

Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 42 - 43 (16th October 2017 – 29th October 2017)

Summary

At this point in the 2017/18 influenza season, there is low influenza activity across Northern Ireland. Influenza has continued to circulate though the number of lab detections have decreased from the previous week. In-hours and OOH Flu/FLI consultations have remained low and relatively stable. 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 42 - 43 (week commencing 16th October 2017).

Northern Ireland Primary Care Consultation Rates

- GP consultation rates for combined flu and flu-like illness (flu/FLI) were 3.7 per 100,000 population in week 42 and 3.3 per 100,000 population in week 43, 2017. Rates remain below the 2017/18 Northern Ireland pre-epidemic threshold¹
- OOH GP consultation rates for flu/FLI increased very slightly to 2.6 per 100,000 population in week 42 and decreased to 2.2 per 100,000 population in week 43, 2017

Microbiological Surveillance (Flu and RSV)

- The proportion of positive influenza detections from both sentinel and non-sentinel sources was 2% in weeks 42 - 43
- RSV activity has increased in weeks 42 and 43 but levels are lower than the same period last season

Secondary Care (Hospital both non-ICU and ICU)

- Three detections of influenza from hospital wards were reported to PHA in weeks 42 and 43, 2017
- No new cases were reported in ICU with laboratory confirmed influenza in weeks 42 - 43, there have been no cases this season so far
- No deaths were reported in weeks 42 – 43 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

- No excess all-cause mortality was reported through the EuroMOMO algorithm for weeks 42-43, 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

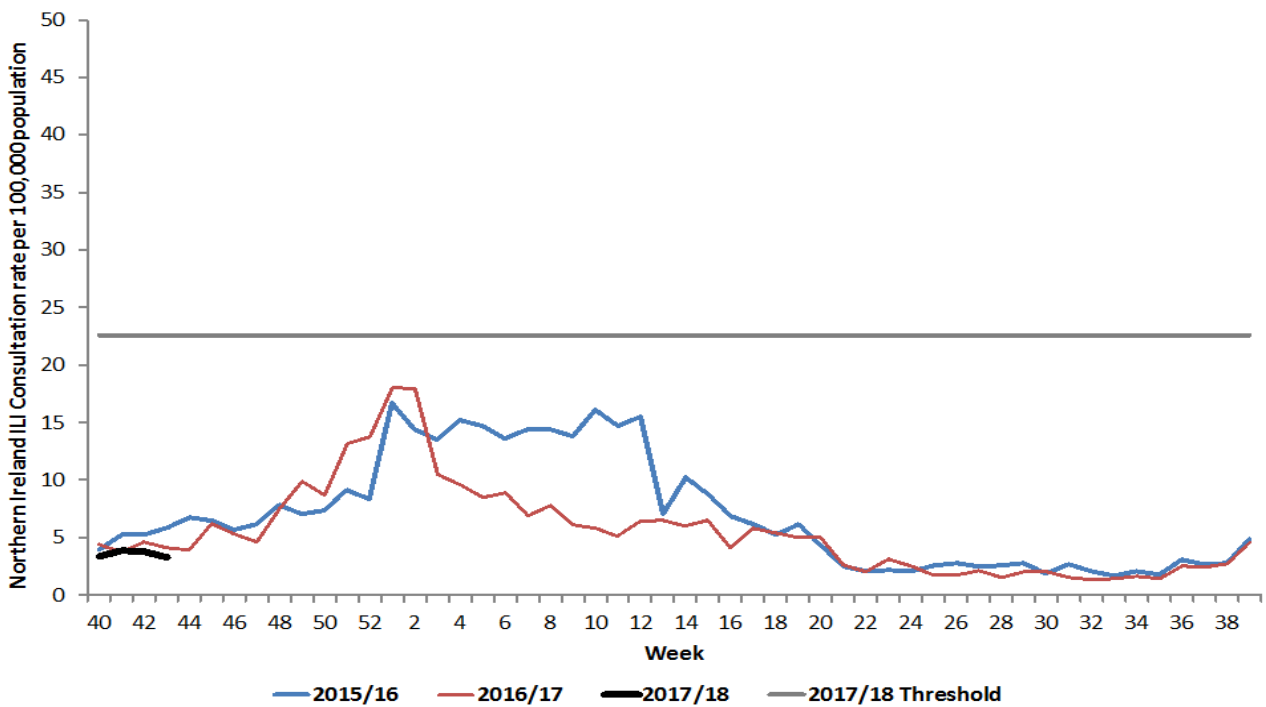


Figure 2. Northern Ireland GP consultation rates for flu/FLI and number of influenza positive detections 2012/13 – 2017/18

