

Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 46-47 (12th November- 25th November 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 6.3 per 100,000 population in week 46 and 4.5 per 100,000 in week 47. Rates remain below the baseline Moving Epidemic Method (MEM) threshold for flu activity¹.
- OOH GP consultation rates for flu/FLI increased from week 46 to week 47 from 2.5 to 3.6 per 100,000 population.

Microbiological Surveillance (Flu and RSV)

- In week 46 there were 11 detections of Flu A(H1N1), one Flu A(untyped) and two A(H3). In week 47 there was one detection of Flu A(untyped) and three Flu A(H1N1).
- Positive RSV detections increased from 34 in week 46 to 37 in week 47.

Secondary Care (Hospital both non-ICU and ICU)

- In week 46 there was one detection of Flu A(untyped), two of A(H3) and 10 Flu A(H1N1). In week 47 there was one detection of Flu A(untyped) and two Flu A(H1N1).
- There were two cases reported in ICU with laboratory confirmed influenza in weeks 46 and 47 and one death in ICU with confirmed influenza was reported in week 46.

Influenza Outbreaks across Northern Ireland

- There were no confirmed influenza outbreaks reported to the PHA in weeks 46 and 47.

Mortality

- The proportion of deaths related to respiratory keywords (bronchiolitis, bronchitis, influenza and pneumonia) increased from 23% in week 46 to 30% in week 47.

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

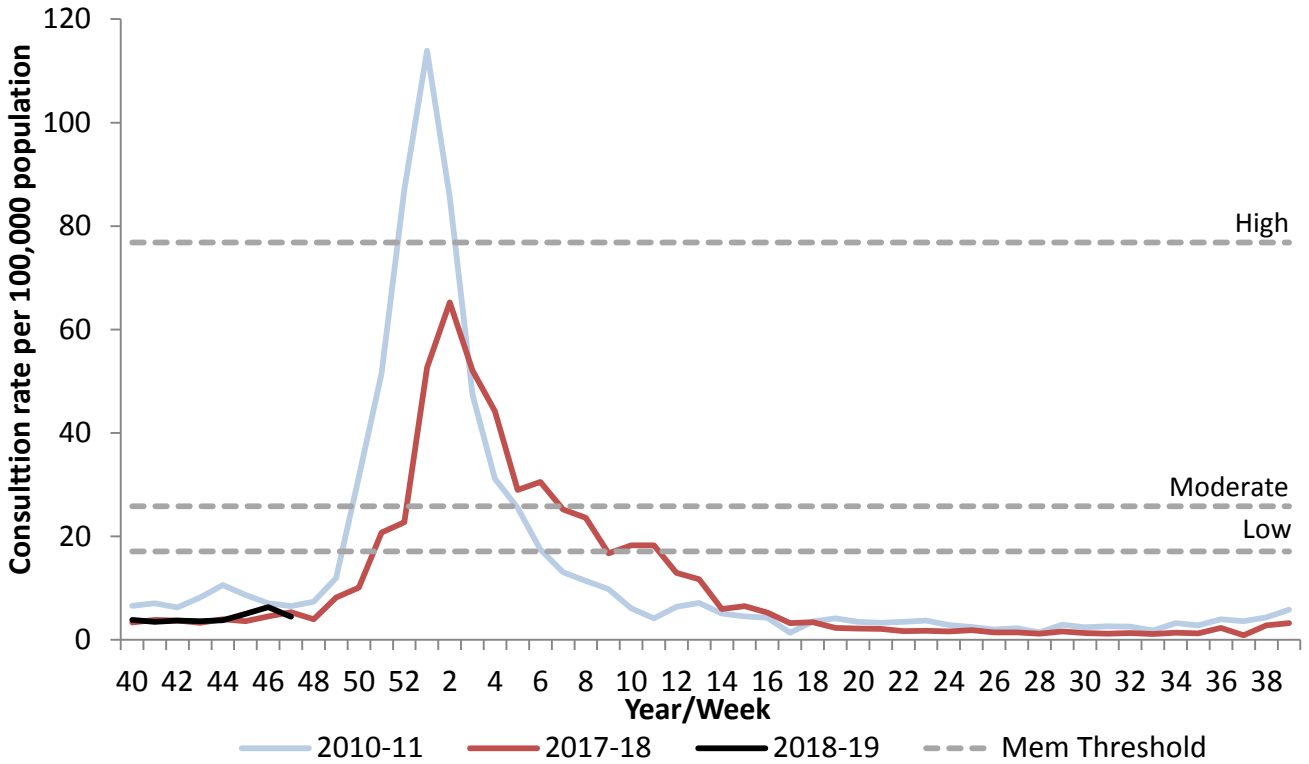
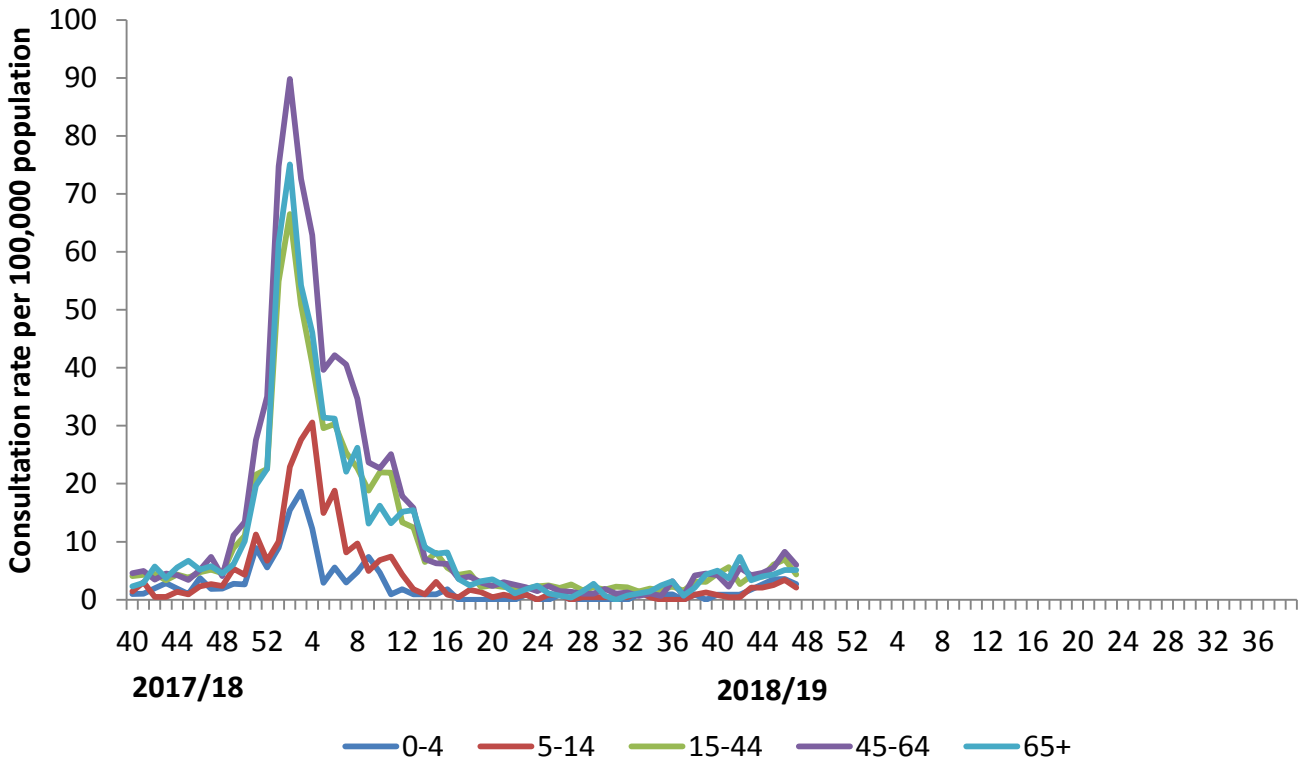


