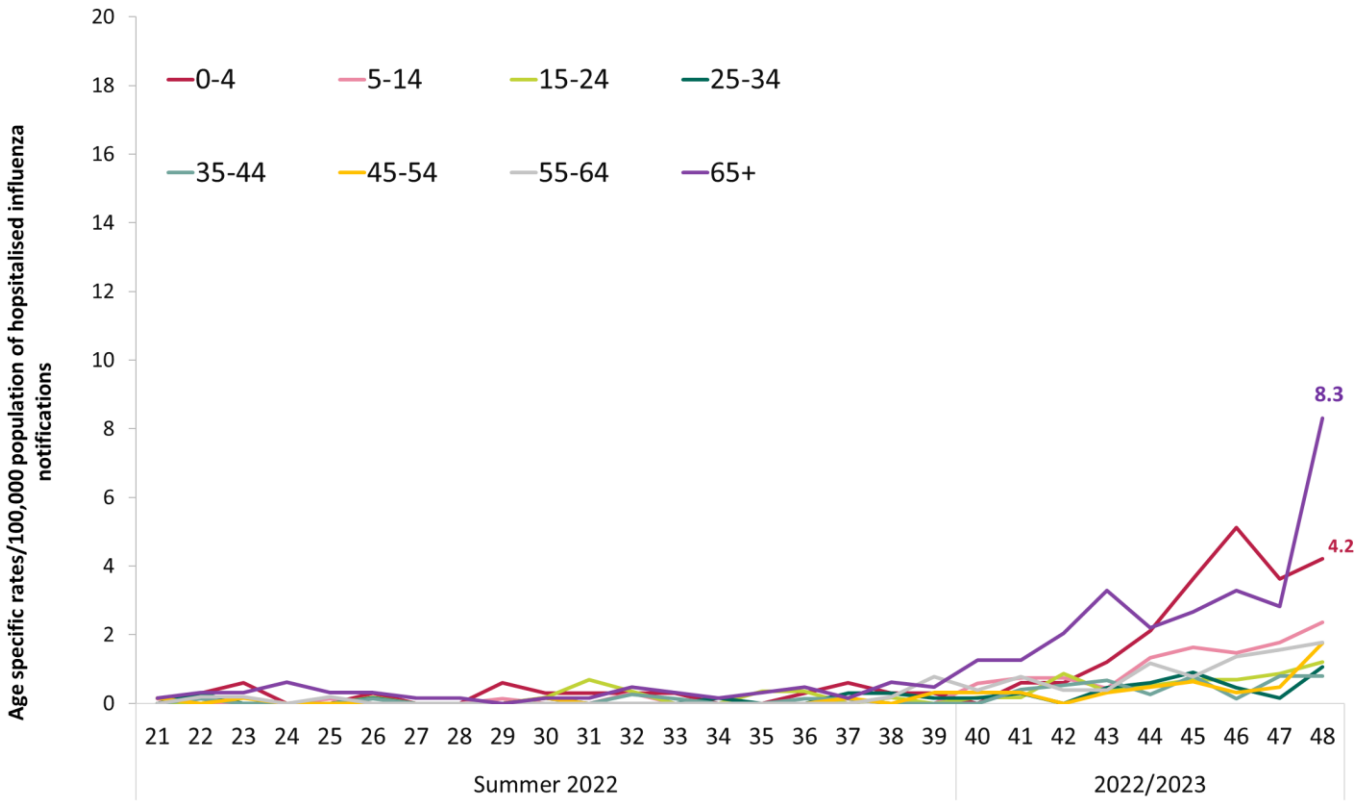

Figure 12: Age specific rates per 100,000 population for laboratory confirmed influenza cases reported as hospital inpatients by week of notification. *Source: Ireland's Computerised Infectious Disease Reporting System.*

Table 7: Number of notified influenza cases reported by patient type and week of notification and 2022/2023 season (weeks 40-48 2022). *Source: Ireland's Computerised infectious Disease Reporting System*

	Patient Type							
	GP Patient	ED patient	Hospital Inpatient	Hospital Day Patient	Hospital Outpatient	Other	Unknown	Total
Week 40	2	11	18	3	9	7	12	**62**
Week 41	4	20	27	1	3	2	2	**59**
Week 42	0	45	31	1	16	3	5	**101**
Week 43	7	35	42	6	20	10	5	**125**
Week 44	2	38	48	6	16	3	4	**117**
Week 45	2	66	64	7	12	12	9	**172**
Week 46	5	81	65	10	15	12	5	**193**
Week 47	3	94	65	18	18	10	14	**222**
Week 48	17	129	123	8	31	27	35	**370**
Total	**42**	**519**	**483**	**60**	**140**	**86**	**91**	**1421**

