

# Influenza Weekly Surveillance Bulletin

## Northern Ireland, Week 8 (18<sup>th</sup> – 24<sup>th</sup> February 2019)

### Summary

The surveillance data indicates that influenza continues to circulate in community and hospital settings across Northern Ireland. Primary Care influenza rates remain below the baseline Moving Epidemic Method (MEM) threshold<sup>1</sup> for Northern Ireland and are below normal seasonal activity.

#### Northern Ireland Primary Care Consultation Rates

- GP consultation rate for flu and flu-like illness (flu/FLI) during week 8, 2019 was 11.1 per 100,000 population, a decrease from week 7 (14.5 per 100,000). Rates remain below the baseline Moving Epidemic Method (MEM) threshold for flu activity<sup>1</sup>.
- OOH GP flu/FLI consultation rate decreased between week 7 and week 8 (7.6 to 5.0 per 100,000 population, respectively).

#### Microbiological Surveillance (Flu and RSV)

- During week 8 there were 533 specimens submitted for virological testing, of which 130 tested positive for influenza (24% positivity).
- There were 71 detections of Flu A(H1N1)pdm09, 47 Flu A(H3) and 12 Flu A(untyped).
- There were 27 positive RSV detections in week 8 (5% positivity).

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

- In week 8 there were 65 detections of Flu A(H1N1)pdm09, 44 Flu A(H3) and eight Flu A(untyped).
- There were five cases reported in ICU with laboratory confirmed influenza (three Flu A(H1N1)pdm09 and two Flu A(untyped)).
- To date, there have been 64 admissions to ICU with confirmed influenza reported to PHA and five deaths reported in ICU patients who had laboratory confirmed influenza.

#### Respiratory Outbreaks across Northern Ireland

- During week 8, 2019 there was one respiratory outbreak reported in a care home (Flu A (untyped)). To date, there have been 11 respiratory outbreaks reported, eight in care homes (four Flu A(untyped), one Flu B and three RSV) and three in a hospital setting (Flu A(untyped)).

#### Mortality

- The proportion of deaths related to respiratory keywords (bronchiolitis, bronchitis, influenza and pneumonia) decreased in week 8 compared to week 7 (36% to 31%).

#### Influenza Vaccine Uptake

	2018/19 (to Jan 31 <sup>st</sup> )	2017/18 (to Jan 31 <sup>st</sup> )
>65 years	68.7%	70.4%
<65 years at risk	50.7%	53.5%
Pregnant women	47.0%	47.9%
2 to 4 year olds	47.2%	49.1%
Primary School	75.7%	76.2%
Trust Frontline	34.8%	32.8%
Trust Frontline (excluding social workers and social care workers)	38.5%	-

<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:

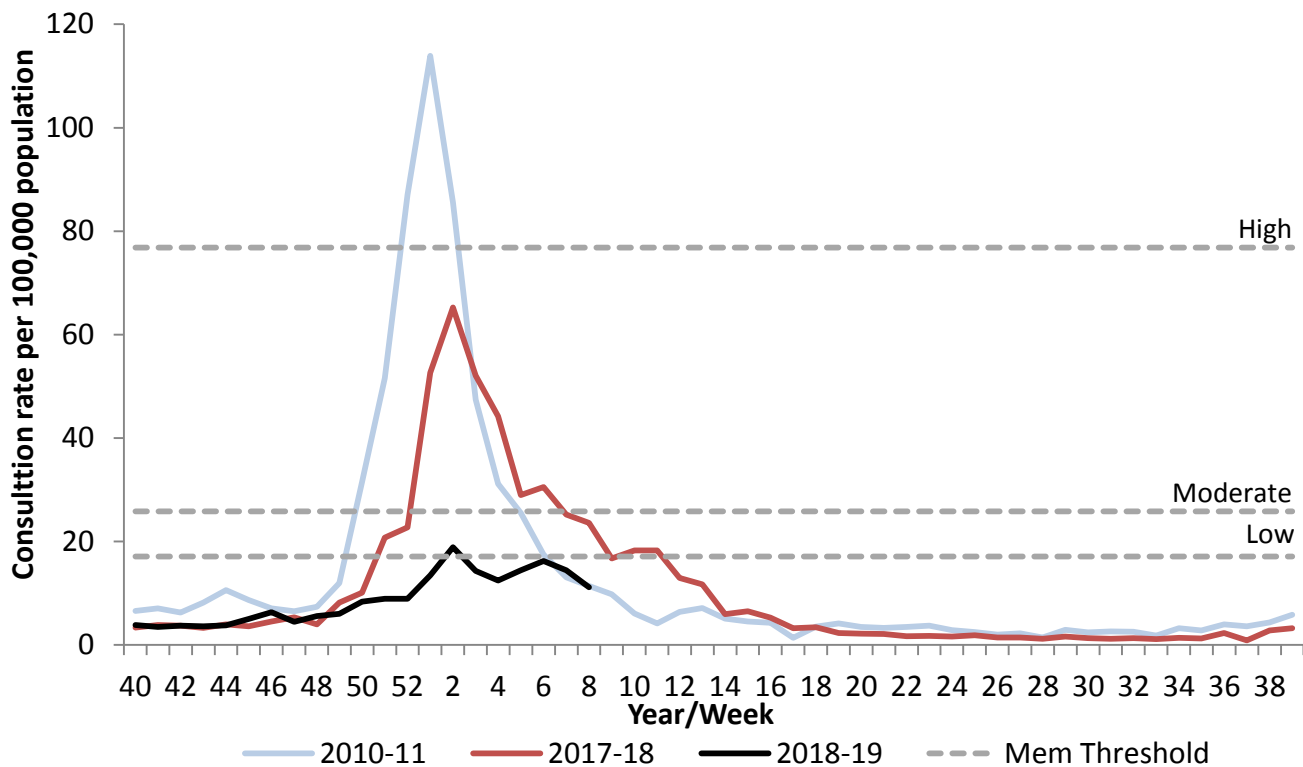
- Northern Ireland GP surveillance representing 98% of Northern Ireland population;
- Sentinel flu-swabber GP practices representing 11.2% of the NI population, contributing to the measurement of circulating influenza in the community
- GP Out-of-Hours surveillance system representing the entire population;
- 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).***

