

Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 40-41 (1st October – 14th October 2018)

Summary

The surveillance data indicates that influenza activity is low across Northern Ireland. Influenza rates remain below the baseline Moving Epidemic Method (MEM) threshold for Northern Ireland and are below normal seasonal activity¹.

Northern Ireland Primary Care Consultation Rates

- GP consultation rates for combined flu and flu-like illness (flu/FLI) were 3.8 per 100,000 population in week 40 and 3.5 per 100,000 population in week 41, 2018. Rates remain below the baseline Moving Epidemic Method (MEM) threshold for flu activity¹.
- OOH GP consultation rates for flu/FLI increased slightly from weeks 39 to 41, 2018 from 2.3 to 3.0 per 100,000 population.

Microbiological Surveillance (Flu and RSV)

- There was one influenza B detection in week 40 and none in week 41.
- RSV remains low with 3 detections in total in week 40 and 41.

Secondary Care (Hospital both non-ICU and ICU)

- There was one detection of influenza in a hospital setting during weeks 40 and 41.
- There were no cases reported in ICU with laboratory confirmed influenza in weeks 40 and 41.
- There were no deaths reported in ICU patients with laboratory confirmed influenza in weeks 40 and 41.

Influenza Outbreaks across Northern Ireland

- There were no confirmed influenza outbreaks reported to the PHA in weeks 40 and 41.

Mortality

- The proportion of deaths related to respiratory keywords (bronchiolitis, bronchitis, influenza and pneumonia) decreased slightly from 28% in week 40, 2018 to 25% in week 41.

¹ The baseline MEM threshold for Northern Ireland is 17.1 per 100,000 population this year (2018/19). Low activity is 17.1 to <25.8, moderate activity 25.8 to <76.8, high activity 76.8 to <124.4 and very high activity is >124.4.

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 2018/19 season commenced on 1st October 2018.

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);
- Individual virology reports from local laboratories (as outlined);
- 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 since 2017-18. Data is collected from 325 GP practices, representing 98% of the Northern Ireland (NI) population. This represents a change from pre 2017-18 season 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 from 2017-18 onwards will be generally lower than in previous years. Please take this into account when interpreting the figures.

Northern Ireland GP Consultation Data

Figure 1. Northern Ireland GP consultation rates for flu/FLI 2017/18 - 2018/19

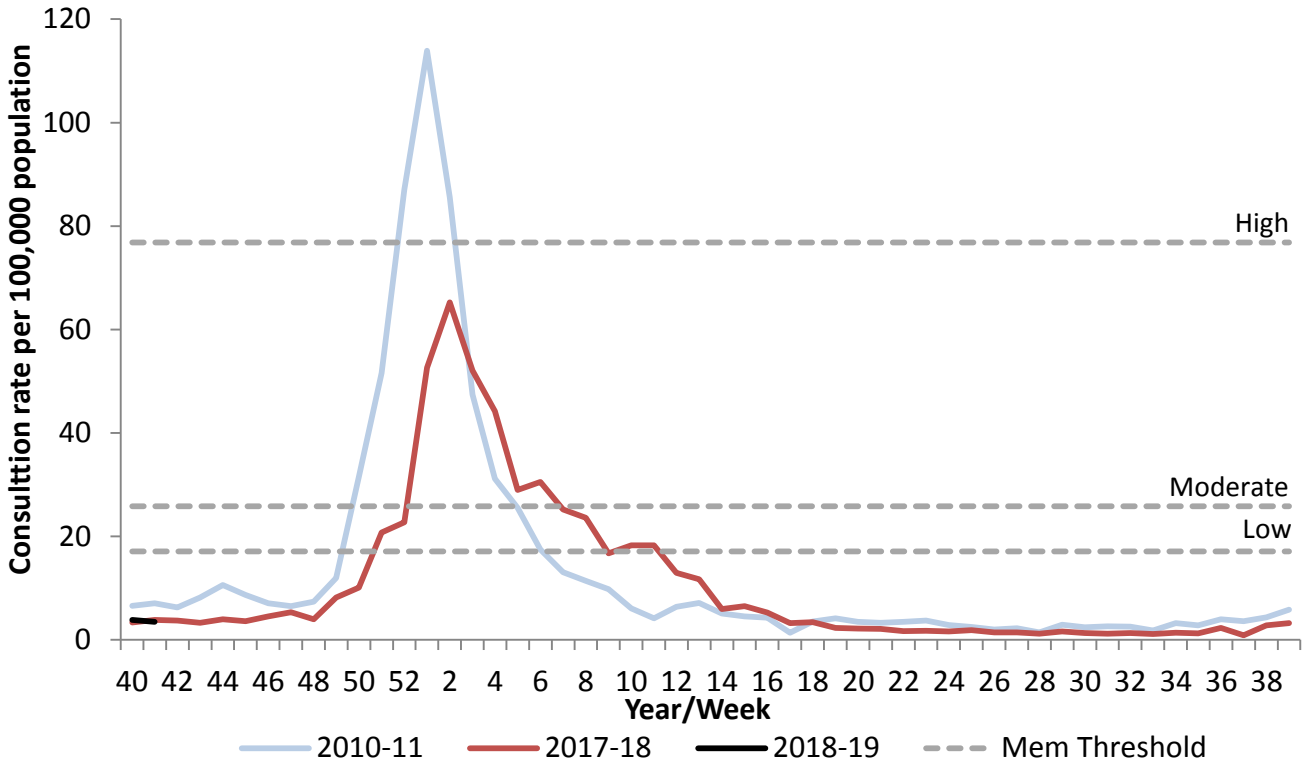
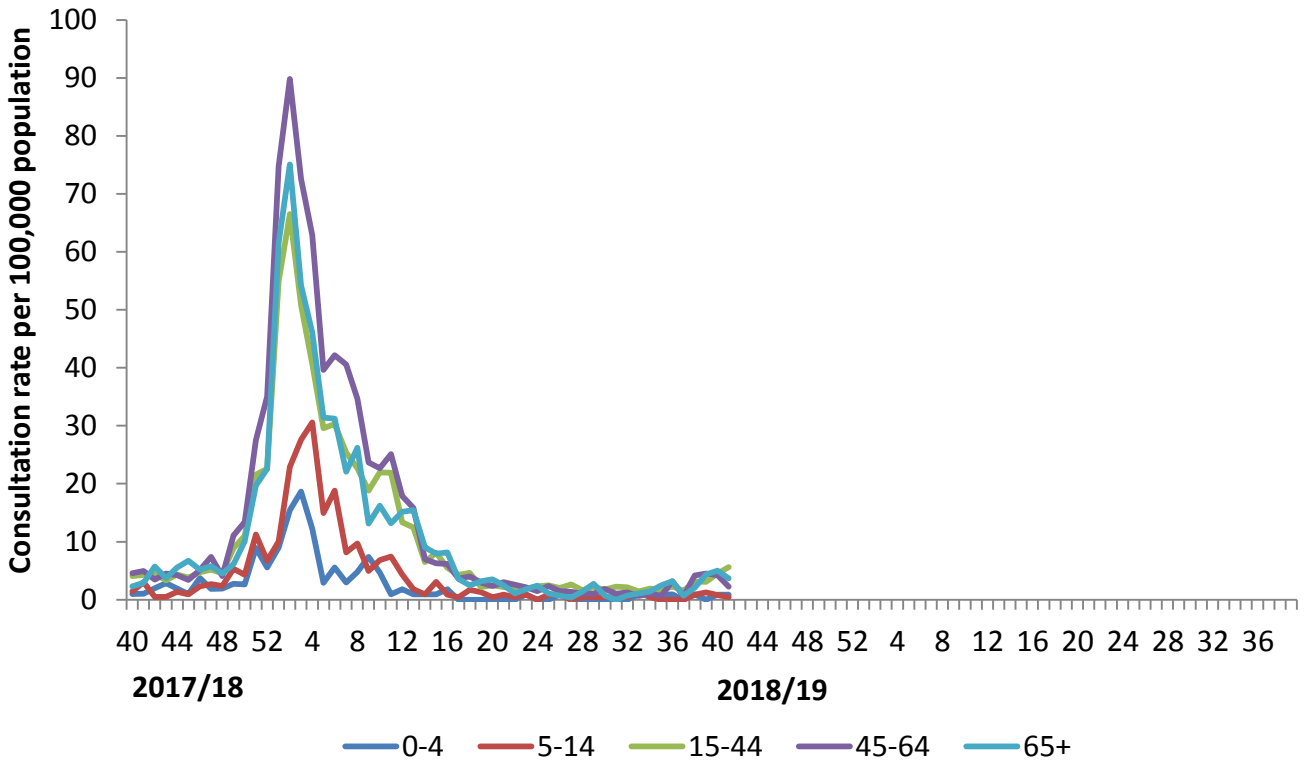


