

Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 51-52 (17th – 30th December 2018)

Summary

The surveillance data indicates that influenza activity is low across Northern Ireland. Influenza rates remain well 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 flu and flu-like illness (flu/FLI) during weeks 51 and 52, 2018 were 8.9 and 9.0 per 100,000 population, respectively. Rates remain below the baseline Moving Epidemic Method (MEM) threshold for flu activity¹.
- OOH GP flu/FLI consultation rate increased substantially between week 51 and week 52 (8.4 to 14.7 per 100,000 population, respectively).

Microbiological Surveillance (Flu and RSV)

- During weeks 51 and 52 there were 790 specimens submitted for virological testing, of which 117 tested positive for influenza (15% positivity).
- In week 51 there were 36 detections of Flu A(H1N1)pdm09 and 13 Flu A(untyped). In week 52 there were 36 detections of Flu A(H1N1)pdm09 and 30 Flu A(untyped).
- Positive RSV detections were 58 in week 51 (15% positivity) and 50 in week 52 (12% positivity).

Secondary Care (Hospital both non-ICU and ICU)

- In week 51 there were 34 detections of Flu A(H1N1)pdm09 and 10 of Flu A(untyped). In week 52 there were 35 detections of Flu A(H1N1)pdm09 and 13 Flu A(untyped).
- There were three cases reported in ICU with laboratory confirmed influenza in week 51 (all Flu A(H1N1)pdm09) and seven cases reported in week 52 (one Flu A (H1N1)pdm09 and six Flu A (untyped)).
- So far this season there has been 16 admissions to ICU with confirmed influenza reported to PHA and two deaths reported in ICU patients who had laboratory confirmed influenza.

Influenza Outbreaks across Northern Ireland

- There were no confirmed influenza outbreaks reported to the PHA in week 51 and 52. An update will appear in the next bulletin.

Mortality

- There was no data available for weeks 51 and 52.

Influenza Vaccine Uptake

	2018/19 (to Nov 30 th)	2017/18 (to Nov 30 th)
>65 years	52.0%	66.8%
<65 years at risk	41.7%	48.2%
Pregnant women	43.5%	46.8%
2 to 4 year olds	41.8%	44.9%
Primary School	75.1%	75.3%
Trust Frontline	33.1%	29.5%
Trust Frontline (excluding social workers and social care workers)	37.2%	-

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

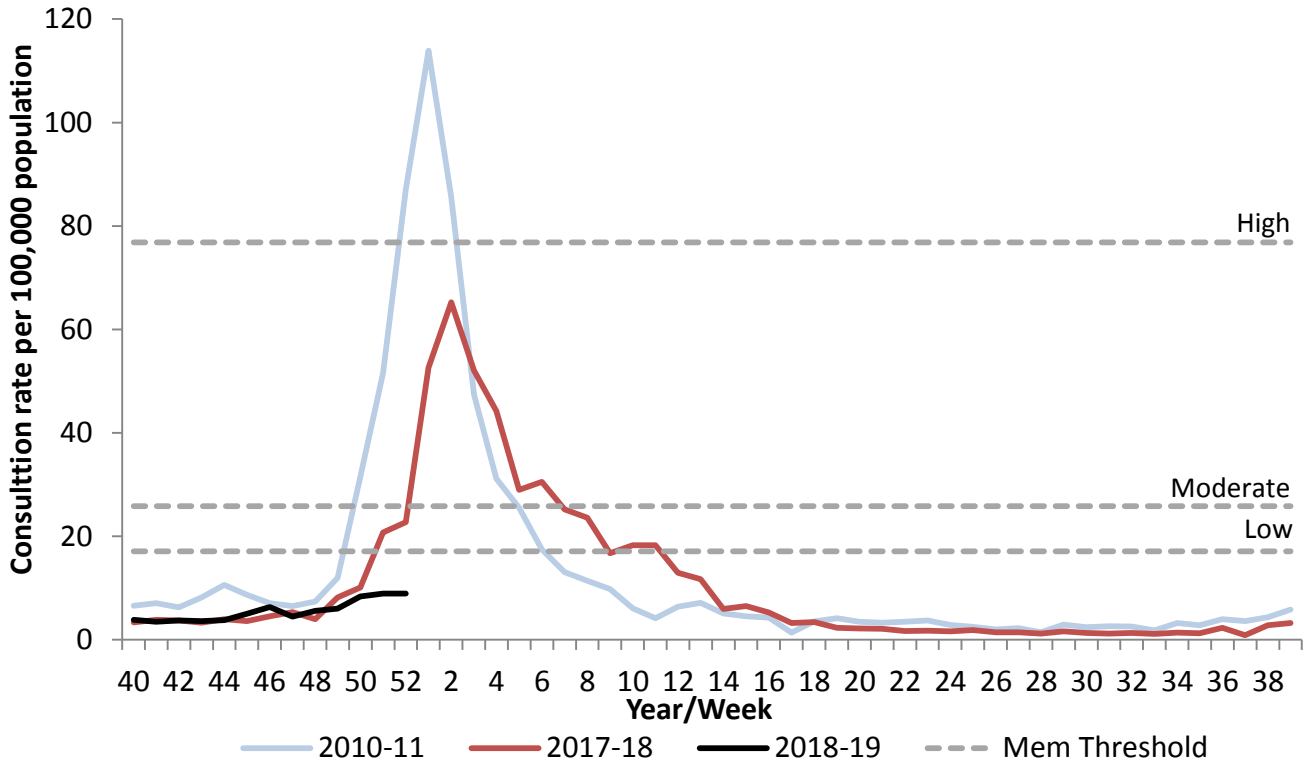
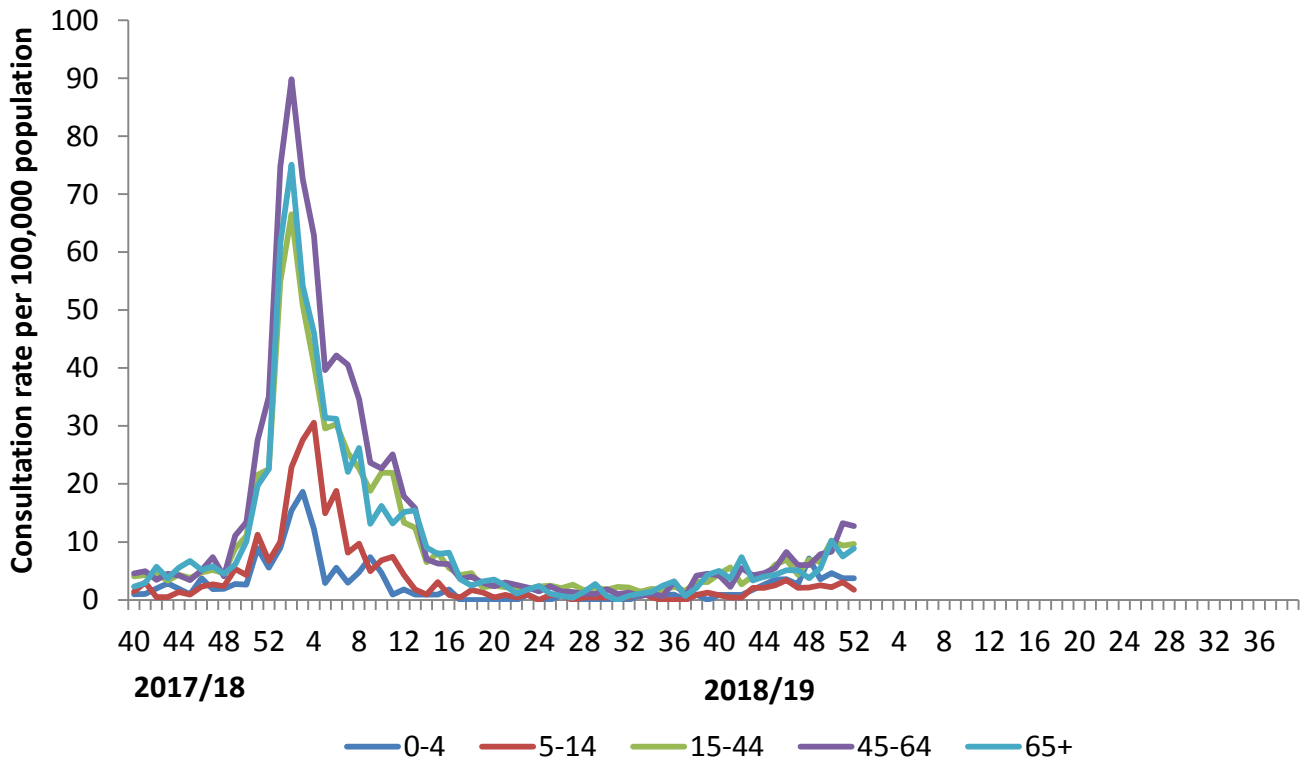