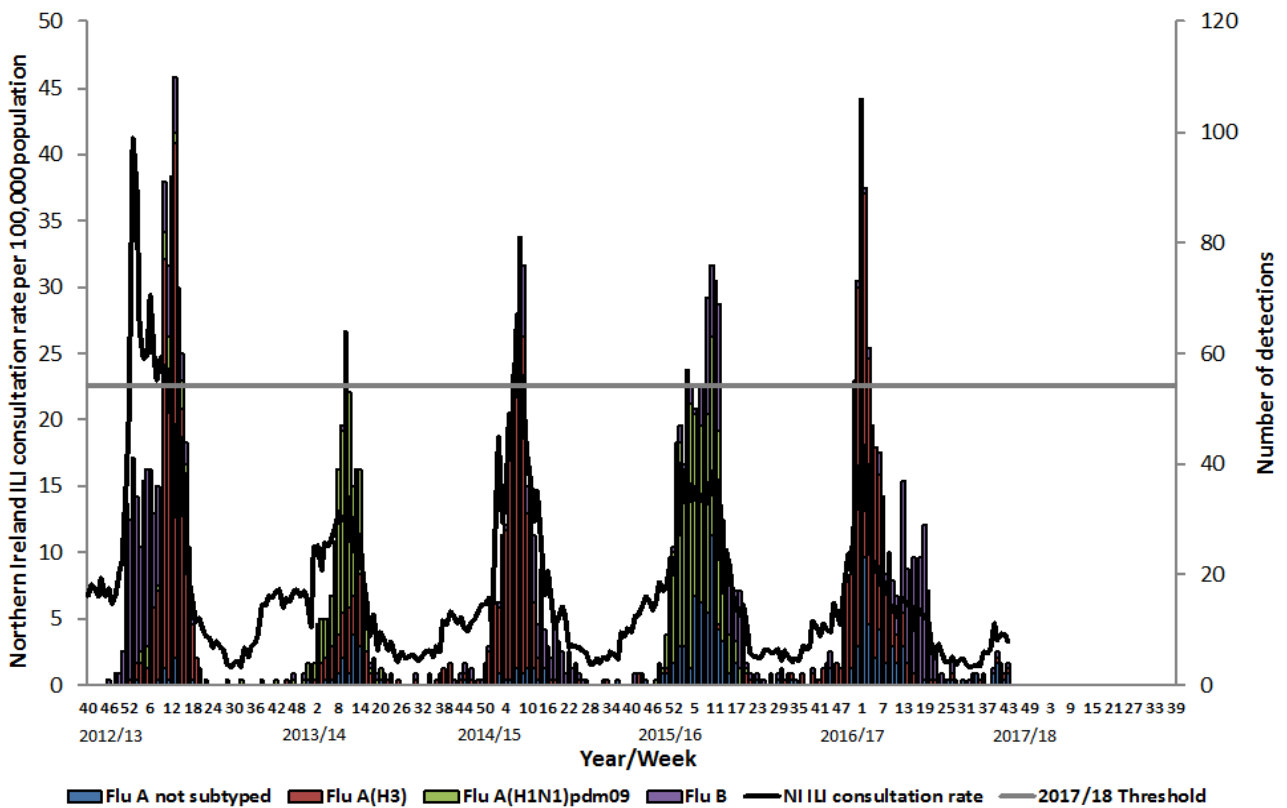
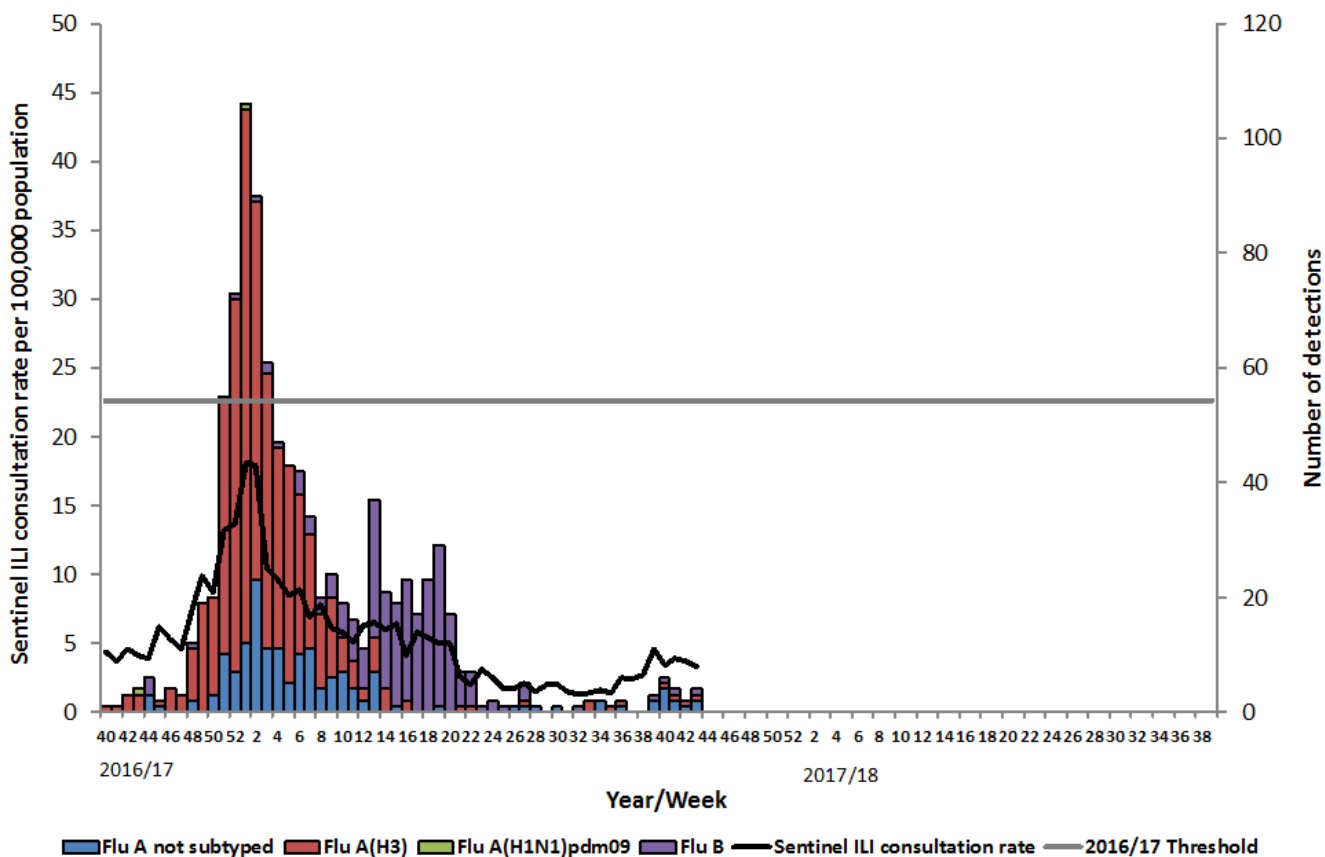


Figure 3. Northern Ireland GP consultation rates for flu/FLI and number of virology 'flu' detections from week 40, 2016