Figure 2. Northern Ireland GP age-specific consultation rates for flu/FLI from week 40, 2017



Comment

The NI GP consultation rates for flu and flu-like illness (flu/FLI) during weeks 40 and 41 were 3.8 and 3.5 per 100,000 population, respectively. This was an increase compared to week 39 (3.2 per 100,000). These rates are higher than in week 40 in 2017/18 (3.4 per 100,000) but lower than in week 41 in 2017/18 (3.9 per 100,000). Activity remains well below the baseline MEM threshold for Northern Ireland (<17.1 per 100,000) (Figure 1).

The flu/FLI consultation rate was highest in those aged 65 years and older in week 40 (5.0 per 100,000), and in those aged 15-44 years in week 41 (5.6 per 100,000) (Figure 2). The consultation rates initially increased in week 40 compared to week 39 in those aged 0-4 years (0 to 0.9 per 100,000), 15-44 years (3.1 to 4.5 per 100,000) and those aged 65 years and over (4.4 to 5.0 per 100,000). Rates decreased in those aged 5-14 years (1.2 to 0.8 per 100,000) and remained stable in those aged 45-64 years (4.5 to 4.3 per 100,000). The consultation rate further increased in week 41 in those aged 15-44 years (4.5 to 5.6 per 100,000) compared to week 40. However, the rates remained constant in the 0-4 age group (0.9 per 100,000) and decreased in the remaining age groups; 5-14 years (0.8 to 0.4 per 100,000), 45-64 years (4.3 to 2.2 per 100,000) and 65 years and over (5.0 to 3.7 per 100,000).

Consultation rates were similar among all age groups in week 40 compared to the same period in 2017/18, with the exception of those aged 5-14 years (1.4 in 2017/18 compared to 0.8 in 2018/19 per 100,000) and those aged 65 years and over (2.3 in 2017/18 compared to 5.0 in 2018/19 per 100,000) (Figure 2). Week 41 saw further differences compared to the same period in 2017/18 for all age groups except those aged 0-4 years (1.0 in 2017/18 and 0.9 in 2018/19 per 100,000); 5-14 years (3.0 in 2017/18 compared to 0.4 in 2018/19 per 100,000), 15-44 years (4.3 in 2017/18 compared to 5.6 in 2018/19 per 100,000), 45-64 years (4.9 in 2017/18 compared to 2.2 in 2018/19 per 100,000) and 65 years and over (2.9 in 2017/18 compared to 3.7 in 2018/19 per 100,000).

