

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 13 2020 (23rd March – 29th March 2020)



 Intensive Care Society of Ireland

Summary

The ILI rate remained elevated at 192.2 per 100,000 in week 13. The elevated ILI rate is likely reflective of the current COVID-19 pandemic rather than influenza. Please see [HPSC COVID-19 webpage](#) for current reports on COVID-19 in Ireland. Overall, influenza A(H3N2) has been the dominant circulating virus this season. In week 13 no influenza cases were detected. Influenza activity peaked in late December 2019 and has decreased significantly since.

- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate was 192.2 per 100,000 population in week 13 2020. This remains elevated compared to the updated rate of 190.1 per 100,000 population reported during week 12 2020. Reporting was lower than previous weeks (65% GP practices) and the ILI rate will be monitored closely in the coming weeks.
 - The ILI rate is now in the very high threshold levels (103.61 to <329.68 per 100,000)
 - ILI age specific rate was highest in those aged 15-64 years (196.0/100,000) and 0-4 years (171.2/100,000) and lowest in those aged 5-14 years (68.7/100,000) and >64 years (113.2/100,000).
- **GP Out of Hours:** The proportion of influenza-related calls to GP Out-of-Hours services was 0.9% during week 13 2020 and remains at low levels.
- **National Virus Reference Laboratory (NVRL):**
 - Influenza detections continued to decrease during week 13 with no influenza positive non-sentinel specimens reported by the NVRL. This compares to an updated figure of 3 (2.8%) detections during week 12 2020. Testing for influenza has been reduced due to the COVID-19 pandemic response.
 - Respiratory syncytial virus (RSV) positivity continued to decrease with no detections in week 13 2020.
 - Parainfluenza virus, adenovirus and human metapneumovirus (hMPV), coronavirus and picornavirus (which includes both rhinovirus and enterovirus) continue to be detected at low levels.
- **Hospitalisations:** During week 13 2020, 271 confirmed influenza hospitalised cases were notified to HPSC. For the 2019/2020 season to date, 4280 confirmed influenza hospitalised cases have been notified.
- **Critical care admissions:** No confirmed influenza cases were admitted to critical care units and reported to HPSC during week 13 2020. During the 2019/2020 season to date, 150 confirmed influenza cases have been reported as admitted to ICU.
- **Mortality:** During week 13 2020, no influenza associated deaths were reported. During the 2019/2020 season to date, 102 influenza-associated deaths have been reported to HPSC. Excess all-cause mortality was reported, in adults aged 65 years and older, during weeks 51, 52 (2019) and weeks 1 and 2 2020. Excess all-cause mortality was also reported for those aged 15-64 years in week 3 2020.
- **Outbreaks:** One outbreak of Acute Respiratory Infection (ARI) and no outbreaks of Respiratory Syncytial Virus Infection (RSV) or Influenza were reported to the HPSC during week 13 2020.
- **International:** In the temperate zone of the northern hemisphere, respiratory illness indicators and influenza activity appeared to decrease overall. In Europe, influenza appears to be declining. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

1. GP sentinel surveillance system - Clinical Data

- During week 13 2020, 355 influenza-like illness (ILI) cases were reported by sentinel GPs, this corresponds to an ILI consultation rate of 192.2 per 100,000 population, which remains stable compared to the updated rate of 190.1 per 100,000 population reported during week 12 2020.
- The elevated ILI rate is likely reflective of the current COVID-19 pandemic rather than influenza, due to the similarity in case definitions of ILI and COVID-19, and due to the recommendation for people with respiratory symptoms to contact their GP for assessment.
- ILI case definition: Fever $\geq 38^{\circ}\text{C}$ and cough with onset within last 10 days. ILI cases reported include ILI cases by phone consultations.
- The ILI rate for week 13 2020 is now in the very high thresholds levels (103.61 to <329.68 per 100,000) (figures 1 & 2). This is the highest ILI rate the HPSC has ever recorded with the exception of the peak rate of 201.1/100,000 during the 2009 pandemic.
- During week 13, 39 (65%) of the 60 sentinel GP practices reported data (184,663 reporting population).
- ILI age specific rate was highest in those aged 15-64 years (196.0/100,000) and 0-4 years (171.2/100,000) and lowest in those aged 5-14 years (68.7/100,000) and ≥ 65 years olds (113.2/100,000).
- 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 is used to indicate 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.*

