

## Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 1 (4 January 2016 – 10 January 2016)

### Summary

- Influenza GP consultations have increased, while virological detections of influenza in Northern Ireland have decreased.
- GP consultation rates for combined flu and flu-like illness (flu/FLI) remain below the 2015/16 pre-epidemic Northern Ireland threshold<sup>1</sup> at 30.9 per 100,000 population in week 1, 2016.
- The OOH consultation rate for flu/FLI has decreased to 8.5 per 100,000 population, overall, with decreases in most age groups.
- RSV activity has further decreased in week 1 and is lower than the same period during last season.
- There were five admissions to ICU with confirmed influenza reported in week 1, 2016.
- There were no deaths in ICU patients with laboratory confirmed influenza reported in week 1, 2016.
- In week 1, 2016 EuroMOMO did not report an excess in mortality.
- There were no confirmed influenza outbreaks reported to PHA in week 1, 2016.

### Introduction

In order to monitor influenza activity in Northern Ireland a number of surveillance systems are in place.

Surveillance systems include:

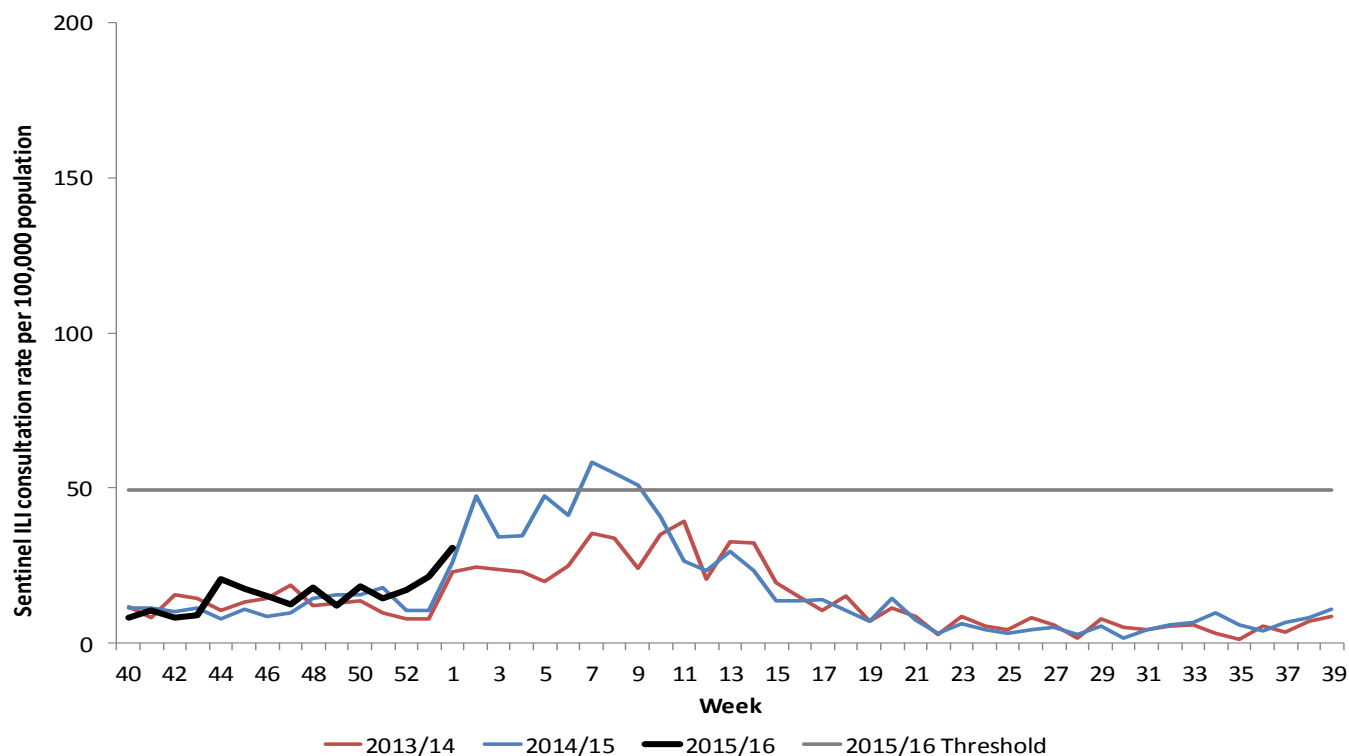
- GP sentinel surveillance representing 11.7% of Northern Ireland population;
- GP Out-of-Hours surveillance system representing the entire population;
- Virological reports from the Regional Virus Laboratory (RVL);
- Mortality data from Northern Ireland Statistics and Research Agency (NISRA);
- Excess 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;
- Critical Care Network for Northern Ireland reports on critical care patients with confirmed influenza;