Out-of-Hours (OOH) Centres Call Data

Figure 3. OOH call rate for flu/FLI, 2016/17 – 2018/19

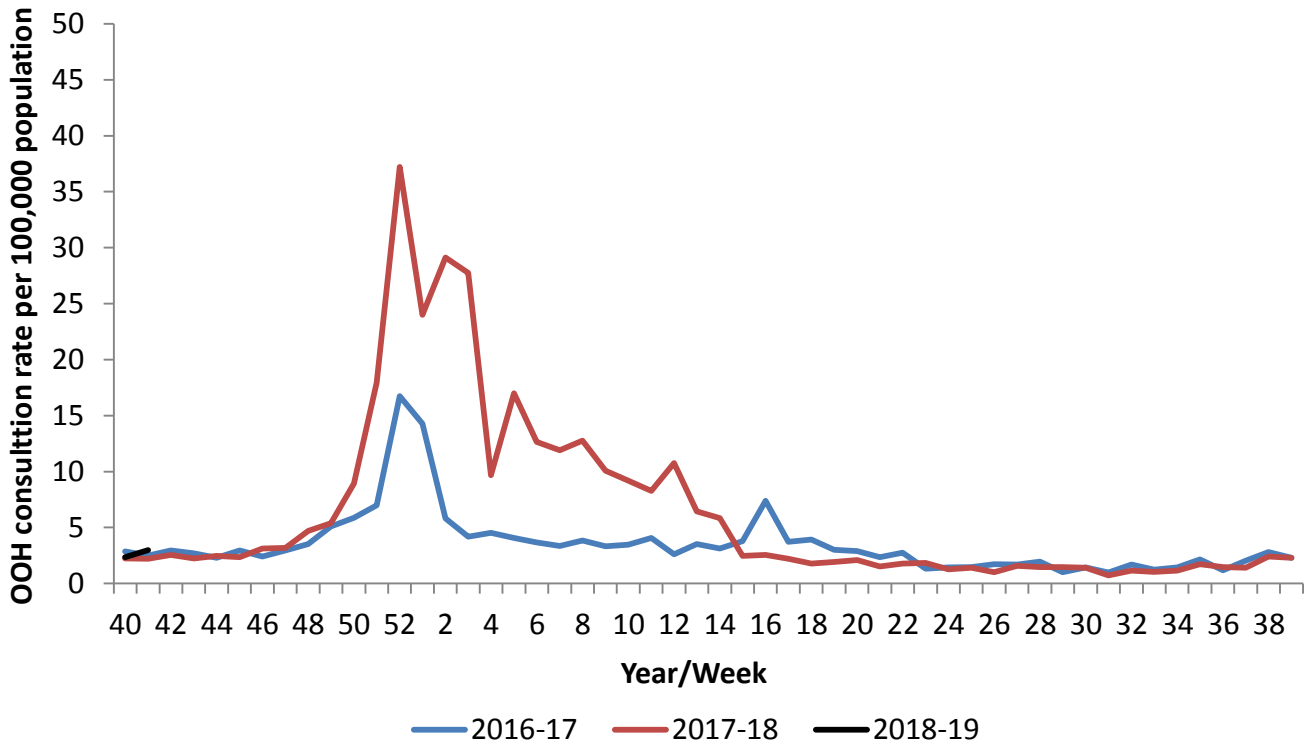
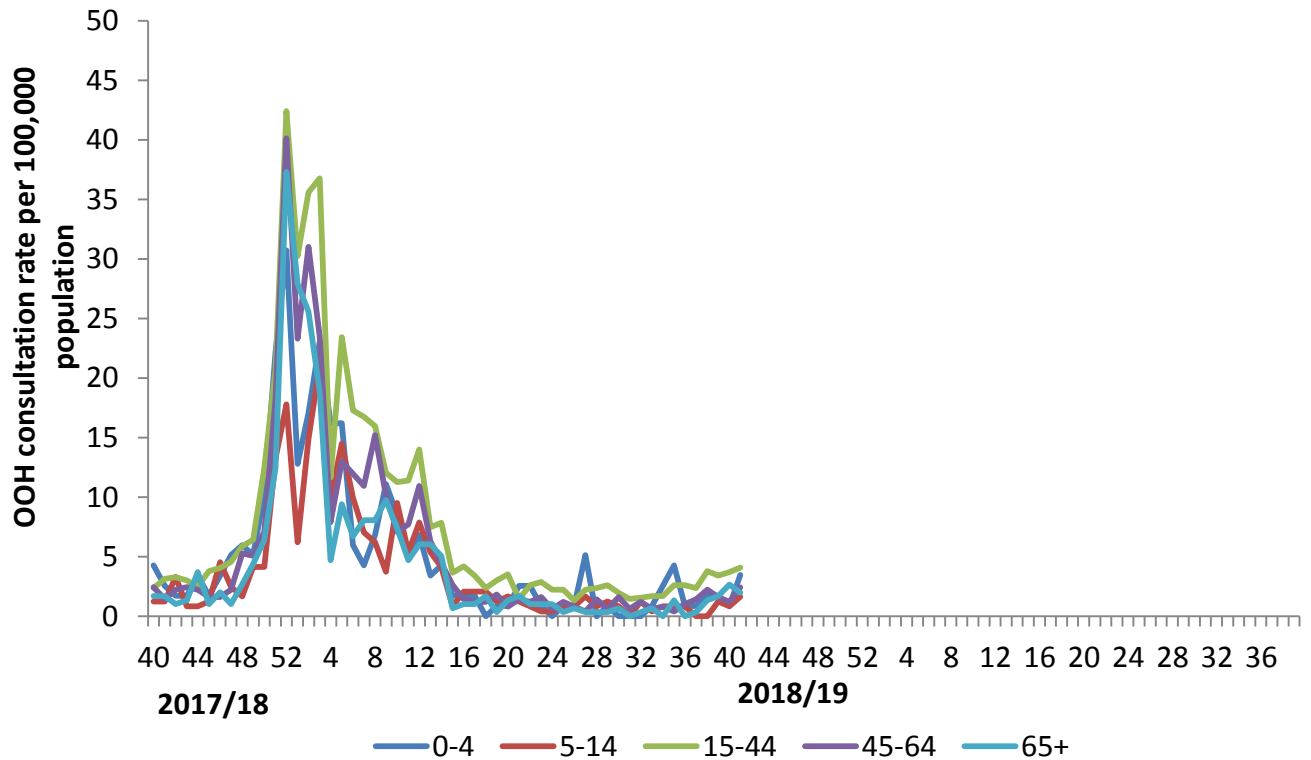


Figure 4. OOH call rates of flu/FLI by age-group from week 40, 2017



Comment

The OOH flu/FLI consultation rate during weeks 40 and 41 were 2.4 and 3.0 per 100,000 population, respectively (Figure 3). This was an increase compared to week 39 (2.3 per 100,000). This rate is similar compared to week 40 in 2017/18 (2.2 per 100,000) but higher than in week 41 in 2017/18 (2.2 per 100,000).

The proportion of calls related to flu/FLI in OOH centres increased slightly from 0.4% in week 40 to 0.6% in week 41. This proportion remains similar to week 39 in 2017/18 (0.5%).

The OOH flu/FLI consultation rate was highest in those aged 15-44 years in week 40 (3.7 per 100,000), and week 41 (4.1 per 100,000) (Figure 4). The consultation rates initially increased in week 40 compared to week 39 in those aged 15-44 years (3.4 to 3.7 per 100,000) and 65 years and over (1.7 to 2.7 per 100,000). Rates decreased in those aged 0-4 years (1.7 to 0.9 per 100,000), 5-14 years (1.2 to 0.8 per 100,000) and 45-64 years (1.6 to 1.2 per 100,000). The consultation rates in week 41 increased in all age groups with the exception of those aged 65 years and over which decreased from 2.7 to 2.0 per 100,000. The consultation rates doubled in two age groups between week 40 and 41; 5-14 years (0.8 to 1.6 per 100,000) and 45-64 years (1.2 to 2.4 per 100,000). Rates increased from 0.9 to 3.5 per 100,000 in those aged 0-4 years and from 3.7 to 4.1 per 100,000 in those aged 15-44 years.