Comment

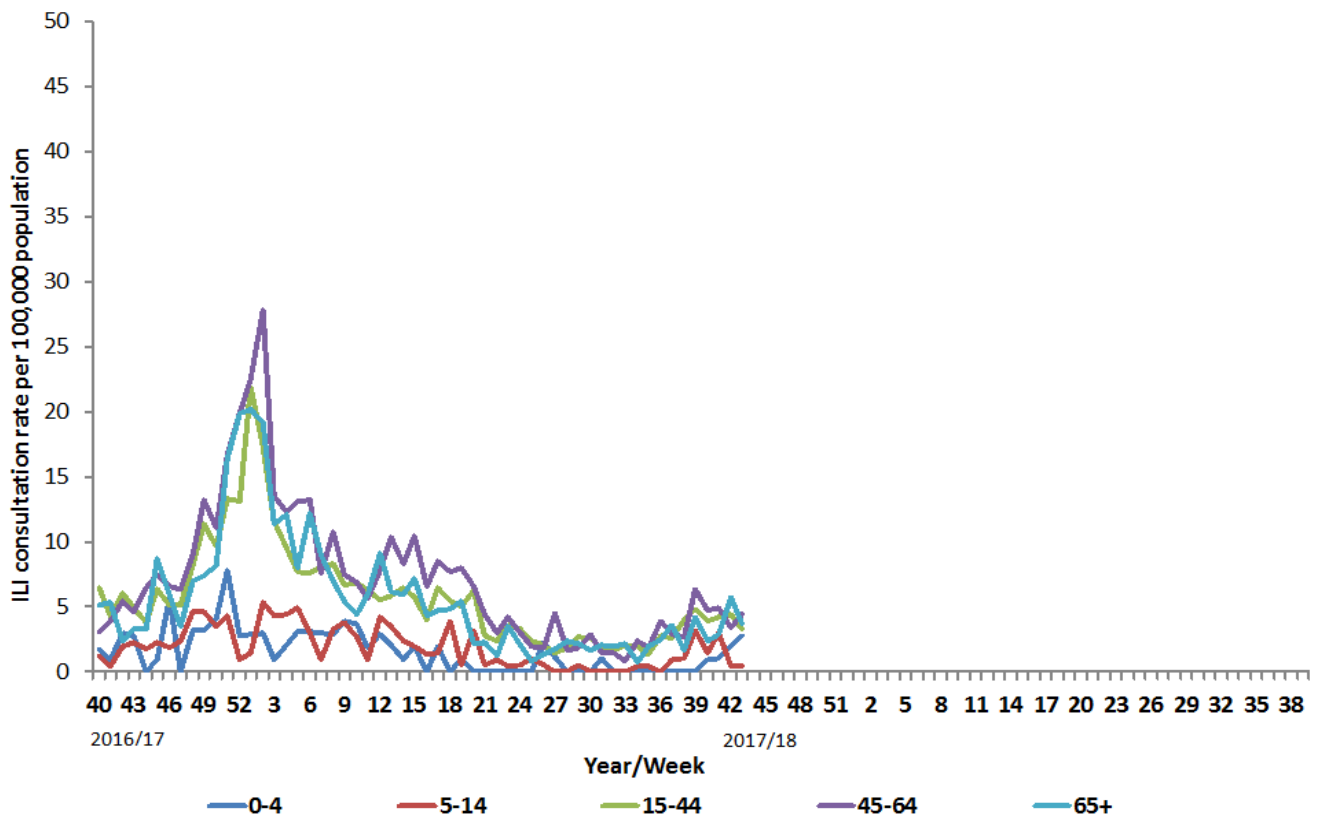
NI GP consultation rates have slightly decreased across both weeks 42 and 43, decreasing from 3.9 per 100,000 population in week 41, 2017 to 3.7 in week 42, and further to 3.3 per 100,000 population in week 43. The NI GP consultation rate in week 43 is lower than the same period in both 2016/17 (4.1 per 100,000 population) and 2015/16 (5.9 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 42 and 43, 2017 has decreased from weeks 40 and 41. At this point in the season there have been a total of nine detections of influenza A (typing awaited), four of influenza A(H3) and three 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

In weeks 42 and 43, 2017 the highest age-specific rates were noted among those aged 65 years and over, and 45-64 years respectively (5.7 per 100,000 population in week 42 and 4.5 per 100,000 population in week 43). The lowest rate in both weeks was represented by those aged 5-14 years (0.5 per 100,000 population in both weeks).

Age-specific consultation rates in week 43 are similar for the 0-4 and 65 years and over age groups as the same period last year (Figure 4).

