Influenza Surveillance in Ireland – Weekly Report

Weeks 18, 19 & 20 2017 (1st – 21st May 2017)

Summary

All indicators of influenza activity in Ireland were at low levels during weeks 18, 19 and 20 2017 (up to the week ending May 21, 2017). Sentinel GP influenza-like illness (ILI) consultation rates and influenza positivity were at low levels. Sporadic influenza hospitalised cases and acute respiratory infection outbreaks continue to be reported at low levels, mainly associated with influenza B. Influenza A(H3N2) predominated for most of the 2016/2017 season, with those aged 65 years and older most affected from severe influenza. Low numbers of sporadic influenza B cases were reported in recent weeks.

- Influenza-like illness (ILI): The sentinel GP ILI consultation rate was 2.7 per 100,000 population in week 20 2017, remaining very low. Rates for weeks 18 and 19 2017 were at 0.7 and 1.1 per 100,000, respectively.
  - ILI rates have been below the Irish baseline ILI threshold (18.3/100,000) for 15 consecutive weeks.
  - ILI age-specific rates were very low in all age groups during weeks 18-20 2017.
- GP Out of Hours: The proportion of influenza–related calls to GP Out-of-Hours services remained at very low levels during weeks 18-20 2017.
- National Virus Reference Laboratory (NVRL):
  - Influenza positivity reported by the NVRL from sentinel and non-sentinel sources was at very low levels during weeks 18, 19 and 20 2017, at 2.8%, 0.6% and 3.7%, respectively.
  - Influenza A(H3N2) was the predominant influenza virus circulating this season. Low numbers of sporadic influenza cases were reported in recent weeks, the majority of which were positive for influenza B.
  - Respiratory syncytial virus (RSV) positivity remained very low during weeks 18-20 2017.
  - Adenovirus, parainfluenza virus and human metapneumovirus continued to circulate in recent weeks. Coinfections of all seasonal respiratory viruses have been reported throughout this season.
- Respiratory admissions: Respiratory admissions data reported from a network of sentinel hospitals remained at low levels.
- Hospitalisations: 14 confirmed influenza hospitalised cases were notified to HPSC during weeks 18-20 2017; the majority of these were associated with influenza B. The total number of confirmed influenza hospitalised cases this season is 1394; the majority of these were in those aged 65 years and older.
- Critical care admissions: For the season to date, 50 confirmed influenza cases have been admitted to critical care units and reported to HPSC.
- Mortality: 92 influenza cases died and were notified to HPSC this season to date. Excess deaths from all causes were reported in December and January, most likely associated with influenza A(H3N2) activity.
- Outbreaks: Three acute respiratory infection (ARI)/influenza outbreaks in community hospitals/nursing homes were reported during weeks 18-20 2017; two were associated with influenza B and the other with an unidentified pathogen. The total number of ARI/influenza outbreaks this season is 111.
- International: Influenza activity in the European region remained at low levels. The influenza season is over, with all countries reporting low intensity of activity in the region.

1. GP sentinel surveillance system - Clinical Data

- During week 20 2017, seven influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 2.7 per 100,000 population, remaining at very low levels, and stable compared to the rates of 0.7 per 100,000 and 1.1 per 100,000 reported during weeks 18 and 19 2017, respectively. The ILI rates have remained below the Irish baseline ILI threshold (18.3/100,000 population) for 15 consecutive weeks. For the 2016/2017 season, ILI rates were above baseline levels for nine consecutive weeks (weeks 49 2016 – 5 2017) and above the medium intensity threshold for two consecutive weeks (weeks 1 and 2 2017). ILI rates peaked during week 1 2017 at 90.4/100,000.
- ILI age-specific rates were very low in all age groups during weeks 18-20 2017. ILI age-specific rates for all age groups peaked at the end of December/early January (figure 2).
- HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) has revised the Irish baseline ILI threshold for the 2016/2017 influenza season to 18.3 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 (18.3/100,000 population), medium (58.7/100,000 population) and high (113.3/100,000 population) intensity ILI thresholds are shown in figure 1.