Figure 2. Northern Ireland GP age-specific consultation rates for flu/FLI from week 40, 2017



Comment

The NI GP consultation rates for flu and flu-like illness (flu/FLI) during weeks 46 and 47 were 6.3 and 4.5 per 100,000 population, respectively. 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 45-64 years in week 46 (8.3 per 100,000) and in week 47 (6.0 per 100,000) (Figure 2). The consultation rates decreased in week 47 compared to week 46 in all age groups with the exception of the 65 and over age group which remained the same (5.1 per 100,000).

Out-of-Hours (OOH) Centres Call Data

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

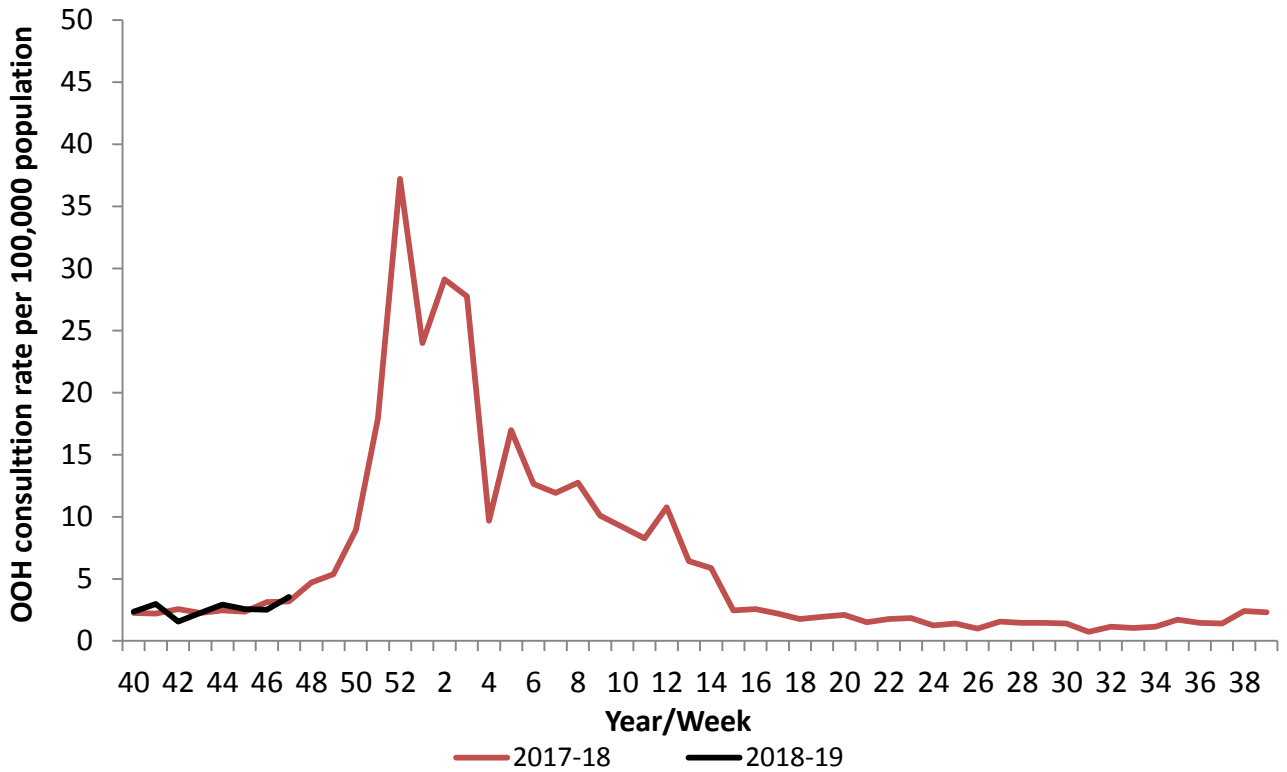
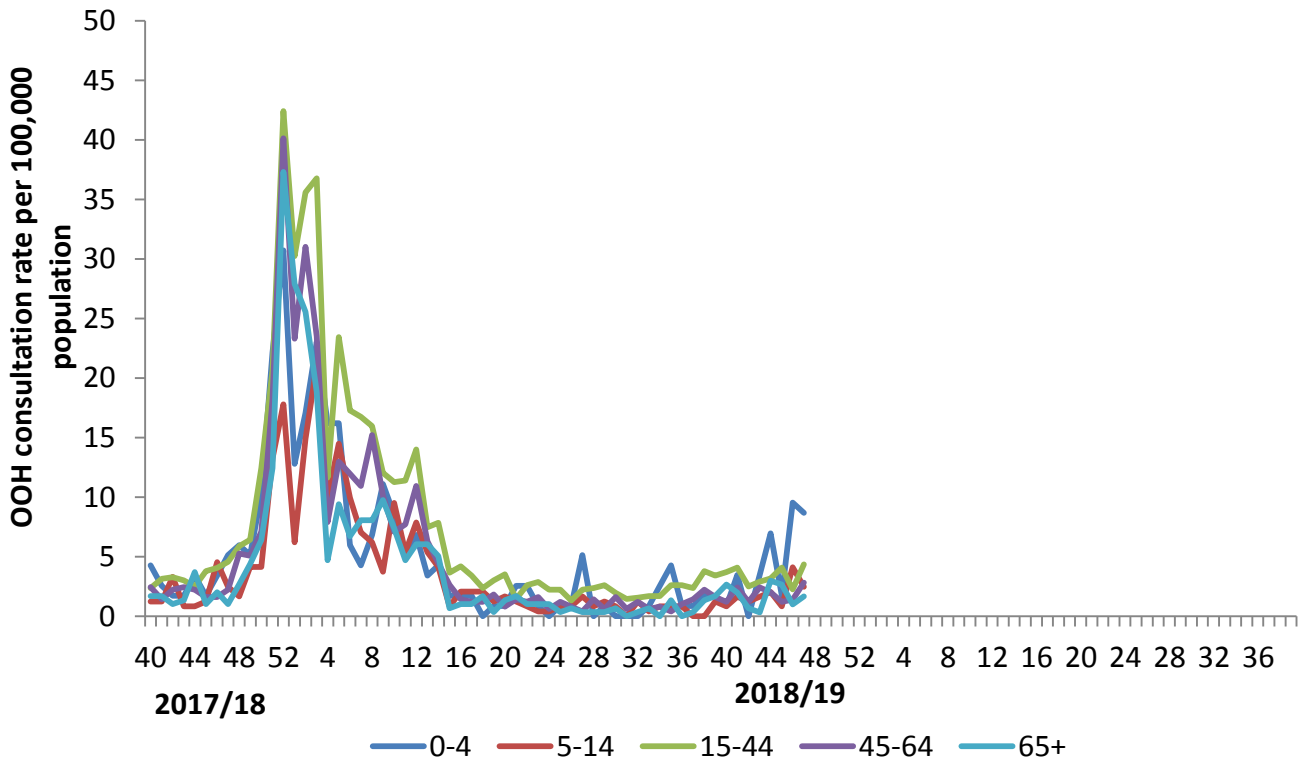


Figure 4. OOH call rates of flu/FLI by age-group from week 40, 2017



Comment

The OOH flu/FLI consultation rate during weeks 46 and 47 were 2.5 and 3.6 per 100,000 population, respectively (Figure 3). The rate in week 46 of 2018/19 is lower than the same week in 2017/18 (2.5 compared to 3.1 per 100,000); however, the rate in week 47 is slightly higher in 2018/19 than in 2017/18 (3.6 compared to 3.2 per 100,000).

The proportion of calls related to flu/FLI in OOH centres increased slightly from 0.5% in week 46 to 0.6% in week 47.

The OOH flu/FLI consultation rate was highest in those aged 0-4 years in week 46 (9.6 per 100,000), and also in week 47 (8.7 per 100,000) (Figure 4). The consultation rates decreased in week 47 compared to week 46 in the 0-4 years and 5-14 years age groups but increased in the others.