Figure 2. Northern Ireland GP age-specific consultation rates for flu/FLI from week 40, 2017



Comment

The NI GP consultation rates for flu and flu-like illness (flu/FLI) during weeks 51 and 52, 2018 were 8.9 and 9.0 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 weeks 51 and 52 (13.2 and 12.7 per 100,000 respectively) (Figure 2). The consultation rates increased slightly in week 52 compared to week 51 in those aged 15-44 years (9.4 to 9.6 per 100,000) and in those aged 65 years and over (7.5 to 8.9 per 100,000) but decreased in those aged 5-14 years (3.1 to 1.8 per 100,000) and 45-64 years (13.2 to 12.7 per 100,000). Rates remained stable in those aged 0-4 years (3.7 per 100,000).

Out-of-Hours (OOH) Centres Call Data

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

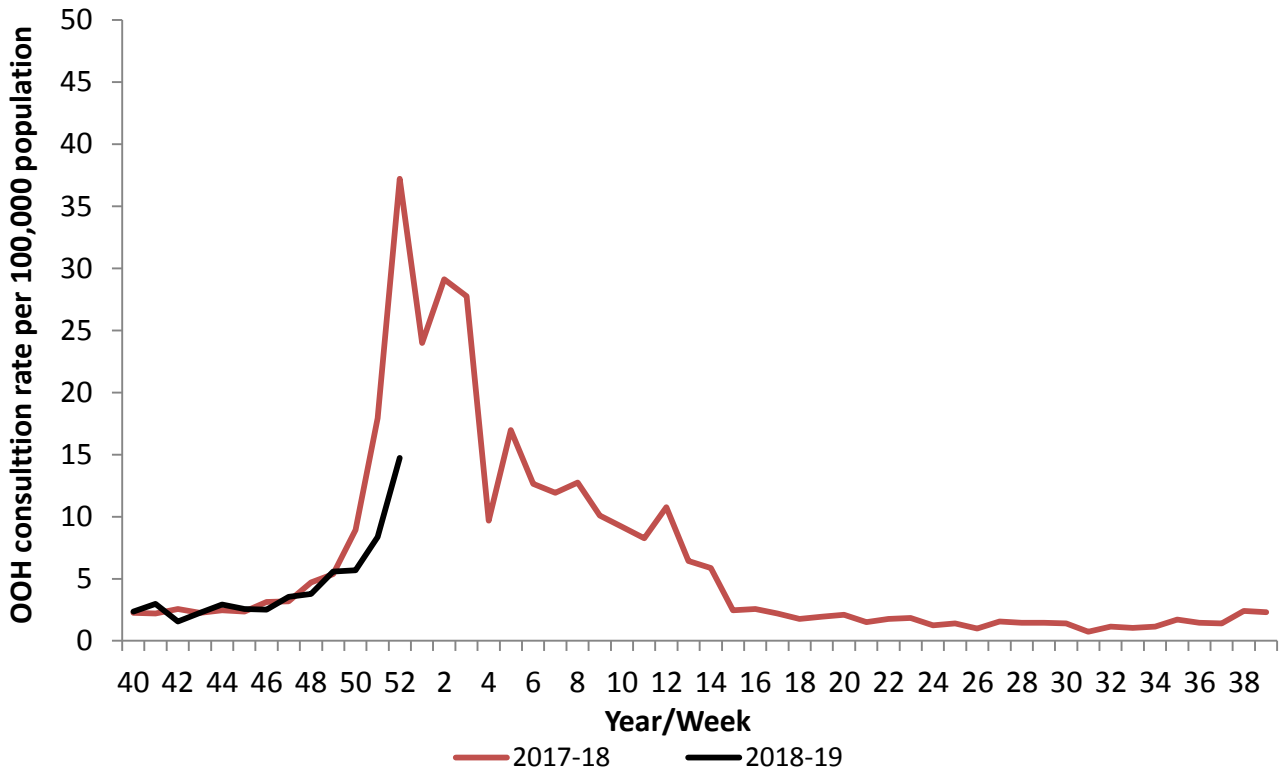
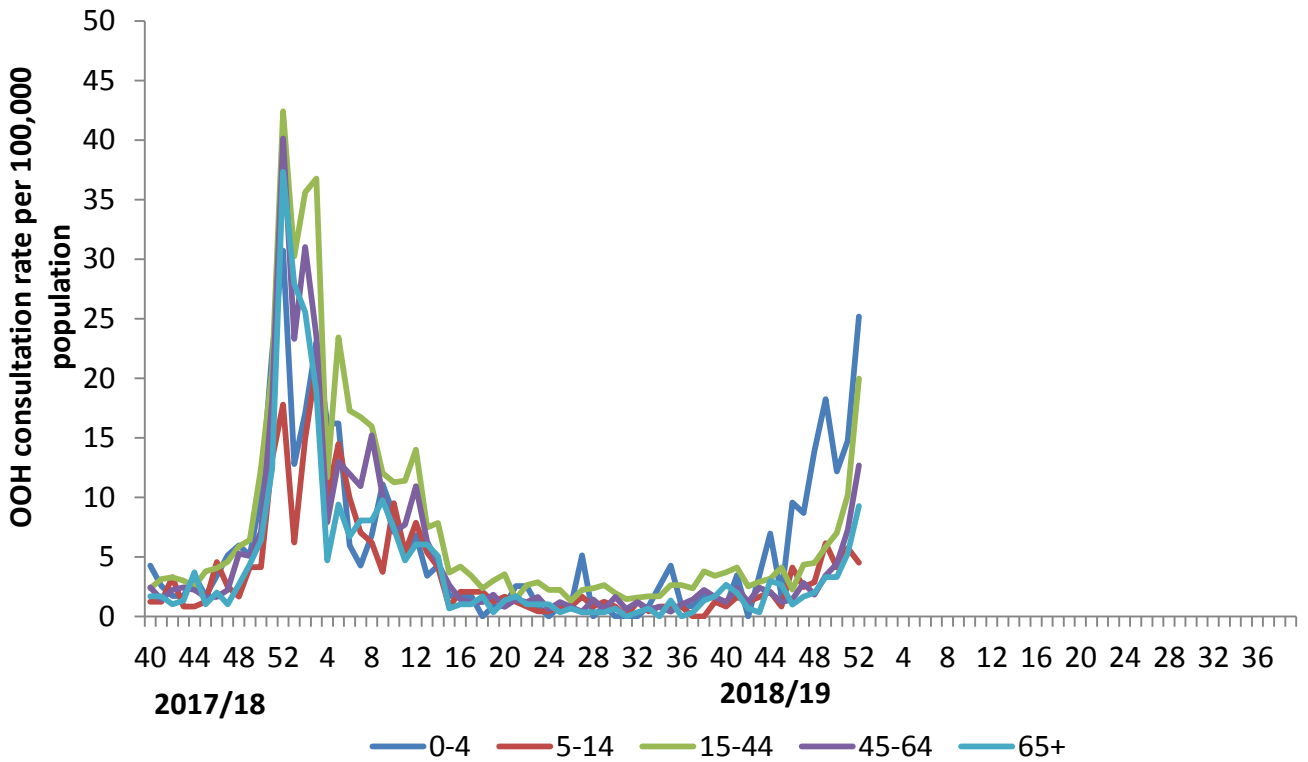


Figure 4. OOH call rates of flu/FLI by age-group from week 40, 2017



Comment

The OOH flu/FLI consultation rates during weeks 51 and 52, 2018 were 8.4 and 14.7 per 100,000 population, respectively (Figure 3). The rate in week 51 is substantially lower than the same week in 2017/18 (8.4 compared to 17.9 per 100,000). Again, in week 52 the rate is substantially lower than in the same week in 2017/18 (14.7 compared to 37.2 per 100,000).

The proportion of calls related to flu/FLI in OOH centres increased slightly from 1.2% in week 51 to 1.6% in week 52.

The OOH flu/FLI consultation rate was highest in those aged 0-4 years in week 51 (14.8 per 100,000), and also in week 52 (25.2 per 100,000) (Figure 4). Consultation rates increased in week 52 compared to week 51 in all age groups, with the exception of those aged 5-14 which decreased from 5.7 to 4.5 per 100,000.