Consultation rates were lower among all age groups in week 40 compared to the same period in 2017/18, with the exception of those aged 15-44 years (2.4 in 2017/18 compared to 3.7 in 2018/19 per 100,000) and those aged 65 years and over (1.7 in 2017/18 compared to 2.7 in 2018/19 per 100,000) (Figure 4). Conversely, rates were higher in all age groups in week 41 compared to the same period in 2017/18.

Virology Data

Figure 5. Northern Ireland GP consultation rates for flu/FLI and number of influenza positive detections 2013/14 – 2018/19

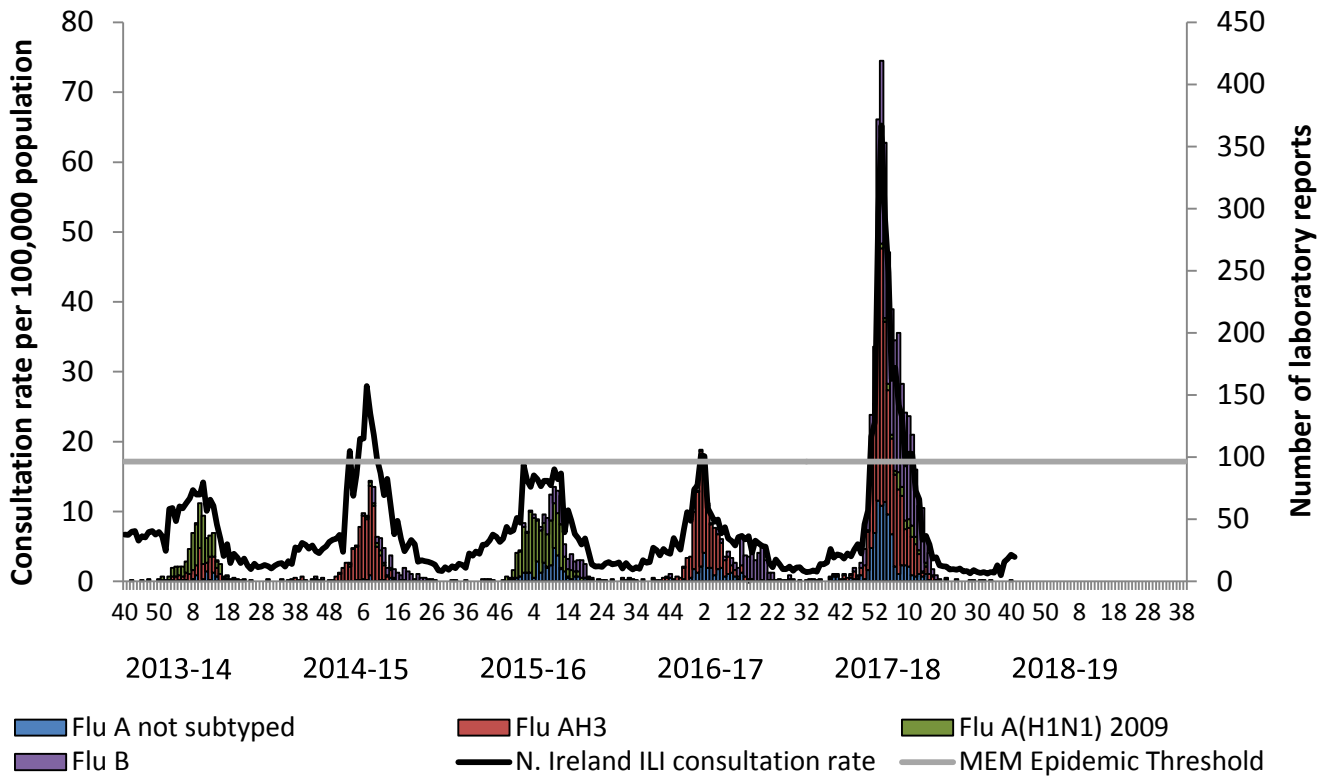


Figure 6. Northern Ireland GP consultation rates for flu/FLI and number of virology 'flu' detections from week 40, 2017

