

## Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 4 (25 January 2016 – 31 January 2016)

### Summary

- Influenza GP consultations have increased while the proportion of positive influenza virological detections in Northern Ireland has slightly 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 31.7 per 100,000 population in week 4, 2016.
- The OOH consultation rate for flu/FLI has decreased to 8.1 per 100,000 population overall, but has increased in the youngest age groups.
- RSV activity has further decreased in week 4 and is lower than the same period during last season.
- There were seven admissions to ICU with confirmed influenza reported in week 4, 2016.
- There was one death in ICU patients with laboratory confirmed influenza reported in week 4, 2016.
- In week 4, 2016 significant all-cause excess mortality was reported through the EuroMOMO algorithm.
- There were no confirmed influenza outbreaks reported to the PHA in week 4, 2016.

### Introduction

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

Surveillance systems include:

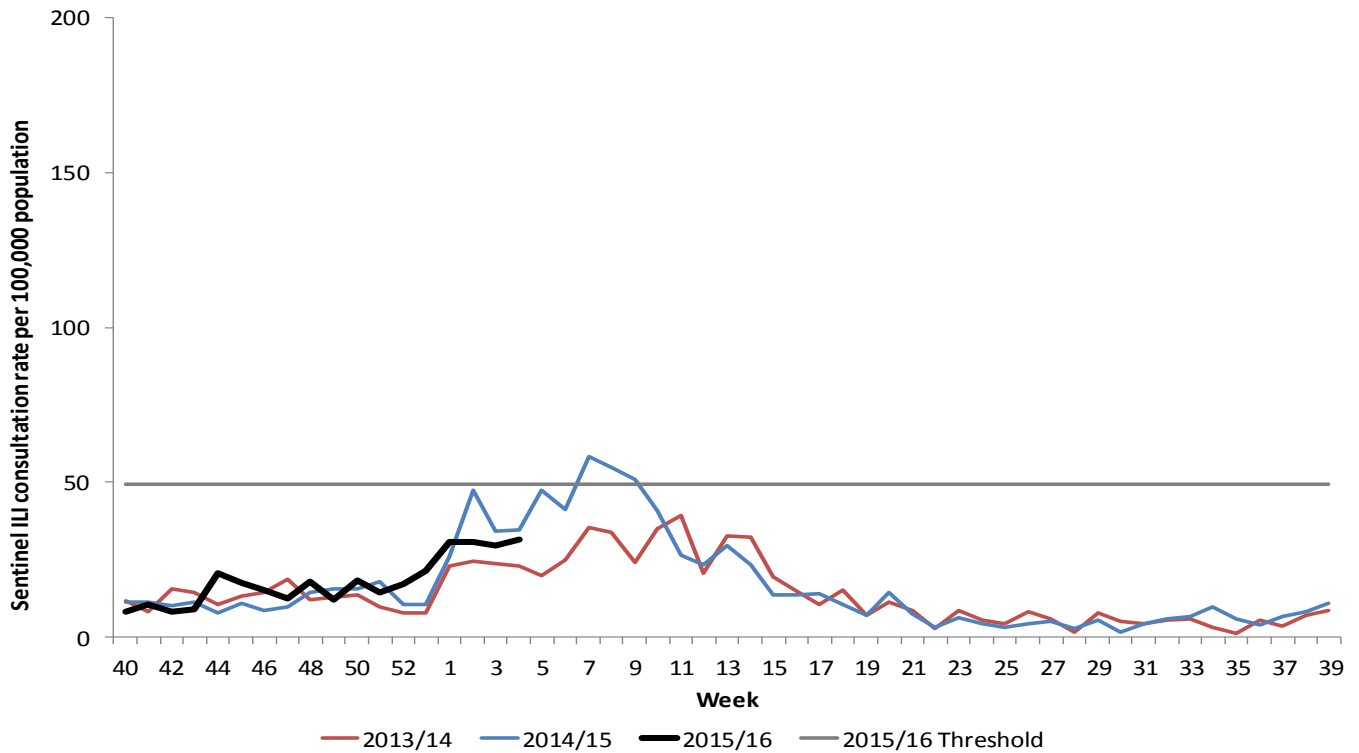
- GP sentinel surveillance representing 11.7% of Northern Ireland population;
- GP Out-of-Hours surveillance system representing the entire population;
- Virological reports from the Regional Virus Laboratory (RVL);
- Mortality data from Northern Ireland Statistics and Research Agency (NISRA);
- Excess 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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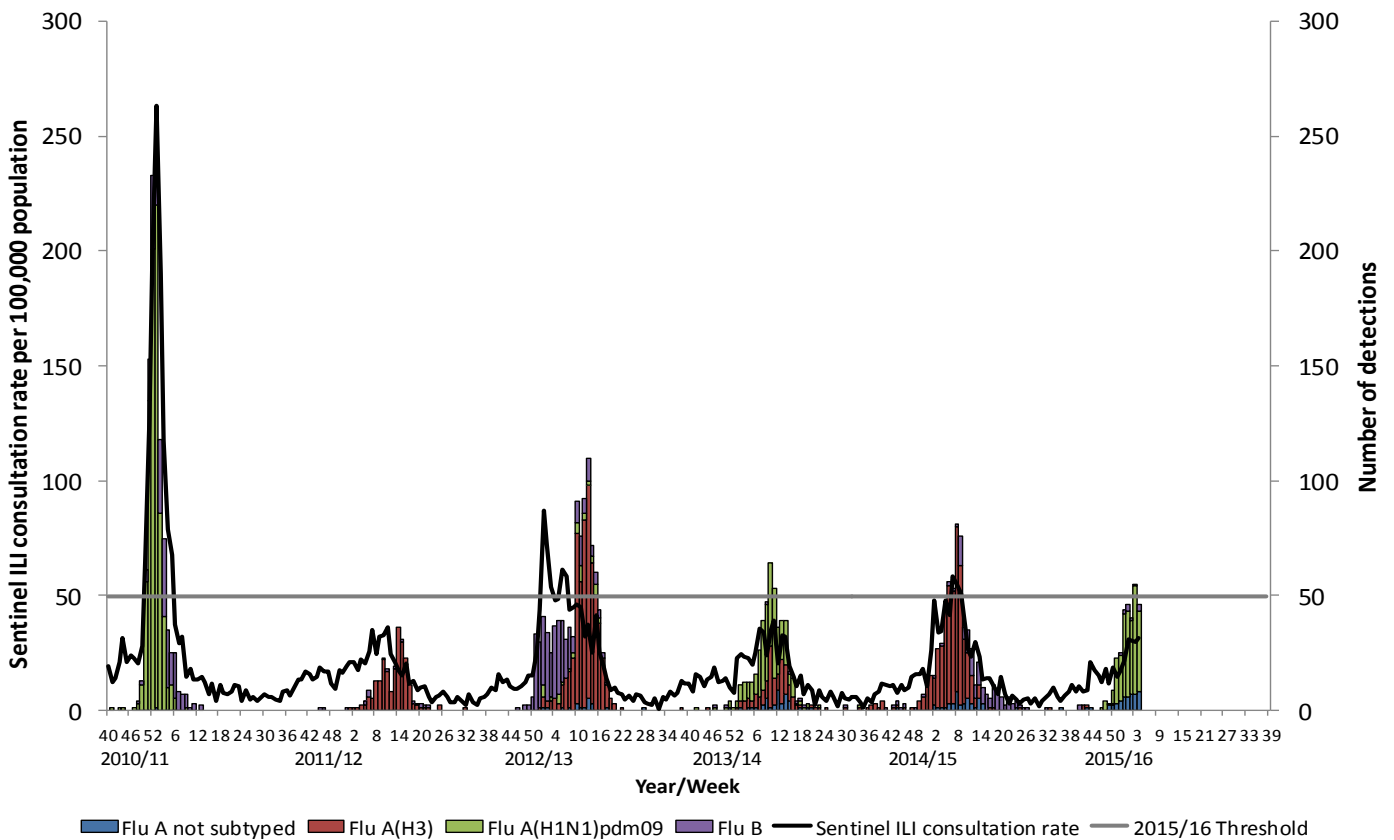
<sup>1</sup> The pre-epidemic threshold for Northern Ireland is 49.4 per 100,000 population this year (2015/16)

