Influenza Surveillance in Ireland – Weekly Report

Influenza Week 11 2018 (12th – 18th March 2018)

Summary

Overall, during week 11 2018 (week ending 18th March 2018), all indicators of influenza activity have continued to slowly decline since peak levels reported in January. Sentinel GP influenza-like illness consultation rates are now below baseline levels, however hospitalised influenza cases and influenza outbreaks continue to be reported at moderate levels. Influenza A and B were co-circulating during week 11 2018. It is recommended that antivirals be considered for the treatment and prophylaxis of influenza at-risk groups.

- Influenza-like illness (ILI): The sentinel GP influenza-like illness (ILI) consultation rate was 16.6 per 100,000 population in week 11 2018, a significant decrease compared to the updated rate of 31.0 per 100,000 reported during week 10 2018.
  - ILI rates are now below the Irish baseline threshold (17.5 per 100,000) for the first time since mid-December 2017.
  - During week 11 2018, ILI age specific rates remained low in all age groups.
- GP Out of Hours: The proportion of influenza–related calls to GP Out-of-Hours services has continued to slowly decrease each week since January.
- Respiratory admissions: The latest data on respiratory admissions reported from a network of sentinel hospitals were at moderate levels.
- National Virus Reference Laboratory (NVRL):
  - The number of influenza positive specimens decreased significantly during week 11 2018, compared to the previous week. During week 11 2018, 109 (21.5%) influenza positive specimens were reported, 61% influenza A and 39% influenza B: 42 A(H3N2), 18 A(H1N1)pdm09, 4 A-not subtyped and 43 influenza B.
  - Influenza A(H3N2), A(H1N1)pdm09 and influenza B are all co-circulating, with a higher proportion of influenza A detected during weeks 10 and 11. Co-infections of all seasonal respiratory viruses have been reported throughout the 2017/18 season.
  - Respiratory syncytial virus (RSV), human metapneumovirus (hMPV), adenovirus, parainfluenza virus, coronavirus and picornavirus were reported in varying proportions during week 11 2018.
- Hospitalisations: 245 confirmed influenza hospitalised cases were notified during week 11 2018, a slight decrease compared to 251 notified during week 10 2018. For the season to date, 3995 confirmed influenza hospitalised cases have been notified, with the highest rates occurring in those aged ≥65 years.
- Critical care admissions: 168 confirmed influenza cases were admitted to critical care units and reported to HPSC (weeks 40 2017 - 11 2018), 51% associated with influenza A and 49% with influenza B.
- Mortality: 166 deaths in notified influenza cases were reported to HPSC between weeks 40 2017 - 11 2018, with a median age of 80 years. Excess all-cause mortality was reported in those aged 65 years and older for weeks 52 2017 – 5 2018.
- Outbreaks: Ten influenza/acute respiratory infection (ARI) general outbreaks were notified during week 11 2018, bringing the season total to 201.
- International: Influenza continues to circulate widely in the European region, with both influenza A and B co-circulating, with a higher proportion of influenza B. Differences in proportions of circulating influenza virus types/subtypes were observed between countries.

1. GP sentinel surveillance system - Clinical Data

- During week 11 2018, 40 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 16.6 per 100,000 population, a significant decrease compared to the updated rate of 31.0 per 100,000 reported during week 10 2018 (figure 1).
- The ILI rates were below the Irish baseline ILI threshold (17.5/100,000 population) during week 11 2018 for the first time since mid-December 2017. ILI rates were above the baseline threshold level for 13 consecutive weeks (weeks 50 2017 – 10 2018) and above the medium intensity threshold (59.6/100,000 population) for seven consecutive weeks (weeks 1 - 7 2018).
- During week 11 2018, ILI age specific rates were low in all age groups, ranging from 3.1/100,000 in those aged 65 years and older to 20.3/100,000 in the 15-64 year age group (figure 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.