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

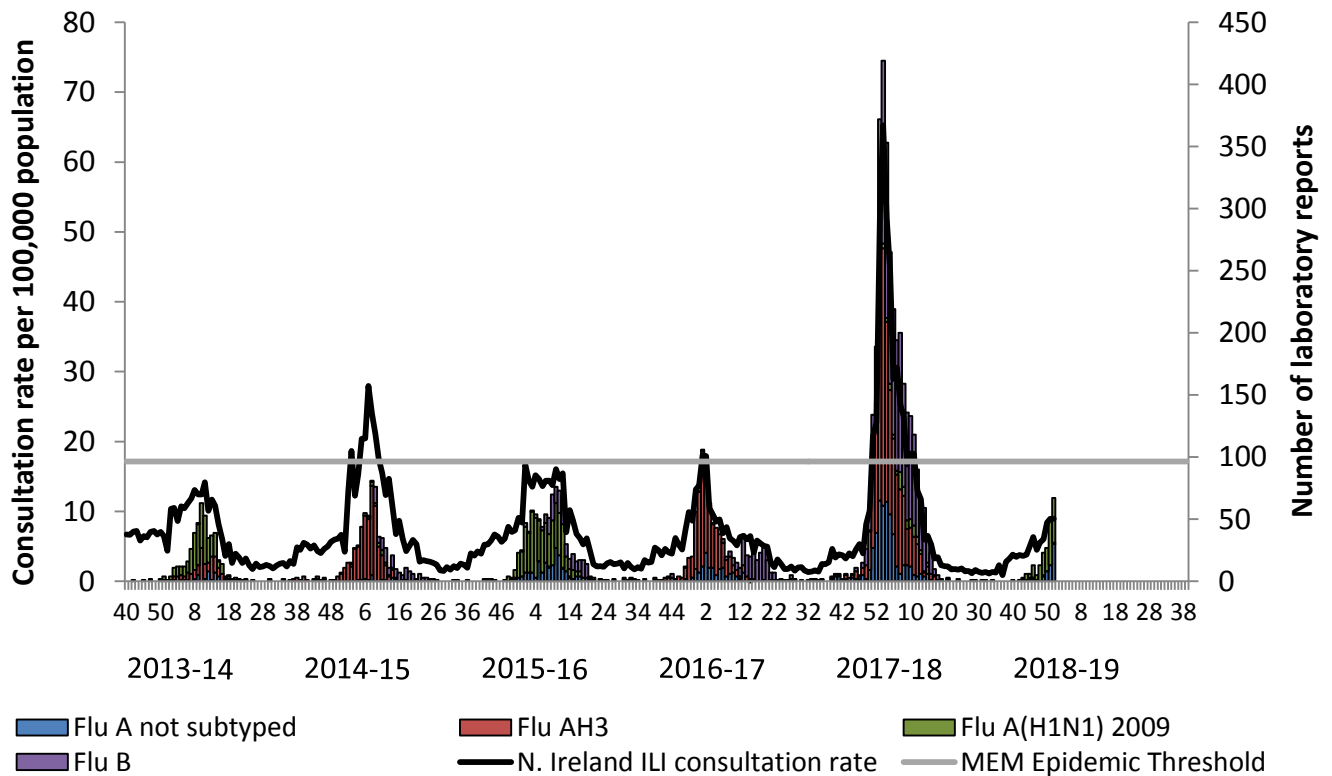


Figure 6. Northern Ireland GP consultation rates for flu/FLI and number of virology 'flu' detections from week 40, 2017

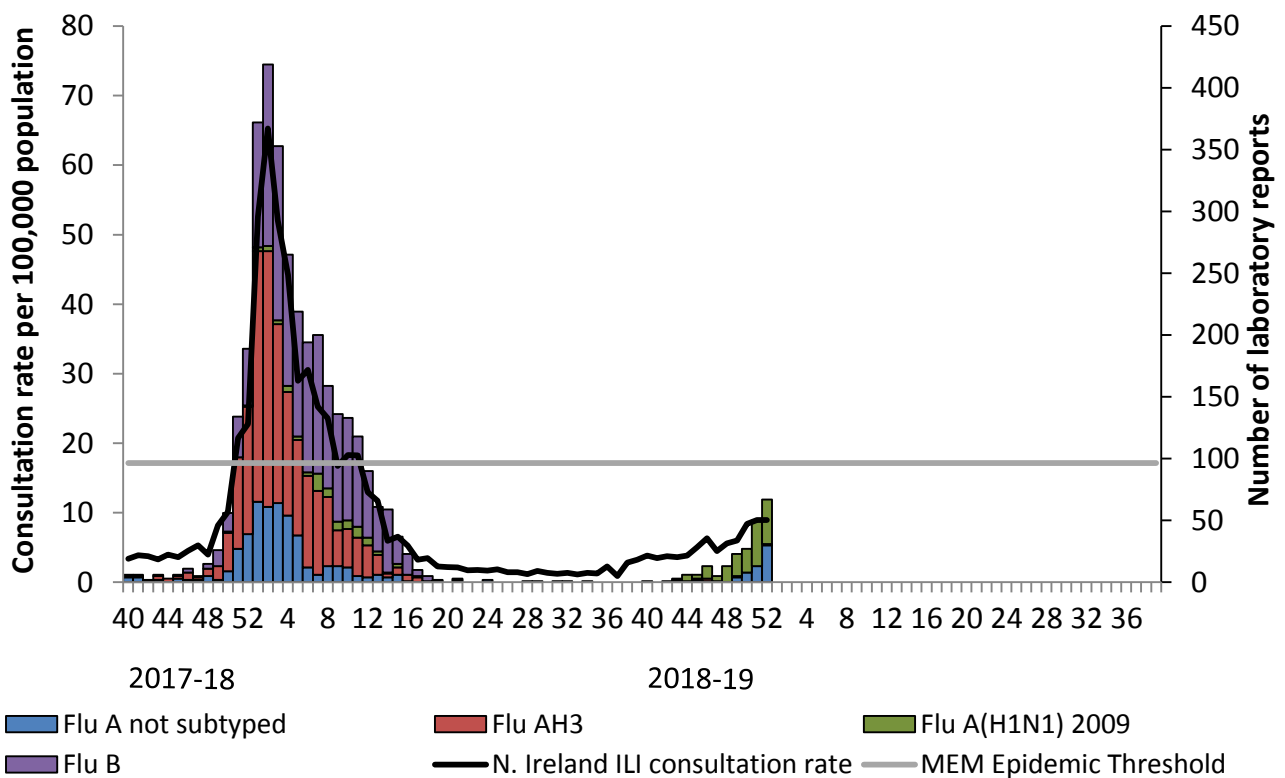


Table 1. Virus activity in Northern Ireland by source, Weeks 51-52, 2018-19

Source	Specimens tested	Flu AH3	Flu A(H1N1) 2009)	A (Untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	9	1	1	0	0	0	2	22%
Non-sentinel	781	0	72	43	0	108	115	15%
Total	790	1	73	43	0	108	117	15%