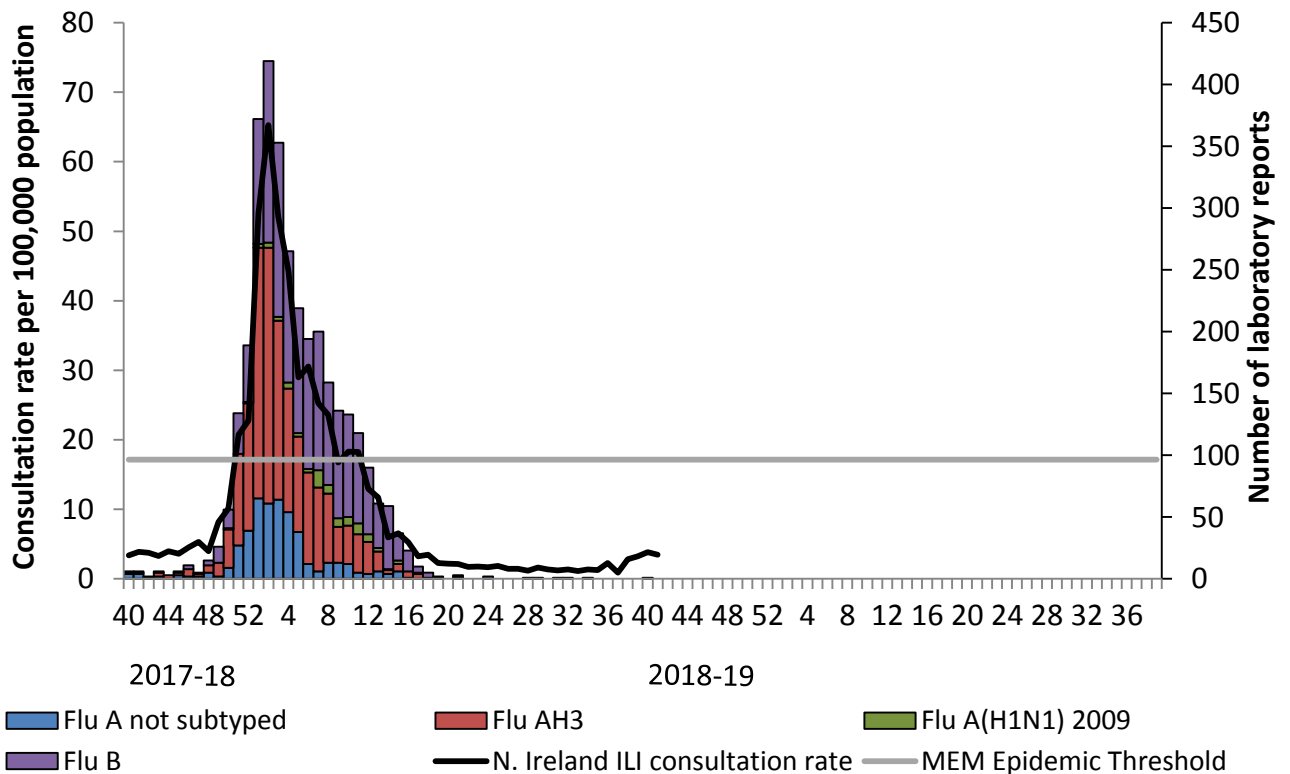


Table 1. Virus activity in Northern Ireland by source, Week 41, 2018-19

Source	Specimens tested	Flu AH3	Flu A(H1N1) 2009	A (Untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	2	0	0	0	0	0	0	0%
Non-sentinel	196	0	0	0	0	1	0	0%
Total	198	0	0	0	0	1	0	0%

Table 2. Cumulative virus activity from all sources by age group, Week 40 - 41, 2018-19

Age Group	Flu AH3	Flu A(H1N1) 2009	A (Untyped)	Flu B	Total Influenza	RSV
0-4	0	0	0	0	0	3
5-14	0	0	0	0	0	0
15-64	0	0	0	1	1	0
65+	0	0	0	0	0	0
Unknown	0	0	0	0	0	0
All ages	0	0	0	1	1	3

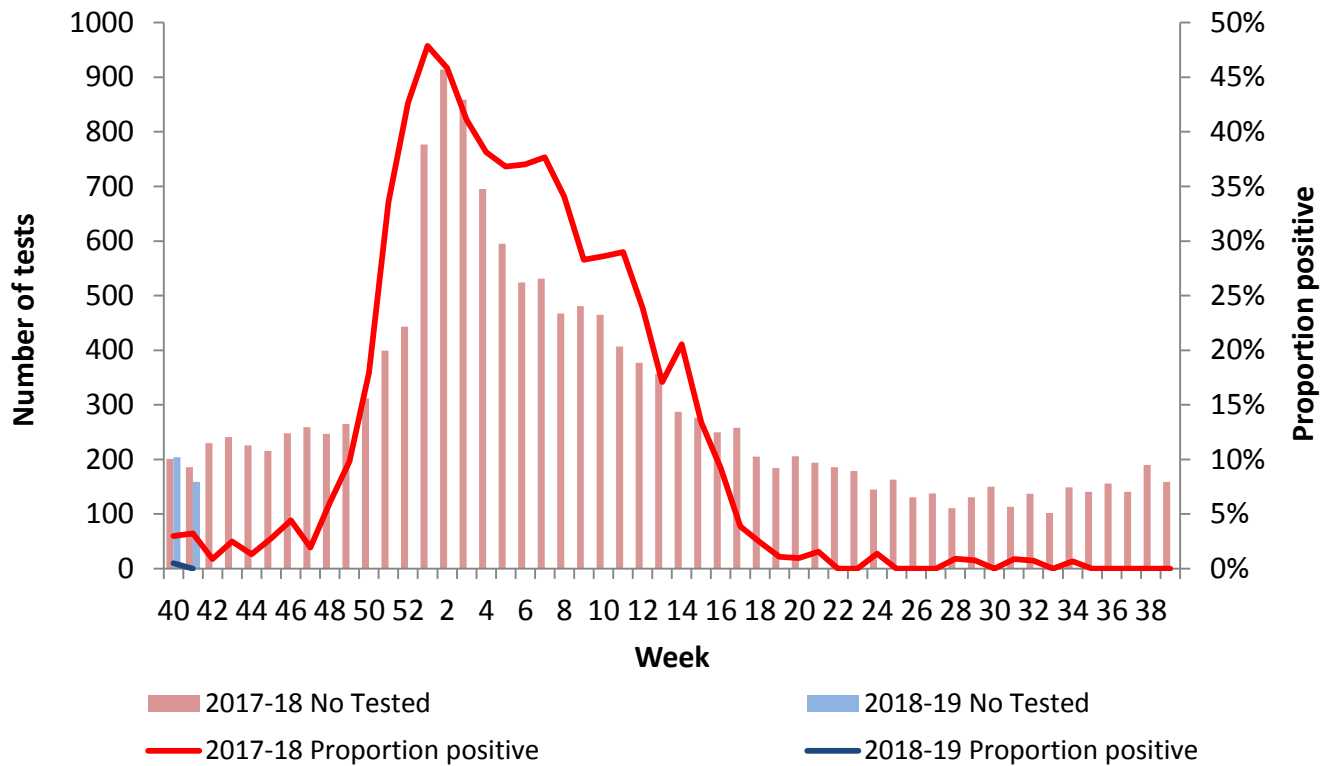
Table 3. Cumulative virus activity by age group and source, Week 40 - Week 41, 2018-19

Age Group	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	0	0	3
5-14	0	0	0	0	0	0	0	0	0	0	0	0
15-64	0	0	0	0	0	0	0	0	0	1	1	0
65+	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	0	0	0	0	0	0	0	0	0	1	1	3

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, 2017/18 and 2018/19, all sources