Out-of-Hours (OOH) Centres Call Data

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

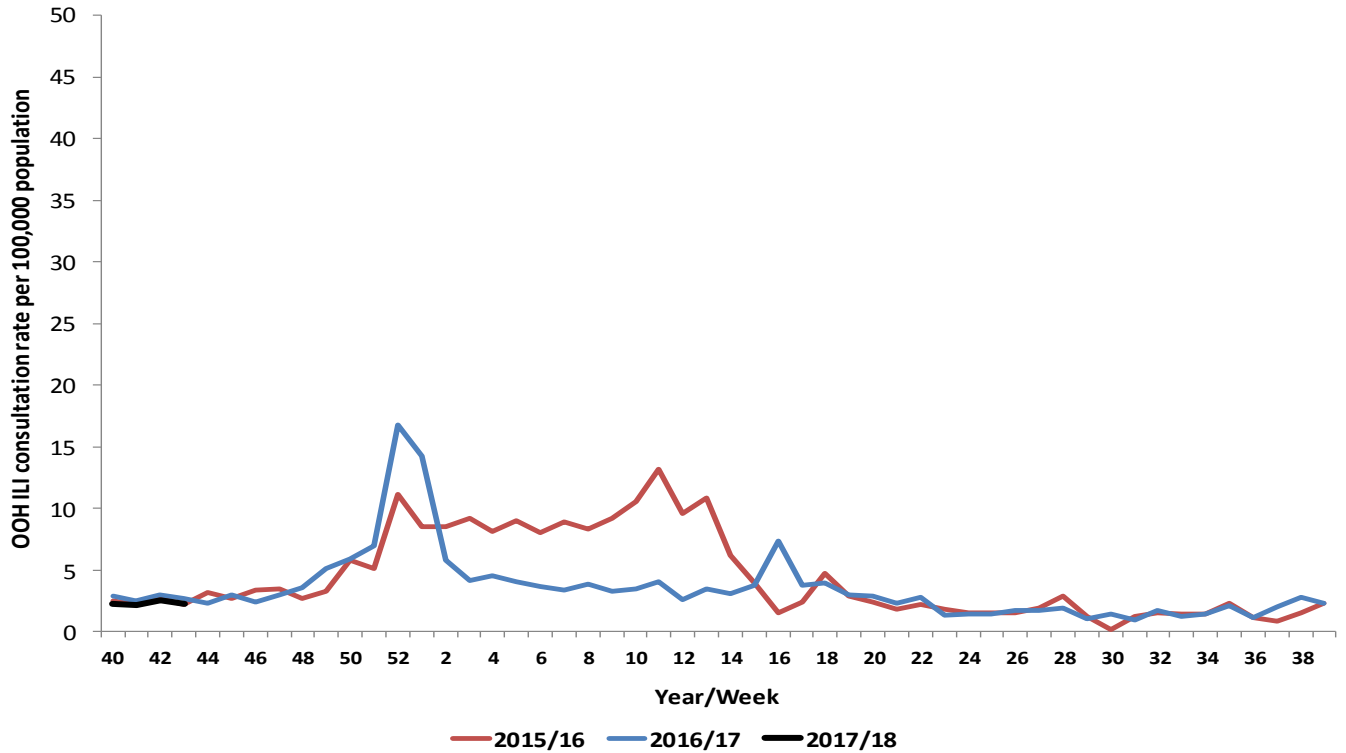
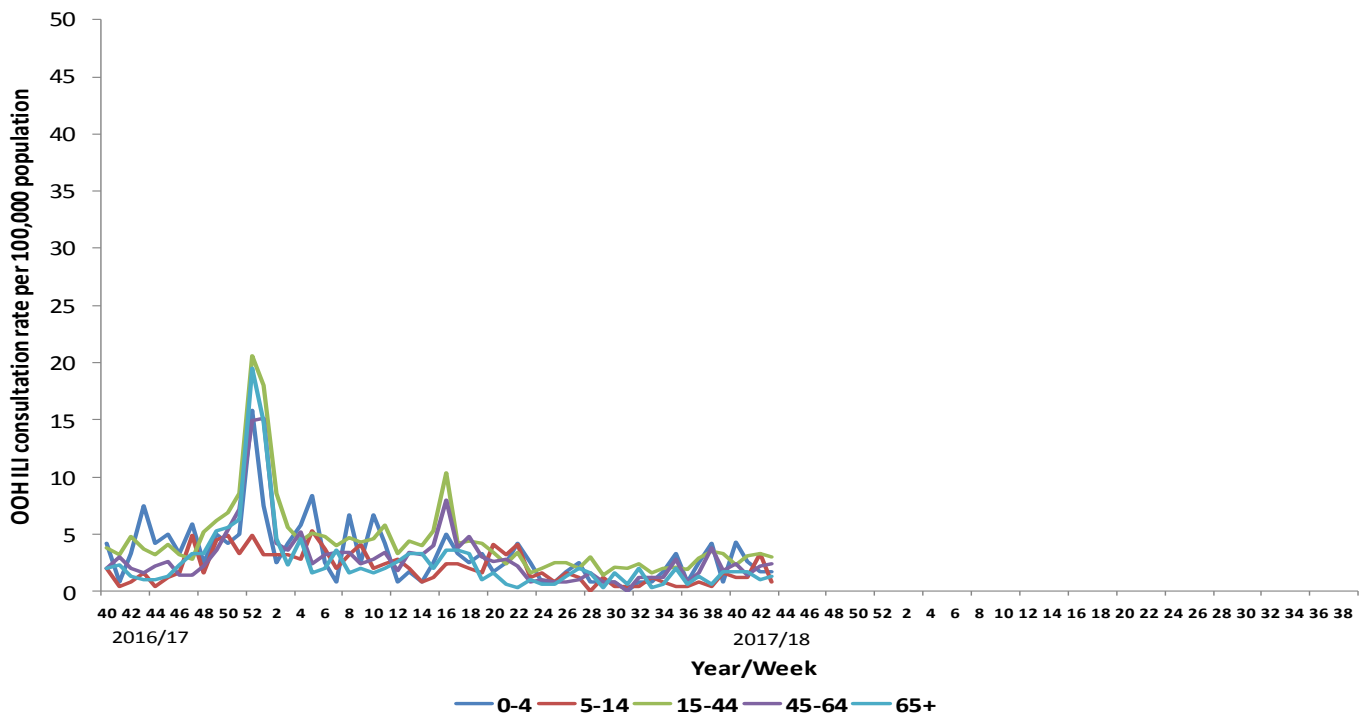


Figure 6. OOH call rates of flu/FLI by age-group from week 40, 2016



Comment

During weeks 42 and 43, 2017 the OOH GP consultation rate remained relative stable, increasing from 2.2 per 100,000 population in week 41 to 2.6 per 100,000 population in week 42, then decreasing to 2.2 per 100,000 population in week 43.

The OOH GP consultation rate in week 43 is slightly lower than the same period in 2016/17 (2.7 per 100,000 population) but similar to 2015/16 (2.2 per 100,000 population) (Figure 5).

The proportion of calls related to flu also remained relatively stable across the two-week period and represents approximately 2% of total calls to the OOH service in weeks 42 and 43, 2017.

During weeks 42 and 43, OOH flu/FLI rates remained relatively stable among the 0-4 years age group but are gradually increasing among those aged 45-64 years. Rates among all other age groups have fluctuated slightly across the two-week period. The highest age-specific OOH flu/FLI rate in week 43 was noted jointly among the 5-14 and 15-44 years age groups (3.3 per 100,000 population) while those aged 5-14 years represented the lowest rate (0.8 per 100,000 population) (Figure 6).

Age-specific rates in week 43 are lower in the 0-4 age group than during the same period in 2016/17 but similar for all other age groups.

