

## Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 44-45 (29<sup>th</sup> October – 11<sup>th</sup> November)

### 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 activity<sup>1</sup>.

#### 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 44 and 5.0 per 100,000 in week 45. Rates remain below the baseline Moving Epidemic Method (MEM) threshold for flu activity<sup>1</sup>.
- OOH GP consultation rates for flu/FLI decreased slightly in weeks 44 and 45 from 2.9 to 2.6 per 100,000 population.

#### Microbiological Surveillance (Flu and RSV)

- In week 44 there were five detections of Flu A(H1N1) and one Flu A(untyped). In week 45 there was one detection of Flu A(H3) and two Flu A(H1N1).
- Positive RSV detections increased from 12 in week 44 to 21 in week 45.

#### Secondary Care (Hospital both non-ICU and ICU)

- In week 44 there was one detection of Flu A(untyped) and five Flu A(H1N1). In week 45 there was one detection of Flu A(H3) and one Flu A(H1N1).
- There were no cases reported in ICU with laboratory confirmed influenza in weeks 44 and 45.

#### Influenza Outbreaks across Northern Ireland

- There were no confirmed influenza outbreaks reported to the PHA in weeks 44 and 45.

#### Mortality

- The proportion of deaths related to respiratory keywords (bronchiolitis, bronchitis, influenza and pneumonia) increased slightly from 25% in week 44 to 27% in week 45.

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<sup>1</sup> 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 1<sup>st</sup> 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

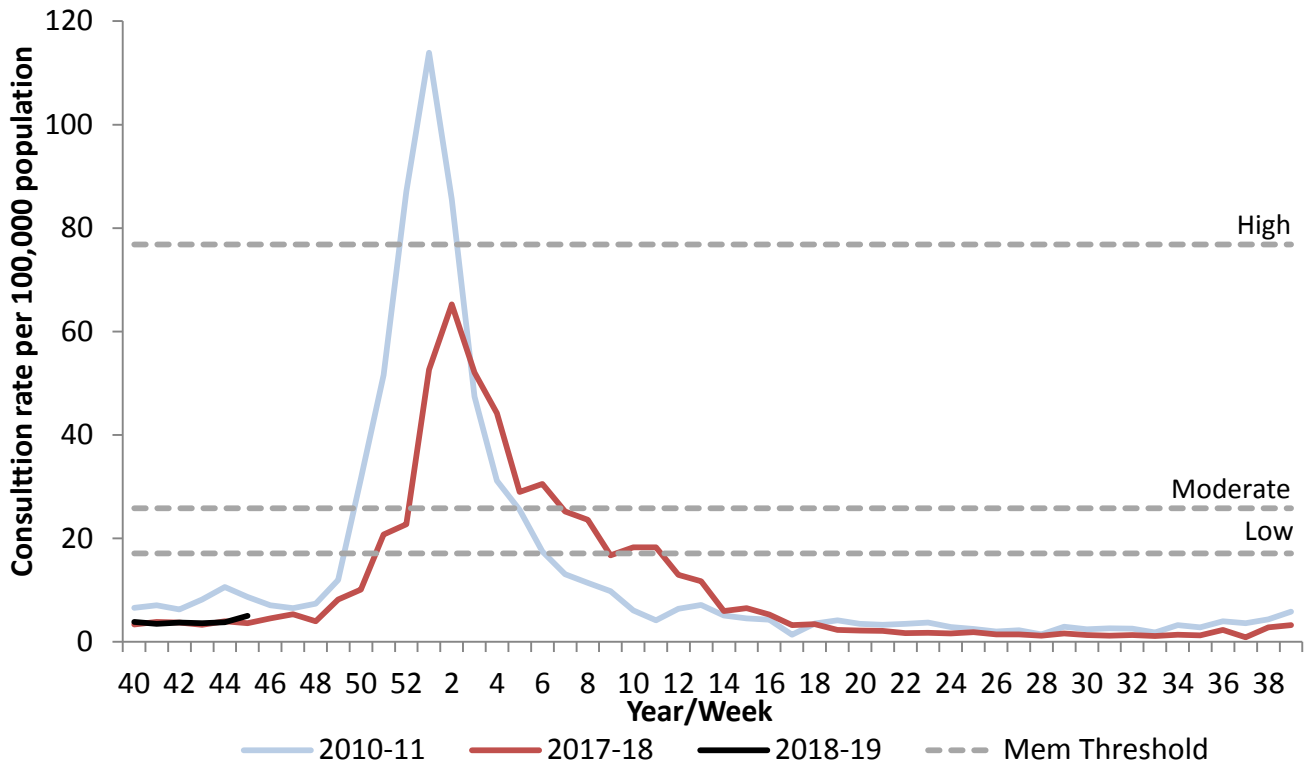
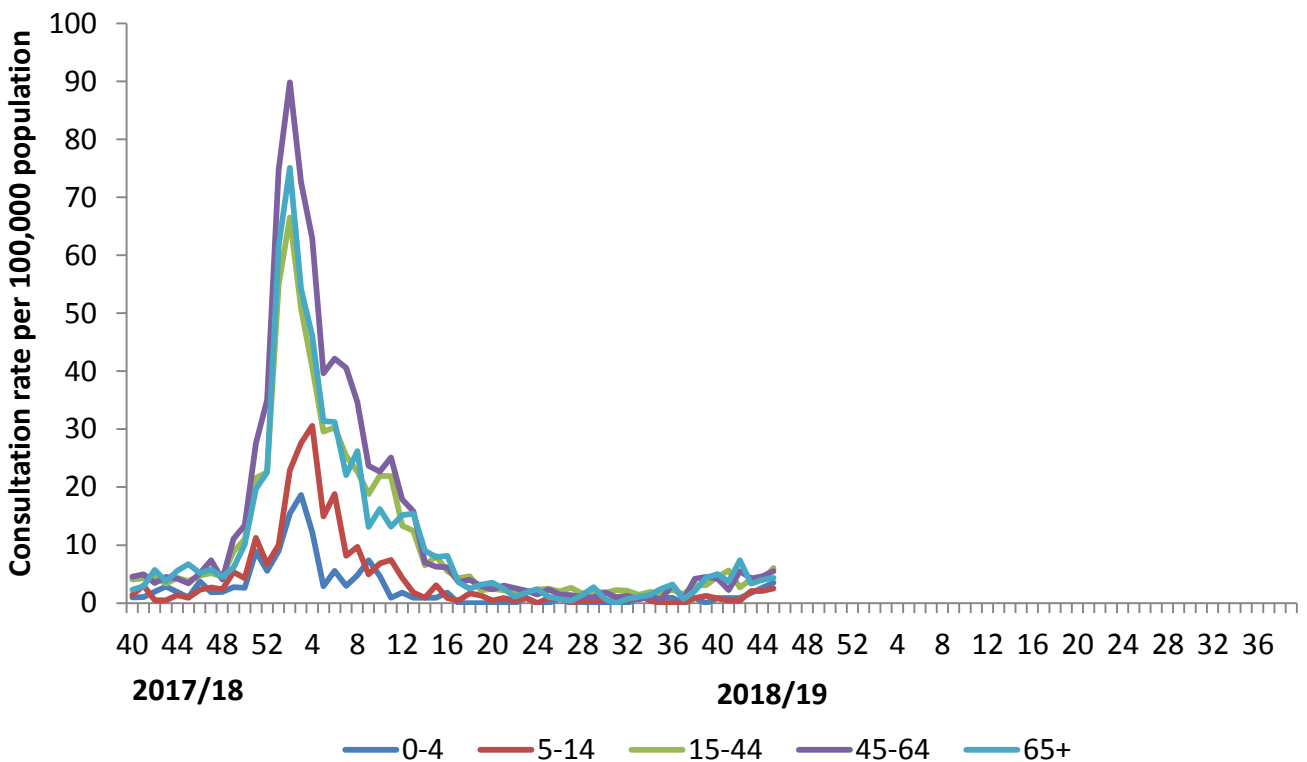


