

## Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 46 - 47 (14 November 2016 – 27 November 2016)

### Summary

At this point in the 2016/17 influenza season, activity remains at low levels in weeks 46 (week commencing 14<sup>th</sup> November 2016) and 47 (week commencing 21<sup>st</sup> November 2016):

#### Weekly Influenza GP Consultation Rates

- GP consultation rates for combined flu and flu-like illness (flu/FLI) have fluctuated over the two week period, decreasing to 7.8 in week 46, and then rising to 8.8 per 100,000 population in week 47. Rates remain below the 2016/17 pre-epidemic threshold<sup>1</sup>
- OOH GP consultation rates for flu/FLI fluctuated slightly; decreasing to 2.4 in week 46, then increasing to 3.0 per 100,000 population in week 47

#### Microbiological Surveillance

- The proportion of positive influenza detections from both sentinel and non-sentinel sources was 2% in week 46 and remained the same in week 47

#### Respiratory Syncytial Virus (RSV) Activity

- RSV activity has further increased although levels are slightly lower than the same period last season

#### Influenza Confirmed Intensive Care Unit (ICU) Cases and Deaths

- No cases in ICU with laboratory confirmed influenza were reported
- No deaths were reported in ICU patients with laboratory confirmed influenza

#### Influenza Outbreaks across Northern Ireland

- No confirmed influenza outbreaks were reported to the PHA

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<sup>1</sup> The pre-epidemic threshold for Northern Ireland is 47.9 per 100,000 population this year (2016/17)

## 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 2016/17 season commenced on 3<sup>rd</sup> October 2016.

Surveillance systems used to monitor influenza activity include:

- GP sentinel surveillance representing 11.7% of Northern Ireland population;
- GP Out-of-Hours surveillance system representing the entire population;
- Virological reports from the Regional Virus Laboratory (RVL);
- Influenza outbreak report notification to PHA Duty Room;
- Critical Care Network for Northern Ireland reports on critical care patients with confirmed influenza;
- Mortality data from Northern Ireland Statistics and Research Agency (NISRA);
- Excess mortality estimations are also provided by Public Health England using the EuroMOMO (Mortality Monitoring in Europe) model based on raw death data supplied by NISRA

***NB: Please note changes in the y axes on figures 1 – 6 from last season's bulletin when interpreting the charts contained in this season's bulletin.***