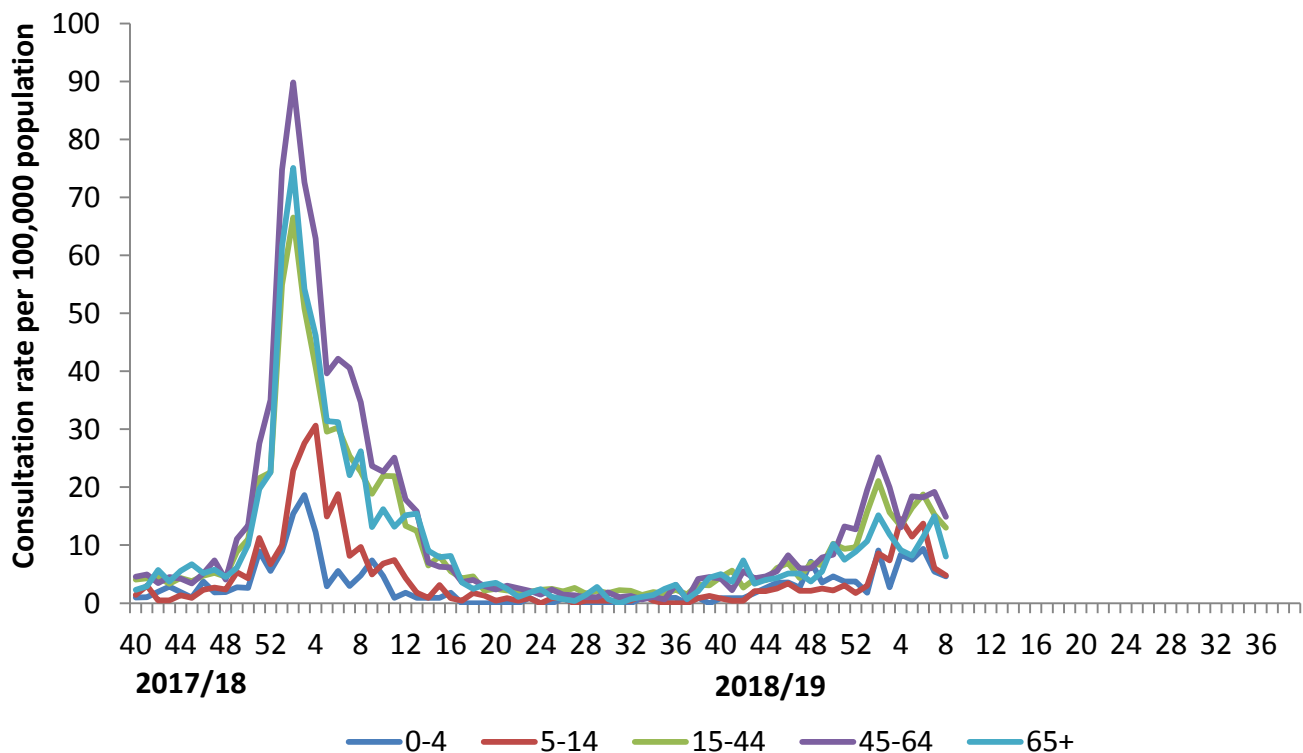
***As a result, Flu/FLI consultation rates and the MEM threshold from 2017-18 onwards will be generally lower than in previous years. Please take this into account when interpreting the figures.***

