Influenza Surveillance in Ireland – Weekly Report

Influenza Week 6 2018 (5th – 11th February 2018)

Summary

Overall, most indicators of influenza activity were slowly decreasing in Ireland, however activity remained at high levels during week 6 2018 (week ending 11th February 2018). Influenza B and A(H3N2) are co-circulating, with a higher proportion of influenza B detected. Confirmed influenza hospitalisations continue to be reported at high 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 65.7 per 100,000 population in week 6 2018, a decrease compared to the updated rate of 72.3 per 100,000 reported during week 5 2018.
  - ILI rates have been above the Irish baseline threshold (17.5 per 100,000) for nine consecutive weeks and the medium intensity threshold (59.6/100,000) for six consecutive weeks.
  - During week 6 2018, ILI age specific rates were highest in the 0-4 and 5-14 year age groups.
- GP Out of Hours: The proportion of influenza–related calls to GP Out-of-Hours services continued to slowly decrease compared to recent weeks, however remained at moderately high levels during week 6 2018.
- Respiratory admissions: Respiratory hospital admissions reported from a sentinel hospital network were at moderately high levels.
- National Virus Reference Laboratory (NVRL):
  - Influenza positivity is slowly declining however remained at high levels during week 6 2018. 262 (31.1%) influenza positive specimens were reported from the NVRL during week 6 2018: 37% influenza A [76 A(H3N2), 20 A(H1N1)pdm09, 1 A (not subtyped)] and 63% (165) influenza B.
  - Influenza B and A(H3N2) are co-circulating, with a higher proportion of influenza B detected. Low numbers of influenza A(H1N1)pdm09 are also being reported each week.
  - Coinfections of all seasonal respiratory viruses were reported during week 6 2018, with 17% of influenza detections from non-sentinel sources co-infected with another respiratory virus.
  - Respiratory syncytial virus (RSV) positivity was at low levels during week 6 2018. Human metapneumovirus, adenovirus, parainfluenza virus, coronavirus and picornavirus (which includes both rhinovirus and enterovirus) continue to be detected in varying proportions.
- Hospitalisations: 320 confirmed influenza hospitalised cases were notified during week 6 2018, 43% associated with influenza A and 57% with influenza B. For the season to date, 2465 confirmed influenza hospitalised cases have been notified to HPSC, with the highest rates occurring in those aged ≥65 years.
- Critical care admissions: 129 confirmed influenza cases were admitted to critical care units and reported to HPSC (weeks 40 2017–6 2018), 49% associated with influenza A and 51% with influenza B.
- Mortality: 92 deaths in notified influenza cases were reported to HPSC between weeks 40 2017 - 6 2018, with a median age of 79 years. Excess all-cause mortality was reported in those aged 65 years and older for weeks 52 2017 – 3 2018.
- Outbreaks: Eleven acute respiratory infection (ARI)/influenza general outbreaks were notified during week 6 2018, bringing the season total to 152 ARI/influenza outbreaks.
- International: Influenza activity was widespread in the European region, with both influenza A and B co-circulating, with a higher proportion of influenza B viruses.

1. GP sentinel surveillance system - Clinical Data

- During week 6 2018, 162 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 65.7 per 100,000 population, a decrease compared to the rate of 72.3 per 100,000 reported during week 5 2018 (figure 1).
- The ILI rates have been above the Irish baseline ILI threshold (17.5/100,000 population) for nine consecutive weeks (weeks 50 2017 – 6 2018) and above the medium intensity threshold (59.6/100,000 population for six consecutive weeks (weeks 1 - 6 2018).
- During week 6 2018, ILI age specific rates were highest in the 0-4 (75.8/100,000) and 5-14 (74.4/100,000) year age groups; however both had decreased compared to the previous week (fig. 2).
- HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) has revised the Irish baseline ILI threshold for the 2017/2018 influenza season to 17.5 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.[1]
- The baseline ILI threshold (17.5/100,000 population), medium (59.6/100,000 population) and high (114.5/100,000 population) intensity ILI thresholds are shown in figure 1.