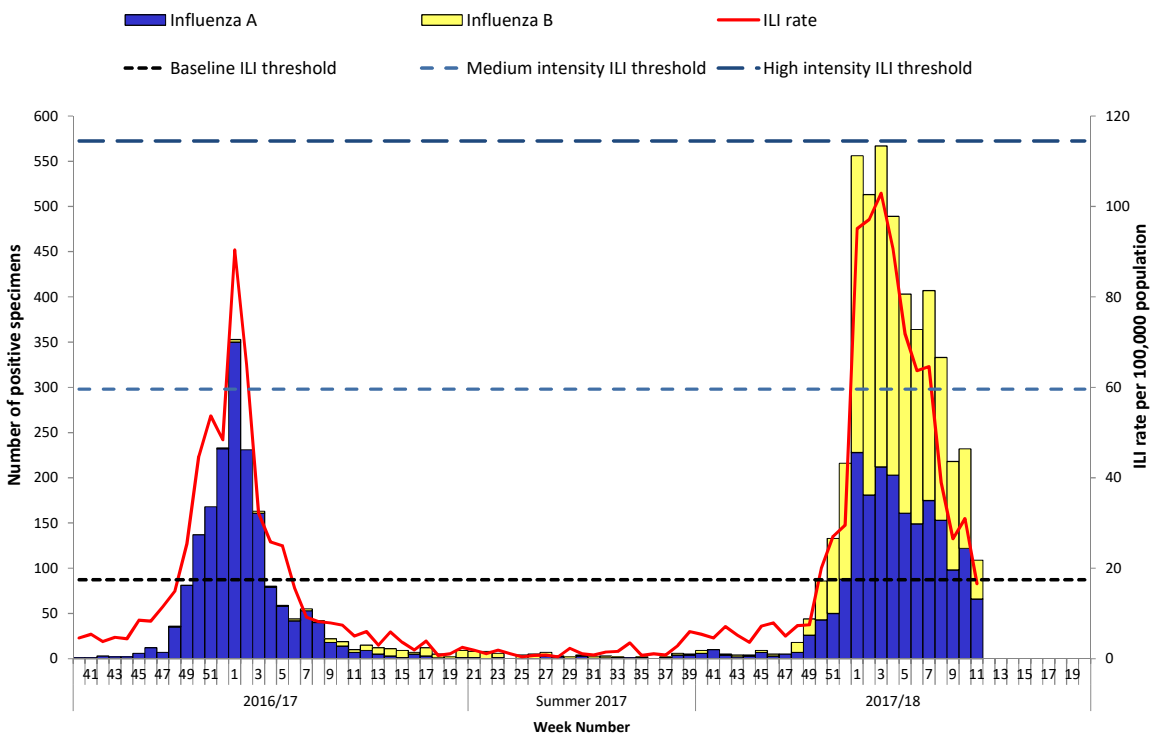

Figure 1: ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds[*] and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.
Source: ICGP and NVRL

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

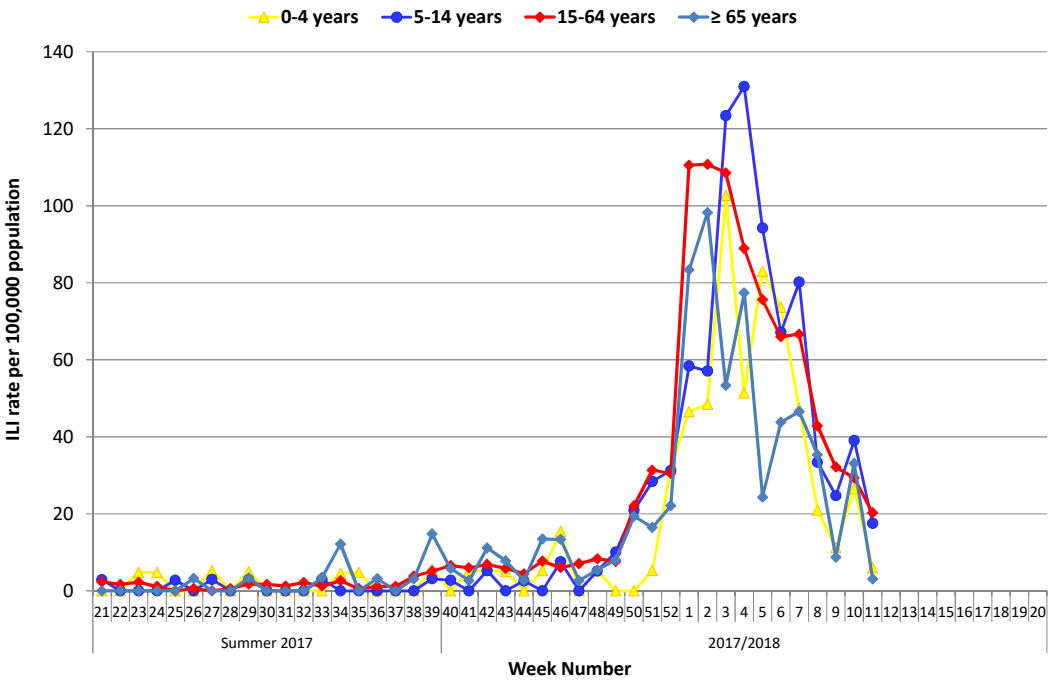

Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2017 and the 2017/2018 influenza season to date. *Source: ICGP.*

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).

- The overall number of influenza positive specimens has declined significantly since peak levels reported in week 3 2018 (January). During week 11 2018, 109 (21.5%) influenza positive specimens were reported from the NVRL, 61% influenza A and 39% influenza B: 42 A(H3N2), 18 A(H1N1)pdm09, 4 A (not subtyped) and 43 B. It should be noted that data on respiratory specimens tested this season are updated each week.
- Week 11 2018:
  - 21 of 39 (53.8%) sentinel specimens were influenza positive: 67% influenza A and 33% influenza B.
  - 88 of 468 (18.8%) non-sentinel specimens were influenza positive: 59% influenza A and 41% B.
- Influenza A(H3N2), A(H1N1)pdm09 and influenza B are all co-circulating, with a higher proportion of influenza A detected during weeks 10 and 11 2018 for the first time since December 2017 (figures 3 & 4).
- Co-infections of all seasonal respiratory viruses were reported during week 11 2018, with 15% of influenza positive cases from non-sentinel sources co-infected with another respiratory virus.
- Respiratory syncytial virus (RSV), human metapneumovirus (hMPV), adenovirus, parainfluenza virus, coronavirus and picornavirus (which includes both rhinovirus and enterovirus) were reported during week 11 2018 in varying proportions (table 2).[1]
- Data from the NVRL for week 11 2018 and the 2017/2018 season to date are detailed in tables 1 and 2.
- The overall proportion of non-sentinel specimens positive for respiratory viruses[1] was 30% during week 11 2018, significantly lower than peak levels of 67% reported during week 52 2017.

[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 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.

