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Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 40 - 41 (2nd October 2017 – 15th October 2017)

Summary

At this point in the 2017/18 influenza season, there is low influenza activity across Northern Ireland. Influenza has begun to circulate with the number of lab detections increasing from the inter-seasonal period. In-hours and OOH Flu/FLI consultations have remained low and 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 40-41 (week commencing 2nd October 2017).

Northern Ireland Primary Care Consultation Rates

- GP consultation rates for combined flu and flu-like illness (flu/FLI) were 3.4 per 100,000 population in week 40 and 3.9 per 100,000 population in week 41, 2017. Rates remain below the 2017/18 Northern Ireland pre-epidemic threshold[1]
- OOH GP consultation rates for flu/FLI remained stable at 2.2 per 100,000 population in both weeks 40 and 41 from 2.3 per 100,000 population in week 39, 2017

Microbiological Surveillance (Flu and RSV)

- The proportion of positive influenza detections from both sentinel and non-sentinel sources was 3% in weeks 40-41
- RSV activity has increased in weeks 40 and 41 but levels are lower than the same period last season

Secondary Care (Hospital both non-ICU and ICU)

- Four detections of influenza from hospital wards were reported to PHA in weeks 40 and 41, 2017
- No new cases were reported in ICU with laboratory confirmed influenza in weeks 40 - 41, there have been no cases this season so far
- No deaths were reported in weeks 40 - 41 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 40-41, 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

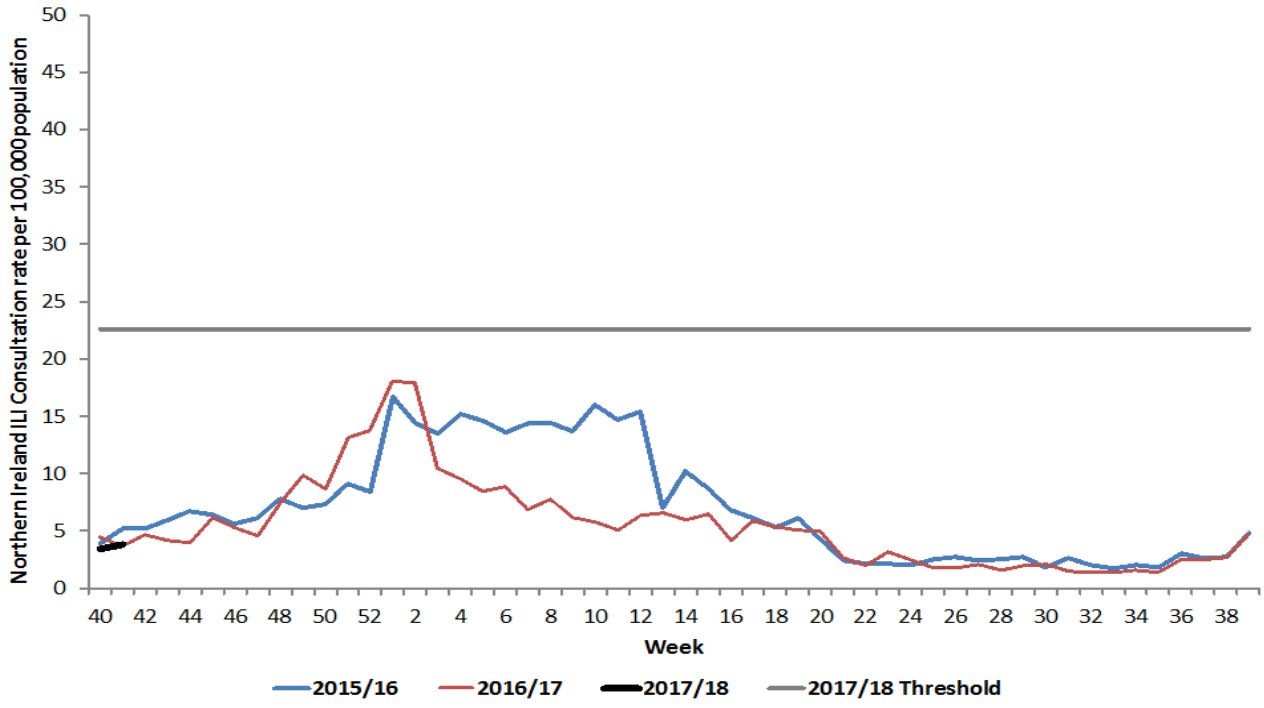


Figure 2. Northern Ireland GP consultation rates for flu/FLI and number of influenza positive detections 2012/13 – 2017/18