## Sentinel GP Consultation Data

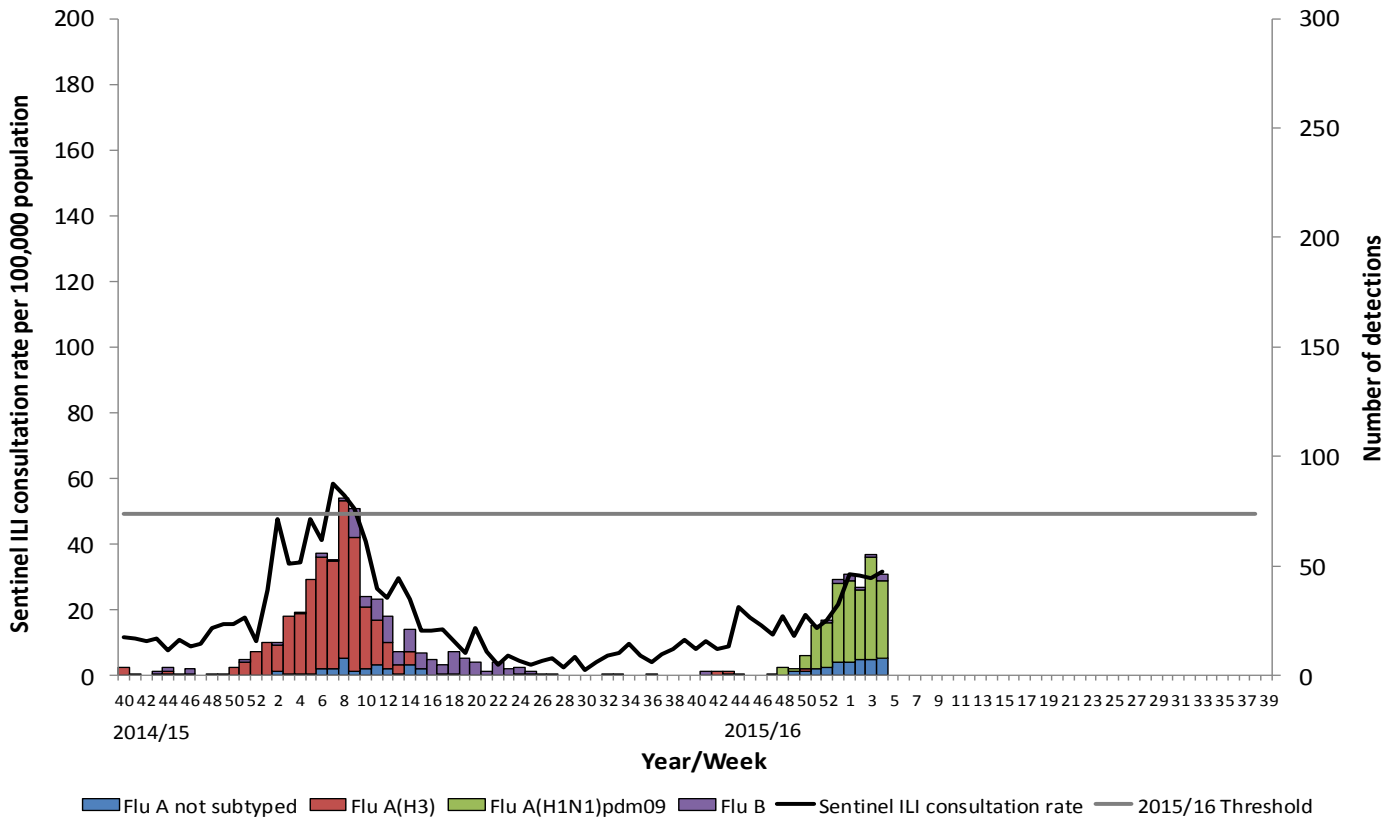
**Figure 1. Sentinel GP consultation rates for flu/FLI 2013/14 - 2015/16**