Virology Data

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

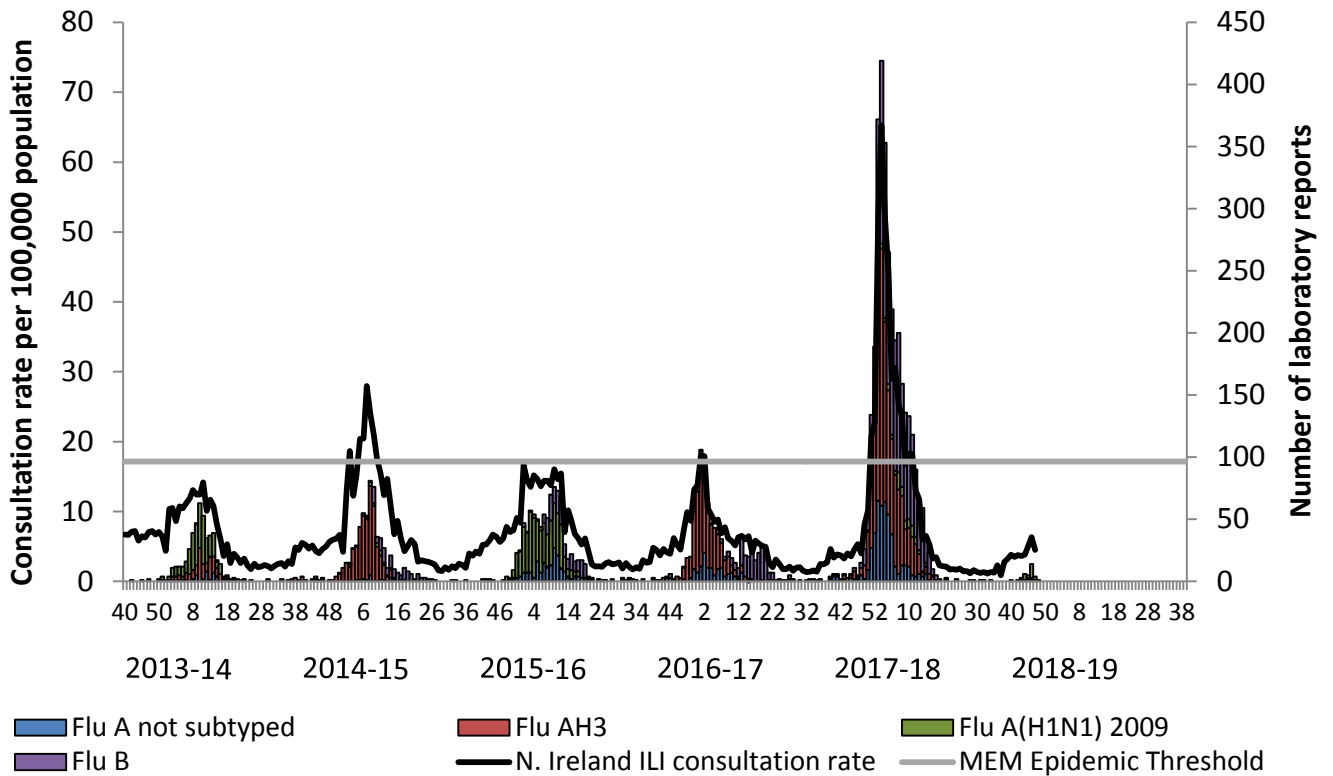


Figure 6. Northern Ireland GP consultation rates for flu/FLI and number of virology 'flu' detections from week 40, 2017