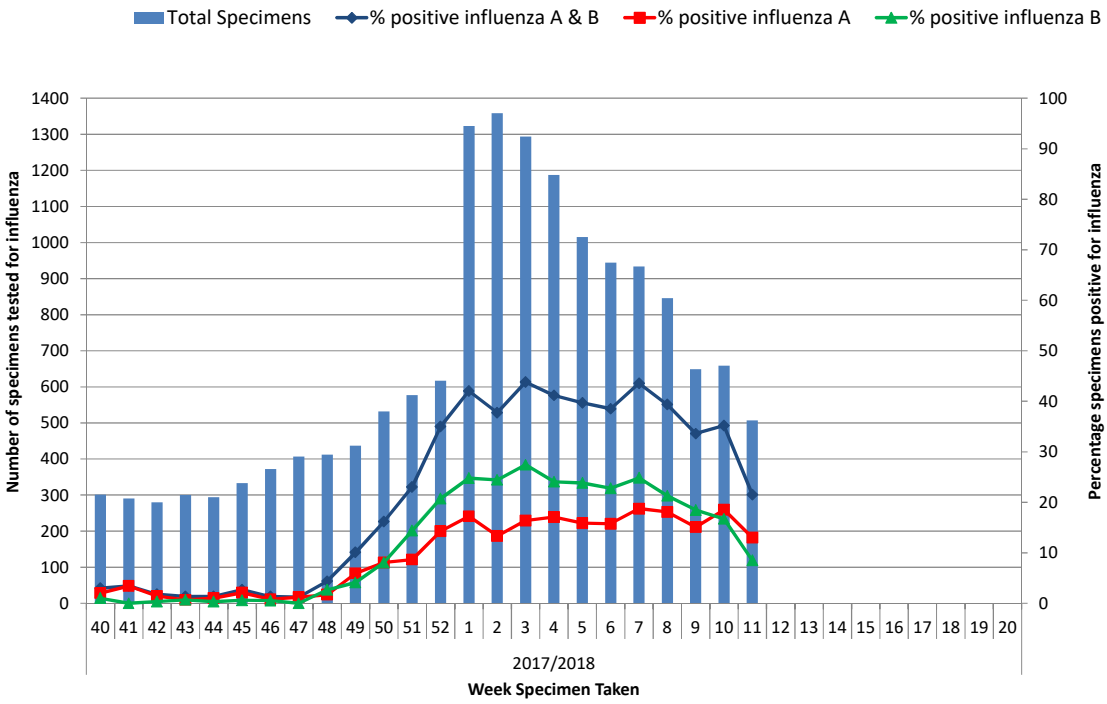

Figure 3: Number of specimens (from sentinel and non-sentinel sources combined) tested by the NVRL for influenza and percentage influenza positive by week for the 2017/2018 influenza season. *Source: NVRL*

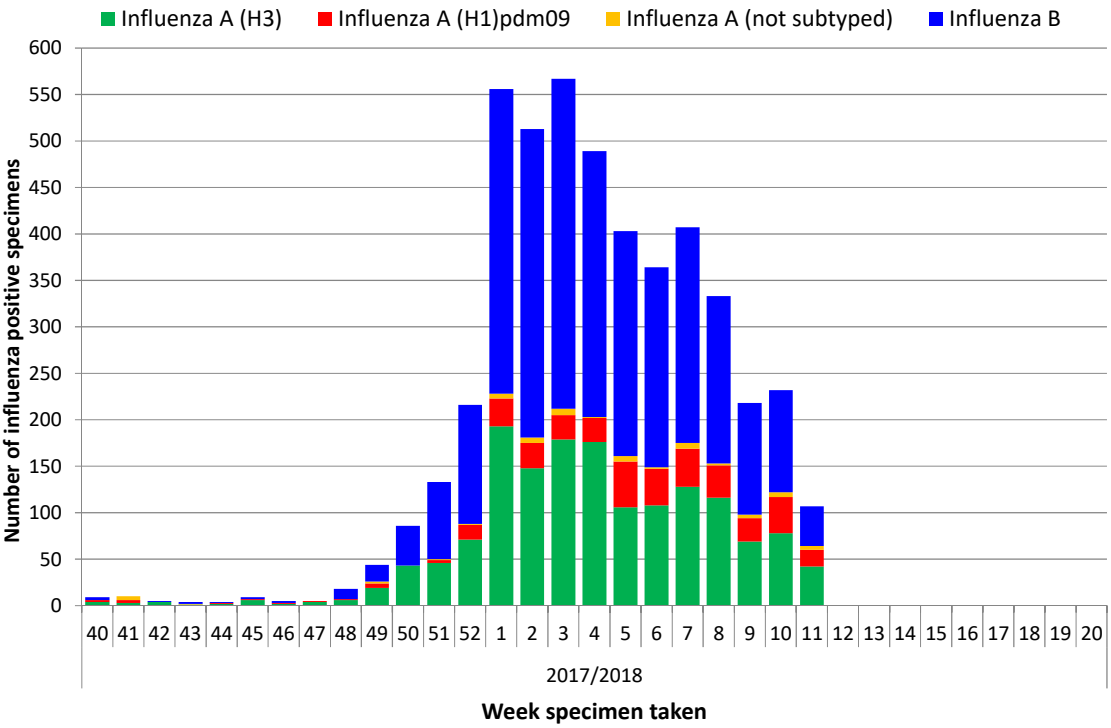

Figure 4: Number of positive influenza specimens (from sentinel and non-sentinel sources combined) by influenza type/subtype tested by the NVRL, by week for the 2017/2018 influenza season. *Source: NVRL.*