Figure 2. Northern Ireland GP age-specific consultation rates for flu/FLI from week 40, 2017



## Comment

The NI GP consultation rates for flu and flu-like illness (flu/FLI) during weeks 44 and 45 were 3.8 and 5.0 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 44 (4.6 per 100,000) and in those aged 15-44 years in week 45 (6.0 per 100,000) (Figure 2). The consultation rates increased in week 45 compared to week 44 in all age groups.

## Out-of-Hours (OOH) Centres Call Data

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

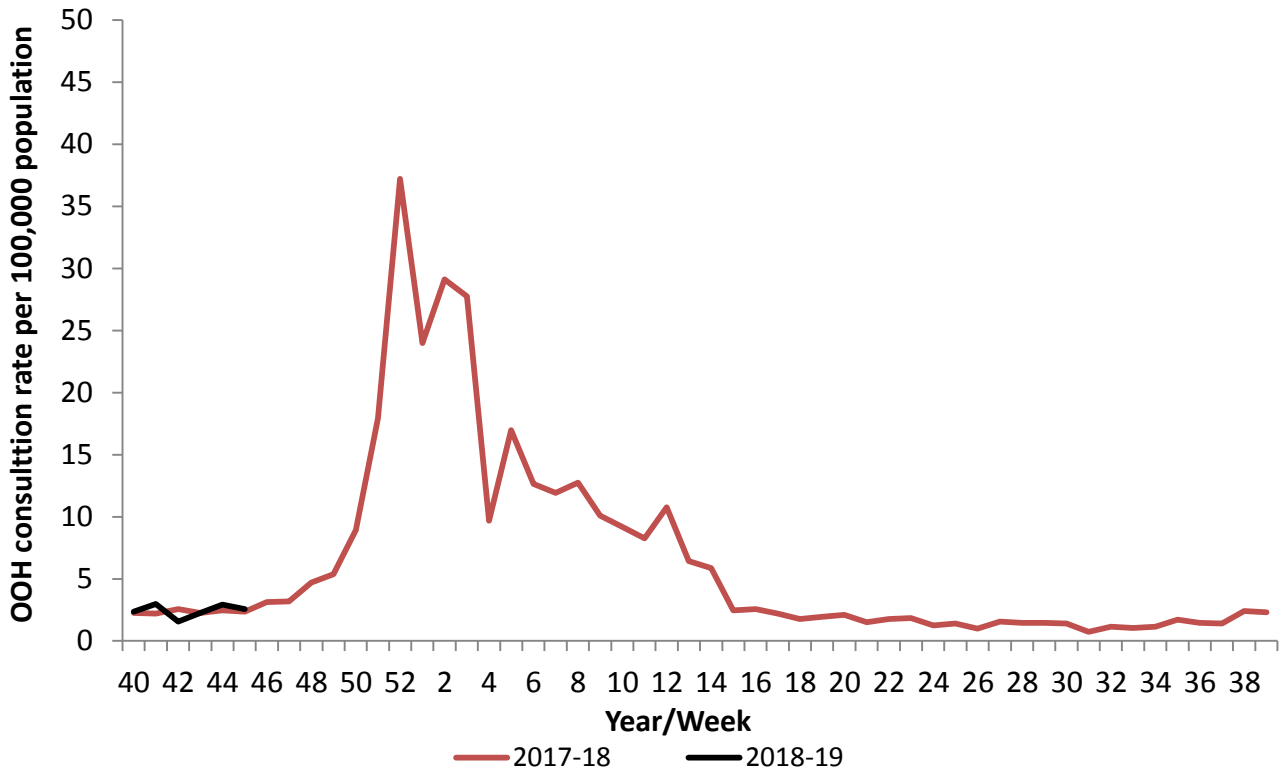
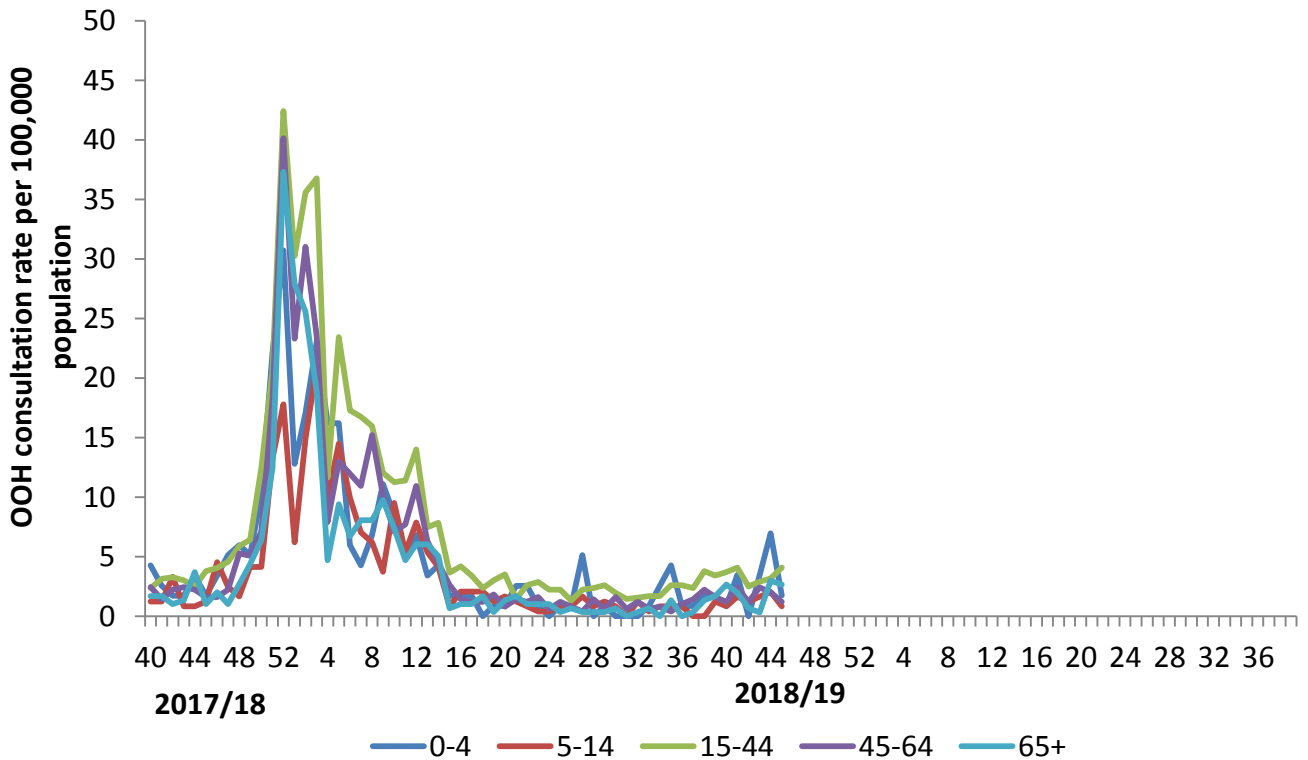