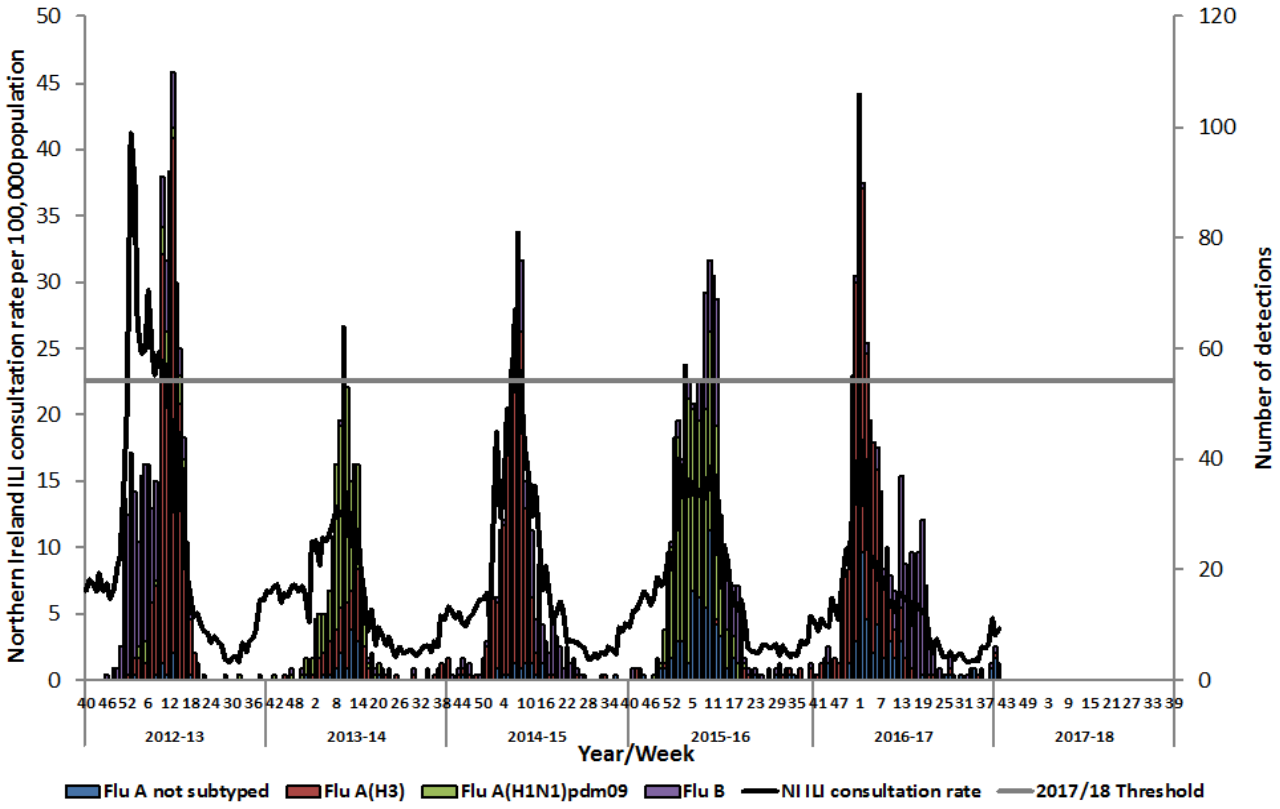
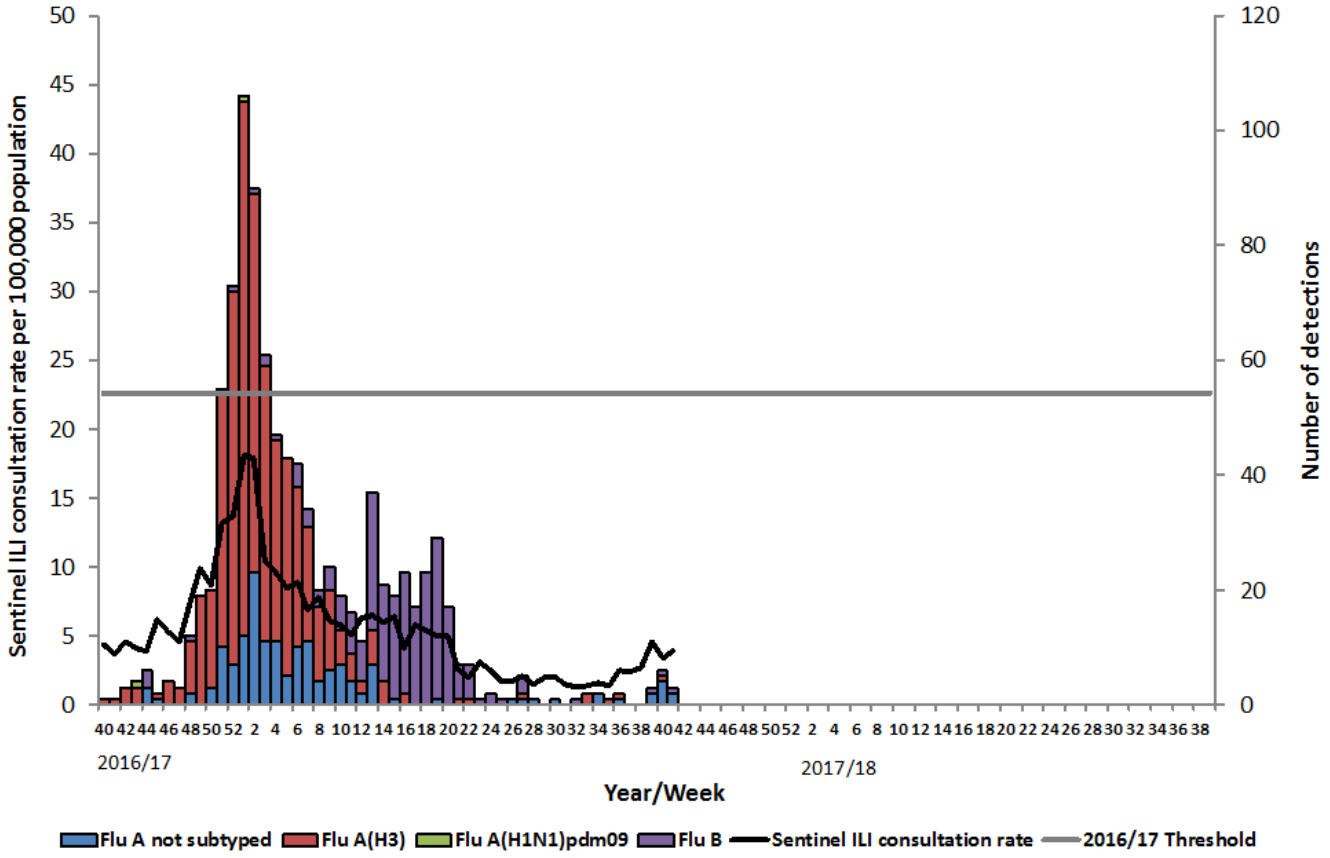