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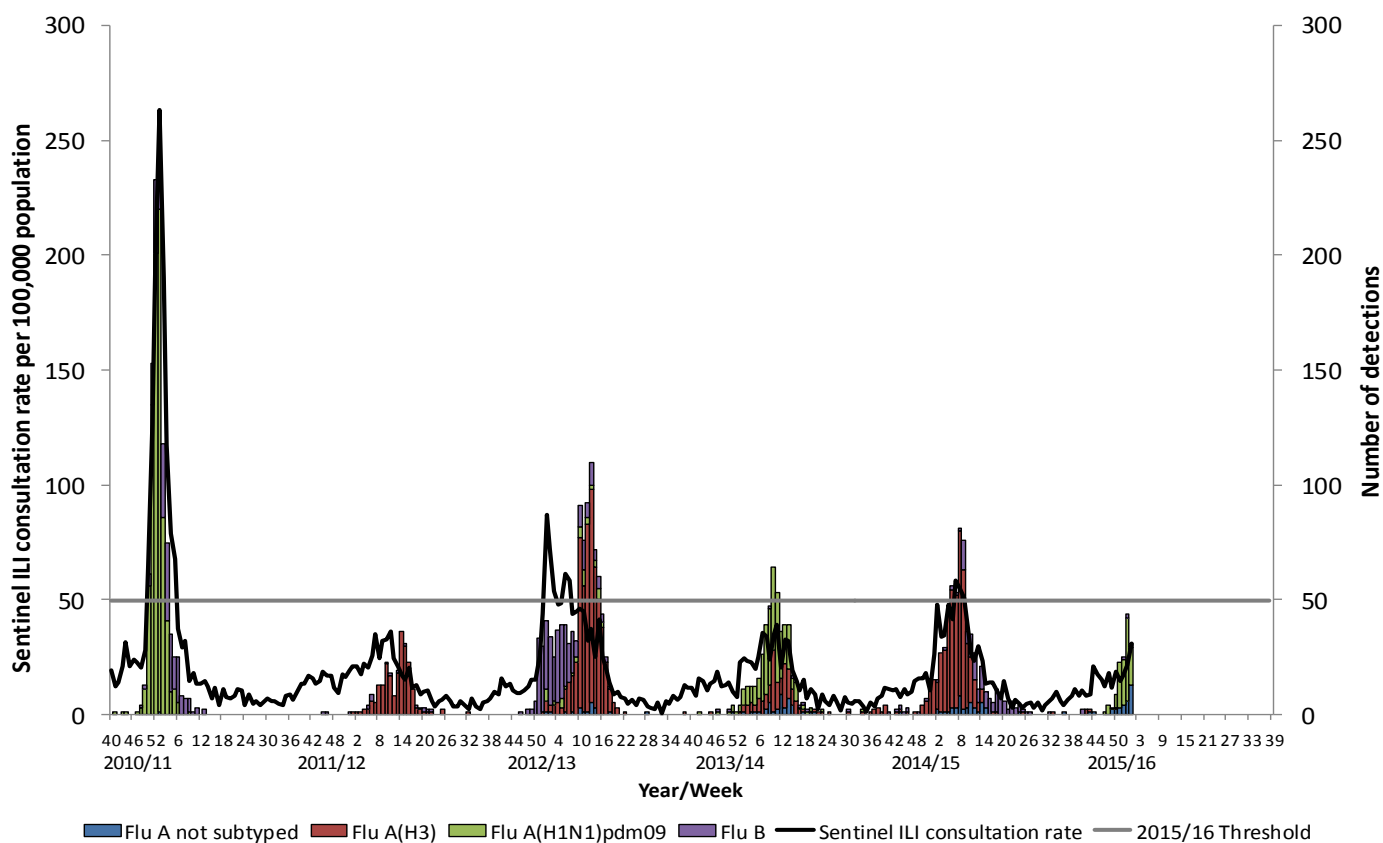
<sup>1</sup> The pre-epidemic threshold for Northern Ireland is 49.4 per 100,000 population this year (2015/16)

## Sentinel GP Consultation Data

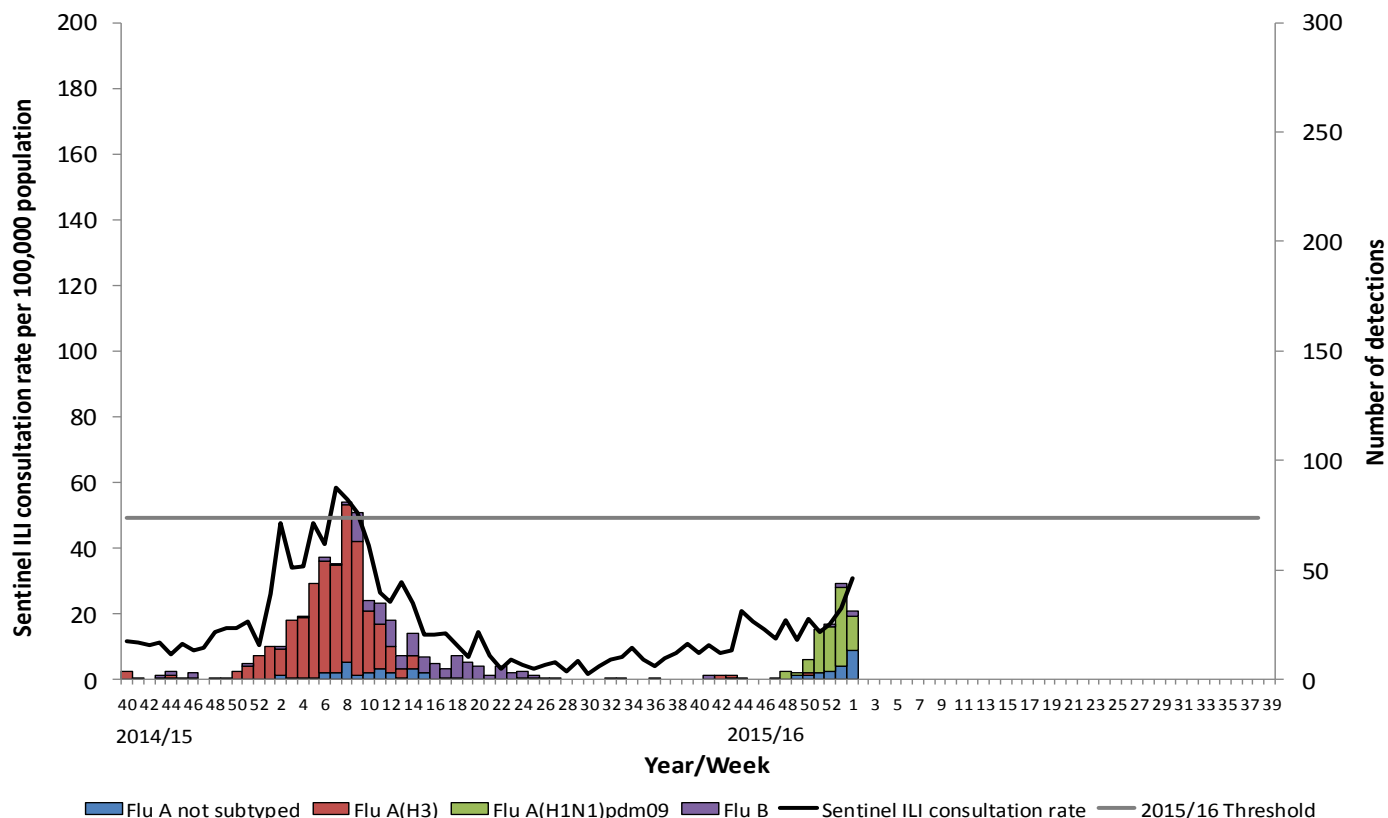
**Figure 1. Sentinel GP consultation rates for flu/FLI 2013/14 - 2015/16**



**Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2010/11 – 2015/16**



**Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2014**

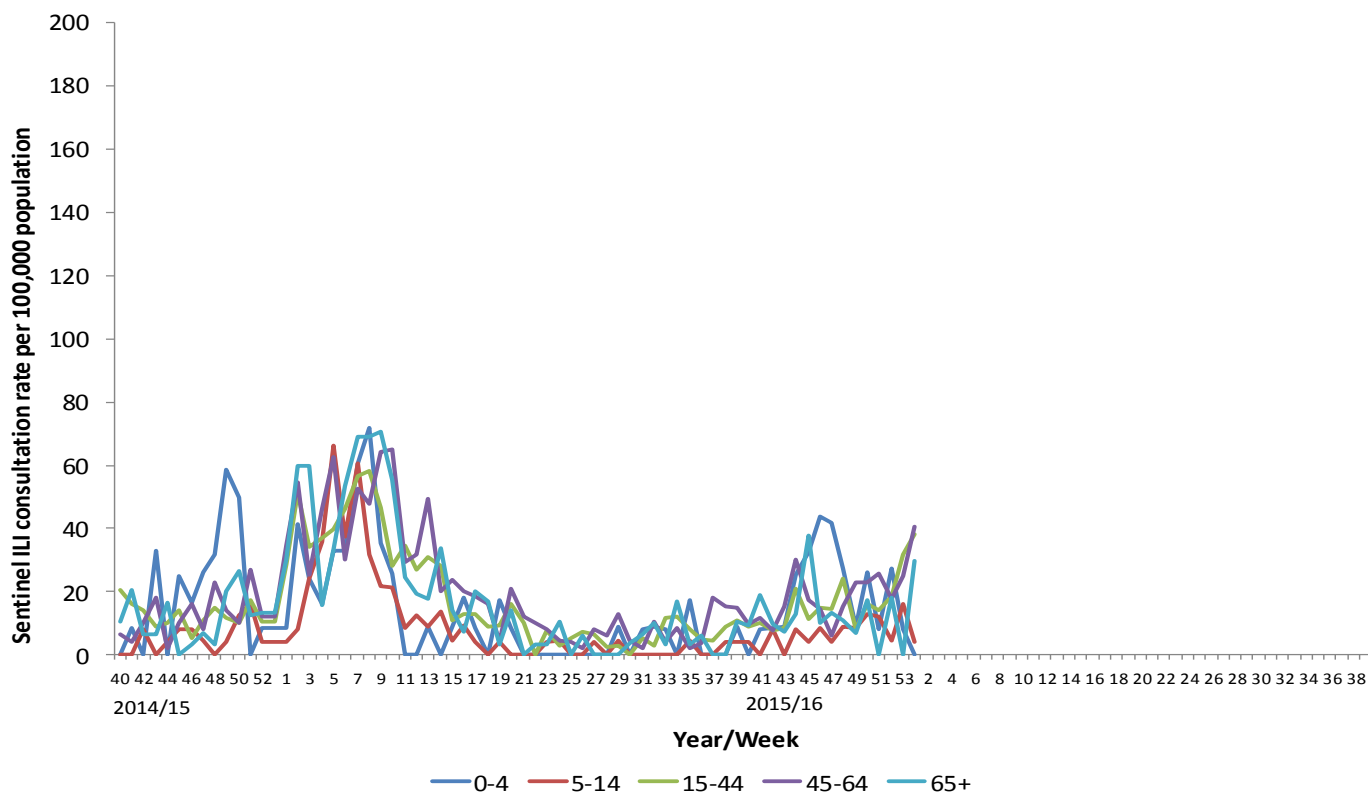


### Comment

GP consultation rates have increased in week 1, 2016 to 30.9 per 100,000 from 21.5 per 100,000 population in week 53. The GP consultation rate is lower than the same period in 2014/15, but higher than in 2013/14.

Rates remain below the pre-epidemic Northern Ireland 2015/16 threshold of 49.4 per 100,000 (Figures 1, 2 and 3).