Figure 4. OOH call rates of flu/FLI by age-group from week 40, 2017



## Comment

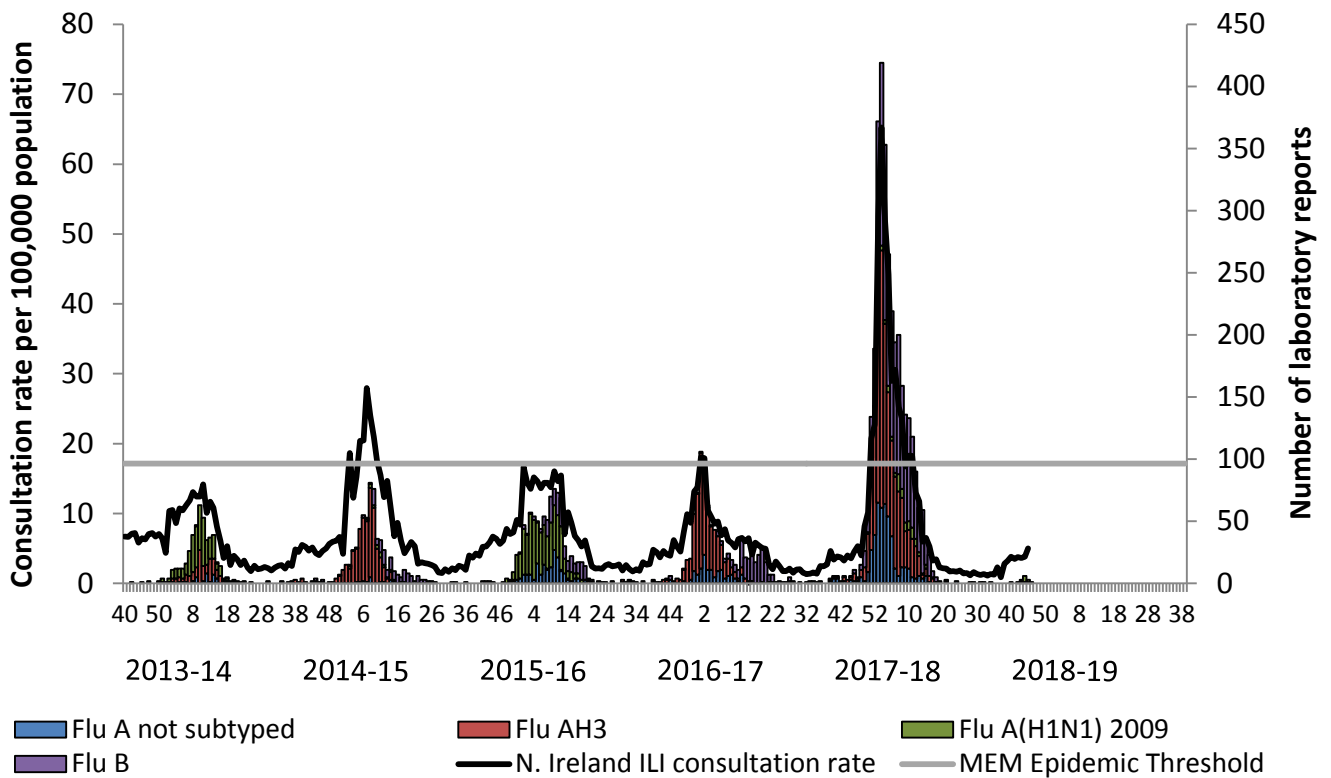
The OOH flu/FLI consultation rate during weeks 44 and 45 were 2.9 and 2.6 per 100,000 population respectively (Figure 3). The rate in week 44 of 2018/19 is slightly higher than the same week in 2017/18 (2.9 compared to 2.5 per 100,000); likewise, the rate in week 45 is also slightly higher in 2018/19 than in 2017/18 (2.6 compared to 2.4 per 100,000).

The proportion of calls related to flu/FLI in OOH centres decreased slightly from 0.6% in week 44 to 0.5% in week 45. This proportion is the same as week 43 (0.5%).

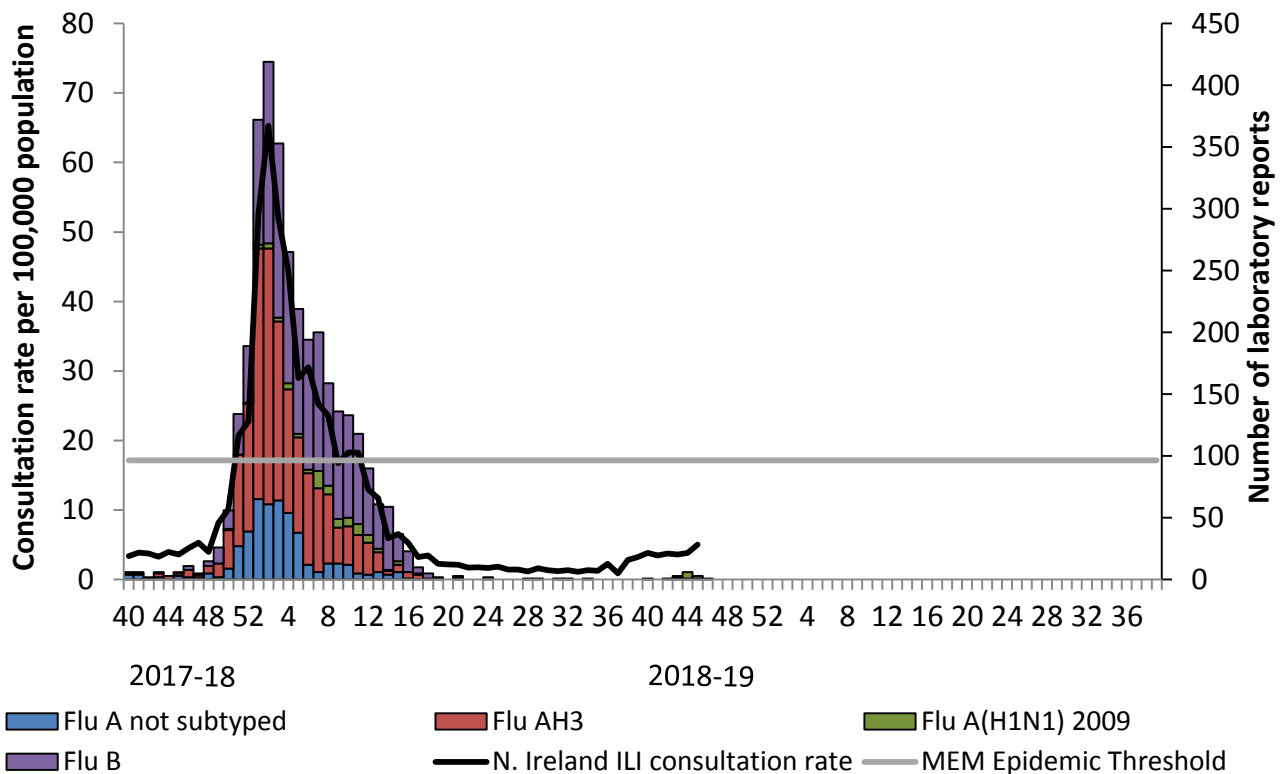
The OOH flu/FLI consultation rate was highest in those aged 0-4 years in week 44 (6.9 per 100,000), but was highest in the 15-44 years age group in week 45 (4.1 per 100,000) (Figure 4). The consultation rates decreased in week 45 compared to week 44 in all age groups with the exception of those aged 15-44 years which increased in week 45 (3.2 to 4.1 per 100,000).