Comment

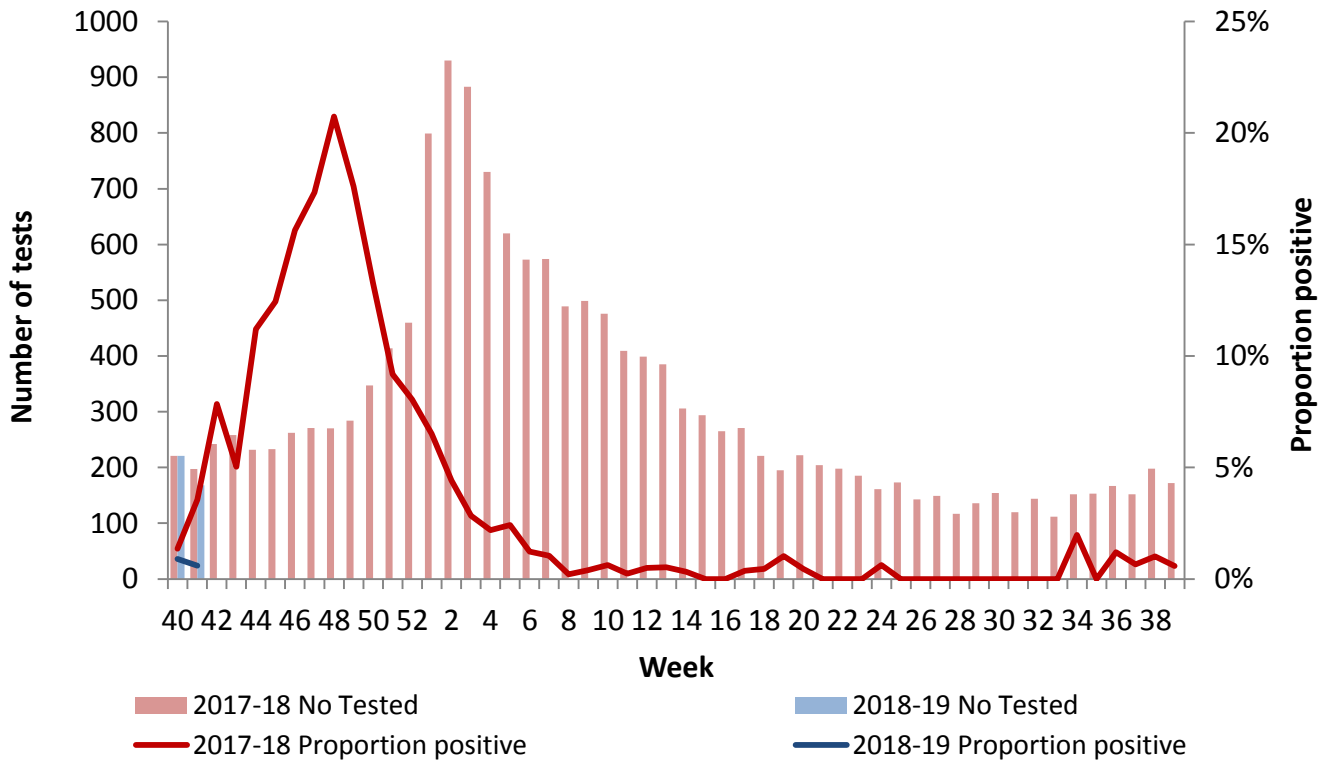
Additional virology testing has been undertaken at one local laboratory since week 2, 2018. This bulletin includes this data along with the data from the Regional Virology Laboratory. Other local laboratories may begin undertaking influenza testing and this data will be included in later bulletins if applicable.

During weeks 40 and 41 there were 402 specimens submitted for virological testing. There was one detection of influenza in total which was typed as influenza B.

There were four samples submitted through the GP based sentinel scheme across Northern Ireland, none were positive (Tables 1, 2 & 3; Figures 5, 6 & 7).

Respiratory Syncytial Virus (RSV)

Figure 8. Number of samples tested for RSV and proportion positive, 2017/18 and 2018/19, all sources

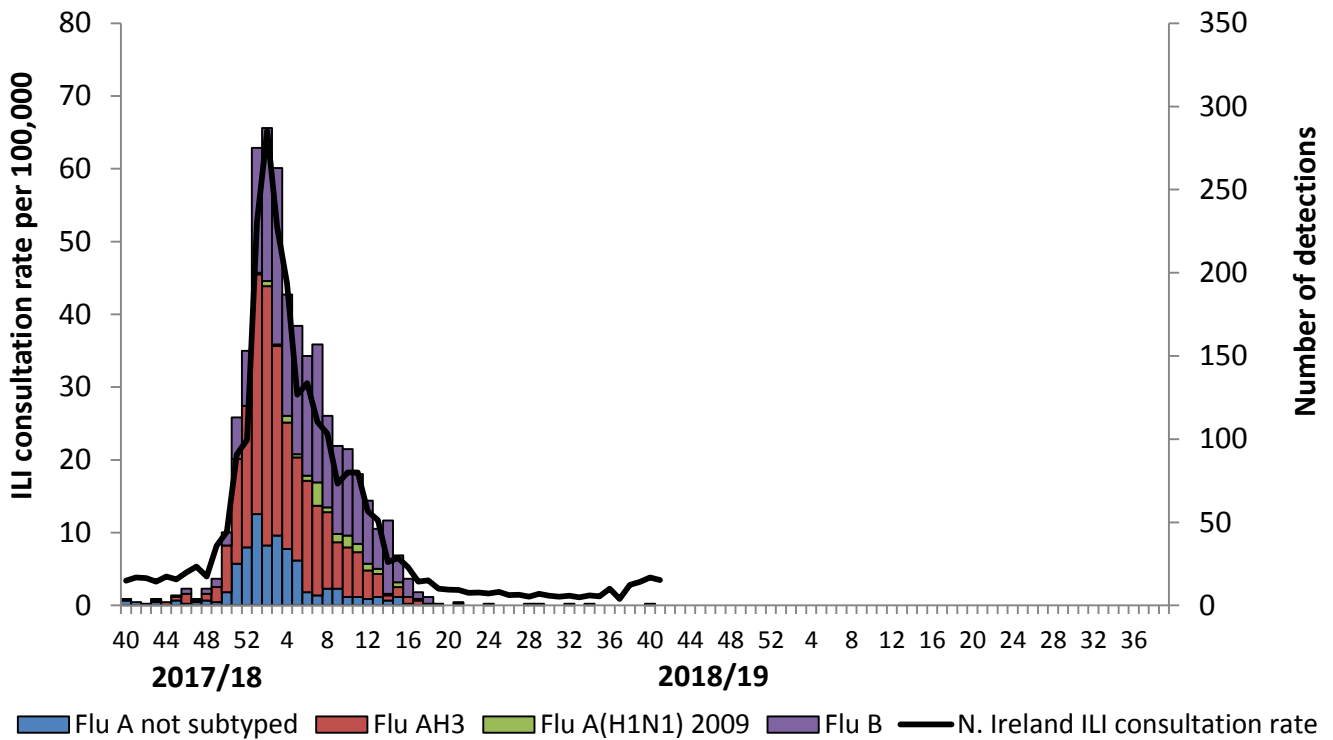


Comment

During weeks 40 and 41 there were three positive detections of RSV all of which 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, 2017/18 - 2018/19

