

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 4 2020 (20th – 26th January 2020)



Summary

- **Influenza activity peaked in late December 2019 and remains above baseline levels in Ireland during week 4 2020 (week ending 26th January 2020). Influenza A(H3N2) is the dominant circulating virus to date this season. During week 4, increases in influenza B activity were observed. Confirmed influenza hospitalisations are at low levels. It is recommended that antivirals be considered for the treatment and prophylaxis of influenza in at-risk groups.**
- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate was 26.9 per 100,000 population in week 4 2020. This was a decrease compared to the updated rate of 30.5 per 100,000 population reported during week 3 2020.
 - ILI rate remains above the baseline Irish ILI threshold in week 4 (18/100,000 population).
 - ILI age specific rates increased in the 0-4 and 5-14 year age groups but decreased in the 15-64 and ≥65 year groups during week 4.
- **GP Out of Hours:** The proportion of influenza-related calls to GP Out-of-Hours services decreased from 3.1% to 3.0% during week 4 2020 and is now at low levels.
- **National Virus Reference Laboratory (NVRL):**
 - Influenza detections decreased with 55 (10.8%) influenza positive specimens reported by the NVRL in week 4 2020. This compares to an updated figure of 90 (15.3%) detections during week 3 2020.
 - Respiratory syncytial virus (RSV) positivity decreased in week 4 2020. RSV activity peaked in late December 2019, and is now at low levels nationally.
 - Parainfluenza virus, adenovirus and human metapneumovirus (hMPV), coronavirus and picornavirus (which includes both rhinovirus and enterovirus) continue to be detected.
- **Hospitalisations:** During week 4 2020, 75 confirmed influenza hospitalised cases were notified to HPSC. During the 2019/2020 influenza season to date, 3,164 confirmed influenza hospitalised cases have been notified to HPSC.
- **Critical care admissions:** One confirmed influenza case was admitted to critical care units and reported to HPSC during week 4 2020. During the 2019/2020 season to date 104 confirmed influenza cases have been reported as admitted to ICU.
- **Mortality:** Six influenza-associated deaths were reported during week 4 2020. During the 2019/2020 season to date, 66 influenza-associated deaths have been reported to HPSC.
- **Outbreaks:** During week 4 2020, four influenza outbreaks were reported to HPSC.
- **International:** In the temperate zone of the northern hemisphere, respiratory illness indicators and influenza activity continued to increase in most countries. In Europe, influenza activity continued to increase across the region and was reported at moderate levels in some countries of Northern Europe. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

1. GP sentinel surveillance system - Clinical Data

- During week 4 2020, 72 influenza-like illness (ILI) cases were reported by sentinel GPs, this corresponds to an ILI consultation rate of 26.9 per 100,000 population and is a decrease compared to the updated rate of 30.5 per 100,000 population reported during week 3 2020.
- The ILI rate for week 4 2020 is above the baseline threshold (18/100,000 population) but below the medium intensity Irish ILI threshold (57.5/100,000 population) (figures 1 & 2).
- Of the 60 sentinel GP practices, 52 (87%) reported data in week 4.
- ILI age specific rates increased in the 0-4 and 5-14 year age groups but decreased in the 15-64 and ≥65 year groups (figure 3).
- HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) has revised the Irish baseline ILI threshold for the 2019/2020 influenza season to 18.1 per 100,000 population; this threshold indicates the likelihood that influenza is circulating in the community. The Moving Epidemic Method (MEM) has been adopted by ECDC 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.

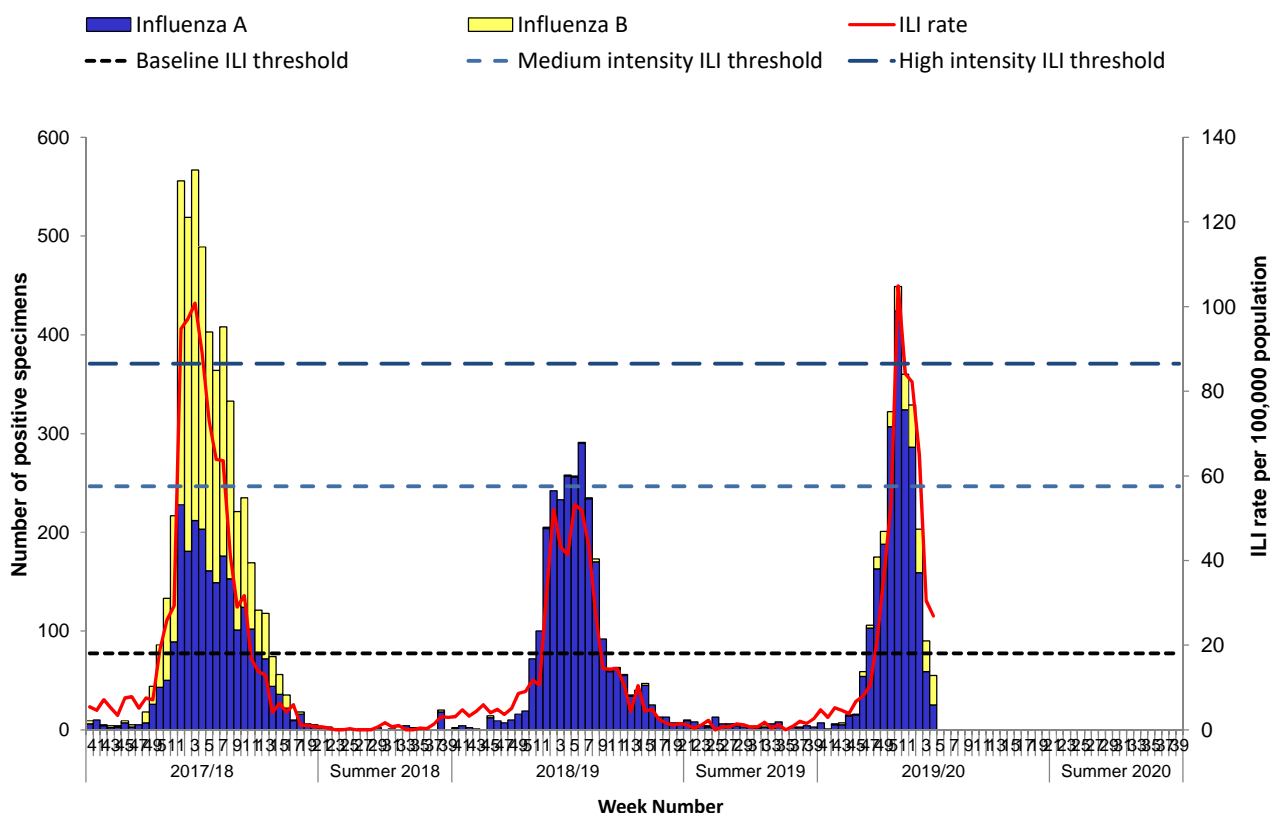


Figure 1: ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds* and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season. Source: ICGP and NVRL

* For further information on the Moving Epidemic Method (MEM) to calculate ILI thresholds: <http://www.ncbi.nlm.nih.gov/pubmed/22897919>

