

Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 46 - 47 (13th November – 26th November 2017)

Summary

Influenza activity across Northern Ireland remains low with Flu/FLI consultations low and relatively stable in both In-hours and OOH. Influenza viruses were detected sporadically both in sentinel and non-sentinel specimens, including hospitalised patients, with both influenza A and B type viruses being detected in weeks 46 - 47 (week commencing 13th November 2017).

Northern Ireland Primary Care Consultation Rates

- GP consultation rates for combined flu and flu-like illness (flu/FLI) were 4.5 per 100,000 population in week 46 and 5.3 per 100,000 population in week 47, 2017. Rates remain well below the 2017/18 Northern Ireland pre-epidemic threshold¹
- OOH GP consultation rates for flu/FLI remained relatively stable over the two week period at 3.1 per 100,000 population in week 46 and 3.2 per 100,000 population in week 47, 2017

Microbiological Surveillance (Flu and RSV)

- The proportion of positive influenza detections from both sentinel and non-sentinel sources was 5% in week 46 dropping to 2% in week 47.
- RSV activity continues to increase but remains lower than the same period last season with 16% of specimens positive for RSV in week 46 and 15% in week 47.

Secondary Care (Hospital both non-ICU and ICU)

- Thirteen detections of influenza from hospital wards were reported to PHA in weeks 46 and 47, 2017
- One case were reported in ICU with laboratory confirmed influenza in weeks 46 – 47.
- No deaths were reported in weeks 46 – 47 among ICU patients with laboratory confirmed influenza; there have been no deaths in ICU patients with laboratory confirmed influenza this season

Influenza Outbreaks across Northern Ireland

- No confirmed influenza outbreaks were reported to the PHA. There have been no confirmed influenza outbreaks this season

Mortality

- There was no update on excess all-cause mortality reported through the EuroMOMO algorithm for weeks 46-47, 2017

¹¹ The pre-epidemic threshold for Northern Ireland is 22.58 per 100,000 population this year (2017/18)

Introduction

Influenza is an acute viral infection of the respiratory tract (nose, mouth, throat, bronchial tubes and lungs). There are three types of flu virus: A, B and C, with A and B responsible for most clinical illness. Influenza activity in Northern Ireland is monitored throughout the year to inform public health action and to prevent spread of the infection. The influenza season typically runs from week 40 to week 20. Week 40 for the 2017/18 season commenced on 2nd October 2017.

Surveillance systems used to monitor influenza activity include:

- Northern Ireland GP surveillance representing 98% of Northern Ireland population;
- Sentinel flu-swabber GP practices representing 11.2% of the NI population, contributing to the measurement of circulating influenza in the community
- GP Out-of-Hours surveillance system representing the entire population;
- Virological reports from the Regional Virus Laboratory (RVL);
- Influenza outbreak report notification to PHA Duty Room;
- Critical Care Network for Northern Ireland reports on patients in ICU/HDU with confirmed influenza;
- Mortality data from Northern Ireland Statistics and Research Agency (NISRA);
- Excess mortality estimations are calculated using the EuroMOMO (Mortality Monitoring in Europe) model based on raw death data supplied by NISRA

NB: Please note the change in the collection of Flu/FLI consultation data in 2017-18. Data will now be collected from 325 GP practices, representing 98% of the Northern Ireland (NI) population. This represents a change from previous seasons when data was collected from 37 sentinel GP practices (representing 11.7% of the NI population).

As a result, Flu/FLI consultation rates and the MEM threshold in 2017-18 will be generally lower than in previous years. Please take this into account when interpreting the figures in this season's bulletin.

Northern Ireland GP Consultation Data

Figure 1. Northern Ireland GP consultation rates for flu/FLI 2015/16 - 2017/18

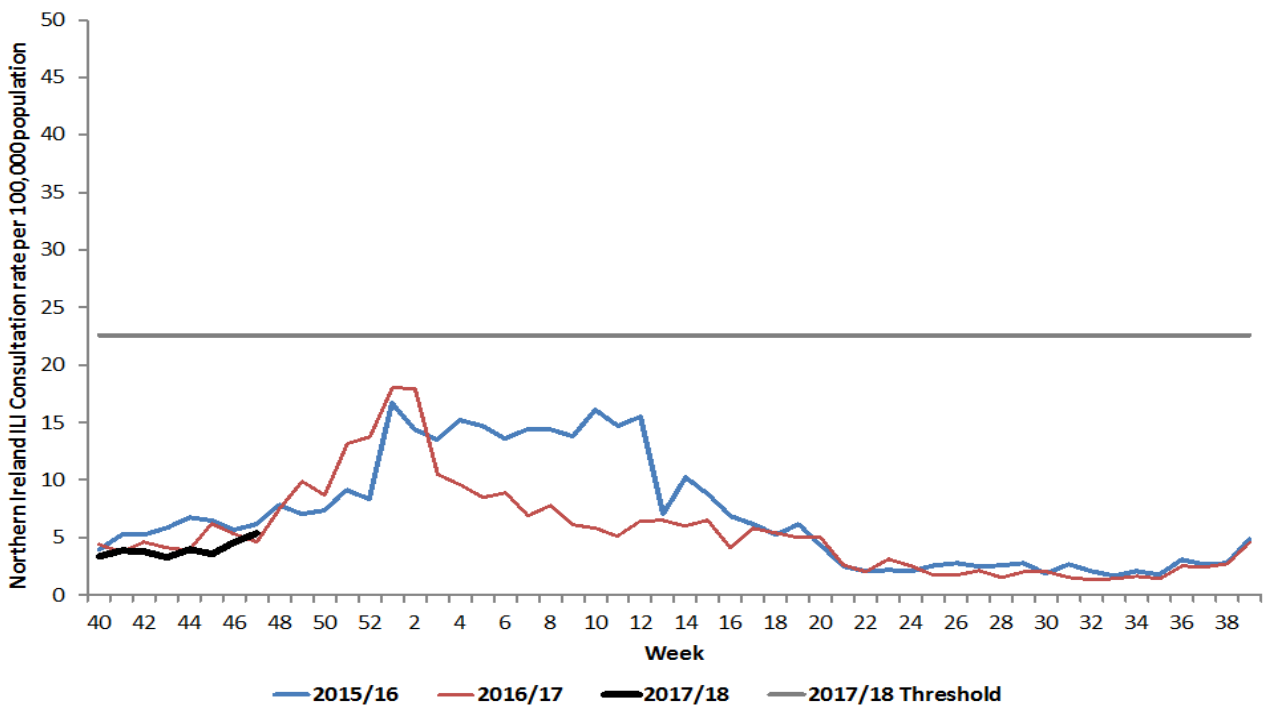


Figure 2. Northern Ireland GP consultation rates for flu/FLI and number of influenza positive detections 2012/13 – 2017/18