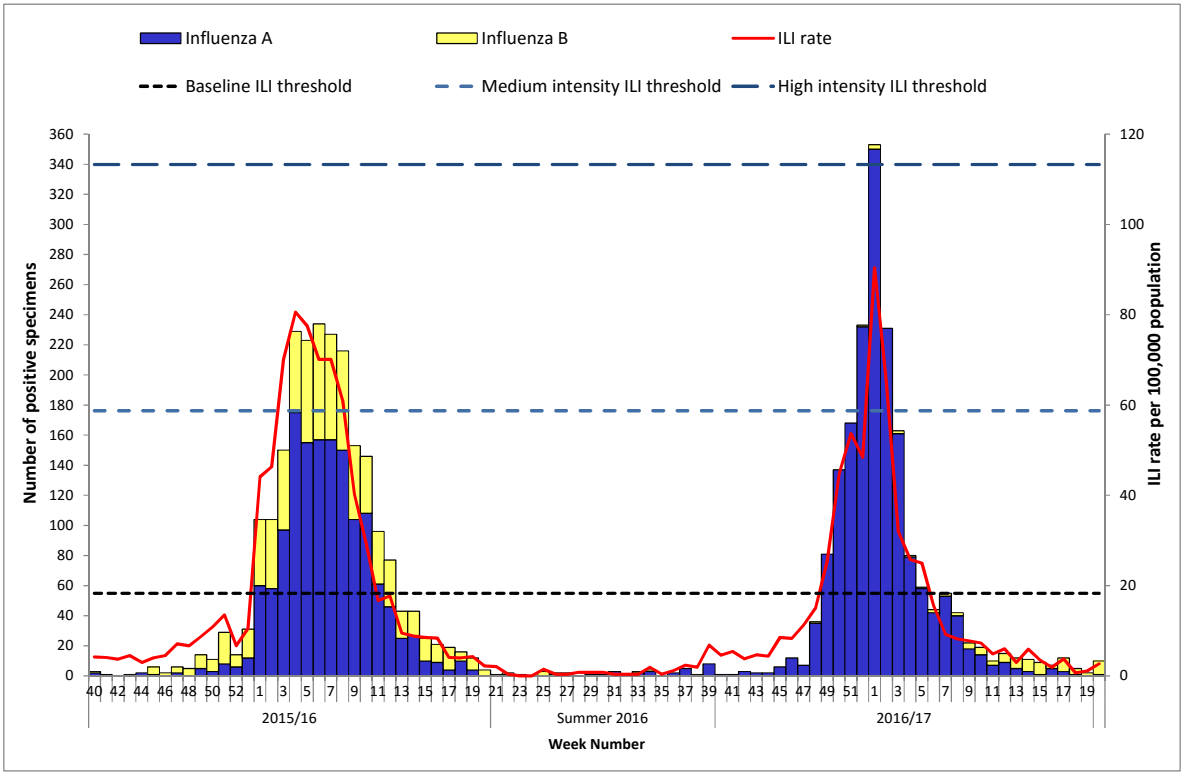

Figure 1: ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds[1] and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.
Source: ICGP and NVRL

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

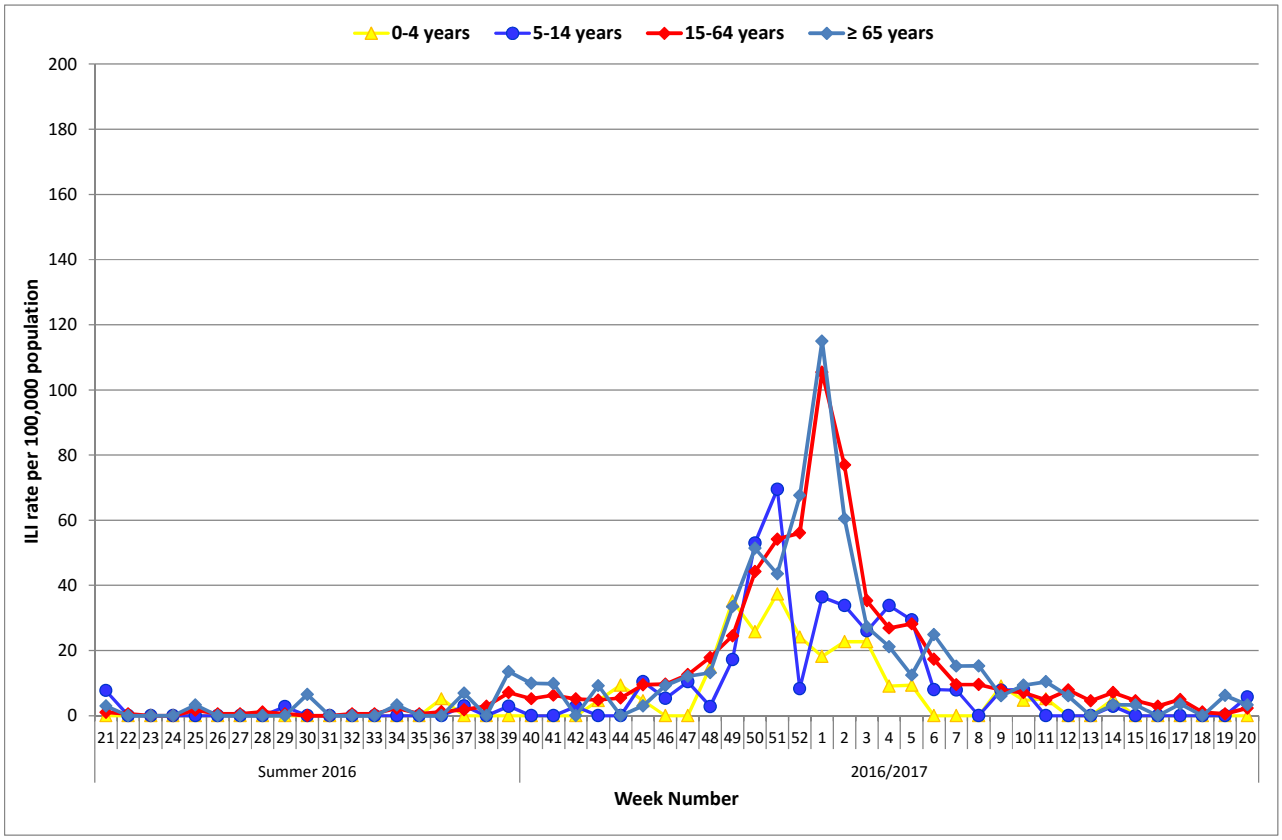

Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2016 and the 2016/2017 influenza season to date. *Source: ICGP.*

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2016/2017 influenza season refers 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, tables 1 & 2).