Virology Data

Table 1. Virus activity in Northern Ireland by source, Week 42 - 43, 2017/18

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	13	1	0	2	0	1	3	23%
Non-sentinel	382	1	0	1	1	25	3	1%
Total	395	2	0	3	1	26	6	2%

Table 2. Cumulative virus activity from all sources by age group, Week 40 - 43, 2017/18

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	0	0	1	1	23
5-14	1	0	0	1	2	2
15-64	1	0	5	1	7	5
65+	2	0	4	0	6	6
Unknown	0	0	0	0	0	0
All ages	4	0	9	3	16	36

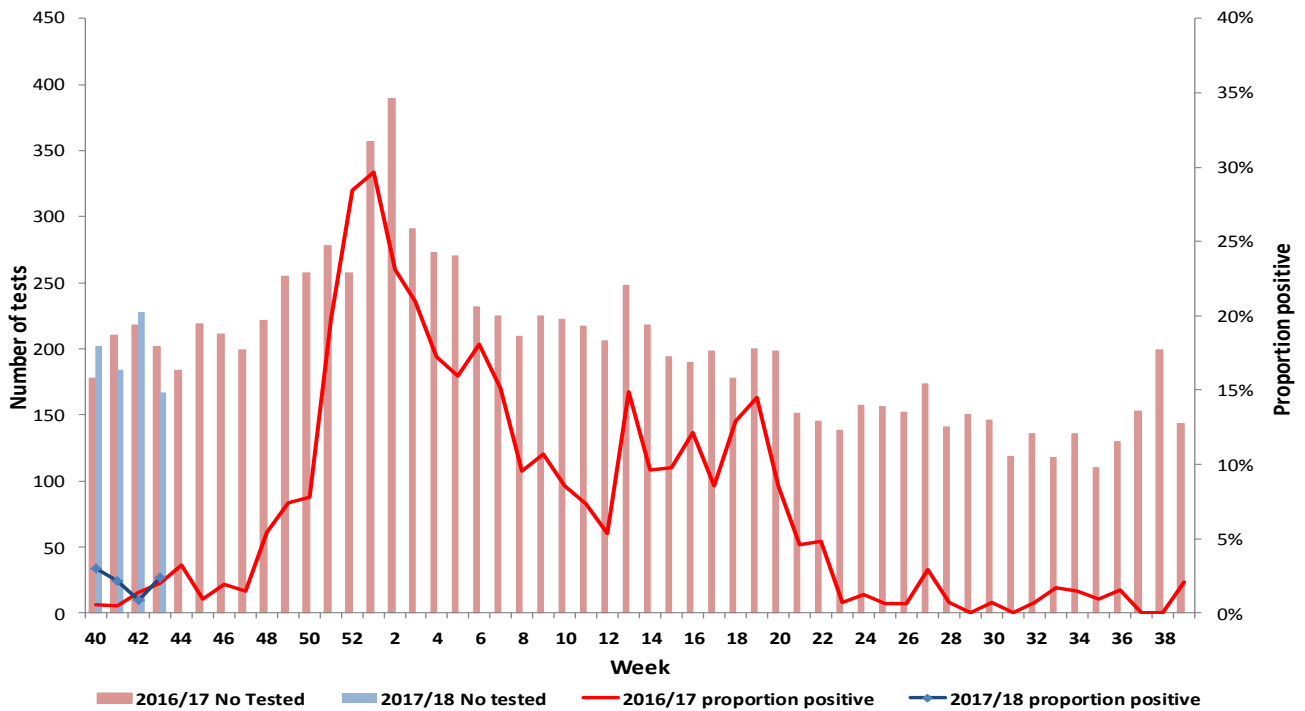
Table 3. Cumulative virus activity by age group and source, Week 40 - Week 43, 2017/18

	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	0	1	1	23
5-14	1	0	0	0	1	0	0	0	0	1	1	2
15-64	1	0	4	1	6	1	0	0	1	0	1	4
65+	0	0	1	0	1	0	2	0	3	0	5	6
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	2	0	5	1	8	1	2	0	4	2	8	35