**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**

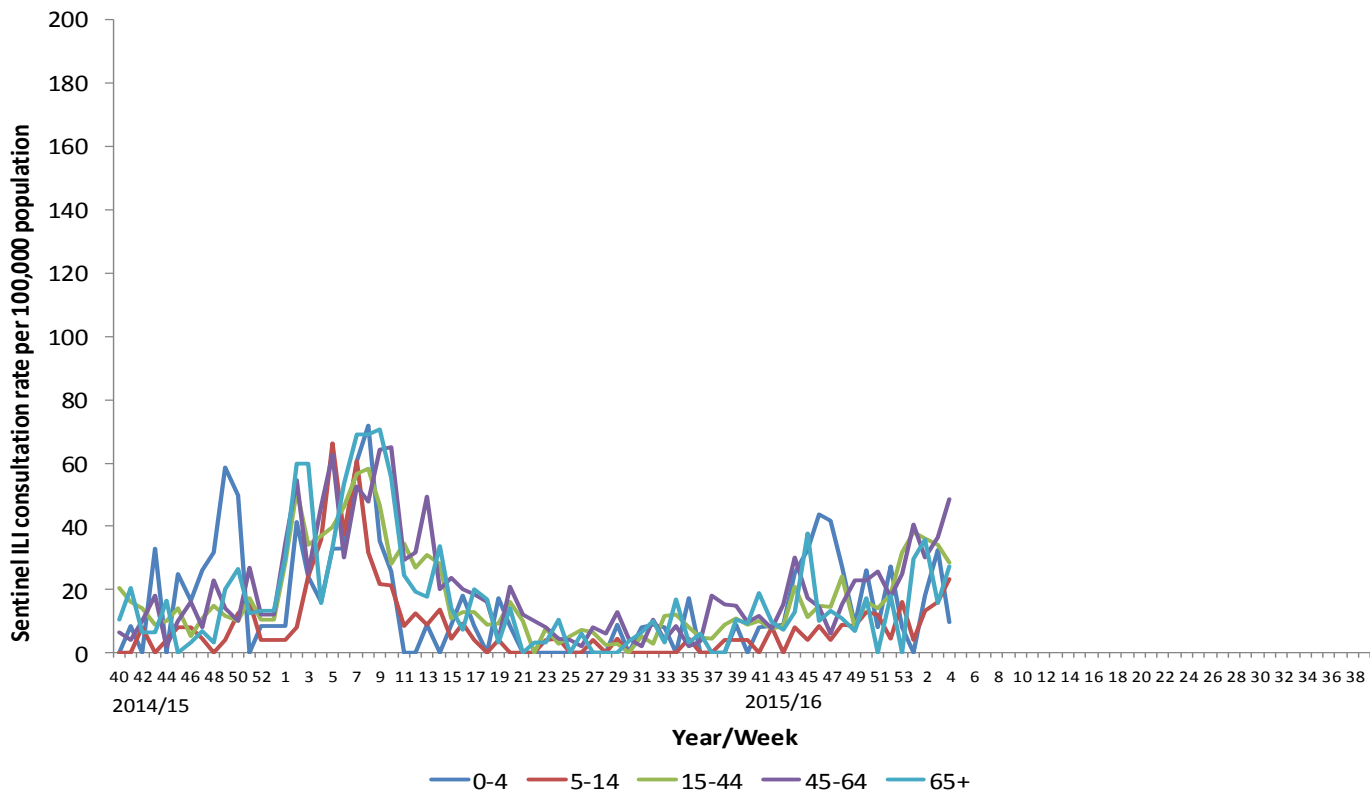


**Comment**

GP consultation rates have increased in week 4, 2016 to 31.7 per 100,000 population compared with 29.5 per 100,000 in week 3. 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**