## 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 44-45, 2018-19**

Source	Specimens tested	Flu AH3	Flu A(H1N1) 2009)	A (Untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	6	0	0	0	0	0	0	0%
Non-sentinel	422	1	7	1	0	33	9	2%
<b>Total</b>	<b>428</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>33</b>	<b>9</b>	<b>2%</b>

**Table 2. Cumulative virus activity from all sources by age group, Week 40 - 45, 2018-19**

Age Group	Flu AH3	Flu A(H1N1) 2009	A (Untyped)	Flu B	Total Influenza	RSV
0-4	0	3	0	0	3	36
5-14	0	0	0	0	0	1
15-64	0	4	2	1	7	4
65+	2	1	1	0	4	6
Unknown	0	0	0	0	0	0
<b>All ages</b>	<b>2</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>14</b>	<b>47</b>

**Table 3. Cumulative virus activity by age group and source, Week 40 - Week 45, 2018-19**

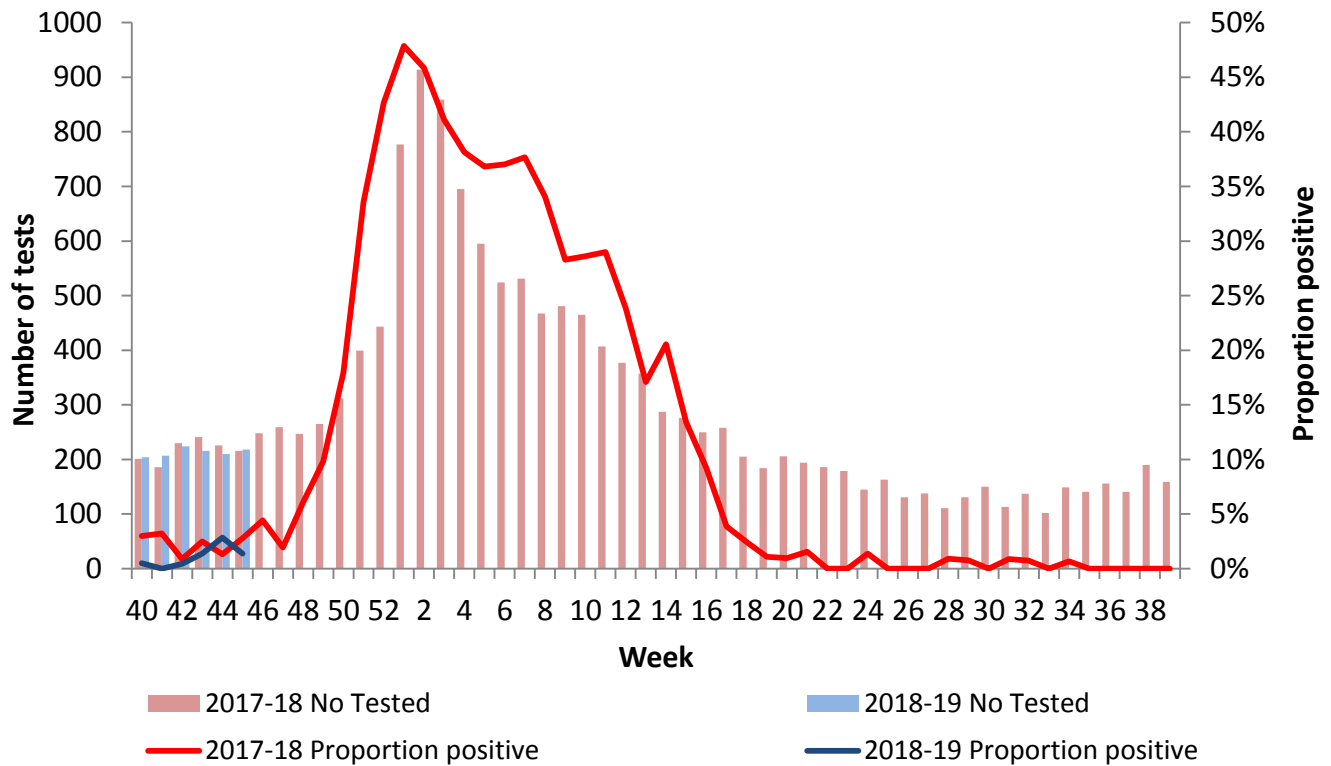
Age Group	Sentinel						Non-sentinel					
	Flu AH3	Flu A(H1N1) 2009	A (Untyped)	Flu B	Total Influenza	RSV	Flu AH3	Flu A(H1N1) 2009	A (Untyped)	Flu B	Total Influenza	RSV
0-4	0	0	0	0	0	0	0	3	0	0	3	36
5-14	0	0	0	0	0	0	0	0	0	0	0	1
15-64	0	0	0	0	0	0	0	4	2	1	7	4
65+	0	0	0	0	0	0	2	1	1	0	4	6
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>All ages</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>14</b>	<b>47</b>