Figure 3. Northern Ireland GP consultation rates for flu/FLI and number of virology 'flu' detections from week 40, 2016



Comment

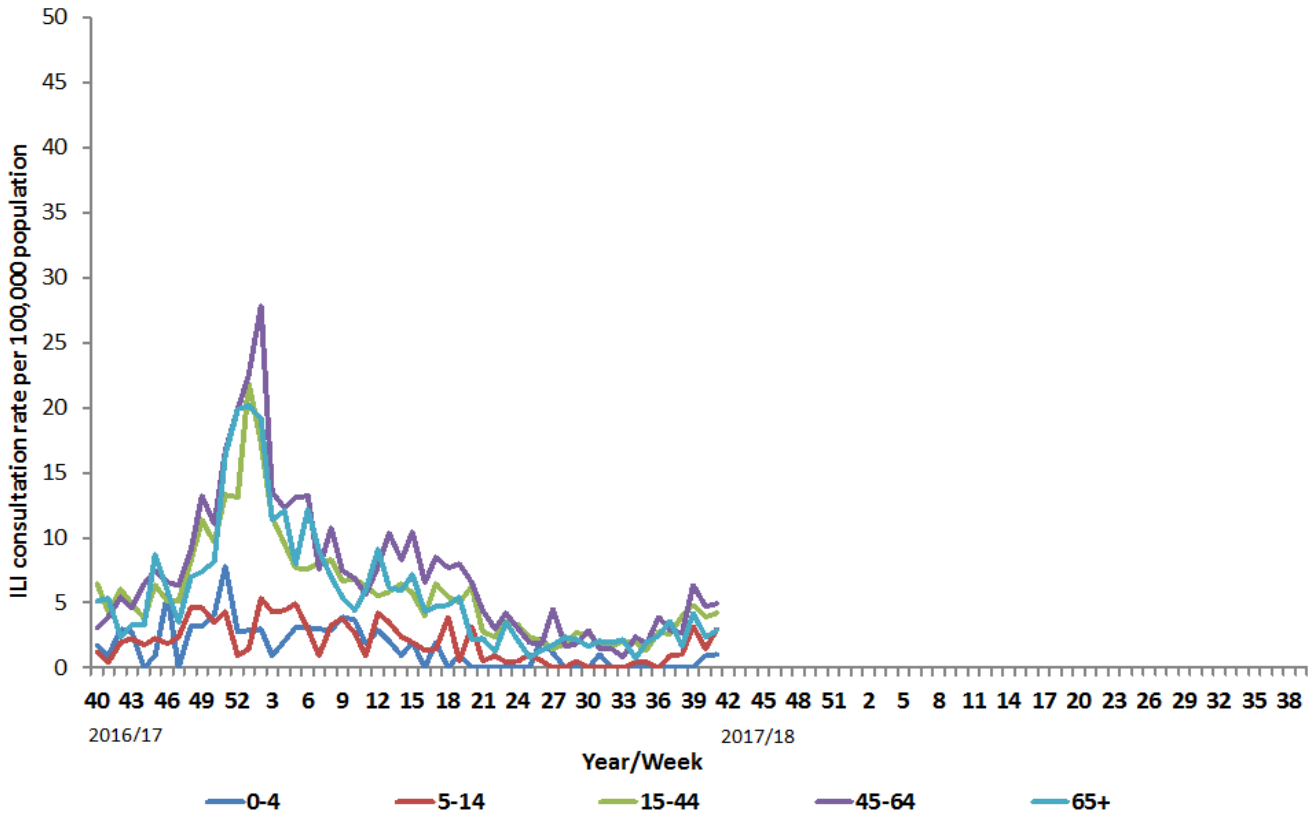
There is only a slight fluctuation in the NI GP consultation rate, decreasing from 4.6 per 100,000 population in week 39, 2017 to 3.4 in week 40, then increasing to 3.9 per 100,000 population in week 41. The NI GP consultation rate in week 41 is similar to the same period in 2016/17 (3.7 per 100,000 population) but lower than in 2015/16 (5.2 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 40 and 41, 2017 has increased from weeks 38 and 39, with influenza A the predominant strain at this point in the season (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 40 and 41, 2017 the highest age-specific rates were noted among those aged 45-64 years (4.7 per 100,000 population in week 40 and 4.9 per 100,000 population in week 41). The lowest rate in both weeks was represented by those aged 0-4 years (1.0 consultations in both weeks).

Age-specific consultation rates in week 41 are similar to almost all age groups during the same time period in 2016/17 but lower than in 2015-16, with the exception of those aged 5-14 years. Rates among this age group are higher than in 2016/17 but lower than in 2015/16 (Figure 4).