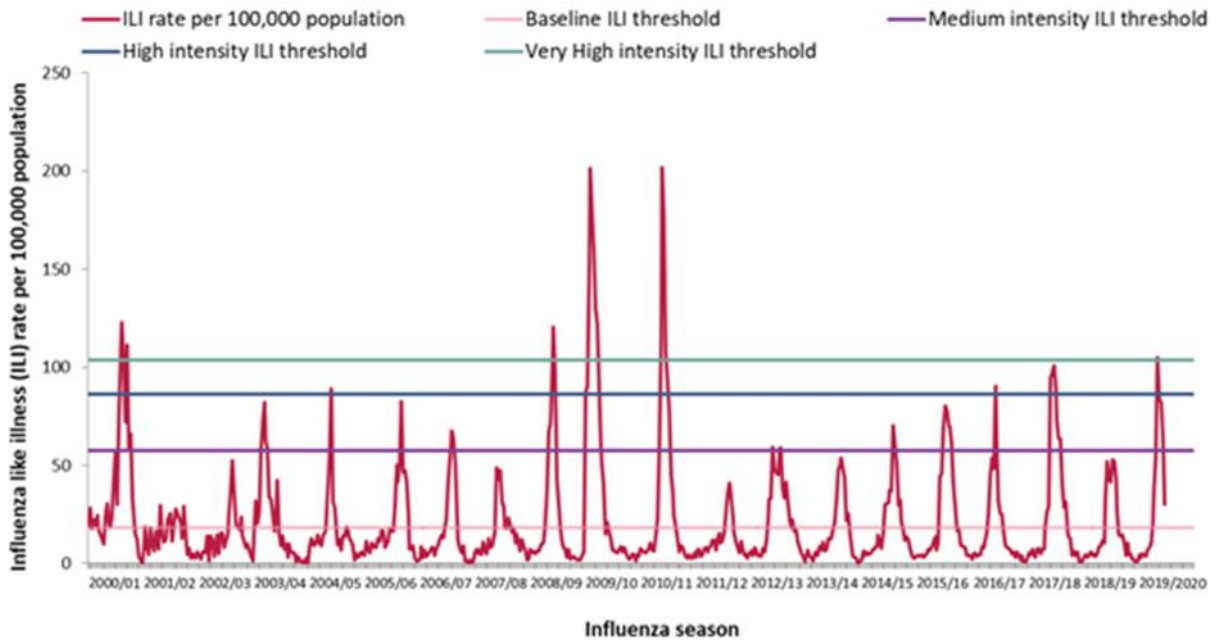


Figure 2: Sentinel GP ILI consultation rate per 100,000 population by week and influenza season (excluding summer periods). Source: ICGP.

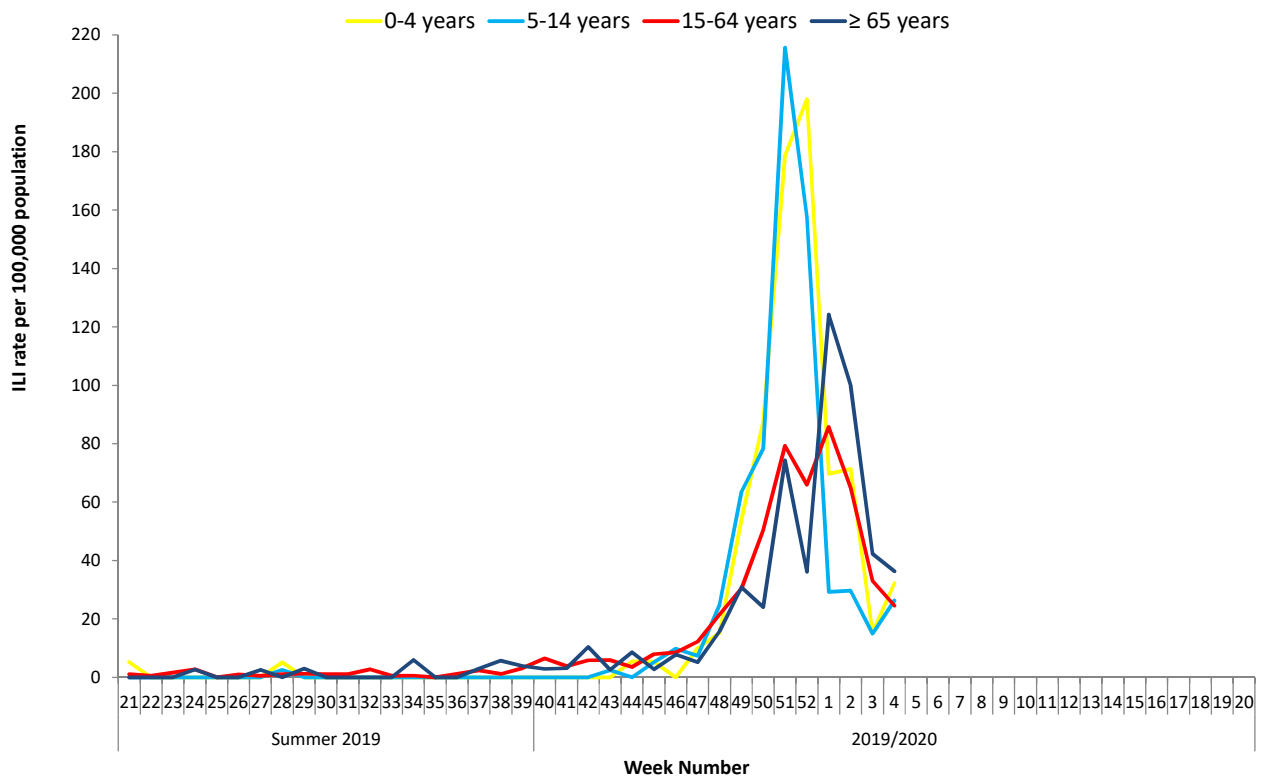


Figure 3: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2019 and the 2019/2020 influenza season to date. Source: ICGP.

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2019/2020 influenza season refer to sentinel specimens routinely tested for influenza and respiratory syncytial virus (RSV) and non-sentinel respiratory specimens routinely tested for influenza, respiratory syncytial virus (RSV), adenovirus, parainfluenza viruses types 1, 2, 3 & 4 (PIV-1, -2, -3 & -4) and human metapneumovirus (hMPV) by the National Virus Reference Laboratory (NVRL) (figures 4, 5 & 6 and tables 1, 2 & 3). As there are no historic data on picornaviruses or coronaviruses for seasonal comparisons, data on these viruses are not included in this report.

- During week 4 2020, influenza detections decreased with 55 (10.8%) influenza positive specimens reported by the NVRL. This compares to an updated figure of 90 (15.3%) detections during week 3 2020.
- During week 4, 50 confirmed influenza positive specimens were reported from non-sentinel sources; 21 were influenza A(H3N2), three were influenza A(H1N1)pdm09 and 26 were influenza B.
- During week 4, five confirmed influenza positive specimens were reported from the sentinel GP network; one was influenza A(H1N1)pdm09 and four were influenza B (Victoria lineage).
- Data from the NVRL for week 4 2020 and the 2019/2020 season to date are detailed in tables 1, 2 and 3.
- Respiratory syncytial virus (RSV) positivity decreased in week 4 2020 (figure 6). RSV activity is now at low levels nationally.
- Sporadic detections of parainfluenza virus, adenovirus and human metapneumovirus (hMPV) have been reported to date this season (table 3).
- Influenza A(H3) is the dominant circulating virus this season to date, with lower numbers of A(H1N1)pdm09 and influenza B also being reported (figures 4 & 5). During week 4, increases in influenza B activity were observed.
- Coinfections of all seasonal respiratory viruses were reported during week 4 2020.
- Human metapneumovirus, adenovirus, parainfluenza virus (table 3) and picornavirus (which includes both rhinovirus and enterovirus) continue to be detected.
- The overall proportion of non-sentinel specimens positive for respiratory viruses was 24.5% during week 4 2020.