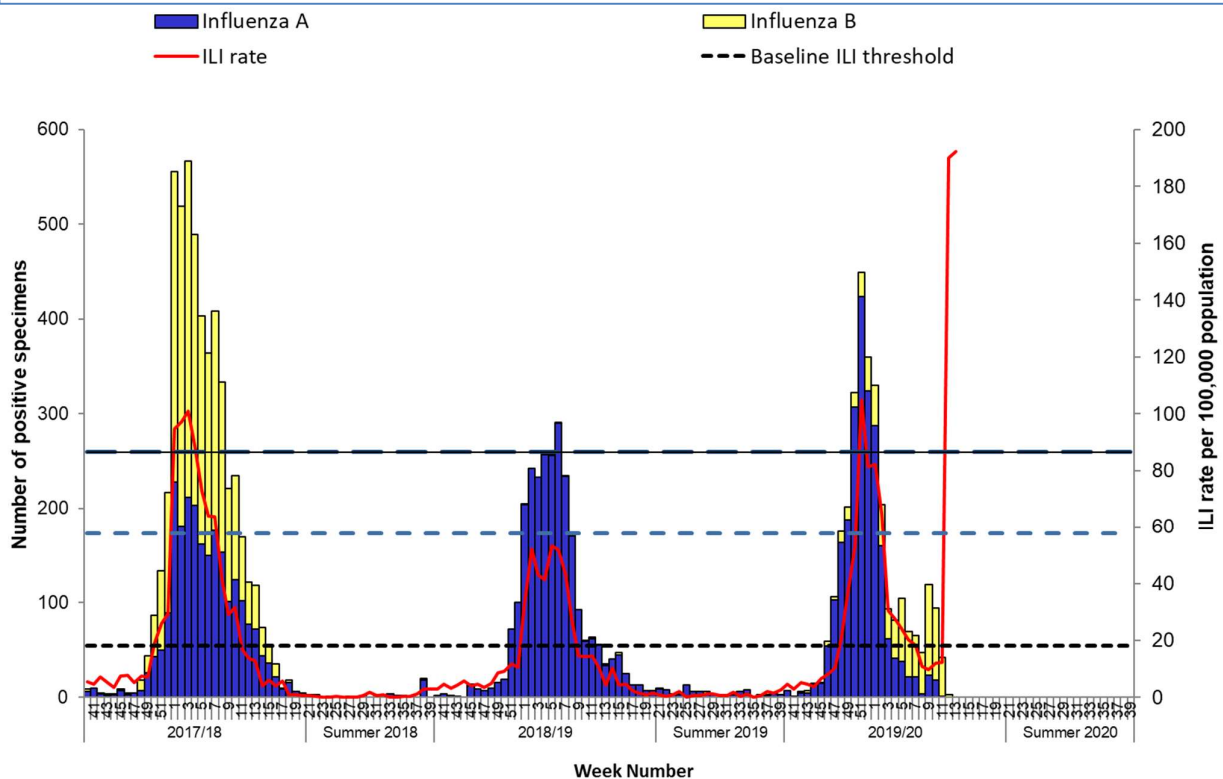


Figure 1: ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds* and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season. Source: ICGP and NVRL

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

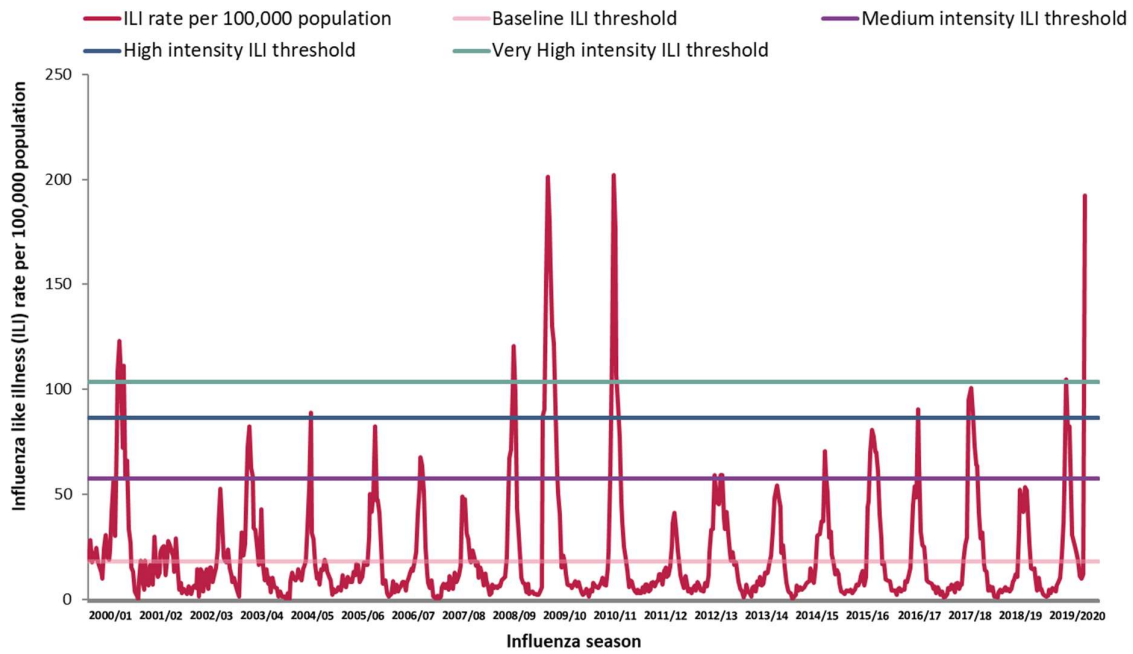


Figure 2: Sentinel GP ILI consultation rate per 100,000 population by week and influenza season (excluding summer periods). Source: ICGP.