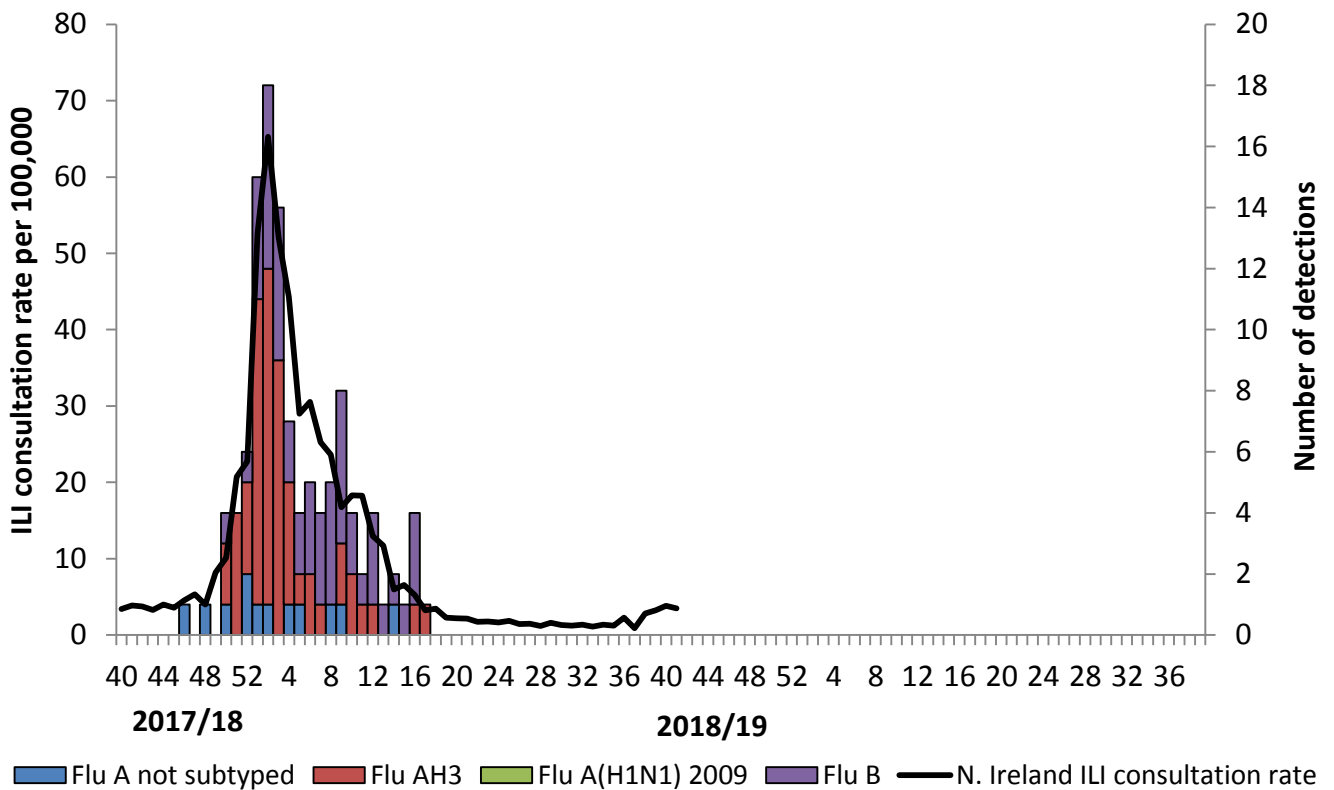


Comment

During weeks 40 and 41 there was one detection of influenza (influenza B) from specimens taken in hospital settings across Northern Ireland. It should be kept in mind that not all positive specimens (for weeks 40 and 41) may have been reported as this point.

ICU/HDU Surveillance

Figure 10. Confirmed ICU/HDU influenza cases by week of specimen, with Northern Ireland ILI consultation rate, 2017/18 - 2018/19



Comment

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

During week 40 and 41, no confirmed cases of influenza in ICU were reported to the PHA. No deaths were reported in ICU patients with laboratory confirmed influenza.