## Sentinel GP Consultation Data

Figure 1. Sentinel GP consultation rates for flu/FLI 2014/15 - 2016/17

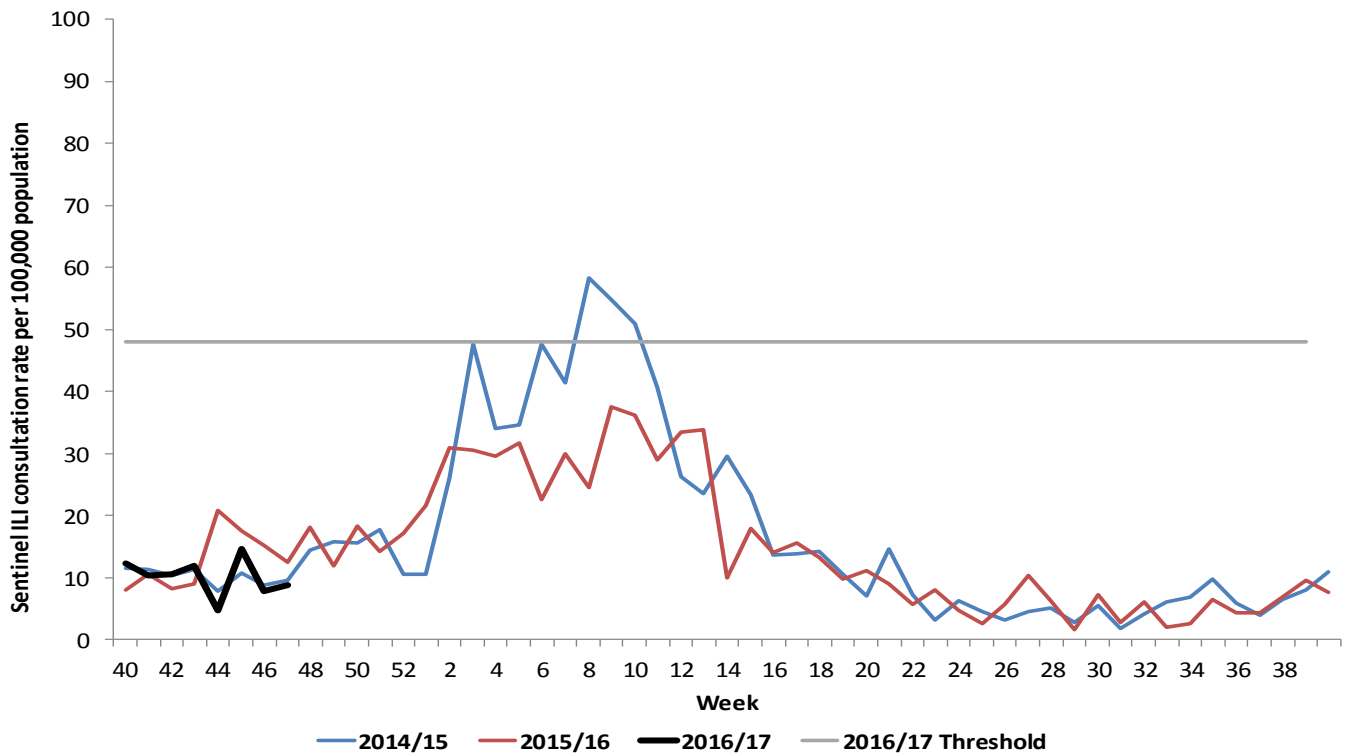
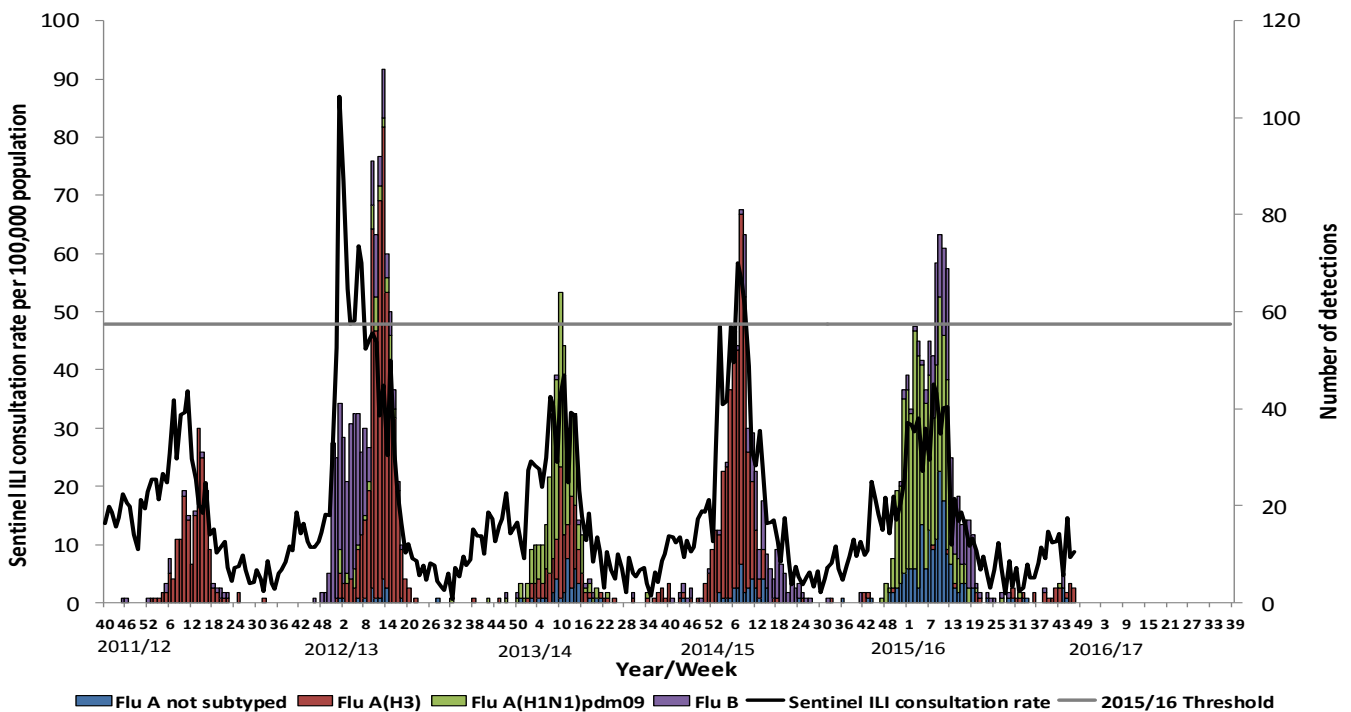
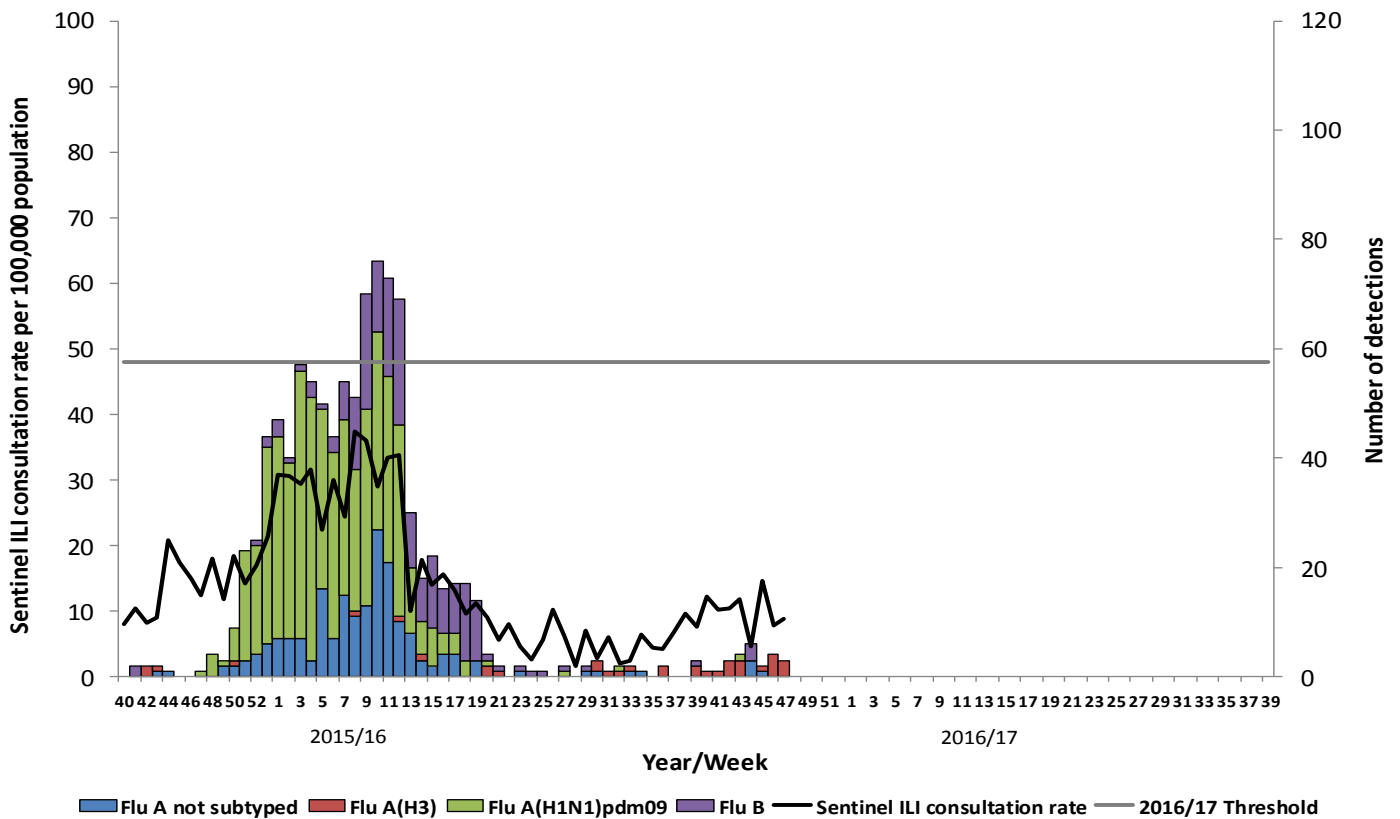