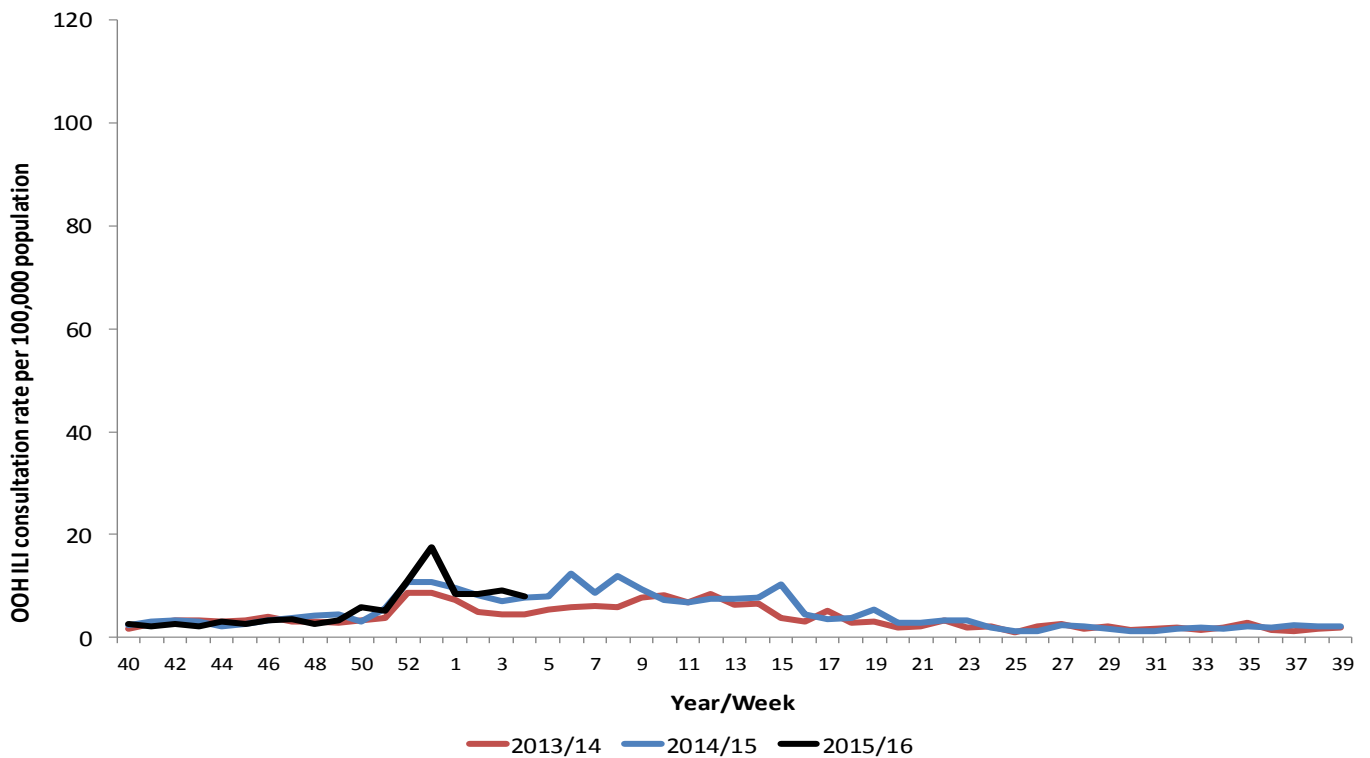
**Comment**

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

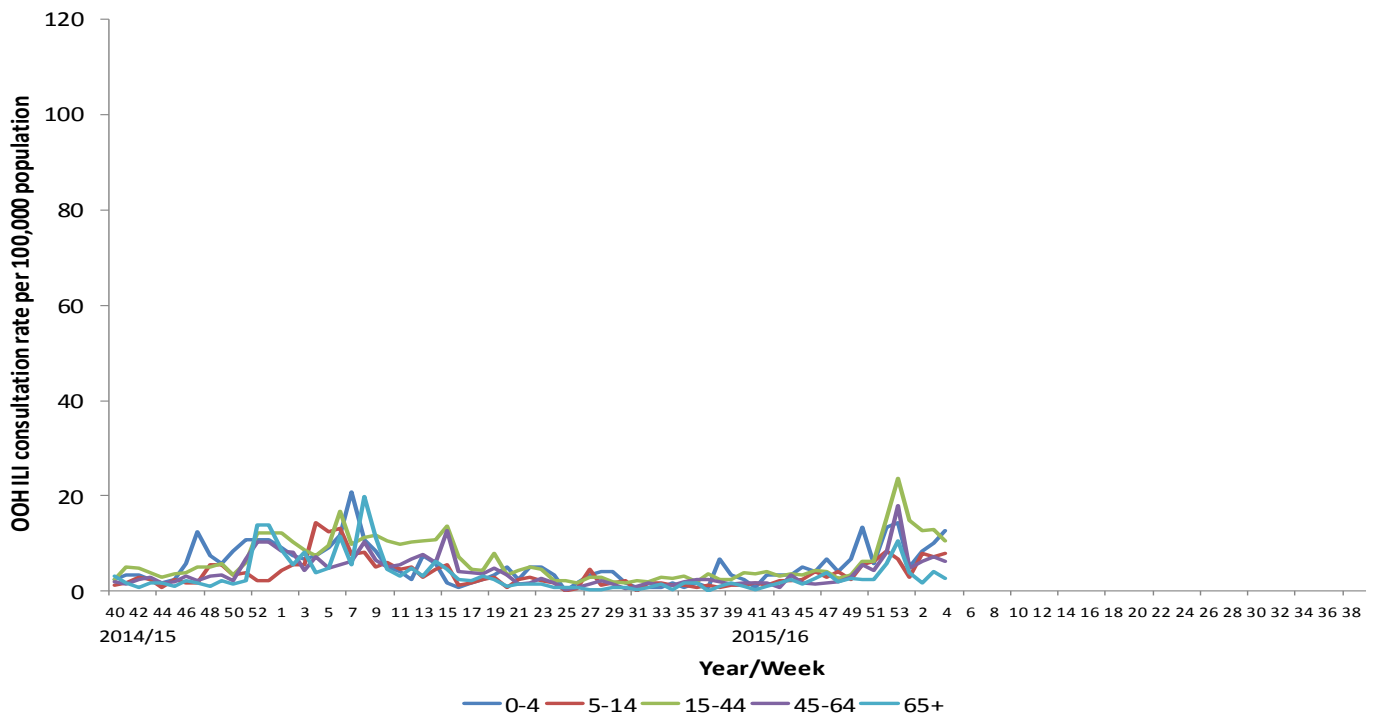
The highest consultation rate in week 4 was again noted in those aged 45-64 years at 48.7 per 100,000 population (Figure 4).