- Influenza positivity reported by the NVRL from sentinel and non-sentinel sources was at very low levels during weeks 18, 19 and 20 2017, at 2.8%, 0.6% and 3.7%, respectively.
- Influenza A(H3) was the predominant influenza virus circulating this season. Low numbers of sporadic influenza cases were reported in recent weeks, the majority of which were positive for influenza B. Data from the NVRL for weeks 18-20 2017 and the 2016/17 season to date are detailed in tables 1 and 2.
- Respiratory syncytial virus (RSV) positivity remained very low during weeks 18-20 2017, with only two RSV positive non-sentinel specimens reported by the NVRL. In total 1228 RSV positive non-sentinel specimens have been detected by the NVRL this season. RSV circulated earlier and at higher levels this season than are normally observed. Figure 5 shows the number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2016/17 season, compared to the 2015/16 season. For the 2016/17 season to date, 45 RSV positive specimens have been detected from sentinel GPs.
- Significant numbers of adenovirus, parainfluenza virus (PIV) and human metapneumovirus (hMPV) positive specimens continued to be reported by the NVRL during weeks 18-20 2017 (table 2). Coinfections of all seasonal respiratory viruses* have been reported throughout the 2016/17 season.
- The overall proportion of non-sentinel specimens positive for respiratory viruses* was 22.1%, 12.1% and 23.8% during weeks 18, 19 and 20 2017, respectively, a significant decrease compared to the peak proportion of 57.3% during week 52 2016. **Respiratory viruses routinely tested for by the NVRL are detailed above.*

- Genetic characterisation of influenza viruses circulating this season in Ireland has been carried out by the NVRL, on 117 influenza A(H3N2), one influenza A(H1N1)pdm09 and eight influenza B positive specimens.
- The majority of influenza A(H3N2) viruses (72%, n=84/117) clustered in the recently emerged genetic subclade 3C.2a1, a group represented by A/Bolzano/7/2016 and characterised by the hemagglutinin amino acid mutation N171K, often with N121K. Group 3C.2a1 is the dominant strain in Europe this season. Antigenic characterisation has confirmed that these viruses are antigenically similar to the 2016/17 vaccine strain, 3C.2a. The 3C.2a1 clade is evolving rapidly and several additional amino acid mutations have emerged resulting in a number of clusters within the 3C.2a1 subclade.
- Of particular interest in Ireland, 14.5% (17/117) of characterised A(H3N2) viruses clustered within the genetic subgroup 3C.3a, represented by A/Switzerland/9715293/2013 (the strain included in the 2015/16 Northern Hemisphere vaccine), and had amino acid substitutions Q197K, S198P and S312N in HA1 antigenic sites B and C. 3C.3a viruses have been rarely identified in Europe this season, representing less than 1% of circulating A(H3N2) viruses characterised.
- A further 16 A(H3N2) viruses (16/117; 14%) fell in the 2016/17 vaccine component clade 3C.2a, represented by A/Hong Kong/4801/2014, the strain also proposed for the 2017/18 vaccine. The 3C.2a viruses detected in Ireland fell into two clusters – one associated with N144K and one with R261Q.
- Influenza A(H1N1)pdm09 has been infrequently detected in Ireland this season. One influenza A(H1N1)pdm09 virus was characterised and belonged to the 6B.1 genetic clade, represented by A/Michigan/45/2015. Antigenic characterisation data has found this group to be antigenically indistinguishable from the 2016/17 vaccine strain A/California/7/2009. The A/Michigan/45/2015 virus has been selected for inclusion in the 2017/18 Northern Hemisphere vaccine.
- Eight influenza B viruses were genetically characterised this season, seven of which were B/Yamagata lineage viruses and one belonged to the B/Victoria lineage. All B/Yamagata viruses clustered in clade 3 represented by B/Phuket/3073/2013. The influenza B/Victoria lineage virus fell into the 1A group represented by B/Brisbane/60/2008, the virus recommended for inclusion in the 2017/18 vaccine. http://www.who.int/influenza/vaccines/virus/recommendations/en/