**Figure 4. Sentinel GP age-specific consultation rates for flu/FLI from week 40, 2014**



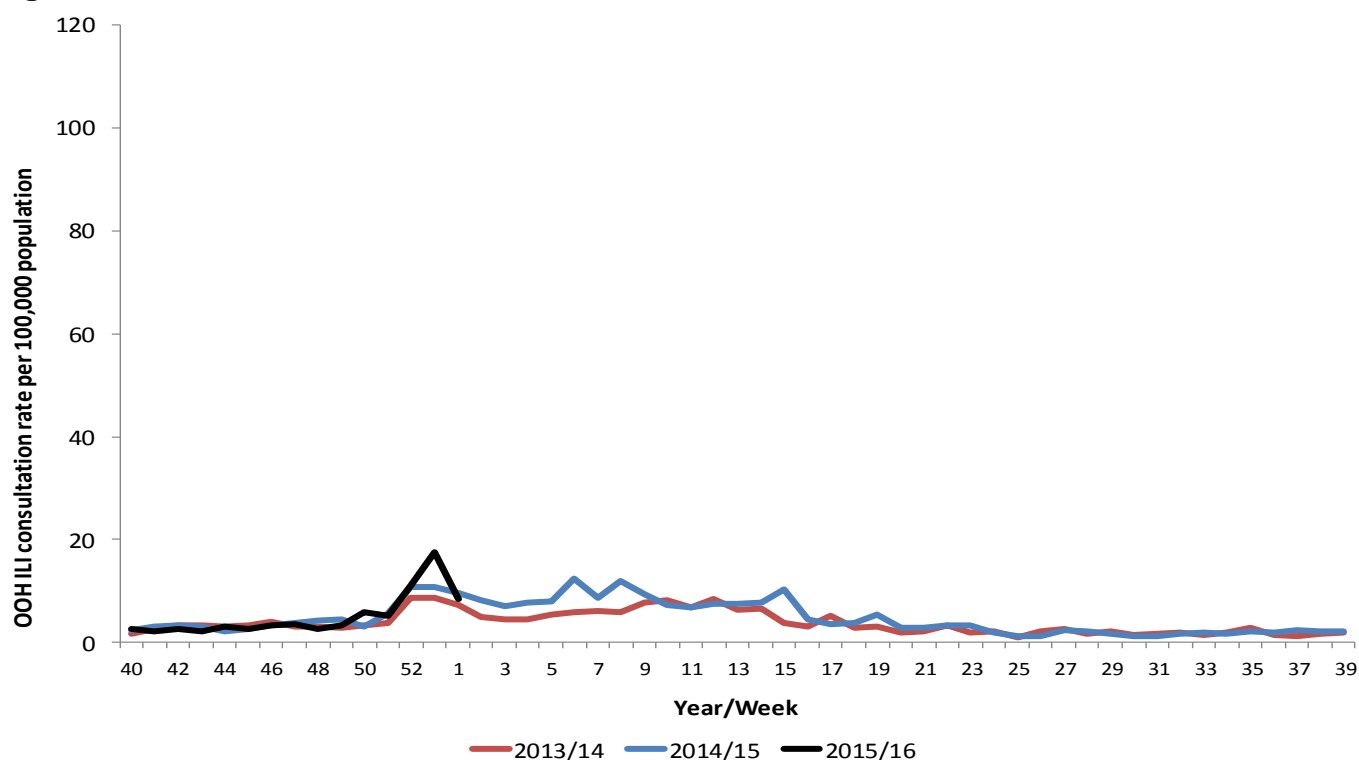
### Comment

During week 1 2016, GP consultation rates increased among the 15-44, 45-64 and 65 years and over age groups in comparison with the previous week, while rates among those aged 0-4 and 5-14 years decreased.

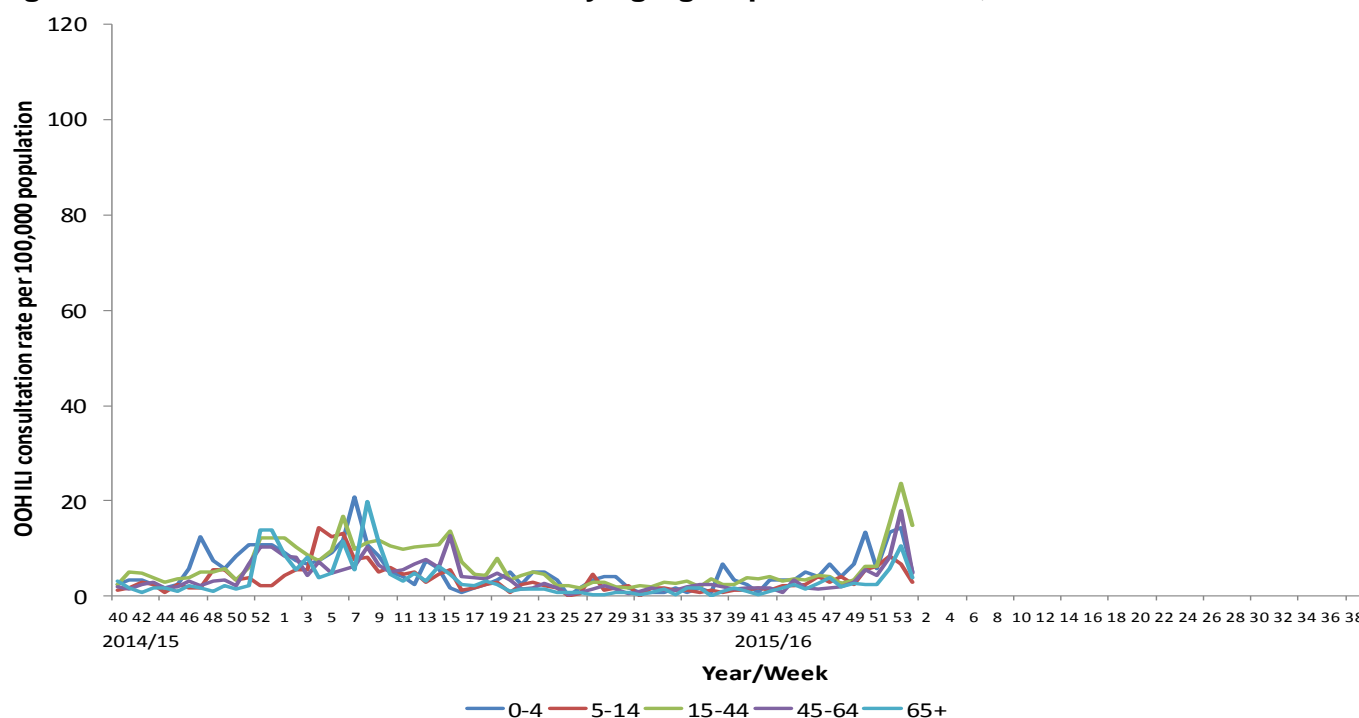
The highest consultation rate in week 1 was noted in those aged 45-64 years at 40.6 per 100,000 population (Figure 4).