## 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 4, 2016, the OOH GP consultation rate for flu/FLI decreased to 8.1 per 100,000 population. The OOH GP consultation rate is higher than the same period in both 2013/14 and 2014/15 (Figure 5).

The proportion of calls related to flu represents 1.3% of total calls to the OOH service.

During week 4, OOH flu/FLI rates have increased among 0-4 and 5-14 years age groups while rates among those aged 15-44, 45-64 and 65 years and over have decreased. The highest OOH flu/FLI rate was noted in those aged 0-4 years at 12.6 per 100,000 population (Figure 6). Age specific-rates are generally higher than the same period in both 2013/14 and 2014/15.

## Virology Data

Table 1. Virus activity in Northern Ireland, Week 4, 2015/16								
Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	7	0	0	0	2	0	2	29%
Non-sentinel	219	0	35	8	1	11	44	20%
<b>Total</b>	<b>226</b>	<b>0</b>	<b>35</b>	<b>8</b>	<b>3</b>	<b>11</b>	<b>46</b>	<b>20%</b>

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 4, 2015/16						
	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	36	2	3	41	398
5-14	0	11	1	1	13	15
15-64	0	148	32	7	187	63
65+	4	44	12	2	62	64
Unknown	0	0	0	0	0	0
<b>All ages</b>	<b>4</b>	<b>239</b>	<b>47</b>	<b>13</b>	<b>303</b>	<b>540</b>

Table 3. Cumulative virus activity, Week 40 - Week 4, 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	36	2	3	41	397
5-14	0	0	0	1	1	1	0	11	1	0	12	14
15-64	0	15	1	5	21	9	0	133	31	2	166	54
65+	0	2	1	0	3	0	4	42	11	2	59	64
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
<b>All ages</b>	<b>0</b>	<b>17</b>	<b>2</b>	<b>6</b>	<b>25</b>	<b>11</b>	<b>4</b>	<b>222</b>	<b>45</b>	<b>7</b>	<b>278</b>	<b>529</b>

### Note

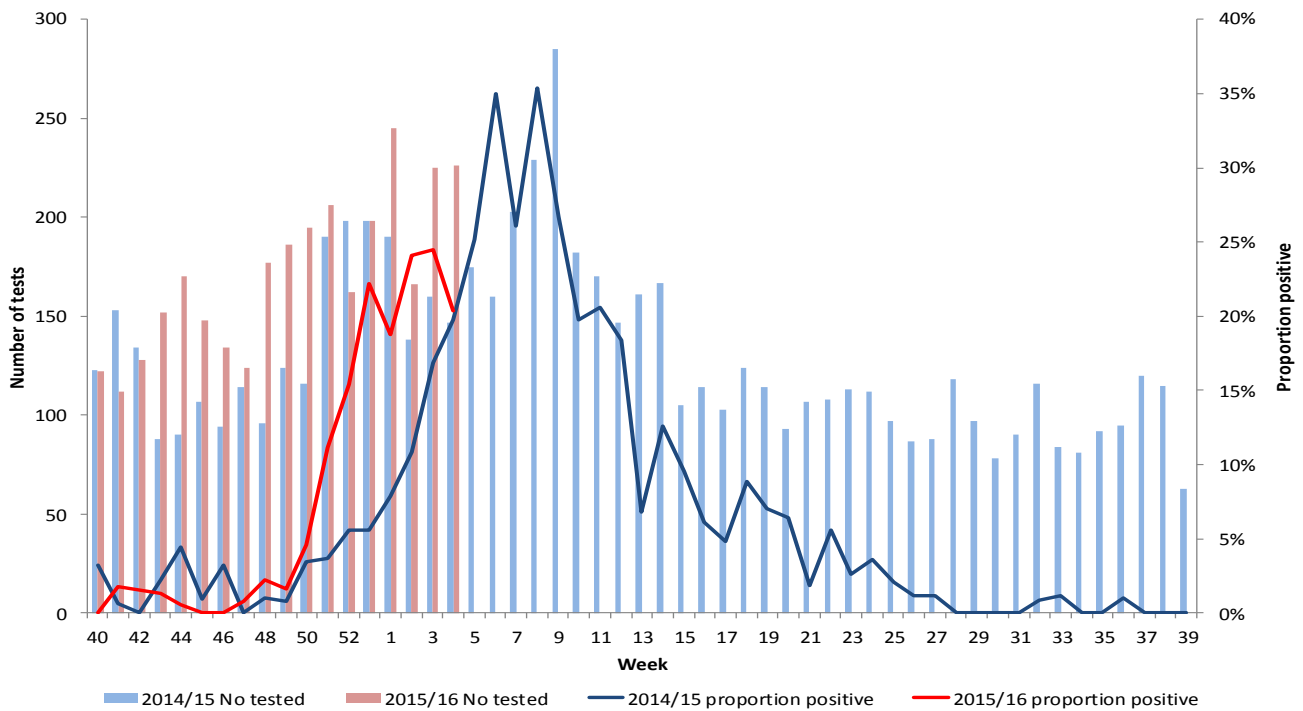
All virology data is provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available. Sentinel and non-sentinel 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 4, 226 specimens were submitted for virological testing. Overall this season, there have been 303 detections of influenza reported, more than in the same period in the 2013/14 (n=50) and 2014/15 (n=125) (Tables 1,2, 3).