Out-of-Hours (OOH) Centres Call Data

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

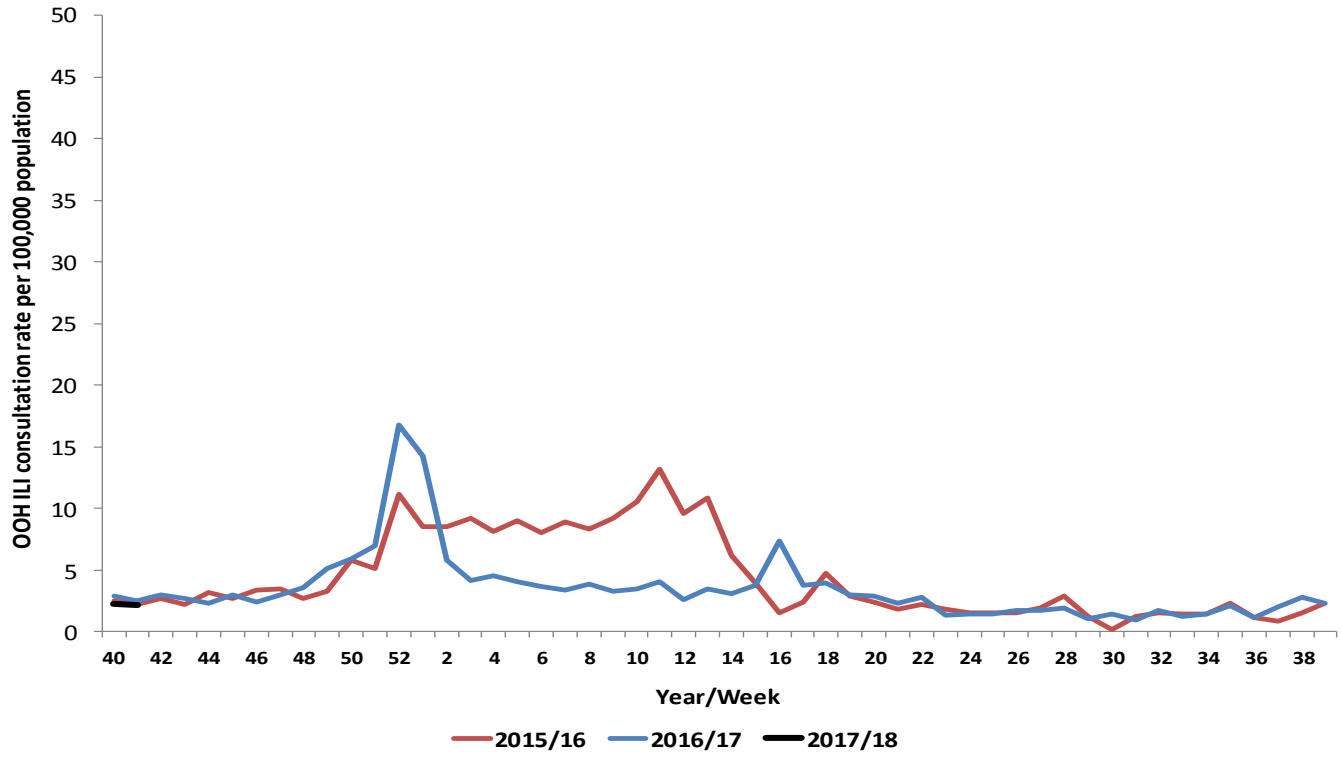
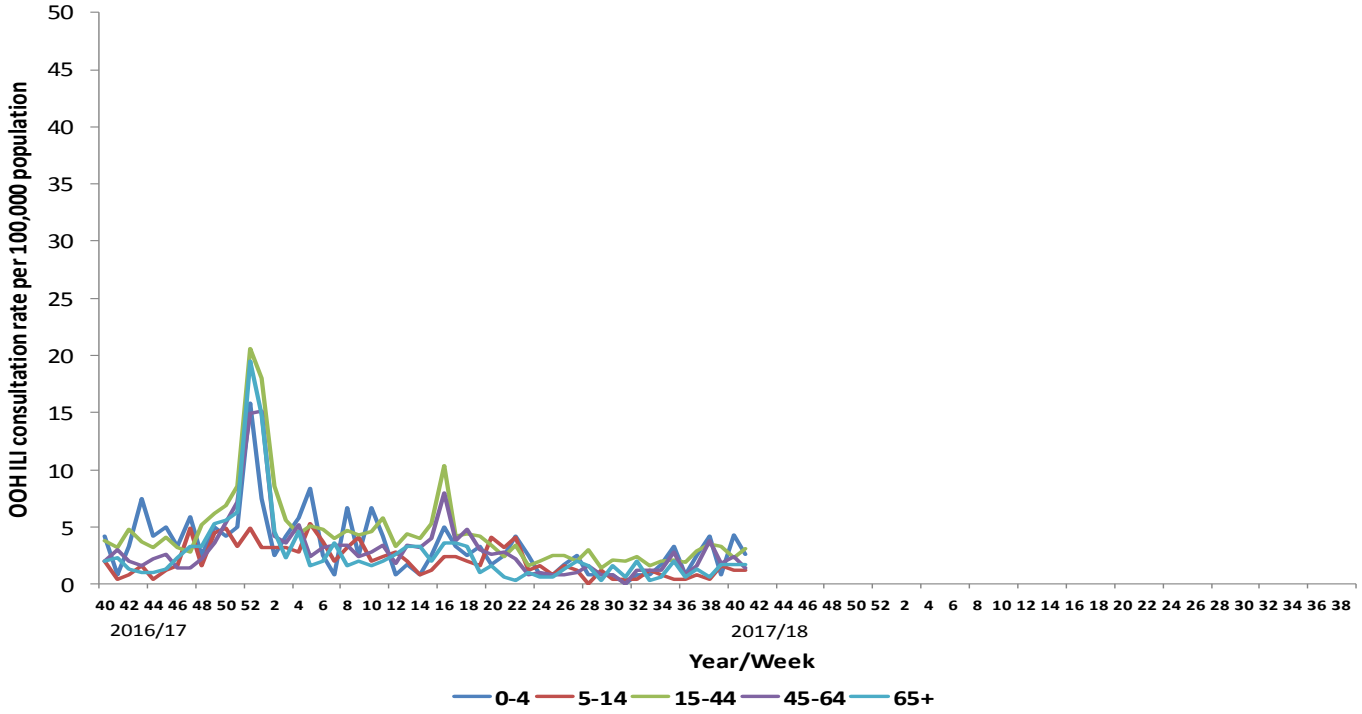


Figure 6. OOH call rates of flu/FLI by age-group from week 40, 2016



Comment

During weeks 40 and 41, 2017 the OOH GP consultation rate remained stable at 2.2 per 100,000 population in both weeks, from 2.3 per 100,000 population in week 39. The OOH GP consultation

rate in week 41 is similar to the same period in both 2016/17 (2.5 per 100,000 population) and 2015/16 (2.2 per 100,000 population) (Figure 5).

