

## Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 50 - 51 (8 December – 21 December 2014)

### Summary

- Influenza activity in Northern Ireland has increased but remains at low levels.
- GP consultation rates for combined flu and flu-like illness (flu/FLI) remain below the updated pre-epidemic Northern Ireland threshold of 52.0 per 100,000 population at 15.5 and 17.8 per 100,000 population in weeks 50 and 51 respectively, with most indicators remaining at low levels.
- The OOH consultation rate for flu/FLI fluctuated but remained low in weeks 50 and 51 at 3.1 and 5.6 per 100,000 population respectively. The rate remained relatively low in all age groups with the highest rate noted among the 0-4 years age group.
- RSV activity has increased in weeks 50 and 51.
- Influenza vaccine uptake to 30<sup>th</sup> November 2014 was 67.5% for those aged 65 and over, 61.7% for those aged under 65 and in an at risk group, 49.7% among 2-4 year old children and 78.9% among children in P1 to P7.
- There were two admissions to ICU with confirmed influenza reported since the last bulletin; a total of 3 ICU patients with confirmed influenza this season to date.
- There were no deaths in ICU patients with laboratory confirmed influenza reported in weeks 50 and 51, 2014.
- There were no confirmed influenza outbreaks reported to PHA in weeks 50 and 51, 2014.
- In week 50 2014 EuroMOMO did not report an excess in mortality. EuroMOMO estimates for week 51 will be available in the next bulletin.
- In weeks 50 and 51, 2014 there were fewer than ten attendances for influenza like illness across the contributing emergency departments.
- Overall the influenza activity in the European region remains low, and the circulating virus to date has been predominately influenza A(H3N2). In previous seasons, influenza A(H3N2) viruses were associated with more severe disease than H1N1 and influenza B. The ECDC have published a rapid risk assessment noting that in Europe, as in the United States of America, there may be significant antigenic differences between currently circulating A(H3N2) viruses and the virus used in the influenza vaccine. Although this may result in lower vaccine effectiveness of the A(H3N2) vaccine virus, the current vaccine will still provide protection against the other circulating strains of influenza and may reduce the duration and severity of infections with the drifted strain of H3N2. It is therefore important to note that the flu vaccine remains the most effective measure to prevent illness and reduce severe outcomes in people who are in risk groups. People eligible for the influenza vaccine who have not yet been vaccinated, including healthcare workers, should still receive the vaccine as soon as possible. The circulating viruses are susceptible to the antiviral drugs oseltamivir and zanamivir. Physicians should always consider treatment or post-exposure prophylaxis with antivirals when treating influenza-infected patients and exposed individuals in risk groups.