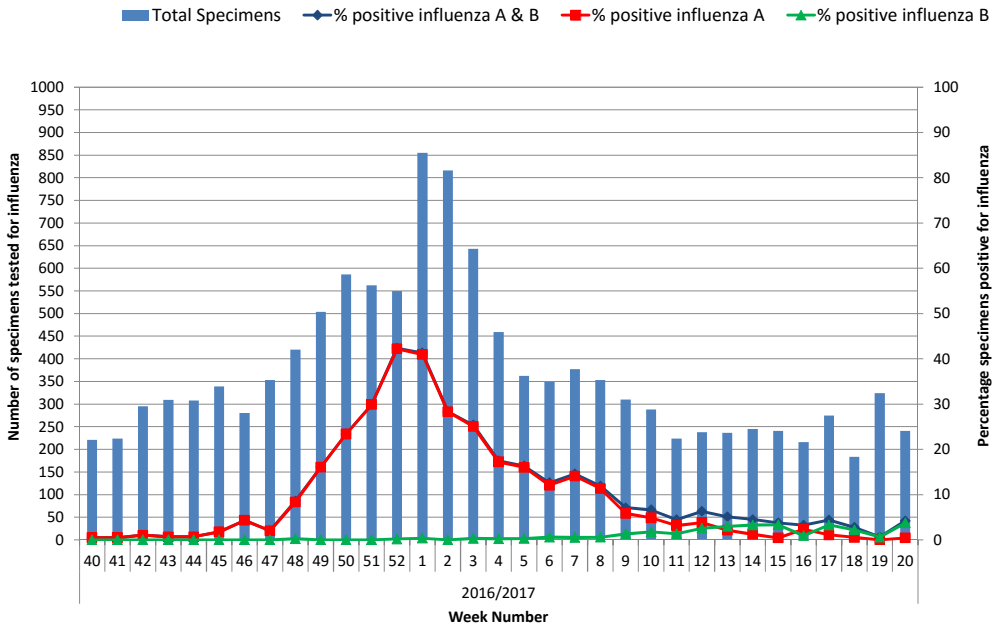

Figure 3: Number of specimens (from sentinel and non-sentinel sources combined) tested by the NVRL for influenza and percentage influenza positive by week for the 2016/2017 influenza season. *Source: NVRL*

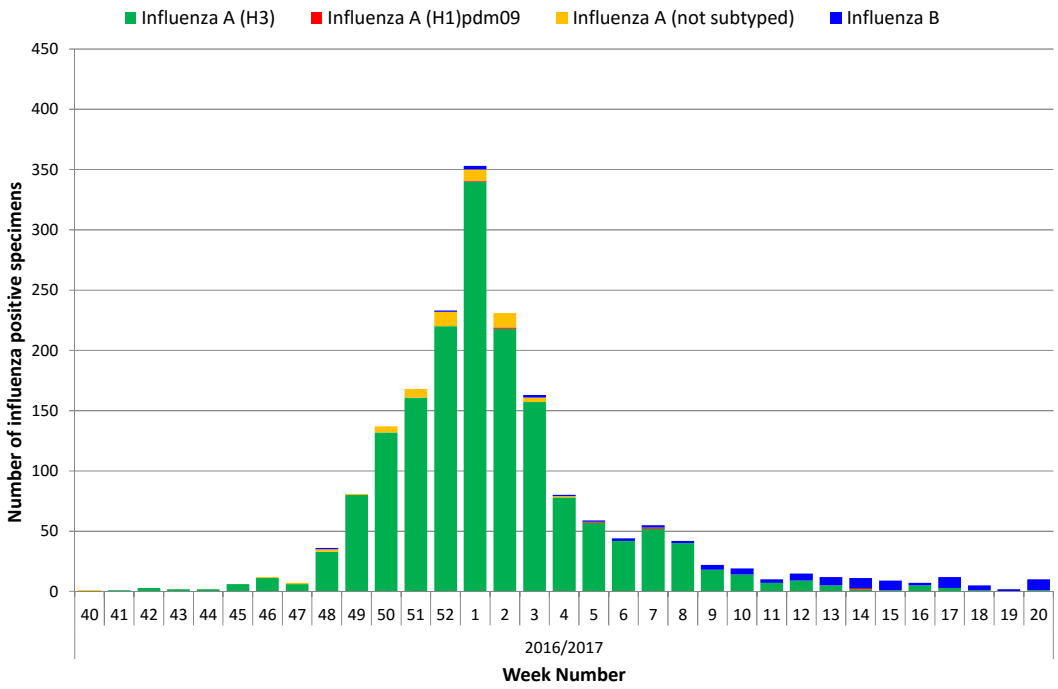

Figure 4: Number of positive influenza specimens (from sentinel and non-sentinel sources combined) by influenza type/subtype tested by the NVRL, by week for the 2016/2017 influenza season. *Source: NVRL.*

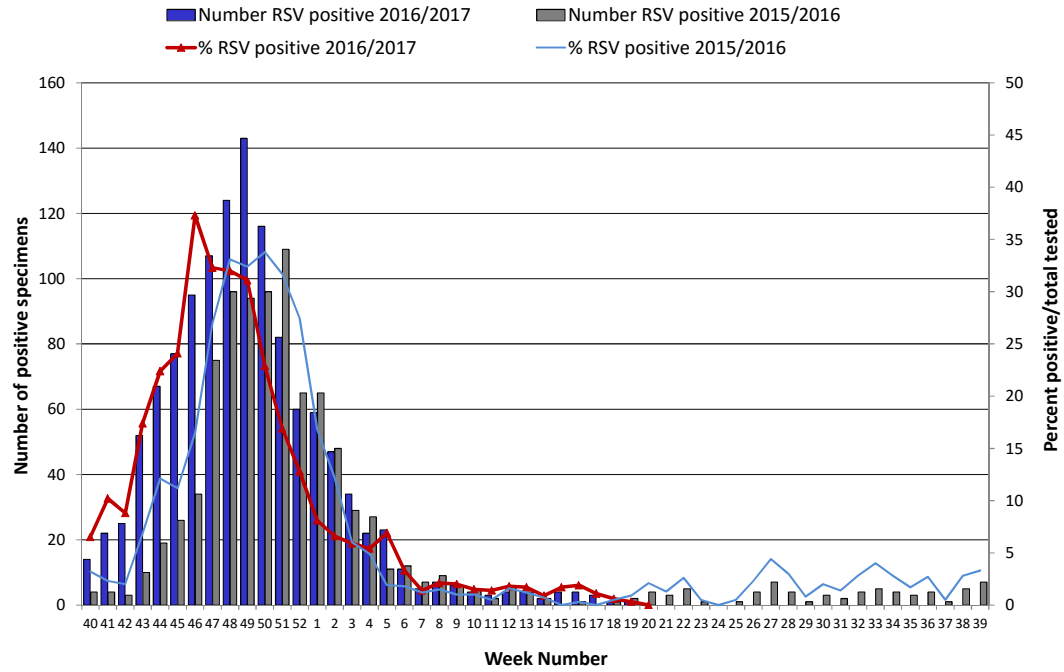

Figure 5: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2016/2017 season, compared to the 2015/2016 season. *Source: NVRL.*