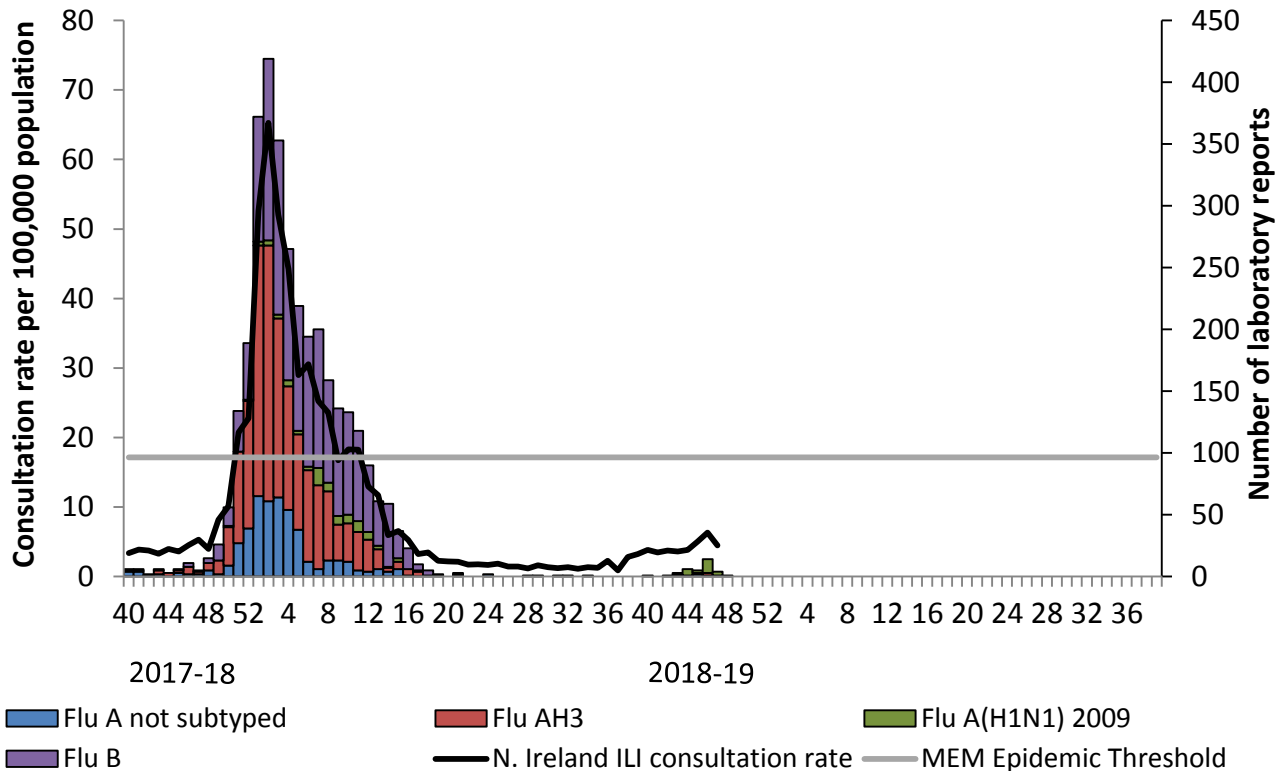


Table 1. Virus activity in Northern Ireland by source, Weeks 46-47, 2018-19

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	0	0	0%
Non-sentinel	499	2	14	2	0	71	18	4%
Total	507	2	14	2	0	71	18	4%

Table 2. Cumulative virus activity from all sources by age group, Week 40 - 47, 2018-19

Age Group	Flu AH3	Flu A(H1N1) 2009	A (Untyped)	Flu B	Total Influenza	RSV
0-4	0	5	0	0	5	83
5-14	0	2	0	0	2	3
15-64	1	12	4	1	18	16
65+	3	3	3	0	9	18
Unknown	0	0	0	0	0	0
All ages	4	22	7	1	34	120

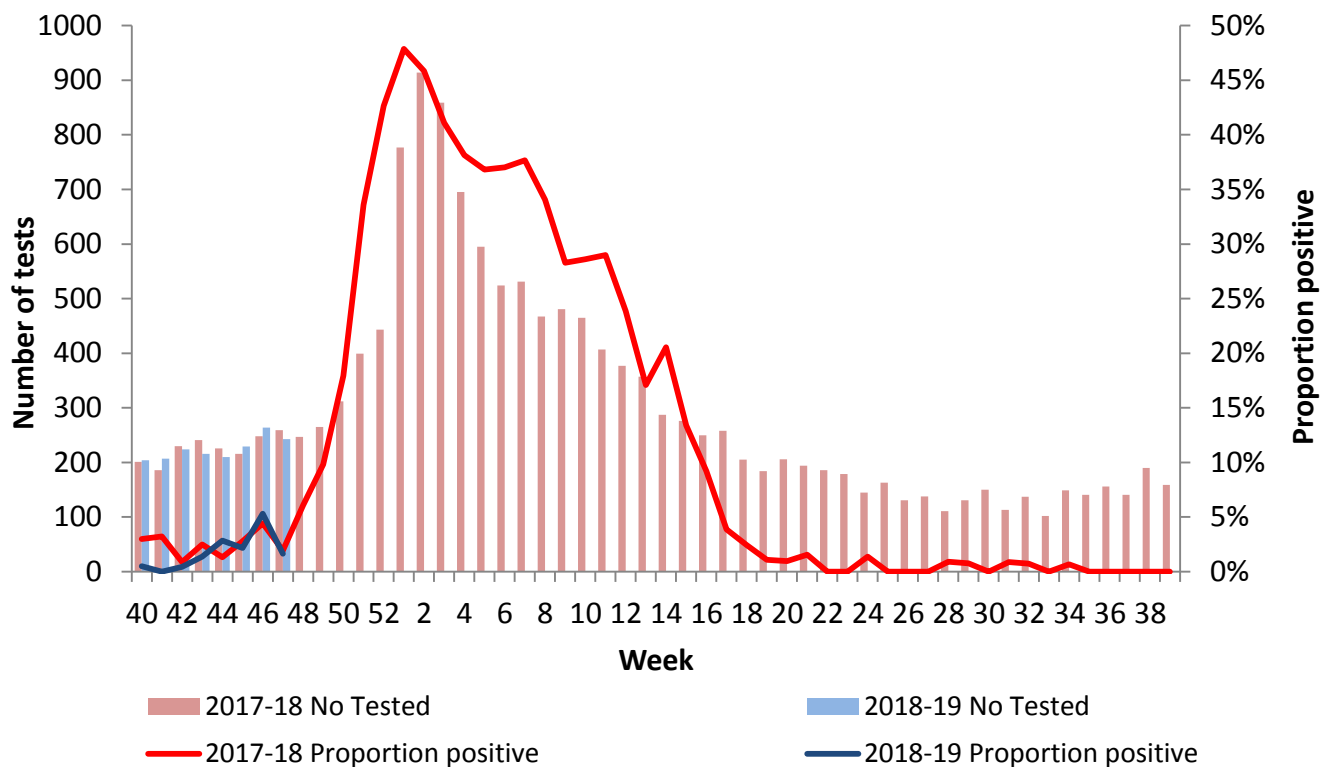
Table 3. Cumulative virus activity by age group and source, Week 40 - Week 47, 2018-19

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	5	0	0	5	83
5-14	0	0	0	0	0	0	0	2	0	0	2	3
15-64	0	0	0	0	0	1	1	12	4	1	18	15
65+	0	0	0	0	0	0	3	3	3	0	9	18
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	0	0	0	0	0	1	4	22	7	1	34	119