Table 2. Cumulative virus activity from all sources by age group, Week 40 - 52, 2018-19

Age Group	Flu AH3	Flu A(H1N1) 2009	A (Untyped)	Flu B	Total Influenza	RSV
0-4	0	26	1	0	27	256
5-14	0	6	0	0	6	9
15-64	3	93	40	1	137	74
65+	3	21	21	0	45	74
Unknown	0	0	0	0	0	0
All ages	6	146	62	1	215	413

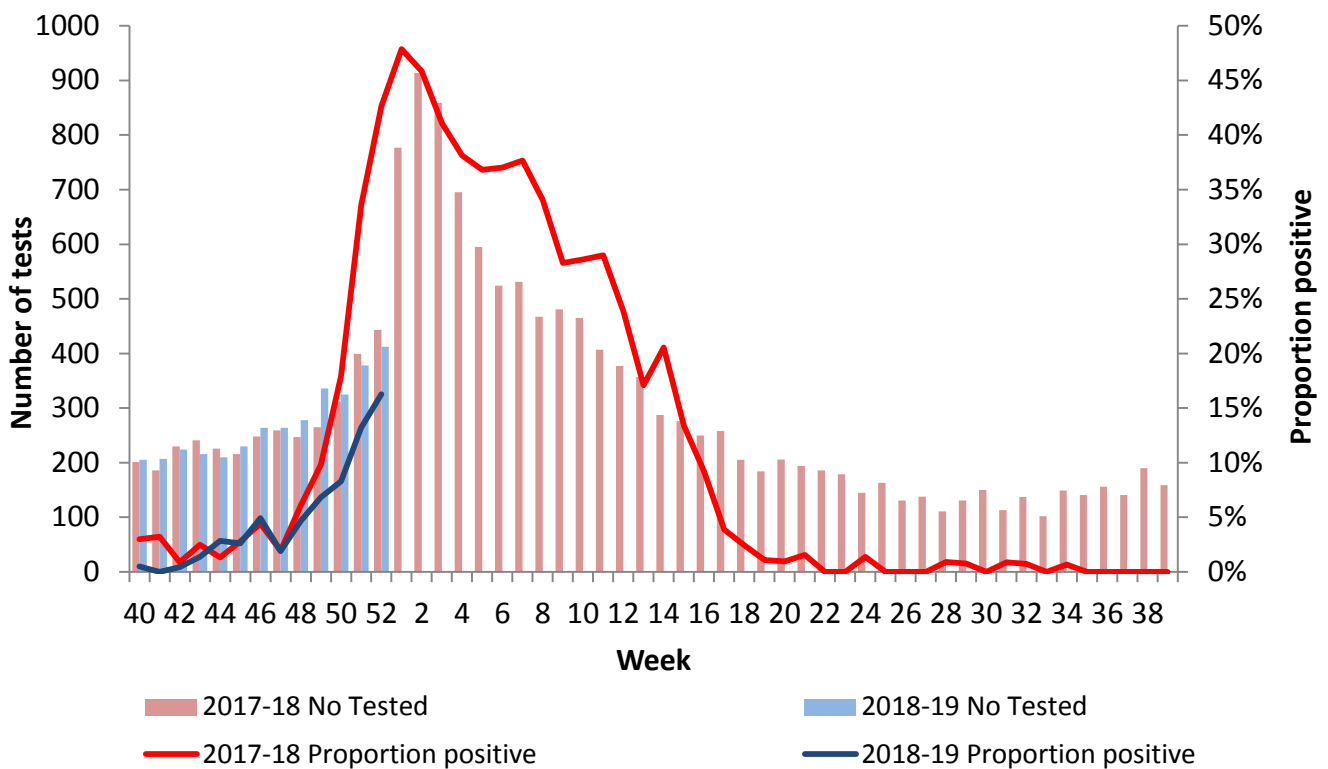
Table 3. Cumulative virus activity by age group and source, Week 40 - Week 52, 2018-19

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	26	1	0	27	256
5-14	0	1	0	0	1	0	0	5	0	0	5	9
15-64	1	3	1	0	5	4	2	90	39	1	132	70
65+	0	0	0	0	0	0	3	21	21	0	45	74
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	1	4	1	0	6	4	5	142	61	1	209	409