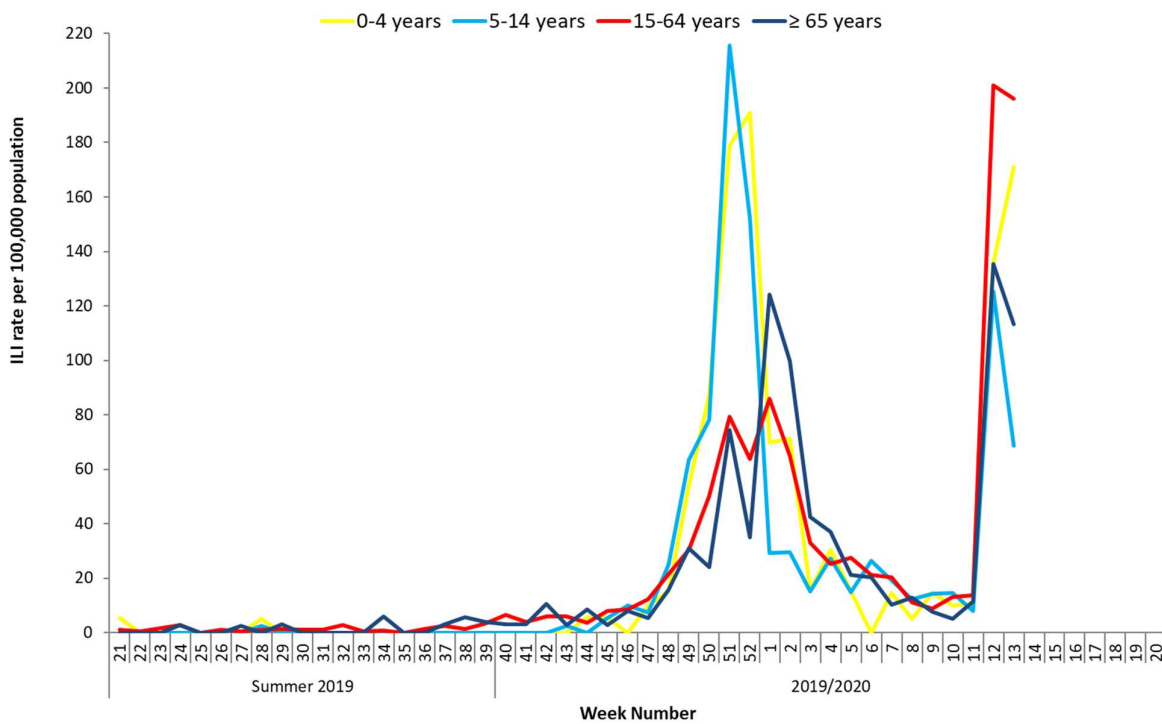


Figure 3: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2019 and the 2019/2020 influenza season to date. Source: ICGP.

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 13 2020, influenza detections from non-sentinel sources continued to decrease with no influenza positive specimens reported by the NVRL. This compares to an updated figure of 3 (2.8%) detections during week 12 2020.
- During week 13, the overall proportion of non-sentinel specimens positive for respiratory viruses was 3.6%.
- Due to the current COVID 19 pandemic and the need to prioritise resources, sentinel influenza samples will not be reported by the NVRL. Overall, testing for influenza has been reduced due to COVID-19 pandemic response.
- Respiratory syncytial virus (RSV) positivity decreased in week 13, with no detections and as shown in figure 6 is at low levels nationally.
- Sporadic detections of parainfluenza virus, adenovirus and human metapneumovirus (hMPV) have been reported to date this season (table 3).
- Data from the NVRL for week 13 2020 and the 2019/2020 season to date are detailed in tables 1, 2 and 3.
- Influenza A(H3) has been the dominant circulating virus this season overall, with lower numbers of A(H1N1)pdm09 and increasing numbers of influenza B also being reported (figures 4 & 5).
- Human metapneumovirus, adenovirus, parainfluenza virus (table 3) and picornavirus (which includes both rhinovirus and enterovirus) continue to be detected.