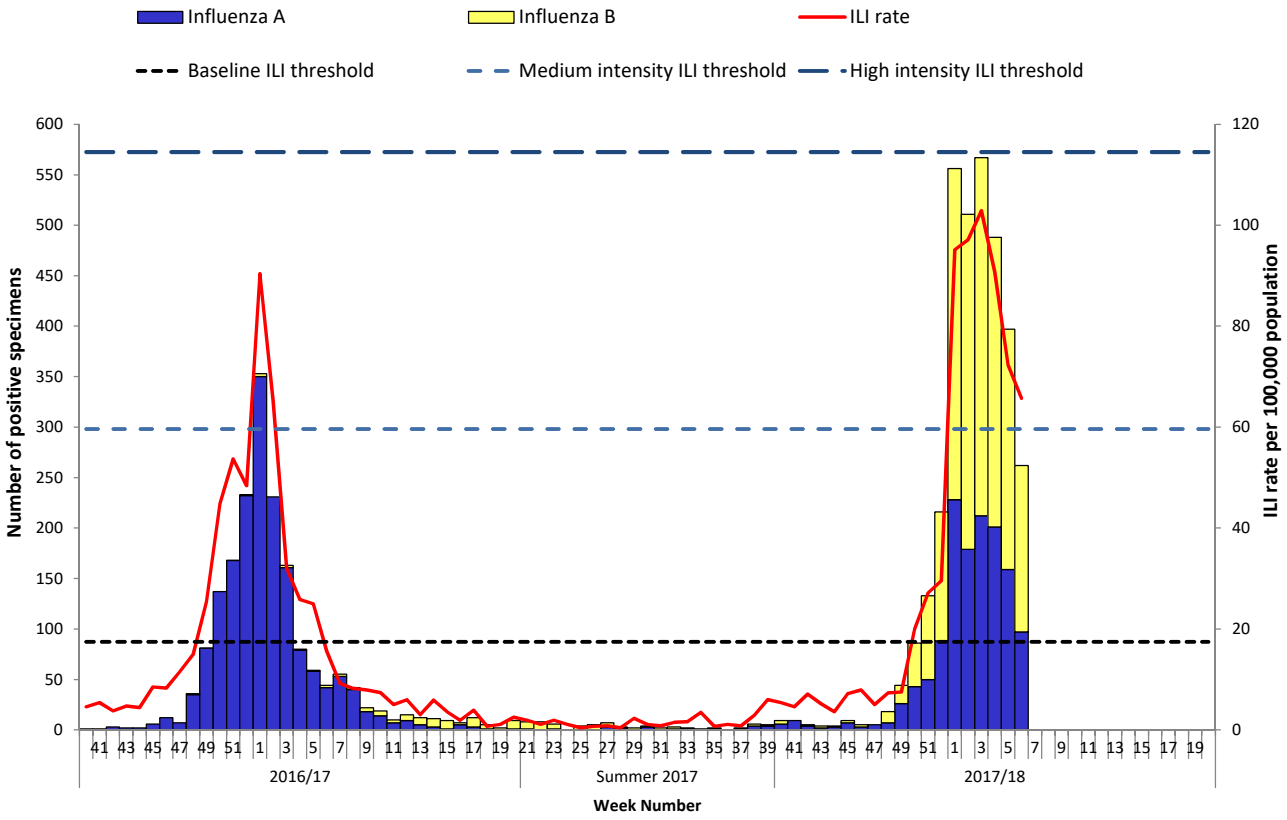

Figure 1: ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds* and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.
Source: ICGP and NVRL

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

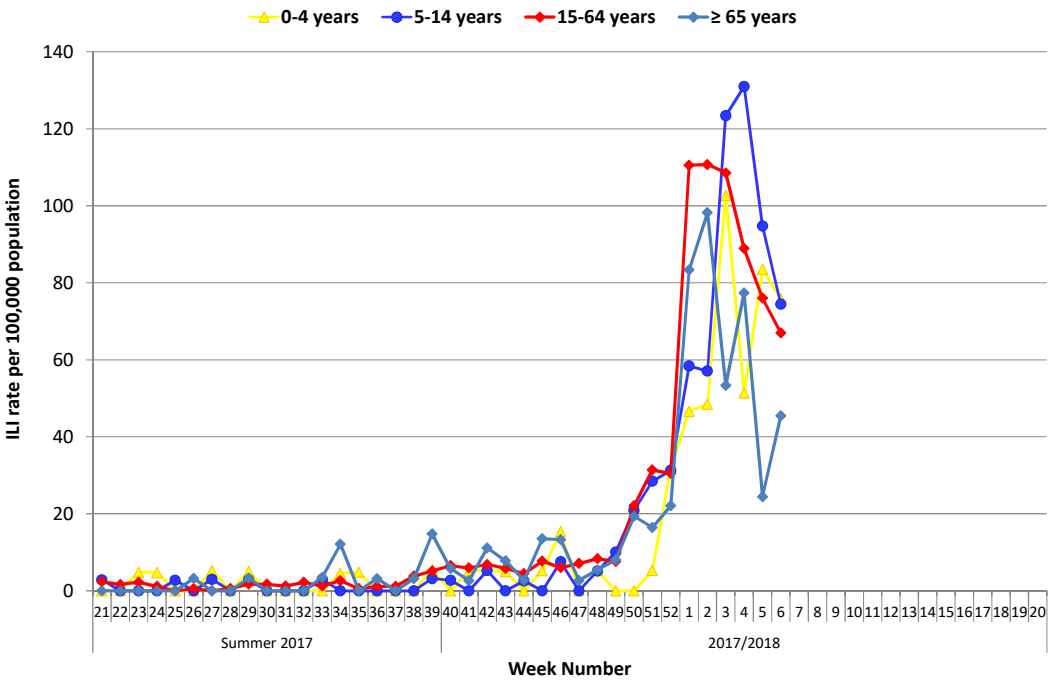

Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2017 and the 2017/2018 influenza season to date. *Source: ICGP.*

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2017/2018 influenza season refer to sentinel 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 3, 4 & 5 and tables 1 & 2).

- Influenza positivity remained at high levels during week 6 2018; however overall numbers are slowly declining. During week 6 2018, 262 (31.1%) influenza positive specimens were reported from the NVRL from sentinel GP and non-sentinel sources: 37% influenza A [76 A(H3N2), 20 A(H1N1)pdm09, 1 A (not subtyped)] and 63% (n=165) influenza B. It should be noted that data on respiratory specimens tested for the season to date are updated each week.
- Week 6 2018:
  - 39 of 84 (46.4%) sentinel specimens were influenza positive: 31% influenza A and 69% influenza B.
  - 223 of 758 (29.4%) non-sentinel specimens were influenza positive: 38% influenza A and 62% B.
- Data from the NVRL for week 6 2018 and the 2017/2018 season to date are detailed in tables 1 and 2.
- Influenza B and A(H3N2) are co-circulating, with a higher proportion of influenza B detected. Low numbers of influenza A(H1N1)pdm09 continue to be reported each week (figures 3 & 4).
- Coinfections of all seasonal respiratory viruses were reported during week 6 2018, with 17% of influenza detections from non-sentinel sources co-infected with another respiratory virus.
- Respiratory syncytial virus (RSV) positivity was at low levels during week 6 2018 (table 2 & figure 5).
- Human metapneumovirus, adenovirus, parainfluenza virus, coronavirus and picornavirus (which includes both rhinovirus and enterovirus) positive detections have continued to be detected in varying proportions (table 2).[1]
- The overall proportion of non-sentinel specimens positive for respiratory viruses[1] remained high at 40% during week 6 2018, however decreased compared to 47% during week 5 2018.

