

Influenza Surveillance in Ireland – Weekly Report

Influenza Weeks 52 and 53 2020 (21st December 2020 – 3rd January 2021)



 **Intensive Care Society of Ireland**

Summary

There was no evidence of influenza viruses circulating in the community in Ireland during weeks 52 (week ending 27/12/2020) and 53 2020 (week ending 03/01/2021) or during weeks 40-53 2020. Rhinovirus and enterovirus positive detections were reported throughout December 2020. COVID-19 epidemiology reports are published on www.hpsc.ie.

- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate increased to 65.1/100,000 population in week 53 2020, compared to 45.2/100,000 population in week 52 2020 and 44/100,000 during week 51 2020.
 - The sentinel GP ILI consultation rate has been above the Irish baseline threshold (18.1/100,000 population) for seven consecutive weeks and during week 53 2020 exceeded the medium intensity threshold level (57.5/100,000).
 - Sentinel GP ILI consultations for the 2020/2021 season to date are reflecting SARS-CoV-2 activity, rather than influenza.
 - Sentinel GP ILI age specific consultation rates increased in the 15-64 and ≥65-year age groups in both weeks 52 and 53 2020, compared to previous weeks.
- **GP Out of Hours:** 11,127 (39.7% of total calls; N=28,042) cough calls were reported by a network of GP Out-of-Hours services during 53 2020. This is the highest number on record (data available from 2011).
- **National Virus Reference Laboratory (NVRL):**
 - Of 558 sentinel GP ILI specimens and 1694 non-sentinel respiratory specimens tested for influenza and RSV this season to date, no positive influenza or RSV detections were reported.
 - Rhinovirus/enterovirus positive detections continued to be detected in December 2020. Sporadic detections of adenovirus, human metapneumovirus and bocavirus were also reported this season.
- **Influenza notifications:** No confirmed influenza cases were notified during weeks 40-53 2020.
- **RSV notifications:** No confirmed RSV cases were notified during weeks 52 and 53 2020. Only one confirmed RSV case was notified this season to date, a hospitalised paediatric case in week 42 2020.
- **Hospitalisations and Critical care admissions:** No confirmed influenza hospitalised or critical care cases were notified to HPSC during weeks 40-53 2020.
- **Mortality:** There were no reports of deaths occurring in notified influenza cases during weeks 40-53 2020.
- **Outbreaks:** No influenza, RSV or acute respiratory infection (ARI - excluding COVID-19) outbreaks were reported to HPSC during weeks 40-53 2020.
- **Influenza Vaccinations:** From the 1st September 2020 to the week ending 05/01/2021, 1,195,899 influenza vaccinations were provided by GPs and Pharmacists.
- **International:** In the European Region (latest available data up to 20/12/2020), influenza activity continued at low inter-seasonal levels with only sporadic detections of influenza A and B reported.

1. GP sentinel surveillance system - Clinical Data

- During week 53 2020, 173 influenza-like illness (ILI) cases were reported from the Irish sentinel GP network, corresponding to an ILI consultation rate of 65.1/100,000 population. During week 52 2020, 124 ILI cases were reported, corresponding to an ILI consultation rate of 45.2/100,000 population, compared to the updated rate of 44/100,000 reported during week 51 2020. (Figure 1). On the 09/03/2020, GP ILI consultations changed from face-to-face consultations to phone consultations.
- The sentinel GP ILI consultation rate has been above the Irish baseline threshold (18.1/100,000 population) for seven consecutive weeks and rose above the medium intensity threshold during week 53 2020, reflecting circulation of SARS-CoV-2 in the community, rather than influenza viruses.
- Sentinel GP ILI age specific consultation rates increased in the 15-64 and ≥65-year age groups in both weeks 52 and 53 2020, compared to previous weeks. Sentinel GP ILI age specific consultation rates in the 0-14-year age group decreased during weeks 52 and 53 2020, coinciding with the school Christmas holidays. (Figure 2 & Table 1).
- HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) has reviewed the Irish sentinel GP baseline ILI threshold for the 2020/2021 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% indicates the likelihood that influenza is circulating in the community. The Moving Epidemic Method (MEM) is used to calculate thresholds for GP ILI consultations using 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.