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2011/12 – 2016/17



**Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2015**

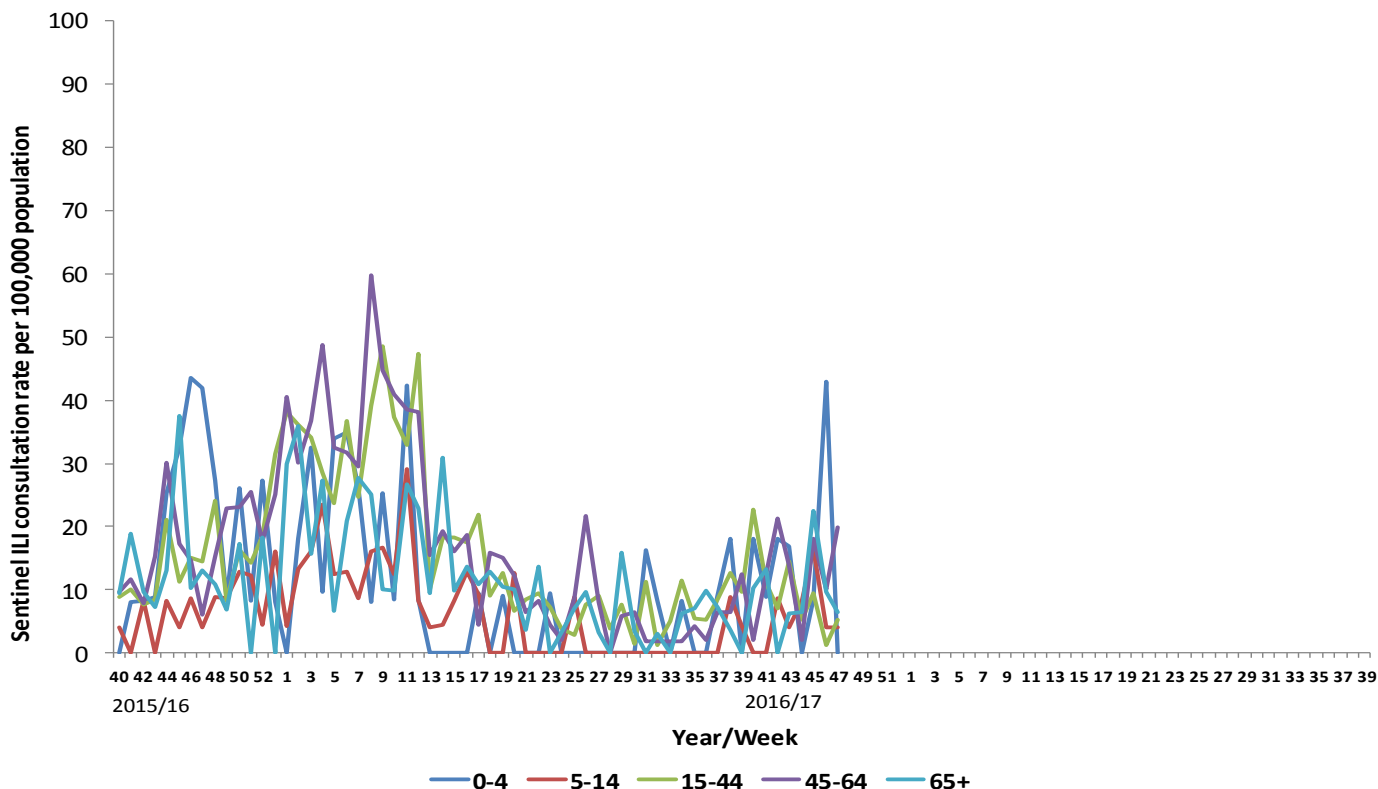


### Comment

GP consultation rates have fluctuated across the two week period, decreasing from 14.6 per 100,000 population in week 45 to 7.8 in week 46, then increasing to 8.8 per 100,000 population in week 47. The GP consultation rates are lower than the same period in 2015/16 (15.1 in week 46 and 12.4 in week 47) but similar to 2014/15 (8.7 in week 46 and 9.6 in week 47).

Rates remain below the pre-epidemic Northern Ireland 2016/17 threshold of 47.9 per 100,000 (Figures 1, 2 and 3).

