

## Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 44 - 45 (31 October 2016 – 13 November 2016)

### Summary

At this point in the 2016/17 influenza season, activity remains at low levels in weeks 44 (week commencing 31<sup>st</sup> October 2016) and 45 (week commencing 7<sup>th</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 4.7 in week 44, and then rising to 14.6 per 100,000 population in week 45. Rates remain below the 2016/17 pre-epidemic threshold<sup>1</sup>
- OOH GP consultation rates for flu/FLI fluctuated slightly; decreasing to 2.3 in week 44, then increasing to 3.0 per 100,000 population in week 45

#### Microbiological Surveillance

- The proportion of positive influenza detections from both sentinel and non-sentinel sources was 3% in week 44 and 1% in week 45

#### Respiratory Syncytial Virus (RSV) Activity

- RSV activity remains moderate with levels slightly higher than the same period last season

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

- One case in ICU with laboratory confirmed influenza was 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

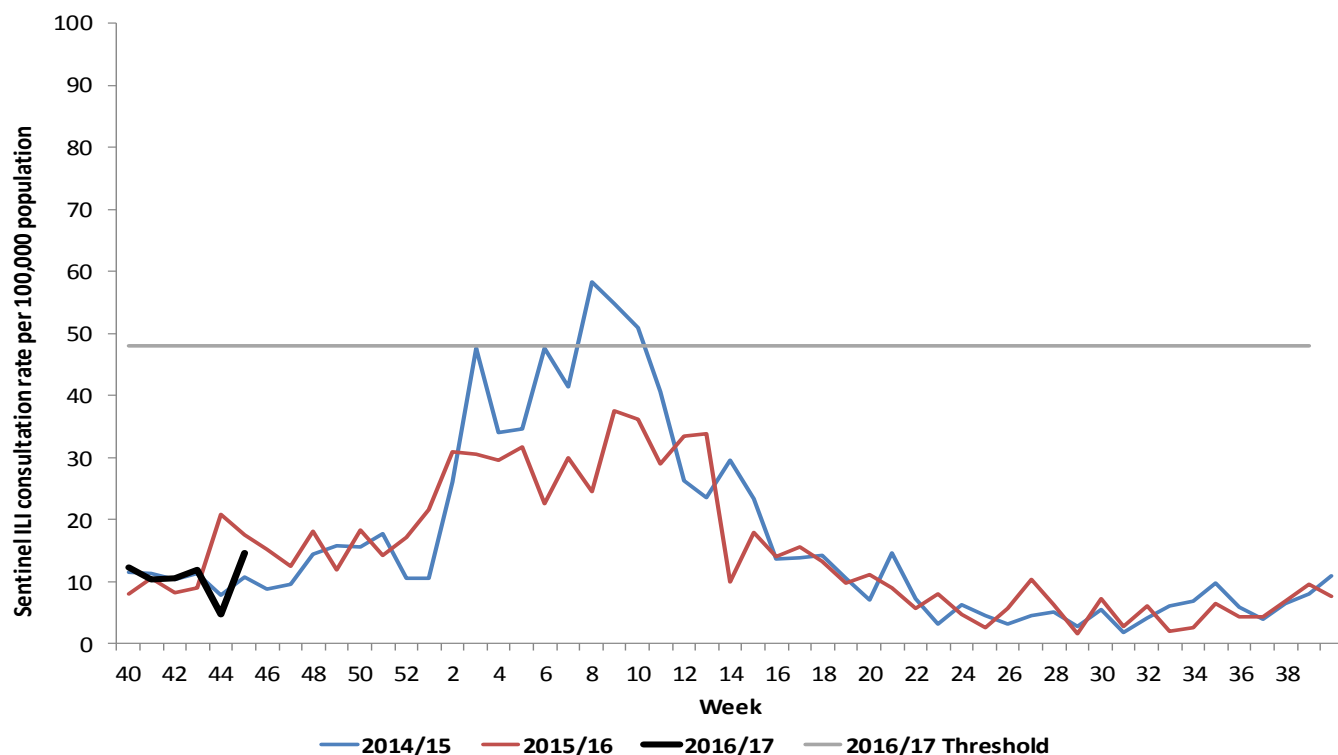
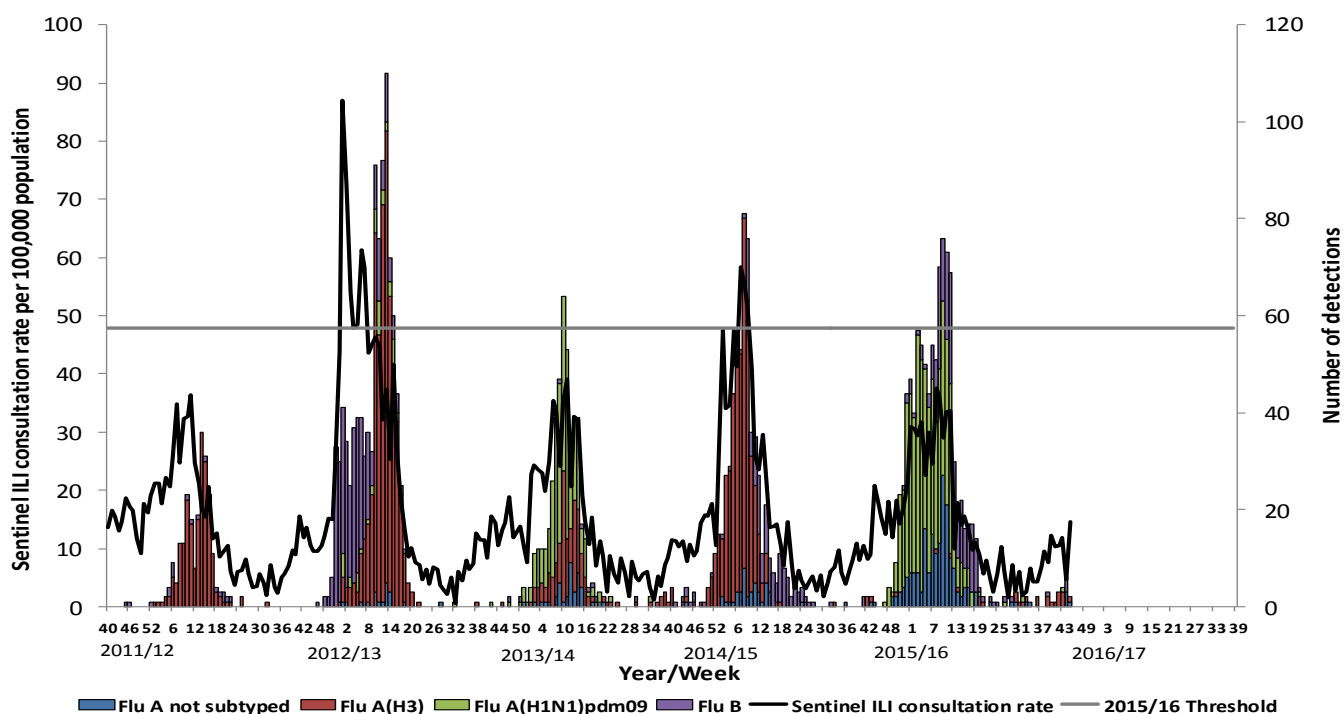
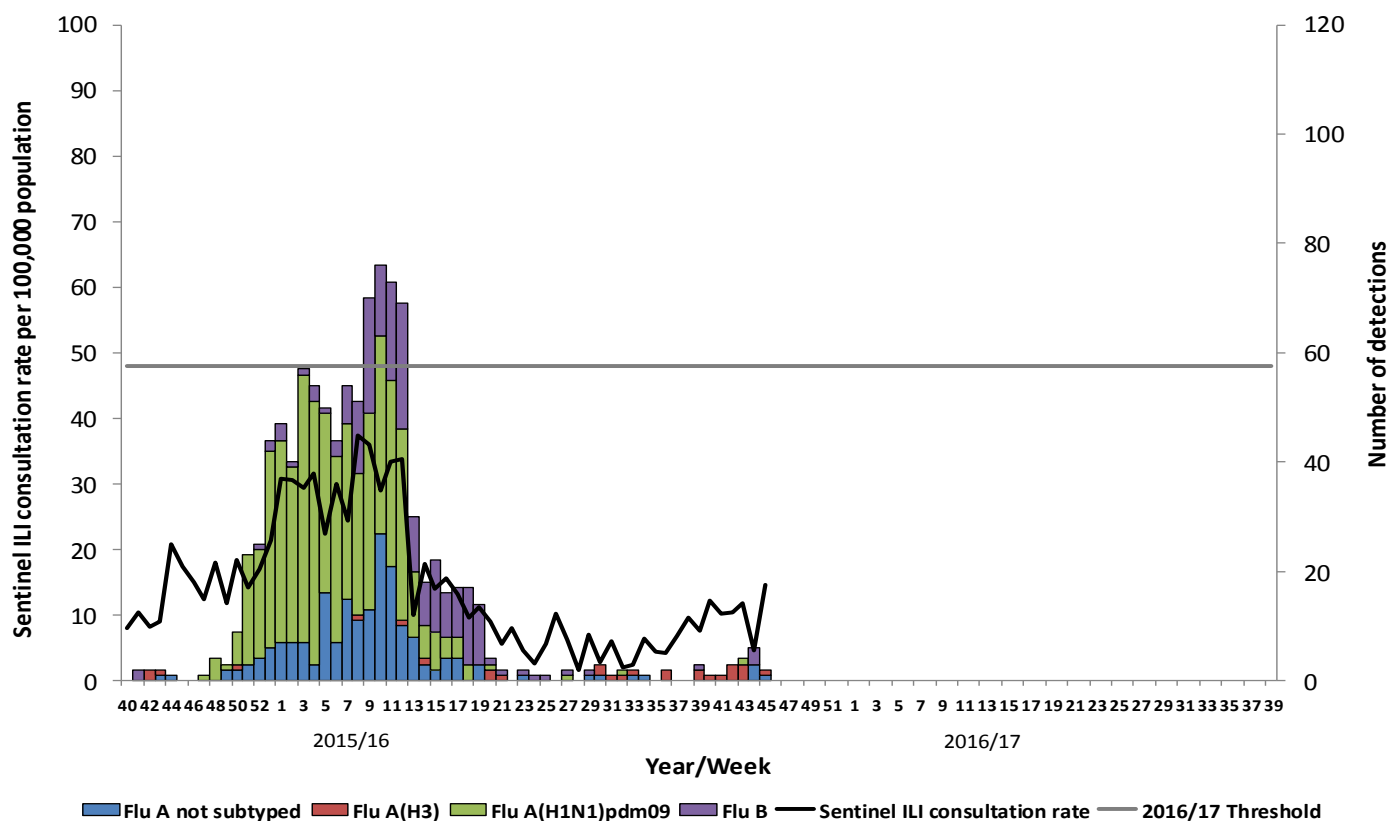