# 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**



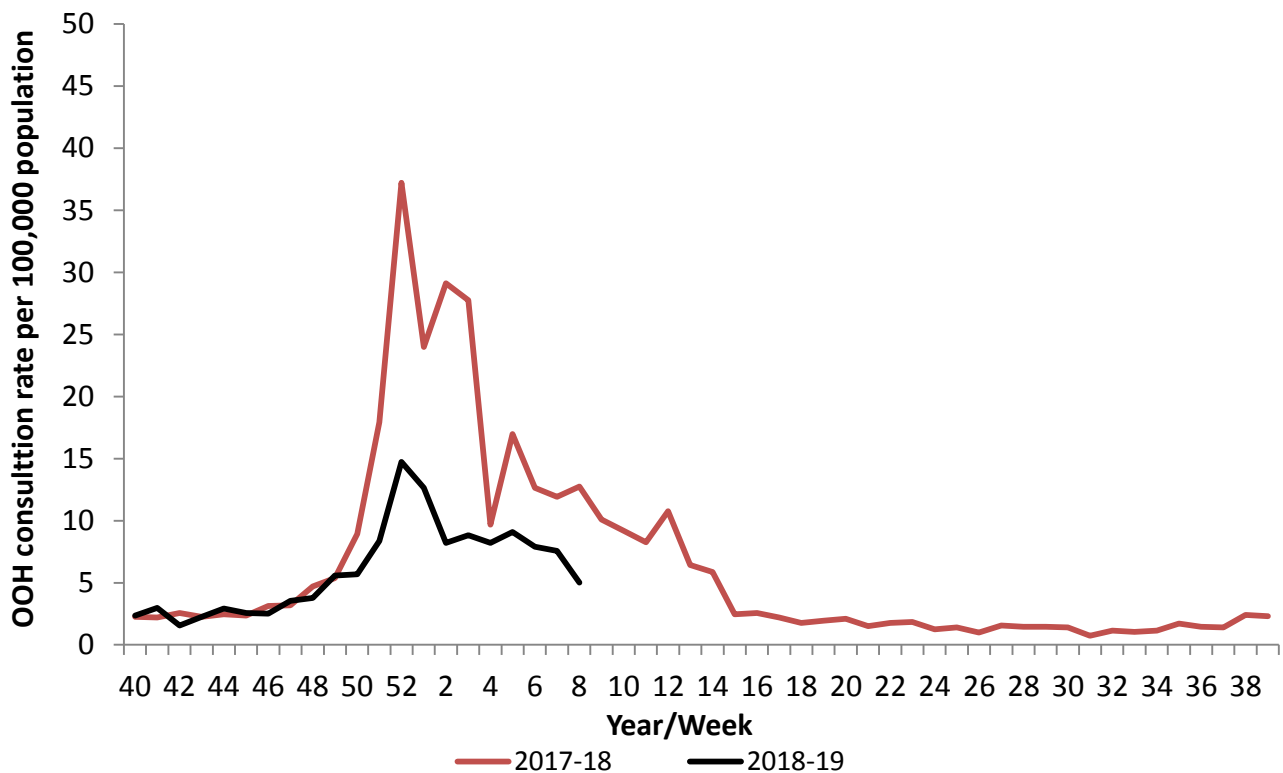
## Comment

The NI GP consultation rate for flu and flu-like illness (flu/FLI) during week 8, 2019 was 11.1 per 100,000 population, a decrease from week 7 (14.5 per 100,000). Activity remains below the baseline MEM threshold for Northern Ireland (<17.1 per 100,000) (Figure 1).

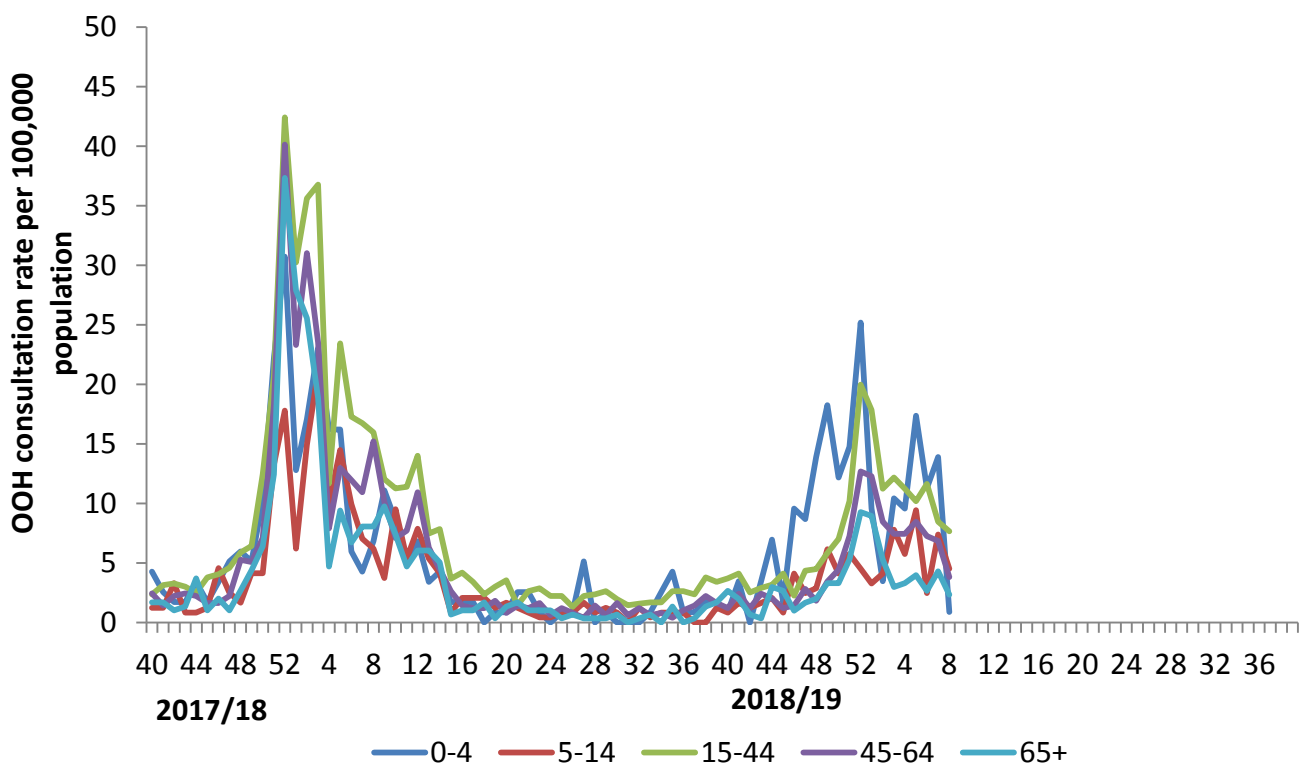
The consultation rates decreased in week 8 compared to week 7 in all age groups. The consultation rate was highest in week 8 in those aged 45-64 years (14.9 per 100,000) (Figure 2).

## 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 week 8, 2019 was 5.0 per 100,000 population, a decrease from week 7 (7.6 per 100,000) (Figure 3). The rate in week 8 is lower than the same week in 2017/18 (5.0 compared to 12.8 per 100,000). The proportion of calls related to flu/FLI in OOH centres was 0.9% in week 8 (1.3% in week 7).

Consultation rates decreased in week 8 in all age groups with the most notable decrease in those aged 0-4 years (13.9 to 0.9 per 100,000) (Figure 4).