The proportion of calls related to flu also remained stable across the two-week period and represents approximately 2% of total calls to the OOH service in weeks 40 and 41, 2017.

During weeks 40 and 41, OOH flu/FLI rates remained stable among the 65 years and over age group but fluctuated among all other age groups. The highest age-specific OOH flu/FLI rate in week 41 was noted among the 15-44 years age group (3.1 per 100,000 population) while those aged 5-14 years represented the lowest rate (1.2 per 100,000 population) (Figure 6).

Age-specific rates in week 41 are higher among the youngest age groups- but similar to or lower than the older age groups- than during the same period in 2016/17. Compared with the same time period in 2015-16, age-specific rates are higher among the youngest and oldest age groups but lower than all other age groups during this time period.

Virology Data

Table 1. Virus activity in Northern Ireland by source, Week 40 - 41, 2017/18								
Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	10	1	0	3	1	0	5	50%
Non-sentinel	329	0	0	3	1	9	4	1%
Total	339	1	0	6	2	9	9	3%

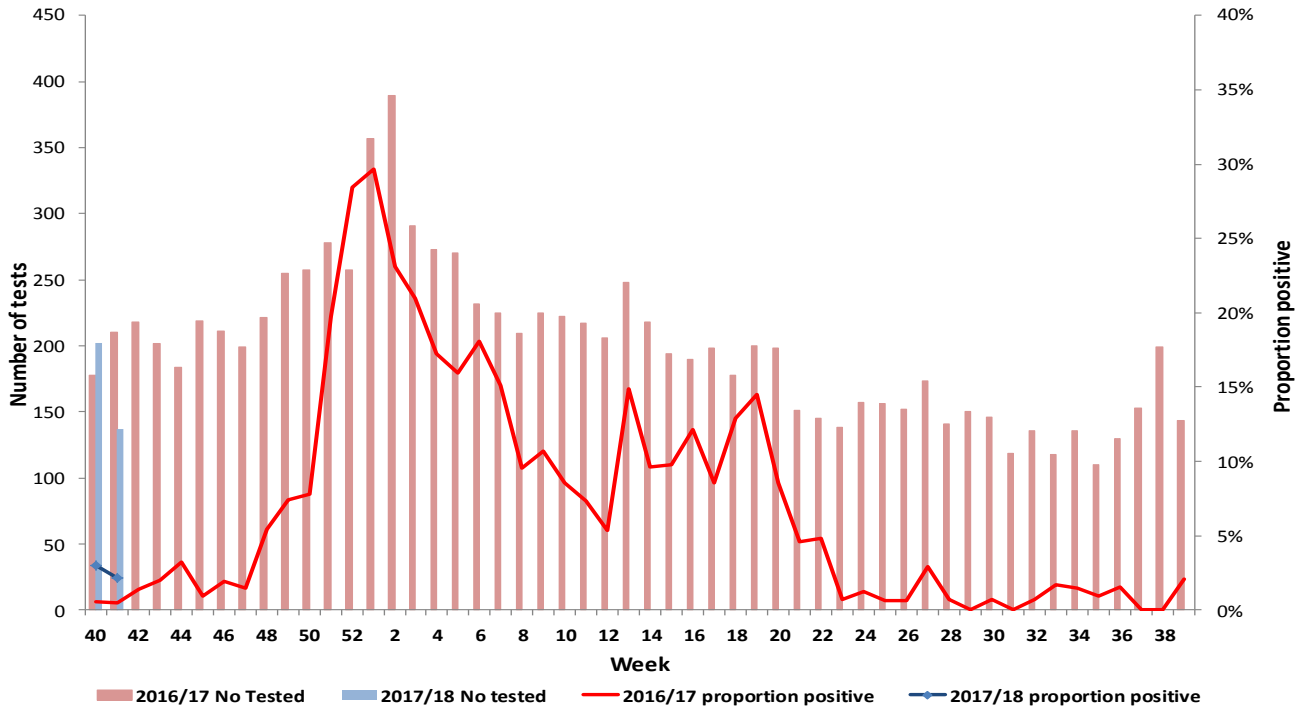
Table 2. Cumulative virus activity from all sources by age group, Week 40 - 41, 2017/18						
	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	0	0	1	1	6
5-14	1	0	0	0	1	0
15-64	0	0	4	1	5	1
65+	0	0	2	0	2	2
Unknown	0	0	0	0	0	0
All ages	1	0	6	2	9	9

Table 3. Cumulative virus activity by age group and source, Week 40 - Week 41, 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	6
5-14	1	0	0	0	1	0	0	0	0	0	0	0
15-64	0	0	3	1	4	0	0	0	1	0	1	1
65+	0	0	0	0	0	0	0	0	2	0	2	2
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	1	0	3	1	5	0	0	0	3	1	4	9