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

**Figure 5. OOH call rate for flu/FLI, 2013/14 – 2015/16**



**Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2014**



### Comment

During week 1, 2016, the OOH GP consultation rate for flu/FLI has decreased to 8.5 per 100,000 from 17.6 per 100,000 in week 53. The OOH GP consultation rate is similar to the same period in 2014/15, but higher than in 2013/14.

The proportion of calls related to flu represents 1.4% of total calls to the OOH service.

During week 1, OOH flu/FLI rates have decreased in all age groups, with the highest OOH flu/FLI rate in those aged 15-44 years at 14.9 per 100,000 population (Figures 5 and 6). . Age specific-rates are generally lower than during the same period in 2014/15, but higher than the same period in 2013/14.

## Virology Data

**Table 1. Virus activity in Northern Ireland, Week 1, 2015/16**

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	6	0	1	0	1	1	2	33%
Non-sentinel	212	0	27	9	2	21	38	18%
<b>Total</b>	<b>218</b>	<b>0</b>	<b>28</b>	<b>9</b>	<b>3</b>	<b>22</b>	<b>40</b>	<b>18%</b>

**Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 1, 2015/16**

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	18	1	2	21	381
5-14	0	4	0	0	4	14
15-64	0	74	21	5	100	48
65+	4	20	6	1	31	49
Unknown	0	0	0	0	0	0
<b>All ages</b>	<b>4</b>	<b>116</b>	<b>28</b>	<b>8</b>	<b>156</b>	<b>492</b>

**Table 3. Cumulative virus activity, Week 40 - Week 1, 2015/16**

	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	1	0	18	1	2	21	380
5-14	0	0	0	0	0	1	0	4	0	0	4	13
15-64	0	6	1	3	10	7	0	68	20	2	90	41
65+	0	0	1	0	1	0	4	20	5	1	30	49
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>All ages</b>	<b>0</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>11</b>	<b>9</b>	<b>4</b>	<b>110</b>	<b>26</b>	<b>5</b>	<b>145</b>	<b>483</b>

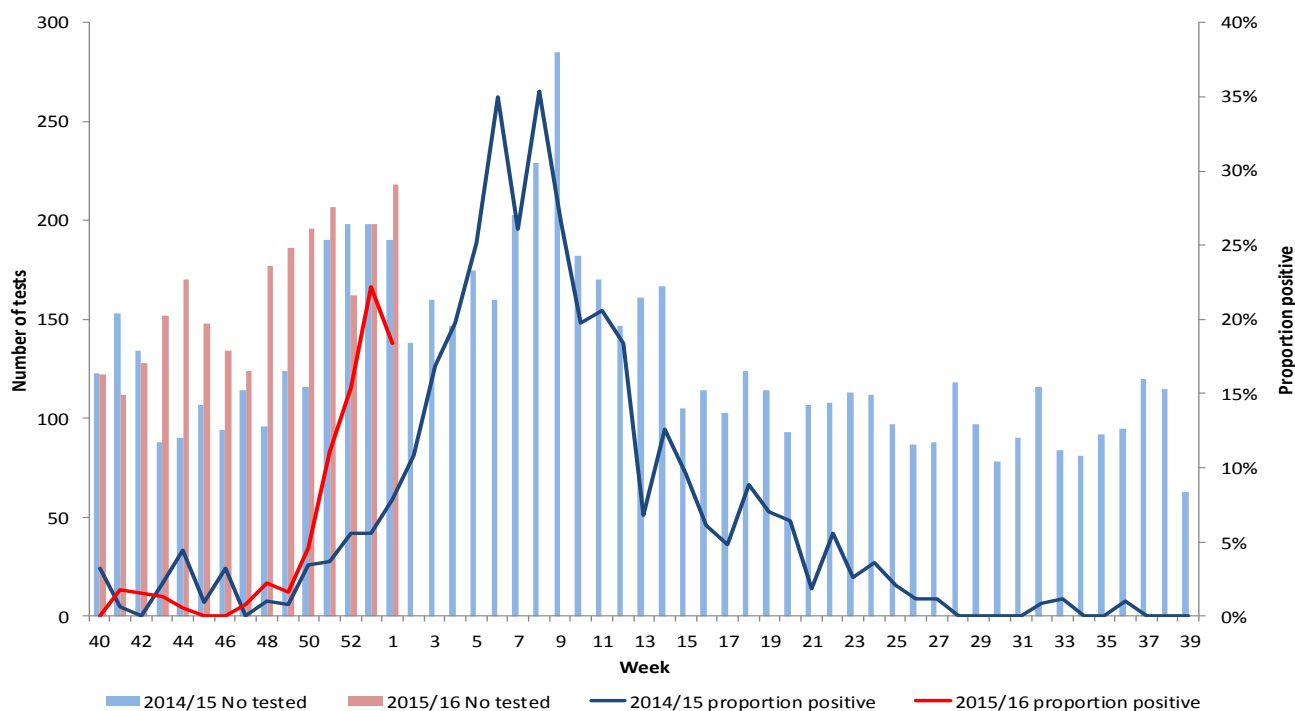
### Note

All virology data is 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.