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

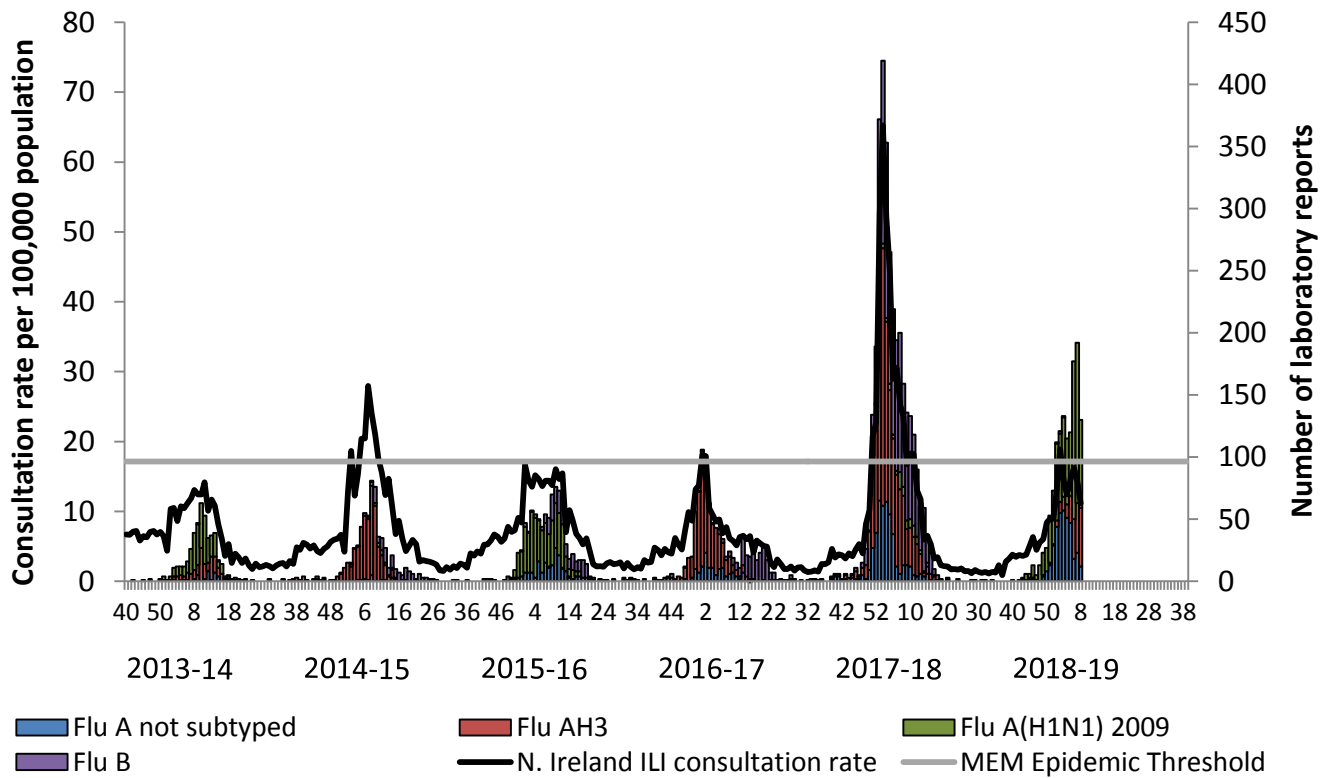
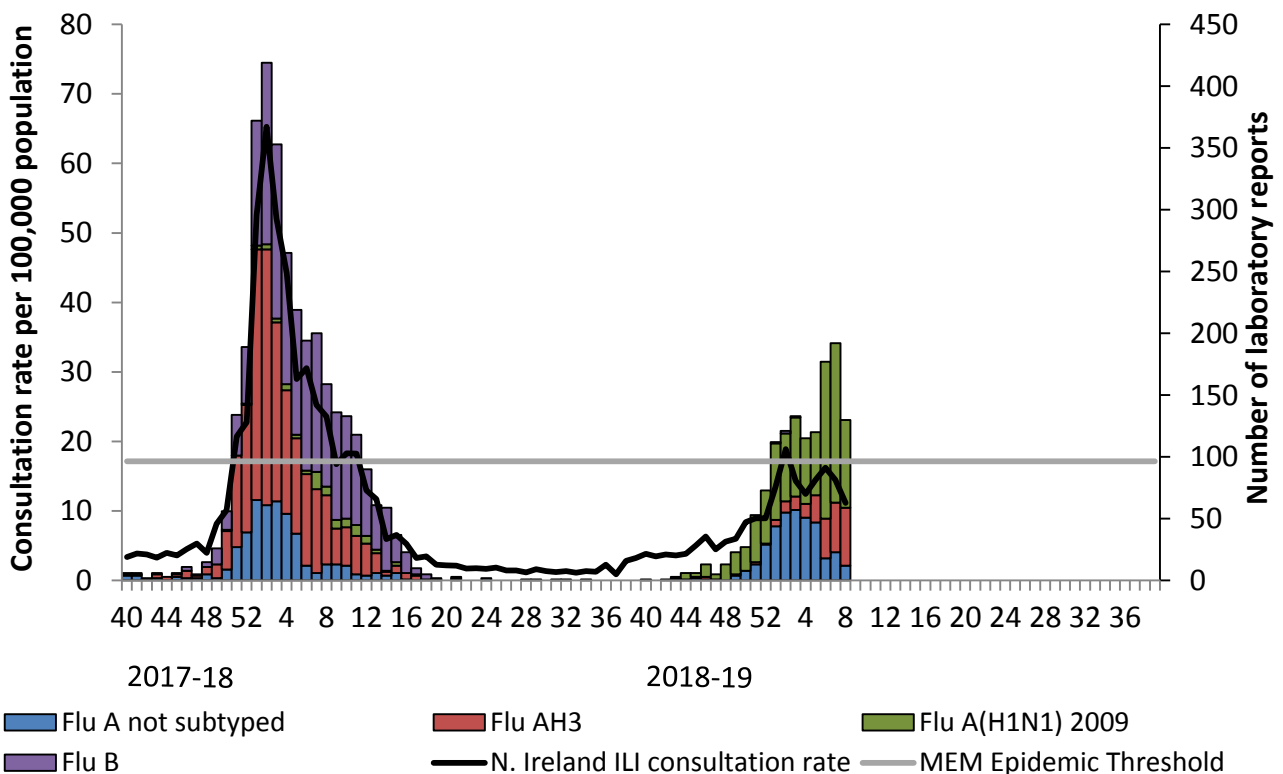