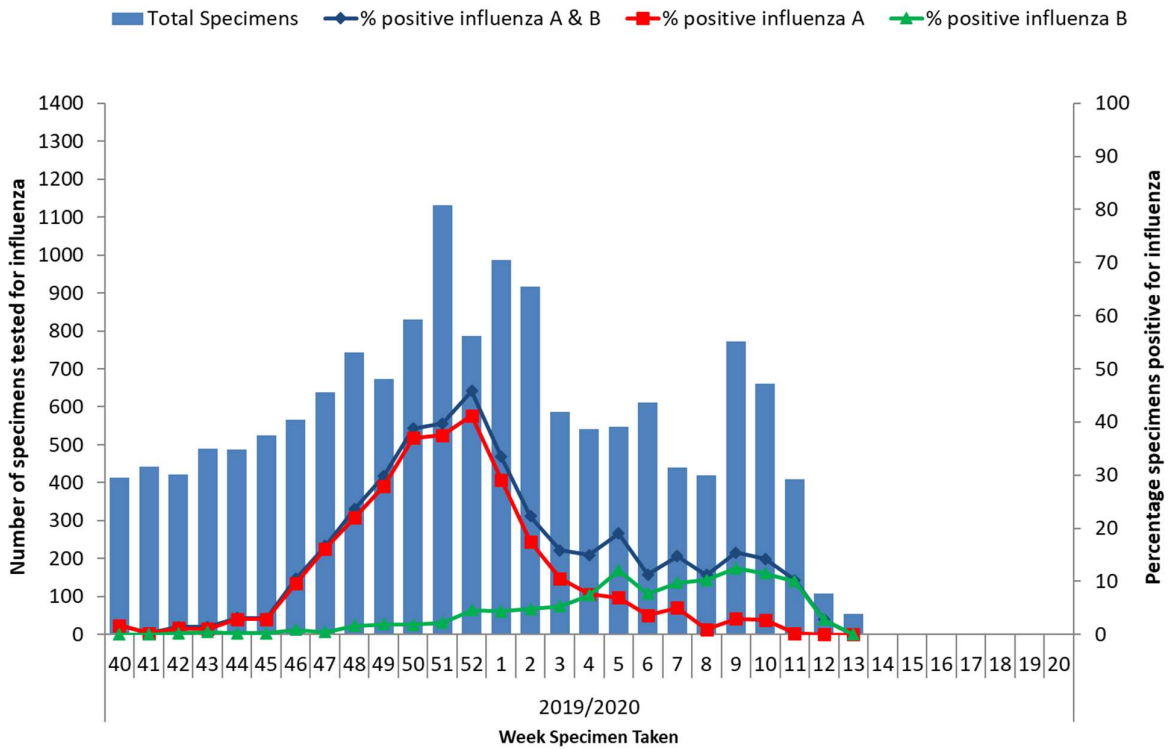


Figure 4: Number of specimens (from sentinel and non-sentinel sources combined) tested by the NVRL for influenza and percentage influenza positive by week for the 2019/2020 influenza season. *Source: NVRL.*

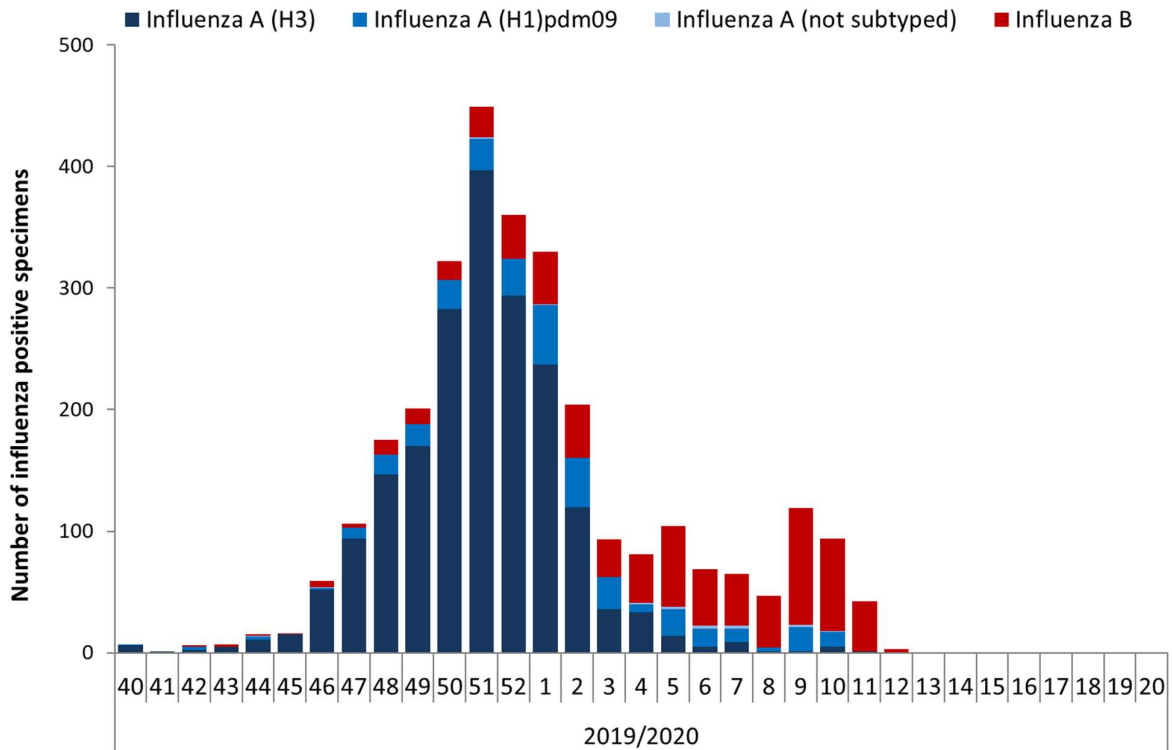


Figure 5: Number of positive influenza specimens (from sentinel and non-sentinel sources combined) by influenza type/subtype tested by the NVRL, by week for the 2019/2020 influenza season. *Source: NVRL.*