## Introduction

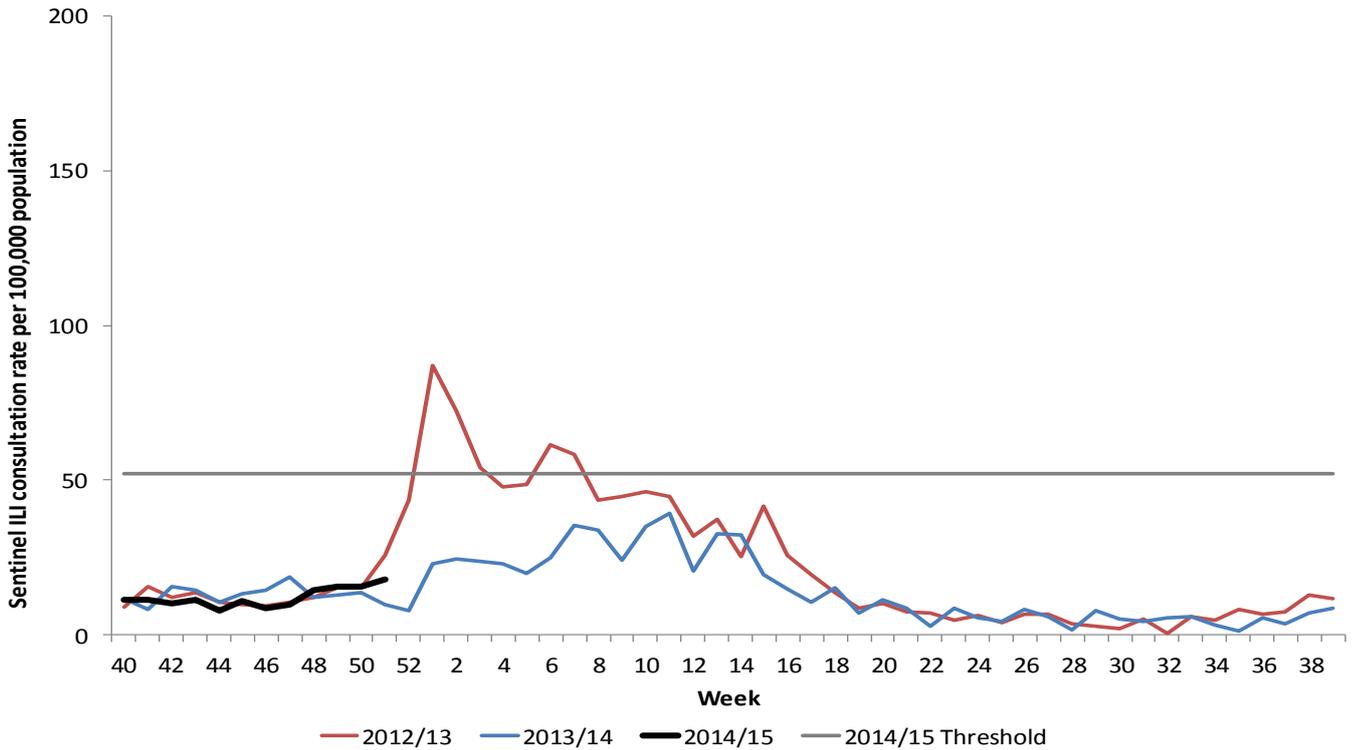
In order to monitor influenza activity in Northern Ireland a number of surveillance systems are in place.

Additional surveillance systems are:

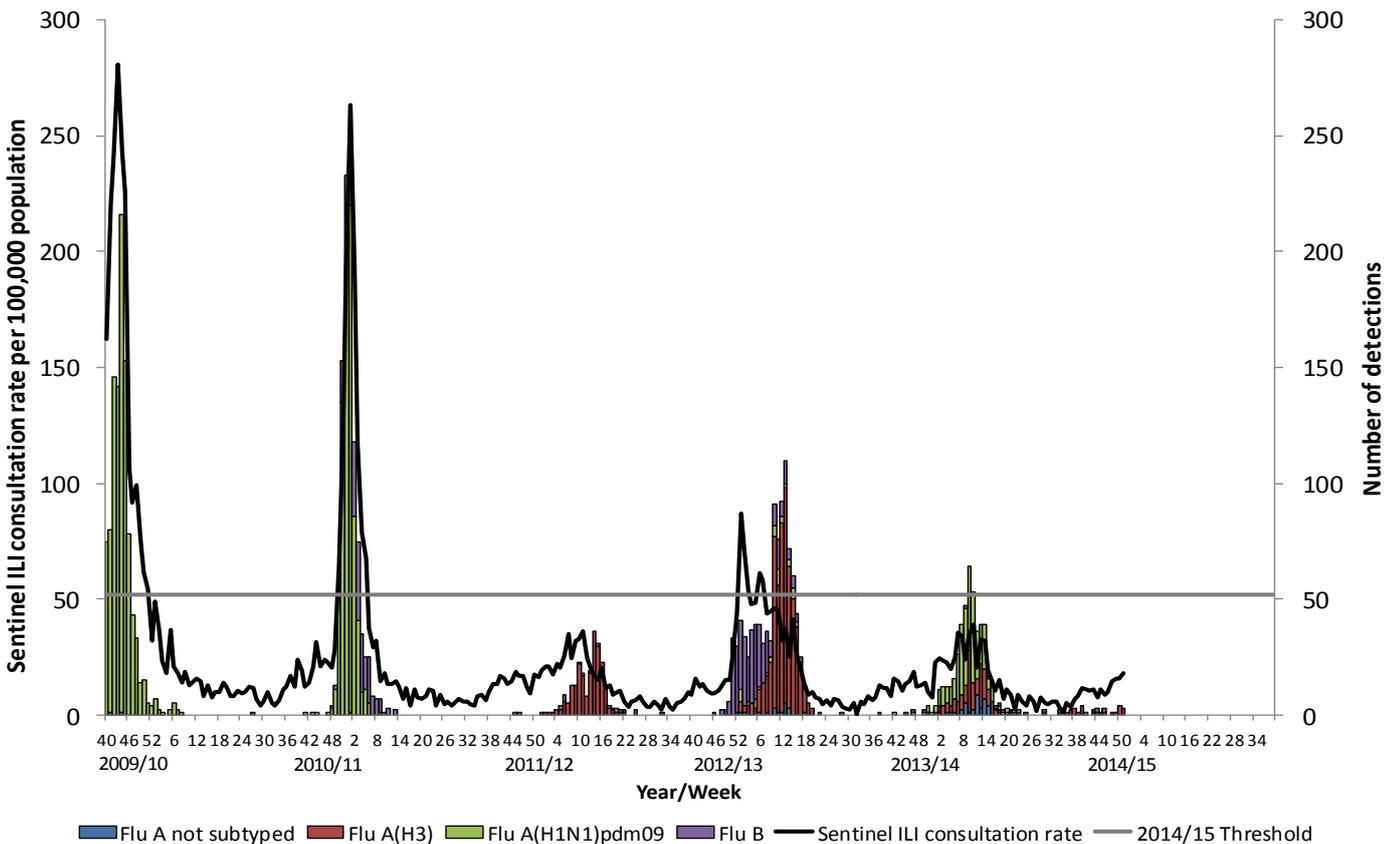
- GP sentinel surveillance representing 11.7% of Northern Ireland population;
- GP Out-of-Hours surveillance system representing the entire population;
- Virological reports from the Regional Virus Laboratory (RVL);
- Mortality data from Northern Ireland Statistics and Research Agency (NISRA);
- Excess 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;
- Emergency department syndromic surveillance system (EDSSS) which includes attendance data from 4 emergency departments in Northern Ireland.