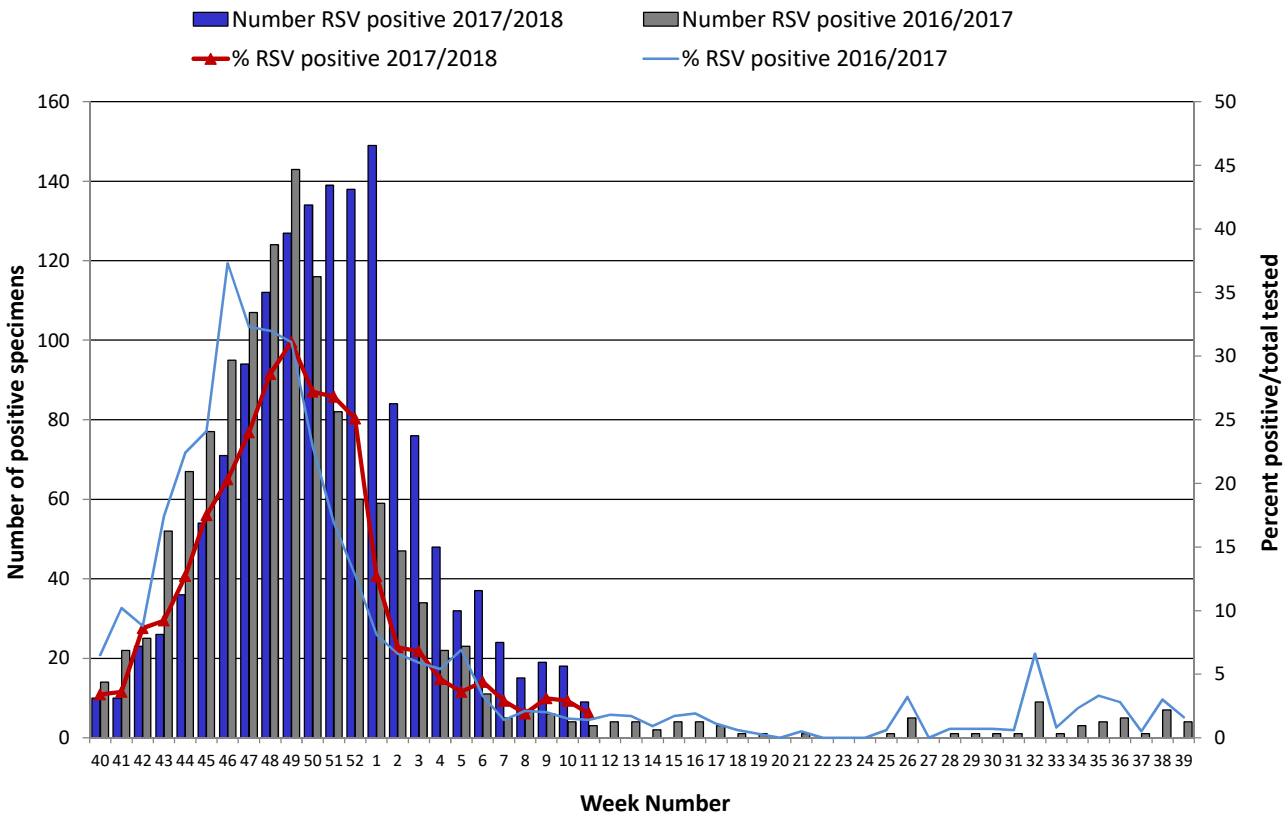

Figure 5: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2017/2018 season, compared to the 2016/2017 season. *Source: NVRL.*

Table 1: Number of sentinel and non-sentinel[†] respiratory specimens tested by the NVRL and positive influenza results, for week 11 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	
11 2018	Sentinel	39	21	53.8	0	12	0	14	7
	Non-sentinel	468	88	18.8	18	30	4	52	36
	Total	**507**	**109**	**21.5**	**18**	**42**	**4**	**66**	**43**
2017/2018	Sentinel	1484	819	55.2	44	211	6	263	556
	Non-sentinel	14388	3920	27.2	345	1343	51	1739	2181
	Total	**15872**	**4739**	**29.9**	**389**	**1554**	**57**	**2002**	**2737**

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 11 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
11 2018	Sentinel	39	1	2.6	1	2.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	468	9	1.9	20	4.3	1	0.2	0	0.0	5	1.1	0	0.0	16	3.4
	Total	**507**	**10**	**2.0**	**21**	**4.1**	**1**	**0.2**	**0**	**0.0**	**5**	**1.0**	**0**	**0.0**	**16**	**3.2**
2017/2018	Sentinel	1484	30	2.0	28	1.9	12	0.8	1	0.1	0	0.0	3	0.2	32	2.2
	Non-sentinel	14388	1485	10.3	296	2.1	168	1.2	76	0.5	27	0.2	51	0.4	819	5.7
	Total	**15872**	**1515**	**9.5**	**324**	**2.0**	**180**	**1.1**	**77**	**0.5**	**27**	**0.2**	**54**	**0.3**	**851**	**5.4**

[†] 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.

Regional influenza activity was reported in HSE-East, localised activity was reported in HSE-Northeast, -Midwest, -Southeast, -South, -Northwest and -West and sporadic influenza activity was reported in HSE-Midlands, during week 11 2018 (figure 6). Influenza activity has decreased in all HSE-Areas since peak levels were reported in January.

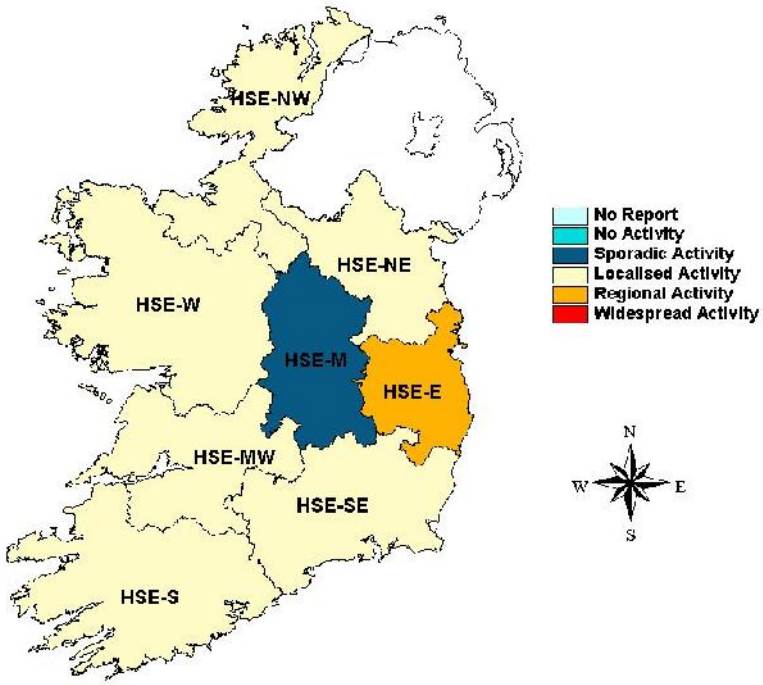

Figure 6: Map of provisional influenza activity by HSE-Area during week 11 2018

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.