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2011/12 – 2016/17



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

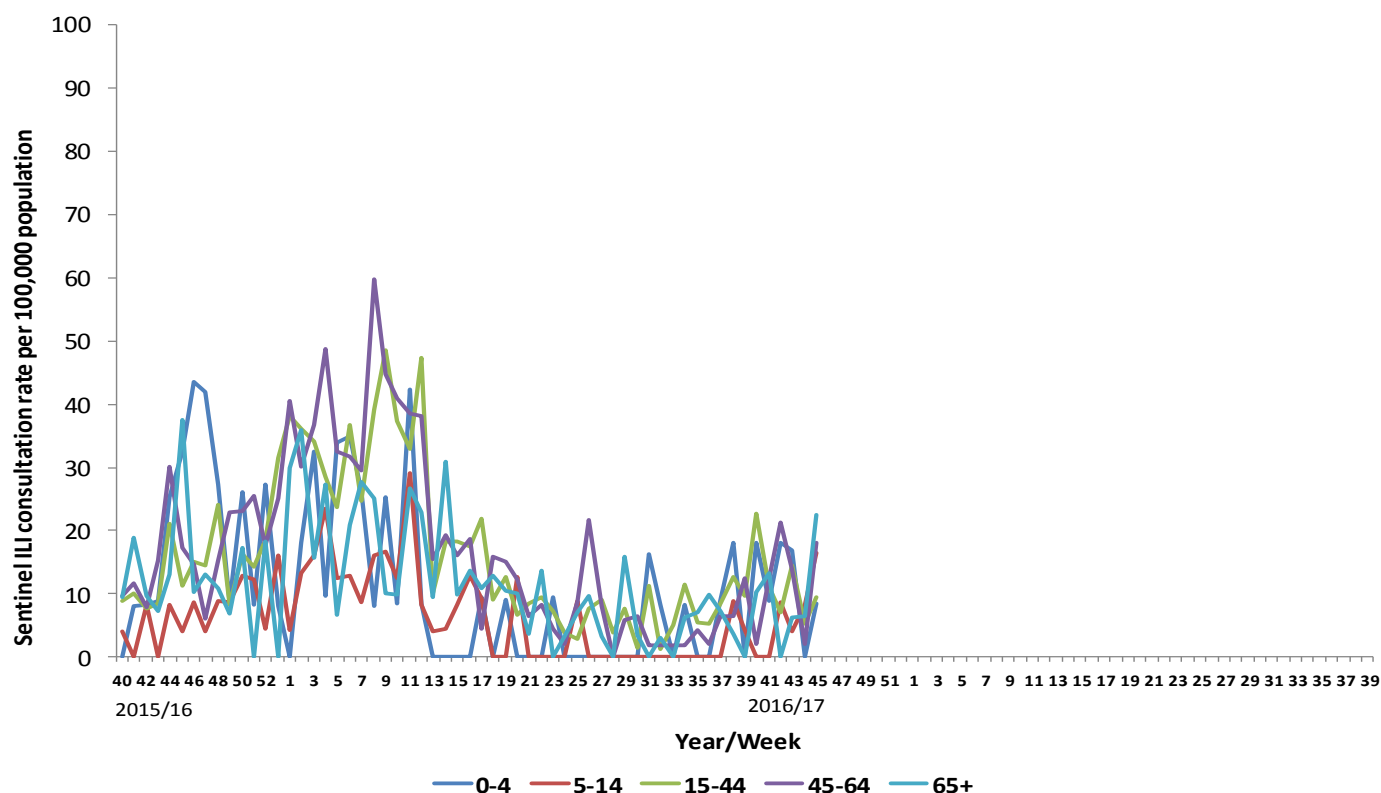


### Comment

GP consultation rates have fluctuated across the two week period, decreasing from 11.8 per 100,000 population in week 43 to 4.7 in week 44, then increasing to 14.6 per 100,000 population in week 45. The GP consultation rates are lower than the same period in 2015/16 (20.8 in week 44 and 17.5 in week 45) but similar to 2014/15 (7.7 in week 44 and 10.8 in week 45).