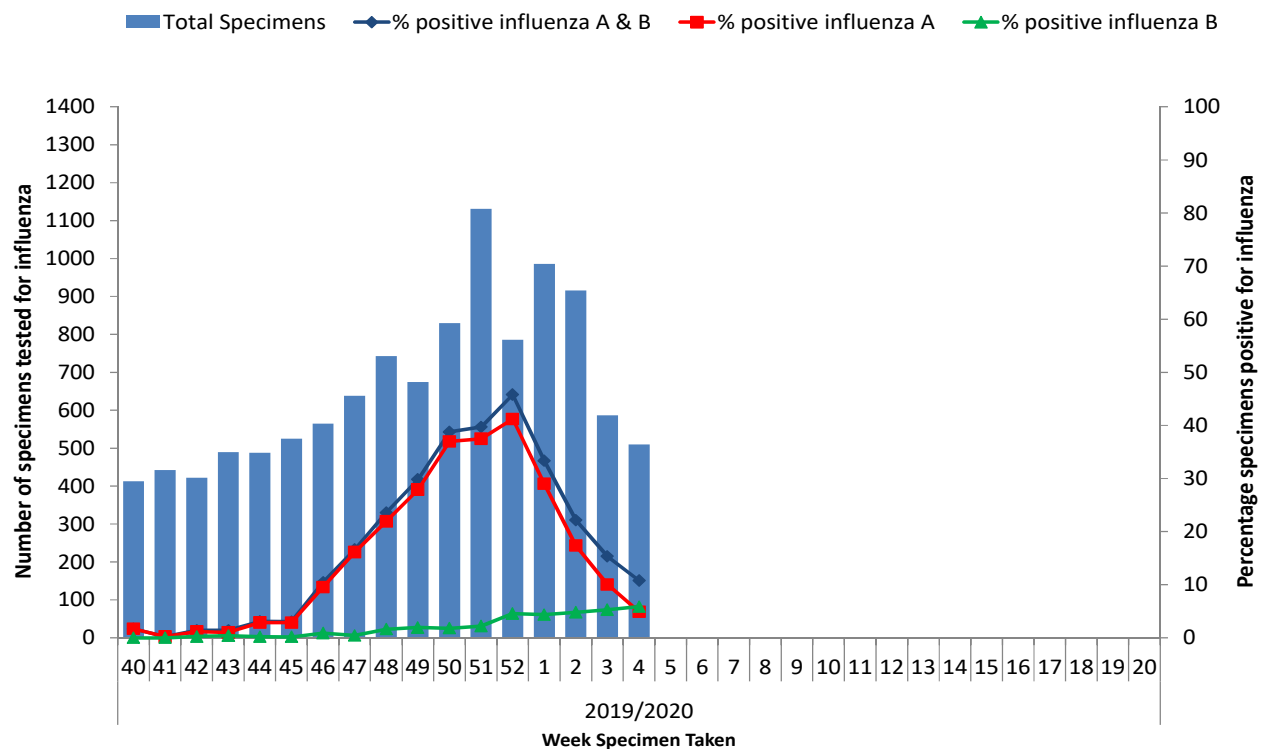


Figure 4: Number of specimens (from sentinel and non-sentinel sources combined) tested by the NVRL for influenza and percentage influenza positive by week for the 2019/2020 influenza season. Source: NVRL.

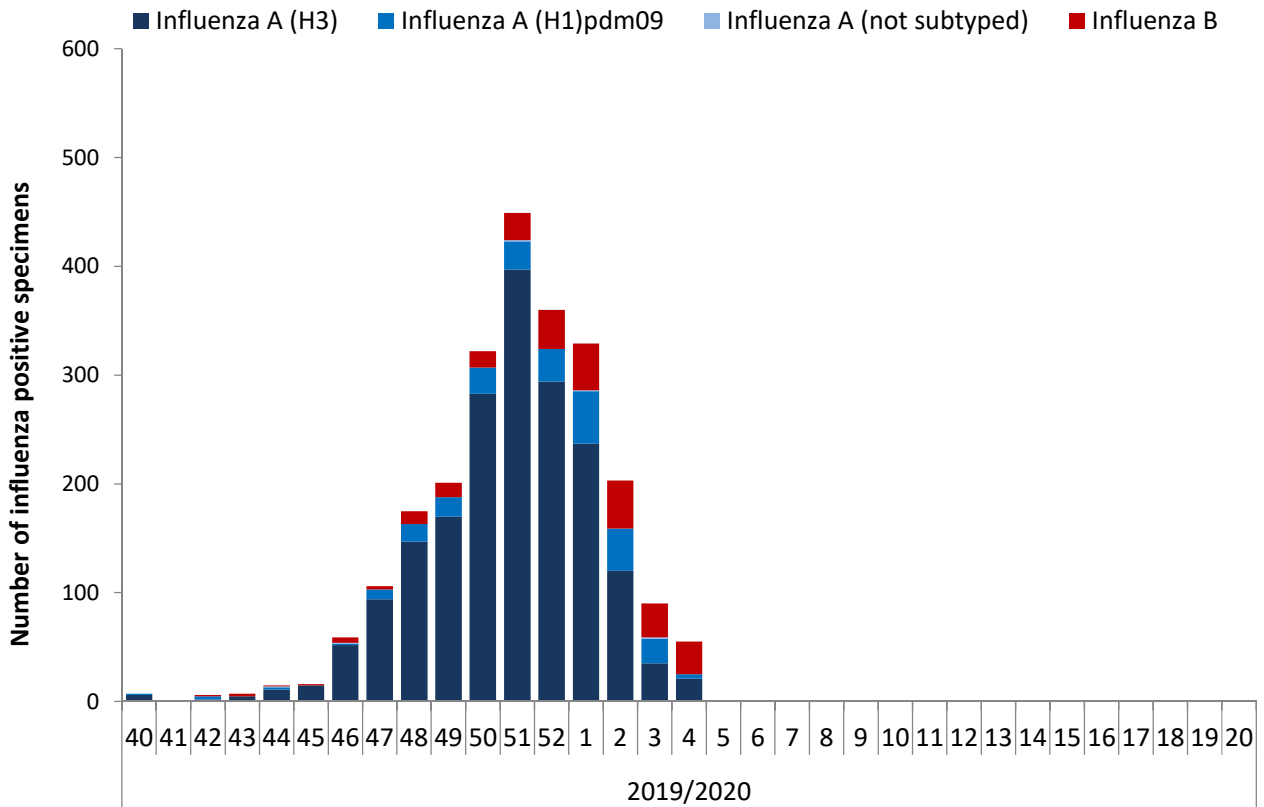


Figure 5: Number of positive influenza specimens (from sentinel and non-sentinel sources combined) by influenza type/subtype tested by the NVRL, by week for the 2019/2020 influenza season. Source: NVRL.