**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**

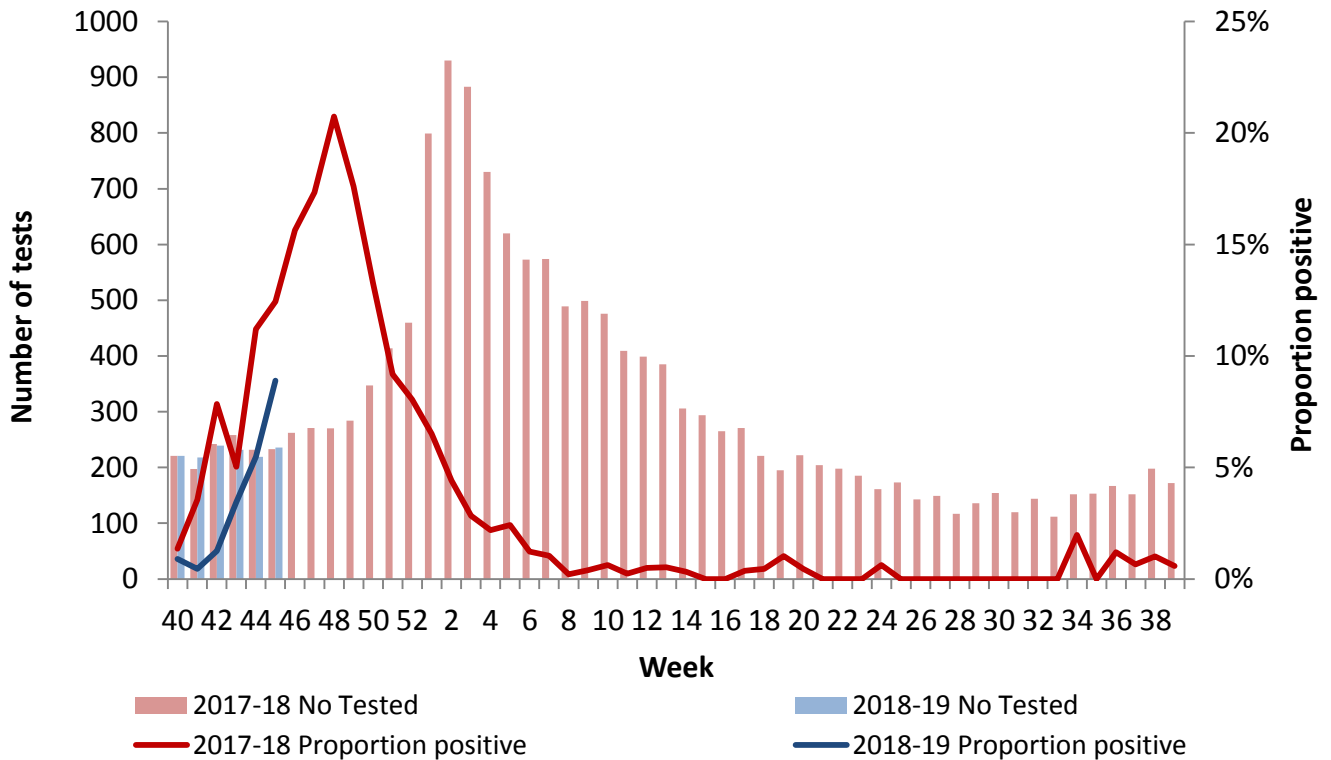
Additional virology testing has been undertaken at one local laboratory since week 2, 2018. This bulletin includes this data along with the data from the Regional Virology Laboratory. Other local laboratories may begin undertaking influenza testing and this data will be included in later bulletins if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

During weeks 44 and 45 there were 428 specimens submitted for virological testing. There were nine detections of influenza in total, seven Flu A(H1N1), one Flu AH3 and one Flu A(untyped).

There were six samples submitted through the GP based sentinel scheme in weeks 44 and 45 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**