Figure 6. Northern Ireland GP consultation rates for flu/FLI and number of virology 'flu' detections from week 40, 2017



**Table 1. Virus activity in Northern Ireland by source, Week 8, 2018-19**

Source	Specimens tested	Flu AH3	Flu A(H1N1) 2009	A (Untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	11	0	5	0	0	0	5	45%
Non-sentinel	522	47	66	12	0	27	125	24%
<b>Total</b>	<b>533</b>	<b>47</b>	<b>71</b>	<b>12</b>	<b>0</b>	<b>27</b>	<b>130</b>	<b>24%</b>

**Table 2. Cumulative virus activity from all sources by age group, Week 40 - 8, 2018-19**

Age Group	Flu AH3	Flu A(H1N1) 2009	A (Untyped)	Flu B	Total Influenza	RSV
0-4	8	132	24	0	164	339
5-14	14	38	13	0	65	15
15-64	88	463	225	3	779	117
65+	75	133	106	2	316	171
Unknown	0	0	0	0	0	0
<b>All ages</b>	<b>185</b>	<b>766</b>	<b>368</b>	<b>5</b>	<b>1324</b>	<b>642</b>

**Table 3. Cumulative virus activity by age group and source, Week 40 - Week 8, 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	2	0	0	2	0	8	130	24	0	162	339
5-14	1	4	0	0	5	0	13	34	13	0	60	15
15-64	10	40	11	0	61	10	78	423	214	3	718	107
65+	2	3	1	1	7	1	73	130	105	1	309	170
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>All ages</b>	<b>13</b>	<b>49</b>	<b>12</b>	<b>1</b>	<b>75</b>	<b>11</b>	<b>172</b>	<b>717</b>	<b>356</b>	<b>4</b>	<b>1249</b>	<b>631</b>

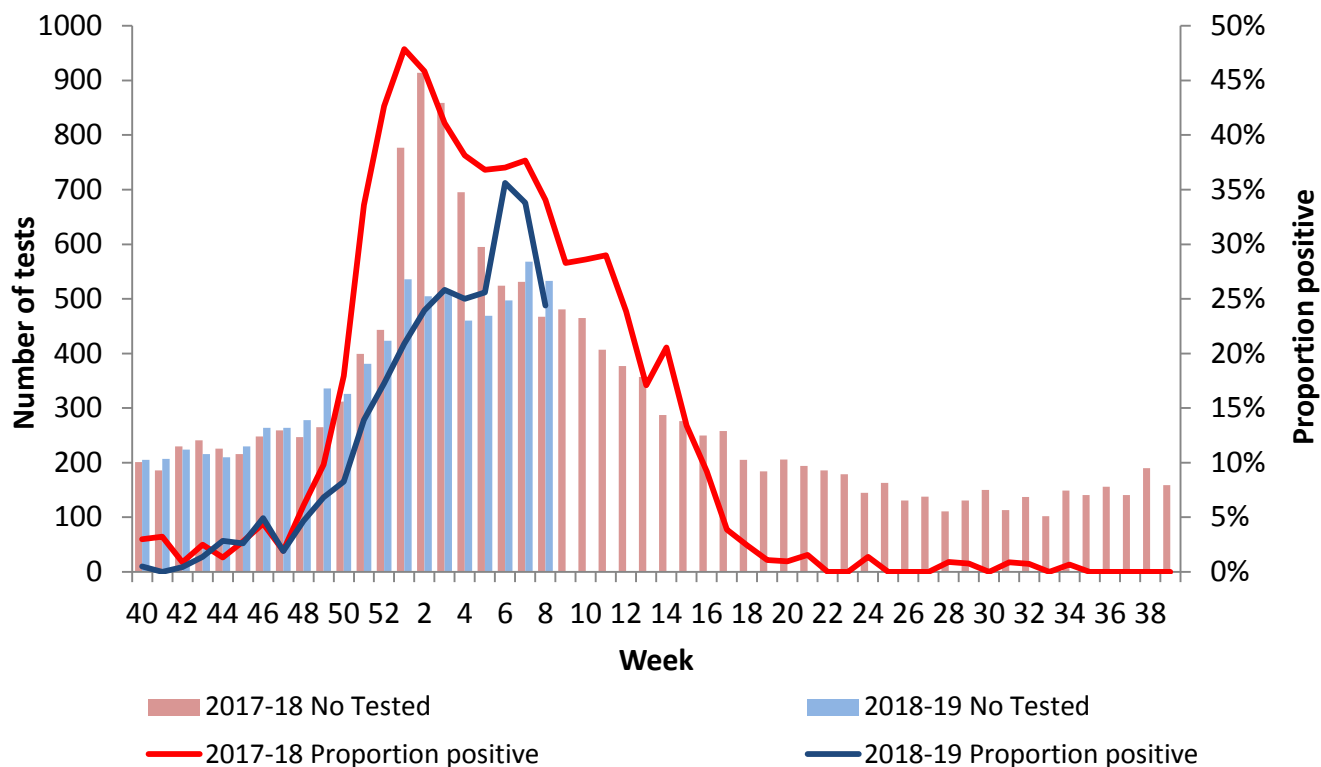
**Note**

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.