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

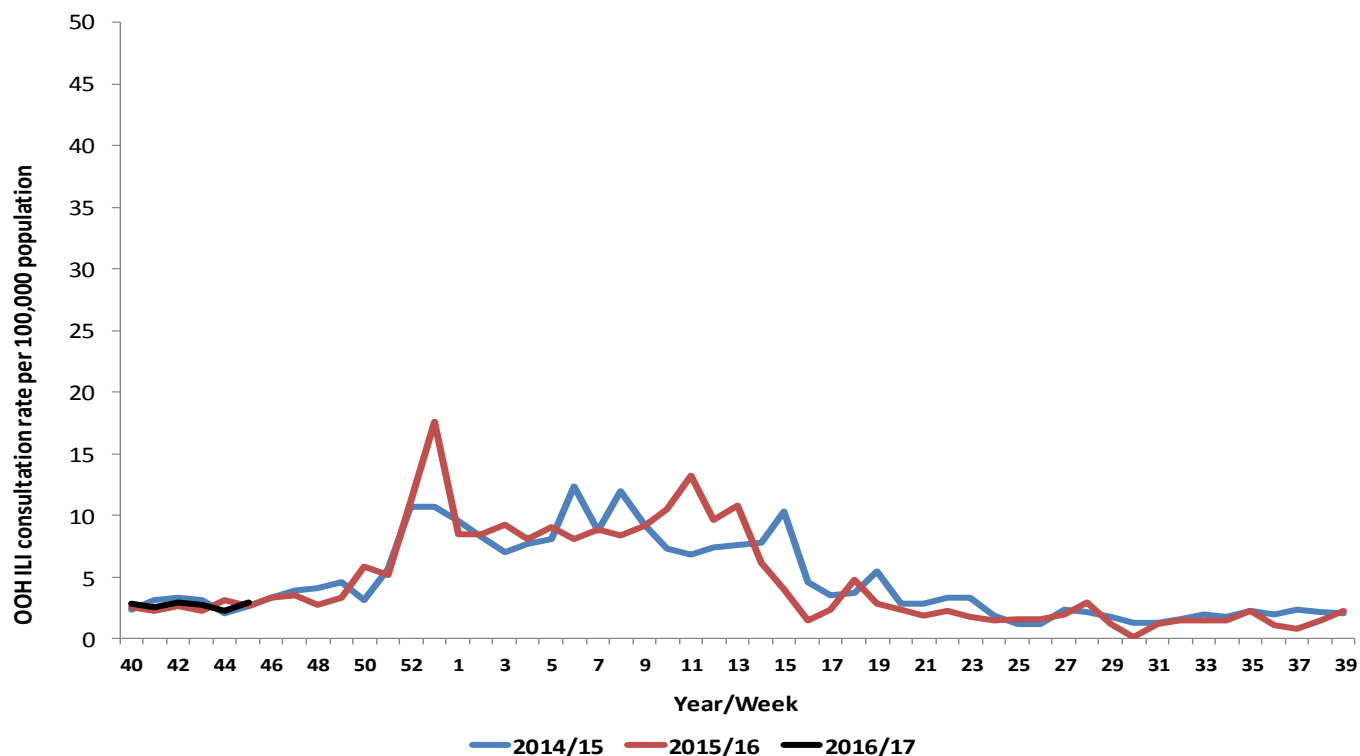
Sentinel GP flu/FLI consultations have fluctuated among most age groups across weeks 44 and 45, 2016 with steady increases noted among only the 5-14 and 65 years and over age groups.

In weeks 44 and 45 the highest age-specific rates were noted among those aged 5-14 years (8.2 per 100,000 population) and 65 years and over (22.6 per 100,000 population) respectively, while the lowest rates across the period were represented by those aged 0-4 years (zero consultations in week 44 and 8.5 per 100,000 population in week 45).