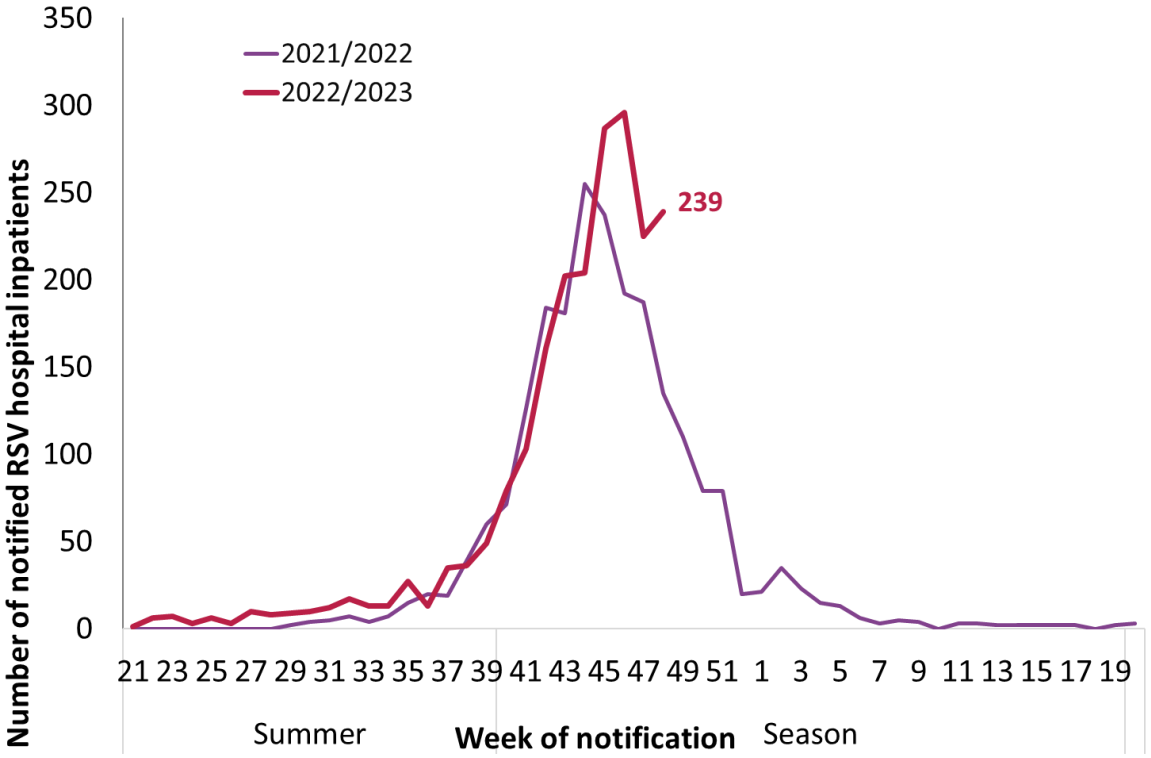

Figure 13: Number of notified RSV cases reported as hospital inpatients, by week of notification and season, 2021/2022 and 2022/2023. *Source: Ireland's Computerised Infectious Disease Reporting System.*