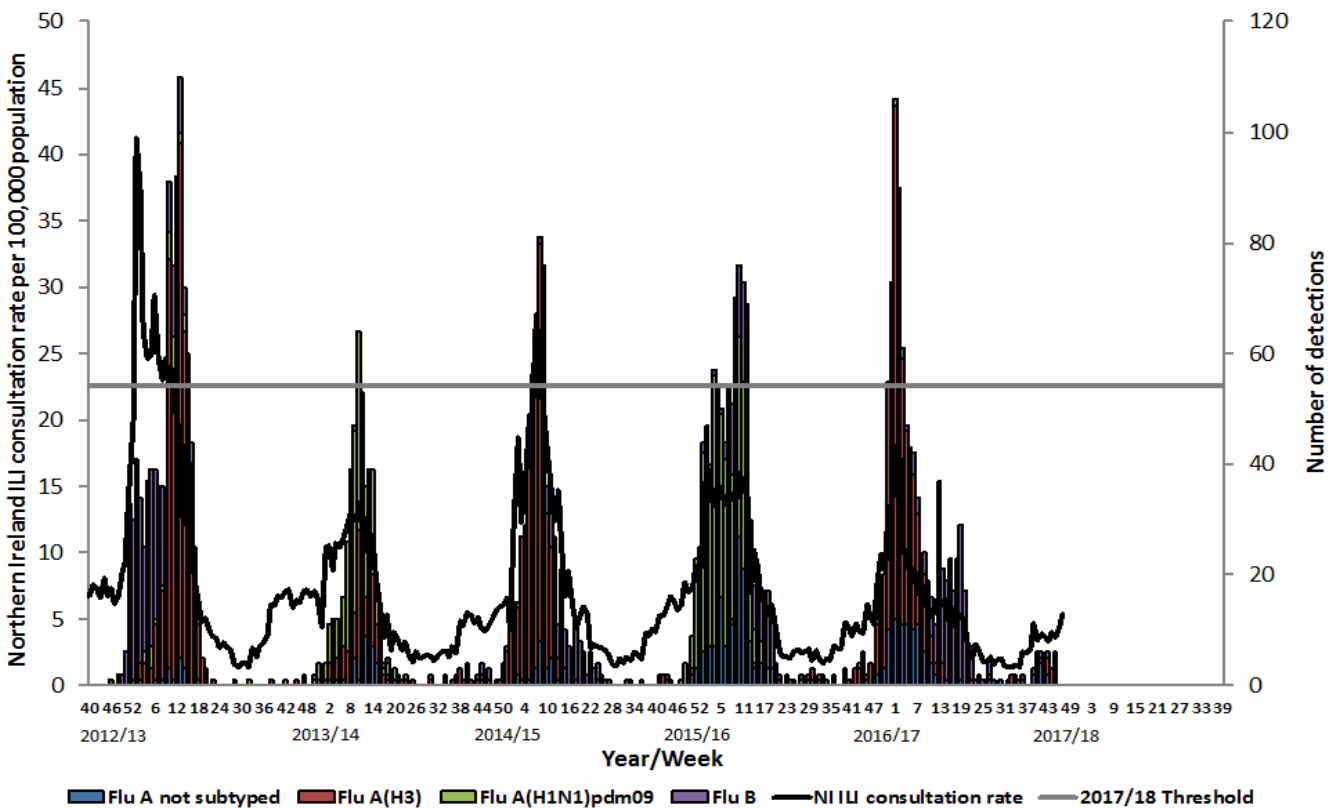
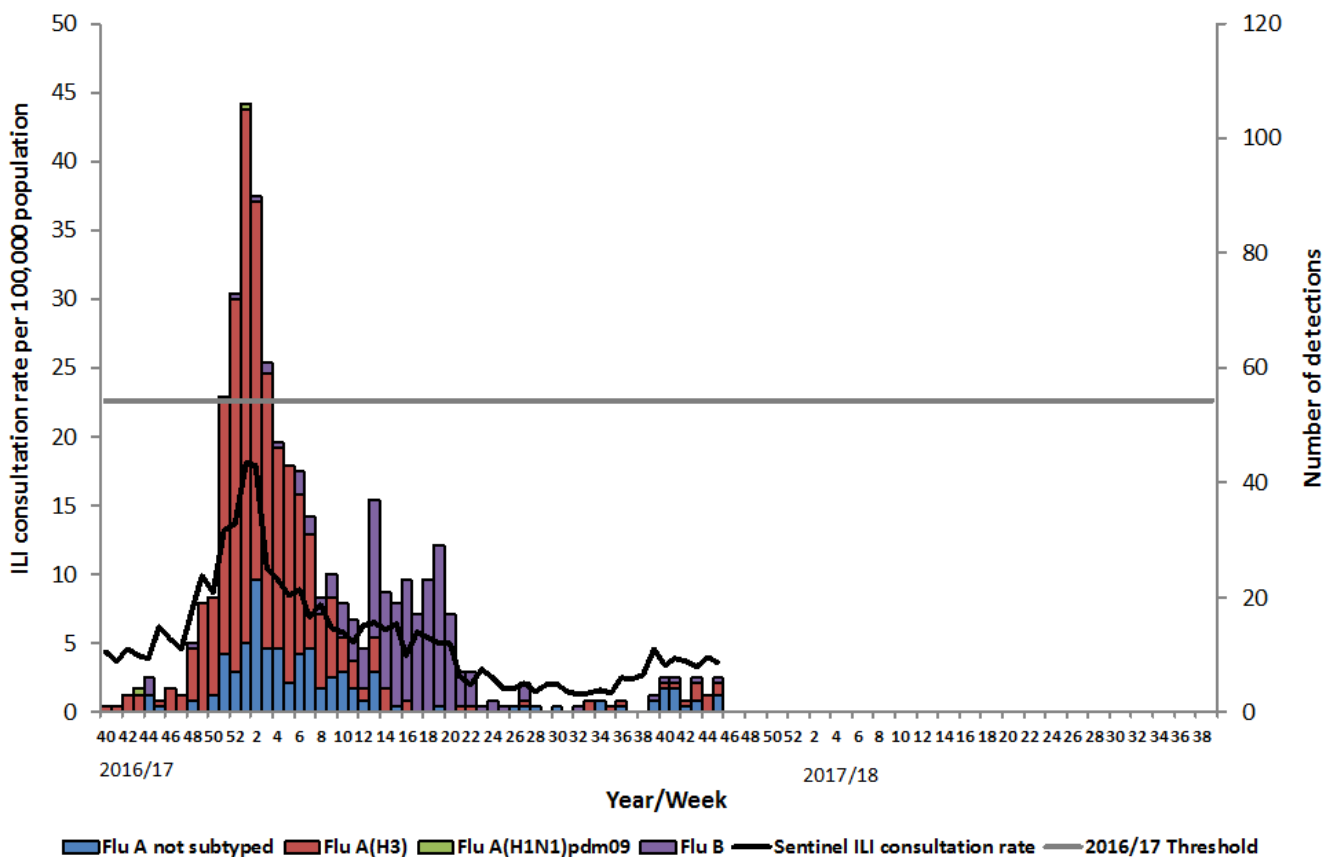