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

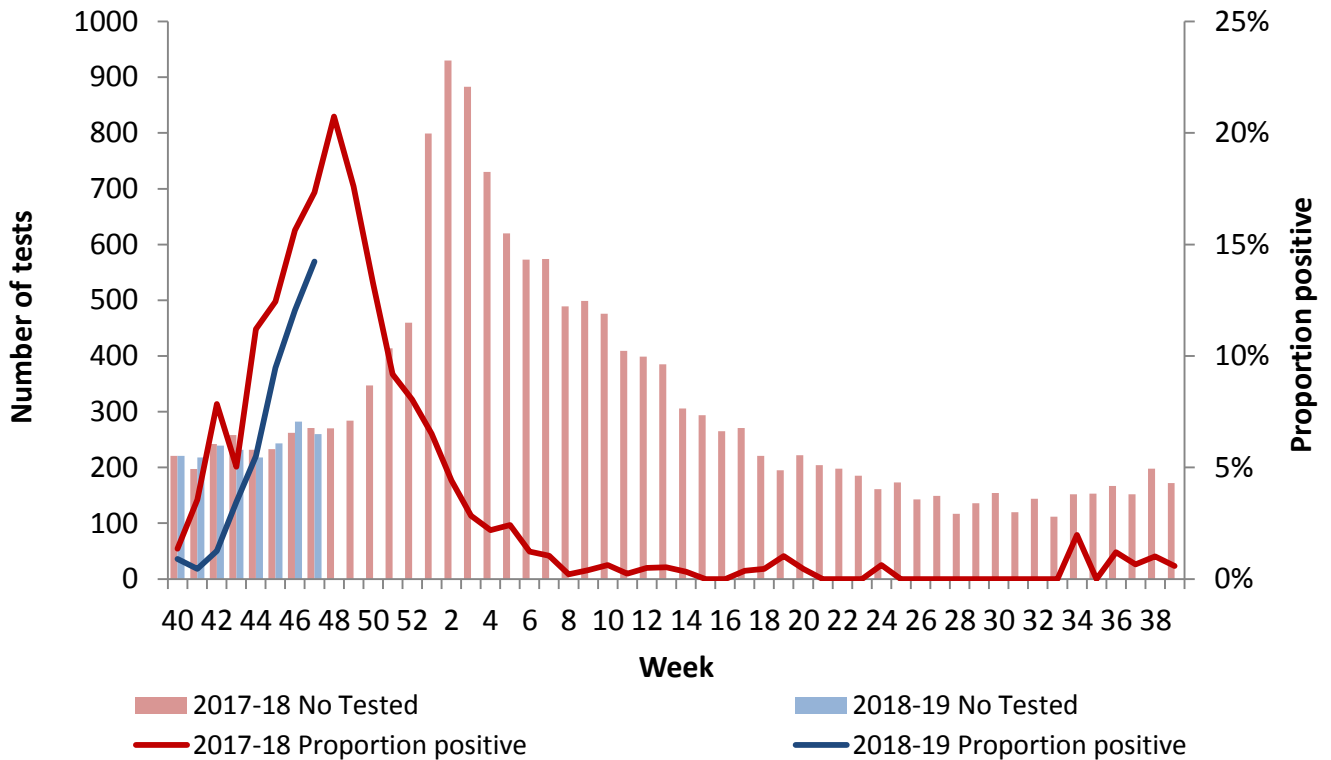
Additional virology testing has been undertaken at one local laboratory since week 2, 2018. This bulletin includes this data along with the data from the Regional Virology Laboratory. Other local laboratories may begin undertaking influenza testing and this data will be included in later bulletins if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

During weeks 46 and 47 there were 507 specimens submitted for virological testing. There were 18 detections of influenza in total, 14 Flu A(H1N1), two Flu A(H3) and two Flu A(untyped).

There were eight samples submitted through the GP based sentinel scheme in weeks 46 and 47 across Northern Ireland, none were positive for influenza (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