Table 1: Number of sentinel and non-sentinel[†] respiratory specimens tested by the NVRL and positive influenza results, for weeks 18, 19 and 20 2017 and the 2016/2017 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	
18 2017	Sentinel	0	0	0.0	0	0	0	0	0
	Non-sentinel	181	5	2.8	0	1	0	1	4
	Total	**181**	**5**	**2.8**	**0**	**1**	**0**	**1**	**4**
19 2017	Sentinel	2	0	0.0	0	0	0	0	0
	Non-sentinel	321	2	0.6	0	0	0	0	2
	Total	**323**	**2**	**0.6**	**0**	**0**	**0**	**0**	**2**
20 2017	Sentinel	3	0	0.0	0	0	0	0	0
	Non-sentinel	240	9	3.8	0	1	0	1	8
	Total	**243**	**9**	**3.7**	**0**	**1**	**0**	**1**	**8**
2016/2017	Sentinel	940	419	44.6	0	402	4	406	13
	Non-sentinel	11245	1430	12.7	5	1305	52	1362	68
	Total	**12185**	**1849**	**15.2**	**5**	**1707**	**56**	**1768**	**81**

Table 2: Number of sentinel and non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for weeks 18, 19 and 20 2017 and the 2016/2017 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
18 2017	Sentinel	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	181	1	0.6	10	5.5	0	0.0	0	0.0	14	7.7	0	0.0	10	5.5
	Total	**181**	**1**	**0.6**	**10**	**5.5**	**0**	**0.0**	**0**	**0.0**	**14**	**7.7**	**0**	**0.0**	**10**	**5.5**
19 2017	Sentinel	2	0	0.0	0	0.0	0	0.0	1	50.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	321	1	0.3	13	4.0	1	0.3	0	0.0	14	4.4	0	0.0	8	2.5
	Total	**323**	**1**	**0.3**	**13**	**4.0**	**1**	**0.3**	**1**	**0.3**	**14**	**4.3**	**0**	**0.0**	**8**	**2.5**
20 2017	Sentinel	3	0	0.0	0	0.0	0	0.0	0	0.0	1	33.3	0	0.0	0	0.0
	Non-sentinel	240	0	0.0	24	10.0	2	0.8	1	0.4	13	5.4	0	0.0	8	3.3
	Total	**243**	**0**	**0.0**	**24**	**9.9**	**2**	**0.8**	**1**	**0.4**	**14**	**5.8**	**0**	**0.0**	**8**	**3.3**
2016/2017	Sentinel	940	45	4.8	15	1.6	0	0.0	4	0.4	10	1.1	4	0.4	32	3.4
	Non-sentinel	11245	1228	10.9	336	3.0	7	0.1	24	0.2	273	2.4	64	0.6	345	3.1
	Total	**12185**	**1273**	**10.4**	**351**	**2.9**	**7**	**0.1**	**28**	**0.2**	**283**	**2.3**	**68**	**0.6**	**377**	**3.1**

[†] 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 activity is reviewed on a weekly basis using sentinel GP ILI consultation rates, laboratory data and outbreak data.

Maps of the geographical spread of influenza/ILI during weeks 18, 19 and 20 2017 are shown in figure 6. Sporadic influenza activity was reported in HSE-East and South during week 18 2017, in HSE-Southeast during week 19 2017 and in HSE-East, -Midwest, -Northeast and Northwest during week 20 2017. All other areas reported no influenza activity during weeks 18, 19 and 20 2017 (figure 6).

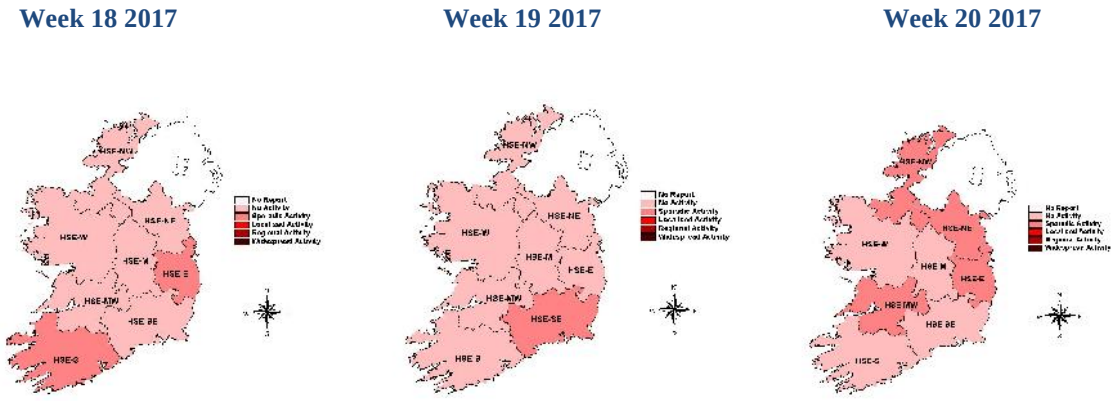

Figure 6: Maps of provisional influenza activity by HSE-Area during weeks 18, 19 and 20 2017

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. For the 2016/2017 influenza season, eight sentinel hospitals are regularly reporting respiratory admissions data in a timely manner.