During week 11 2018, data were available from six of eight sentinel hospitals, with 285 respiratory admissions reported. The latest complete data on respiratory admissions reported from the sentinel hospital network were at moderate levels during week 10 2018 (n=354), an increase from 278 reported during week 9 2018, however significantly lower than peak levels reported during week 1 2018 (n=535) (figure 7).

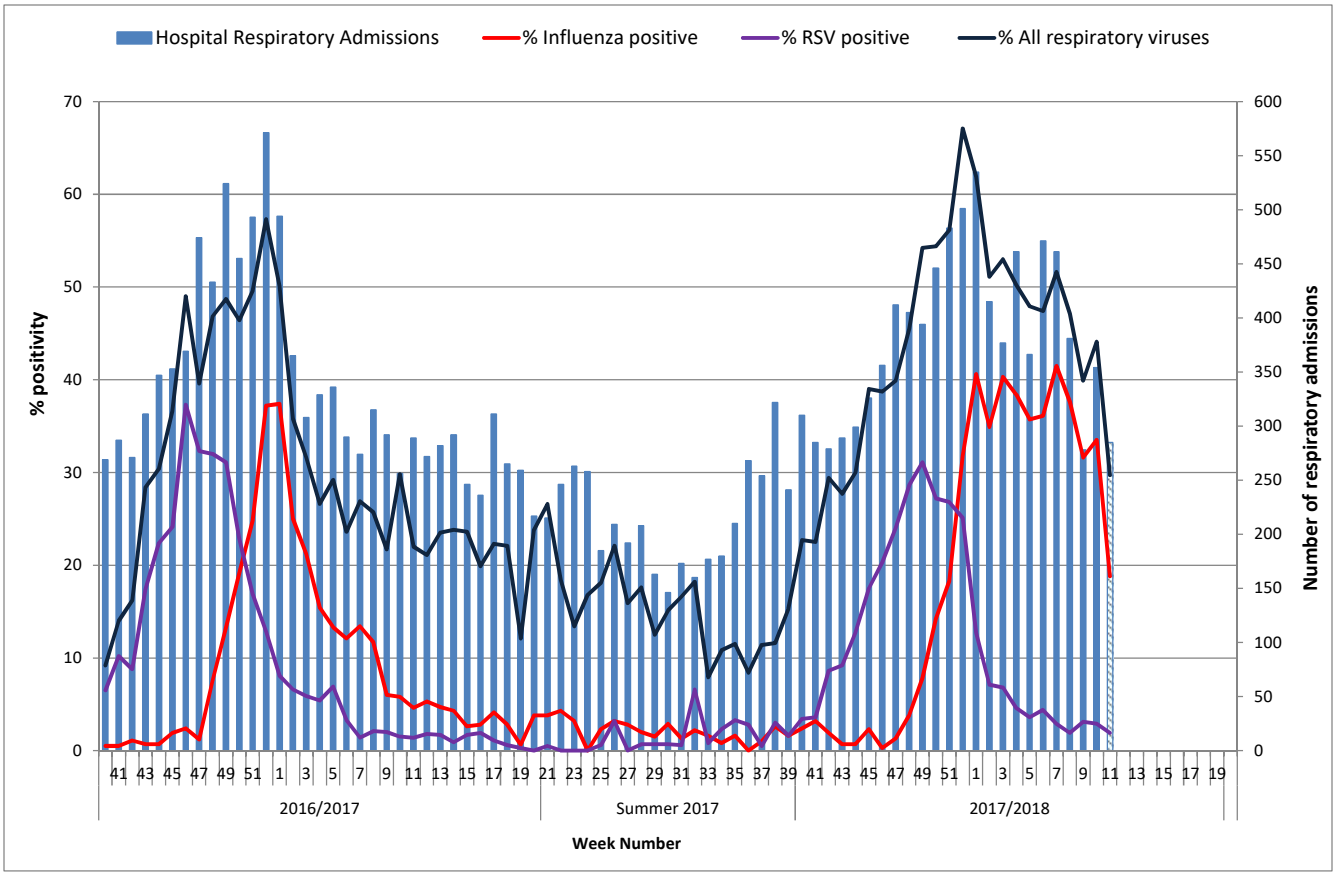

Figure 7: Number of respiratory admissions reported from the sentinel hospital network and % positivity for influenza, RSV and all seasonal respiratory viruses tested* by the NVRL by week and season. *Source: Departments of Public Health - Sentinel Hospitals & NVRL. *All seasonal respiratory viruses 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 11 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 has continued to slowly decrease each week since January, reaching low to moderate levels during week 11 at 2.0%. For the 2017/2018 season to date, the proportion of influenza–related calls to GP Out-of-Hours services peaked at 9.5% during week 1 2018 (figure 8).