## Comment

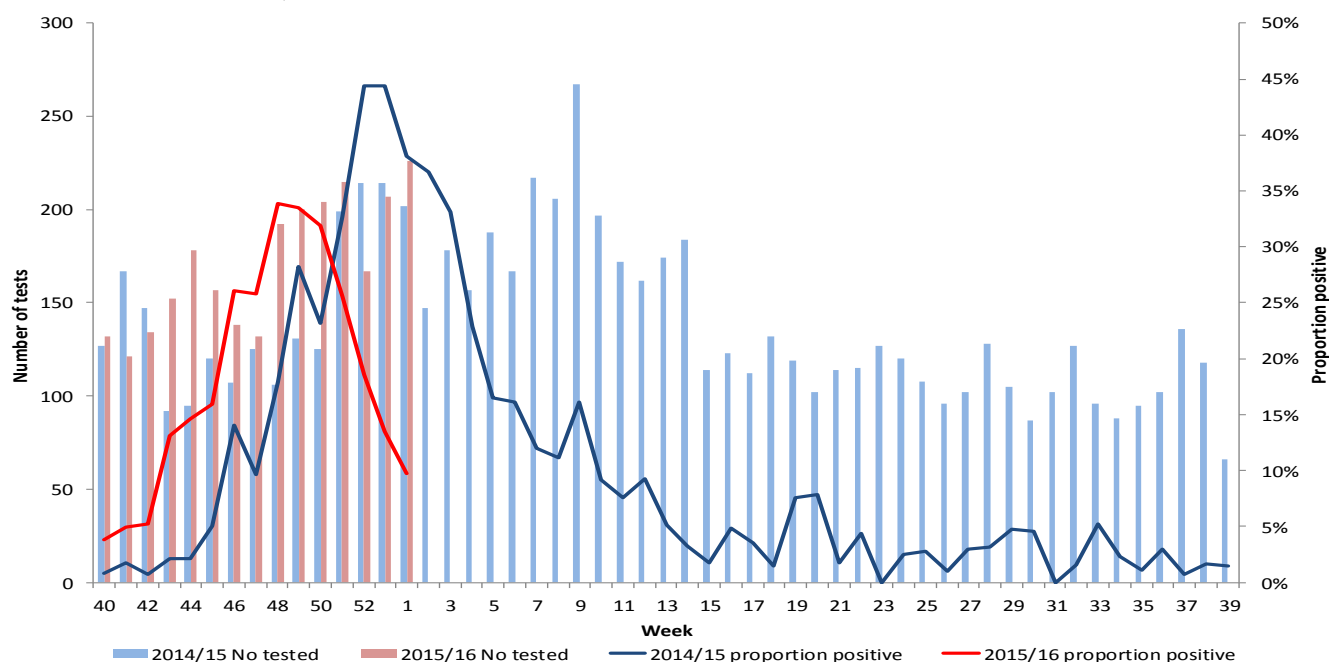
During week 1, 218 specimens were submitted for virological testing. There were 38 detections of influenza (positivity rate of 18%) - 27 were typed as influenza A(H1N1)pdm09, 3 as influenza B and 9 as influenza A (typing awaited). The positivity rate for influenza has decreased from 22% in week 53, 2015. Overall this season, there have been 156 detections of influenza reported, more than in the same period in the 2013/14 (26) and 2014/15 (69) (Figure 7).

**Figure 7. Number of samples tested for influenza and proportion positive, 2014/15 and 2015/16, all sources**



## Respiratory Syncytial Virus

**Figure 8. Number of samples tested for RSV and proportion positive, 2014/15 and 2015/16, all sources**



### Comment

During week 1, there were 22 RSV positive detections. Positivity rates have continued to decrease from 14% in week 53, to 10% in week 1. RSV positivity rates during this period have been the lowest since 2011/12. Overall this season there have been 492 detections of RSV, of which the majority (77%) were in those aged 0-4 years (Figure 8 and table 2).

## Influenza Vaccine Uptake

Up to 30<sup>th</sup> November 2015, provisional data suggests that vaccine uptake for those aged 65 years and over is 67.6%, similar to the same period in 2014; while 48.8% of those under 65 and in an at risk group received the vaccine, lower than in 2014 when 51.4% received the vaccine.