Respiratory admissions reported from a network of sentinel hospitals were at low levels and continuing to decrease each week during weeks 18, 19 and 20 2017 at 265, 259, and 219, respectively (figure 7). For the 2016/2017 season to date, respiratory admissions peaked during week 52 2016 at 571, the highest level ever reported.

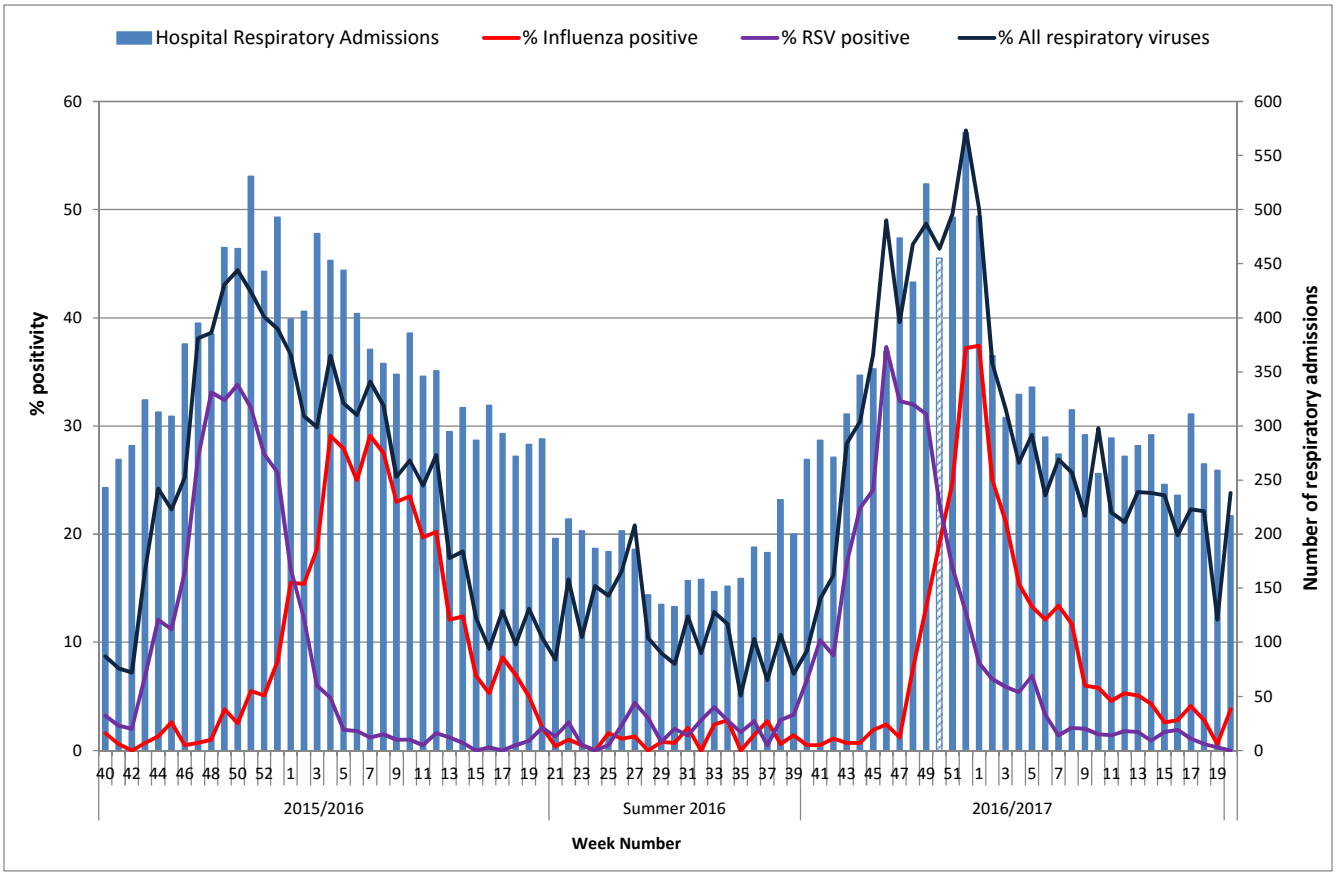

Figure 7: Number of respiratory admissions reported from the sentinel hospital network and % positivity for influenza, RSV and all seasonal respiratory viruses tested* by the NVRL by week and season. *Source: Departments of Public Health - Sentinel Hospitals & NVRL. *All seasonal respiratory viruses 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 50 2016; 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 was at very low levels during weeks 18, 19 and 20 2017 (at 0.9%, 1.0% and 0.9%, respectively). The proportion of influenza related calls reported peaked this season during week 1 2017 at 7.7%, which was the highest level reported since the 2010/2011 season (figure 8).