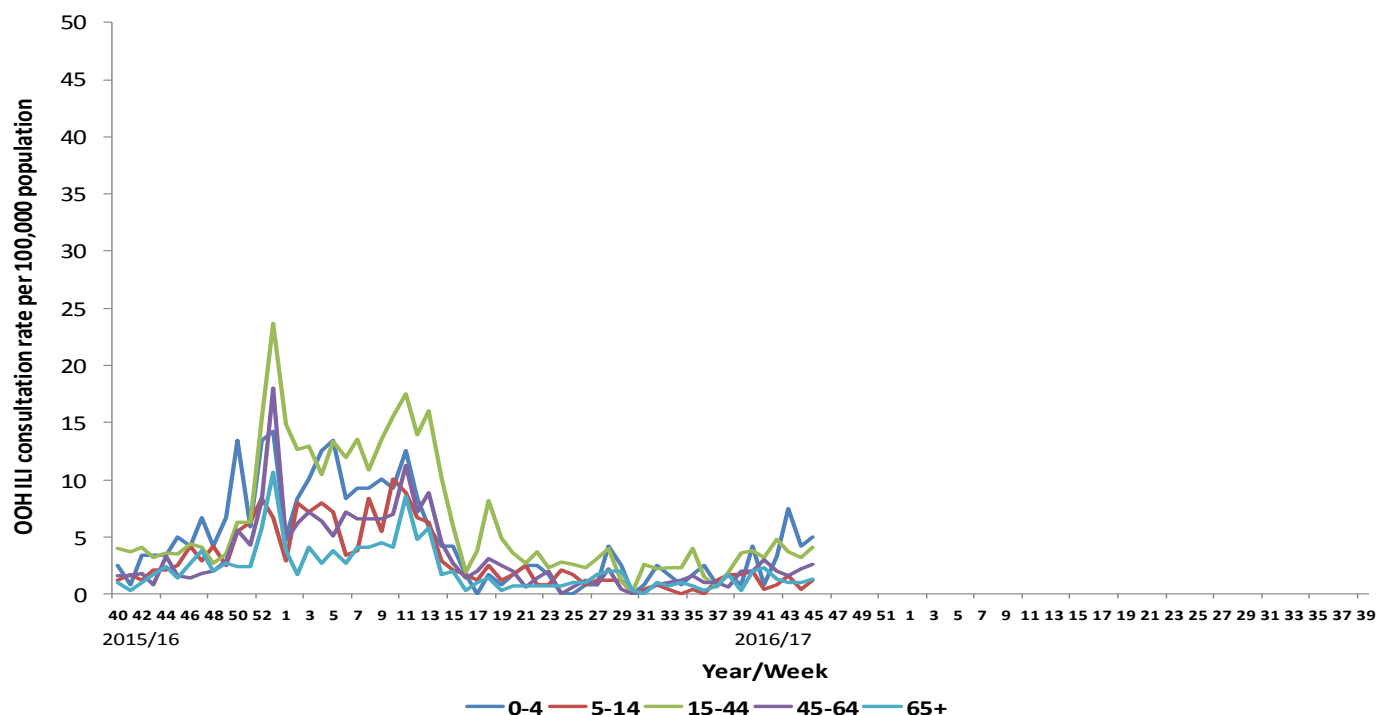
Age-specific consultation rates are lower in most age groups in weeks 44 and 45 than the same time period in 2015/16. (Figure 4).

## 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 44 and 45, 2016 the OOH GP consultation rate decreased to 2.3 per 100,000 population in week 44 (from 2.7 in week 43), before increasing to 3.0 per 100,000 population in week 45. The OOH GP consultation rate in week 45 is similar to the same period in both 2015/16 (2.7 per 100,000 population) and 2014/15 (2.6 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 44 and 45, OOH flu/FLI rates have steadily increased among the oldest age groups. The highest age-specific OOH flu/FLI rate in weeks 44 and 45 was seen among those aged 0-4 years (4.2 per 100,000 population in week 44 and 5.0 per 100,000 in week 45). Those aged 5-14 years represented the lowest rates in both weeks 44 and 45 (0.4 per 100,000 population in week 44 and 1.2 per 100,000 population in week 45) (Figure 6). Age-specific rates in week 45 are similar to those noted during the same period in 2015/16 but slightly higher than in 2014/15.

## Virology Data

**Table 1. Virus activity in Northern Ireland by source, Week 44 - 45, 2016/17**

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	8	0	0	1	0	0	1	13%
Non-sentinel	386	1	0	3	3	74	7	2%
<b>Total</b>	<b>394</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>74</b>	<b>8</b>	<b>2%</b>

**Table 2. Cumulative virus activity from all sources by age group, Week 40 - 45, 2016/17**

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	0	1	1	2	124
5-14	0	0	0	1	1	1
15-64	4	1	1	1	7	12
65+	5	0	2	0	7	10
Unknown	0	0	0	0	0	0
<b>All ages</b>	<b>9</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>17</b>	<b>147</b>