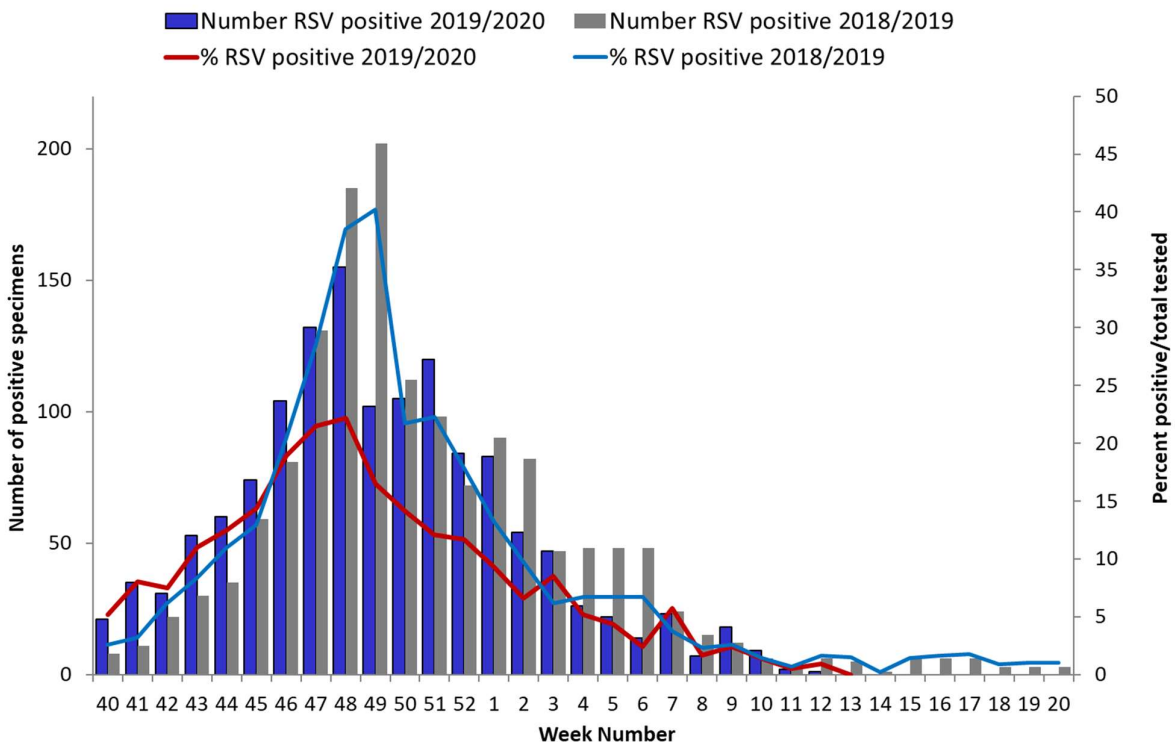


Figure 6: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2019/2020 season, compared to the 2018/2019 season. Source: NVRL.

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.

Table 1: Number of sentinel* and non-sentinel† respiratory specimens tested by the NVRL and positive influenza results, for week 13 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
13 2020	Sentinel	-	-	-	-	-	-	-	-	-	-	-
	Non-sentinel	55	0	0.0	0	0	0	0	0	0	0	0
	Total	55	0	0.0	0	0	0	0	0	0	0	0
2019/2020	Sentinel	949	466	49.1	51	304	1	356	1	107	2	110
	Non-sentinel	14254	2509	17.6	284	1635	13	1932	577	0	0	577
	Total	15203	2975	19.6	335	1939	14	2288	578	107	2	687

Table 2: Number of sentinel* and non-sentinel respiratory specimens tested by the NVRL and positive RSV results, for week 13 2020. Source: NVRL

Week	Specimen type	Total tested	Number RSV positive	% RSV positive	RSV A	RSV B	RSV (unspecified)
13 2020	Sentinel	-	-	-	-	-	-
	Non-sentinel	55	0	0.0	0	0	0
	Total	55	0	0.0	0	0	0
2019/2020	Sentinel	949	35	3.7	31	4	0
	Non-sentinel	14254	1382	9.7	0	0	1382
	Total	15203	1417	9.3	31	4	1382

Table 3: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 13 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
13 2020	Non-sentinel	55	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	3.6
2019/2020	Non-sentinel	14254	364	2.6	228	1.6	129	0.9	36	0.3	35	0.2	820	5.8

† 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.

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. However, during week 13 2020 only one hospital reported data. Since week 11 reporting from sentinel hospitals has been incomplete and for this reason Figure 8 does not accurately reflect respiratory admissions.