[1] *Respiratory viruses routinely tested by the NVRL and included in this report are detailed above. It should be noted that there are no historic data on picornaviruses or coronaviruses for seasonal comparisons, data on these viruses are not included in this report.*

Virus Characterisation:

- The recommended composition of trivalent influenza vaccines for the 2017/2018 influenza season in the Northern Hemisphere included: an A/Michigan/45/2015 (H1N1)pdm09-like virus; an A/Hong Kong/4801/2014 (H3N2)-like virus; and a B/Brisbane/60/2008-like virus (B/Victoria lineage). For quadrivalent vaccines, a B/Phuket/3073/2013-like virus (B/Yamagata lineage) was recommended. Trivalent influenza vaccines are the most widely used influenza vaccines in Europe. http://www.who.int/influenza/vaccines/virus/recommendations/en/
- Genetic characterisation of influenza viruses circulating this season in Ireland has been carried out by the NVRL on 38 influenza A(H3N2), 16 influenza A(H1N1)pdm09 and 63 influenza B positive specimens to date. Further genetic and antigenic testing is ongoing at the NVRL.
- Of the 38 influenza A(H3N2) viruses genetically characterised, the majority (73.7%; n=28) of viruses belonged to the vaccine virus clade, clade 3C.2a represented by A/Hong Kong/4801/2014. Nine (23.7%) viruses belonged to subclade 3C.2a1, represented by A/Singapore/INFIMH-16-0019/2016. Both 3C.2a (vaccine virus clade) and 3C.2a1 viruses circulated last season in Ireland and Europe, with 3C.2a1 viruses predominating last season. Viruses in these two groups are antigenically similar; however both clade and subclade are evolving rapidly, thereby requiring continued monitoring. One influenza A (H3N2) virus was characterised as a 3C.3a virus, represented by A/Switzerland/9715293/2013. This strain circulated in Ireland during the 2016/2017 season and has been identified sporadically throughout Europe this season.
- Sixteen influenza A(H1N1)pdm09 viruses were characterised and all viruses (100%) belonged to the influenza A(H1N1)pdm09 vaccine virus clade, genetic clade 6B.1, represented by A/Michigan/45/2015.
- Sixty-three influenza B viruses were genetically characterised, the vast majority (96.8%; n=61) were B/Yamagata lineage viruses, clustering in clade 3 represented by B/Phuket/3073/2013. The most prevalent influenza B lineage virus detected this season to date in Europe, is B/Yamagata, which is not included in the 2017/2018 trivalent influenza vaccine. All circulating B/Yamagata viruses have been associated with the AA mutations L172Q and M251V in the haemagglutinin gene. Two B/Victoria lineage viruses were detected by the NVRL, belonging to a subgroup of clade 1A viruses, represented by B/Norway/2409/2017, which carries the HA1 double amino acid deletion, Δ162-163, characteristic of a new antigenically distinct subgroup of viruses that has been detected in low numbers in several countries in the European Region, the US and Canada.
- See ECDC influenza surveillance reports for further information.

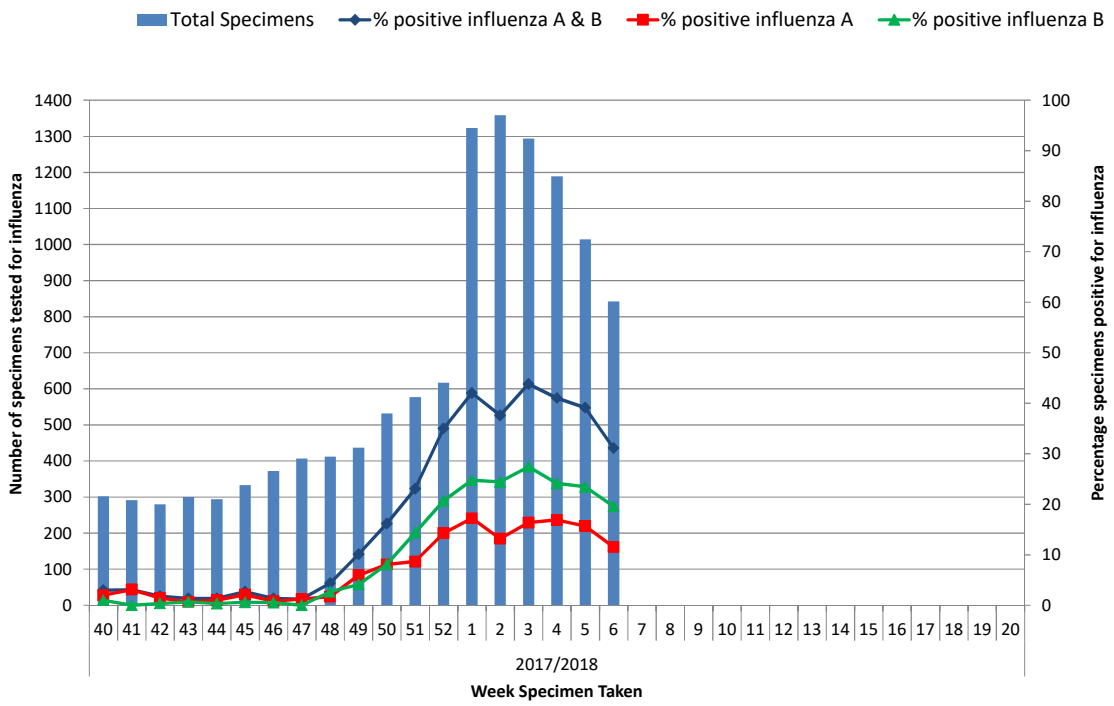

Figure 3: Number of specimens (from sentinel and non-sentinel sources combined) tested by the NVRL for influenza and percentage influenza positive by week for the 2017/2018 influenza season. *Source: NVRL*