**Table 3. Cumulative virus activity by age group and source, Week 40 - Week 45, 2016/17**

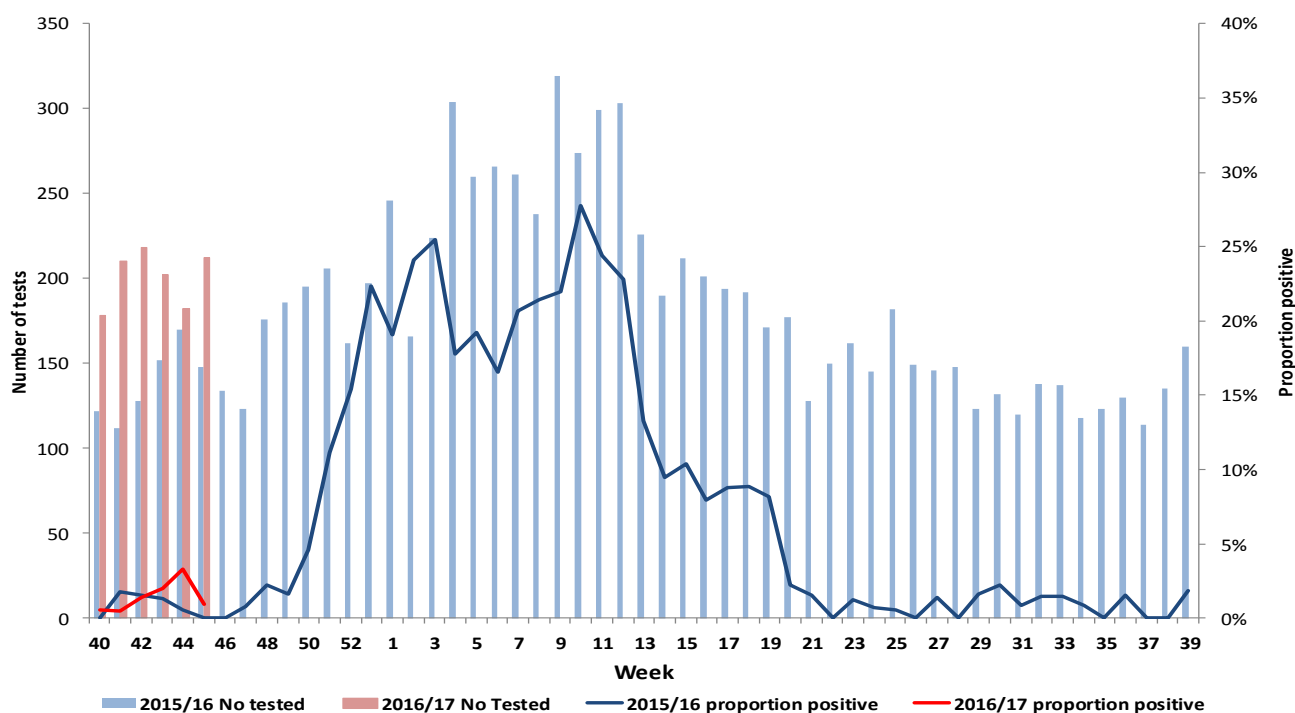
	Sentinel						Non-sentinel					
	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	0	0	0	0	0	0	0	1	1	2	124
5-14	0	0	0	0	0	0	0	0	0	1	1	1
15-64	0	0	0	0	0	1	4	1	1	1	7	11
65+	0	0	1	0	1	0	5	0	1	0	6	10
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>All ages</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>9</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>16</b>	<b>146</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**



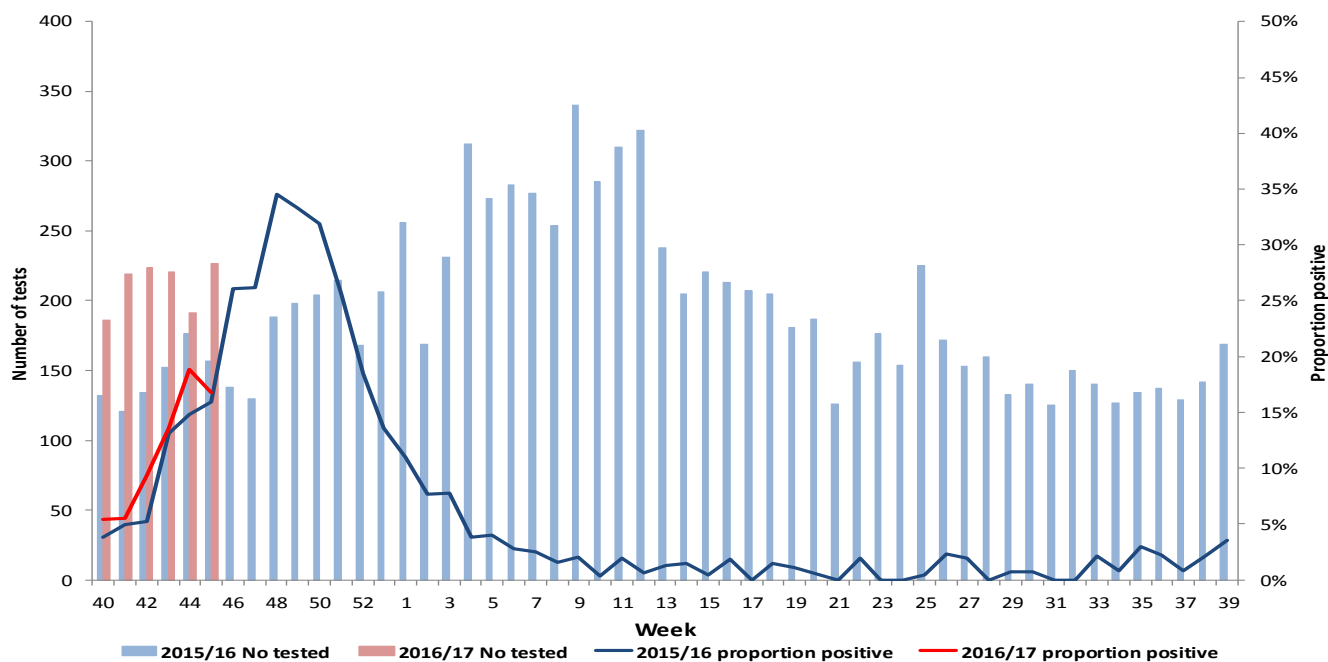
### Comment

During weeks 44 and 45, 2016 there were 394 specimens submitted for virological testing. There were eight detections of influenza in total (positivity rate of 2%) (Figure 7). There was one detection of influenza A(H3), four detections of influenza A(typing awaited) and three detections of influenza B. There were no detections of influenza A(H1N1)pdm09.