Many Flu A positives this season have not been typed using the normal H1 typing assay but are proving to be Flu A(H1)2009 on nucleic acid sequencing of selected positive samples. This has been a phenomenon seen throughout the UK this season and relates to virus mutations that affect the H1 typing assay. A new PHE typing assay for H1 will be in use from week 6, 2019 and the numbers of Flu A(untyped) should decline in subsequent reports.



**Figure 7. Number of samples tested for influenza and proportion positive, 2017/18 and 2018/19, all sources**



**Comment**

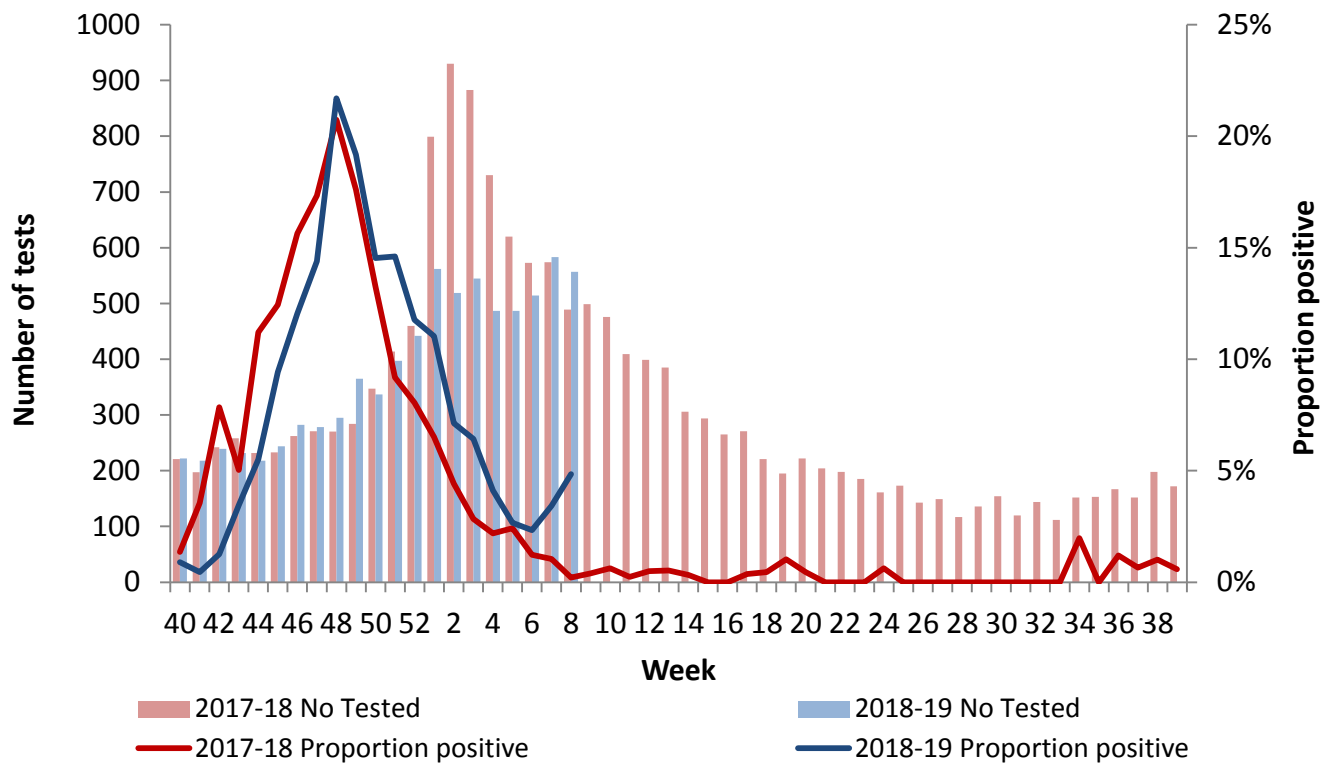
Additional virology testing has been undertaken at a local laboratory since week 2, 2018 and at another since week 2, 2019. This bulletin includes this data along with the data from the Regional Virology Laboratory. Other local laboratories may begin undertaking influenza testing and this data will be included in later bulletins if applicable.

In week 8, 2019 there were 533 specimens submitted for virological testing. There were 130 detections of influenza in total (24% positivity); 47 Flu A(H3), 71 Flu A(H1N1)pdm09 and 12 Flu A(untyped).

There were 11 samples submitted through the GP based sentinel scheme in week 8 across Northern Ireland. There were five detections of Flu A(H1N1)pdm09 in total (45% positivity) (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**