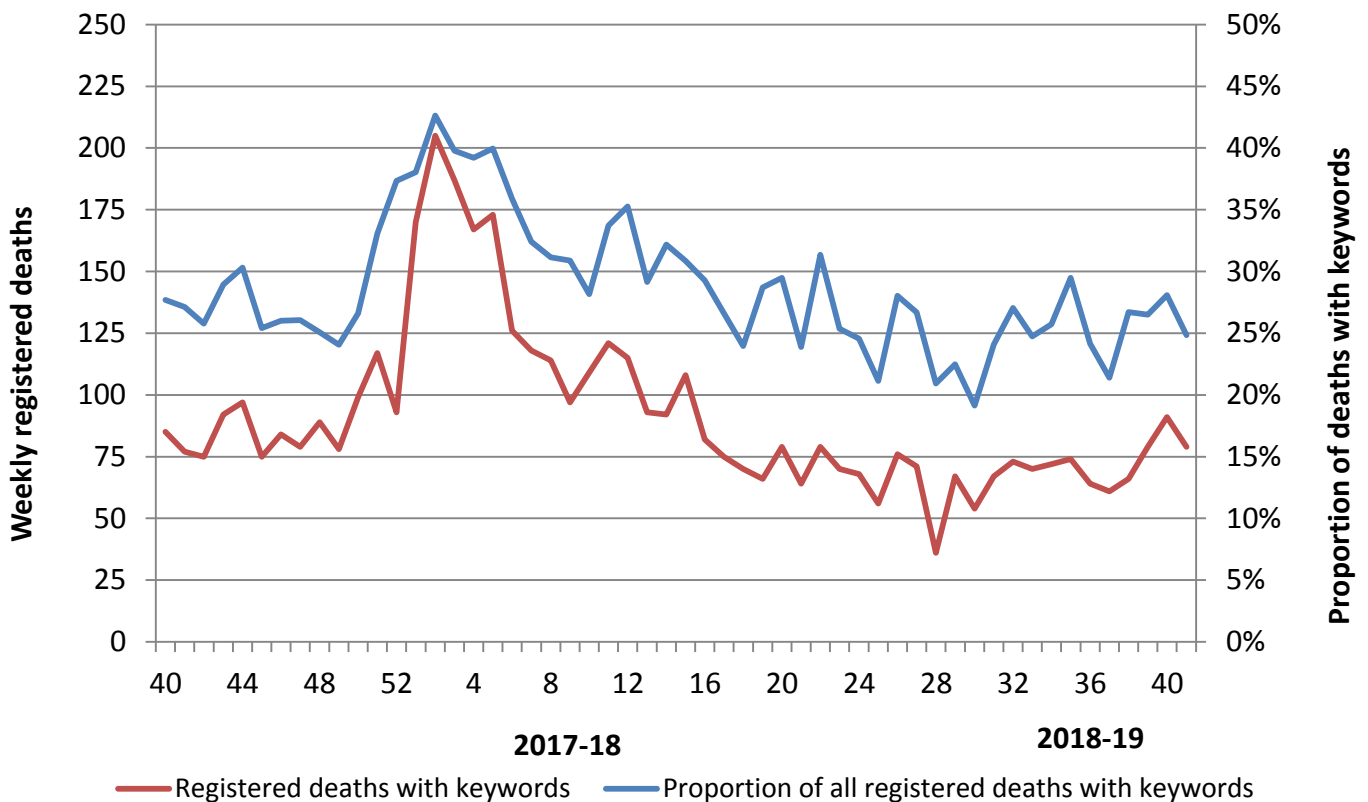
Outbreak Surveillance

During weeks 40 and 41 there were no confirmed influenza outbreaks reported to the PHA.

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 from week 40, 2017



Comment

The proportion of deaths related to respiratory keywords increased marginally from 27% in week 39 to 28% in week 40 and decreased slightly to 25% in week 41. In week 40 there were 324 registered deaths of which 91 related to specific respiratory infections. In week 41 there were 318 registered deaths, of which 79 related to specific respiratory infections (Figure 11). The proportion of deaths attributed to specific respiratory infections is slightly lower at this point in the season as the same period in 2017/18 (27% at week 41).

EuroMOMO

Information on mortality from all causes is provided for management purpose from Public Health England. Excess mortality is defined as a statistically significant increase in the number of deaths reported over the expected number for a given point in time. This calculation allows for a weekly variation in the number of deaths registered and takes account of deaths registered retrospectively. Information is used to provide an early warning to the health service of any seasonal increases in mortality to allow further investigation of excess detections.

There is no single cause of 'additional' deaths in the winter months but they are often attributed in part to cold weather (e.g. directly from falls, fractures, road traffic accidents), through worsening of chronic medical conditions e.g. heart and respiratory complaints and through respiratory infections including influenza.

For more information on EuroMOMO and interactive maps of reporting across the season please see <http://www.euromomo.eu/index.html>.

There was no excess all-cause mortality reported in Northern Ireland in weeks 40 and 41.

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 for 2018/19 will be reported in the bulletin later in the season.

	2017/18 (to Mar 31 st)	2016/17 (to Mar 31 st)
>65 years	71.8%	71.9%
<65 years at risk	56.0%	57.1%
Pregnant women	56.7%	58.6%
2 to 4 year olds	50.6%	52.6%
Primary School	76.5%	78.3%
Trust Frontline	33.4%	29.0%

The end of season report Influenza Surveillance Report for Northern Ireland 2017/18 is now available to download:

Link to report: <http://www.publichealth.hscni.net/directorate-public-health/health-protection/seasonal-influenza>

International Summary

Europe

Week 40/2018 (1-7 October 2018)

- This is the first weekly report for the 2018-2019 influenza season.
- Influenza activity was low throughout the European Region.
- Influenza viruses were detected sporadically in specimens from persons with respiratory illness presenting to medical care.
- Both influenza A and B type viruses were detected.
- For week 40/2018, 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.

2018/19 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 2018 southern hemisphere season, WHO recently recommended a change of the A(H3N2) component for inclusion in egg-based seasonal influenza vaccines for use in the 2019 Southern Hemisphere influenza season, to provide better protection against recently circulating influenza A(H3N2) viruses. In addition, the influenza B component in trivalent vaccines was changed to a B/Victoria-lineage virus, representing the emergent clade with the amino acid deletions Δ 162-163 in haemagglutinin (HA), similar to the 2018–2019 vaccine for the northern hemisphere influenza season. See the full southern hemisphere VCM report [here](#).

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

Worldwide (WHO)

As at 16th October 2018 (based on update to 15th October):

In the temperate zones of the southern hemisphere, influenza activity appeared to decrease overall though influenza percent positivity remained elevated in Southern Africa. In Australia and New Zealand, influenza activity remained at low levels and even below seasonal threshold during the entire season. Increased influenza detections were reported in some countries of Southern and South-East Asia. In the temperate zone of the northern hemisphere influenza activity remained at inter-seasonal levels. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections.

National Influenza Centres (NICs) and other national influenza laboratories from 95 countries, areas or territories reported data to FluNet for the time period from 17 September 2018 to 30 September 2018 (data as of 2018-10-12 03:45:25 UTC). The WHO GISRS laboratories tested more than 58772 specimens during that time period. 2124 were positive for influenza viruses, of which 1789 (84.2%) were typed as influenza A and 335 (15.8%) as influenza B. Of the sub-typed influenza A viruses, 1051 (74%) were influenza A(H1N1)pdm09 and 369 (26%) were influenza A(H3N2). Of the characterized B viruses, 51 (49%) belonged to the B-Yamagata

lineage and 53 (51%) to the B-Victoria lineage.

The WHO Consultation and Information Meeting on the Composition of Influenza Virus Vaccines for Use in the 2019 Southern Hemisphere Influenza Season was held on 24-26 September 2018 in Atlanta, United States of America. It was recommended that trivalent vaccines contain the following: an A/Michigan/45/2015 (H1N1)pdm09-like virus; an A/Switzerland/8060/2017 (H3N2)-like virus; and a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage). It was also recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage).

The vaccine recommendation for the 2019 Southern Hemisphere Influenza Season can be consulted at this link below:

http://www.who.int/influenza/vaccines/virus/recommendations/2019_south/en/

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

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

Acknowledgments

We would like to extend our thanks to all those who assist us in the surveillance of influenza in particular the sentinel GPs, Out-of-Hours Centres, Apollo Medical, Regional Virus Laboratory, 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.publichealth.hscni.net>

<https://www.nidirect.gov.uk/articles/flu-vaccination>

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

<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:

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>

Republic of Ireland:

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

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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