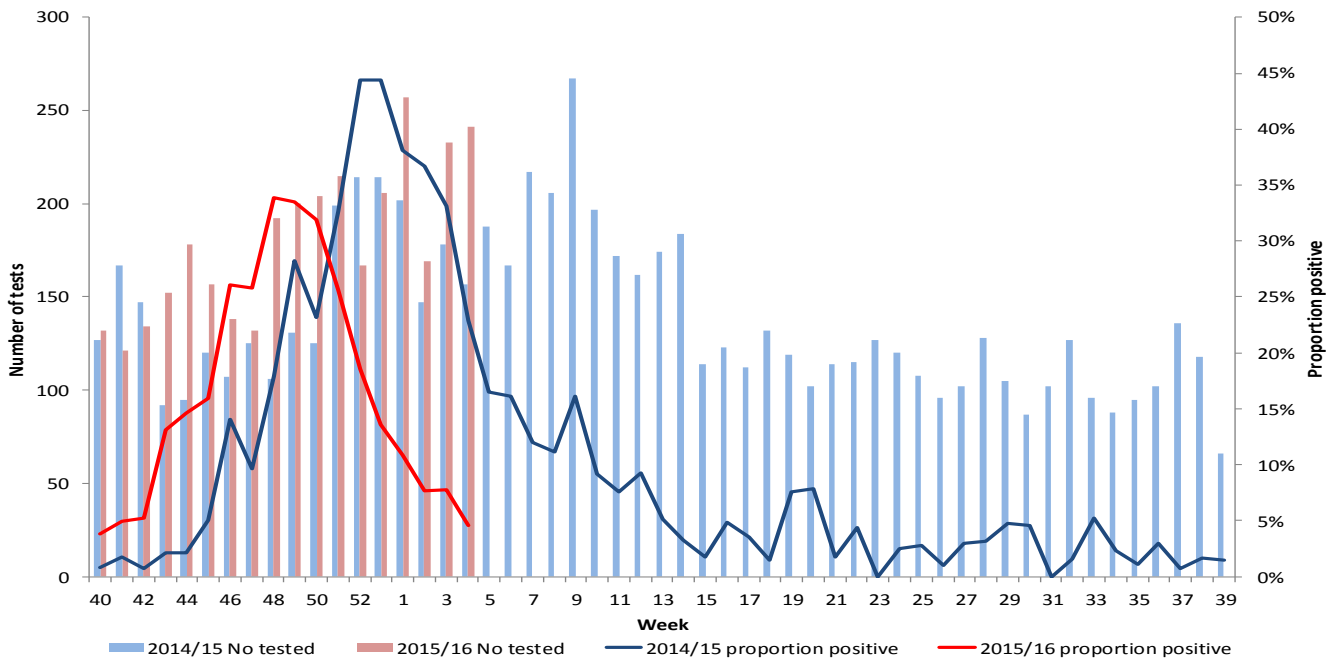
There were 46 detections of influenza (positivity rate of 20%) - 35 were typed as influenza A(H1N1)pdm09, 3 as influenza B and 8 as influenza A (typing awaited). The positivity rate for influenza has decreased from 24% in week 3 (Figure 7).

**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 4, there were 11 RSV positive detections. Positivity rates have further decreased from 8% in week 3, to 5% in week 4. RSV positivity rates during this period have been the lowest recorded in recent years. Overall this season there have been 540 detections of RSV, of which the majority (74%) were in those aged 0-4 years (Figure 8 and table 2).