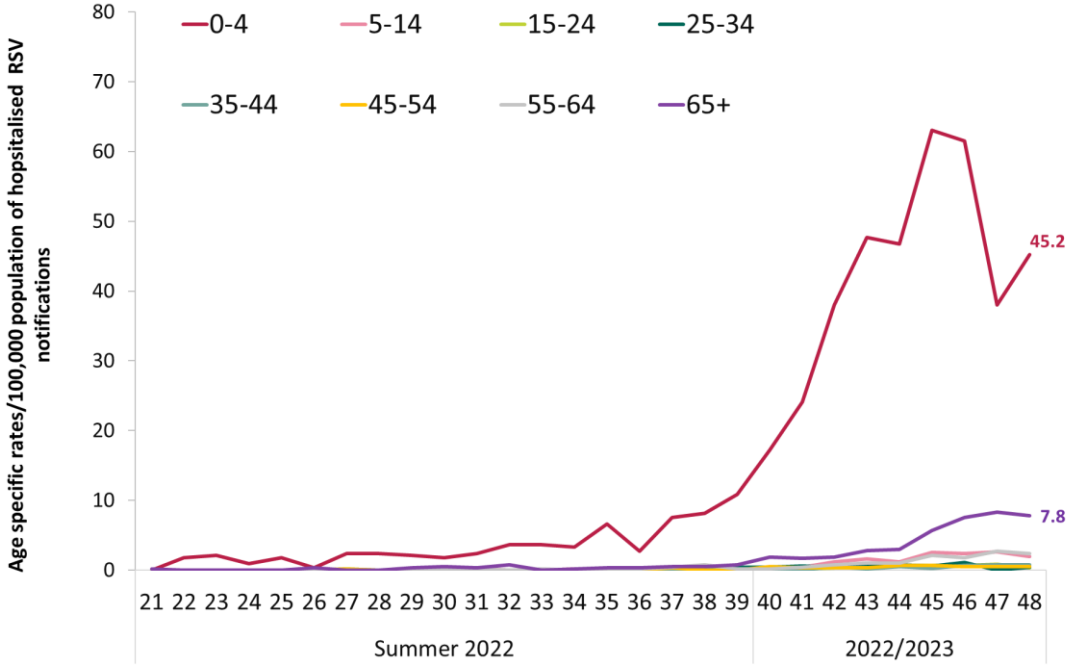

Figure 14: Age specific rates per 100,000 population for laboratory confirmed RSV cases reported as hospital inpatients by week of notification and season, Summer 2022 and 2022/2023. *Source: Ireland's Computerised Infectious Disease Reporting System*

Table 8: Number of notified **RSV** cases reported by patient type and week of notification (weeks 40-48 2022). *Source: Ireland's Computerised infectious Disease Reporting System*

	Patient Type							
	GP Patient	ED patient	Hospital Inpatient	Hospital Day Patient	Hospital Outpatient	Other	Unknown	Total
Week 40	5	51	79	5	12	7	11	**170**
Week 41	3	45	103	2	13	7	4	**177**
Week 42	5	121	161	2	14	7	15	**325**
Week 43	5	148	202	9	21	20	16	**421**
Week 44	6	172	204	3	22	15	15	**437**
Week 45	8	238	287	12	37	37	27	**646**
Week 46	10	320	296	5	32	36	32	**731**
Week 47	6	275	225	7	24	40	33	**610**
Week 48	32	245	239	3	35	43	81	**678**
Total	**80**	**1615**	**1796**	**48**	**210**	**212**	**234**	**4195**

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.

- Two laboratory confirmed influenza cases, one influenza A (not subtyped) and one influenza AH3 were admitted to critical care and notified to HPSC during week 48 2022.
- During the 2022/2023 season to date (weeks 40-48), 15 laboratory confirmed influenza cases– two influenza A(H3), two A(H1)pdm09 and 11 influenza A (not subtyped) have been admitted to critical care and notified to HPSC.
- The number and age specific rate per 100,000 population of laboratory confirmed notified influenza hospitalised and critical care cases for the 2022/2023 season are detailed in Table 8.

Table 9: Cumulative number and age specific rate per 100,000 population of laboratory confirmed notified influenza hospitalised and critical care cases, weeks 40-48 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	9	14.5	0	0.0
1-4	61	22.7	0	0.0
5-14	75	11.1	0	0.0
15-24	32	5.6	0	0.0
25-34	27	4.1	3	0.5
35-44	33	5.0	1	0.1
45-54	29	4.6	0	0.0
55-64	44	8.6	3	0.6
≥65	173	27.1	8	1.3
Unknown		–		–
Total	**483**	**10.1**	15	**0.3**

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/

- Two deaths in notified influenza cases were reported to HPSC during week 48 2022.
- During the 2022/2023 season (weeks 40 - 48 2022), six deaths in notified influenza cases were reported to HPSC – two influenza AH3, one influenza A(H1)pdm09 and three influenza A (not subtyped).
- No excess all-cause mortality was reported during week 47 2022 or for weeks 40-47 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.

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/

- Nine influenza outbreaks were notified to HPSC during week 48 2022, one influenza A(H1)pdm09 and the remaining eight were influenza A (not subtyped)
- For an overview of outbreaks for the season to date (weeks 40-48 2022) please see Tables 9 and 10.