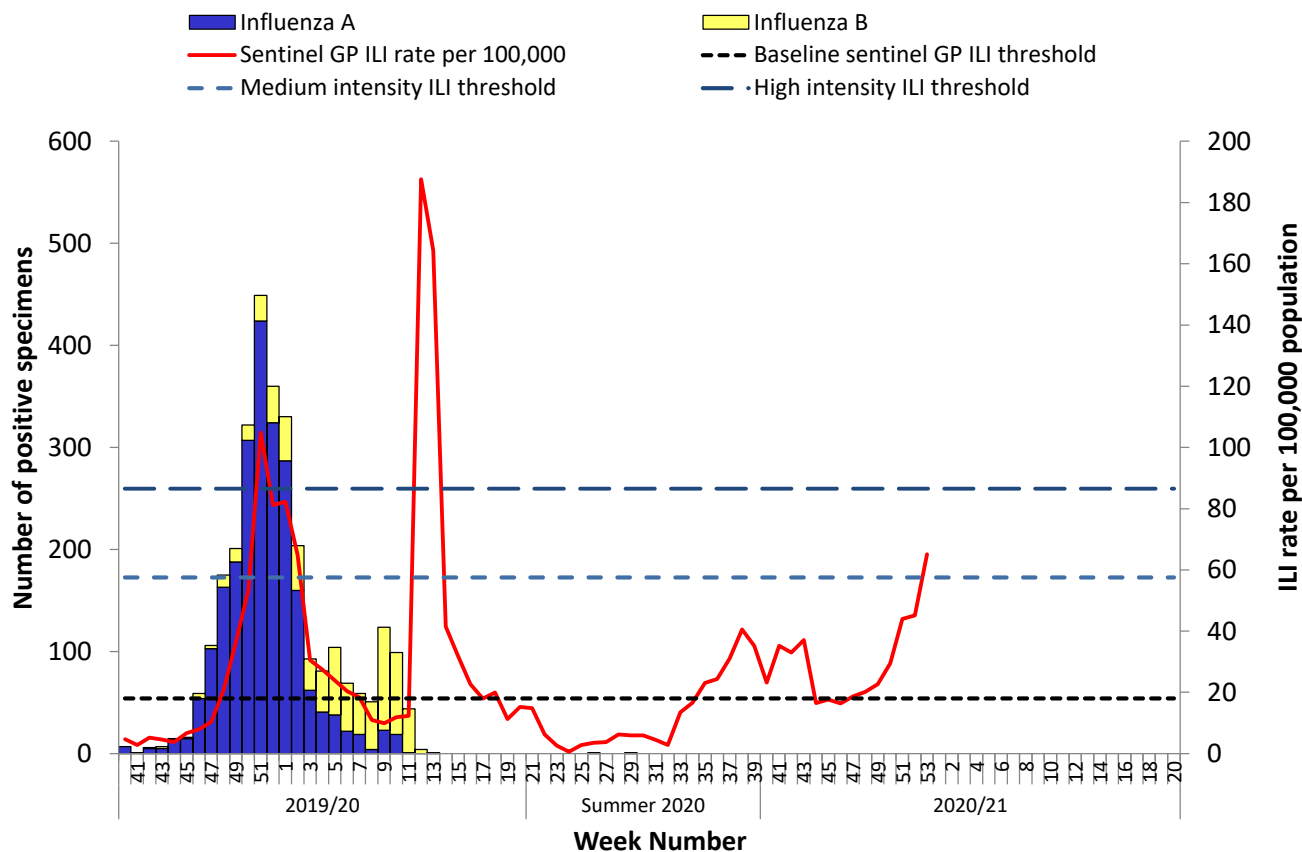


Figure 1: Sentinel GP Influenza-like illness (ILI) consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season. *Source: ICGP and NVRL*