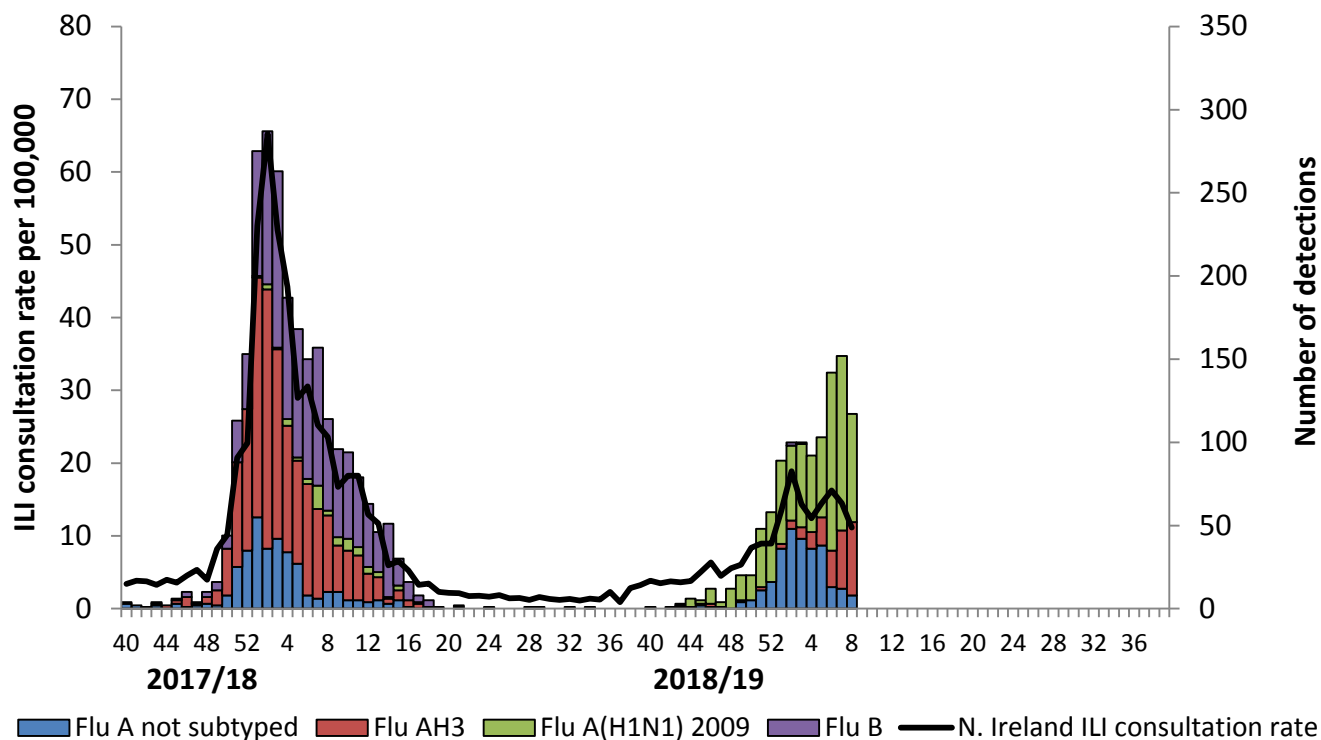


### Comment

In week 8, 2019 there were 27 positive detections of RSV (5% positivity). To date there have been a total of 642 detections of RSV of which the majority (53%) 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

In week 8, 2019 there were 117 detections of influenza from specimens taken in hospital settings across Northern Ireland. There were 44 Flu A(H3), 65 Flu A(H1N1)pdm09 and eight Flu A(untyped). It should be kept in mind that it is possible that not all positive specimens (for week 8) will have been reported at this point.



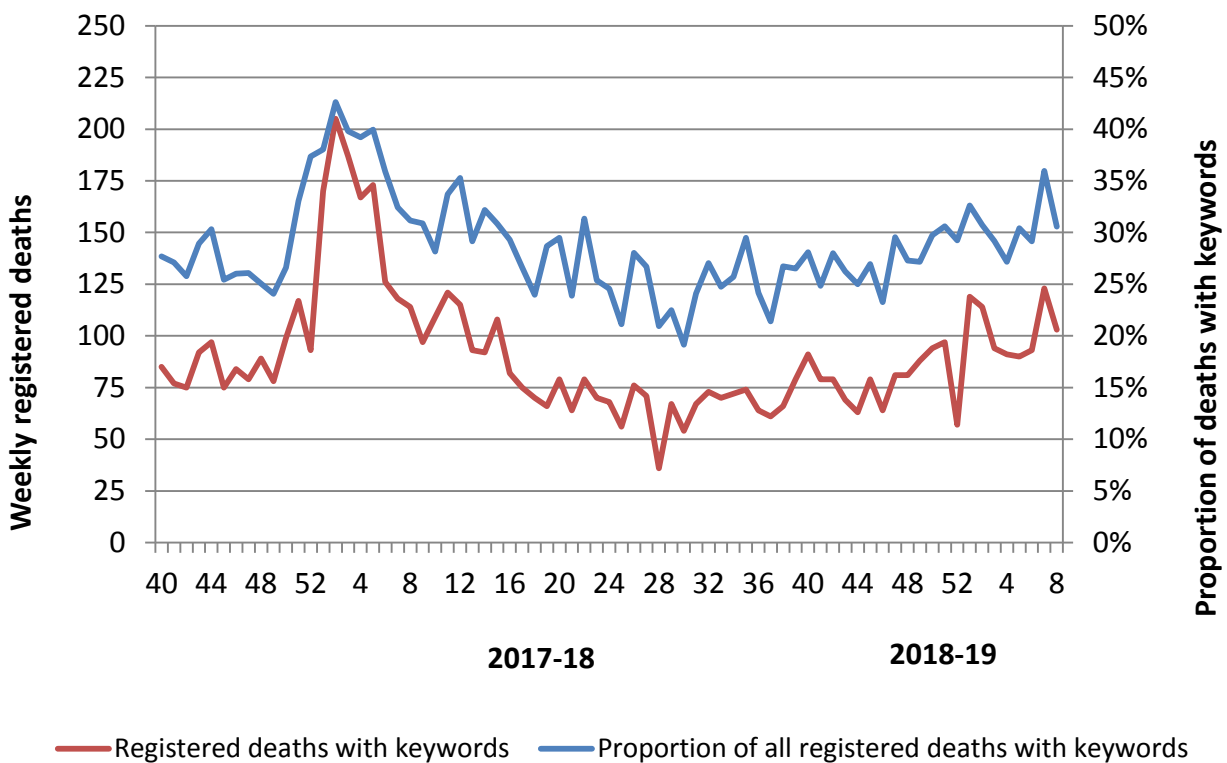
## Outbreak Surveillance

During week 8, 2019 there was one respiratory outbreak reported to the PHA from a care home (Flu A(untyped)). To date, there have been 11 respiratory outbreaks reported, eight in care homes (four Flu A(untyped), one Flu B and three RSV)) and three in a hospital setting (Flu A(untyped)).