Figure 3. Northern Ireland GP consultation rates for flu/FLI and number of virology 'flu' detections from week 40, 2016



Comment

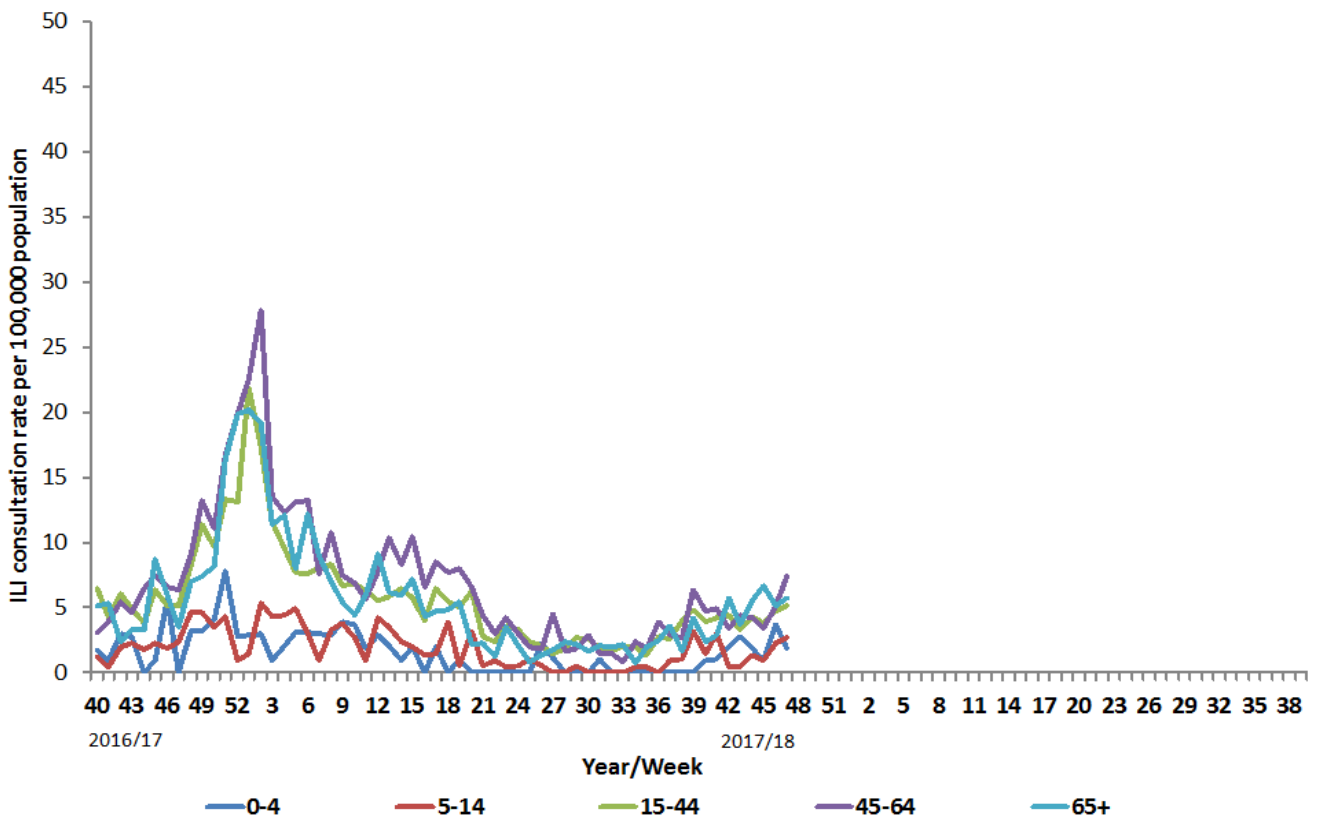
NI GP consultation rates have remained relatively stable since week 40. In the two week reporting period rates increased slightly from 3.6 per 100,000 population in week 45 to 4.5 per 100,000 population in week 46 and to 5.3 per 100,000 population in week 47. The NI GP consultation rate in week 47 is slightly higher than the same period in 2016/17 (4.6 per 100,000 population)

Rates remain below the pre-epidemic Northern Ireland 2017/18 threshold of 22.58 per 100,000 population.

The number of positive influenza laboratory detections in weeks 46 and 47, 2017 has decreased from weeks 44 and 45. At this point in the season there have been a total of 19 detections of influenza A (typing awaited), 17 of influenza A(H3) and eight of influenza B (Figures 1, 2 and 3).

Further information about laboratory detections of influenza is detailed on page 9.

Figure 4. Northern Ireland GP age-specific consultation rates for flu/FLI from week 40, 2016



Comment

Age-specific flu/FLI rates were highest among those aged those aged 65-74 year at 5.9 per 100,000 population in week 46 and in those aged 45-64 years at 7.4 per 100,000 population in week 47. The lowest rates in both weeks were in children aged less than 4 years (Figure 4.).