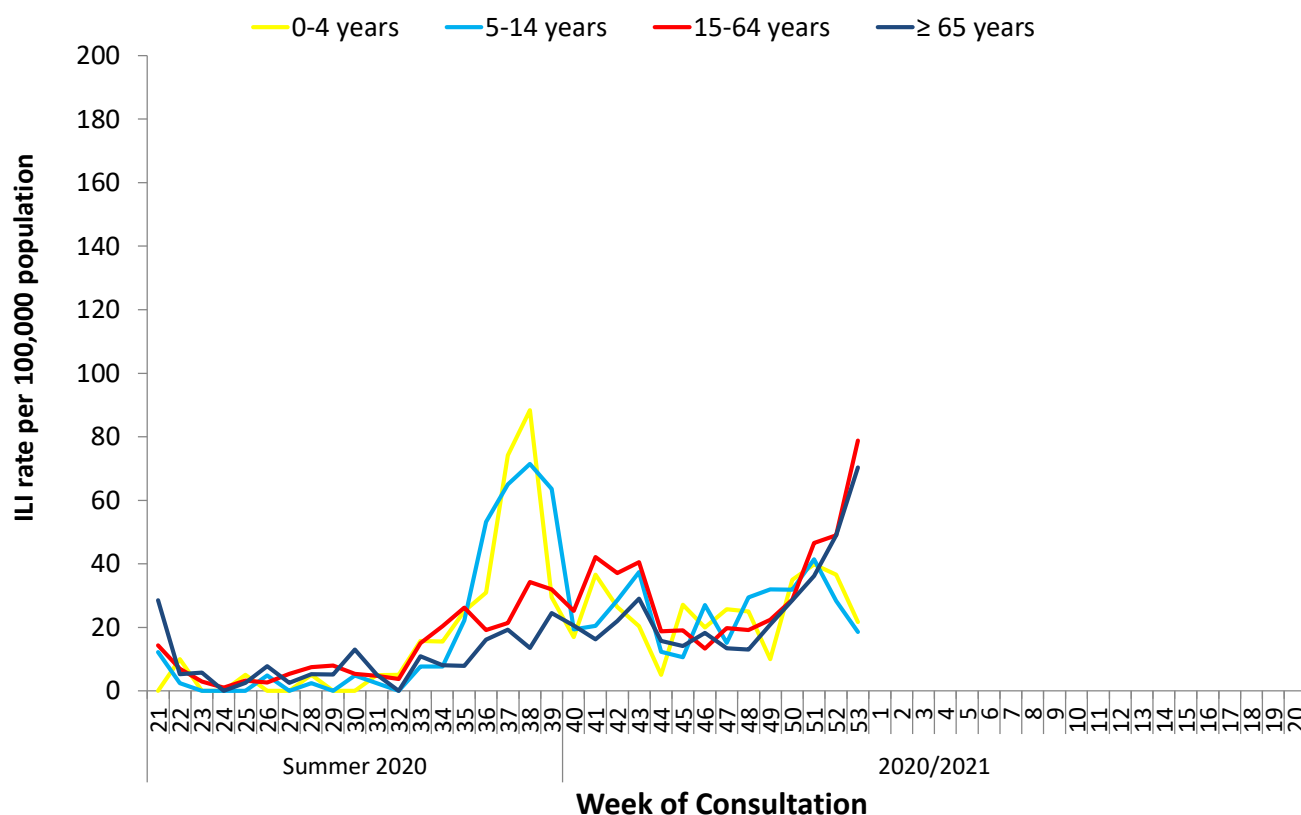


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week of phone consultation during the summer of 2020 and the 2020/2021 influenza season to date. *Source: ICGP.*

Sentinel GP ILI Threshold Levels	Below Baseline	Low	Moderate	High	Extraordinary
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Sentinel GP ILI consultation/100,000 pop.	Week of Consultation													
	40	41	42	43	44	45	46	47	48	49	50	51	52	53
All Ages	23.2	35.2	33.1	37.1	16.5	17.7	16.4	18.7	20.2	22.7	29.5	44.0	45.2	65.1
<15 yrs	18.6	25.8	27.8	31.8	10.0	16.1	24.7	18.7	28.0	24.8	32.9	40.9	31.0	19.6
15-64 yrs	25.2	42.2	37.1	40.5	18.8	19.0	13.3	19.7	19.1	22.4	28.7	46.5	49.0	78.8
≥65 yrs	20.5	16.3	22.0	29.1	15.7	14.1	18.2	13.4	13.0	20.9	28.6	36.2	49.0	70.3
Number of reporting practices (N=60)	51	55	55	56	57	54	58	57	58	58	58	58	57	54

Table 1: Age specific sentinel GP ILI consultation rate per 100,000 population by week (weeks 40-53 2020), colour coded by sentinel GP ILI age specific Moving Epidemic Method (MEM) threshold levels. *Source: ICGP.*

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2020/2021 influenza season refer to sentinel GP 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 and figure 3). The COVID-19 pandemic caused disruption to sentinel GP influenza networks across the globe. In Ireland, virological surveillance and testing for influenza and RSV within the Irish sentinel GP network recommenced on swabs taken from the 18th November 2020.

- Of 558 sentinel GP ILI specimens and 1694 non-sentinel respiratory specimens tested for influenza and RSV this season to date, no positive influenza or RSV detections were reported (Table 2).
- Rhinovirus/enterovirus positive detections increased in September and have continued to be detected throughout the 2020/21 season up to week 52 2020 (Figure 3). Sporadic detections of adenovirus, hMPV, and bocavirus were reported during weeks 40-52 2020. At the time of publication, some testing data for week 53 2020 were incomplete due to priority SARS-CoV-2 testing. (Table 3).

Table 2: Number of sentinel GP ILI referrals and non-sentinel* respiratory specimens tested by the NVRL for influenza and RSV and positive results, for weeks 52 and 53 2020 and the 2020/2021 season to date. *Source: NVRL*

Week	Specimen type	Total tested	Influenza		RSV	
			Number positive	% positive	Number positive	% positive
52 & 53 2020	Sentinel GP ILI referral	264	0	0.0	0	0.0
	Non-sentinel	171	0	0.0	0	0.0
	Total	435	0	0.0	0	0.0
2020/2021	Sentinel GP ILI referral	558	0	0.0	0	0.0
	Non-sentinel	1694	0	0.0	0	0.0
	Total	2252	0	0.0	0	0.0

Table 3: Number of non-sentinel respiratory specimens tested by the NVRL for other respiratory viruses (excluding SARS-CoV-2) and positive results, for weeks 52 and 53 2020 and the 2020/2021 season to date. Data for week 53 2020 were incomplete at the time of publication. *Source: NVRL*

Week	Total tested	Adenovirus	% Adenovirus	Rhino/enterovirus	% Rhino/enterovirus	Bocavirus	% Bocavirus	hMPV	% hMPV
52 & 53 2020	171	6	3.5	21	12.3	1	0.6	0	0.0
2020/2021	1694	72	4.3	370	21.8	3	0.2	8	0.5

* Please note that non-sentinel specimens relate to specimens referred to the NVRL (other than sentinel specimens) and may include more than one specimen from each case.