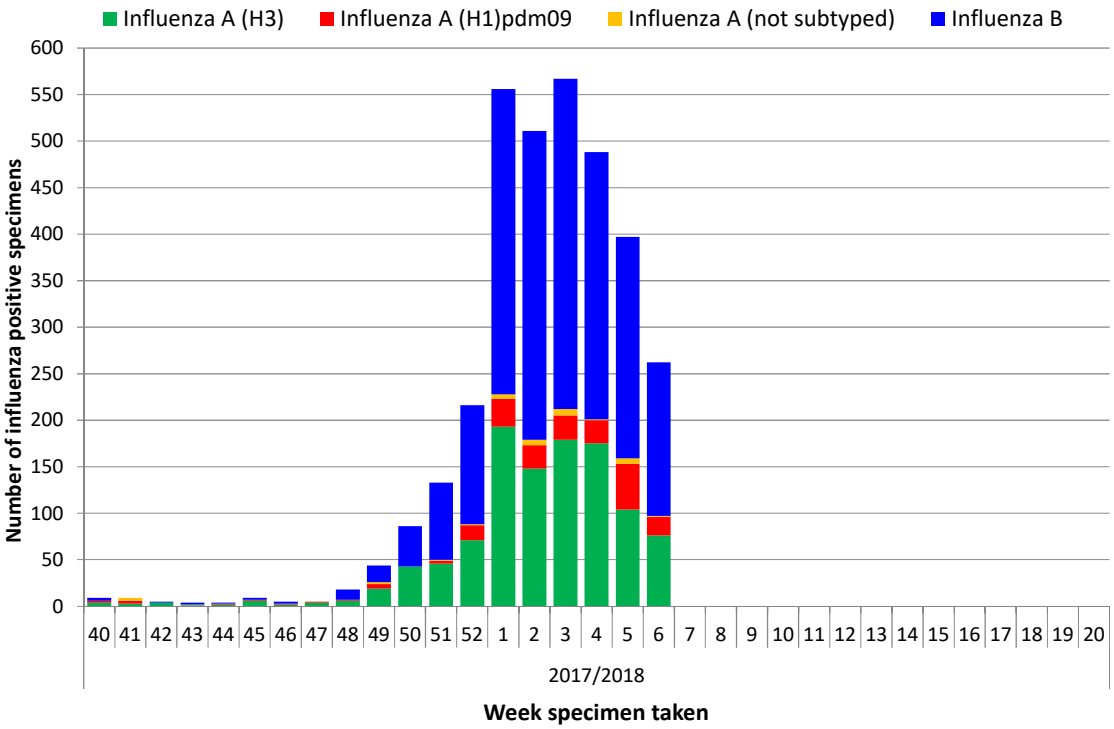

Figure 4: Number of positive influenza specimens (from sentinel and non-sentinel sources combined) by influenza type/subtype tested by the NVRL, by week for the 2017/2018 influenza season. *Source: NVRL.*

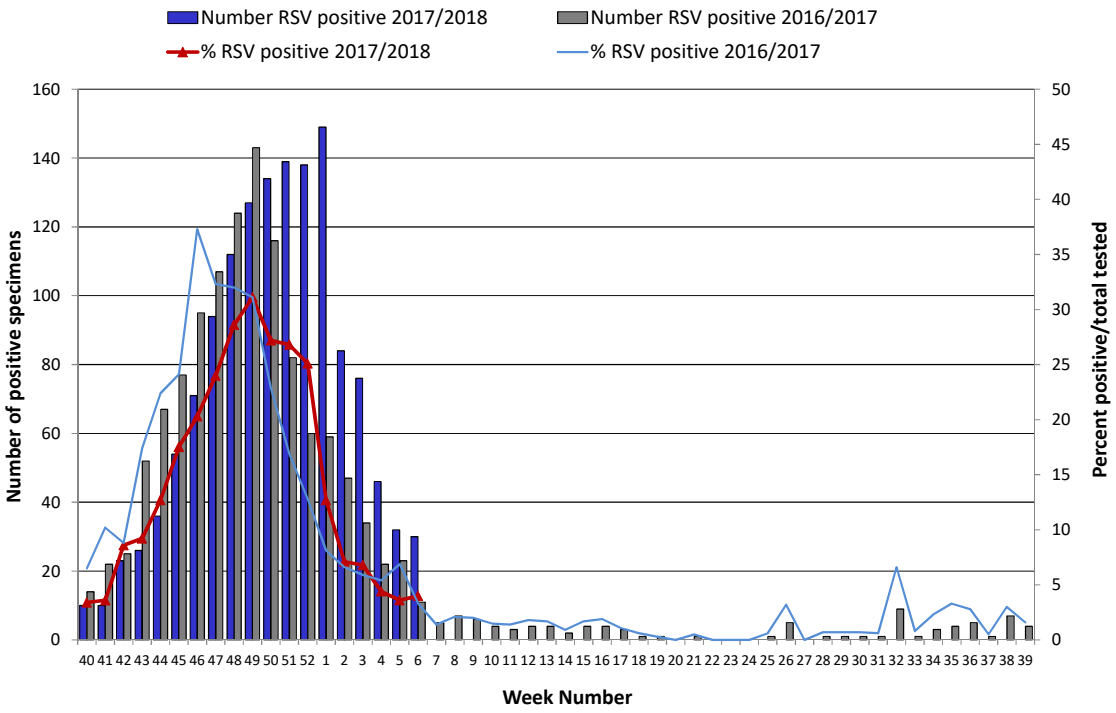

Figure 5: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2017/2018 season, compared to the 2016/2017 season. *Source: NVRL.*

Table 1: Number of sentinel and non-sentinel[†] respiratory specimens tested by the NVRL and positive influenza results, for week 6 2018 and the 2017/2018 season to date. *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	
6 2018	Sentinel	84	39	46.4	1	10	1	12	27
	Non-sentinel	758	223	29.4	19	66	0	85	138
	Total	**842**	**262**	**31.1**	**20**	**76**	**1**	**97**	**165**
2017/2018	Sentinel	1185	629	53.1	31	161	4	196	433
	Non-sentinel	10990	2699	24.6	178	925	30	1133	1566
	Total	**12175**	**3328**	**27.3**	**209**	**1086**	**34**	**1329**	**1999**

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 6 2018 and the 2017/2018 season to date. *Source: NVRL*