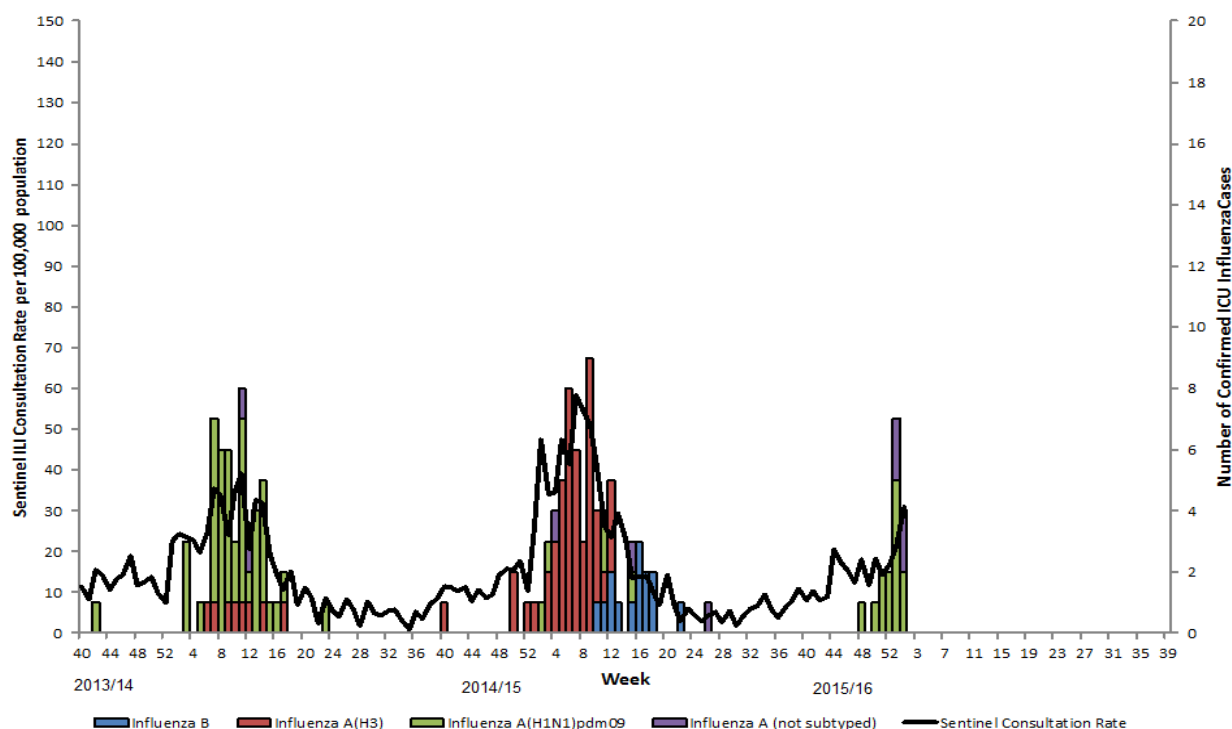
Similar to last season, all children aged between 2 and 4 years and all primary school children in 2014/15 have been offered the seasonal influenza vaccine. Up to 30<sup>th</sup> November 2015, provisional data suggests that vaccine uptake among 2-4 year old children is 46.3%, lower than in 2014 during the same period. Uptake among children in primary school is 74.6%, similar to 2014.

Please note that all data is provisional and uptake rates are based on the November interim report.



## ICU/HDU Surveillance

**Figure 9. Confirmed ICU influenza cases by week of specimen, with sentinel ILI consultation rate, 2013/14 - 2015/16**



## Comment

Data are collected on laboratory confirmed influenza patients and deaths in critical care (level 2 and level 3).

During week 1, there were five admissions to ICU confirmed with influenza - three with influenza A (H1N1)pdm09 and two with influenza A untyped (typing awaited). There have been a total of 17 admissions to ICU with confirmed influenza reported this season to date, of which 13 have been confirmed as influenza A (H1N1)pdm09 and 4 as influenza A untyped (typing awaited) (Figure 9).

Up to week 1, 2016, of the 17 ICU patients with confirmed influenza 12 had co-morbidities. Provisional data shows that 10 of the 17 cases met the criteria for influenza vaccine and 4 had received it.

There were no deaths in ICU patients with laboratory confirmed influenza reported since the last bulletin. To date, there have been 3 deaths in ICU patients with laboratory confirmed influenza.