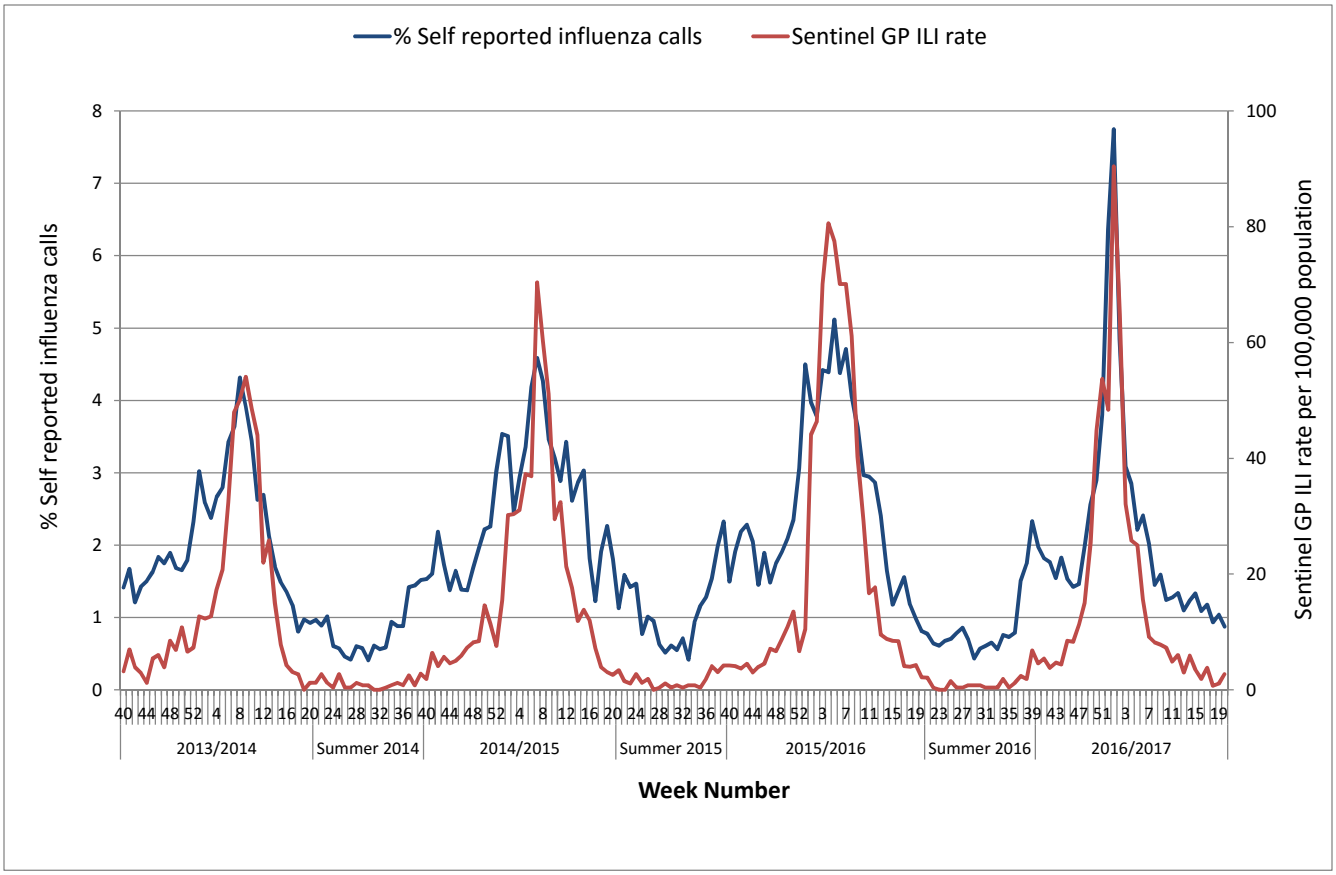

Figure 8: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. *Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.*

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 low during weeks 18, 19 and 20 2017, with 14, 10 and nine confirmed influenza cases notified, respectively. Of the cases notified during this period, three were associated with influenza A (not subtyped) and 30 with influenza B. Influenza notifications peaked during week 2 2017 at 801. RSV notifications remained at low levels during weeks 18 - 20 2017, with five notified cases reported. RSV notifications peaked at 359 during week 50 2016.

6. Influenza Hospitalisations

Fourteen confirmed influenza hospitalised cases were notified to HPSC during weeks 18-20 2017: one associated with influenza A (not subtyped) and 13 with influenza B. For the 2016/17 season (up to the week ending May 21, 2017), 1394 confirmed influenza hospitalised cases were notified to HPSC: 534 associated with influenza A(H3), 3 with influenza A(H1)pdm09, 796 with influenza A (not subtyped), 56 with influenza B and 5 with influenza type/subtype not reported. The highest age-specific rates in confirmed influenza hospitalised cases were in those aged 65 years and older, followed by those aged less than one year of age (table 3), with a median age of 64 years. Seventy-six percent of hospitalised cases, this season to date, were reported by HSE-East, -Midwest, -Southeast and -South.

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.

Fifty confirmed influenza cases [20 associated with influenza A(H3), 25 with influenza A (not subtyped) and five with influenza B] were admitted to critical care units and reported to HPSC this season to date. The majority of cases were in those aged 65 years and older, with a median age of 67 years. Thirteen paediatric cases have been reported this season to date (table 3).