## Sentinel GP Consultation Data

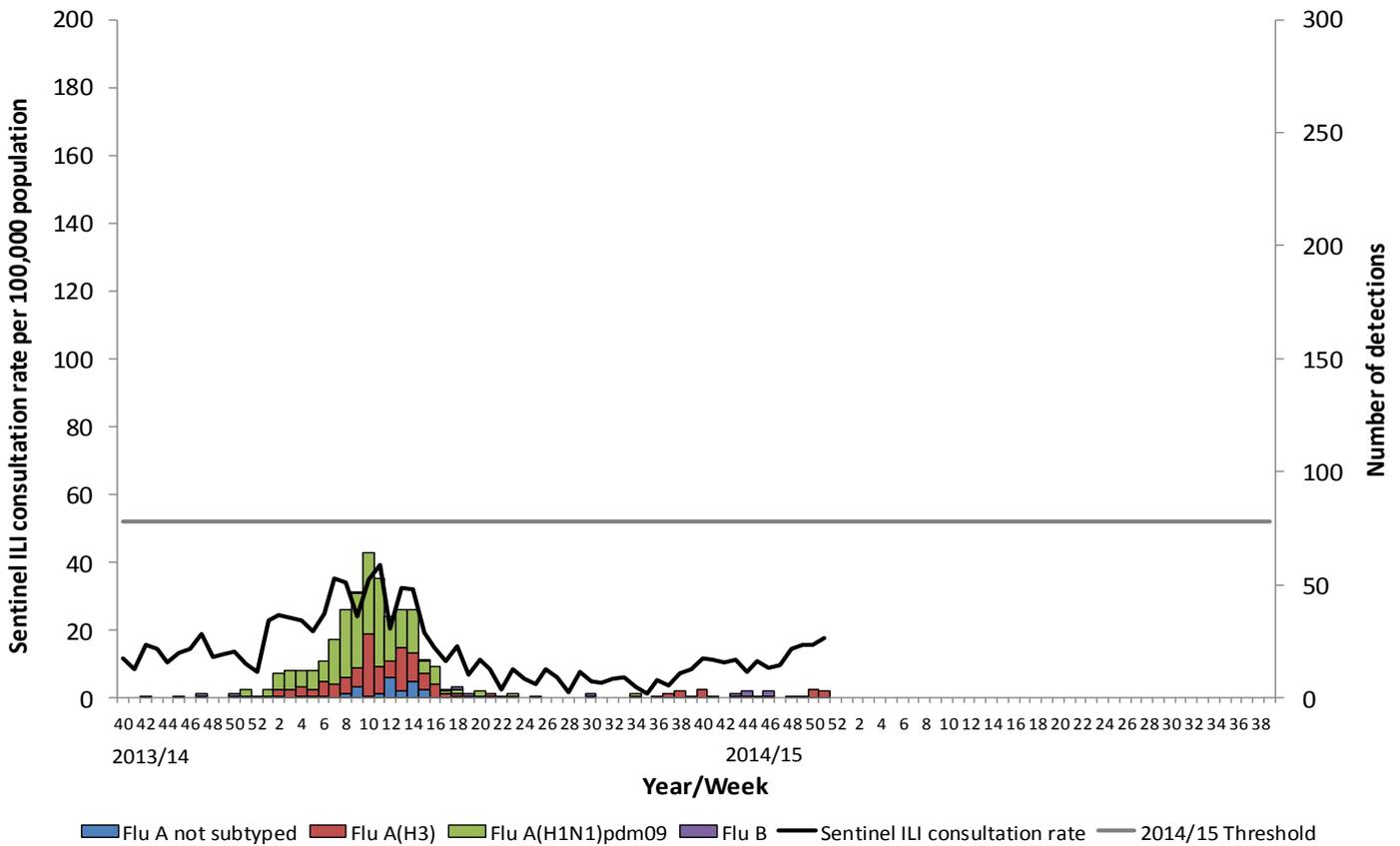
**Figure 1. Sentinel GP consultation rates for flu/FLI 2012/13 - 2014/15**



**Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2009/10 – 2014/15**



**Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2013**

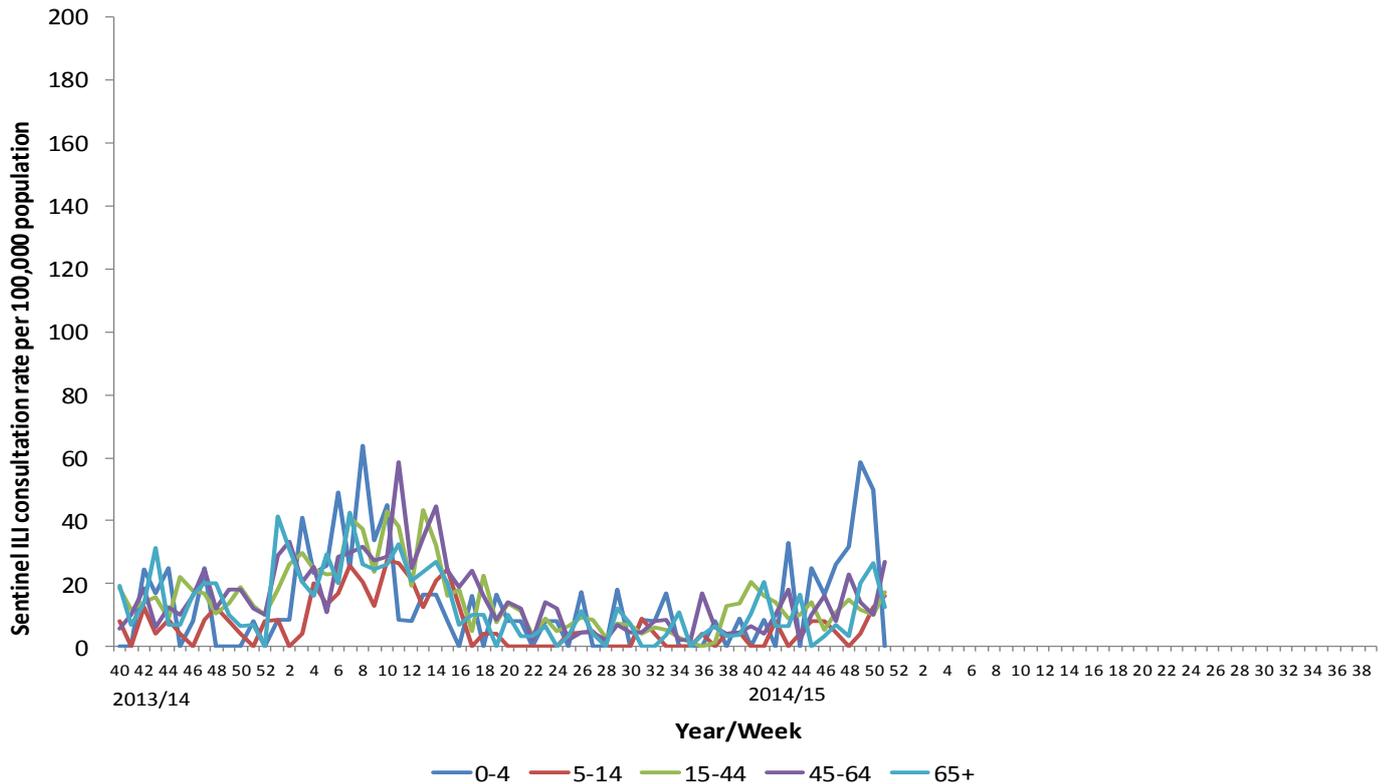


**Comment**

GP consultation rates have steadily increased but remained low throughout weeks 50 to 51. In week 50 the GP consultation rate remained fairly stable from the previous week at 15.5 per 100,000 population, increasing in week 51 to 17.8 per 100,000 population. The rate for week 51, 2014 is slightly higher than the same week last year but lower than the same period in 2012/13.

Rates remain well below the pre-epidemic Northern Ireland 2014/15 threshold of 52.0 per 100,000 population (Figures 1, 2 and 3).