Out-of-Hours (OOH) Centres Call Data

Figure 5. OOH call rate for flu/FLI, 2015/16 – 2017/18

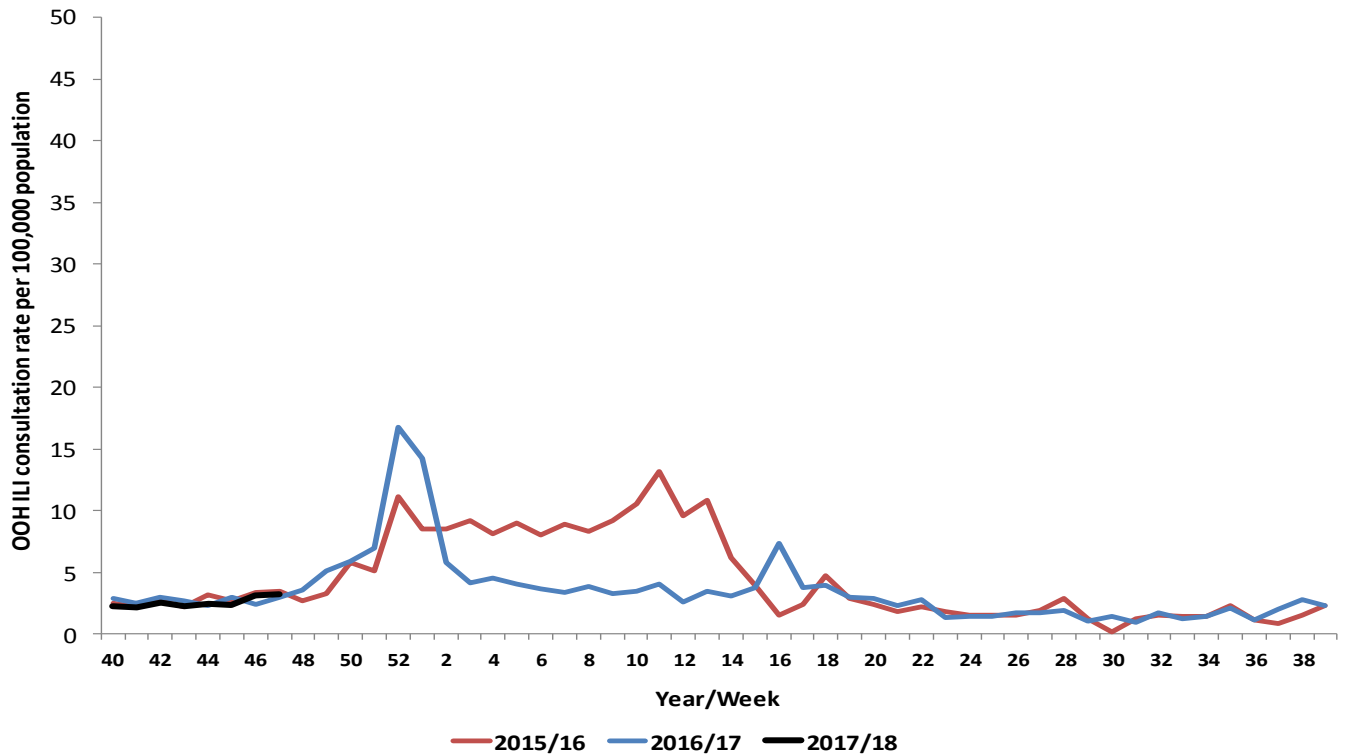
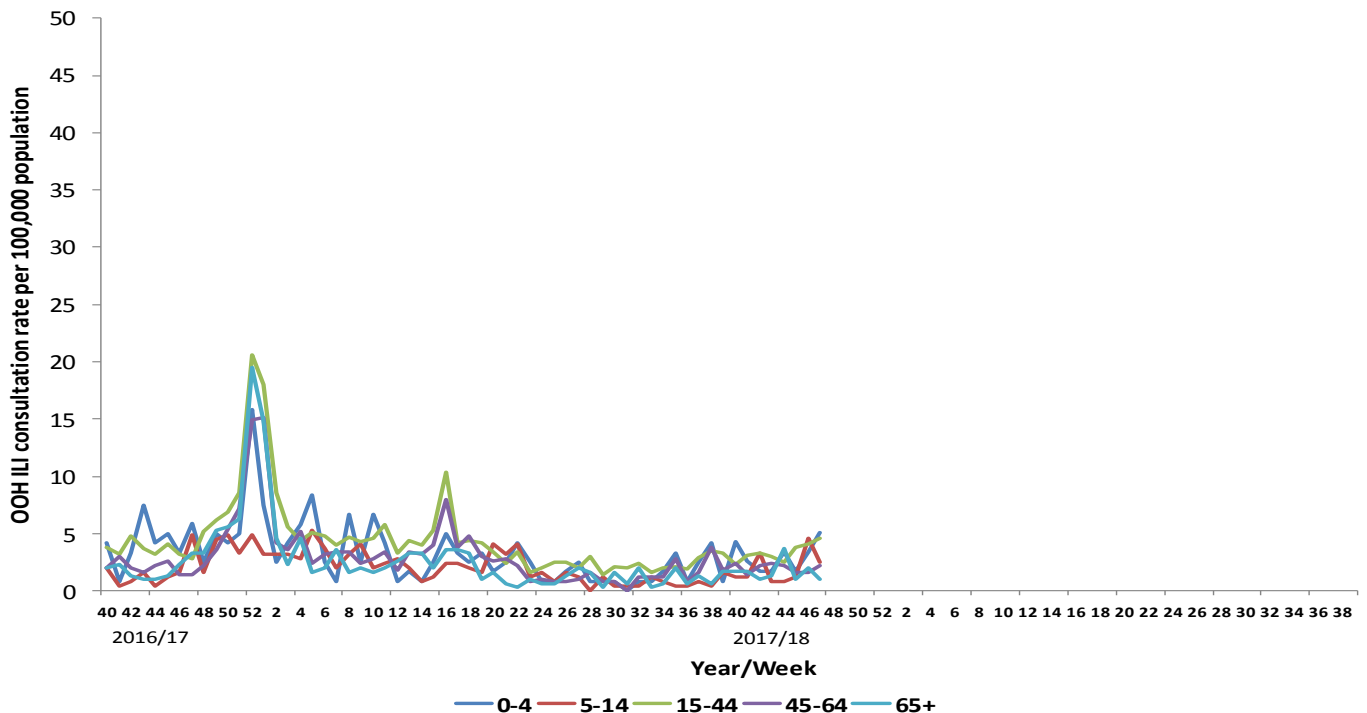


Figure 6. OOH call rates of flu/FLI by age-group from week 40, 2016



Comment

OOH GP consultation rates continue to remain stable with rates in both weeks similar at 3.1 per 100,000 population in week 46 and 3.2 per 100,000 in week 47. Rates increased slightly from 2.4 per 100,000 population in week 45 but remain similar to the same period in 2016/17 (2.4 per 100,000 population in week 46 and 3.0 per 100,000 population in week 47), (Figure 5).

The proportion of calls related to flu also remained relatively stable across the two-week period representing less than 1% of total calls to the OOH service in weeks 46 and 47, 2017.

OOH flu/FLI rates fluctuated amongst all the age groups during weeks 46 and 47 but were generally higher than the previous two week period; however, this may be due to relatively small numbers in some of the age groups. The highest age-specific OOH flu/FLI rate in week 46 was in the 5-14 years age group (4.6 per 100,000 population) and in the 0-4 year olds (5.1 per 100,000 population) in week 47. The lowest rates were in 45-64 years (1.6 per 100,000 population) and in those aged 65 and over (1.0 per 100,000 population) in weeks 46 and 47, respectively (Figure 6).