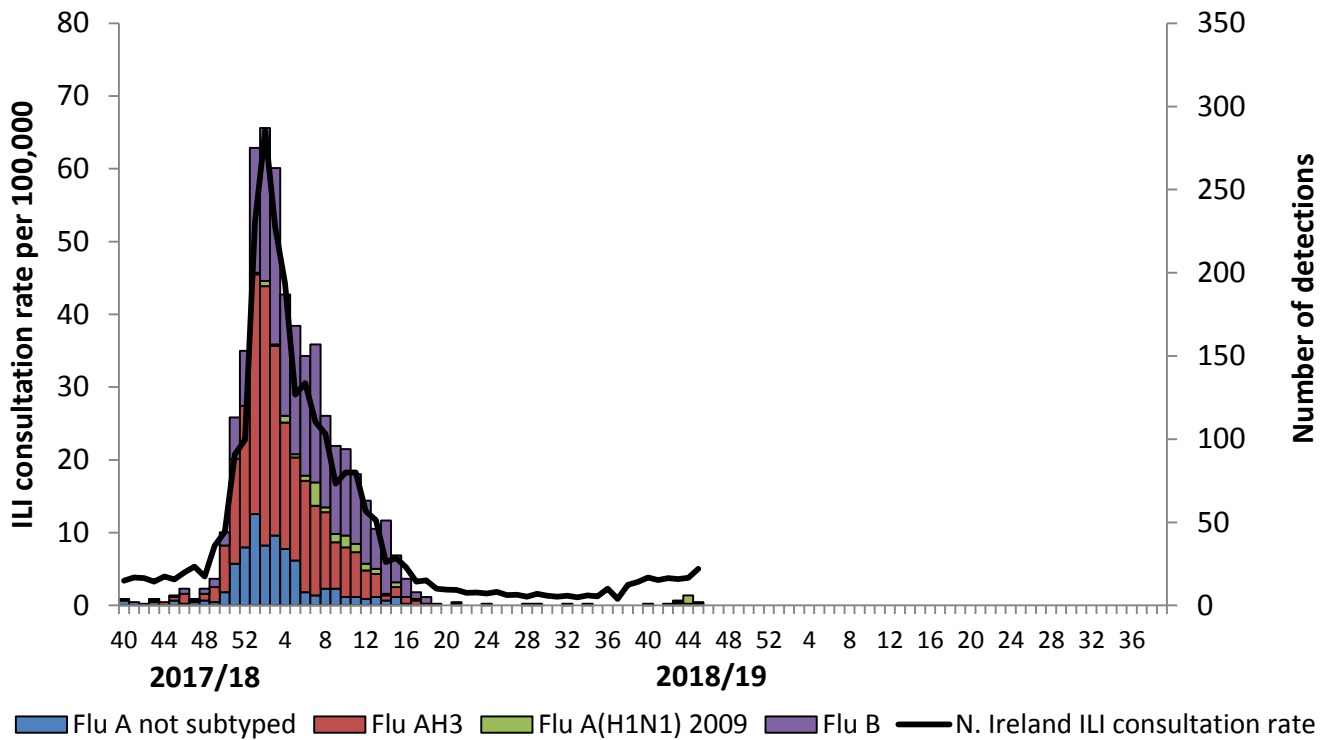


### Comment

During weeks 44 and 45 there were 33 positive detections of RSV. To date there have been a total of 47 detections of RSV of which the majority (77%) 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**

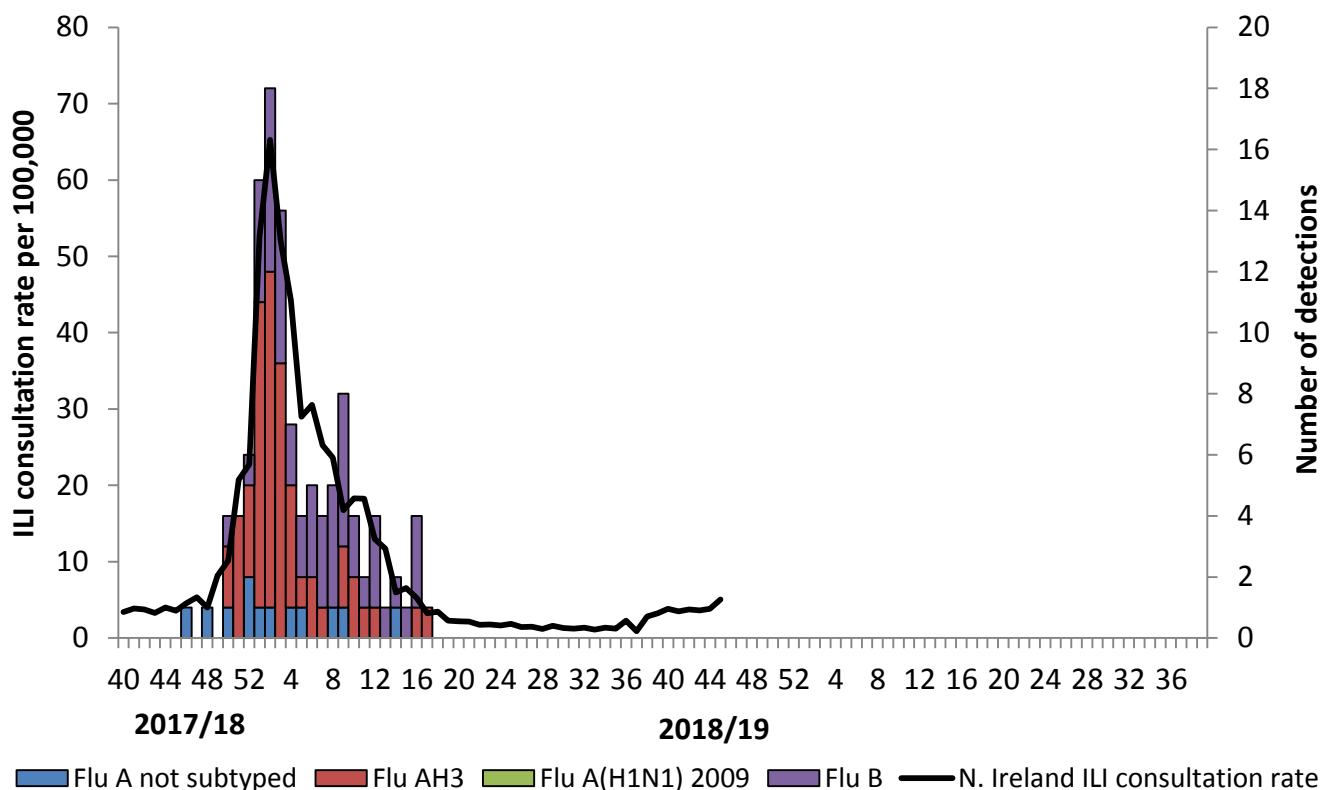


### Comment

During weeks 44 and 45 there were eight detections of influenza from specimens taken in hospital settings across Northern Ireland. In week 44 there was one detection of Flu A(untyped) and five Flu A(H1N1). During week 45 there was one detection of Flu A(H3) and one Flu A(H1N1). It should be kept in mind that it is possible that not all positive specimens (for weeks 44 and 45) 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 44 and 45, there were no confirmed cases of influenza in ICU reported to the PHA.