**Figure 4. Sentinel GP age-specific consultation rates for flu/FLI from week 40, 2013**



### Comment

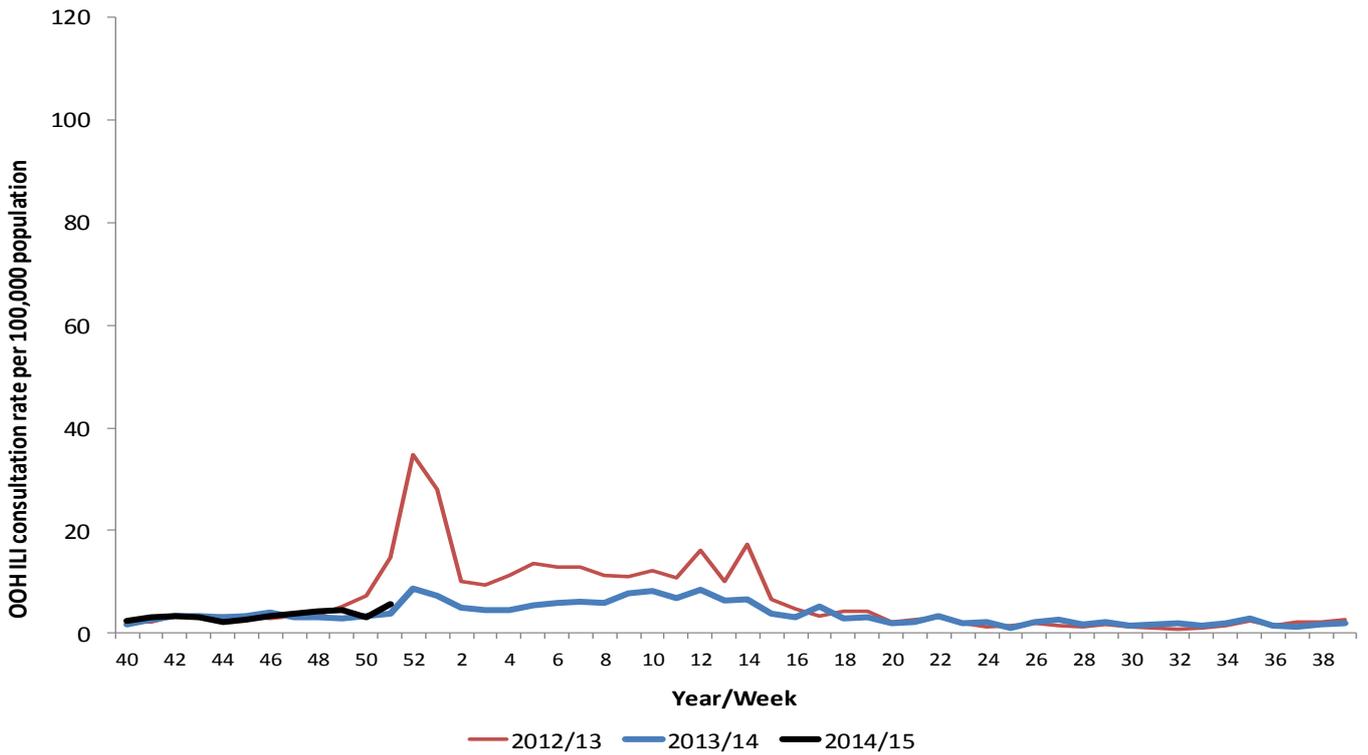
GP consultations remained relatively low for almost all age groups in weeks 50 to 51, however small numbers may have contributed to fluctuations in rates.

In week 50 the 5-14 and 65 years and over age groups showed an increase in consultation rates when compared with the previous week, while rates among those all other age groups decreased. In week 51, GP consultation rates among those aged 5-14, 15-44 and 45-64 years increased, while a decrease was noted among those aged 0-4 and 65 years and over.