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



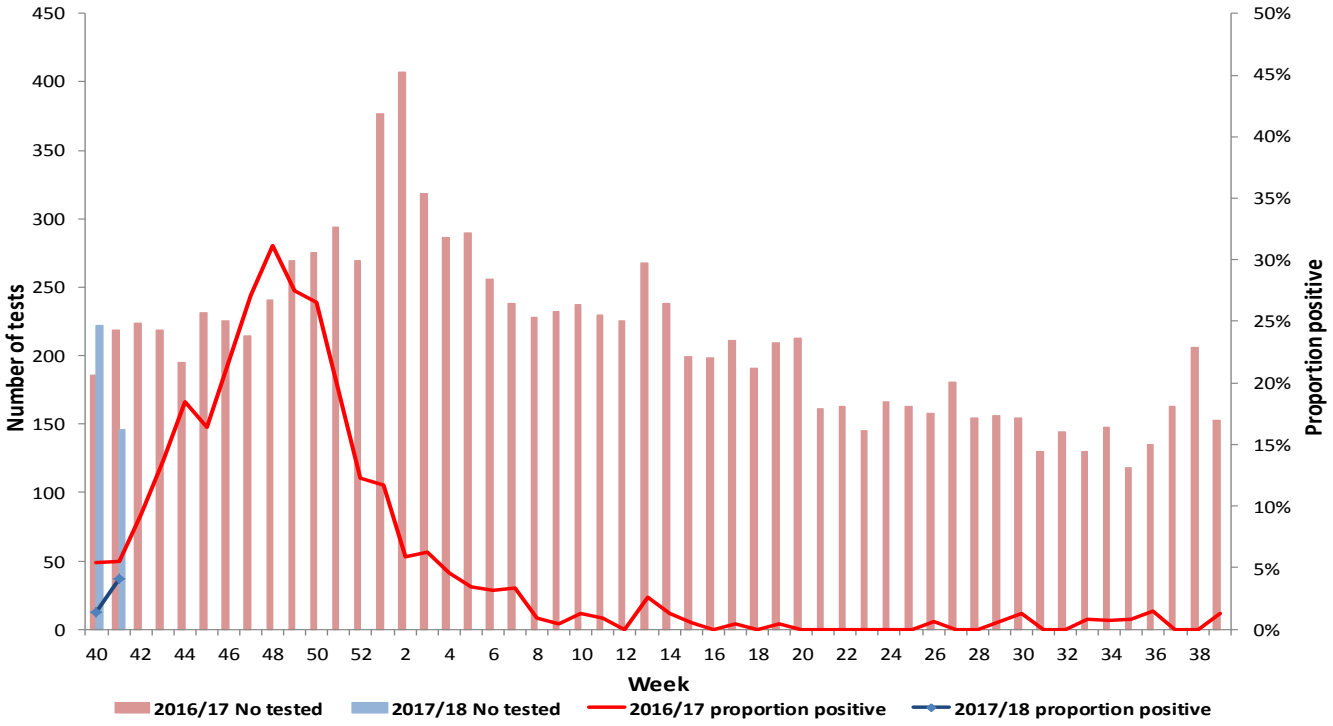
Comment

During weeks 40 and 41, 2017 there were 339 specimens submitted for virological testing. There were nine detections of influenza in total (positivity rate of 3%), of which six were typed as influenza A (typing awaited), one as influenza A(H3) and two as influenza B. There were no detections of influenza A(H1N1)pdm09 (Figure 7).

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

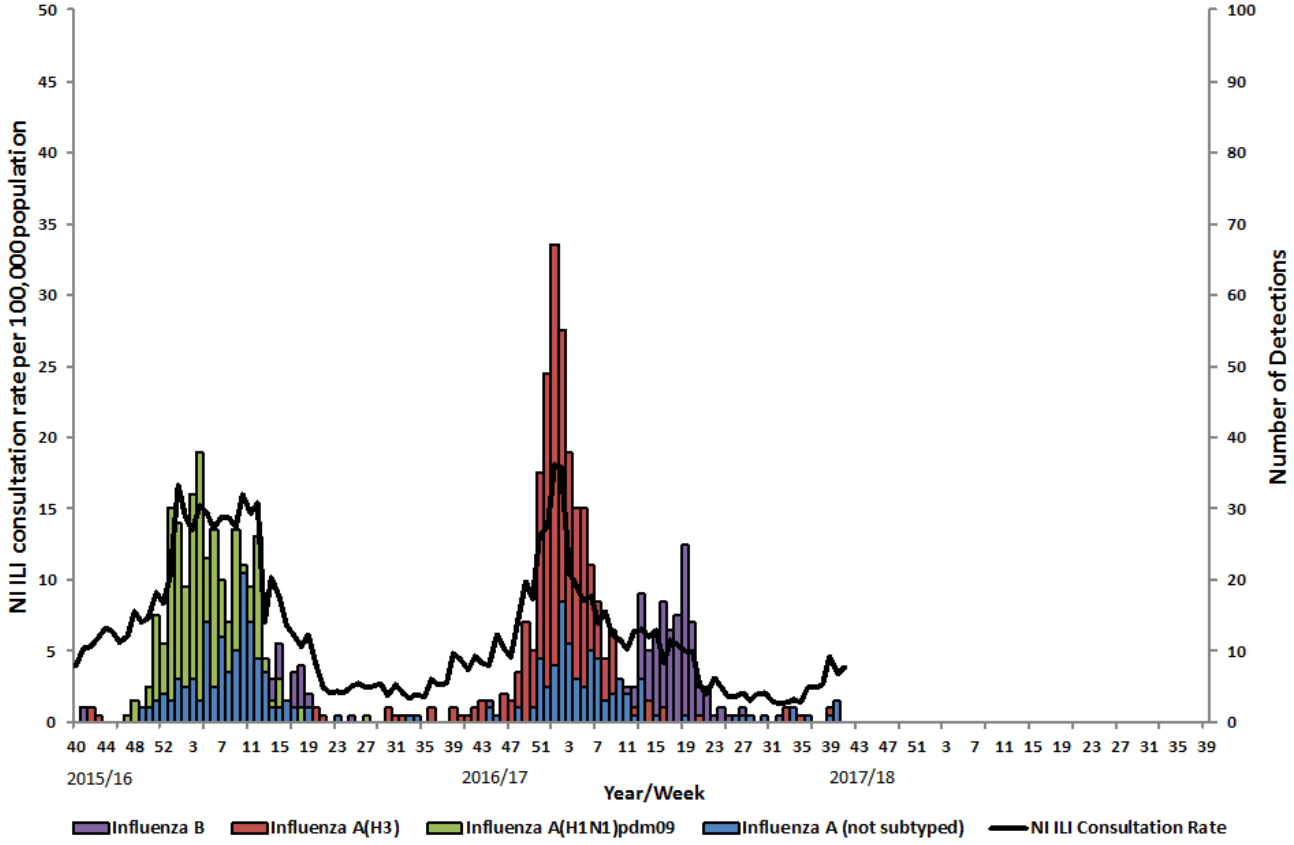


Comment

During weeks 40 and 41, 2017 there were nine positive detections of RSV giving a positivity rate of 2%, lower than the same period in 2016/17 (5%). To date there have been a total of nine detections of RSV of which the majority (66%) 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