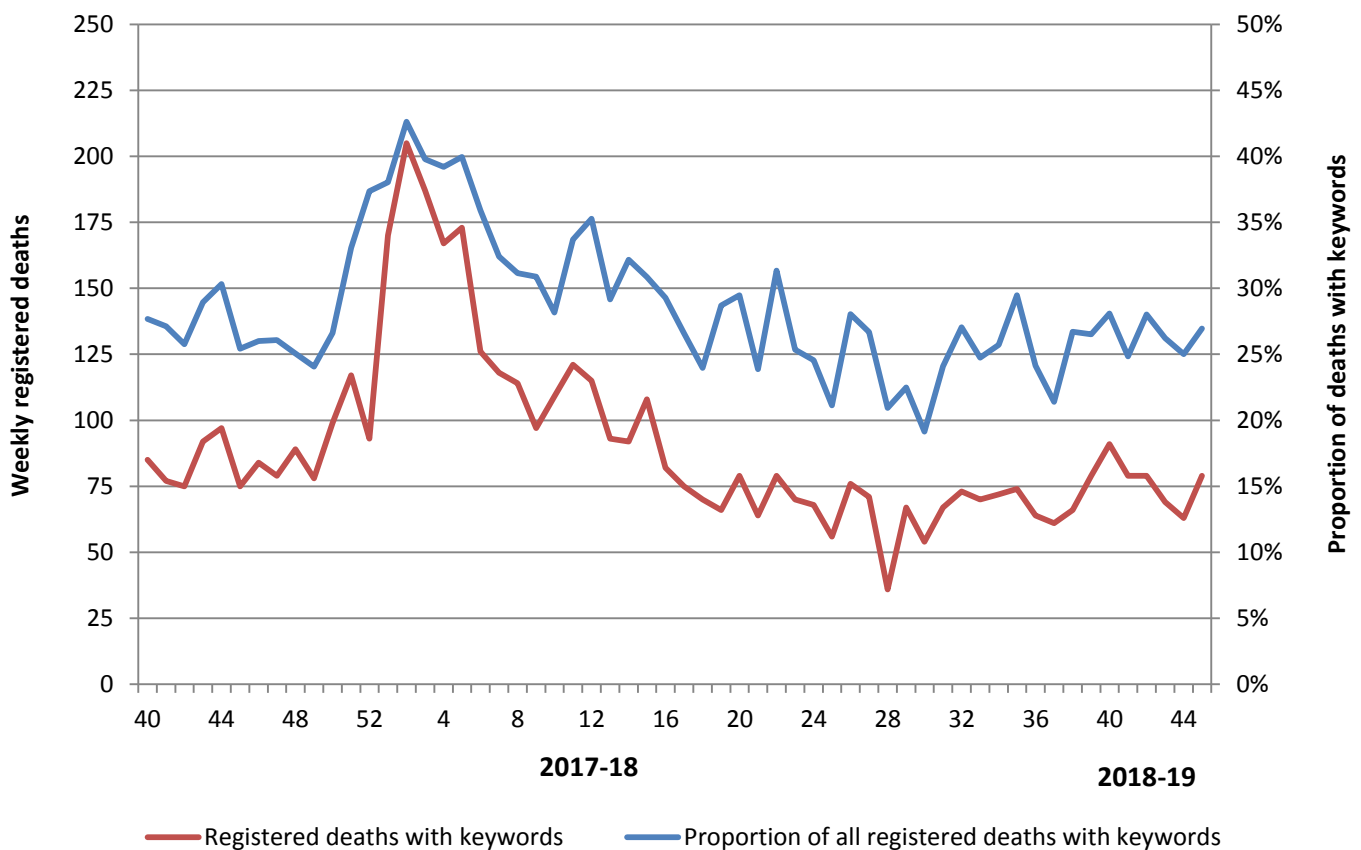
### Outbreak Surveillance

During weeks 44 and 45 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 25% in week 44 to 27% in week 45. In week 44 there were 252 registered deaths of which 63 related to specific respiratory infections. In week 45 there were 293 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 (25% at week 45).

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

	2017/18 (to Mar 31 <sup>st</sup> )	2016/17 (to Mar 31 <sup>st</sup> )
>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

#### Weeks 44/2018 (29 October–4 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 in low numbers.
- For week 44/2018, data from the 18 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 has so far been low in the European Region [here](#).

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

### Worldwide (WHO)

#### As at 14<sup>th</sup> November 2018 (based on update to 28<sup>th</sup> October):

In the temperate zone of the northern hemisphere influenza activity remained at inter-seasonal levels. Increased influenza detections were reported in some countries of Southern and South-East Asia. In the temperate zones of the southern hemisphere, influenza activity returned to nearly 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 104 countries, areas or territories reported data to FluNet for the time period from 15 October 2018 to 28 October 2018 (data as of 2018-11-09 03:38:30 UTC). The WHO GISRS laboratories tested more than 84313 specimens during that time period. 2145 were positive for influenza viruses, of which 1845 (86%) were typed as influenza A and 300 (14%) as influenza B. Of the sub-typed influenza A viruses, 905 (64.5%) were influenza A(H1N1)pdm09 and 499 (35.5%) were influenza A(H3N2). Of the characterized B viruses, 54 (52.4%) belonged to the B-Yamagata lineage and 49 (47.6%) 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/vaccines/virus/recommendations/2019_south/en/)

[http://www.who.int/influenza/surveillance\\_monitoring/updates/latest\\_update\\_GIP\\_surveillance/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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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/>

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