## Influenza Vaccine Uptake

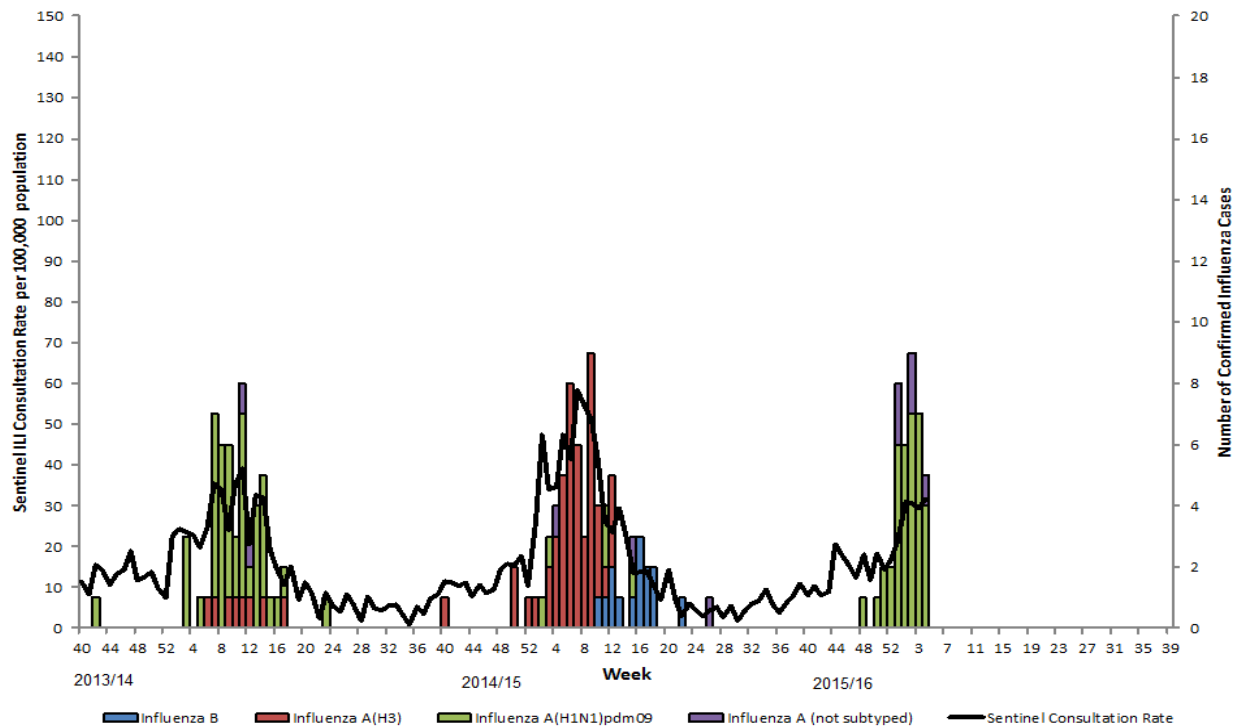
The most recent provisional data suggest that vaccine uptake for those aged 65 years and over is 68.6%, lower than the same period in 2014; while 52.0% of those under 65 and in an at risk group received the vaccine, lower than in 2014 when 66.4% received the vaccine.

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. The most recent provisional data suggest that vaccine uptake among 2-4 year old children is 46.4%, lower than in 2014 during the same period. Uptake among children in primary school is 76.4%, slightly lower than in 2014.



## 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 4, there were seven admissions to ICU confirmed with influenza reported to the PHA - six with influenza A (H1N1)pdm09 and one with influenza A untyped (typing awaited). There have been a total of 41 admissions to ICU with confirmed influenza reported this season to date, of which 36 have been confirmed as influenza A (H1N1)pdm09 and 5 as influenza A untyped (typing awaited) (Figure 9).

Up to week 4, 2016, of the 41 ICU patients with confirmed influenza 24 had co-morbidities. Provisional data shows that 22 of the 41 cases met the criteria for influenza vaccine and 5 had received it (Table 4).

There was one death in ICU patients with laboratory confirmed influenza reported since the last bulletin. To date, there have been 7 deaths in ICU patients with laboratory confirmed influenza.

Table 4. Flu Confirmed ICU Cases in Northern Ireland, Week 40 - 4, 2015/16							
Age Group	No of patients	Flu vaccine clinical risk group	Vaccinated	Flu A(H1N1)pdm09	Flu A(H3)	Flu A(untyped)	Flu B
0 - 4	7	2	0	6	0	1	0
5-14	2	2	0	2	0	0	0
15-44	10	4	1	9	0	1	0
45-64	17	9	3	15	0	2	0
65+	5	5	2	4	0	1	0
<b>All</b>	<b>41</b>	<b>22</b>	<b>6</b>	<b>36</b>	<b>0</b>	<b>5</b>	<b>0</b>