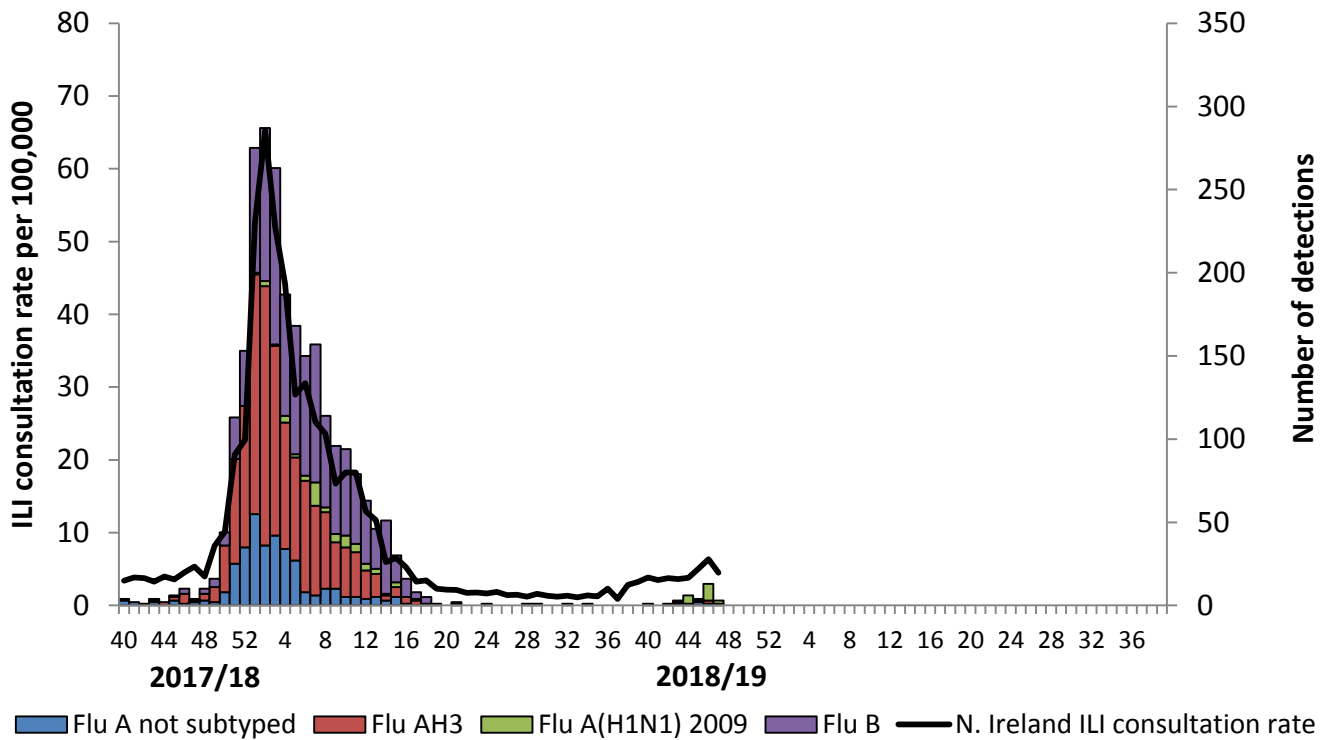


Comment

During weeks 46 and 47 there were 71 positive detections of RSV. To date there have been a total of 120 detections of RSV of which the majority (69%) were in those aged 0-4 years (Figure 8 and Tables 2 & 3).

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

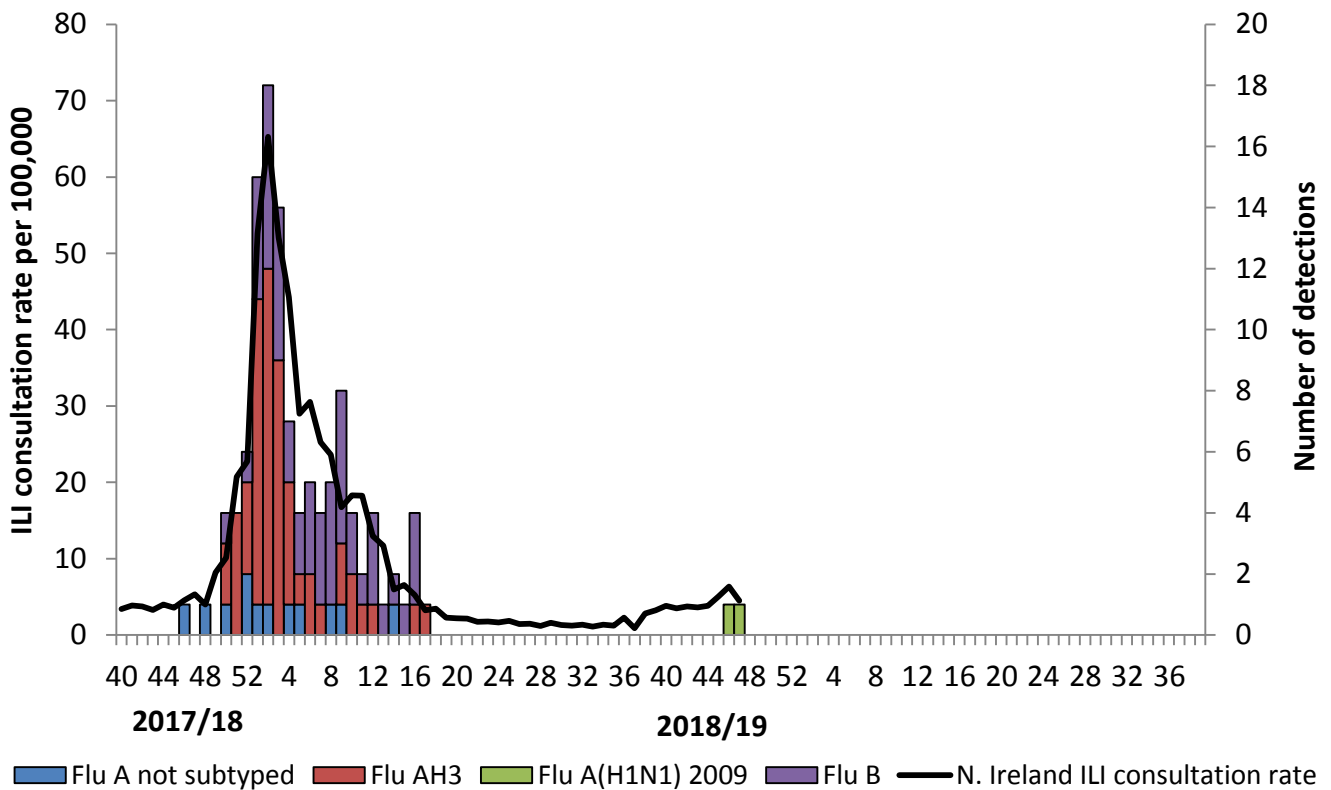


Comment

During weeks 46 and 47 there were 16 detections of influenza from specimens taken in hospital settings across Northern Ireland. In week 46 there was one detection of Flu A(untyped), two of A(H3) and 10 Flu A(H1N1). During week 47 there was one detection of Flu A(untyped) and two Flu A(H1N1). It should be kept in mind that it is possible that not all positive specimens (for weeks 46 and 47) will have been reported at 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 weeks 46 and 47, there were two new admissions to ICU with confirmed influenza reported to the PHA, both of which have been typed as Flu A(H1N1). There was one death reported in an ICU patient who had laboratory confirmed influenza. This is the first death reported in ICU this season with confirmed influenza.