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

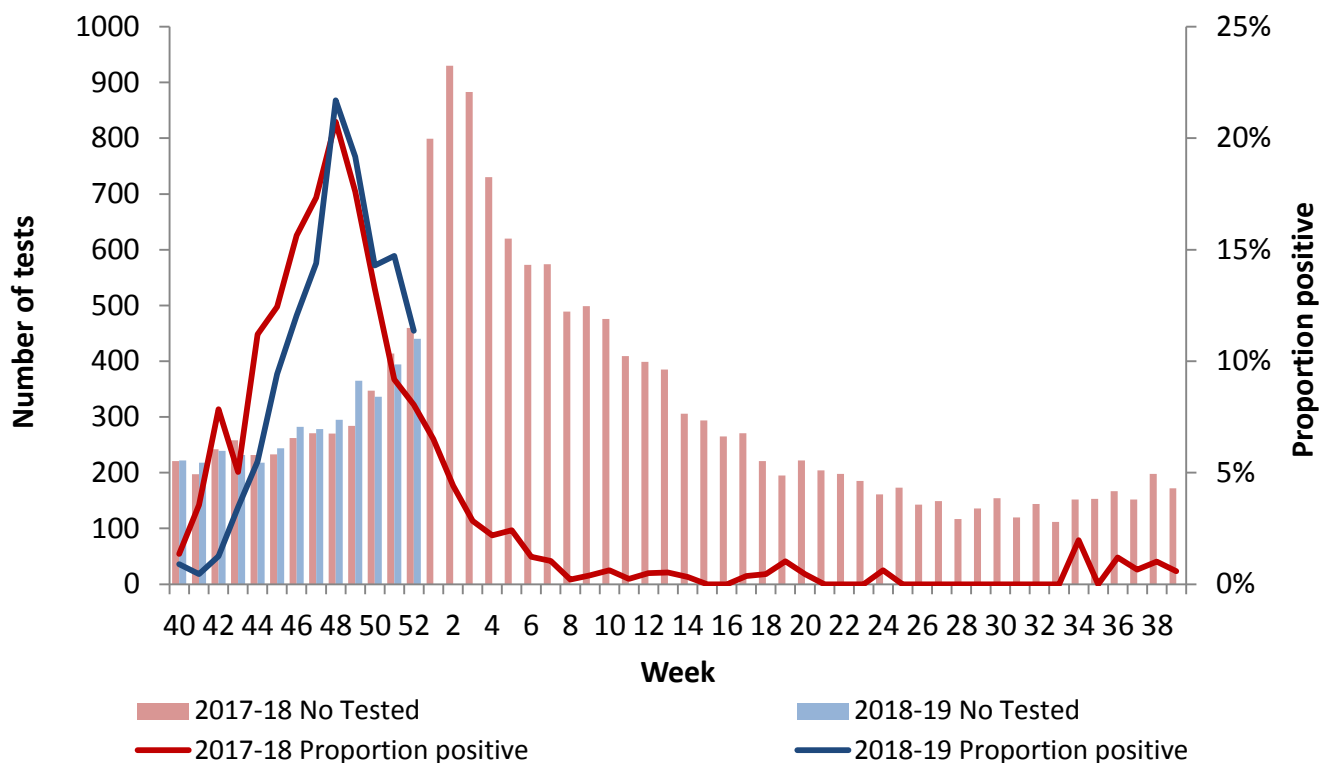
Additional virology testing has been undertaken at one local laboratory since week 2, 2018. This bulletin includes this data along with the data from the Regional Virology Laboratory. Other local laboratories may begin undertaking influenza testing and this data will be included in later bulletins if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

During weeks 51 and 52, 2018 there were 790 specimens submitted for virological testing. There were 117 detections of influenza in total (15% positivity); 73 Flu A(H1N1)pdm09, one Flu A(H3) and 43 Flu A(untyped).

There were nine samples submitted through the GP based sentinel scheme in weeks 51 and 52 across Northern Ireland. There were two positive results, one of Flu A(H3) and one of Flu A(H1N1) pdm09 (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

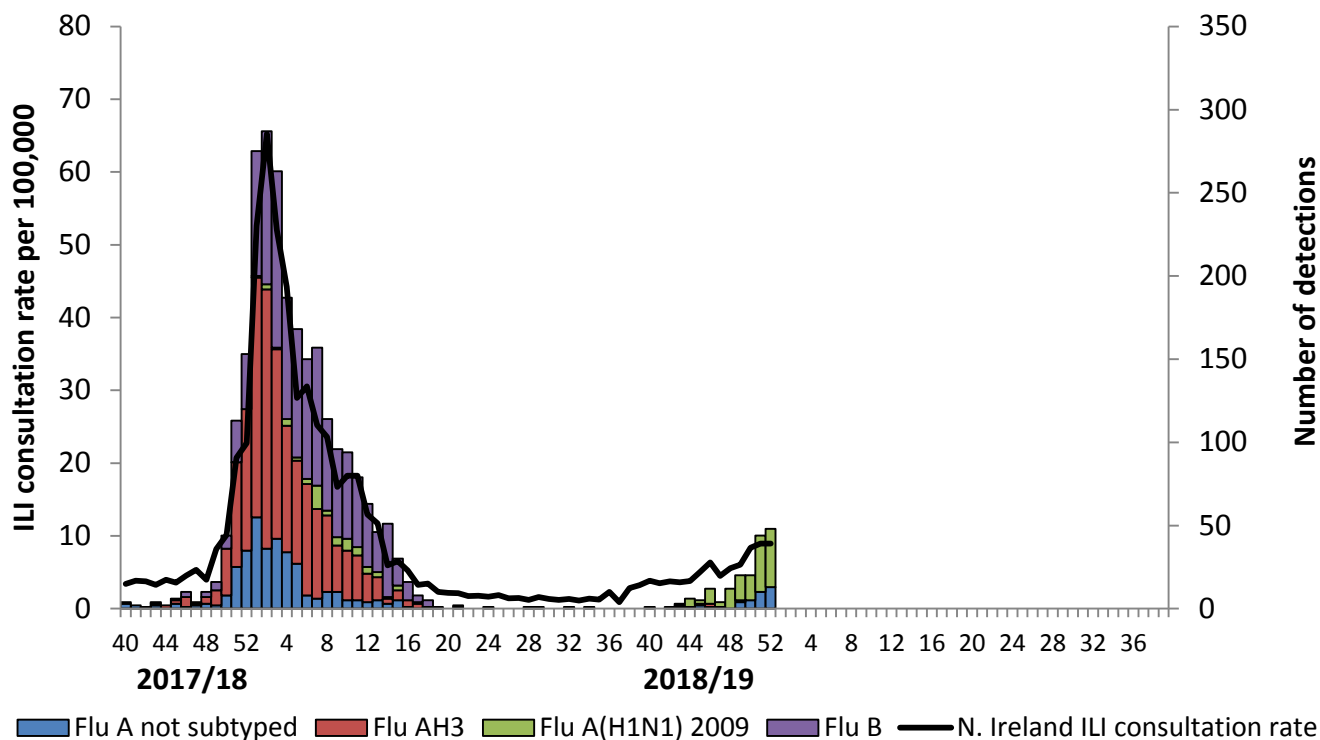


Comment

During weeks 51 and 52, 2018 there were 108 positive detections of RSV. To date there have been a total of 413 detections of RSV of which the majority (62%) 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