**Figure 4. Sentinel GP age-specific consultation rates for flu/FLI from week 40, 2015**



**Comment**

Sentinel GP flu/FLI consultations have fluctuated among most age groups across weeks 46 and 47, 2016 with steady decreases noted among the 5-14 and 65 years and over age groups.

In weeks 46 and 47 the highest age-specific rates were noted among those aged 0-4 years (42.9 per 100,000 population) and 45-64 years (19.9 per 100,000 population) respectively, while the lowest rates across the period were represented by those aged 15-44 years (1.3 per 100,000 population in week 46) and 0-4 years (zero consultations in week 47).

Age-specific consultation rates are lower in almost all age groups in both weeks 46 and 47 than the same time period in 2015/16. (Figure 4).

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

Figure 5. OOH call rate for flu/FLI, 2014/15 – 2016/17

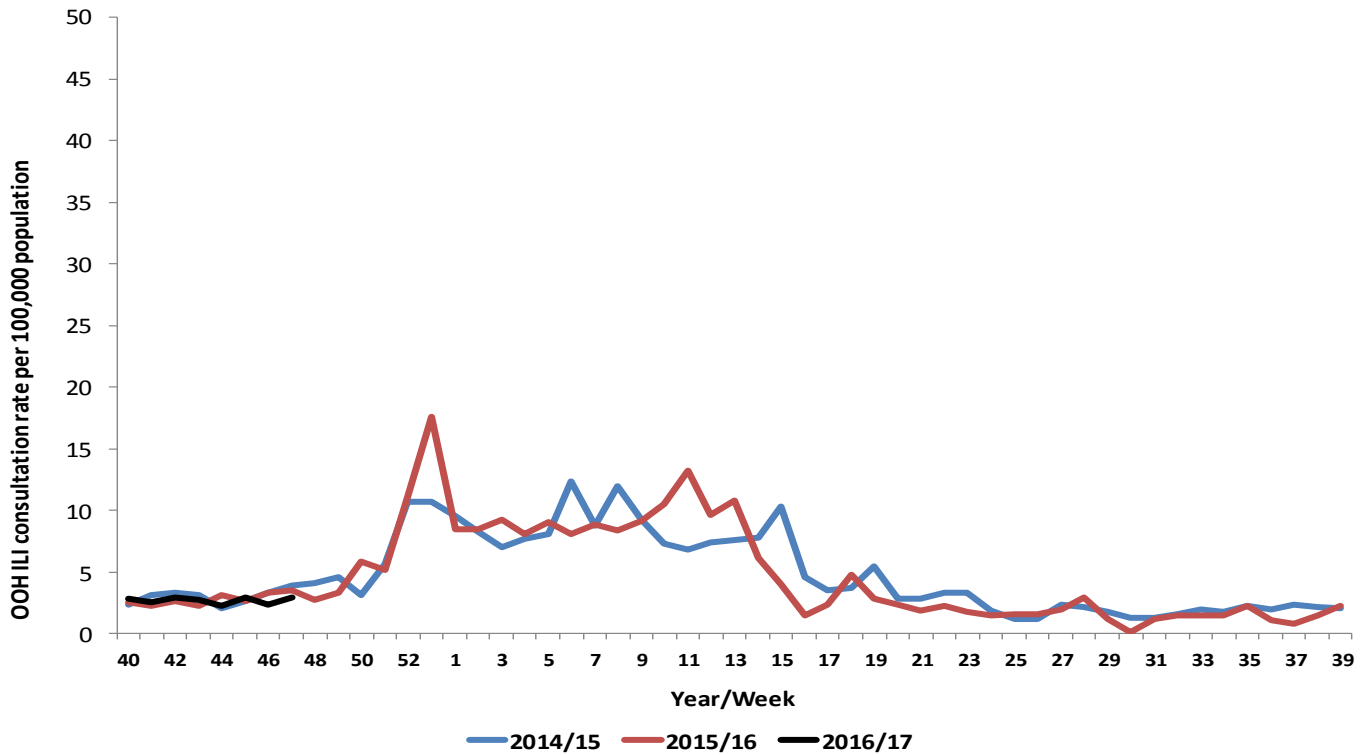
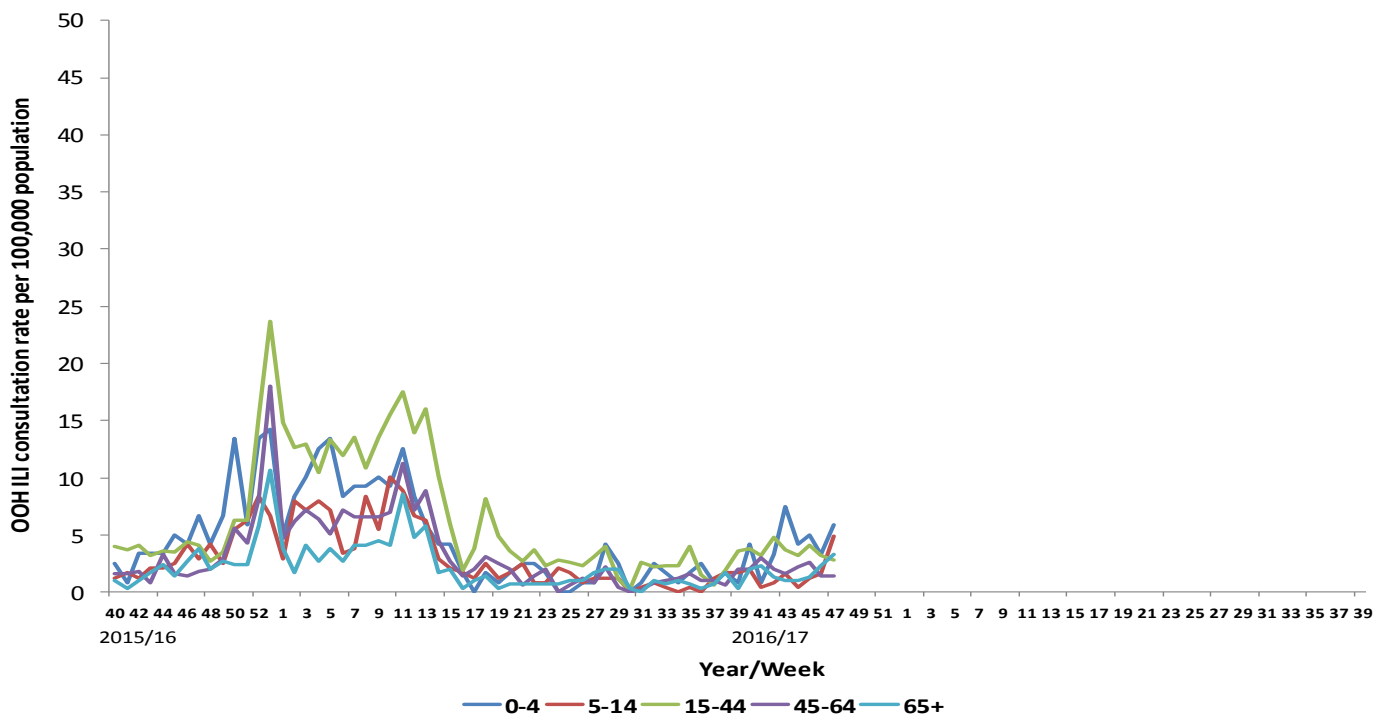