Table 10: Summary of respiratory virus and ARI outbreaks by HSE area and infection during the 2022/2023 season *Source: CIDR*

HSE area	Influenza		Respiratory syncytial virus infection		Acute respiratory infection		Total	
	Week 48	2022/2023	Week 48	2022/2023	Week 48	2022/2023	Week 48	2022/2023
HSE-E	2	6	0	5	0	0	2	11
HSE-M	0	0	0	0	0	0	0	0
HSE-MW	0	0	0	0	0	0	0	0
HSE-NE	1	3	1	12	0	0	2	15
HSE-NW	3	6	0	3	1	2	4	11
HSE-SE	1	1	0	0	0	0	1	1
HSE-S	0	1	2	5	0	0	2	6
HSE-W	2	3	1	1	0	0	3	4
Total	**9**	**20**	**4**	**26**	**1**	**2**	**14**	48

Table 11: Summary of respiratory virus and ARI outbreaks by outbreak location & pathogen during 2022/2023 season: *Source: CIDR*

Outbreak location	Influenza		Respiratory syncytial virus		Acute respiratory infection		Total	
	Week 48	2022/2023	Week 48	2022/2023	Week 48	2022/2023	Week 48	2022/2023
Community hospital/Long-stay unit	0	1	1	2	1	2	2	5
Nursing Home	1	4	2	9	0	0	3	13
Hospital	6	11	1	4	0	0	7	15
Residential Institution	2	4	0	1	0	0	2	5
Childcare facility	0	0	0	1	0	0	0	1
Family Outbreaks	0	0	0	9	0	0	0	9
Total	**9**	**20**	**4**	**26**	**1**	**2**	**14**	**48**

10. International Summary

Globally, influenza activity increased and where subtyped, influenza A(H3N2) viruses predominated overall. In North America, Europe, East Asia and Southern Asia influenza activity increased with Influenza A(H3N2) the predominant virus detected. In central Asia, however, Kazakhstan reported high influenza activity with B/Victoria-lineage viruses predominating. In tropical Africa, influenza activity remained low with detections of influenza A(H1N1)pdm09, A(H3N2) and B/Victoria reported. Other regions remained stable or decreased in activity.

In the European region, during week 47 2022 (week ending 27/11/2022), influenza virus positivity in sentinel primary care specimens increased to 14% from 13% which is above the ECDC influenza positivity threshold of 10%. For week 47 2022, 512 (14%) of 3,563 sentinel GP specimens tested positive for an influenza virus; 92% were type A and 8% were type B. Of 388 subtyped A viruses, 88% were A(H3) and 12% were A(H1)pdm09. Of 4 type B viruses ascribed to a lineage, all were B/Victoria.

For week 47 2022, 3,551 of 57,670 specimens from non-sentinel sources (such as hospitals, schools, primary care facilities not involved in sentinel surveillance, or nursing homes and other institutions) tested positive for an influenza virus; 2,336 (94%) were type A and 215 (6%) were type B. Of 976 subtyped A viruses, 539 (55%) were A(H3) and 437 (45%) were A(H1)pdm09. Of 3 influenza B viruses ascribed to a lineage, all were of B/Victoria lineage. Of 41 countries and areas reporting on geographic spread of influenza viruses, six reported no activity, 18 reported sporadic spread, two reported local spread, nine reported regional spread (Albania, Finland, France, Kazakhstan, Republic of Moldova, Russian Federation and Ukraine) and six reported widespread influenza activity (Germany, Scotland, Kazakhstan, Portugal, Russian Federation, Turkey).

WHO is 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

12. Case Definitions

Influenza-like illness (ILI)	*Acute respiratory infection (ARI)*
• Sudden onset of symptoms AND at least one of the following four systemic symptoms: • Fever or feverishness, malaise, headache, myalgia AND at least one of the following three respiratory symptoms: • Cough, sore throat, shortness of breath	• Sudden onset of symptoms AND at least one of the following four respiratory symptoms: • Cough, sore throat, shortness of breath, coryza AND • A clinician's judgement that the illness is due to an infection

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

Acknowledgements

This report was prepared by the HPSC influenza epidemiology team: Maeve McEnery, Eva Kelly, Amy Griffin, Adele McKenna, Elaine Brabazon, Lisa Domegan and Joan O'Donnell. HPSC wishes to thank the sentinel GPs, the ICGP, NVRL, Departments of Public Health, ICSI, HSE-Healthlink and HSE-NE for providing data for this report.