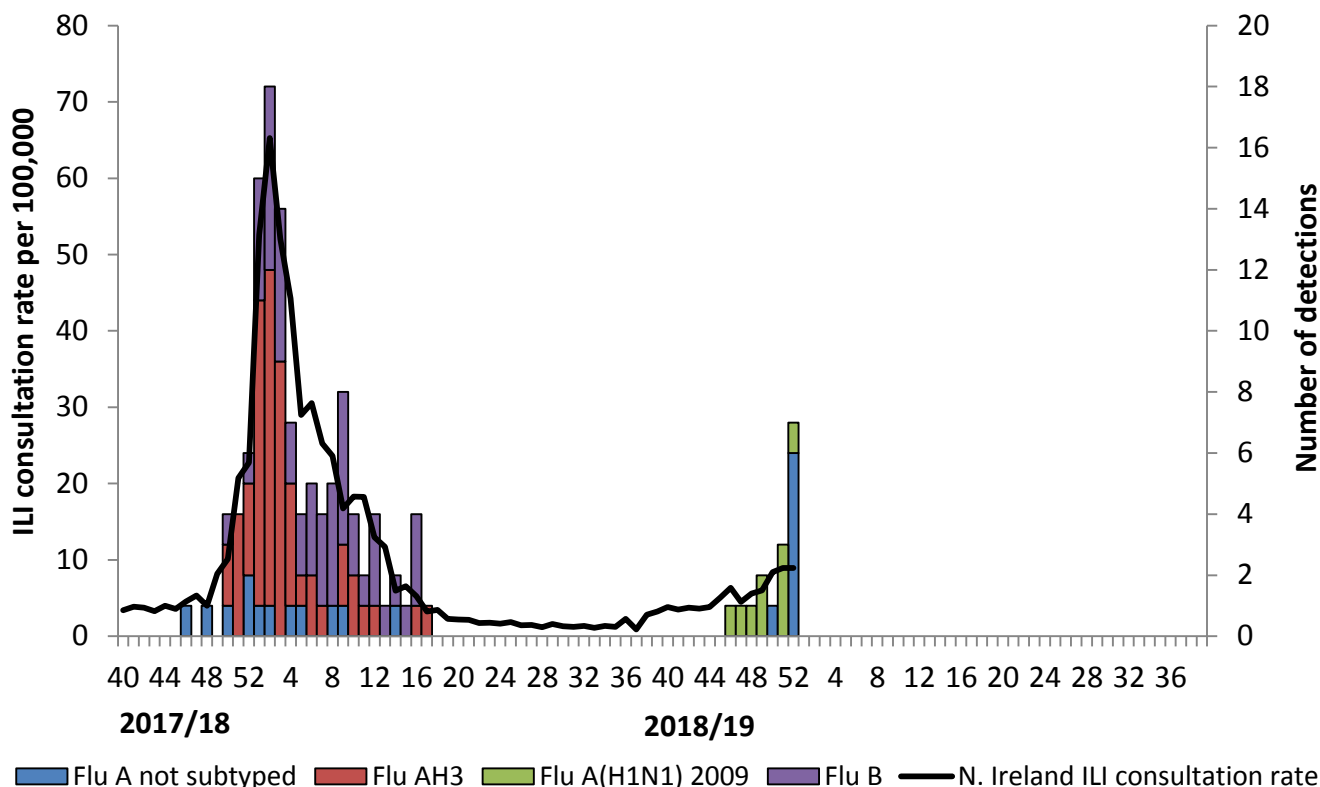


Comment

During weeks 51 and 52, 2018 there were 92 detections of influenza from specimens taken in hospital settings across Northern Ireland. In week 51 there were 34 Flu A(H1N1)pdm09 and 10 Flu A(untyped). During week 52 there were 35 Flu A(H1N1)pdm09 and 13 Flu A (untyped). It should be kept in mind that it is possible that not all positive specimens (for weeks 51 and 52) 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 51 and 52, 2018 there were 10 new admissions to ICU with confirmed influenza reported to the PHA. In week 51 there were three Flu A(H1N1)pdm09 reported. In week 52, one Flu A(H1N1)pdm09 and six Flu A(untyped) were reported. So far this season there has been 16 admissions to ICU with confirmed influenza reported to PHA. There were no deaths reported in an ICU patient who had laboratory confirmed influenza in weeks 51 and 52. So far this season there have been two deaths reported in ICU patients who had laboratory confirmed influenza.