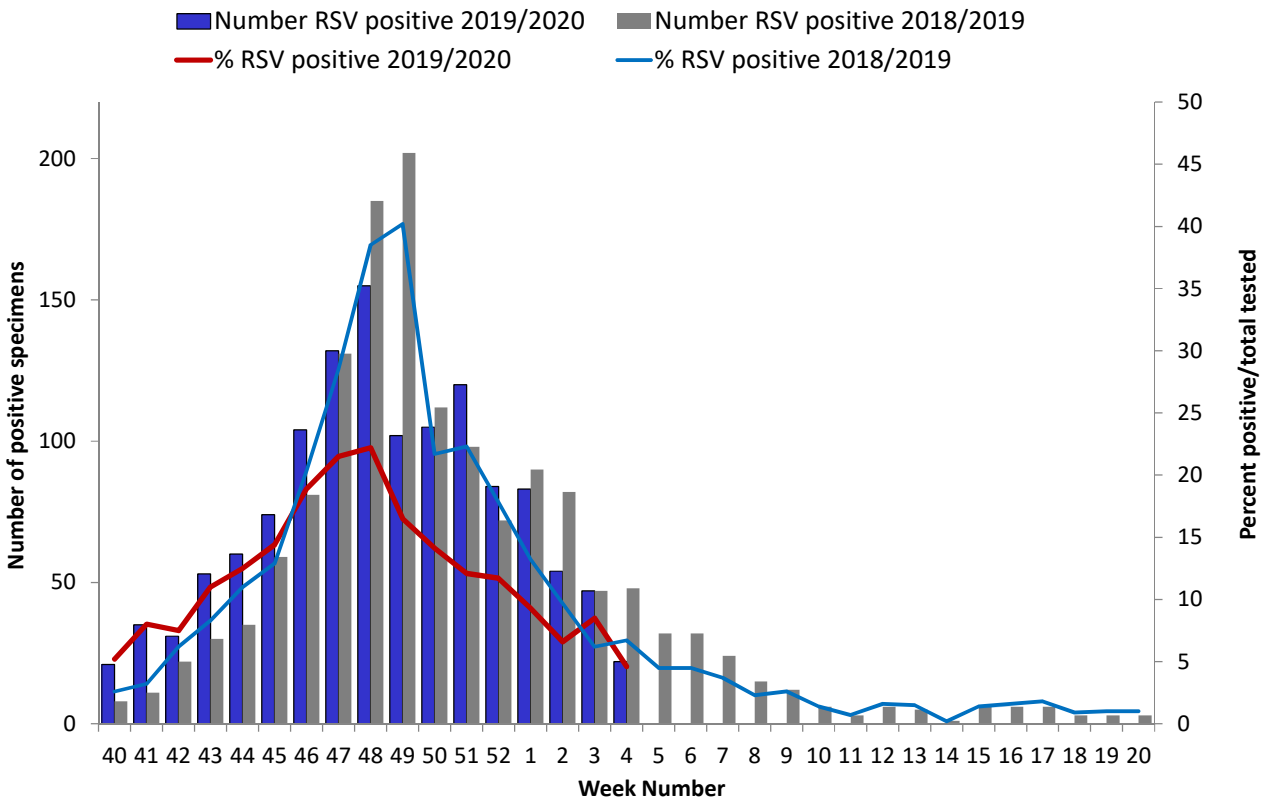


Figure 6: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2019/2020 season, compared to the 2018/2019 season. Source: NVRL.

Genetic Characterisation of Influenza Viruses– Early season 2019/20

A selection of influenza positive specimens between week 40 and week 47, 2019 (n=43) was chosen for further molecular characterisation. The full hemagglutinin genes of circulating influenza viruses were sequenced from original clinical specimens. Sequences were compared to a bank of reference sequences recommended in the ECDC/TESSY Technical Note: Influenza virus characterisation guidelines for the northern hemisphere influenza season 2019-2020.

Influenza A(H1) pdm 09 (5)

Of the 5 Influenza (H1) pdm09 viruses characterised, 4 (80%) fell within A(H1)pdm 09 6B.1A5A group represented by A/Norway/3433/2018. This virus is the predominant A(H1)pdm09 group reported in Europe at the moment. One of the five viruses fell within the A(H1)pdm09 6B.1A5B group represented by A/Switzerland/3330/2018. The current Northern Hemisphere A(H1)pdm09 vaccine component is clade 6B.1A1, represented by A/Brisbane/02/2018 (H1N1)pdm-09 virus. However, it is anticipated that the vaccine virus will be effective based upon haemagglutination inhibition assays conducted with post-infection ferret antisera raised against the vaccine virus.

Influenza A(H3N2) (33)

Of the 33 Influenza (H3) viruses characterised, 25 (76%) fell within the current Northern Hemisphere H3 vaccine component clade 3C.3a1, represented by A/Kansas/14/2017. However, 8 subclade 3C.2a1b were also detected. Five (62.5%) were classified as 3C.2a1 + T131K mutation, represented by A/South Australia/34/2009 and this virus is the predominant 3C.2a1b virus reported in Europe at the moment. In addition, 3 viruses were classified as subclade 3c.2a1b + T135K mutation. Two viruses were further characterised based upon the presence of additional mutations into the 3C.2A1B + T135K-A cluster represented by A/La Rioja/ 2202/2018 and one virus from the recently emerged 3c.2a1b + T135K –B cluster characterised by A/Hong Kong/2675/2019.

Influenza B (5)

Five influenza B viruses were characterised. All five were Influenza B Victoria lineage 1A with the triple amino acid deletion (Δ 162-164 B subgroup) represented by B/Washington/02/2019. This is the predominant influenza B reported in Europe and is not included in the current Northern Hemisphere vaccine. The World Health Organization, in the “Recommended composition of influenza virus vaccine for use in the 2019-2020 northern hemisphere season” stated that post vaccination sera collected from humans vaccinated with the current vaccine component B/Colorado/06/2017 like-virus (B/Victoria/2/87 lineage) (clade 1A_Δ2) reacted similarly with representative B/Victoria lineage virus with three, two or no amino acid deletions.

Further genetic and antigenic testing is ongoing at the National Virus Reference Laboratory.

Table 1: Number of sentinel* and non-sentinel[†] respiratory specimens tested by the NVRL and positive influenza results, for week 4 2020. Source: NVRL

Week	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
4 2020	Sentinel	36	5	13.9	1	0	0	1	0	4	0	4
	Non-sentinel	474	50	10.5	3	21	0	24	26	0	0	26
	Total	510	55	10.8	4	21	0	25	26	4	0	30
2019/2020	Sentinel	754	398	52.8	39	297	1	337	0	59	2	61
	Non-sentinel	10393	2003	19.3	205	1593	4	1802	201	0	0	201
	Total	11147	2401	21.5	244	1890	5	2139	201	59	2	262

Table 2: Number of sentinel* and non-sentinel respiratory specimens tested by the NVRL and positive RSV results, for week 4 2020. Source: NVRL

Week	Specimen type	Total tested	Total RSV	% RSV	RSV A	RSV B	RSV (unspecified)
4 2020	Sentinel	36	1	2.8	0	1	0
	Non-sentinel	474	22	4.6	0	0	22
	Total	510	23	4.5	0	1	22
2019/2020	Sentinel	754	32	4.2	29	3	0
	Non-sentinel	10393	1282	12.3	0	0	1282
	Total	11147	1314	11.8	29	3	1282

Table 3: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 4 2020. Source: NVRL

Week	Specimen type	Total tested	Adenovirus	% Adenovirus	PIV-1	% PIV-1	PIV-2	% PIV-2	PIV-3	% PIV-3	PIV-4	% PIV-4	hMPV	% hMPV
4 2020	Non-sentinel	474	10	2.1	1	0.2	1	0.2	2	0.4	1	0.2	29	6.1
2019/2020	Non-sentinel	10393	185	1.8	214	2.1	110	1.1	22	0.2	25	0.2	456	4.4

*Sentinel specimens are only tested for influenza and RSV

[†] 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.