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



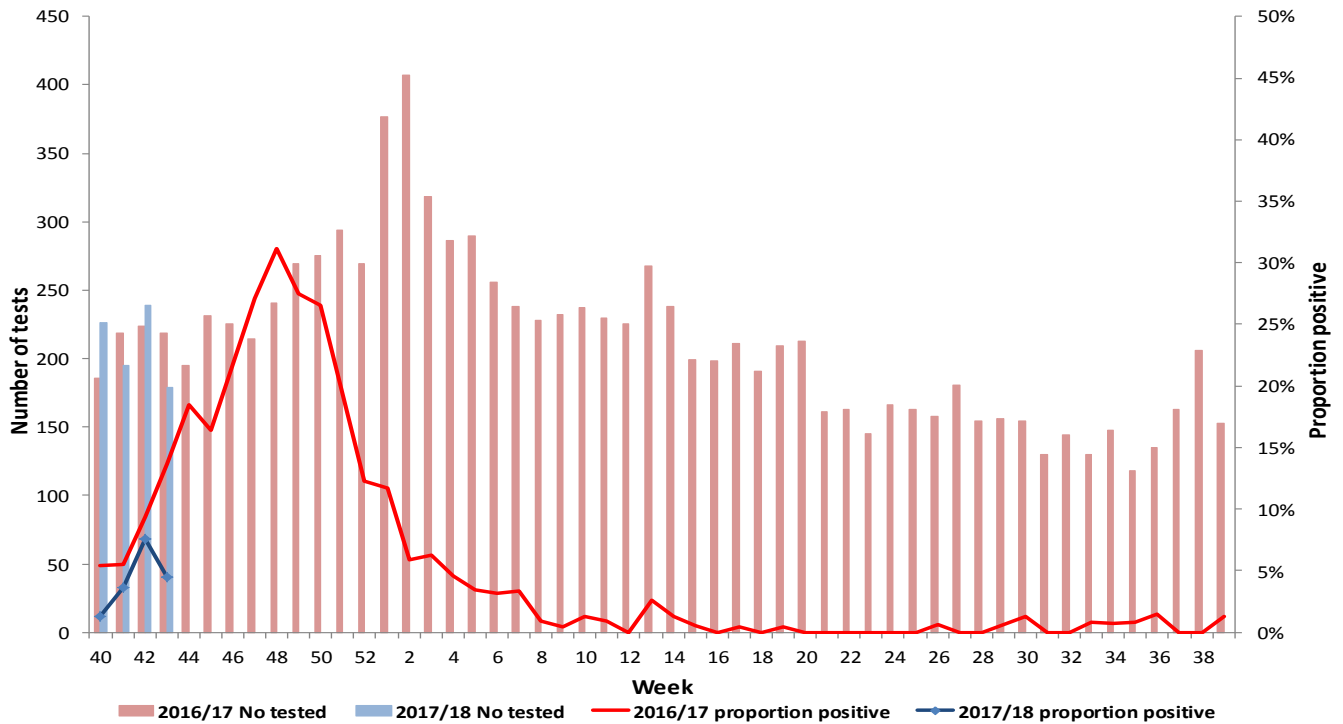
Comment

During weeks 42 and 43, 2017 there were 395 specimens submitted for virological testing. There were six detections of influenza in total (positivity rate of 2%), of which three were typed as influenza A (typing awaited), two as influenza A(H3) and one as influenza B. There were no detections of influenza A(H1N1)pdm09 (Figure 7).

There were three samples positive for influenza submitted through the GP based sentinel scheme across Northern Ireland, of which two were typed as influenza A (typing awaited) and one as influenza A(H3) (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

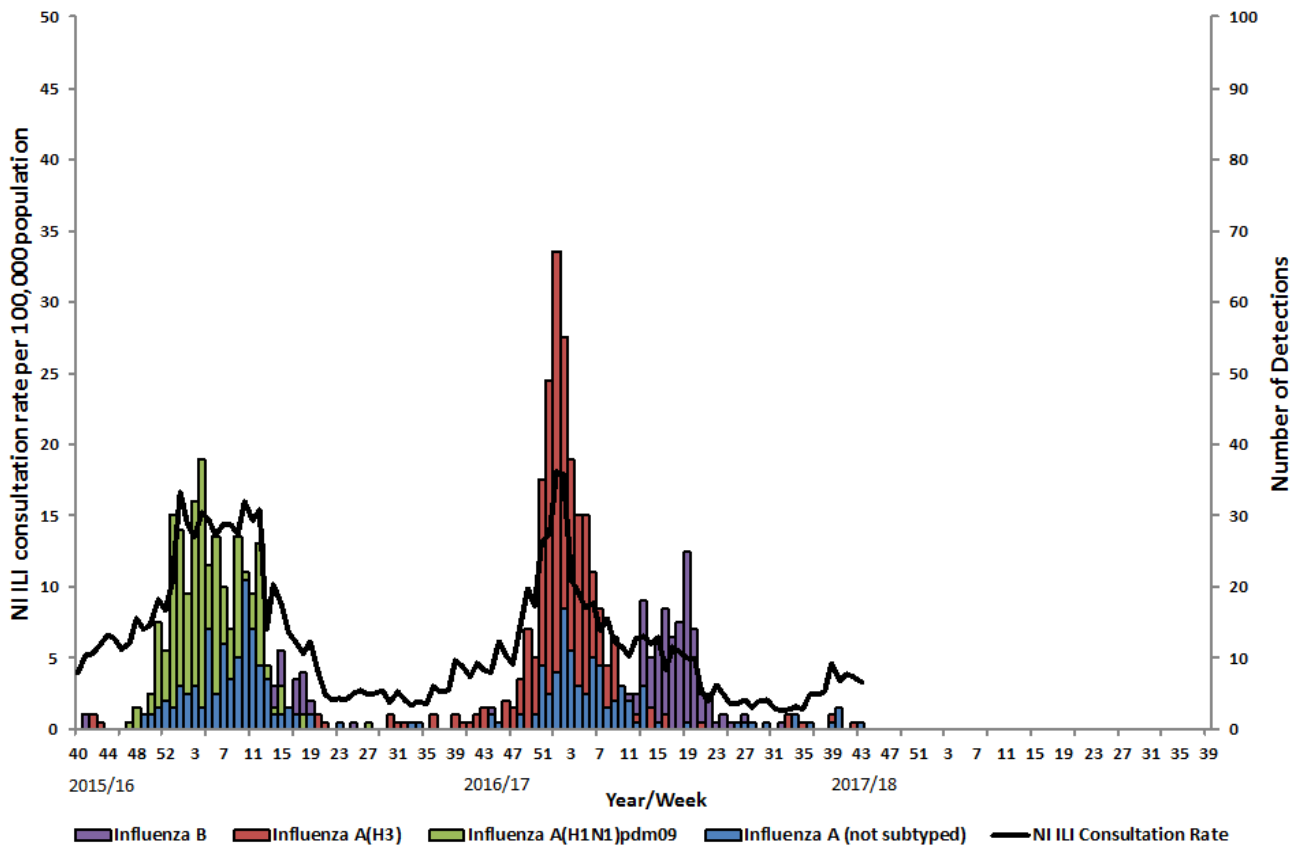


Comment

During weeks 42 and 43, 2017 there were 26 positive detections of RSV giving a positivity rate of 6%, lower than the same period in 2016/17 (11%). To date there have been a total of 36 detections of RSV of which the majority (64%) 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