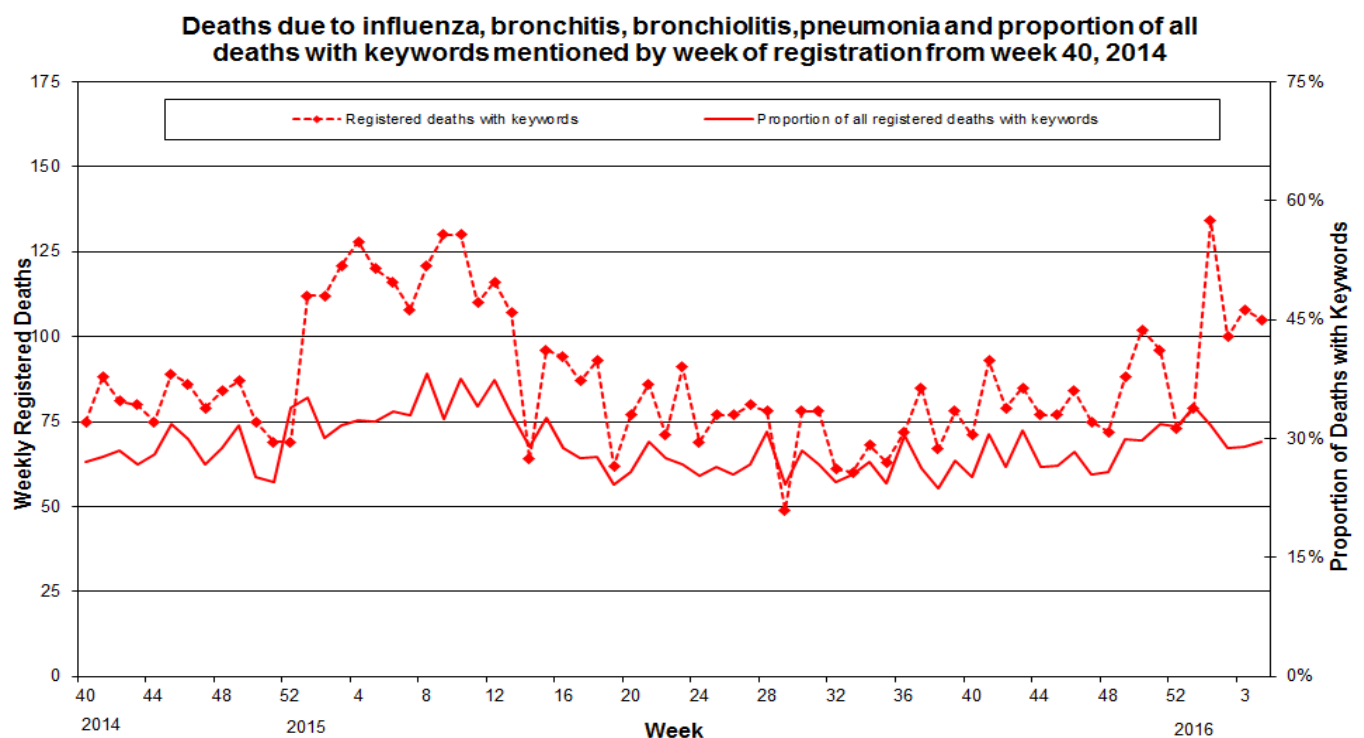
## Outbreak Surveillance

During week 4, 2016 there were no reports of confirmed influenza outbreaks to the PHA. There have been a total of two confirmed influenza outbreaks reported to the PHA this season to date; one influenza A(H1N1)pdm09 and the other influenza A (untyped).

## 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 4, the proportion of registered deaths from specific respiratory infections increased to 30%.

In week 4, there were 355 registered deaths, of which 105 related to specific respiratory infections (30%). The proportion of deaths attributed to specific respiratory infections is slightly lower than the same period in both 2014/15 and 2013/14.

## EuroMOMO

Significant excess all-cause mortality was reported for week 4 in Northern Ireland. Therefore including previous reports, excess all-cause mortality has been reported in six weeks of this influenza season (weeks 49, 52, 53, 2, 3 and 4).

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

## International Summary

### Europe

Week 3, 2016:

- Influenza A(H1N1)pdm09 has been the predominant virus detected since the start of the season, accounting for 65% of sentinel surveillance detections of influenza-like illness (ILI) and acute respiratory infection (ARI) in the WHO European Region.
- The predominance of A(H1N1)pdm09 correlates with an increase in cases of severe disease, mainly in people aged 15–64.
- For week 03/2016, seven of 11 countries reporting data on severe acute respiratory infection (SARI) indicated increasing numbers of cases. The percentages of influenza-positive SARI specimens were greater than 50% in four of these countries: Armenia, Georgia, the Republic of Moldova and Ukraine.
- Twenty-nine of the 45 countries and territories that reported epidemiological data from ILI and ARI surveillance indicated increasing rates, while 32 countries reported influenza virus detections in specimens from ILI and ARI surveillance for week 03/2016, indicating increased influenza activity in the WHO European Region as a whole.

Season:

- So far, the 2015–2016 influenza season has been characterized by a predominance of the influenza A(H1N1)pdm09 virus, which may cause more severe disease and death in younger adults than influenza A(H3N2).
- Since week 52/2015, several European countries have reported increasing numbers of SARI cases associated with A(H1N1)pdm09 infection, from SARI sentinel surveillance systems. Similarly, countries reporting laboratory-confirmed influenza cases in hospitals and intensive care units (ICUs) have detected influenza A in the majority of cases since the start of the season, with A(H1N1)pdm09 being the dominant subtype (92%).
- Most of the viruses characterized so far 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 25<sup>th</sup> January 2015:

High levels of influenza activity continued in some countries in western Asia. And increasing influenza activity was reported in northern America, northern and eastern Europe and northern/temperate Asia. Most detected influenza viruses were influenza A(H1N1)pdm09.

- Influenza activity was slowly increasing but still below seasonal expected levels in northern America. In northern and eastern Europe increasing influenza activity was reported, with still low activity in Western and Southern Europe. An increase in severe acute respiratory infections due to influenza A(H1N1)pdm09 was reported from some eastern European countries.
- In northern/temperate Asia, influenza activity was ongoing in Mongolia and was increasing in the Republic of Korea.
- In central and western Asia, influenza activity remained at high levels where Israel, Jordan and Oman reported increased influenza activity, predominantly due to influenza A(H1N1)pdm09 and influenza B viruses. Pakistan reported also elevated influenza activity, predominantly due to influenza A(H1N1)pdm09.
- 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 was at low levels.
- In tropical Asia, countries in southern and south east Asia overall reported ongoing low influenza activity.
- In temperate countries of the Southern Hemisphere respiratory virus activity remained low.
- National Influenza Centres (NICs) and other national influenza laboratories from 91 countries, areas or territories reported data to FluNet for the time period from 28 December 2015 to 10 January 2016 (data as of 2016-01-22 11:40:20 UTC). The WHO GISRS laboratories tested more than 65 649 specimens during that time period. 10 502 were positive for influenza viruses, of which 8481 (80.8%) were typed as influenza A and 2021 (19.2%) as influenza B. Of the sub-typed influenza A viruses, 5506 (80.2%) were influenza A(H1N1)pdm09 and 1357 (19.8%) were influenza A(H3N2). Of the characterized B viruses, 460 (49.1%) belonged to the B-Yamagata lineage and 477 (50.9%) 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/>

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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