Week	Specimen type	Total tested	RSV	% RSV	Adenovirus	% Adenovirus	PIV-1	% PIV-1	PIV-2	% PIV-2	PIV-3	% PIV-3	PIV-4	% PIV-4	hMPV	% hMPV
6 2018	Sentinel	84	2	2.4	1	1.2	0	0.0	0	0.0	0	0.0	0	0.0	2	2.4
	Non-sentinel	758	30	4.0	13	1.7	1	0.1	0	0.0	1	0.1	0	0.0	32	4.2
	Total	**842**	**32**	**3.8**	**14**	**1.7**	**1**	**0.1**	**0**	**0.0**	**1**	**0.1**	**0**	**0.0**	**34**	**4.0**
2017/2018	Sentinel	1185	28	2.4	19	1.6	12	1.0	1	0.1	0	0.0	3	0.3	29	2.4
	Non-sentinel	10990	1391	12.7	194	1.8	165	1.5	73	0.7	15	0.1	48	0.4	690	6.3
	Total	**12175**	**1419**	**11.7**	**213**	**1.7**	**177**	**1.5**	**74**	**0.6**	**15**	**0.1**	**51**	**0.4**	**719**	**5.9**

[†] 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

The geographical spread of influenza is reviewed on a weekly basis using sentinel GP ILI consultation rates, laboratory data and outbreak data.

Widespread influenza activity was reported in HSE-Northeast, -East, -Southeast, -South, -Midwest and –West and regional influenza activity was reported in HSE-Midlands and -Northwest during week 6 2018 (figure 6). Influenza activity, in particular the number of influenza outbreaks, has decreased in all HSE-Areas.

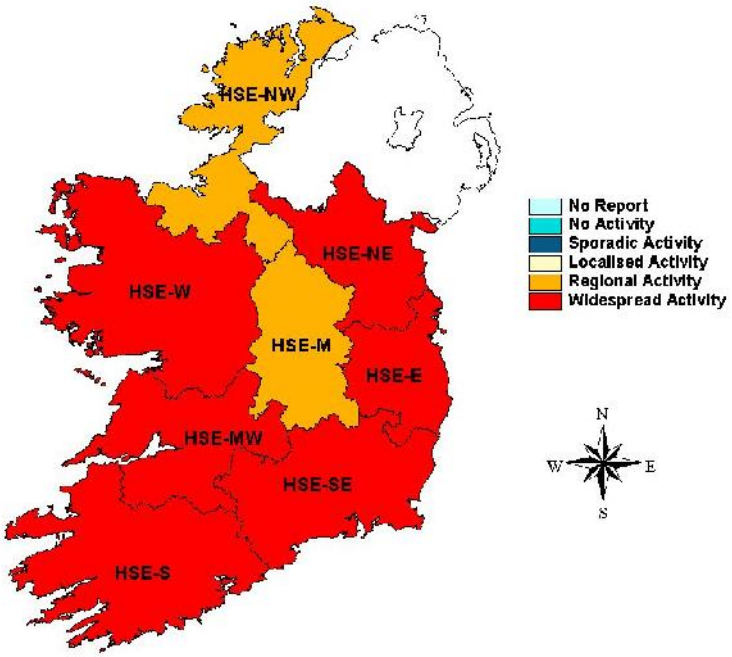

Figure 6: Map of provisional influenza activity by HSE-Area during week 6 2018

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 moderately high levels during week 6 2018 (n=456), an increase from 366 reported during week 5 2018, however remaining significantly lower than peak levels reported during week 1 2018 (n=535) (figure 7). Data were incomplete during week 6 2018, with seven of eight sentinel hospitals reporting.