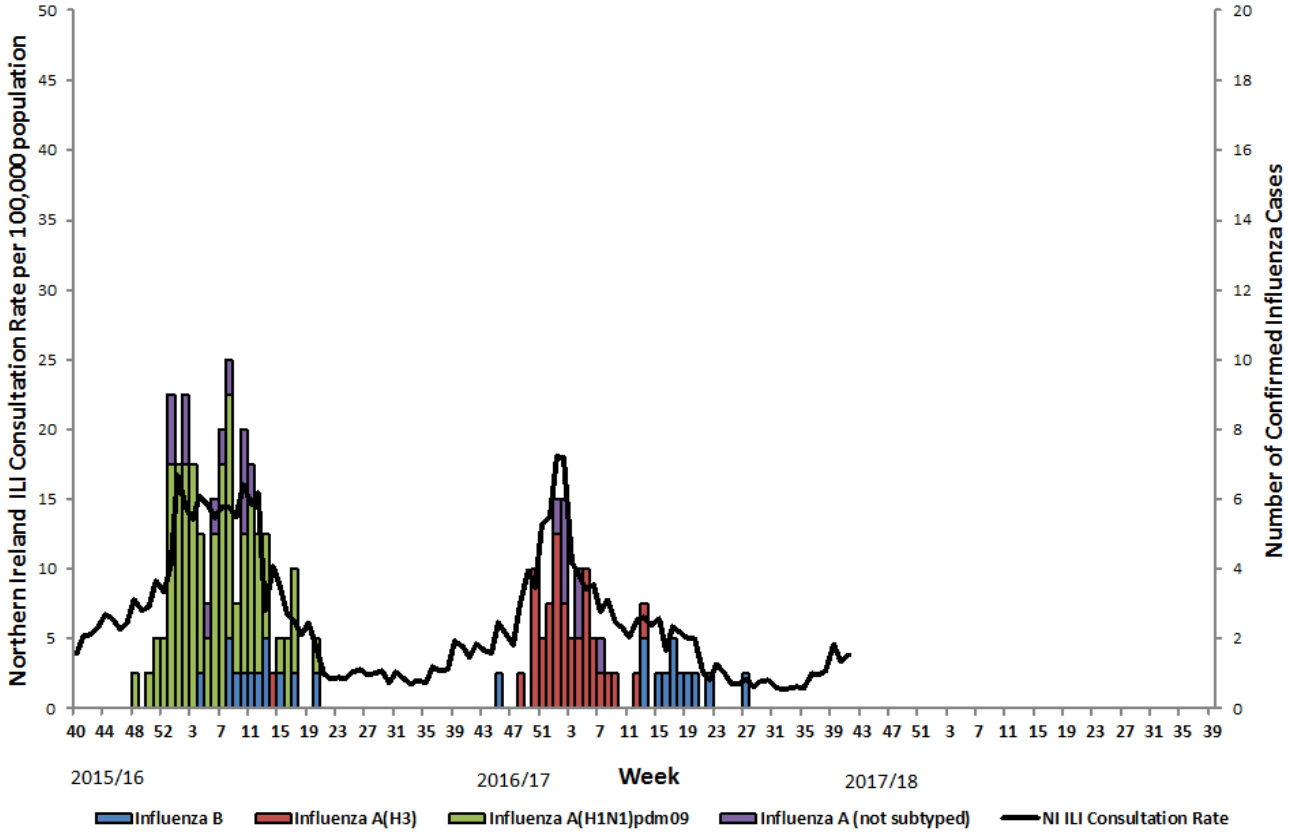
Comment

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 40 and 41, 2017 there were a total of four detections of influenza from specimens taken in hospital settings across Northern Ireland. There were three detections of influenza A (typing awaited) and one detection of influenza B. There have been no detections of influenza A(H1N1)pdm09 or influenza A(H3).

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 40 and 41, 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.