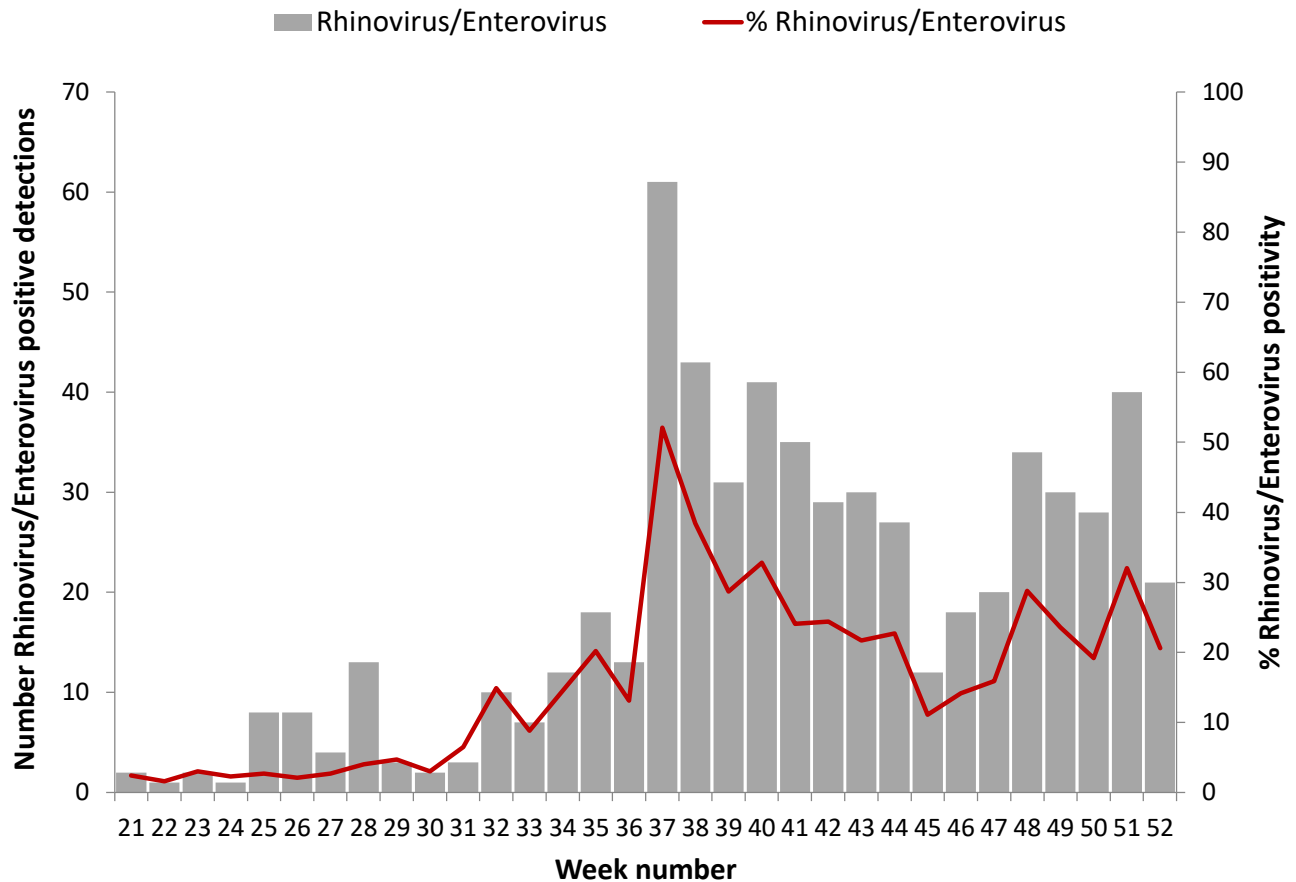


Figure 3: Number and percentage of non-sentinel Rhinovirus/Enterovirus positive specimens detected by the NVRL during the 2020/2021 season. Data for week 53 2020 were not available at the time of publication. *Source: NVRL.*

3. Regional Influenza Activity by HSE-Area

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

No confirmed influenza cases or outbreaks were notified in Ireland during weeks 40-53 2020. Geographic spread of influenza viruses is based on laboratory confirmed influenza case/outbreak data. **No confirmed influenza activity was reported for any HSE-Area during this period.**

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 self-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.