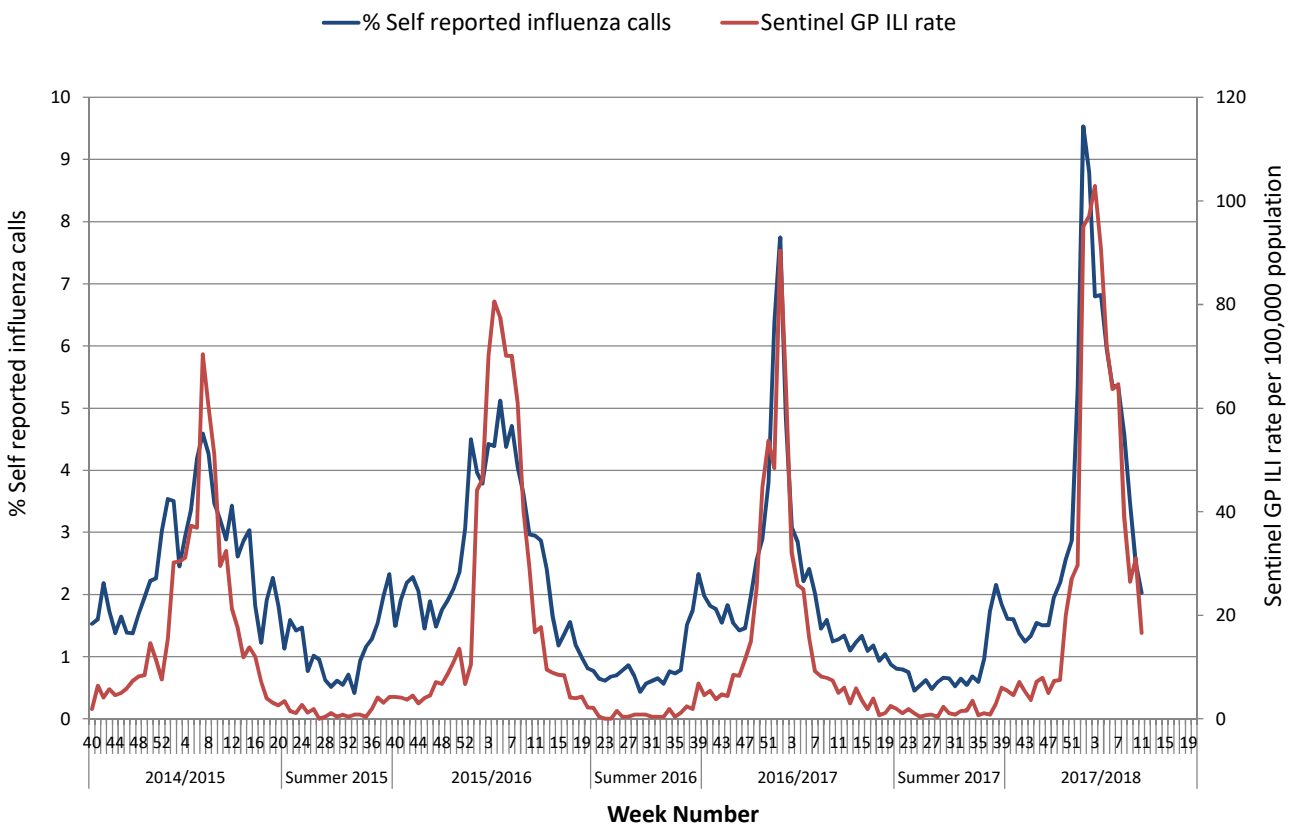

Figure 8: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

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.

- The number of confirmed influenza cases notified decreased during week 11 2018, to 616, compared to 652 in the previous week.
- During week 11 2018, 304 (49.4%) cases were associated with influenza A [93 A(H3N2), 37 A(H1N1)pdm09 and 174 A (not subtyped)], 309 (50.2%) cases were associated with influenza B, and 3 (0.5%) cases with influenza type not reported. The number of confirmed influenza cases notified on Ireland's Computerised Infectious Disease Reporting System by week of notification is shown in figure 9.
- For the 2017/2018 influenza season to date, 10,412 confirmed influenza cases have been notified to HPSC: 4171 (40.1%) cases were associated with influenza A [1332 A(H3N2), 419 A(H1N1)pdm09, 2420 A (not subtyped)], 6202 (59.6%) cases with influenza B and 39 (0.4%) cases with influenza type not reported. The median age of notified confirmed influenza cases this season to date is 52 years.
- RSV notifications remained at low levels during week 11 2018, with 36 cases notified, compared to 44 notified cases during week 10 2018.