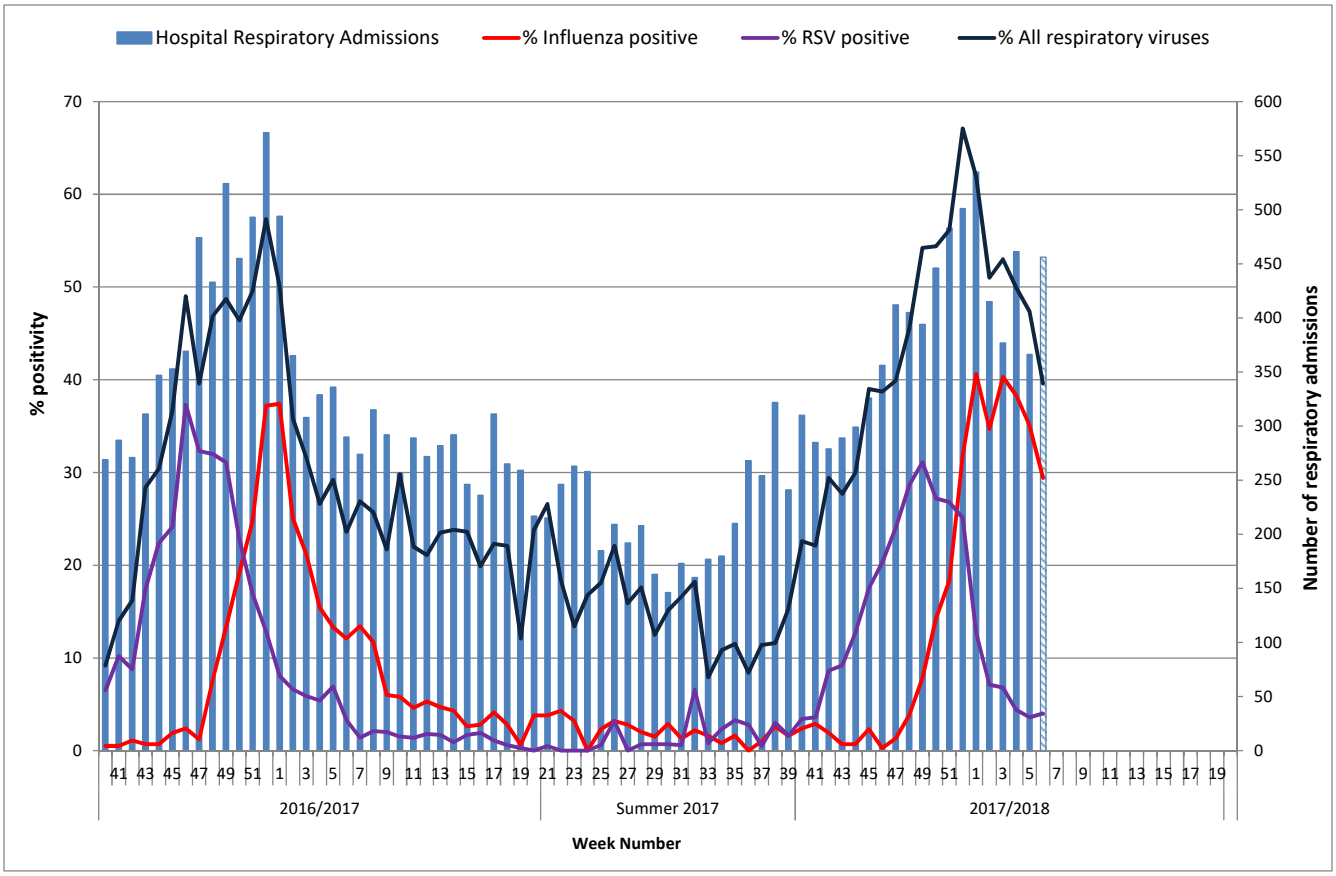

Figure 7: Number of respiratory admissions reported from the sentinel hospital network and % positivity for influenza, RSV and all seasonal respiratory viruses tested* by the NVRL by week and season. *Source: Departments of Public Health - Sentinel Hospitals & NVRL. *All seasonal respiratory viruses tested refer to non-sentinel respiratory specimens routinely tested by the NVRL including influenza, RSV, adenovirus, parainfluenza viruses and human metapneumovirus (hMPV). Data were incomplete during week 6 2018; this week is 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 remained at moderately high levels during week 6 2018 at 5.6%, a slight decrease compared to the updated proportion of 5.9% reported during week 5 2018 (figure 8).

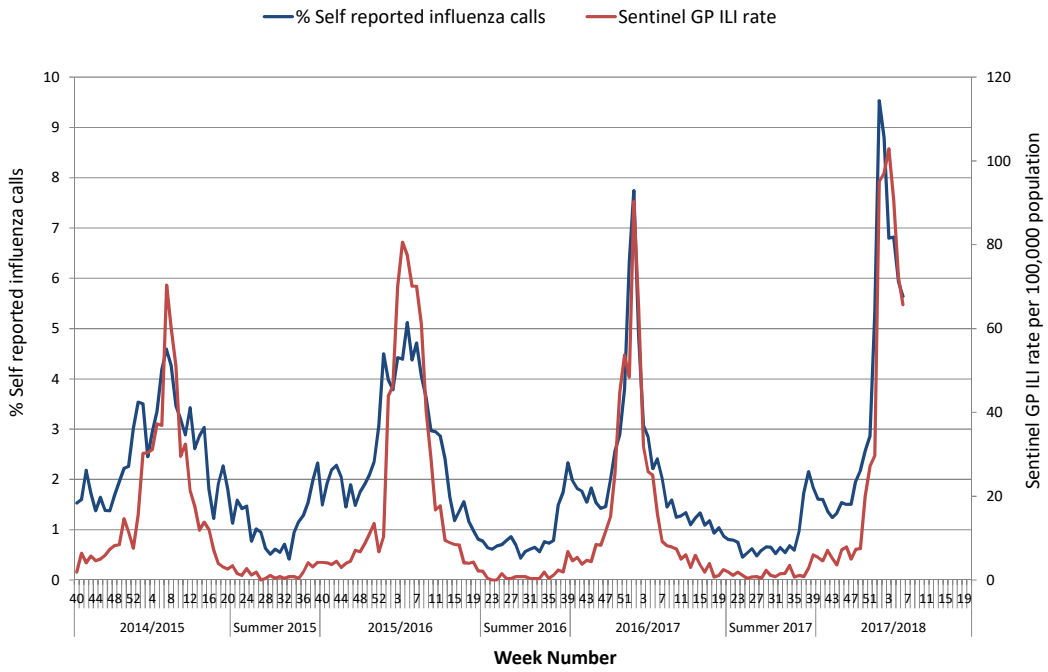

Figure 8: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

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 remained at high levels during week 6 2018, at 942, a slight decrease compared to 983 in the previous week. During week 6 2018, 370 (39.3%) cases were associated with influenza A [81 A(H3N2), 51 A(H1N1)pdm09 and 238 A (not subtyped)], 570 (60.5%) cases were associated with influenza B, and 2 (0.2%) cases with influenza type not reported.
- For the 2017/2018 influenza season to date, 6560 confirmed influenza cases have been notified to HPSC: 2413 (36.8%) cases were associated with influenza A [885 A(H3N2), 205 A(H1N1)pdm09, 1323 A (not subtyped)], 4116 (62.7%) cases with influenza B, and 31 (0.5%) cases with influenza type not reported. The median age of notified confirmed influenza cases this season to date was 54 years.
- RSV notifications continued to decrease during week 6 2018, with 85 cases notified, compared to 93 notified cases during week 5 2018.

6. Influenza Hospitalisations

- 320 confirmed influenza hospitalised cases were notified during week 6 2018, a slight decrease from 346 notified during week 5 2018. Of typed influenza viruses notified during week 6 2018, 43% were associated with influenza A and 57% with influenza B.
- For the 2017/2018 influenza season to date, 2465 confirmed influenza hospitalised cases have been notified to HPSC: 984 (39.9%) were associated with influenza A [270 associated with A(H3N2), 87 with A(H1N1)pdm09, 627 with A (not subtyped)], 1460 (59.2%) with influenza B and 21 (0.9%) with influenza type not reported. Age specific rates for hospitalised influenza cases are reported in table 3, with the highest rates reported in those aged 65 years and older. The median age of hospitalised cases this season to date was 65 years. The number of confirmed influenza hospitalised cases by influenza type/subtype and by week of notification is shown in figure 9.