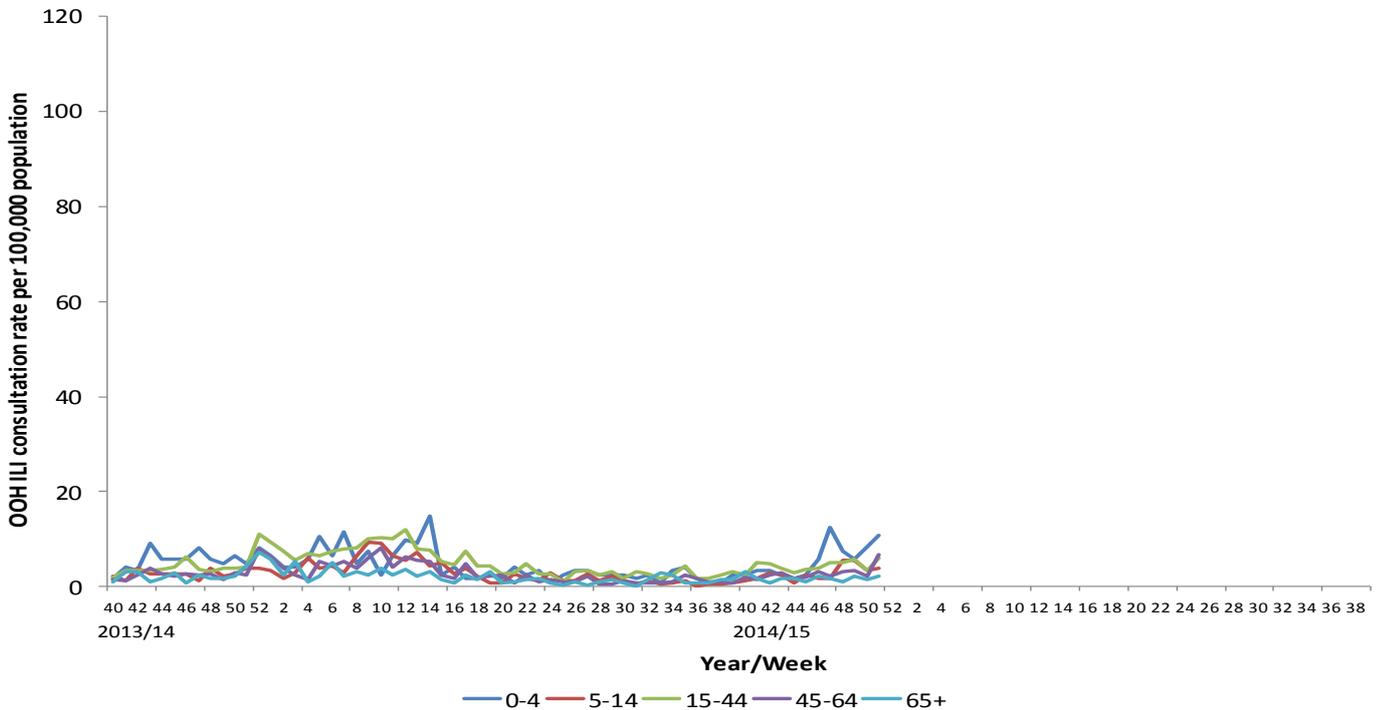
In general, GP consultation rates for combined flu' and flu'-like-illness in all age groups have fluctuated in recent weeks while consistent increases were noted among those aged 5-14 years. The highest age-specific consultation rate in week 51 2014, was noted in the 45-64 years age group, while the increased rates noted among the youngest age-group in recent weeks appears to have subsided (Figure 4).

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

**Figure 5. OOH call rate for flu/FLI, 2012/13 – 2014/15**



**Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2013**



### Comment

The OOH consultation rate for flu/FLI has fluctuated but remained low throughout weeks 50-51, similar to previous years at 3.1 and 5.6 per 100,000 population respectively. The OOH flu/FLI rate remained relatively low in all age groups. In weeks 50 and 51, 2014 rates have steadily increased among those aged 0-4 and 5-14 years. Rates among those aged 15-44, 45-64 and 65

years and over have fluctuated across the 2-week period decreasing slightly in week 50 and increasing in week 51. This fluctuation however may be accounted for by small numbers. The proportion of OOH total calls has remained below 1% throughout the 2014-15 season to date (Figures 5 and 6).