## 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 decreased from 36% in week 7, 2019 to 31% in week 8. There were 337 registered deaths of which 103 related to specific respiratory infections. The proportion of deaths attributed to specific respiratory infections is the same at this point in the season as the same period in 2017/18 (31%).

## EuroMOMO

To week 8, 2019 there has been excess all-cause mortality for one week in this season to date (week 1).

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

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>.

## Influenza Vaccine Uptake

	2018/19 (to Jan 31 <sup>st</sup> )	2017/18 (to Jan 31 <sup>st</sup> )
>65 years	68.7%	70.4%
<65 years at risk	50.7%	53.5%
Pregnant women	47.0%	47.9%
2 to 4 year olds	47.2%	49.1%
Primary School	75.7%	76.2%
Trust Frontline	34.8%	32.8%
Trust Frontline (excluding social workers and social care workers)	38.5%	-

## International Summary

### Week 7/2019 (11–17 February 2019)

- Influenza activity is widespread in the European Region. Specimens collected from individuals presenting with ILI or ARI to sentinel primary health care sites yielded an influenza virus positivity rate of 53%.
- Influenza type A virus detections dominated with slightly more A(H1N1)pdm09 viruses than A(H3N2). Very few influenza B viruses were detected.
- 36% of specimens from patients hospitalized with severe acute respiratory infection (SARI) collected in week 7/2019 were positive for influenza virus, and almost all were type A.  
of specimens from patients hospitalized with severe acute respiratory infection (SARI) collected in week 6/2019 were positive for influenza virus, and all were type A.
- Pooled data from 22 Member States and areas reporting to the [EuroMOMO](#) project indicated excess mortality mostly among elderly people aged 65 years and above, but also in adults in the age group of 15-64 years.

### 2018/19 season overview

- Influenza activity in the European region, based on sentinel sampling, exceeded a positivity rate of 10% in week 49/2018 and has exceeded 50% since week 3/2019.
- Both influenza A virus subtypes are circulating widely, with co-circulation in some countries while others report dominance of either A(H1N1)pdm09 or A(H3N2) viruses.
- Among hospitalized influenza virus-infected patients admitted to ICU wards, 37% of influenza A viruses were subtyped; of these 76.2% were A(H1N1)pdm09 virus. Among influenza virus-infected patients admitted to other wards, 31% of influenza A viruses were subtyped and 70% were A(H1N1)pdm09 virus.
- Over 90% of influenza A viruses detected from SARI surveillance since week 40/2018 were subtyped and 81.4% were A(H1N1)pdm09 virus.
- In general, current influenza vaccines tend to work better against influenza A(H1N1)pdm09 and influenza B viruses than against influenza A(H3N2) viruses. Preliminary vaccine effectiveness estimates continue to support the use of vaccines. Early data suggest the vaccines are effective, but estimates vary depending on the population studied and the proportions of circulating influenza A virus subtypes. See data from [six European studies](#), [Canada](#), [Finland](#), [Hong Kong](#), [Sweden](#), and the [United States](#).
- On 21 February 2019, [WHO published the recommendations](#) for the 2019–2020 northern hemisphere seasonal influenza vaccine composition.
- Circulating viruses remain susceptible to neuraminidase inhibitors supporting early initiation of treatment and prophylactic use according to national guidelines.

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

## Worldwide (WHO)

18 February 2019 - based on data up to 3 February 2019

### Summary

In the temperate zone of the northern hemisphere influenza activity continued to increase.

- In North America, influenza activity continued to be reported, with influenza A(H1N1)pdm09 predominating.
- In Europe, influenza activity increased and in most of the countries was above the epidemic threshold. Influenza A viruses co-circulated.
- In North Africa, influenza A(H1N1)pdm09 detections sharply increased.
- In Western Asia, influenza activity remained elevated with increased activity in Cyprus, Israel, Jordan and Lebanon and appeared to have peaked in most countries of the Arabian Peninsula.
- In East Asia, influenza activity appeared to have peaked already, with influenza A(H1N1)pdm09 virus predominating.
- In Southern Asia, influenza detections remained elevated overall. Influenza activity appeared to decrease in Iran (Islamic Republic of) with influenza A(H3N2) the predominant circulating virus.
- In the temperate zones of the southern hemisphere, influenza activity remained at inter-seasonal levels, with the exception of some parts of Australia where influenza activity remained above inter-seasonal levels.
- Worldwide, seasonal influenza A viruses accounted for the majority of detections.

National Influenza Centres (NICs) and other national influenza laboratories from 111 countries, areas or territories reported data to FluNet for the time period from 21 January 2019 to 03 February 2019 (data as of 2019-02-15 04:05:38 UTC). The WHO GISRS laboratories tested more than 213440 specimens during that time period. A total of 69007 were positive for influenza viruses, of which 67733 (98.2%) were typed as influenza A and 1274 (1.8%) as influenza B. Of the sub-typed influenza A viruses, 25052 (72%) were influenza A(H1N1)pdm09 and 9734 (28%) were influenza A(H3N2). Of the characterized B viruses, 83 (27.8%) belonged to the B-Yamagata lineage and 216 (72.2%) to the B-Victoria lineage.

[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

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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