3. Regional Influenza Activity by HSE-Area

Influenza activity is based on sentinel GP ILI consultation rates, laboratory data and outbreaks.

The geographical spread of influenza/ILI during week 4 2020 is shown in figure 7. During week 4, regional influenza activity was reported in HSE-E and -MW, localised activity was reported by HSE-M, -SE and -S and sporadic activity was reported in HSE-NE, -NW and -W.

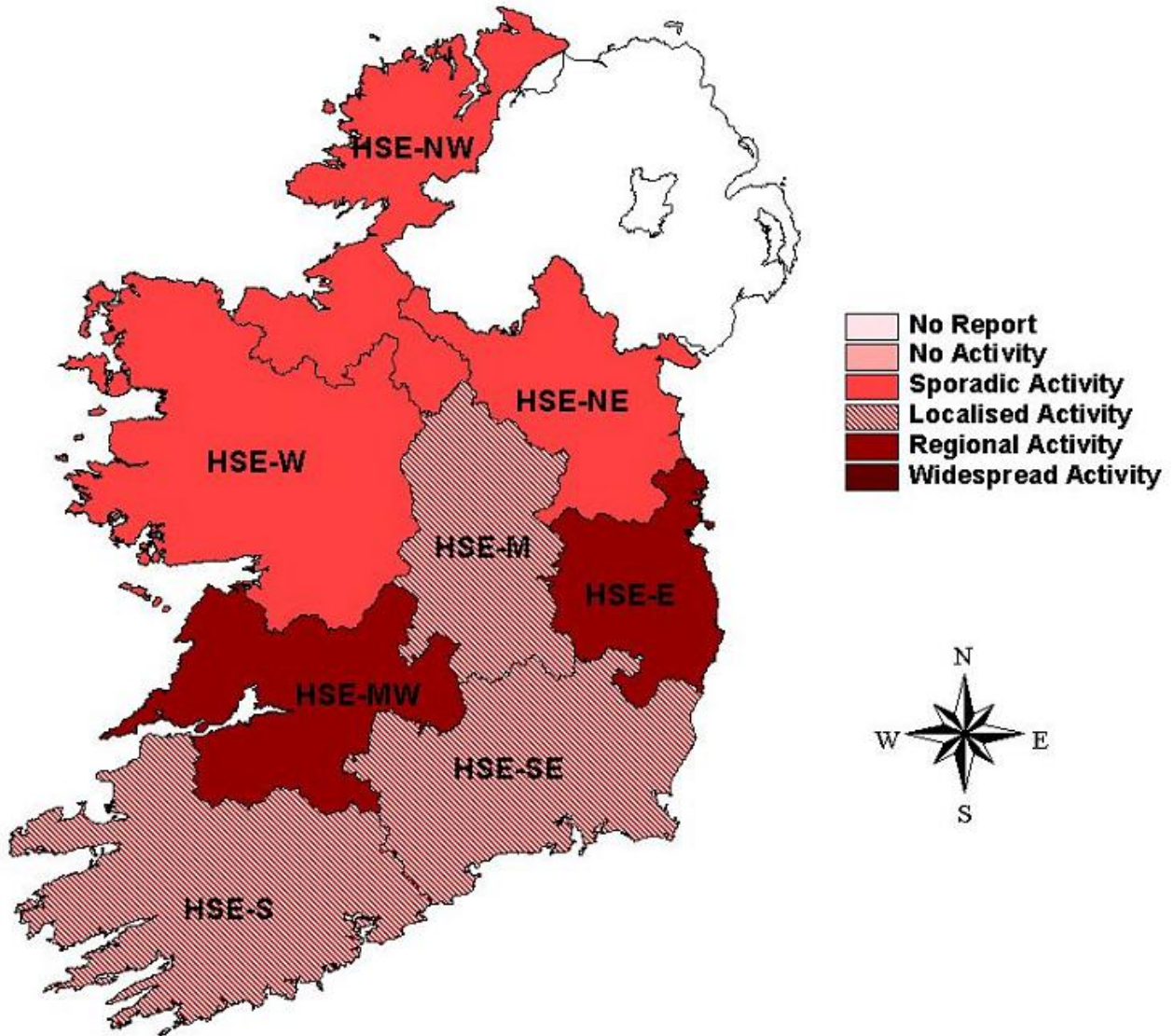


Figure 7: Map of provisional influenza activity by HSE-Area during influenza week 4 2020

Sentinel hospitals

The Departments of Public Health have established at least one sentinel hospital in each HSE-Area, to report data on total, emergency and respiratory admissions on a weekly basis.

Respiratory admissions reported from a network of sentinel hospitals were at medium levels, at 352 admissions during week 4 2020 (figure 8). This was a slight increase compared to the 325 respiratory admissions reported during week 3 2020. Seven of the eight hospitals reported data for week 4 2020.