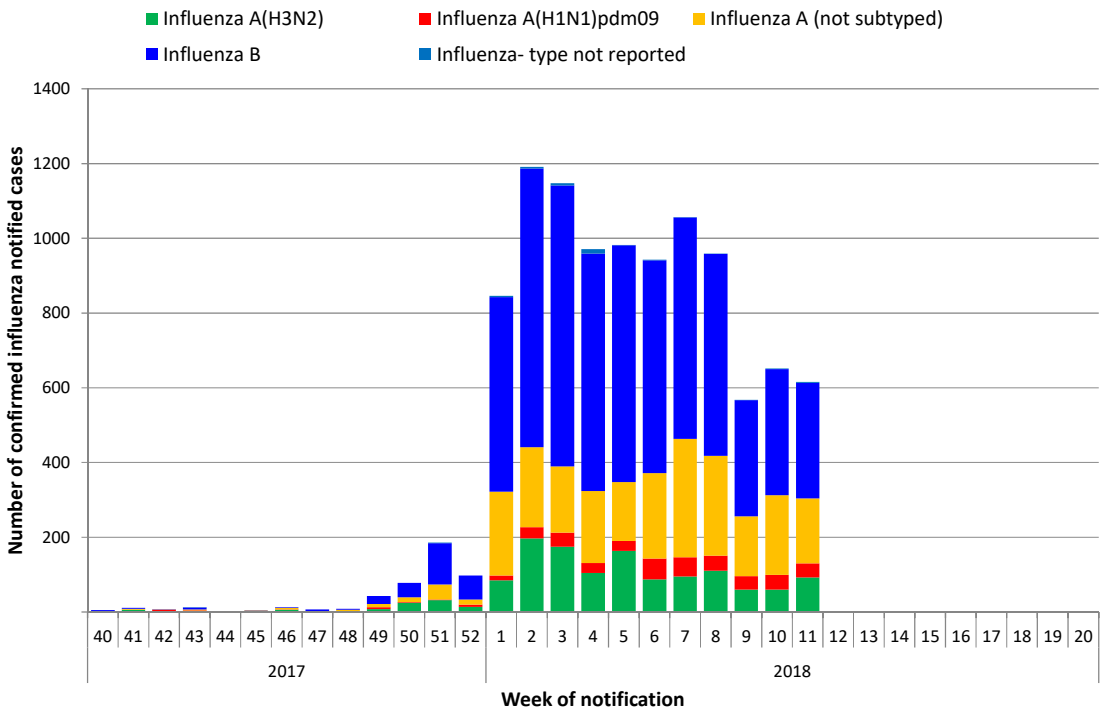

Figure 9: Number of confirmed influenza cases notified on Ireland's Computerised Infectious Disease Reporting System by influenza type/subtype and by week of notification for the 2017/2018 season. *Source: Ireland's Computerised Infectious Disease Reporting System (CIDR).*

6. Influenza Hospitalisations

- 245 confirmed influenza hospitalised cases were notified during week 11 2018, a significant decrease compared to peak levels of 490 notified during week 2 2018. Of typed influenza viruses notified during week 11 2018, 48% were associated with influenza A and 52% with influenza B.
- For the 2017/2018 influenza season to date, 3995 confirmed influenza hospitalised cases have been notified to HPSC: 1708 (42.8%) were associated with influenza A [435 associated with A(H3N2), 175 with A(H1N1)pdm09, 610 with A (not subtyped)], 2262 (56.6%) with influenza B and 25 (0.6%) 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 is 63 years. The number of confirmed influenza hospitalised cases by influenza type/subtype and by week of notification is shown in figure 10.

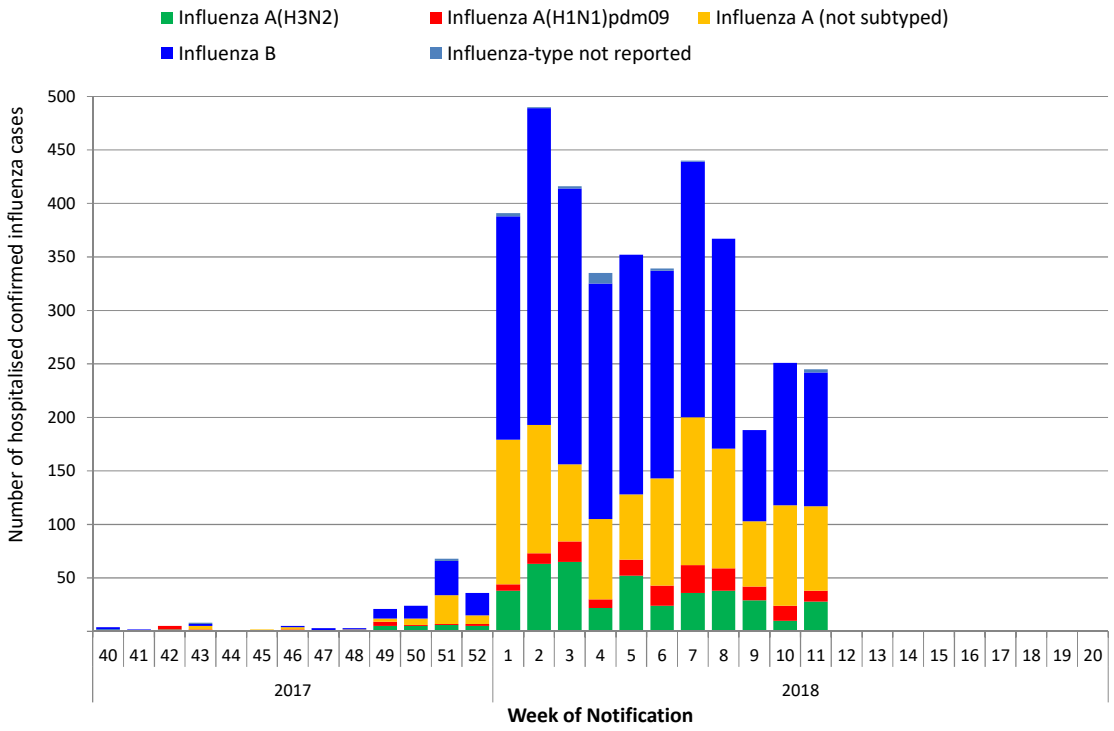

Figure 10: Number of confirmed influenza cases hospitalised by influenza type/subtype and by week of notification. *Source: Ireland's Computerised Infectious Disease Reporting System (CIDR).*

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.

- 168 confirmed influenza cases were admitted to critical care units and reported to HPSC during weeks 40 2017 – 11 2018, 51% associated with influenza A and 49% with influenza B: 25 A(H3N2), 11 influenza A(H1N1)pdm09, 49 A - not subtyped and 83 influenza B. The highest age specific rates were reported in those aged less than one year old and those aged 65 years and older (table 3). The median age of cases is 60 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	135	216.8	9	14.5
1-4	378	140.4	8	3.0
5-14	386	57.2	15	2.2
15-24	131	22.7	4	0.7
25-34	150	22.7	4	0.6
35-44	251	38.1	17	2.3
45-54	241	38.5	11	1.8
55-64	375	73.7	28	5.5
≥65	1946	305.2	72	11.3
Unknown Age	2		0	
Total	**3995**	**83.9**	**168**	**3.5**

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/

- 166 deaths in notified influenza cases have been reported to HPSC during weeks 40 2017 – 11 2018. The median age at the time of death was 80 years. Influenza A was confirmed for 42% of notified cases that died; influenza B for 48% and influenza type was not reported for 10%.
- All-cause excess mortality was reported in Ireland in those aged 65 years and older during weeks 52 2017 - 5 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.
- Excess mortality from all causes remains elevated, in particular in those aged 65 years and older, in some European countries, while it is declining in others. http://www.euromomo.eu/