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2015



## Comment

During weeks 46 and 47, 2016 the OOH GP consultation rate decreased to 2.4 per 100,000 population in week 46 (from 3.0 in week 45), before increasing to 3.0 per 100,000 population in week 47. The OOH GP consultation rate in week 47 is slightly lower than the same period in both

2015/16 (3.5 per 100,000 population) and 2014/15 (3.9 per 100,000 population) (Figure 5). The proportion of calls related to flu represents less than 1% of total calls to the OOH service.

During weeks 46 and 47, OOH flu/FLI rates have steadily increased among those aged 5-14 and 65 years and over. The highest age-specific OOH flu/FLI rates in weeks 46 and 47 however, were seen among those aged 0-4 years (3.3 per 100,000 population in week 46 and 5.8 per 100,000 in week 47). Those aged 45-64 years represented the lowest rates in both weeks 46 and 47 (1.4 per 100,000 population in both weeks) (Figure 6). Age-specific rates in week 47 are slightly lower among most age groups than those noted during the same period in 2015/16 but similar to those in 2014/15.

## Virology Data

**Table 1. Virus activity in Northern Ireland by source, Week 46 - 47, 2016/17**

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	4	0	0	0	0	0	0	0%
Non-sentinel	393	7	0	0	0	98	7	2%
<b>Total</b>	<b>397</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>98</b>	<b>7</b>	<b>2%</b>

**Table 2. Cumulative virus activity from all sources by age group, Week 40 - 47, 2016/17**

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	1	0	1	1	3	198
5-14	0	0	0	1	1	6
15-64	7	1	1	1	10	18
65+	8	0	2	0	10	23
Unknown	0	0	0	0	0	0
<b>All ages</b>	<b>16</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>24</b>	<b>245</b>

**Table 3. Cumulative virus activity by age group and source, Week 40 - Week 47, 2016/17**

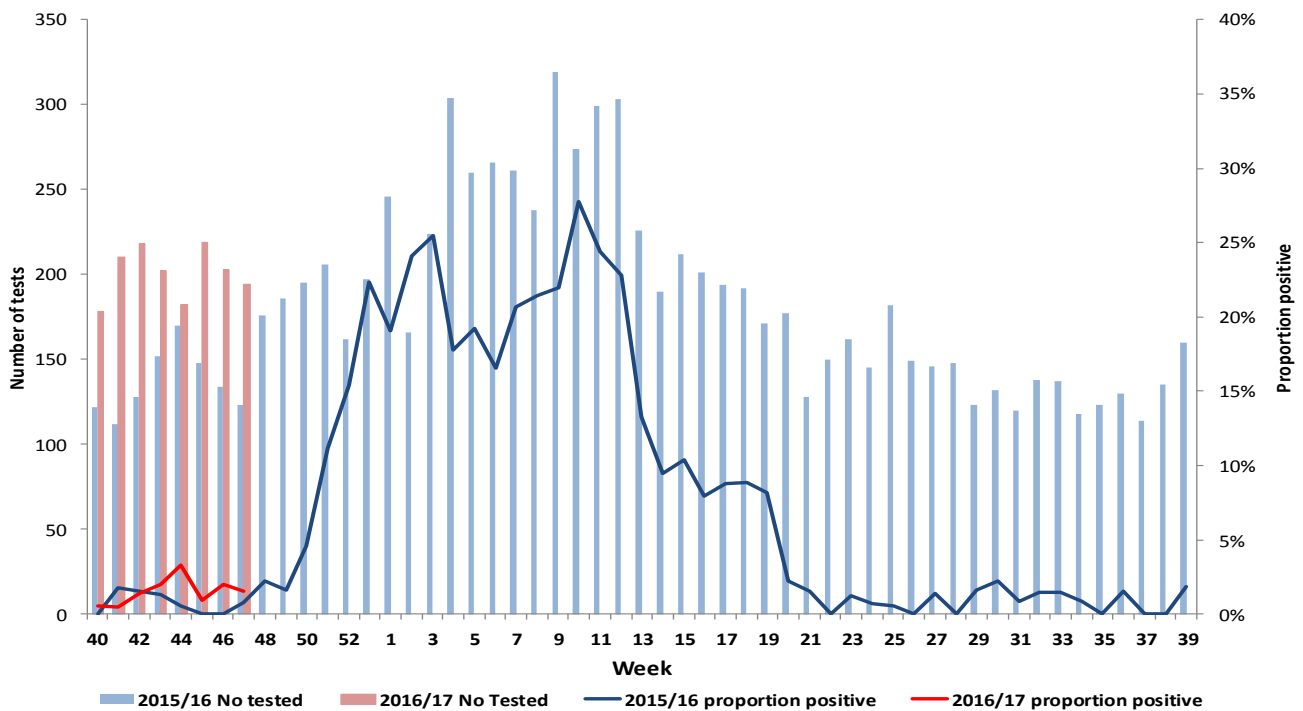
	Sentinel						Non-sentinel					
	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	0	0	0	0	0	1	0	1	1	3	198
5-14	0	0	0	0	0	0	0	0	0	1	1	6
15-64	0	1	0	0	1	2	7	0	1	1	9	16
65+	0	0	1	0	1	0	8	0	1	0	9	23
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>All ages</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>16</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>22</b>	<b>243</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, 2015/16 and 2016/17, all sources**