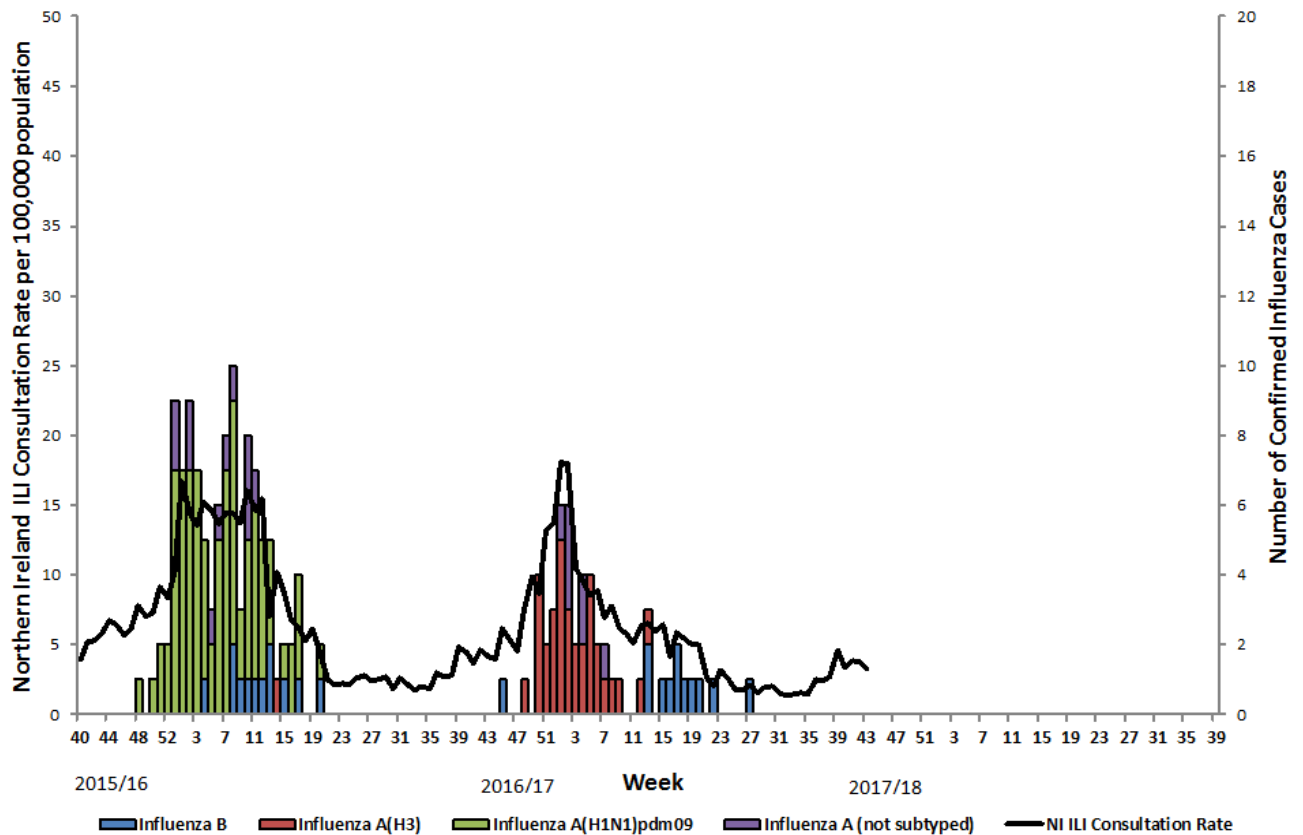
Comment

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 42 and 43, 2017 there were a total of three detections of influenza from specimens taken in hospital settings across Northern Ireland. There was one detection of influenza A (typing awaited), one of influenza A(H3) and one detection of influenza B. This brings a total of seven detections of influenza from specimens taken in hospital settings across Northern Ireland this season to date.

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 42 and 43, no confirmed cases of influenza in ICU were reported to the PHA. There were also no deaths reported in ICU patients with laboratory confirmed influenza.

There have been no confirmed cases of influenza in ICU reported this season to date.