Virology Data

Table 1. Virus activity in Northern Ireland by source, Week 46 - 47, 2017/18

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	8	0	0	0	0	1	0	0%
Non-sentinel	426	6	0	5	4	72	15	4%
Total	434	6	0	5	4	73	15	3%

Table 2. Cumulative virus activity from all sources by age group, Week 40 - 47, 2017/18

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	0	1	1	2	116
5-14	1	0	0	1	2	6
15-64	7	0	9	4	20	19
65+	9	0	9	2	20	27
Unknown	0	0	0	0	0	0
All ages	17	0	19	8	44	168

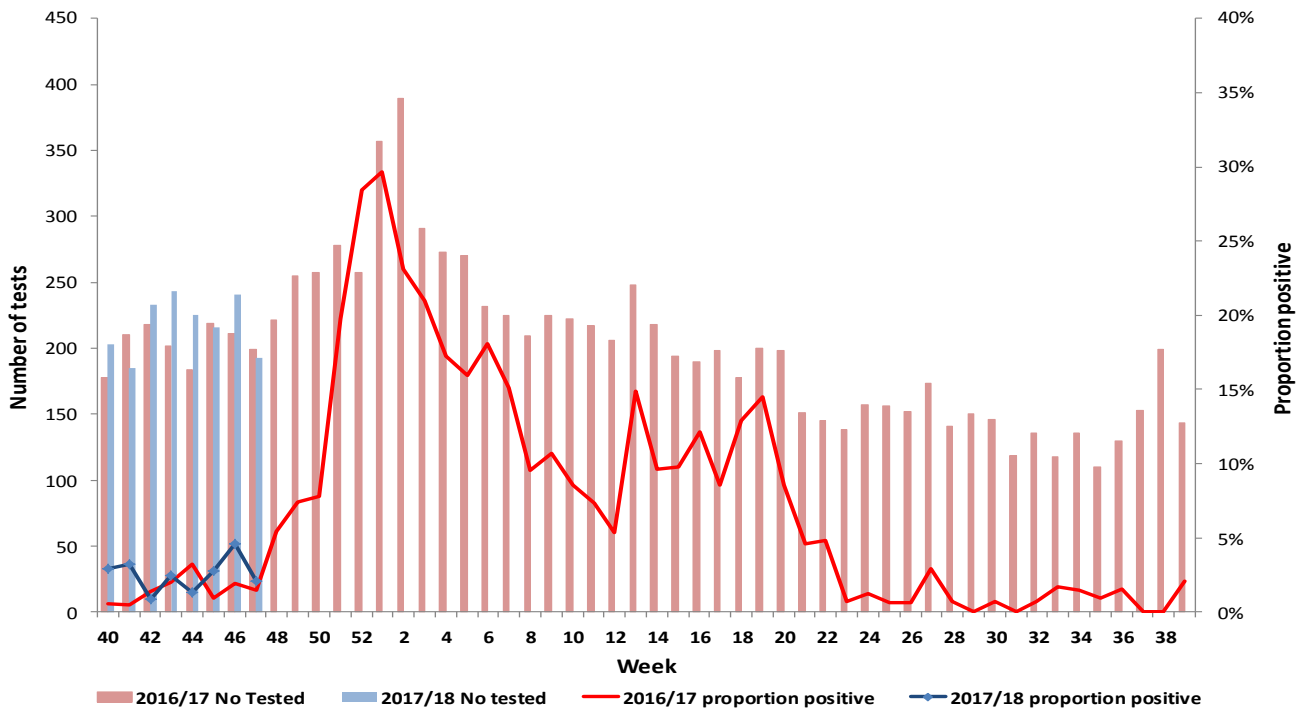
Table 3. Cumulative virus activity by age group and source, Week 40 - Week 47, 2017/18

	Sentinel						Non-sentinel					
	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	0	0	0	0	0	0	0	1	1	2	116
5-14	1	0	0	0	1	0	0	0	0	1	1	6
15-64	2	0	4	1	7	3	5	0	5	3	13	16
65+	1	0	0	0	1	0	8	0	9	2	19	27
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	4	0	4	1	9	3	13	0	15	7	35	165

Note

All virology data are provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available. Sentinel and non-sentinel samples are tested for influenza and for RSV. Cumulative reports of influenza A (untyped) may vary from week to week as these may be subsequently typed in later reports.

Figure 7. Number of samples tested for influenza and proportion positive, 2016/17 and 2017/18, all sources



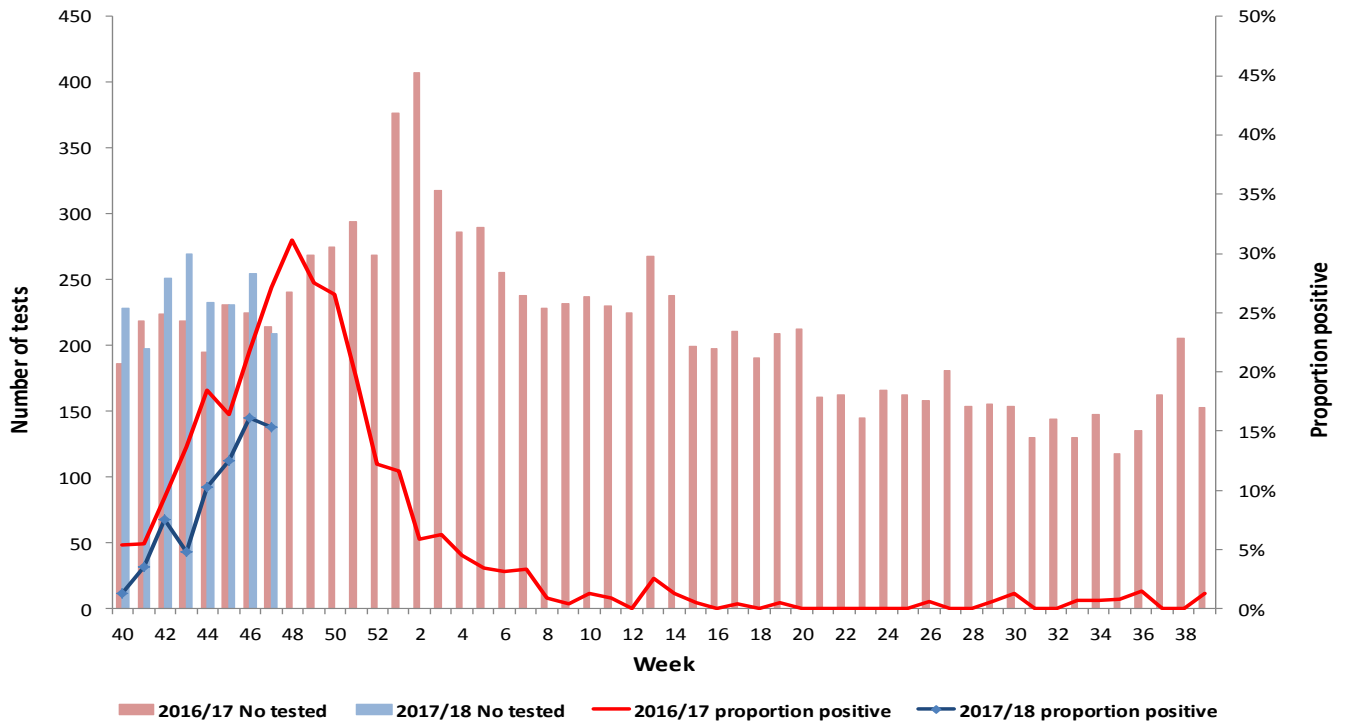
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During weeks 46 and 47, 2017 there were 434 specimens submitted for virological testing. There were 15 detections of influenza in total (positivity rate of 3%), of which six were typed as influenza A(H3), five were influenza A (typing awaited), and four as influenza B. There were no detections of influenza A(H1N1)pdm09 (Figure 7).