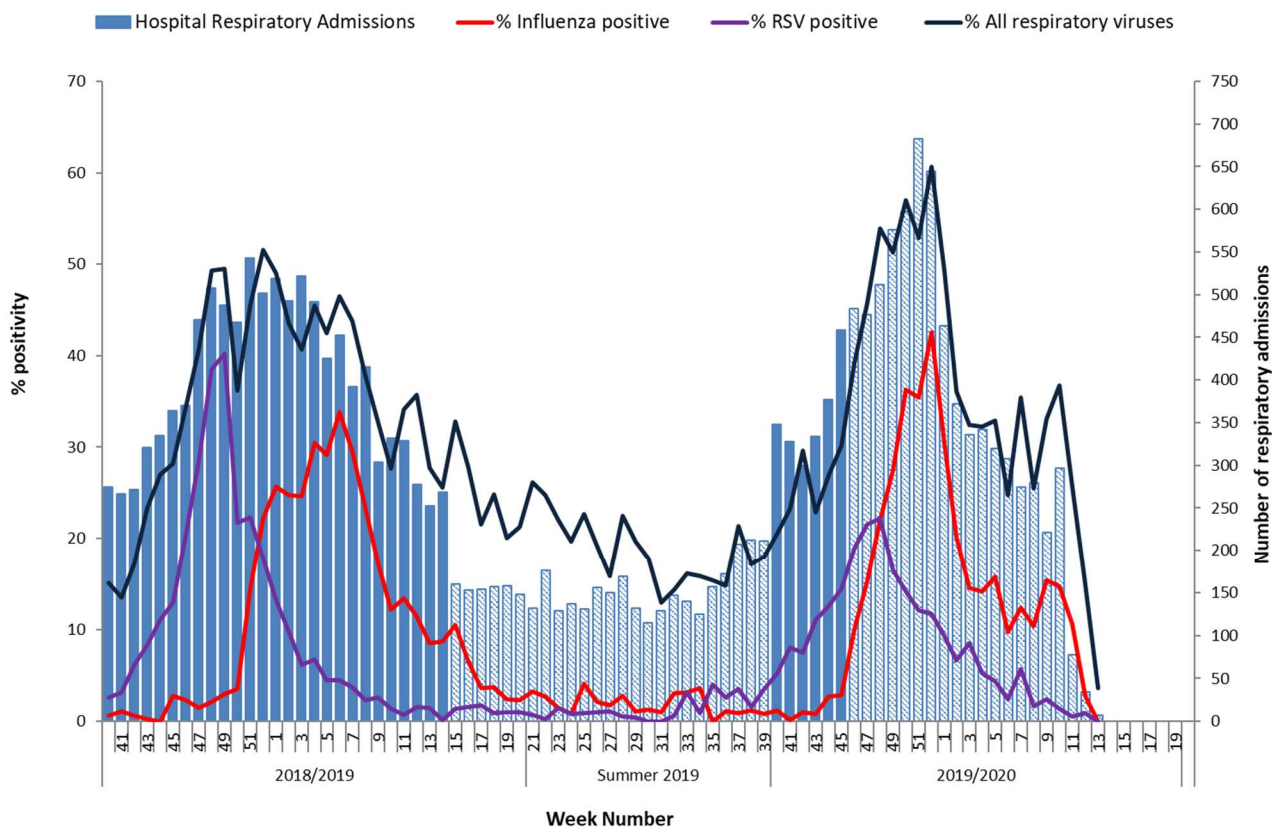


Figure 8: Number of respiratory admissions reported from the sentinel hospital network and % positivity for influenza, RSV and all seasonal respiratory viruses tested* by the NVRL by week and season. *Source: Departments of Public Health - Sentinel Hospitals & NVRL. *All seasonal respiratory viruses 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.*

3. 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 0.9% during week 13 2020, a decrease in comparison to week 12 (2.1%). Three services reported data for the current week and there were 47 calls relating to self-reported influenza (figure 9).