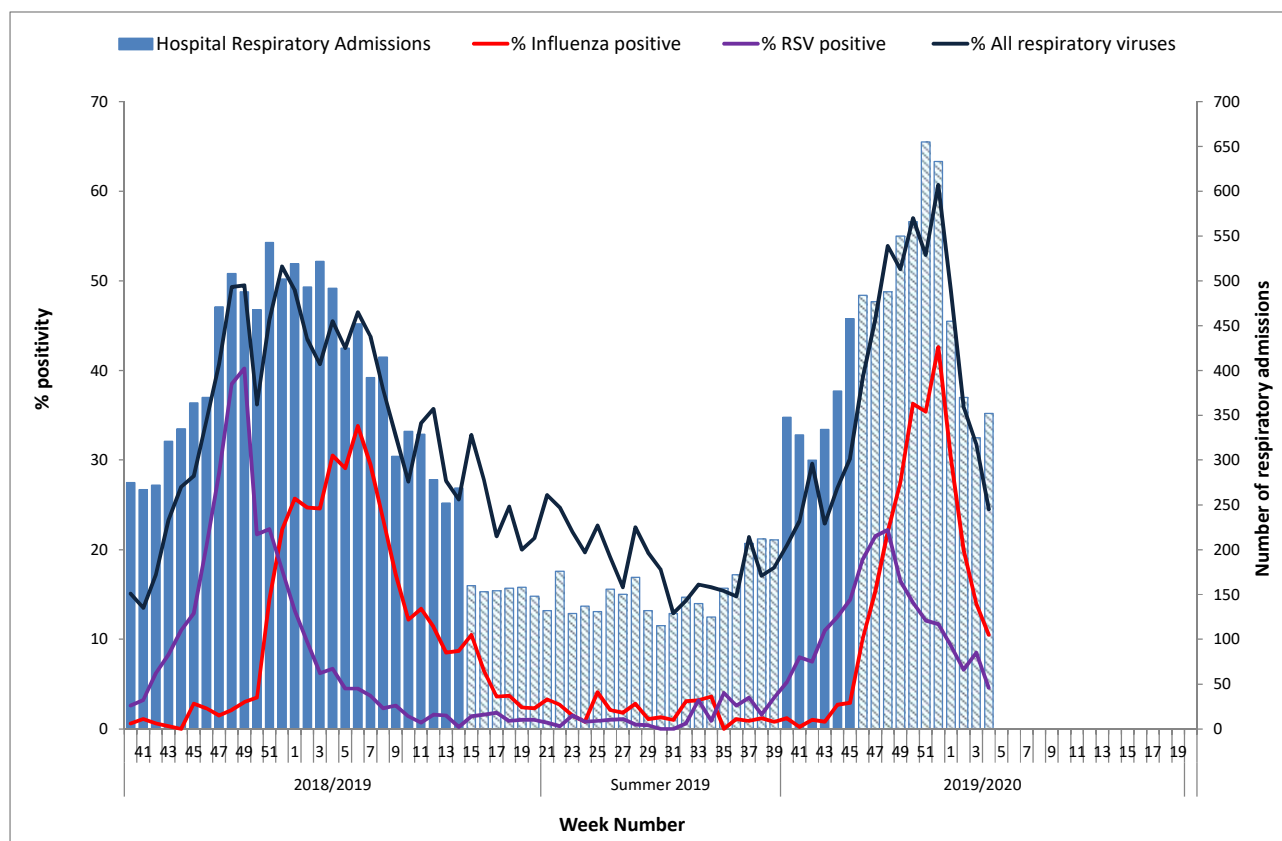


Figure 8: Number of respiratory admissions reported from the sentinel hospital network and % positivity for influenza, RSV and all seasonal respiratory viruses tested* by the NVRL by week and season. Source: Departments of Public Health - Sentinel Hospitals & NVRL. *All seasonal respiratory viruses tested refer to non-sentinel respiratory specimens routinely tested by the NVRL including influenza, RSV, adenovirus, parainfluenza viruses and human metapneumovirus (hMPV). Weeks with missing data are represented by the hatched bar.

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 or influenza are extracted for analysis. This information may act as an early indicator of increased ILI activity. However, data are self-reported by callers and are not based on coded influenza diagnoses.

The proportion of influenza-related calls to GP Out-of-Hours services was 3.0% during week 4 2020, a slight decrease from 3.1% in week 3 2020. Four services reported data for week 4 and there were 327 calls relating to self-reported influenza (figure 9).

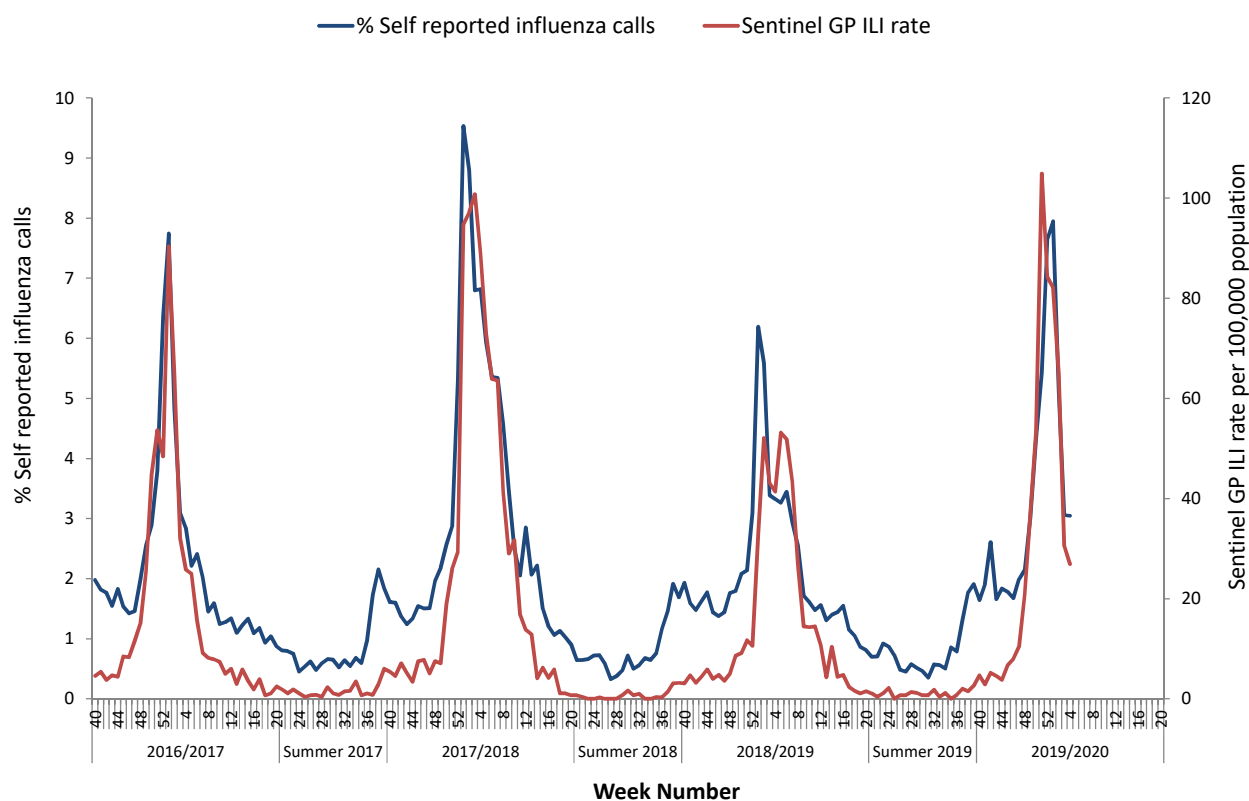


Figure 9: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

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.

- Influenza notifications decreased to 277 during week 4 2020, compared to 1,077 during week 3 2020. A review of the notification data shows that the increase in week 3 was due to delayed notifications (see note 1 below).
- Of the 277 cases notified during week 4 2020, 44 were due to influenza A(H3N2), 23 were due to influenza A(H1N1)pdm09, 123 were due to influenza A (not subtyped), 85 were due to influenza B and the influenza type was not reported for the two remaining cases.
- To date this season, 7915 confirmed cases of influenza have been notified to HPSC; 21.1% (n=1,671) were A(H3N2) and 3.1% (n=248) were A(H1N1)pdm09, 67.1% (n=5,312) were influenza A untyped and 8.5% (n=673) were influenza B. The remaining 11 cases did not have type reported.
- During week 4 2020, 150 RSV cases were notified. This was a decrease compared to the 211 cases notified in week 3 2020.

Note 1: Although the number of influenza and RSV cases notified peaked in week 1 and 2 2020, a review of the notification data shows that these increases were due to delayed notifications. Analysis of the notified cases by symptom onset date/laboratory specimen collection date indicates that it is likely that influenza peaked in week 51 and 52 2019 while RSV peaked during weeks 48 to 51 2019 (see figures 10 & 11 in appendix 1). HPSC will continue to review this over the coming weeks.

6. Influenza Hospitalisations

- 75 confirmed influenza hospitalised cases were notified to HPSC during week 4 2020. Of these, five were due to influenza A(H3N2), five due to influenza A(H1N1)pdm09, 53 due to influenza A (not subtyped) and 12 due to influenza B.
- For the 2019/2020 season to date, 3,164 confirmed influenza hospitalised cases have been notified to HPSC; 94.3% have been due to influenza A (n=2,973) and 5.9% due to influenza B (n=188). The influenza type was not reported for the remaining three cases (<1%). Of the 572 influenza A viruses subtyped, 91% (n=516) were A(H3N2) and 9% (n=56) were A(H1N1)pdm09.
- Age specific rates for hospitalised influenza cases are reported in table 4, with the highest rates reported in children aged less than 5 years and in adults aged 65 years and older.