There was one sample positive for influenza (typing awaited) 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**

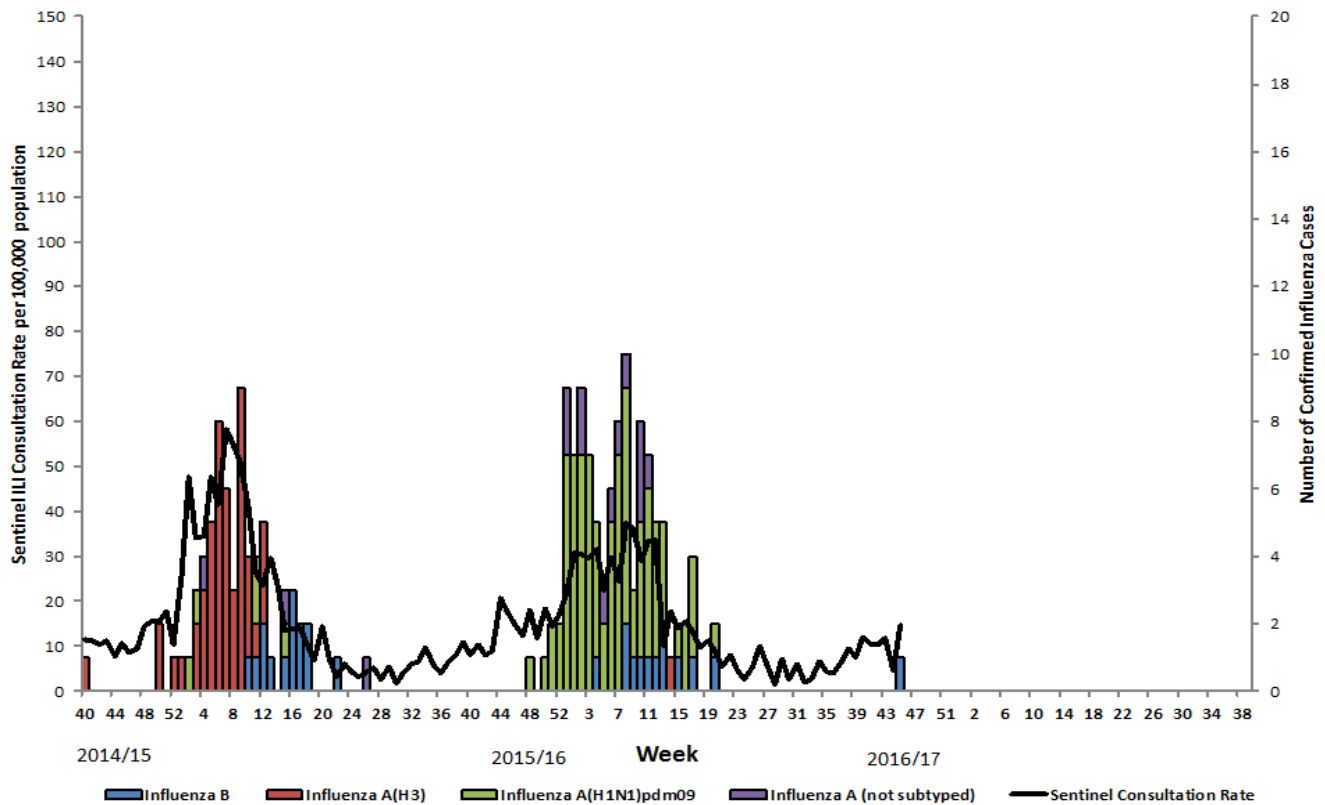


### Comment

During weeks 44 and 45, there were 74 positive detections of RSV. Positivity rates for both weeks combined were 18%; slightly higher than the same period in 2015/16 (15%). The majority (84%) 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 44 and 45, there was one confirmed case of influenza B in ICU reported to the PHA, but no deaths in ICU patients with laboratory confirmed influenza.