- The proportion of self-reported 'flu' calls to GP OOHs services exceeded baseline levels during week 53 2020 at 3.3% (619/18723), compared to 1.8% (367/20283) during week 52 2020 (Figure 4).
- 11,127 (39.7% of total calls; N=28,042) self-reported cough calls were reported by a network of GP Out-of-Hours (OOHs) services during 53 2020 (figures 5 & 6) This is the highest number of self-reported cough calls on record (data available from 2011). Five GP OOHs services reported data during week 53 2020.
- 6784 (39.2% of total calls; N=17,327) cough calls were reported during 52 2020.
- Baseline threshold levels for self-reported cough and 'flu' calls are 10.75% and 2.34%, respectively.
- GP OOHs data are continuously updated as more retrospective data are reported.

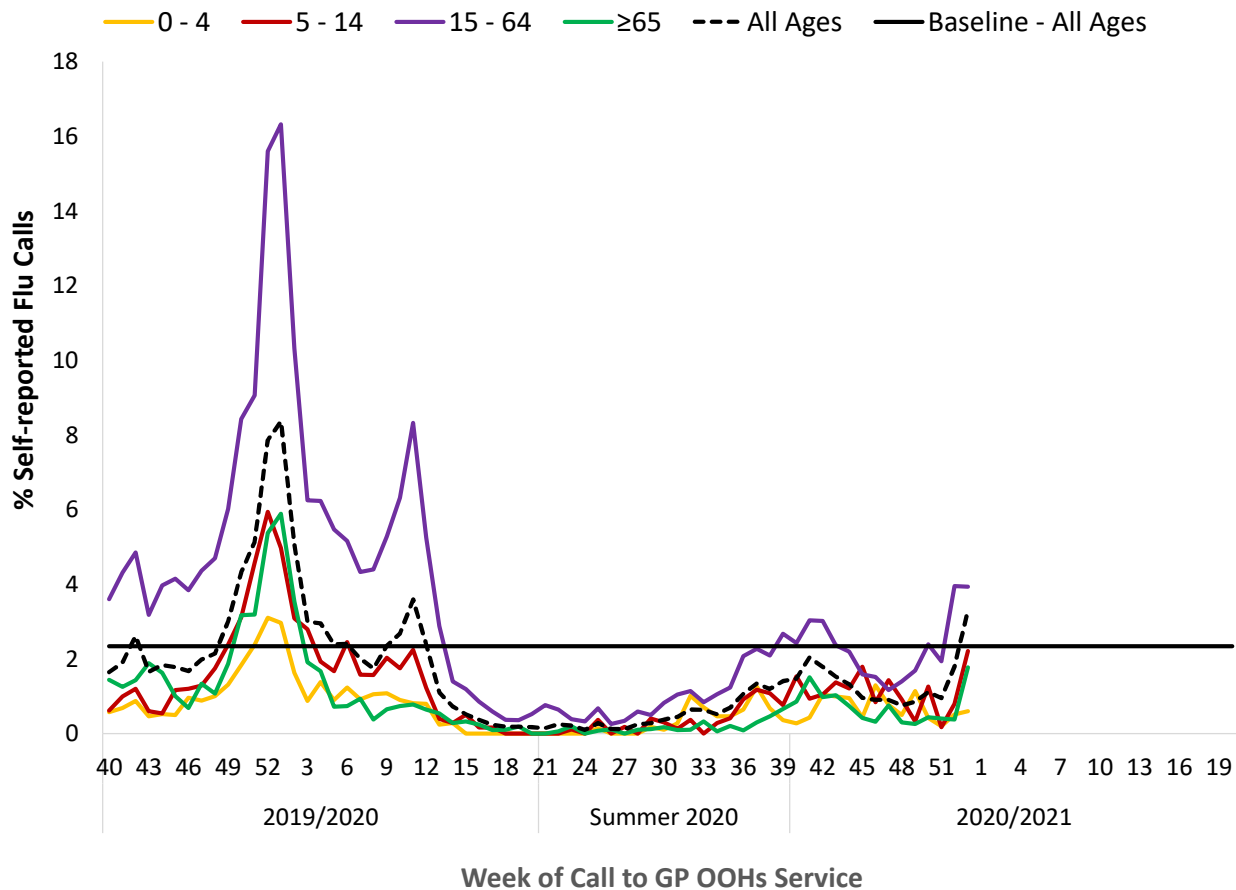


Figure 4: Percentage of self-reported Influenza/ILI calls for all ages and by age group as a proportion of total calls to Out-of-Hours GP Co-ops by week and season. The % Influenza/ILI calls baseline for all ages calculated using the MEM method on historic data is shown. *Source: GP Out-Of-Hours services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