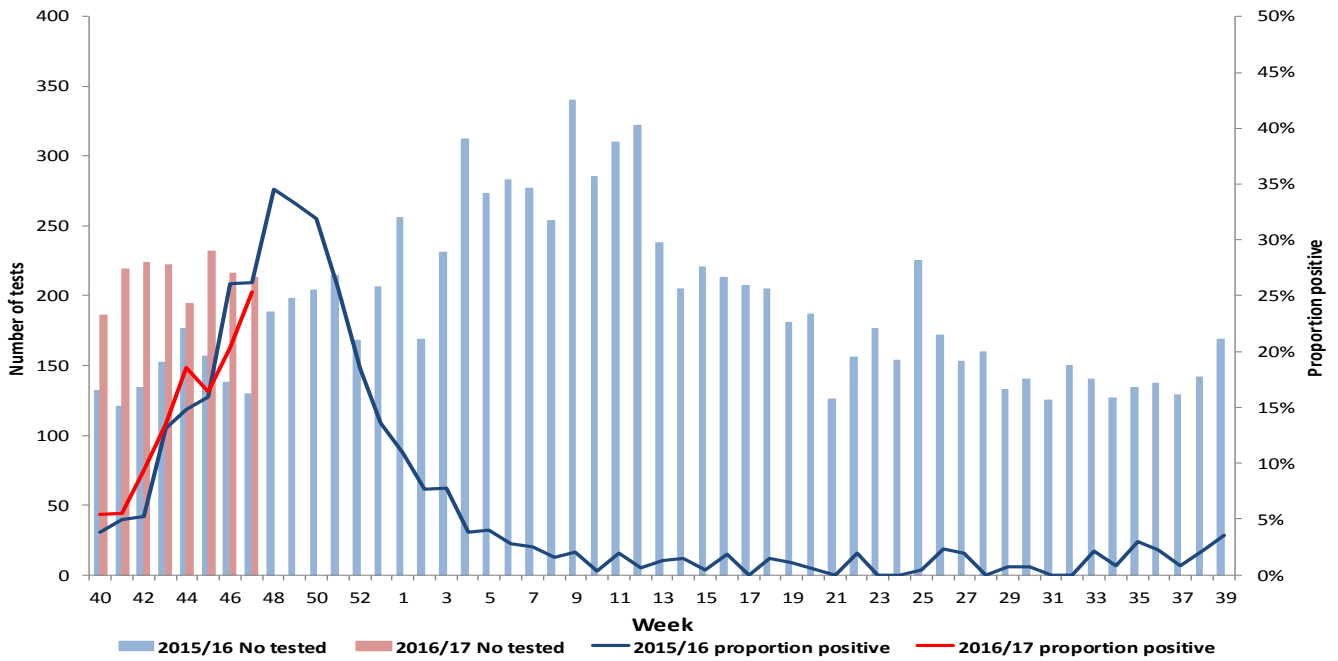
**Comment**

During weeks 46 and 47, 2016 there were 397 specimens submitted for virological testing. There were seven detections of influenza in total (positivity rate of 2%) (Figure 7). All seven detections were typed as influenza A(H3). There were no detections of influenza A(H1N1)pdm09 or influenza B.

There were no samples positive for influenza submitted through the GP based sentinel scheme across Northern Ireland (Tables 1, 2, and 3).