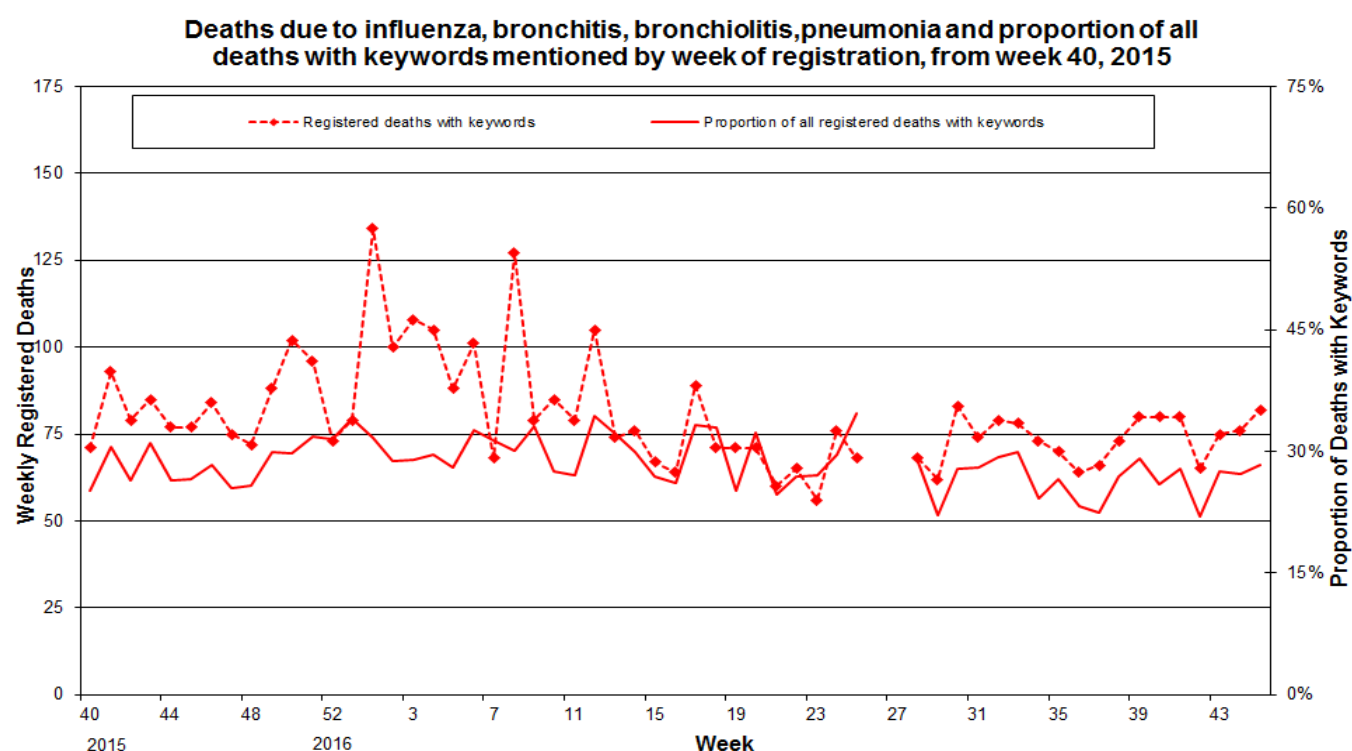
## Outbreak Surveillance

During weeks 44 and 45 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 44, the proportion of registered deaths from specific respiratory infections was 27% (279 registered deaths, of which 76 related to specific respiratory infections). In week 45 this proportion increased to 28% (290 registered deaths, of which 82 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 44, 2016

- Activity remained low in the region, with few specimens testing positive for influenza viruses (1% of sentinel specimens), and is at a level similar to that observed for the same period in recent seasons.
- Since week 40/2016, influenza A viruses have predominated, with most of those subtyped being A(H3N2).

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

### Worldwide (WHO) and CDC

#### As at 14<sup>th</sup> November 2016:

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

- In temperate South America, influenza and respiratory syncytial virus (RSV) activity continue to decrease throughout the sub-region.
- In South Africa and Oceania, influenza virus activity is now at inter-seasonal levels.
- In African countries, few reported surveillance activity in this period. Senegal and Kenya reported influenza A virus detections, and Côte d'Ivoire reported influenza B virus detections.
- In the Caribbean countries, influenza and other respiratory virus activity remained low except in Cuba where influenza A(H3N2) and influenza B viruses continue to be detected.
- In Central America, influenza virus activity remained low 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 French Guyana where influenza A(H3N2) viruses detections increased slightly.
- In tropical countries of South Asia, influenza activity was low.
- In South East Asia, a decreasing trend in influenza detection was observed, although influenza activity continued to be reported in Lao People's Democratic Republic (PDR), Thailand and Cambodia. Influenza activity also increased in southern China, with influenza A(H3N2) virus predominating.
- In Western Asia influenza detections remained low.
- In North America and Europe, influenza activity was low with few influenza virus detections and ILI levels below seasonal thresholds. In the United States, RSV activity continued to be reported.

- National Influenza Centres (NICs) and other national influenza laboratories from 85 countries, areas or territories reported data to FluNet for the time period from 17 October 2016 to 30 October 2016 (data as of 2016-11-11 04:49:00 UTC). The WHO GISRS laboratories tested more than 65111 specimens during that time period. 2215 were positive for influenza viruses, of which 1866 (84.2%) were typed as influenza A and 349 (15.8%) as influenza B. Of the sub-typed influenza A viruses, 73 (5.3%) were influenza A(H1N1)pdm09 and 1306 (94.7%) were influenza A(H3N2). Of the characterized B viruses, 15 (30%) belonged to the B-Yamagata lineage and 35 (70%) 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/seasonallInfluenza.aspx>

Wales

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

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