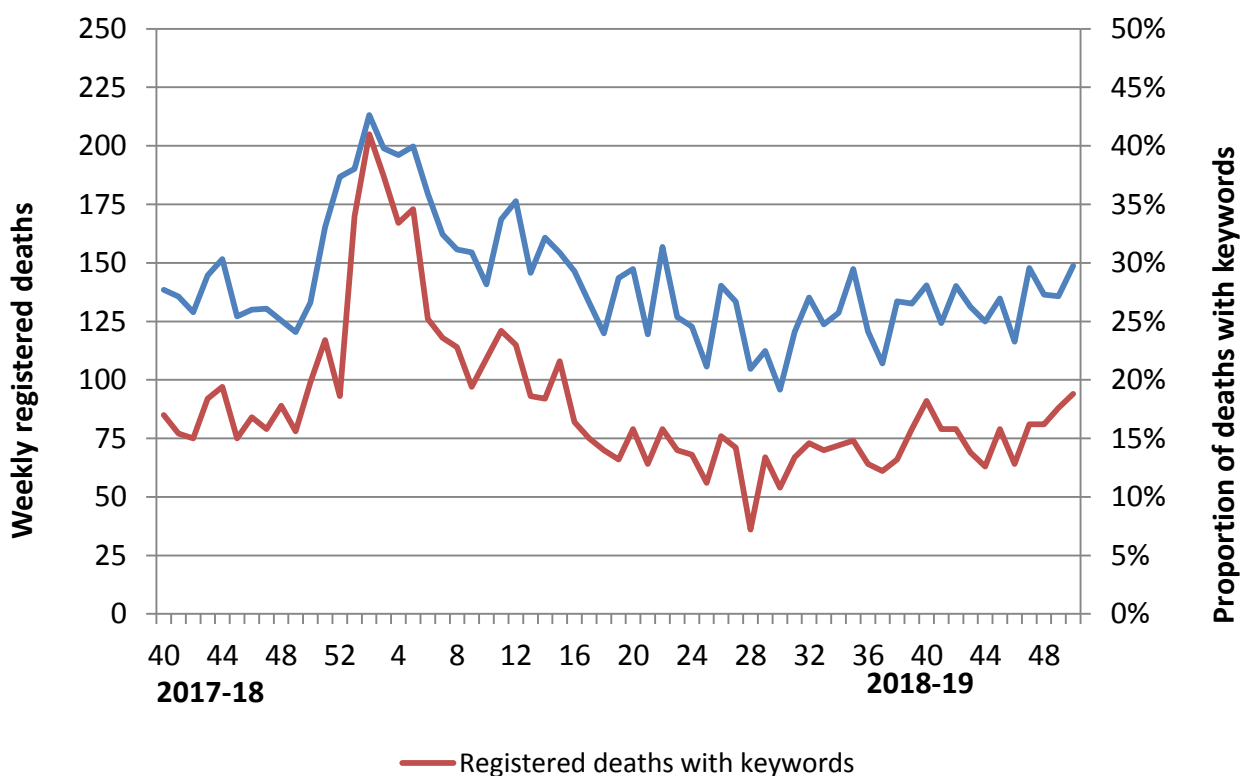
Outbreak Surveillance

During weeks 51 and 52, 2018 there were no confirmed influenza outbreaks reported to the PHA. To date, there have been 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

There is no updated data available for weeks 51 and 52. An update will appear in the next bulletin.

The proportion of deaths related to respiratory keywords increased slightly in week 50 to 30% from 27% in week 49. There were 316 registered deaths of which 94 related to specific respiratory infections. 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 (27% at week 50).

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 is no updated data available regarding excess all-cause mortality reported in Northern Ireland for weeks 51 and 52. An update will appear in the next bulletin. Up to week 50, there was no excess all-cause mortality reported in Northern Ireland.

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 Nov 30 th)	2017/18 (to Nov 30 th)
>65 years	52.0%	66.8%
<65 years at risk	41.7%	48.2%
Pregnant women	43.5%	46.8%
2 to 4 year olds	41.8%	44.9%
Primary School	75.1%	75.3%
Trust Frontline	33.1%	29.5%
Trust Frontline (excluding social workers and social care workers)	37.2%	-

International Summary

Europe

Weeks 51/2018 (17–23 December 2018)

- Only 28 countries reported for week 51/2018, compared to 44 for week 50/2018. Nonetheless, despite the low level of reporting, influenza activity was observed as continuing to increase in the European Region. Among the individuals sampled after presenting with ILI or ARI to sentinel primary healthcare sites, 21.8% tested positive for influenza viruses.
- The majority of influenza virus detections was type A among both inpatients and outpatients.
- For week 51/2018, data from the 8 Member States and areas reporting to the [EuroMOMO](#) project indicated all-cause mortality to be at expected levels for this time of year.

2018/19 season overview

- Up to week 51/2018, influenza activity has been at baseline or low levels in most countries of the European Region.
- The northern hemisphere Vaccine Composition Meeting for 2019–2020 has been planned for 18–20 February 2019 in Beijing, China. For more information see [here](#).

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

Worldwide (WHO)

24th December 2018 - based on data up to 9th December 2018

Information in this report is categorized by influenza transmission zones, which are geographical groups of countries, areas or territories with similar influenza transmission patterns. For more information on influenza transmission zones, see the link below:

Summary

In the temperate zone of the northern hemisphere influenza activity continued to increase, although overall influenza activity remained low. 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 inter-seasonal levels. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

National Influenza Centres (NICs) and other national influenza laboratories from 115 countries, areas or territories reported data to FluNet for the time period from 26 November 2018 to 09 December 2018 (data as of 2018-12-20 14:17:33 UTC). The WHO GISRS laboratories tested more than 139511 specimens during that time period. 10520 were positive for influenza viruses, of which 9970 (94.8%) were typed as influenza A and 550 (5.2%) as influenza B. Of the sub-typed influenza A viruses, 4961 (84.1%) were influenza A(H1N1)pdm09 and 936 (15.9%) were

influenza A(H3N2). Of the characterized B viruses, 85 (63%) belonged to the B-Yamagata lineage and 50 (37%) to the B-Victoria lineage.

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:

Dr Mark O'Doherty
Senior Epidemiological Scientist
Public Health Agency

Ms Emma Walker
Surveillance Information Officer
Public Health Agency

Ms Emma Dickson
Epidemiological Scientist
Public Health Agency

Dr Jillian Johnston
Public Health Consultant
Public Health Agency

Email: flusurveillance@hscni.net

This report was compiled by Ms Emma Walker, Ms Emma Dickson, Dr Mark O'Doherty and Dr Jillian Johnston.