# Respiratory Syncytial Virus

**Figure 8. Number of samples tested for RSV and proportion positive, 2015/16 and 2016/17, all sources**

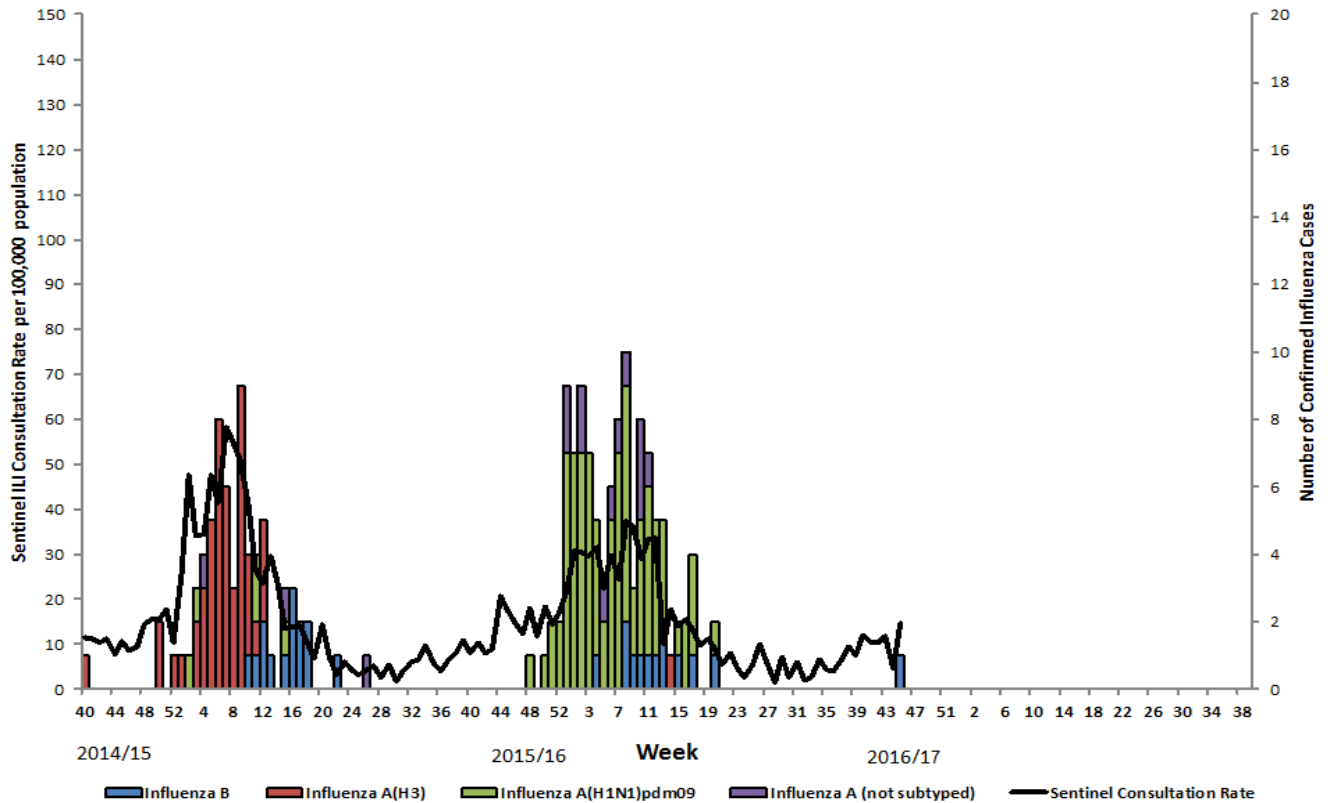


## Comment

During weeks 46 and 47, there were 98 positive detections of RSV. Positivity rates for both weeks combined were 23%; slightly lower than the same period in 2015/16 (26%). The majority (81%) of these detections were in those aged 0-4 years (Figure 8 and Table 2).

## ICU/HDU Surveillance

**Figure 9. Confirmed ICU influenza cases by week of specimen, with sentinel ILI consultation rate, 2014/15 - 2016/17**



### 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 no confirmed cases of influenza in ICU reported to the PHA, and no deaths in ICU patients with laboratory confirmed influenza. There has been one confirmed case of influenza in ICU reported this season to date, typed as influenza B.