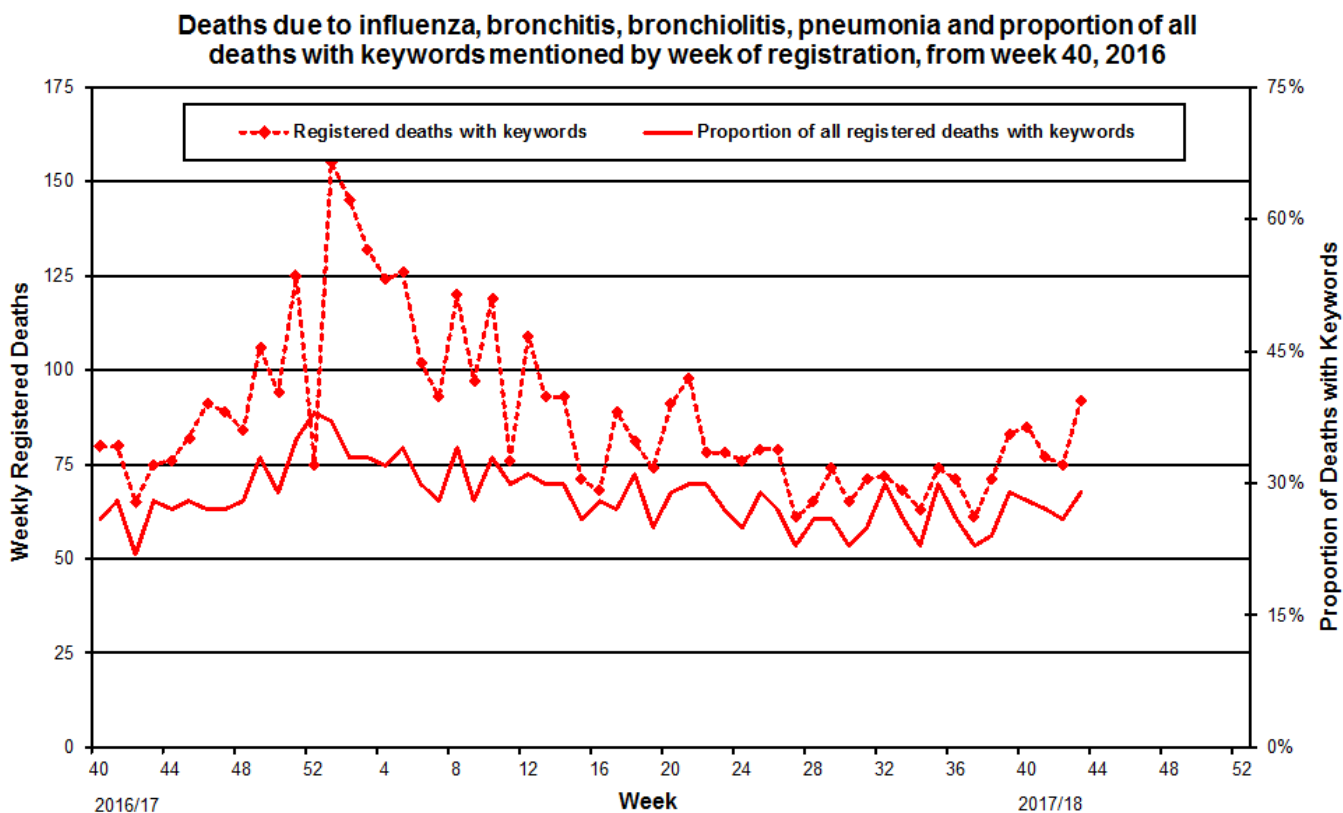
Outbreak Surveillance

During weeks 42 and 43, 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 week 42, 2017 the proportion of deaths related to respiratory keywords decreased to 26% from 27% in week 41, then increased to further to 29% in week 43. In week 43 there were 318 registered deaths, of which 92 related to specific respiratory infections (Figure 10).

The proportion of deaths attributed to specific respiratory infections is similar at this point in the season to the same period in 2016/17 (28%) but lower than in 2015/16 (31%).

EuroMOMO

No significant excess all-cause mortality was reported for week 40 in Northern Ireland.

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

International Summary

Europe

Week 42, 2017

- Of the 40 countries reporting on influenza activity, 39 reported low intensity, while Malta reported medium intensity.
- Only 14 sentinel specimens tested positive for influenza. Two thirds of detected viruses were type A and one third type B. Overall, 3% of sentinel specimens were positive for influenza virus.
- Data from the 19 countries or regions reporting to the EuroMOMO project indicated all-cause mortality to be at expected levels for this time of the year.

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

Season Overview:

- Since week 40/2017, low numbers of influenza viruses have been detected in sentinel specimens but, of all typed viruses, the proportion of type A viruses has been increasing and reached 64% in week 42/2017.
- Due to the diversity of A(H3N2) influenza viruses that circulated during the 2017 Southern Hemisphere season and reports of [low vaccine effectiveness](#) (17% against A(H3N2) overall), WHO recently recommended a change of the A(H3N2) component for inclusion in seasonal influenza vaccines for use in the [2018 Southern Hemisphere influenza season](#). In addition, the influenza B lineage in trivalent vaccines was changed to a B/Yamagata-lineage virus, compared to the vaccine component (a B/Victoria-lineage virus) recommended for [2017–2018 Northern Hemisphere influenza season](#). See also the [ECDC summary report for September](#) and the [ECDC commentary](#).
- A report on the antigenic and genetic characteristics of zoonotic influenza viruses and development of candidate vaccine viruses developed for potential use in human vaccines is available [here](#).

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

Worldwide (WHO)

As at 30th October 2017:

Declining levels of influenza activity were reported in the temperate zone of the southern hemisphere and in some countries of South and South East Asia. In Central America and the Caribbean, low influenza activity was reported in a few countries. Influenza activity remained at low levels in the temperate zone of the northern hemisphere. Worldwide, influenza A(H3N2) and B viruses accounted for the majority of influenza detections.

- In temperate South America, influenza and respiratory syncytial virus (RSV) activity continued a downward trend throughout most of the sub-region.
- In Southern Africa, influenza activity continued to decrease in South Africa, with influenza B viruses most frequently detected.
- In Oceania, seasonal influenza activity continued to decline, with influenza A(H3N2) predominant, followed by B viruses.
- In the tropical countries of South America, influenza and RSV activity remained at low levels overall.
- In the Caribbean and Central American countries, respiratory illness indicators and influenza activity remained low in general but RSV activity remained high in several countries.
- In Southern Asia, influenza activity remained low in general. Influenza A(H1N1)pdm09 and A(H3N2) virus detections continued to be reported in India.
- In South East Asia, influenza activity decreased in most of the countries, with the exception of Cambodia where an increasing trend of influenza activity continued to be reported, with influenza A(H3N2) viruses predominant.
- In Western Asia, influenza activity continued to increase in Oman, with influenza A(H1N1)pdm09 virus predominantly detected followed by a small proportion of A(H3N2) and B viruses.
- In East Asia, influenza activity remained low in general.
- In Western and Middle Africa, influenza detections continued to be reported, with all seasonal influenza subtypes present in the region. In Eastern Africa, little influenza activity was reported with exception of Réunion Island (French Overseas Department) where influenza detections and influenza like illness (ILI) activity remained elevated, with influenza A and B viruses co-circulating.
- In Northern Africa, little to no influenza virus detections was reported.
- In Central Asia, ILI and severe acute respiratory infection (SARI) indicators appeared to increase in Kazakhstan, Tajikistan and Uzbekistan, with few influenza detections.
- In Europe, influenza activity remained low, with detections of predominantly influenza A(H3N2) and B viruses in the past weeks.
- In North America, overall influenza virus activity remained low with detections of predominantly influenza A(H3N2) and B viruses in the past few weeks.
- National Influenza Centres (NICs) and other national influenza laboratories from 73 countries, areas or territories reported data to FluNet for the time period from 02 October 2017 to 15 October 2017 (data as of 2017-10-27 11:16:23 UTC). The WHO GISRS laboratories tested more than 84217 specimens during that time period. 4193 were positive for influenza viruses, of which 3269 (78%) were typed as influenza A and 924 (22%) as influenza B. Of the sub-typed influenza A viruses, 524 (20.6%) were influenza A(H1N1)pdm09 and 2022 (79.4%) were influenza A(H3N2). Of the characterized B viruses, 234 (71.8%) belonged to the B-Yamagata lineage and 92 (28.2%) to the B-Victoria lineage.
- The vaccine recommendation for the 2018 southern hemisphere influenza season was made and can be consulted at this [link](#).

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

Acknowledgments

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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>

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