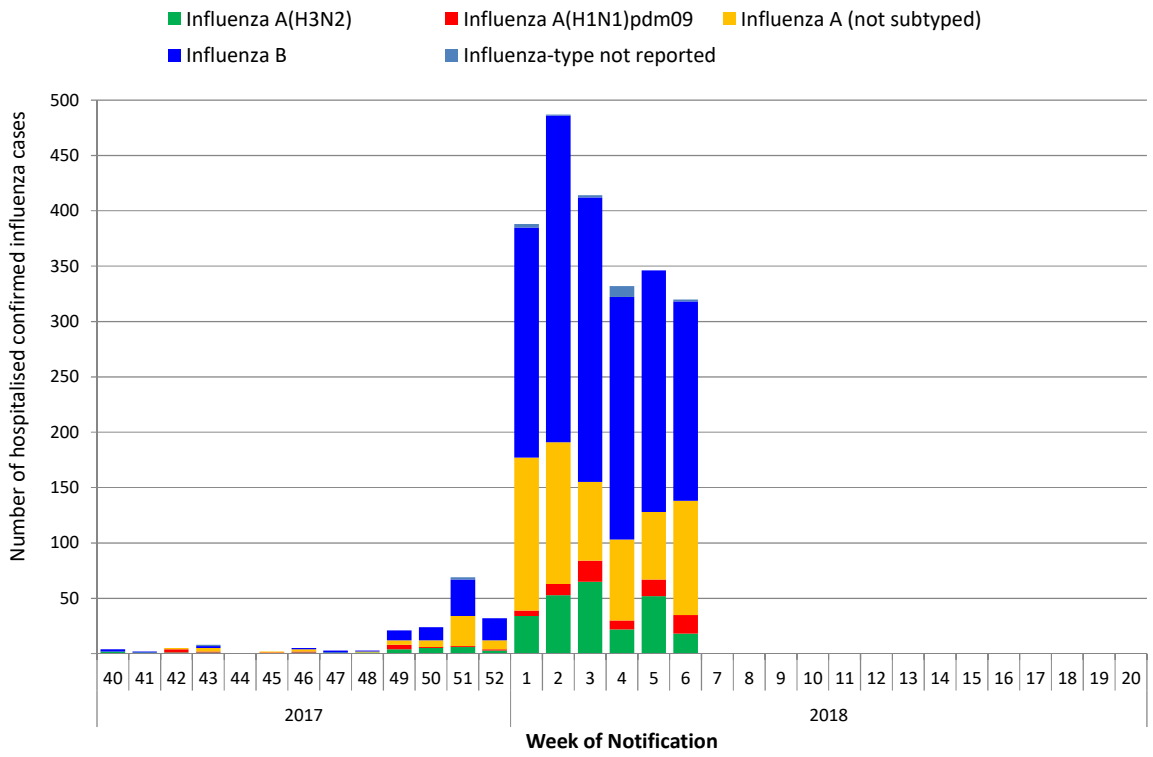

Figure 9: Number of confirmed influenza cases hospitalised by influenza type/subtype and by week of notification. *Source: Ireland's Computerised Infectious Disease Reporting System (CIDR).*

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.

- 129 confirmed influenza cases were admitted to critical care units and reported to HPSC during weeks 40 2017 – 6 2018, 49% associated with influenza A and 51% with influenza B: 22 A(H3N2), six influenza A(H1N1)pdm09, 35 A - not subtyped, and 66 influenza B. The highest age specific rates were reported in those aged less than one year old, followed by those aged 65 years and older (table 3). The median age of cases was 59 years.

Table 3: Age specific rates for confirmed influenza cases hospitalised and admitted to critical care during the 2017/2018 influenza season to date. Age specific rates are based on the 2016 CSO census.

	Hospitalised		Admitted to ICU	
Age (years)	Number	Age specific rate per 100,000 pop.	Number	Age specific rate per 100,000 pop.
<1	84	134.9	8	12.8
1-4	195	72.4	7	2.6
5-14	214	31.7	10	1.5
15-24	83	14.4	4	0.7
25-34	91	13.8	3	0.5
35-44	158	24.0	14	1.9
45-54	160	25.6	10	1.6
55-64	238	46.8	22	4.3
≥65	1241	194.6	51	8.0
Unknown Age	1		0	
Total	**2465**	**51.8**	**129**	**2.7**

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/

- 92 deaths in notified influenza cases have been reported to HPSC during weeks 40 2017 – 6 2018. The median age at the time of death was 79 years. Influenza A was confirmed for 40% of notified cases that died; influenza B for 48% and influenza type was not reported for 12%.
- All-cause excess mortality was reported in Ireland in those aged 65 years and older during weeks 52 2017 - 3 2018, after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm. It is important to note that these data are provisional due to the time delay in deaths' registration in Ireland.
- Increased all-cause mortality among the elderly has been reported in Europe in recent weeks, except in Central and Eastern Europe. http://www.euromomo.eu/

9. Outbreak Surveillance

- Eleven influenza/acute respiratory infection (ARI) general outbreaks were notified to HPSC during week 6 2018, from HSE-East, -Midlands, -Southeast, -South and -West. Six of these outbreaks were associated with influenza B, two with influenza A and one outbreak was associated with both influenza A and B. Of the two ARI outbreaks reported during week 6 2018, one was associated with a mix of respiratory viruses and one with unidentified pathogens. Two influenza outbreaks were reported in acute hospital settings and nine influenza/ARI outbreaks were in residential care facilities/long stay units during week 6 2018.
- For the 2017/2018 influenza season to date, 152 influenza/ARI general outbreaks have been notified: 132 associated with influenza (reported from all HSE-Areas), eight associated with RSV (in HSE-East, -Midwest, -Northwest and -South) and 12 ARI outbreaks (the majority associated with rhinovirus) in HSE-East, -Midlands, -Northwest, -Southeast, -South, and -West. Of the 132 influenza outbreaks notified, 46 were associated with influenza A [17 with A(H3N2), three with A(H1N1)pdm09 and 26 with influenza A-not subtyped], 66 with influenza B, 12 with both influenza A and B and 8 with no influenza type reported. Nineteen influenza outbreaks were reported in acute hospital settings, one in a school, one in a childcare facility, 106 in residential care facilities/other residential setting, two in other settings and three with the outbreak setting not reported. The number of influenza, ARI, and RSV outbreaks by week of notification is shown in figure 10. *Family outbreaks are not included in this surveillance report.*