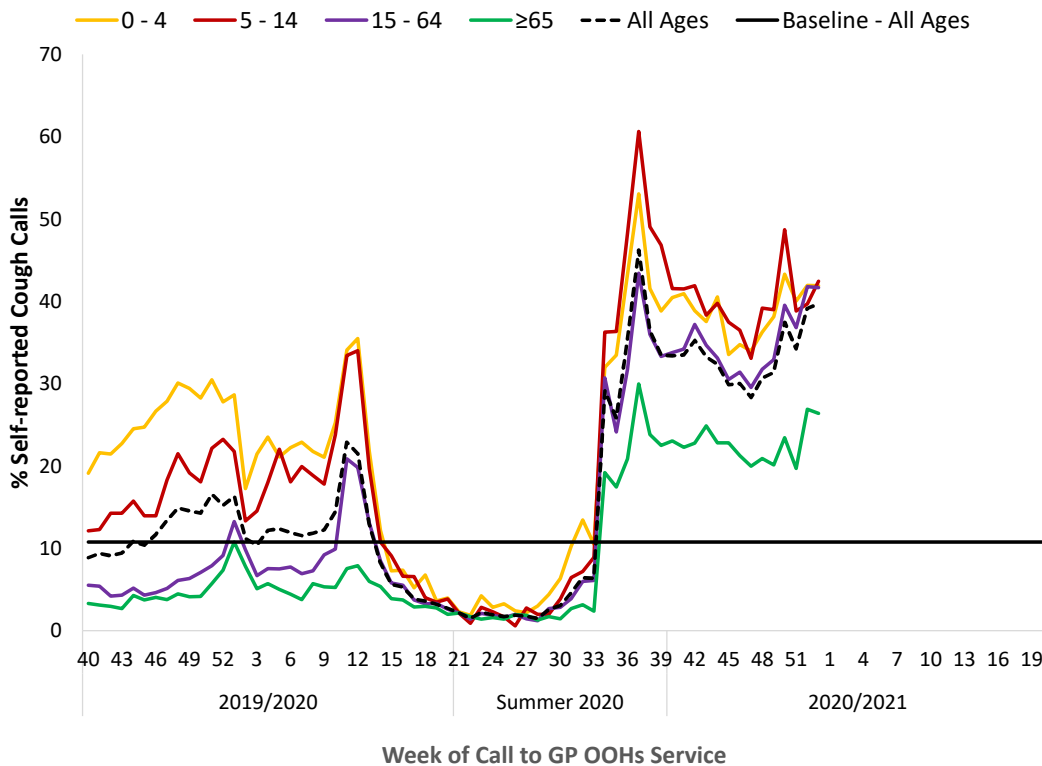


Figure 5: Percentage of self-reported COUGH calls for all ages and by age group as a proportion of total calls to Out-of-Hours GP Co-ops by week and season. The % cough calls baseline for all ages calculated using the MEM method on historic data is shown. *Source: GP Out-Of-Hours services in Ireland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