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.

- One confirmed influenza case was admitted to critical care units and reported to HPSC during week 4 2020.
- During the 2019/2020 season to date, 104 influenza cases have been reported to HPSC as having been admitted to ICU. Of these, 19 ICU cases were due to influenza A (H3N2), four were due to A(H1N1)pdm09, 77 were due to influenza A (not subtyped) and four were due to influenza B.
- Of the cases admitted to ICU, 56.7% were aged 65 years and older. The age specific rates for admission to critical care are shown in table 4. These rates are based on small numbers.

Table 4: Age specific rates for confirmed influenza cases hospitalised and admitted to critical care during the 2019/2020 influenza season to date. Age specific rates are based on the 2016 CSO census.

Age (years)	Hospitalised		Admitted to ICU	
	Number	Age specific rate per 100,000 population	Number	Age specific rate per 100,000 population
<1	139	223.3		0.0
1-4	345	128.1	3	1.1
5-14	363	53.8	4	0.6
15-24	135	23.4	3	0.5
25-34	147	22.3	2	0.3
35-44	140	18.7	6	0.8
45-54	135	21.6	7	1.1
55-64	258	50.7	20	3.9
≥65	1502	235.6	59	9.3
Total	3164	66.4	104	2.2

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/>

- To date this season, 66 influenza-associated deaths were reported to HPSC. Fifty-four (81.8%) of the deaths occurred in adults aged 65 years and older, three (4.5%) occurred in children aged less than 15 years and nine (13.6%) were in adults aged between 35 and 64 years.
- No excess all-cause mortality was reported in Ireland during week 4 after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm.

9. Outbreak Surveillance

- Four influenza outbreaks and one acute respiratory infection outbreak were reported to HPSC during week 4 2020.
- Influenza and acute respiratory outbreaks reported during the influenza 2019/2020 season to date are summarised by HSE area and by pathogen detected in tables 5 and 6.

Table 5: Summary of respiratory outbreaks by HSE area and disease during 2019/2020 season *Source: CIDR*

HSE area	Influenza	Respiratory syncytial virus infection	Acute respiratory infection	Total
HSE-E	29	2	11	42
HSE-M	9		3	12
HSE-MW	7	2	1	10
HSE-NE	5	1	1	7
HSE-NW	2	1	2	5
HSE-SE	16		7	23
HSE-S	10		2	12
HSE-W	17		1	18
Total	95	6	28	129

Table 6: Summary of respiratory outbreaks by outbreak location & pathogen during 2019/2020 season Source: CIDR

Outbreak location	Organism/Pathogen	Total
Childcare facility	possible RSV	1
	RSV	1
Childcare facility Total		2
Comm. Hosp/Long-stay unit	Corona virus	1
	Human metapneumovirus	1
	Influenza	4
	Influenza A	6
	Influenza A H3	1
	influenza AH3	1
	influenza B	1
	Rhinovirus	1
	RSV	1
	RSV B	1
(blank)	6	
Comm. Hosp/Long-stay unit Total		24
Hospital	Influenza	4
	Influenza	1
	Influenza A	12
	Influenza A&B	1
	influenza AH3	1
	Influenza AH3 and human metapneumovirus	1
	influenza B	1
	influenza mixed	1
	RSV	1
	(blank)	3
Hospital Total		26
Nursing home	AH3	4
	Coronavirus and Rhinovirus	1
	Human Metapneumovirus and Rhinovirus	1
	Influenza	8
	Influenza A	20
	Influenza A	1
	Influenza A H3	1
	Influenza AH1N1	1
	influenza AH3	3
	influenza B	1
	mixed respiratory virus influenza b and humanmetapneumo virus	1
	parainfluenza	1
	Rhino enterovirus	1
	Rhinovirus	1
	(blank)	19
Nursing home Total		64
Residential institution	Influenza A	1
	Rhino/Enterovirus	1
	RSV	1
	(blank)	2
Residential institution Total		5
School	ILI	1
	Influenza A	2
	Suspected ILI	3
	(blank)	2
School Total		8
Total		129

10. International Summary

In the Europe Union, during week 3 2020, influenza activity continued to increase, with one Member State reporting high intensity and eight reporting medium intensity. Widespread influenza activity was reported by the majority of Member States and areas across the Region. Both influenza virus types A and B were co-circulating with a higher proportion (78%) of type A viruses detected. The distribution of viruses detected varied between Member States and areas and within sub-regions. Although the majority of reported influenza virus detections across the Region were type A, two Member States reported influenza type B dominance and eight Member States and areas reported co-dominance of types A and B viruses.

For the European Region as a whole, influenza activity commenced earlier than in recent previous years. Influenza activity in the European Region, based on sentinel sampling, first exceeded a positivity rate of 10% in week 47/2019 and has remained over 10% for nine weeks. There has been an overall increasing trend in the weekly positivity rate for influenza virus detections among sentinel ILI surveillance patients, following a dip in week 52. In sentinel sources, both influenza A subtypes, A(H1N1)pdm09 and A(H3N2), are co-circulating, 54% and 46%, respectively. Increased influenza subtype A(H1N1)pdm09 detections have been reported since week 50/2019. Of the influenza B viruses, the vast majority (98%) have been B/Victoria lineage.

Data from the 21 countries or regions reporting to the EuroMOMO project indicated that all-cause mortality was at expected levels for this time of the year.

In the temperate zone of the northern hemisphere, respiratory illness indicators and influenza activity continued to increase in most countries. In Europe, influenza activity continued to increase across the region and was reported at moderate levels in some countries of Northern Europe. Worldwide, seasonal influenza A viruses accounted for the majority of detections. National Influenza Centres (NICs) and other national influenza laboratories from 104 countries, areas or territories reported data to FluNet for the time period from 23 December 2019 to 05 January 2020 (data as of 2020-01-17 04:29:43 UTC). The WHO GISRS laboratories tested more than 174,604 specimens during that time period. A total of 44,847 were positive for influenza viruses, of which 27,946 (62.3%) were typed as influenza A and 16,901 (37.7%) as influenza B. Of the sub-typed influenza A viruses, 5,081 (31.6%) were influenza A(H1N1)pdm09 and 11 005 (68.4%) were influenza A(H3N2). Of the characterized B viruses, 23 (0.6%) belonged to the B-Yamagata lineage and 3,753 (99.4%) to the B-Victoria lineage.

A joint ECDC and WHO Regional Office for Europe regional early situation assessment for the Influenza season 2019–2020 is available at [influenza-situation-assessment-18-December-2019.pdf](#). See [ECDC](#) and [WHO](#) influenza surveillance reports for further information.

- Further information is available on the following websites:

Northern Ireland	http://www.fluawareni.info/
Flu News Europe	http://flunewseurope.org/
Public Health England	http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/
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

- Information on the novel coronavirus (2019-nCoV) associated with Wuhan, China is available on the [ECDC](#) and [WHO](#) websites. ECDC has also produced Rapid Risk Assessments which is available on the [ECDC](#) website. The [HPSC](#) has a dedicated webpage on novel coronavirus (2019-nCoV), which is updated regularly.
- Information on Middle Eastern Respiratory Syndrome Coronavirus (MERS), including the latest ECDC rapid risk assessment is available on the [ECDC website](#). Further information and guidance documents are also available on the [HPSC](#) and [WHO](#) websites.
- Further information on avian influenza is available on the [ECDC website](#). The latest ECDC rapid risk assessment on highly pathogenic avian influenza A of H5 type is also available on the [ECDC website](#).