There were no samples positive for influenza submitted through the GP based sentinel scheme across Northern Ireland during this period (Tables 1, 2, 3; Figures 2 and 3).

Respiratory Syncytial Virus

Figure 8. Number of samples tested for RSV and proportion positive, 2016/17 and 2017/18, all sources

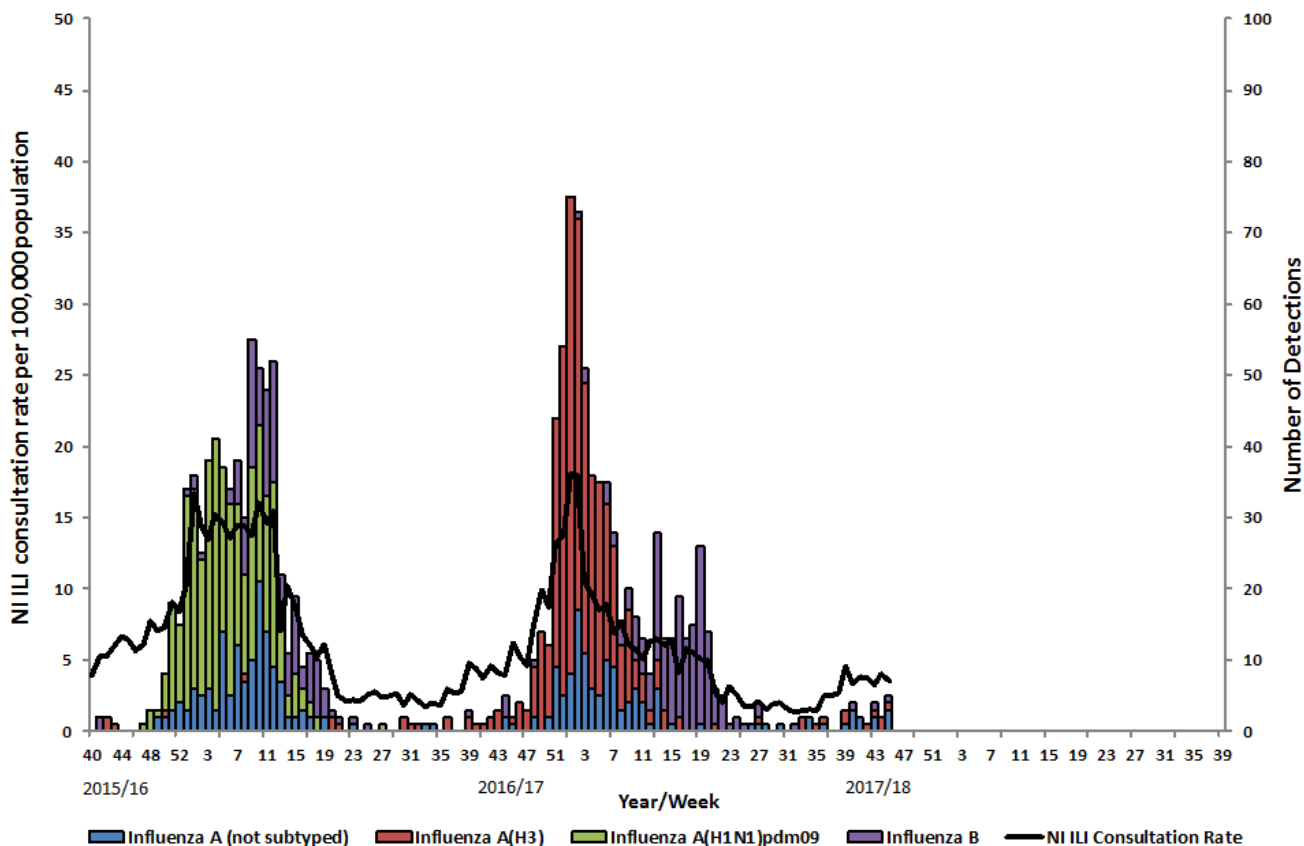


Comment

During weeks 46 and 47, 2017 there were 73 positive detections of RSV giving a positivity rate of 17%, lower than the same period in 2016/17 (23%). To date there have been a total of 168 detections of RSV of which the majority (69%) were in those aged 0-4 years (Figure 8 and Table 2).

Hospital Surveillance (Non-ICU/HDU)

Figure 9. Confirmed influenza cases in hospital by week of specimen, with Northern Ireland ILI consultation rate, 2015/16 - 2017/18