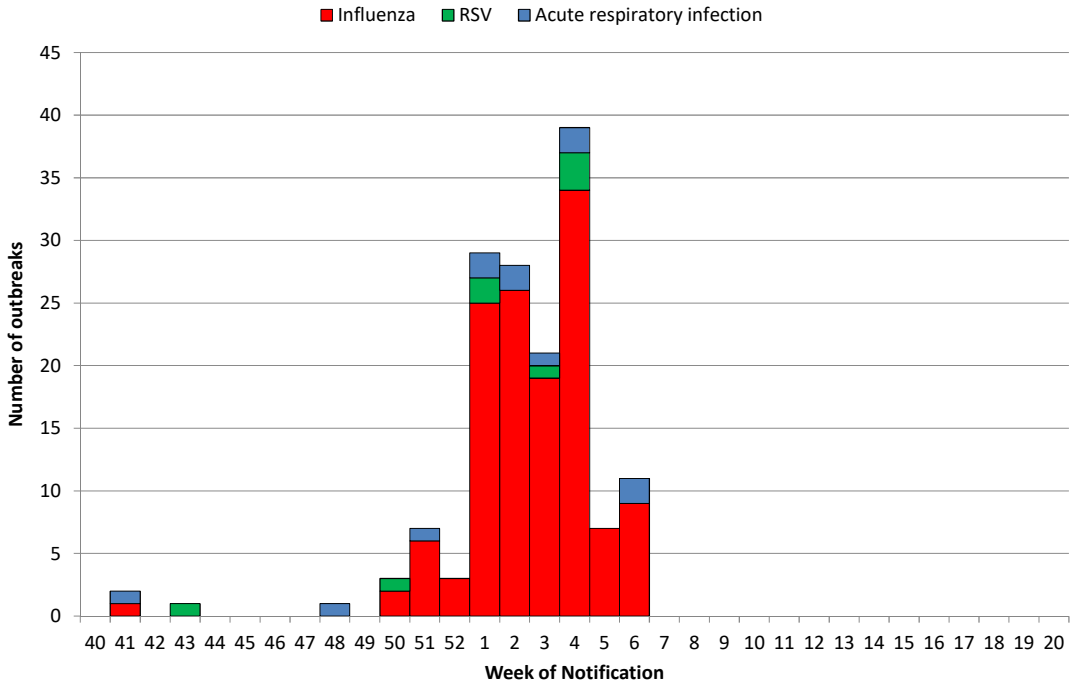

Figure 10: Number of acute respiratory infection, influenza and RSV outbreaks notified by week of notification. *Source: Ireland's Computerised Infectious Disease Reporting System (CIDR).*

10. International Summary

- During week 5 2018, influenza activity was widespread in the majority of reporting European countries. For the European Region overall, a higher proportion of influenza B compared to influenza A viruses has been detected in sentinel and non-sentinel sources. Of the influenza A detections from sentinel sources, A(H1N1)pdm09 viruses have outnumbered A(H3N2) viruses, while in non-sentinel sources more A(H3N2) viruses were reported than A(H1N1)pdm09 viruses.
- For influenza B viruses from both sentinel and non-sentinel sources, B/Yamagata lineage viruses have greatly outnumbered those of the B/Victoria lineage. The current trivalent seasonal influenza vaccine does not include a virus from the B/Yamagata lineage. Of the genetically characterised A(H3N2) viruses, 58% belonged to clade 3C.2a, the vaccine virus clade as described in the WHO recommendations for vaccine composition for the northern hemisphere 2017–18, 38% to clade 3C.2a1 and 4% to clade 3C.3a. Viruses in both clades 3C.2a and 3C.2a1 are antigenically similar.
- As of February 5th 2018, influenza activity remained high in the temperate zone of the northern hemisphere while in the temperate zone of the southern hemisphere activity was at inter-seasonal levels. Worldwide, influenza A accounted for the majority of influenza detections, with increased influenza B (mostly from the Yamagata lineage) in recent weeks. The majority of countries reported ILI activity reaching moderate levels in comparison with previous years, with few reaching levels exceeding those of previous years. Some countries however have reported levels of hospitalisation and ICU admissions reaching or exceeding peak levels of previous influenza seasons. WHO recommends countries with current influenza activity or entering their season to adopt necessary measures for ensuring appropriate case management, compliance with infection control measures and seasonal influenza vaccination for high risk groups.
- ECDC and WHO Europe have issued a joint press statement regarding low uptake of seasonal influenza vaccination in Europe.
- ECDC has published a Risk assessment for seasonal influenza, EU/EEA, 2017–2018 and the WHO Regional office for Europe published a situation analysis that describes the early season evolving epidemiological pattern. See ECDC and WHO influenza surveillance reports for further information.

- Further information is available on the following websites:
  - Northern Ireland http://www.fluawareni.info/
  - Europe – ECDC http://ecdc.europa.eu/
  - 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 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

On March 2, 2017, the WHO vaccine strain selection committee recommended that trivalent vaccines for use in the 2017/2018 northern hemisphere influenza season contain the following: an A/Michigan/45/2015 (H1N1)pdm09-like virus; an A/Hong Kong/4801/2014 (H3N2)-like virus; a B/Brisbane/60/2008-like virus. It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Phuket/3073/2013-like virus. http://www.who.int/influenza/vaccines/virus/recommendations/en/

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

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