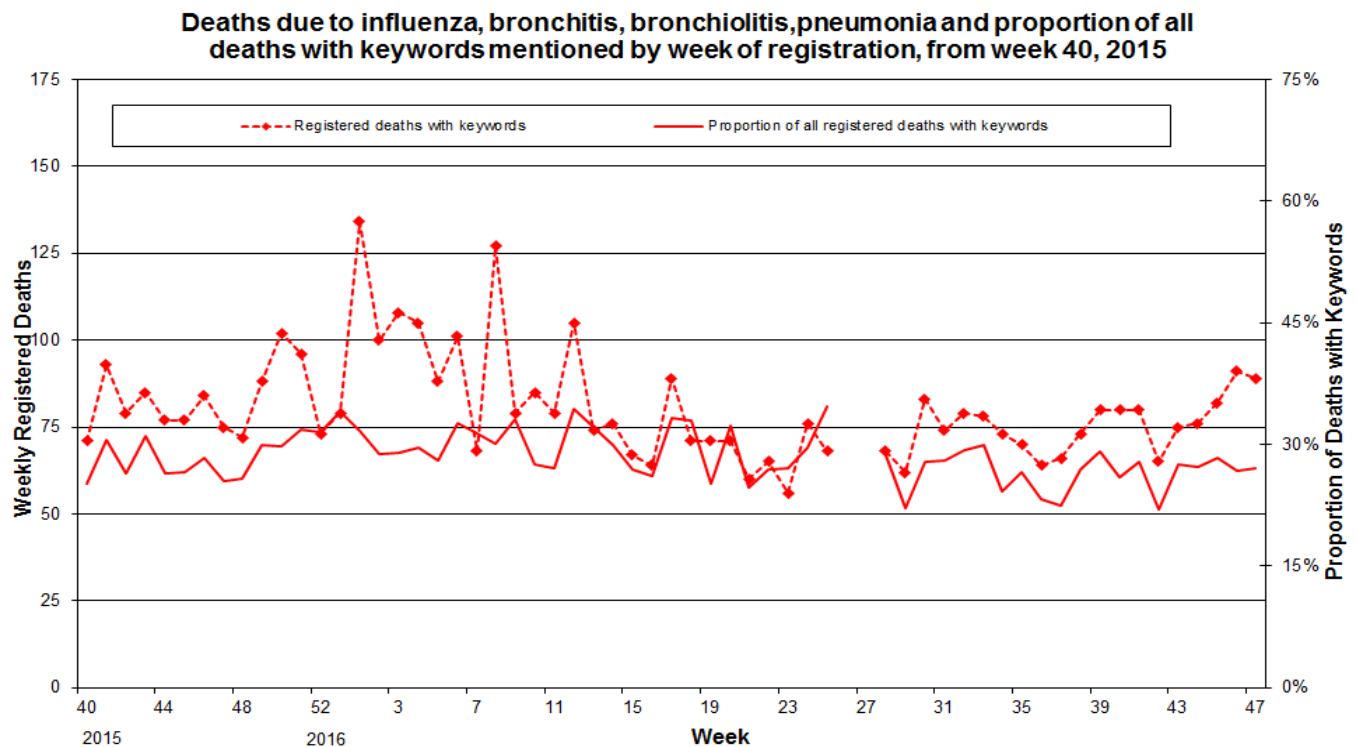
### Outbreak Surveillance

During weeks 46 and 47 there were no reports of confirmed influenza outbreaks.

## Mortality Data

Weekly mortality data is provided from Northern Ireland Statistics and Research Agency. 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 10. Weekly registered deaths**



\*Please note data are currently unavailable for weeks 26 – 27, 2016

### Comment

During week 46, the proportion of registered deaths from specific respiratory infections was 27% (341 registered deaths, of which 91 related to specific respiratory infections). In week 47 the proportion remained stable at 27% (329 registered deaths, of which 89 related to specific respiratory infections) (Figure 10).

The proportion of deaths attributed to specific respiratory infections is slightly higher at this point in the season than in 2015/16 but lower than in 2014/15.

## EuroMOMO

EuroMOMO data will be available later in the season.

## Influenza Vaccine Uptake

Vaccine uptake rates for 2016/17 will be reported in the bulletin later in the season.

## International Summary

### Europe

#### Week 46, 2016

- Influenza activity remained at baseline intensity levels in the region.
- The total number of virus detections among sentinel surveillance specimens increased to 10%, reaching a threshold indicative of increasing regional activity.
- The majority of viruses detected this week were influenza A(H3N2).

#### Season Overview:

- This is the earliest that the 10% positivity has been reached since the emergence of A(H1N1)pdm09 viruses in the 2009-2010 influenza season, while in the last five seasons it was passed between weeks 49 and 51.
- Since week 40/2016, influenza A viruses have predominated, with most of those subtyped being A(H3N2).
- Few influenza-confirmed cases have been reported from hospital settings so far.

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

### Worldwide (WHO) and CDC

#### As at 28<sup>th</sup> November 2016:

Influenza activity in the temperate zone of the northern hemisphere has not yet picked up and remained at inter-seasonal levels. Influenza activity in temperate southern hemisphere countries was back at inter-seasonal levels.

- In North America and Europe, influenza activity was still low with few influenza virus detections and influenza-like illness (ILI) levels below seasonal thresholds. In the United States, respiratory syncytial virus (RSV) activity continued to be reported.
- In East Asia, an increased level of influenza activity was reported in Southern China, influenza A(H3N2) remained the dominant virus circulating.
- In Western Asia influenza detections remained low.
- In the Caribbean countries, influenza and other respiratory virus activity remained low. In Central America, there was a slight increase in influenza virus activity but RSV continued to circulate in several countries as the predominant respiratory virus.
- In tropical South America, respiratory virus activities remained low with exception of Colombia where RSV activity continued to be reported.
- In tropical countries of South Asia, influenza virus detections remained low.
- In South East Asia, influenza activity continued to be reported at low levels in Cambodia, Lao People's Democratic Republic (PDR), Thailand and Vietnam with influenza A(H3N2)

virus predominating. In African region, influenza detections increased in Ghana with B viruses dominating.

- In temperate South America, influenza and RSV activity continue to decrease throughout the sub-region.
- In Oceania, influenza virus activity was at inter-seasonal levels.
- National Influenza Centres (NICs) and other national influenza laboratories from 78 countries, areas or territories reported data to FluNet for the time period from 31 October 2016 to 13 November 2016 (data as of 2016-11-25 04:15:03 UTC). The WHO GISRS laboratories tested more than 75463 specimens during that time period. 3603 were positive for influenza viruses, of which 3248 (90.1%) were typed as influenza A and 355 (9.9%) as influenza B. Of the sub-typed influenza A viruses, 63 (2.5%) were influenza A(H1N1)pdm09 and 2482 (97.5%) were influenza A(H3N2). Of the characterized B viruses, 34 (37%) belonged to the B-Yamagata lineage and 58 (63%) to the B-Victoria lineage.

[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, Regional Virus Laboratory, Critical Care Network for Northern Ireland, Public Health England and NISRA. Their work is greatly appreciated and their support vital in the production of this bulletin.

## Further information

Further information on influenza is available at the following websites:

<http://www.fluawareni.info> Now on Facebook (Flu Aware NI)

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

<http://www.publichealth.hscni.net>

<http://www.who.int>

<http://ecdc.europa.eu>

<http://euroflu.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:**

Republic of Ireland:

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

England:

<https://www.gov.uk/government/collections/seasonal-influenza-guidance-data-and-analysis#epidemiology>

Scotland

<http://www.hps.scot.nhs.uk/resp/seasonalInfluenza.aspx>

Wales

<http://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=34338>

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