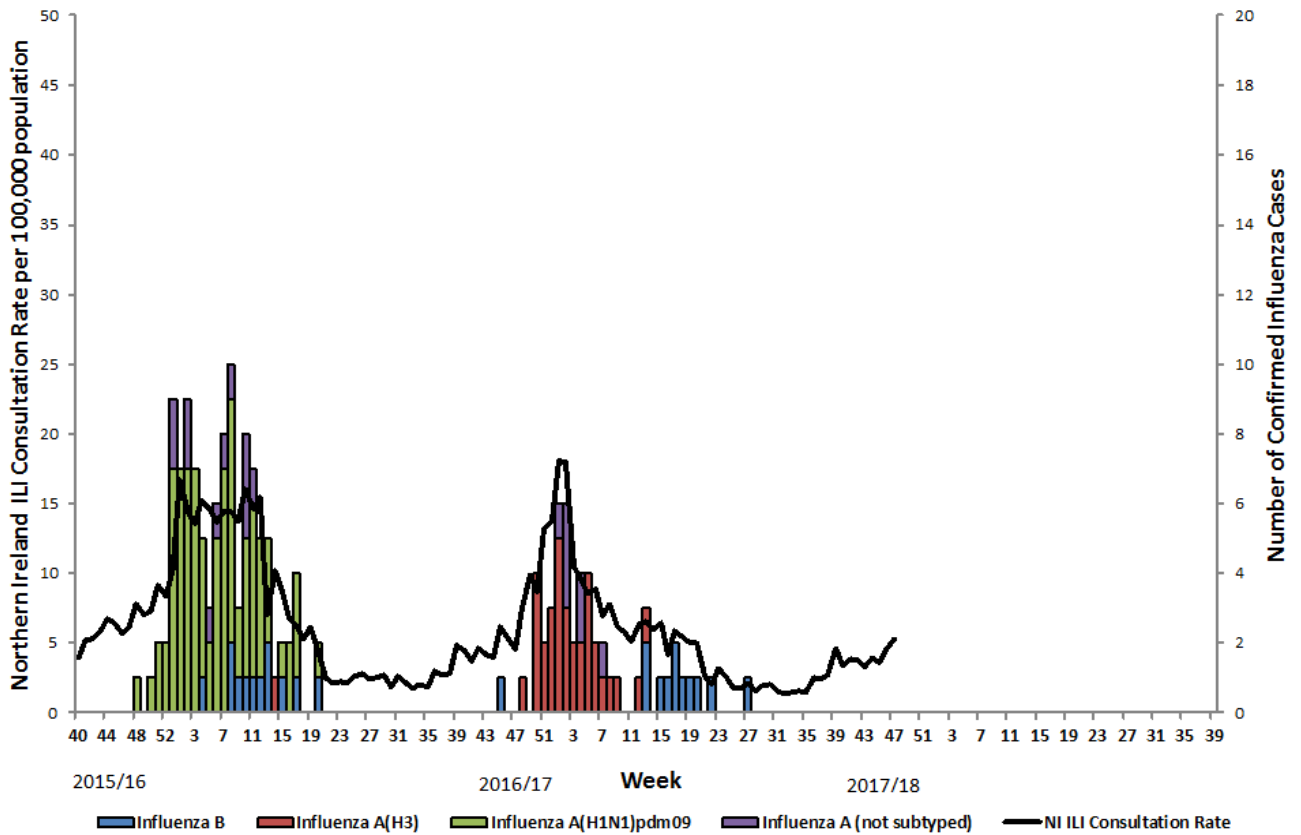
Comment

For the first time in 2017/18 the PHA will be reporting on detections of influenza from specimens taken in hospital wards across Northern Ireland, reported to PHA through the regional virology laboratory.

During weeks 46 and 47, 2017 there were a total of 13 detections of influenza from specimens taken in hospital settings across Northern Ireland. There were six detections of influenza A(H3), four of influenza B and three detections of influenza A (typing awaited). There have been no detections of influenza A(H1N1)pdm09 to date this season.

ICU/HDU Surveillance

Figure 10. Confirmed ICU/HDU influenza cases by week of specimen, with Northern Ireland ILI consultation rate, 2015/16 - 2017/18



Comment

Data are collected on laboratory confirmed influenza patients and deaths in critical care (level 2 and level 3).

During weeks 46 and 47, one confirmed case of influenza in ICU was reported to the PHA. There were no deaths reported in ICU patients with laboratory confirmed influenza.

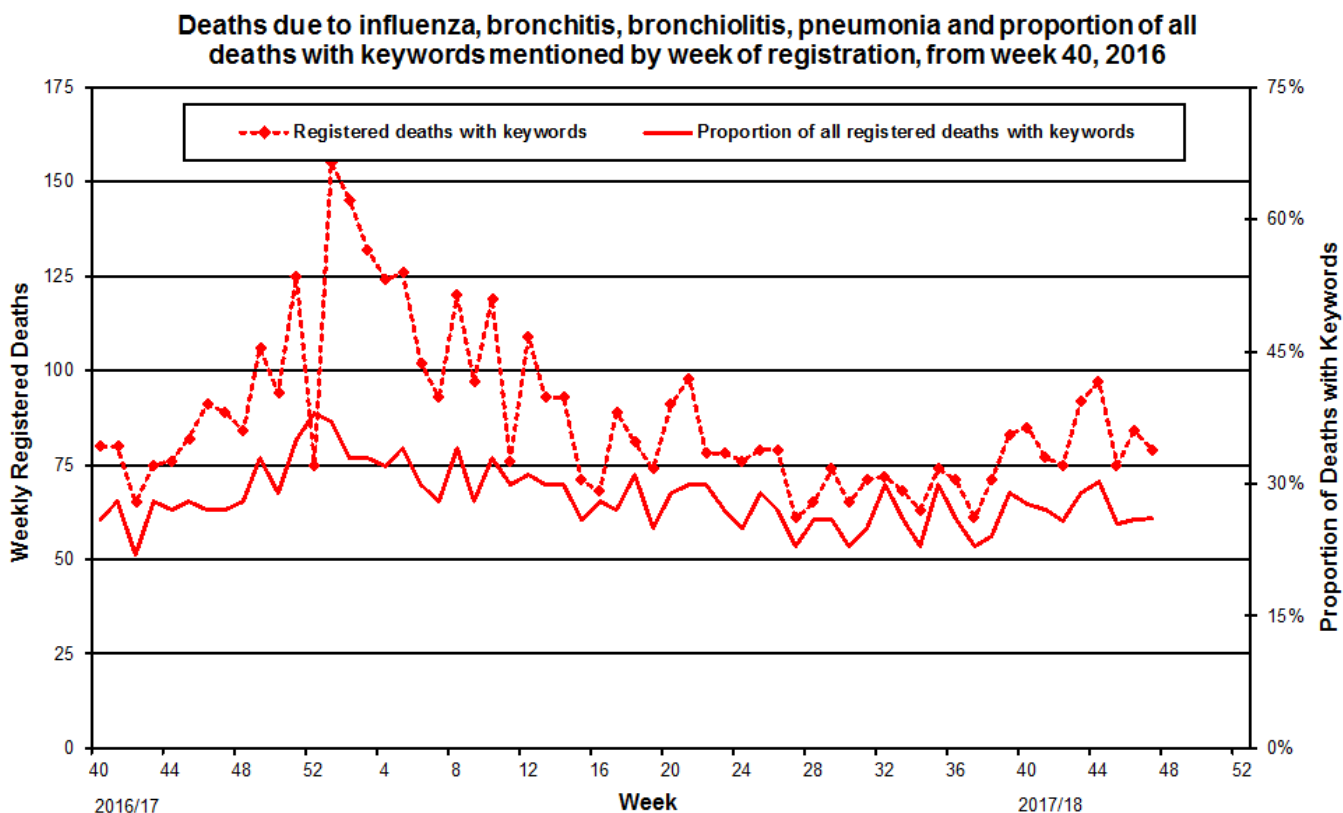
Outbreak Surveillance

During weeks 46 and 47, 2017 there were no confirmed influenza outbreaks reported to the PHA. There have been no confirmed influenza outbreaks reported this season to date.