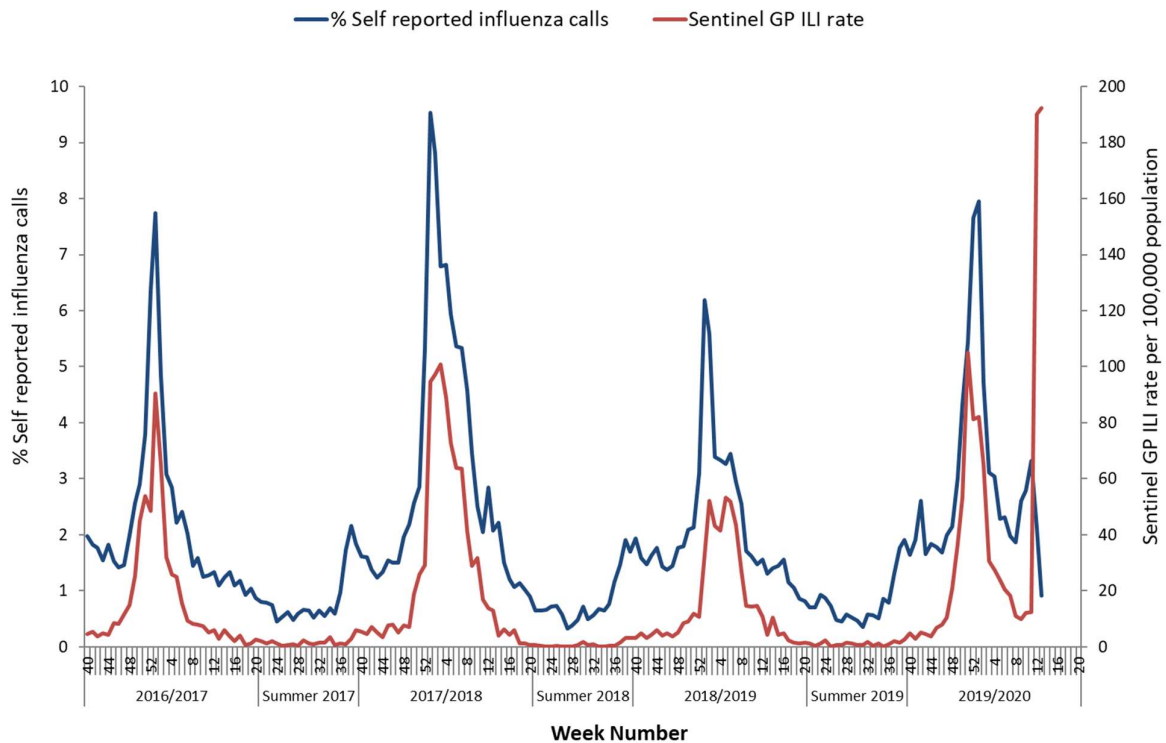


Figure 9: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

4. 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 increased to 690 during week 13 2020, compared to 224 during week 12 2020. However analysis of the notified cases by symptom onset date/laboratory specimen collection date indicates that the increase in influenza notifications in week 13 was due to delayed notifications and indicates that it is likely that influenza peaked in week 51 and 52 2019 (Appendix 1).
- Of the 690 cases notified during week 13 2020, 13 were due to influenza A(H1N1)pdm09, 352 were due to influenza A (not subtyped), 323 were due to influenza B, and influenza type was unknown for two cases.
- To date this season, 10,993 confirmed cases of influenza have been notified to HPSC; 79% (n=8,694) were influenza A, 21% (n=2,280) were influenza B and the influenza type was not known for <1% (n=19). Of the 2,104 subtyped cases of influenza A, 83% (n=1,752) were A(H3N2) and 17% (n=352) were A(H1N1)pdm09. Influenza A(H3N2) dominated for most of this season, and B viruses co-circulating in recent weeks.
- During week 13 2020, 35 RSV cases were notified, the majority of cases notified were in those aged 0-4 years and those aged 55 years and older.

5. Influenza Hospitalisations

- 271 confirmed influenza hospitalised cases were notified to HPSC during week 13 2020. Of these, two were due to A(H1N1)pdm09, 140 were due to influenza A (not subtyped) and 129 were due to influenza B.
- For the 2019/2020 season to date, 4,281 confirmed influenza hospitalised cases have been notified to HPSC; 83% were due to influenza A (n=3,540) and 17% were due to influenza B (n=734). The influenza type was not reported for the remaining seven cases (<1%). Of the 618 influenza A viruses subtyped, 87% (n=535) were A(H3N2) and 13% (n=83) were A(H1N1)pdm09.
- Age specific rates for hospitalised influenza cases are reported in table 4, with the highest rates reported in adults aged 65 years and older and in children aged 0-4 years.

6. 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 influenza cases were reported as admitted to ICU during during week 13 2020.
- During the 2019/2020 season to date, 150 confirmed influenza cases have been reported as having been admitted to ICU. Of those, 32 were due to influenza A (H3N2), 13 were due to A(H1N1)pdm09, 89 were due to influenza A (not subtyped) and 16 were due to influenza B.
- Of the cases admitted to ICU, over half were aged 65 years and older. The age specific rates for admission to critical care are shown in table 4.

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	185	297.2	3	4.8
1-4	576	213.9	12	4.5
5-14	659	97.6	12	1.8
15-24	201	34.9	4	0.7
25-34	222	33.7	3	0.5
35-44	200	26.8	6	0.8
45-54	164	26.2	8	1.3
55-64	314	61.7	26	5.1
>65	1759	275.9	76	11.9
Age unknown	1	n/a	0	n/a
Total	4281	89.9	150	3.2

7. 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/>

- During week 13 2020, no influenza associated deaths were reported to HPSC. To date this season, 102 influenza-associated deaths were reported to HPSC. Eighty six (84%) of the deaths occurred in adults aged 65 years and older, twelve (12%) were in adults aged between 35 and 64 years, three (3%) occurred in children aged less than 15 years and one (1%) in the 16-34 age group.
- Excess all-cause mortality was reported in Ireland, in adults aged 65 years and older, during weeks 51 & 52 2019 and weeks 1 and 2 2020 (mid-December to mid-January). Excess all-cause mortality was also reported for those aged 15-64 years in week 3 2020, after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm.

8. Outbreak Surveillance

- There was one outbreak of Acute Respiratory Infection (ARI) and no outbreak of Respiratory Syncytial Virus Infection (RSV) or Influenza reported to the HPSC during week 13 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	32	2	11	45
HSE-M	9		3	12
HSE-MW	10	2		12
HSE-NE	5	1	2	8
HSE-NW	2	1	2	5
HSE-SE	17		8	25
HSE-S	12		2	14
HSE-W	17		4	21
Total	104	6	32	142