9. Outbreak Surveillance

- Ten influenza/ARI general outbreaks were notified to HPSC during week 11 2018, from HSE-East, -Northwest, -South and -West. Four of these outbreaks were associated with influenza A, three with influenza B, one with influenza A and B and two with no pathogen reported. Two outbreaks were reported in acute hospital settings and eight were in residential care facilities/long stay units during week 11 2018.
- For the 2017/2018 influenza season to date, 202 influenza/ARI general outbreaks have been notified: 179 associated with influenza (reported from all HSE-Areas; 41% were in HSE-East), nine associated with RSV (in HSE-East, -Northeast, -Midwest, -Northwest and -South) and 14 ARI outbreaks (the majority associated with rhinovirus) in HSE-East, -Midlands, -Northwest, -South, and -West. Of the 179 influenza outbreaks notified, 68 were associated with influenza A [27 with A(H3N2), four with A(H1N1)pdm09 and 37 with influenza A-not subtyped], 87 with influenza B, 14 with both influenza A and B and 10 with no influenza type reported. Thirty-one influenza outbreaks were reported in acute hospital settings, one in a school, one in a childcare facility, 139 in residential care facilities/other residential setting, four 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 11. *Family outbreaks are not included in this surveillance report.*

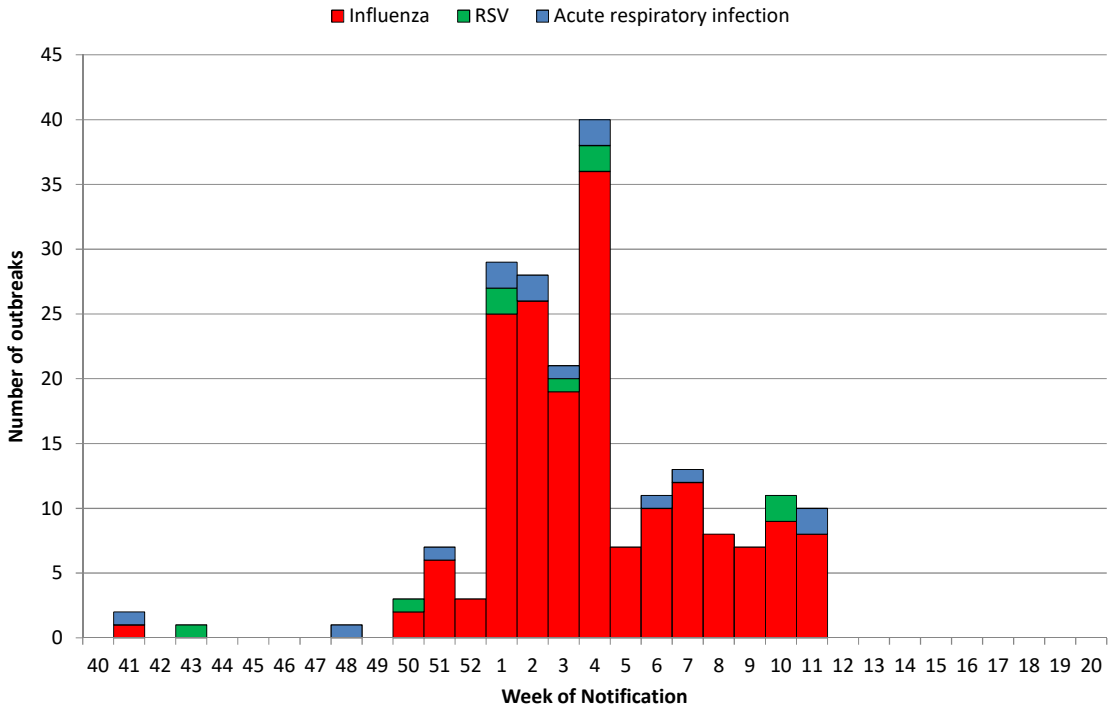

Figure 10: Number of acute respiratory infection, influenza and RSV outbreaks notified by week of notification. *Source: Ireland's Computerised Infectious Disease Reporting System (CIDR).*

10. International Summary

- During week 10 2018, influenza continued to circulate widely in the European Region, apart from some eastern European countries that have only recently reported increased activity. Both influenza A and B were co-circulating, with a higher proportion of influenza B compared to influenza A viruses detected (representing a higher level of influenza B compared with previous seasons). Different patterns of dominant influenza type and subtype were observed between European countries and within different settings (e.g. sentinel versus non-sentinel; acute hospital non-ICU versus ICU settings). 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, 57% belonged to clade 3C.2a, the vaccine virus clade as described in the WHO recommendations for vaccine composition for the northern hemisphere 2017–18, 41% to clade 3C.2a1 and 3% to clade 3C.3a. Viruses in both clades 3C.2a and 3C.2a1 are antigenically similar.
- As of March 19th 2018, influenza activity remained high but appeared to have peaked in some countries in the temperate zone of the northern hemisphere. In the temperate zone of the southern hemisphere activity remained at inter-seasonal levels. Worldwide, influenza A and influenza B accounted for a similar proportion of influenza detections
- ECDC and WHO Europe issued a joint press statement in February 2018 regarding low uptake of seasonal influenza vaccination in Europe. ECDC 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 February 22, 2018, the WHO vaccine strain selection committee recommended that quadrivalent vaccines for use in the 2018/2019 northern hemisphere influenza season contain the following

- an A/Michigan/45/2015 (H1N1)pdm09-like virus;
- an A/Singapore/INFIMH-16-0019/2016 (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 2018-2019 northern hemisphere influenza season be a B/Colorado/06/2017-like virus of the B/Victoria/2/87-lineage. http://www.who.int/influenza/vaccines/virus/recommendations/2018_19_north/en/

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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