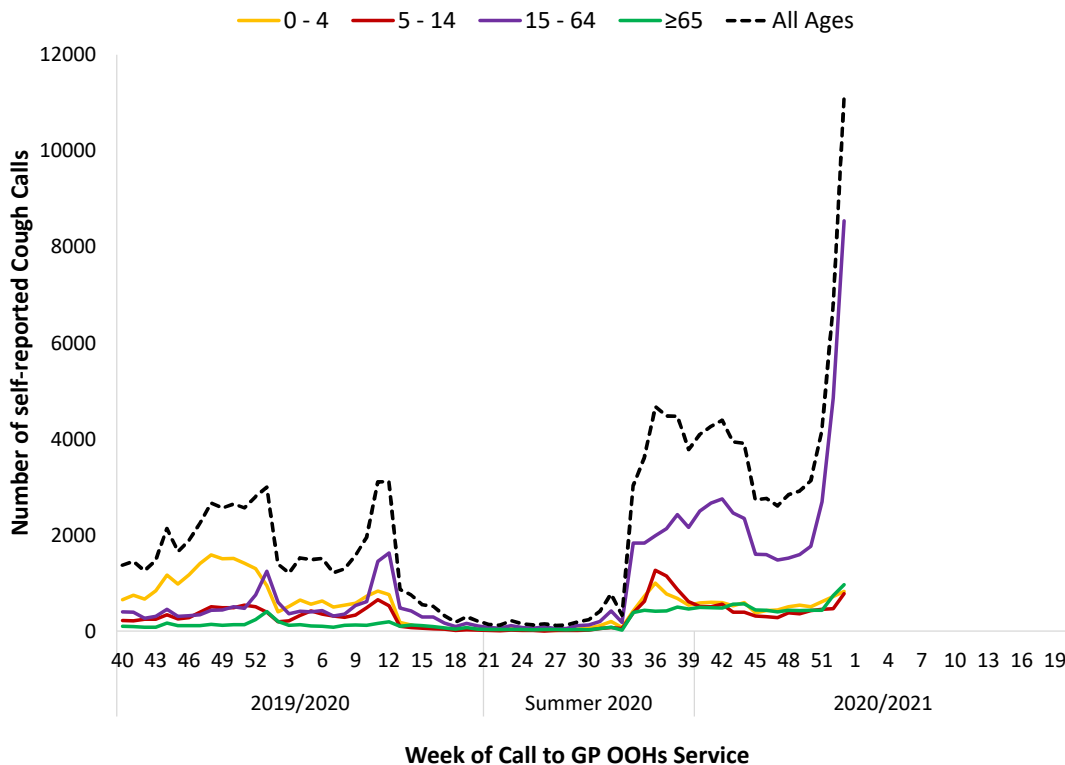


Figure 6: Number of self-reported COUGH calls for all ages and by age group to Out-of-Hours GP Co-ops by week and season. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

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](#). No confirmed influenza notifications were reported during weeks 40-53 2020. No confirmed RSV cases were notified during weeks 52 and 53 2020. Only one confirmed RSV case was notified during the 2020/2021 season to date, a hospitalised paediatric case notified during week 42 2020.

6. Influenza Hospitalisations

No confirmed influenza hospitalised cases were notified to HPSC during weeks 40-53 2020.

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 units and reported to HPSC during weeks 40-53 2020.

8. Sentinel Hospital Network – Respiratory Admissions

The Departments of Public Health have established a network of eight sentinel hospitals located around the country, to report data on total, emergency and respiratory admissions on a weekly basis.

Respiratory admissions reported from the sentinel hospital network have remained relatively stable during weeks 40-51 2020 with a median of 214 (IQR 201-245) respiratory admissions per week reported during this period. The number of respiratory admissions reported from six sentinel hospitals increased during week 51 2020 to 238, from 200 in week 50 2020. The COVID-19 pandemic has caused disruption to reporting from the sentinel hospital network, with only six of the eight sentinel hospitals reporting each week between weeks 40-51 2020 (Figure 7). **Due to priority COVID-19 work and current capacity issues, data were not available for weeks 52 and 53 2020 at the time of publication.**