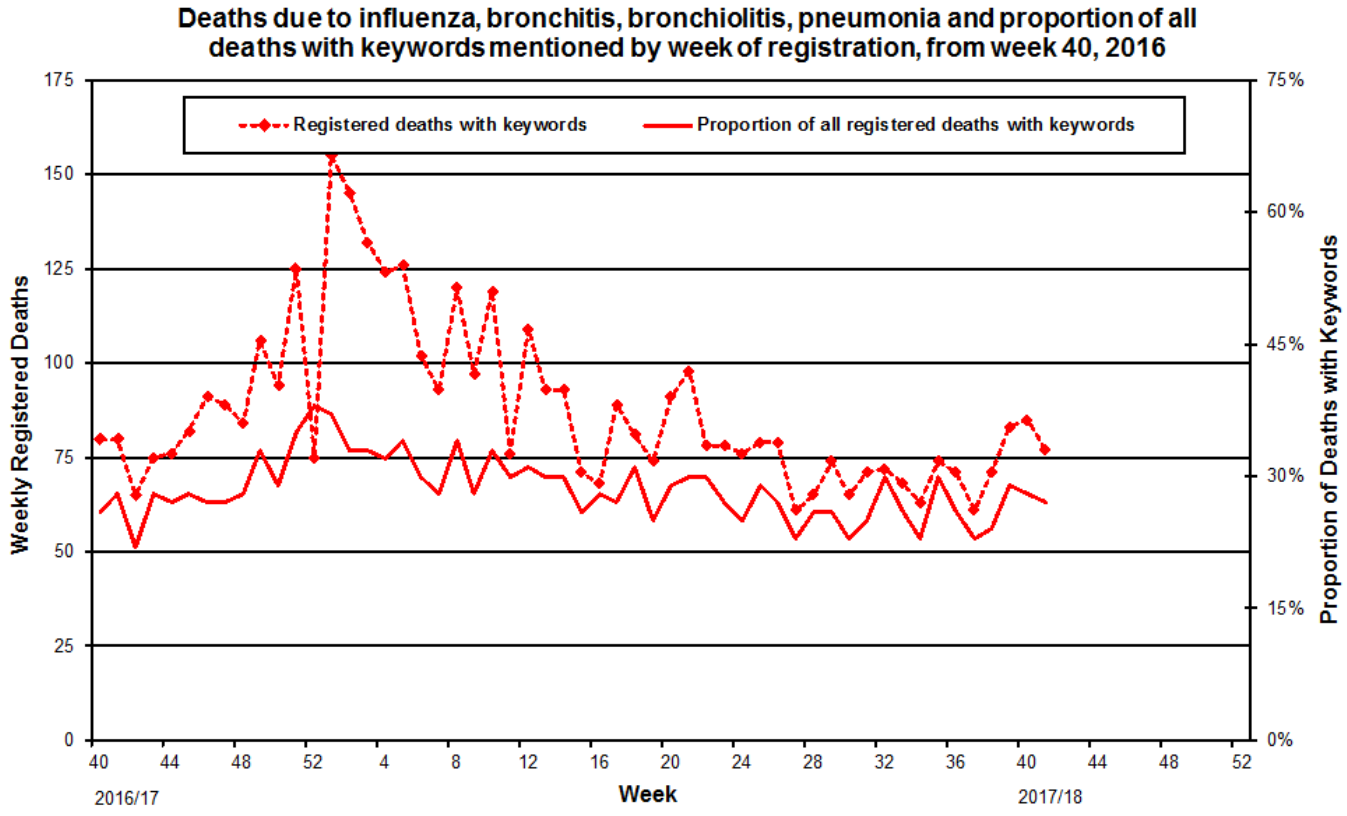
Outbreak Surveillance

During weeks 40 and 41, 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 40, 2017 the proportion of deaths related to respiratory keywords decreased to 28% from 29% in week 39, decreasing further to 27% in week 41. In week 41 there were 284 registered deaths, of which 77 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 40, 2017

- This is the first weekly report for the 2017-2018 influenza season.
- Low influenza activity was reported by all 36 reporting countries.
- 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.
- For week 40/2017, data from the 20 countries or regions reporting to the EuroMOMO project indicated all-cause mortality 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:

- As is usual for this time of year, influenza activity is low in the European Region.
- Due to the diversity of A(H3N2) influenza viruses that circulated during the 2017 Southern Hemisphere season, 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 seasons. See also the ECDC summary report for July and the ECDC commentary.
- A report on the antigenic and genetic characteristics of zoonotic influenza viruses and development of candidate vaccine viruses for pandemic preparedness is available here.

http://www.flunewseurope.org/

Worldwide (WHO) and CDC

As at 16th October 2017:

Influenza activity remained at low levels in the temperate zone of the northern hemisphere. 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. Worldwide, influenza A(H3N2) and B viruses accounted for the majority of influenza detections.

- In 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 started to decline, with influenza A(H3N2) predominant, followed by B viruses.
- In tropical 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, decreasing levels of influenza activity were reported in India and Bhutan, with A(H1N1)pdm09 most frequently detected.
- In South East Asia, influenza activity appeared to decrease in general, with some exceptions. Influenza activity increased in Cambodia and remained high in Lao PDR, with influenza A(H3N2) viruses predominantly detected.
- In Western Asia, influenza activity continued to increase in Oman, with influenza A(H1N1)pdm09 and A(H3N2) viruses co-circulating. Increased influenza A detections were reported in Bahrain in recent weeks.
- In East Asia, influenza activity remained low in general.
- In Western Africa, influenza detections continued to be reported, with all seasonal influenza subtypes present in the region. In Middle Africa, elevated ILI activity was reported in Cameroon. In Eastern Africa, influenza detections and ILI activity increased sharply in Réunion Island (French Overseas Department), with influenza B viruses predominant.
- In Northern Africa, little to no influenza virus detections was reported.
- In Central Asia, there were no updated reports on virus detections or respiratory illness indicators.
- In Europe, little to no influenza activity was reported.
- 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 85 countries, areas or territories reported data to FluNet for the time period from 18 September 2017 to 01 October 2017 (data as of 2017-10-13 03:40:32 UTC).The WHO GISRS laboratories tested more than 56528 specimens during that time period. 3496 were positive for influenza viruses, of which 2566 (73.4%) were typed as influenza A and 930 (26.6%) as influenza B. Of the sub-typed influenza A viruses, 260 (15.1%) were influenza A(H1N1)pdm09 and 1460 (84.9%) were influenza A(H3N2). Of the characterized B viruses, 192 (81%) belonged to the B-Yamagata lineage and 45 (19%) 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/entity/influenza/vaccines/virus/recommendations/consultation201709/en/index.html

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:

Cathriona Kearns
Epidemiological Scientist
Public Health Agency
028 9536 3405

Paul Cabrey
Epidemiological Scientist
Public Health Agency
028 9536 3508

Email: flusurveillance@hscni.net

This report was compiled by Chris Nugent, Cathriona Kearns and Dr Muhammad Sartaj.