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

Outbreak location	Organism/ pathogen	Outbreak disease			Total
		Acute respiratory infection	Influenza	Respiratory syncytial virus infection	
School or childcare facility	Influenza A		2		2
	Influenza-like illness	4			4
	Suspected RSV	1			1
	RSV			1	1
	Organism not reported	3			3
School or childcare facility Total		8	2	1	11
Nursing home/Community hospital/ Long-stay unit/ Residential institution	Coronavirus	1			1
	Coronavirus and rhinovirus	1			1
	Human metapneumovirus	1			1
	Human Metapneumovirus and rhinovirus	1			1
	Influenza		14		14
	Influenza A		34		34
	Influenza AH1N1		1		1
	Influenza AH3		13		13
	Influenza B		2		2
	Influenza B and human metapneumovirus		1		1
	Influenza-like illness	1			1
	Parainfluenza	1			1
	Rhino enterovirus	1			1
	Rhino/Enterovirus	1			1
	RSV			2	2
	RSV B			1	1
Organism not reported	15	12		27	
Nursing home/Community hospital/Long-stay unit/Residential institution Total		23	77	3	103
Acute hospitals	Influenza		5		5
	Influenza A		15		15
	Influenza A&B		1		1
	Influenza AH3		1		1
	Influenza AH3 and human metapneumovirus		1		1
	Influenza B		1		1
	Influenza mixed		1		1
	RSV			2	2
Organism not reported	1			1	
Acute hospitals Total		1	25	2	28
Total		32	104	6	142

9. International Summary

For the European Region as a whole, influenza activity appears to be declining. High influenza intensity was reported by 1 Member State, and 7 Member States and areas reported medium influenza intensity. Widespread influenza activity was reported by less than half of the Member States and areas across the Region. However, influenza-like illness (ILI) and/or acute respiratory infection (ARI) notification rates continued to increase or remain high in some Member States this week, which might reflect the community transmission of COVID-19. The percentage of specimens from patients who presented with ILI or ARI to sentinel primary healthcare sites that tested positive for an influenza virus dropped from 30% last week to 14% this week. Both influenza virus types A and B were co-circulating in sentinel source specimens with a higher proportion (60%) of type A viruses being detected. Of the type A detections, A(H1N1)pdm09 viruses were the most common (65%). Of the influenza B viruses, all were B/Victoria lineage.

For the Region as a whole, influenza activity commenced earlier than in recent years and, based on sentinel sampling, first exceeded a positivity rate of 10% in week 47/2019. The influenza season for the Region as a whole peaked in week 05/2020 reaching a maximum positivity rate of 55%. The peak phase with positivity levels above 50% lasted for just two weeks, 05/2020 and 06/2020, but reporting in subsequent weeks may have been adversely affected by Member State responses to the COVID-19 outbreak. In the previous influenza season, rates of influenza positivity exceeded 50% for six weeks. The majority of circulating viruses were susceptible to neuraminidase inhibitors supporting early treatment or prophylactic use according to national guidelines. Interim estimates of 2019–2020 seasonal influenza vaccine effectiveness in the northern hemisphere are available. Further information is available from [ECDC](#) and [Flu News Europe](#).

In the temperate zone of the northern hemisphere, influenza activity appeared to decrease overall. In North America, influenza activity continued to decline but influenza-like illness (ILI) levels remained elevated. In Central Asia, influenza activity was low. In Northern Africa, decreasing influenza activity was reported in Tunisia. In Western Asia, influenza activity was low in most reporting countries. In East Asia, ILI and influenza activity returned to baseline levels. National Influenza Centres (NICs) and other national influenza laboratories from 94 countries, areas or territories reported data to FluNet for the time period from 02 March 2020 to 15 March 2020 (data as of 2020-03-27 03:11:25 UTC). The WHO GISRS laboratories tested more than 213931 specimens during that time period. 35618 were positive for influenza viruses, of which 25675 (72.1%) were typed as influenza A and 9943 (27.9%) as influenza B. Of the sub-typed influenza A viruses, 3777 (77.7%) were influenza A(H1N1)pdm09 and 1082 (22.3%) were influenza A(H3N2). Of the characterized B viruses, 14 (1.9%) belonged to the B-Yamagata lineage and 732 (98.1%) to the B-Victoria lineage. Further information is available from [WHO](#)

ECDC and WHO Regional Office for Europe published a joint [Regional Situation Assessment](#) for the 2019-2020 influenza season up to week 49/2019, which focused on disease severity and impact on healthcare systems to assist forward planning in Member States.

- 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) is available on the [ECDC](#) and [WHO](#) websites. ECDC has also produced Rapid Risk Assessments which are 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](#).

10. WHO recommendations on the composition of influenza virus vaccines

On the 28th February 2020, the WHO vaccine strain selection committee issued recommendations for the composition of influenza virus vaccines for use in the 2020-2021 northern hemisphere influenza season. It is recommended that quadrivalent vaccines used in the 2020/2021 influenza season contain the following.

Egg-base Vaccines

- 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.

Cell- or recombinant-based Vaccines

- an A/Hawaii/70/2019 (H1N1)pdm09-like virus;
- an A/Hong Kong/45/2019 (H3N2)-like virus;
- a B/Washington/02/2019(B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013(B/Yamagata lineage)-like virus

It is recommended that that trivalent vaccines used in the 2020/2021 influenza season contain the following.

Egg-base Vaccines

- 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;

Cell- or recombinant-based Vaccines

- an A/Hawaii/70/2019 (H1N1)pdm09-like virus;
- an A/Hong Kong/45/2019 (H3N2)-like virus;
- a B/Washington/02/2019(B/Victoria lineage)-like virus;

https://www.who.int/influenza/vaccines/virus/recommendations/2020-21_north/en/
https://www.who.int/influenza/vaccines/virus/recommendations/202002_recommendation.pdf?ua=1

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*