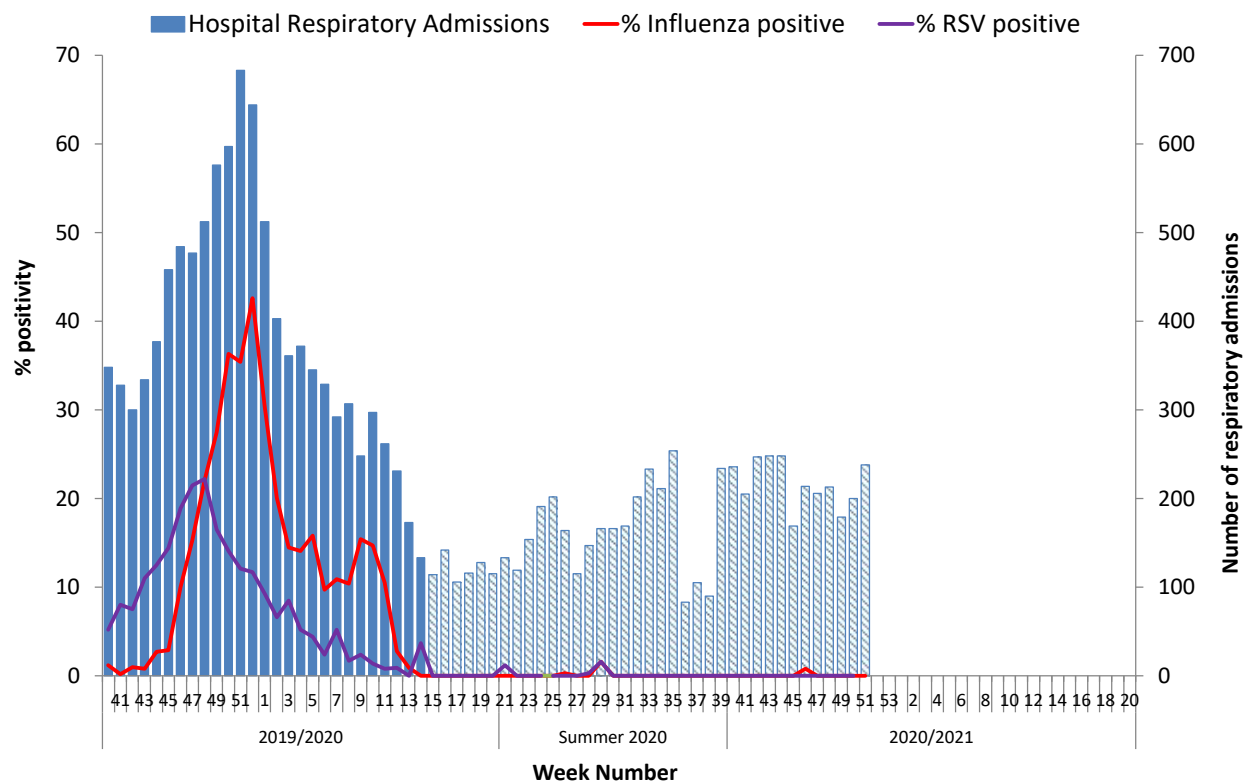


Figure 7: Number of respiratory admissions reported from the sentinel hospital network and % positivity for influenza and RSV (reported by the NVRL) by week and season. *Source: Departments of Public Health - Sentinel Hospital Network & NVRL. Weeks with missing sentinel hospital data are represented by the hatched bar.*

9. Mortality Surveillance

Influenza-associated deaths include all deaths where influenza is reported as the primary/main cause of death by the physician or if influenza is listed anywhere on the death certificate as the cause of death. HPSC receives daily mortality data from the General Register Office (GRO) on all deaths from all causes registered in Ireland. These data have been used to monitor excess all-cause and influenza and pneumonia deaths as part of the influenza surveillance system and the European Mortality Monitoring Project. These data are provisional due to the time delay in deaths' registration in Ireland. <http://www.euromomo.eu/>

- There were no reports of any influenza-related deaths during weeks 40-53 2020.
- Between weeks 40 and 52 2020, no excess all-cause mortality in all ages was reported in Ireland after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm. Due to delays in death registrations with the GRO, excess mortality data included in this report will be reported with one-week lag time.

10. Outbreak Surveillance

- No influenza, RSV or acute respiratory infection (ARI - excluding COVID-19) outbreaks were notified to HPSC during weeks 40-53 2020.
- 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/>

11. Influenza Vaccinations

From the 1st September 2020 up to the week ending 05/01/2021, the total number of influenza vaccinations provided by GPs and Pharmacists was 1,195,899.

12. International Summary

Since the start of the COVID-19 pandemic, influenza activity globally has remained at low levels. The World Health Organization (WHO) has advised that current influenza surveillance data should be interpreted with caution as the ongoing COVID-19 pandemic has influenced health seeking behaviours, surveillance and reporting in sentinel sites, as well as testing priorities and capacities in Member States. The various hygiene and physical distancing measures implemented by Member States to reduce SARS-CoV-2 virus transmission have likely played a role in reducing influenza virus transmission.

As of 21st December 2020, WHO reported that globally despite continued or even increased testing for influenza in some countries, influenza activity remained at lower levels than expected for this time of the year. In the temperate zones of the northern hemisphere, influenza activity remained below inter-seasonal levels, though sporadic detections of influenza A and B viruses were reported in some countries. In the temperate zone of the southern hemisphere, influenza activity was reported at inter-seasonal level. In the Caribbean and Central American countries, sporadic influenza B detections were reported in recent weeks. In tropical South America, there were no influenza detections in this reporting period. In tropical Africa, influenza activity continued to be reported in Western Africa. In Southern Asia, no influenza detections were reported. In South East Asia, influenza detections of predominately influenza A(H3N2) continued to be reported in Lao People's Democratic Republic. Worldwide, influenza A and B viruses were detected in similar proportions.

In the European region, influenza activity continued to be low and at inter-seasonal levels. For week 51 2020 (week ending 20 December 2020), none of 786 sentinel source specimens tested for influenza viruses were positive. Since the start of the season, of 11,060 sentinel specimens that have been tested for influenza viruses, seven were positive: 2 A(H1)pdm09 and 5 B viruses. For week 51 2020, 15 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: 7 A and 8 B. Since the beginning of the season, 390 of 148,868 non-sentinel specimens tested positive for influenza viruses; 196 (50.3%) A and 194 (49.7%) B. Of 38 subtyped A viruses, 9 (23.7%) were A(H1)pdm09 and 29 (76.3%) were A(H3). Of 194 B viruses, only 4 were ascribed to a lineage: 3 B/Victoria and 1 B/Yamagata.

See [ECDC](#) and [WHO](#) influenza surveillance reports for further information.

- Further information on influenza is available on the following websites:
 - Northern Ireland <https://www.publichealth.hscni.net/publications/influenza-weekly-surveillance-bulletin-northern-ireland-202021>
 - Public Health England <https://www.gov.uk/government/collections/weekly-national-flu-reports>
 - Europe – ECDC <http://ecdc.europa.eu/>
 - 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>

13. 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 2020/2021 northern hemisphere influenza season contain the following:

- an A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus;
- an A/Hong Kong/2671/2019 (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/influenza/vaccines/virus/recommendations/2020-21_north/en/

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

Acknowledgements

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