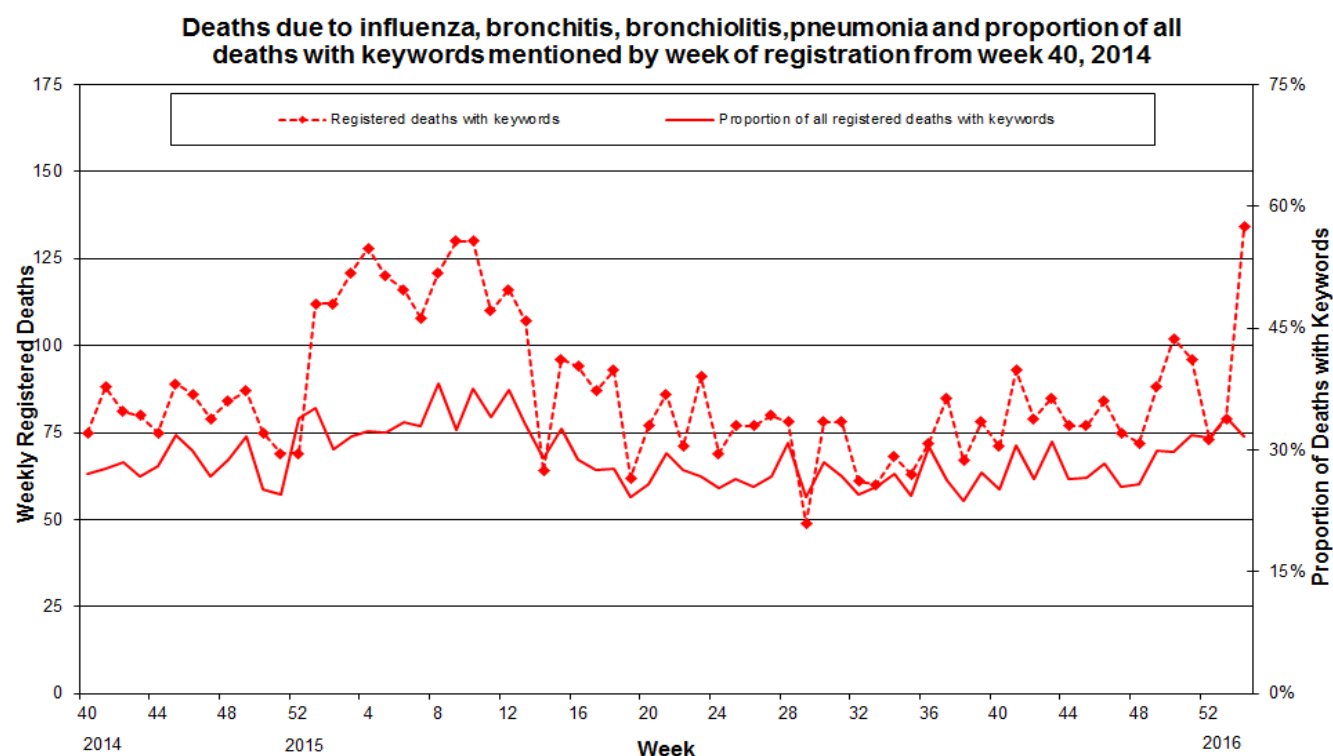
## Outbreak Surveillance

During week 1, 2016 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 9. Weekly registered deaths**



## Comment

During week 1, the proportion of registered deaths from specific respiratory infections decreased to 32% from 34% in week 53.

In week 1, there were 424 registered deaths, of which 134 related to specific respiratory infections (32%). The proportion of deaths attributed to specific respiratory infections is higher than the same period in 2014/15 but lower than in 2013/14.

## EuroMOMO

During week 1, no excess all-cause mortality was reported in Northern Ireland. Significant excess all-cause mortality was reported retrospectively for week 49, 2015. This is the first excess mortality reported this season to date.

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

## International Summary

### Europe

Week 53, 2015:

- Influenza activity remained low in most countries in the WHO European Region.
- The proportion of influenza-virus-positive specimens from sentinel surveillance continued to increase: from 18% for week 52/2015 to 30% for week 53/2015. Most of these specimens came from two countries, however.
- Detections of A(H1N1)pdm09, A(H3N2) and type B influenza viruses among sentinel surveillance specimens were reported by 17 countries.

Season:

- The proportion of influenza-virus-positive sentinel-surveillance specimens has been over 10% for three consecutive weeks, indicating the start of the influenza season in week 51/2015 in the northern and southern parts of the European Region.
- The increase in virus detections among sentinel and non-sentinel patients with respiratory disease since week 49/2015 is due largely to A(H1N1)pdm09 viruses, representing 80% of subtyped type A viruses. Most influenza B viruses were without lineage determination. In contrast, 81% of influenza A-subtyped viruses were A(H3N2) by week 1/2015 in the 2014–2015 influenza season. While A(H3N2) is known to cause severe disease and deaths in the elderly, A(H1N1)pdm09 is more likely to cause severe disease in younger, otherwise healthy, adults.
- Viruses characterized so far this season are genetically similar to the strains recommended for inclusion in this winter's trivalent or quadrivalent vaccines for the northern hemisphere.

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

### Worldwide (WHO) and CDC

As at 28<sup>th</sup> December 2015:

Globally, influenza activity generally remained low in both hemispheres.

- In a few countries in Central and Northern Asia, as well as in Eastern and Northern Europe, there were slight increases in influenza detections in recent weeks.
- In Eastern Asia, the rest of Europe, North Africa and North America, influenza activity continued at low, inter-seasonal levels.
- In southern and western Asia, Iran (Islamic Republic of) and Pakistan reported elevated influenza activity, predominantly influenza A(H1N1)pdm09. Oman reported increased influenza activity, predominantly due to influenza A(H1N1)pdm09 and influenza B viruses, while Bahrain reported a decline in influenza activity. Qatar also reported a decline in influenza activity but remained at elevated levels.
- Few influenza virus detections were reported by countries in tropical Africa.

- In tropical countries of the Americas, Central America and the Caribbean, respiratory virus activity remained at low levels, with the exception of Costa Rica(A(H3N2)), Cuba (A(H3N2)) and Nicaragua (A(H1N1)pdm09).
- In tropical Asia, countries in South East Asia reported low influenza activity overall except Thailand where activity mainly due to B viruses continued to be reported.
- In the temperate countries of the Southern Hemisphere, respiratory virus activity was generally low in recent weeks with low levels of influenza virus detections reported.
- National Influenza Centres (NICs) and other national influenza laboratories from 76 countries, areas or territories reported data to FluNet for the time period from 30 November 2015 to 13 December 2015\* (data as of 2015-12-28 10:25:12 UTC).The WHO GISRS laboratories tested more than 40491 specimens during that time period. 2590 were positive for influenza viruses, of which 2158 (83.3%) were typed as influenza A and 432 (16.7%) as influenza B. Of the sub-typed influenza A viruses, 1375 (82.7%) were influenza A(H1N1)pdm09 and 287 (17.3%) were influenza A(H3N2). Of the characterized influenza B viruses, 100 (75.8%) belonged to the B-Yamagata and 32 (24.2%) 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>

Flusurvey, an online flu surveillance system run by the PHE and London School of Hygiene and Tropical Medicine was launched in 2013/14 and will continue into 2014/15. For further information and please see the [Flusurvey website](#).

**Detailed influenza weekly reports can be found at the following websites:**

Northern Ireland:

<http://www.publichealth.hscni.net/directorate-public-health/health-protection/seasonal-influenza>

England, Scotland and Wales:

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

Republic of Ireland:

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

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