Table 3: Age-specific rates for confirmed influenza cases hospitalised and admitted to critical care during the 2016/2017 influenza season to date. Age-specific rates are based on the 2011 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	74	102.2	2	2.8
1-4	109	38.4	6	2.1
5-14	82	13.2	5	0.8
15-24	50	8.6	1	0.2
25-34	100	13.2	1	0.1
35-44	80	10.6	1	0.1
45-54	86	14.8	1	0.2
55-64	126	27.2	5	1.1
≥65	685	127.9	28	5.2
Unknown	2	-	0	-
Total	**1394**	**30.4**	**50**	**1.1**

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/

- For the 2016/2017 season, 92 notified influenza cases died and were reported to HPSC. The majority (87%) of deaths were in cases aged 65 years and older. The median age of cases who died during the 2016/2017 influenza season to date was 80 years. Forty-five cases were associated with influenza A(H3), 34 with influenza A (not subtyped), one with influenza B and 12 clinical influenza cases with no pathogen identified.
- Excess all-cause mortality in those aged 65 years and older was reported in Ireland over eight consecutive weeks, between weeks 49 2016 and 4 2017, after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm. These excess deaths were most likely associated with high levels of influenza A(H3N2) activity. However, these data should be interpreted with caution, due to delays in reporting.
- Excess all-cause mortality was reported among the elderly in Europe in the early months of 2017, most likely due to the high levels of influenza A(H3N2) circulating and also associated with severe weather conditions in some countries. During recent weeks all-cause mortality has been normal to low in Europe. The number of deaths in recent weeks should be interpreted with caution because adjustments for delayed registrations may be imprecise. http://www.euromomo.eu/

9. Outbreak Surveillance

Three acute respiratory infection (ARI)/influenza outbreaks in residential care facilities/community hospitals were notified during weeks 18-20 2017, two associated with influenza B (one in HSE-Northwest and one in HSE-South) and the other an ARI outbreak (with no pathogen identified) in a nursing home in HSE-Northwest. For the 2016/17 season (up to the week ending May 21, 2017), 111 ARI and influenza outbreaks were reported to HPSC, 65 of which were associated with influenza A, three associated with influenza B, 23 with influenza (type & subtype not reported), four associated with RSV, two with human metapneumovirus (hMPV), one with parainfluenza virus and 13 ARI outbreaks with no pathogens identified. The majority of influenza outbreaks reported this season were in residential care facilities/community hospitals, mainly associated with influenza A and affecting those aged 65 years and older. Eleven confirmed influenza outbreaks were reported in acute hospital settings this season, five in HSE-East, two each in HSE-Midwest and West and one each in HSE-Southeast and -South. This season, the majority of ARI and influenza outbreaks were reported from HSE-East and -South: 29 in the East, 5 in Midlands, 10 in Midwest, 8 in Northeast, 14 in Northwest, 8 in Southeast, 31 in South and 6 in the West. *Family outbreaks are not included in this report. All outbreaks notified to HPSC are reported in the HPSC Outbreak Weekly Report.*

10. International Summary

Influenza activity in the European region remained at low levels. The influenza season is considered over, with all countries reporting low intensity of activity in the region. Influenza A(H3N2) was the predominant virus circulating this season, with those aged 65 years and older most severely affected. Low numbers of influenza B were reported in recent weeks, however these cases have continued to decline since week 14 2017. Excess all-cause mortality was reported amongst the elderly in the European region this season, most likely due to high levels of influenza A(H3N2) circulating and also associated with severe weather conditions in some countries. The majority (2576/3621; 71%) of A(H3N2) viruses genetically characterised this season in Europe belong to the new genetic subclade 3C.2a1, these viruses are reported as antigenically similar to the 2016/2017 A(H3N2) vaccine strain (clade 3C.2a). Viruses in both subclades (3C.2a and 3C.2a1) are evolving rapidly, thereby requiring continued monitoring of antigenic characteristics. Neuraminidase inhibitor susceptibility was assessed and reported for 3440 influenza viruses this season, only 7 A(H3N2), 1 A(H1N1)pdm09 and 3 B/Victoria lineage viruses have shown reduced susceptibility to oseltamivir and/or zanamivir.

Vaccine effectiveness estimates for all age groups against influenza A(H3N2) illness suggest moderate effectiveness in Canada (42%), the US (43%) and in Europe (38%).

See ECDC and WHO influenza surveillance reports for further information. The latest ECDC risk assessment (RA) on seasonal influenza in EU/EEA countries for the 2016/2017 season was published on the 25th January 2017 on the ECDC website.

- 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.

- The latest ECDC and WHO risk assessments on influenza A(H5N8) have been published on the ECDC and WHO websites. Further information on the public health measures for protecting and managing people exposed to highly pathogenic avian influenza A(H5N8) in Europe has been published on the Eurosurveillance website.
- Further information on avian influenza is 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 influenza season (northern hemisphere winter) 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/

The WHO vaccine strain selection committee recommended that trivalent vaccines for use in the 2016/2017 influenza season (northern hemisphere winter) contain the following: an A/California/7/2009 (H1N1)pdm09-like virus; an A/Hong Kong/4801/2014 (H3N2)-like virus; a B/Brisbane/60/2008-like virus.
http://www.who.int/influenza/vaccines/virus/recommendations/en/

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

Acknowledgements

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