11. WHO recommendations on the composition of influenza virus vaccines

Ireland has changed from using trivalent vaccine to using quadrivalent vaccine for the 2019/2020 influenza season. Quadrivalent vaccines include a 2nd influenza B virus in addition to the 2 influenza A viruses found in trivalent vaccines.

The WHO vaccine strain selection committee recommend that quadrivalent vaccines for use in the 2019/2020 northern hemisphere influenza season contain the following:

- an A/Brisbane/02/2018 (H1N1)pdm09-like virus;
- an A/Kansas/14/2017 (H3N2)-like virus;
- a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage); and
- a B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage).

It is recommended that the influenza B virus component of trivalent vaccines for use in the 2019-2020 northern hemisphere influenza season be a B/Colorado/06/2017-like virus.

https://www.who.int/influenza/vaccines/virus/recommendations/201902_recommendation.pdf

https://www.who.int/influenza/vaccines/virus/recommendations/201902_recommendation_addendum.pdf

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

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Appendix 1

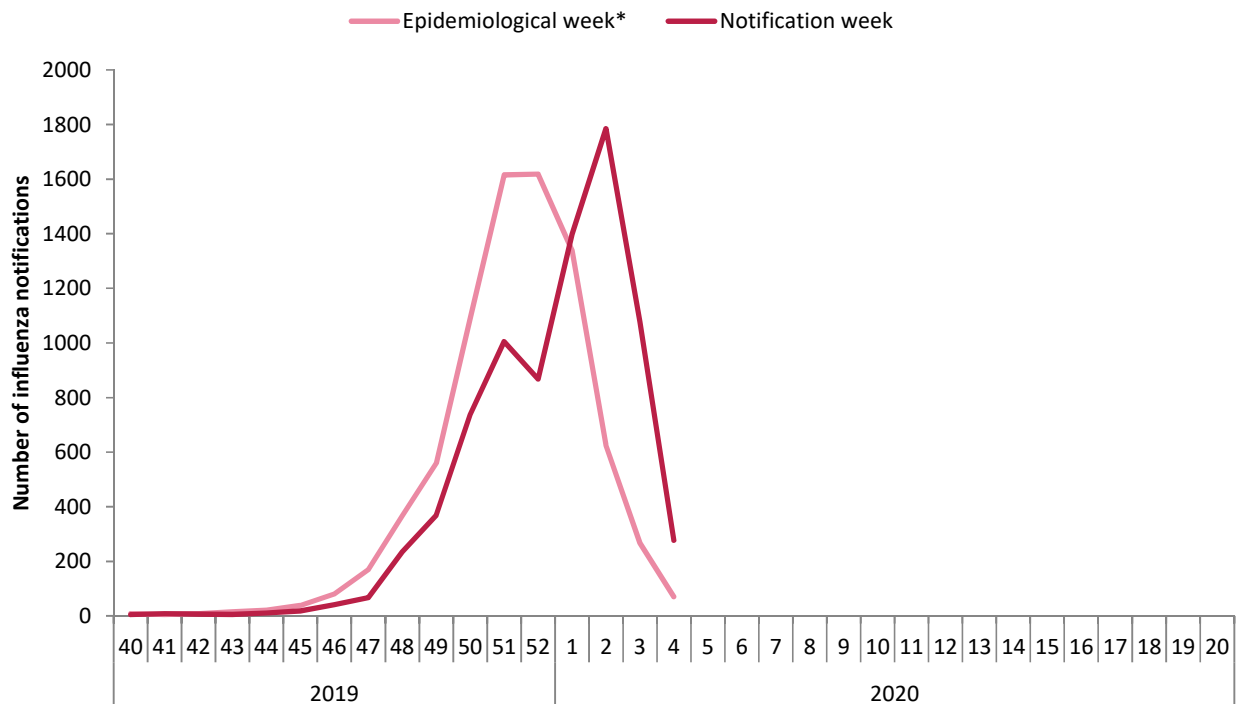


Figure 10: Number of notifications of laboratory confirmed cases of influenza reported on CIDR, by week of notification (based on the date the case was created on CIDR) and epidemiological week (based on earliest available date: date of disease onset, specimen collected date, date of diagnosis or date of notification). Source: CIDR

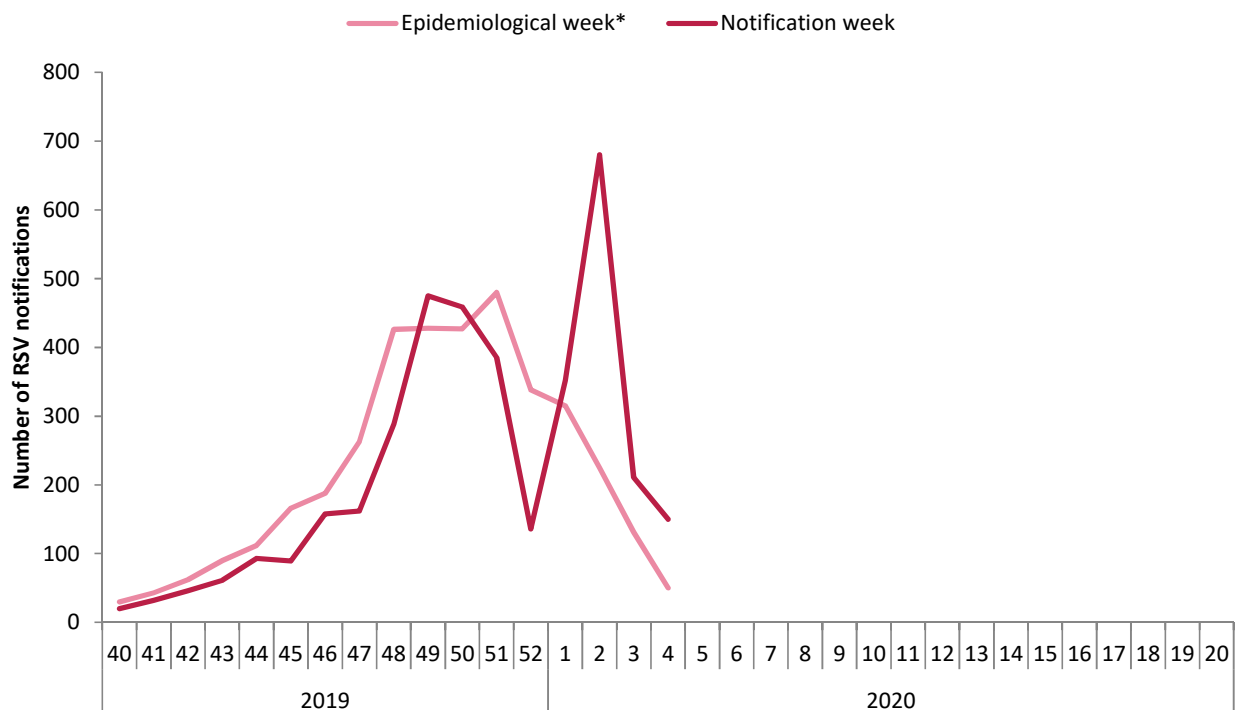


Figure 11: Number of notifications of RSV reported on CIDR, by week of notification (based on the date the case was created on CIDR) and epidemiological week (based on earliest available date: date of disease onset, specimen collected date, date of diagnosis or date of notification). Source: CIDR