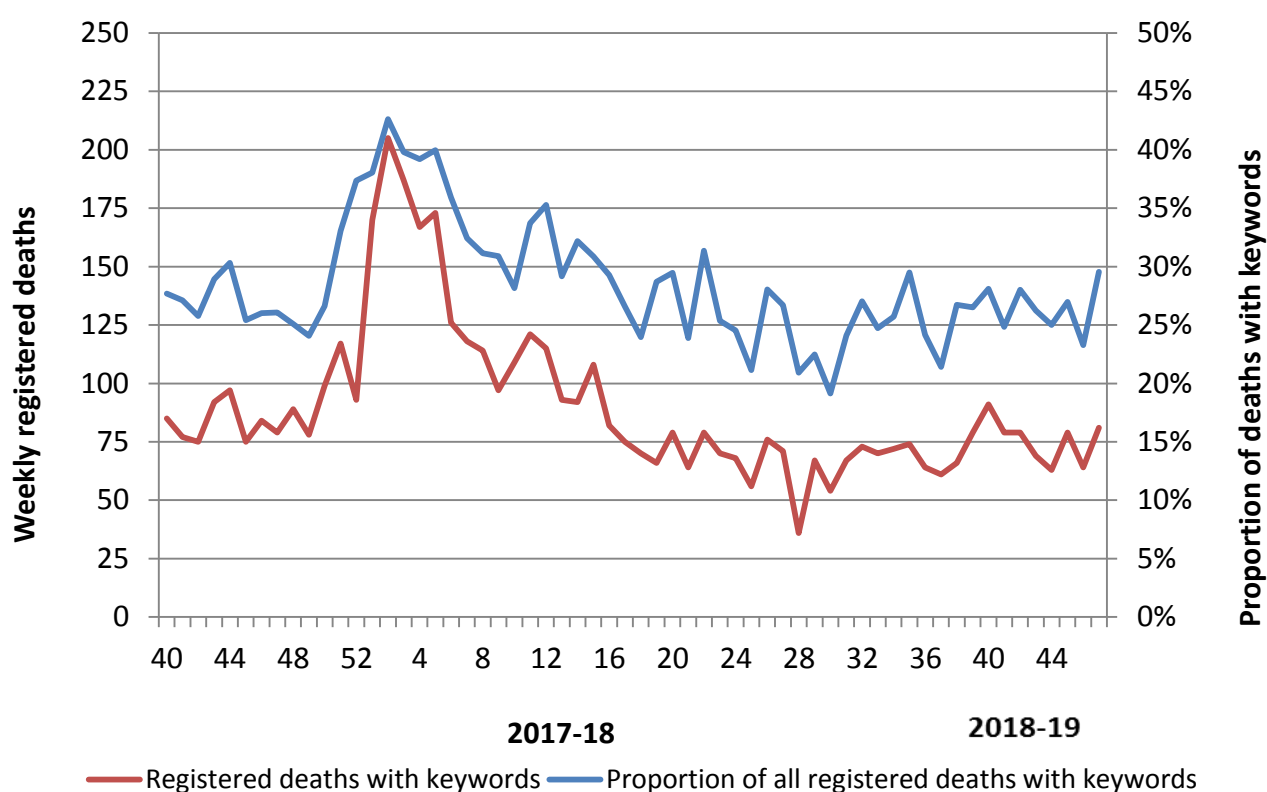
Outbreak Surveillance

During weeks 46 and 47 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 from 23% in week 46 to 30% in week 47. In week 46 there were 275 registered deaths of which 64 related to specific respiratory infections. In week 47 there were 274 registered deaths, of which 81 related to specific respiratory infections (Figure 11). The proportion of deaths attributed to specific respiratory infections is slightly higher at this point in the season as the same period in 2017/18 (26% at week 47).

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 46 and 47.

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

Influenza Vaccine Uptake

	2018/19 (to Oct 31 st)	2017/18 (to Oct 31 st)
>65 years	28.3%	55.0%
<65 years at risk	29.6%	37.5%
Pregnant women	35.2%	31.9%
2 to 4 year olds	32.9%	37.2%
Primary School	75.5%	76.3%
Trust Frontline	28.0%	28.0%

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

Weeks 46/2018 (12–18 November 2018)

- 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, but in low numbers.
- For week 46/2018, data from the 24 Member States and areas reporting to the [EuroMOMO](#) project indicated all-cause excess 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 [here](#).

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

Worldwide (WHO)

As at 26th November 2018 (based on update to 11th November):

Summary

In the temperate zone of the northern hemisphere influenza activity started to increase although overall influenza activity remained low. Increased influenza detections were reported in some countries of South-East Asia and Central America. In the temperate zones of the southern hemisphere, influenza activity returned to 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 114 countries, areas or territories reported data to FluNet for the time period from 29 October 2018 to 11 November 2018 (data as of 2018-11-23 04:11:01 UTC). The WHO GISRS laboratories tested more than 116728 specimens during that time period. 5534 were positive for influenza viruses, of which 4894 (88.4%) were typed as influenza A and 640 (11.6%) as influenza B. Of the sub-typed influenza A viruses, 2695 (85%) were influenza A(H1N1)pdm09 and 475 (15%) were influenza A(H3N2). Of the characterized B viruses, 53 (43.1%) belonged to the B-Yamagata lineage and 70 (56.9%) 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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