Mortality Data

Weekly mortality data is provided from Northern Ireland Statistics and Research Agency (NISRA). The data relates to the number of deaths from selected respiratory infections (some of which may be attributable to influenza, and other respiratory infections or complications thereof) registered each week in Northern Ireland. This is not necessarily the same as the number of deaths occurring in that period. Searches of the medical certificates of the cause of death are performed using a number of keywords that could be associated with influenza (bronchiolitis, bronchitis, influenza and pneumonia). Death registrations containing these keywords are presented as a proportion of all registered deaths.

Figure 11. Weekly registered deaths



Comment

During weeks 46 and 47, 2017 the proportion of deaths related to respiratory keywords increased slightly from 25% in week 45 to 26% in both weeks. In week 47 there were 303 registered deaths, of which 79 related to specific respiratory infections (Figure 10).

The proportion of deaths attributed to specific respiratory infections is slightly lower at this point in the season to the same period in 2016/17 (28%) but similar to 2015/16 (25%).

EuroMOMO

The report on excess all-cause mortality was not available for this period, however no significant excess all-cause mortality was reported in Northern Ireland up to week 45.

Please note this data is provisional due to the time delay in registration; numbers may vary from week to week.

Influenza Vaccine Uptake.

Vaccine uptake rates will be reported in the bulletin later in the season.

International Summary

Europe

Week 46, 2017

- Influenza activity across Europe remained at a low level.
- Of the individuals sampled on presenting with ILI or ARI to sentinel primary healthcare sites, 3.7% tested positive for influenza viruses, which is similar to the previous week (4.4%).
- Data from 21 countries or regions reporting to the EuroMOMO project indicated that all-cause excess mortality was within normal ranges for this time of year.

Additional information on global influenza activity is available from [WHO's biweekly global updates](#).

Season Overview:

- Since week 40/2017, few influenza viruses have been detected in sentinel and non-sentinel specimens.
- For detections from sentinel surveillance systems, the proportions of influenza A(H1N1) pdm09 and A(H3N2) viruses were similar, while from non-sentinel sources most detections were A(H3N2). For both sentinel and non-sentinel surveillance systems, most influenza B viruses assigned to a lineage were B/Yamagata.
- While low in number (n=34), over 68% of the A(H3N2) viruses genetically characterized belonged to clade 3C.2a, the vaccine virus clade, as described in the [WHO recommendations for vaccine composition for the northern hemisphere 2017–18](#).

<http://www.flunewseurope.org/>

Worldwide (WHO)

As at 27th November 2017:

Influenza activity increased slightly in the temperate zone of the northern hemisphere while in the temperate zone of the southern hemisphere activity appeared to have decreased at inter-seasonal levels. In Central America and the Caribbean, influenza activity remained low. Worldwide, influenza A(H3N2) and B viruses accounted for the majority of influenza detections.

- In North America, overall influenza activity continued to increase in the region, with detections of predominantly influenza A(H3N2) viruses.
- In Europe, influenza activity remained low, with detections of predominantly influenza A(H3N2) and B viruses.
- In Western Asia, influenza activity was low in general. In Qatar, influenza activity continued to increase, with all seasonal subtypes co-circulating.
- In Central Asia, respiratory illness indicators appeared to increase in Kazakhstan, Tajikistan and Uzbekistan.
- In East Asia, influenza activity remained low in general. In Northern China, influenza A(H3N2) detections increased slightly in recent weeks.
- In South East Asia, influenza activity continued to decrease, with influenza A(H3N2) and B viruses most frequently detected.
- In Southern Asia, influenza activity remained low in general. In India, influenza A(H1N1)pdm09 and A(H3N2) detections continued to be reported.
- In Northern Africa, sporadic influenza A virus detections were reported in Morocco and Tunisia.
- In Eastern, Middle and Western Africa, influenza detections continued to be reported, with all seasonal influenza subtypes present in the regions.
- In the Caribbean and Central American countries, respiratory illness indicators and influenza activity remained low in general but respiratory syncytial virus (RSV) activity remained high in several countries.
- In the tropical countries of South America, influenza and RSV activity remained at low levels overall.
- In the temperate zone of the Southern Hemisphere, influenza activity appeared to have decreased overall.
- National Influenza Centres (NICs) and other national influenza laboratories from 84 countries, areas or territories reported data to FluNet for the time period from 30 October 2017 to 12 November 2017 (data as of 2017-11-24 03:35:24 UTC). The WHO GISRS laboratories tested more than 103642 specimens during that time period. 5515 were positive for influenza viruses, of which 3690 (66.9%) were typed as influenza A and 1825 (33.1%) as influenza B. Of the sub-typed influenza A viruses, 509 (21.4%) were influenza A(H1N1)pdm09 and 1873 (78.6%) were influenza A(H3N2). Of the characterized B viruses, 781 (77.9%) belonged to the B-Yamagata lineage and 221 (22.1%) to the B-Victoria lineage.

http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html

<http://www.cdc.gov/flu/weekly/>

Acknowledgments

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Critical Care Network for Northern Ireland and Public Health England. Their work is greatly appreciated and their support vital in the production of this bulletin.

The author also acknowledges the Northern Ireland Statistics and Research Agency (NISRA) and the General Register Office Northern Ireland (GRONI) for the supply of data used in this publication. NISRA and GRONI do not accept responsibility for any alteration or manipulation of data once it has been provided.

Further information

Further information on influenza is available at the following websites:

<http://www.fluawareni.info>

<https://www.gov.uk/government/organisations/public-health-england>

<http://www.publichealth.hscni.net>

<http://www.who.int>

<http://ecdc.europa.eu>

<http://www.flunewseurope.org/>

Internet-based surveillance of influenza in the general population is undertaken through the FluSurvey. A project run jointly by PHE and the London School of Hygiene and Tropical Medicine. If you would like to become a participant of the FluSurvey project please do so by visiting the [Flusurvey website](#) for more information.

Detailed influenza weekly reports can be found at the following websites:

Republic of Ireland:

<http://www.hpsc.ie/hpsc/A-Z/Respiratory/Influenza/SeasonalInfluenza/Surveillance/InfluenzaSurveillanceReports/>

England:

<https://www.gov.uk/government/statistics/weekly-national-flu-reports>

Scotland

<http://www.hps.scot.nhs.uk/resp/seasonalInfluenza.aspx>

Wales

<http://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=34338>

For further information on the Enhanced Surveillance of Influenza in Northern Ireland scheme or to be added to the circulation list for this bulletin please contact:

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