## Virology Data

**Table 1. Virus activity in Northern Ireland, Week 50 - 51, 2014/15**

Source	Specimens Tested	Flu AH3	Flu A (H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	2	0	0	0	0	0	0	0%
Non-sentinel	163	7	0	0	0	41	7	4%
<b>Total</b>	<b>165</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>41</b>	<b>7</b>	<b>4%</b>

**Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 51, 2014/15**

	Flu AH3	Flu A (H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	5	0	0	3	8	118
5-14	0	0	0	2	2	4
15-64	6	1	0	3	10	10
65+	4	0	0	0	4	6
Unknown	0	0	0	0	0	1
<b>All ages</b>	<b>15</b>	<b>1</b>	<b>0</b>	<b>8</b>	<b>24</b>	<b>139</b>

**Table 3. Cumulative virus activity, Week 40 - Week 51, 2014/15**

	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	1	0	0	0	1	0	4	0	0	3	7	118
5-14	0	0	0	0	0	0	0	0	0	2	2	4
15-64	0	1	0	1	2	1	6	0	0	2	8	9
65+	0	0	0	0	0	0	4	0	0	0	4	6
Unknown	0	0	0	0	0	0	0	0	0	0	0	1
<b>All ages</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>21</b>	<b>138</b>

### Note

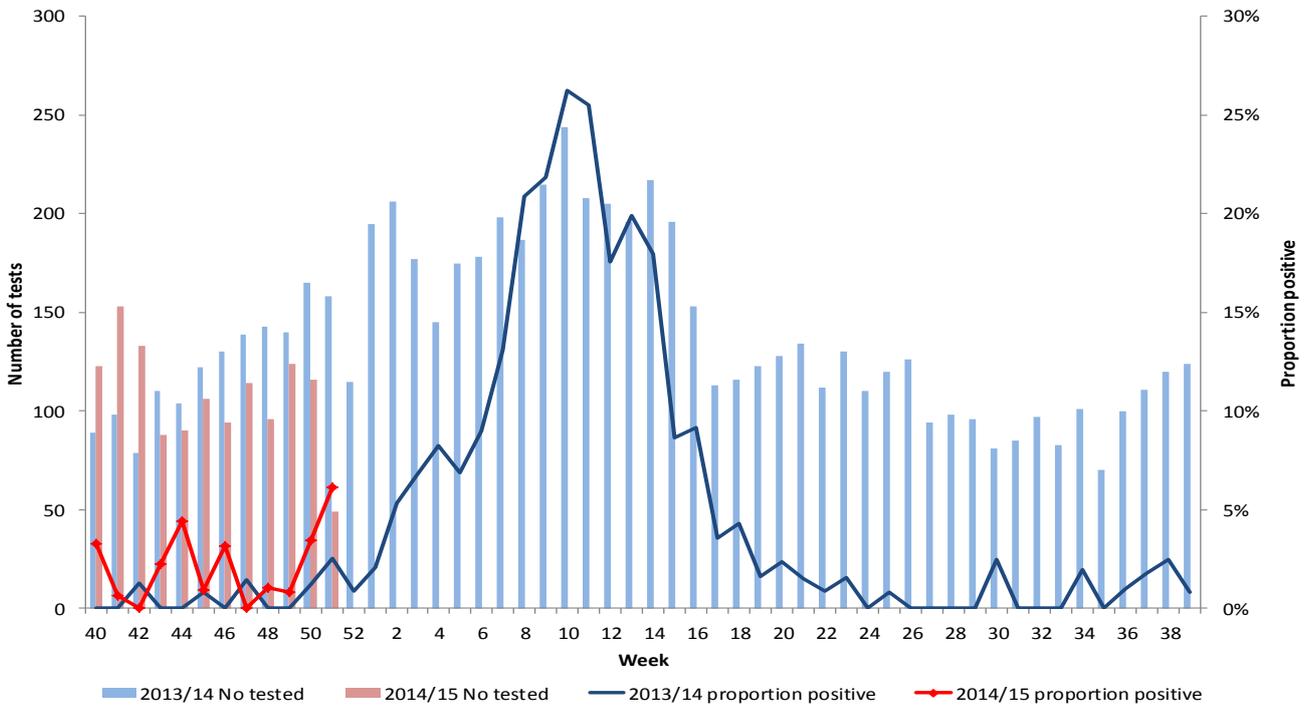
All virology data is provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available.

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

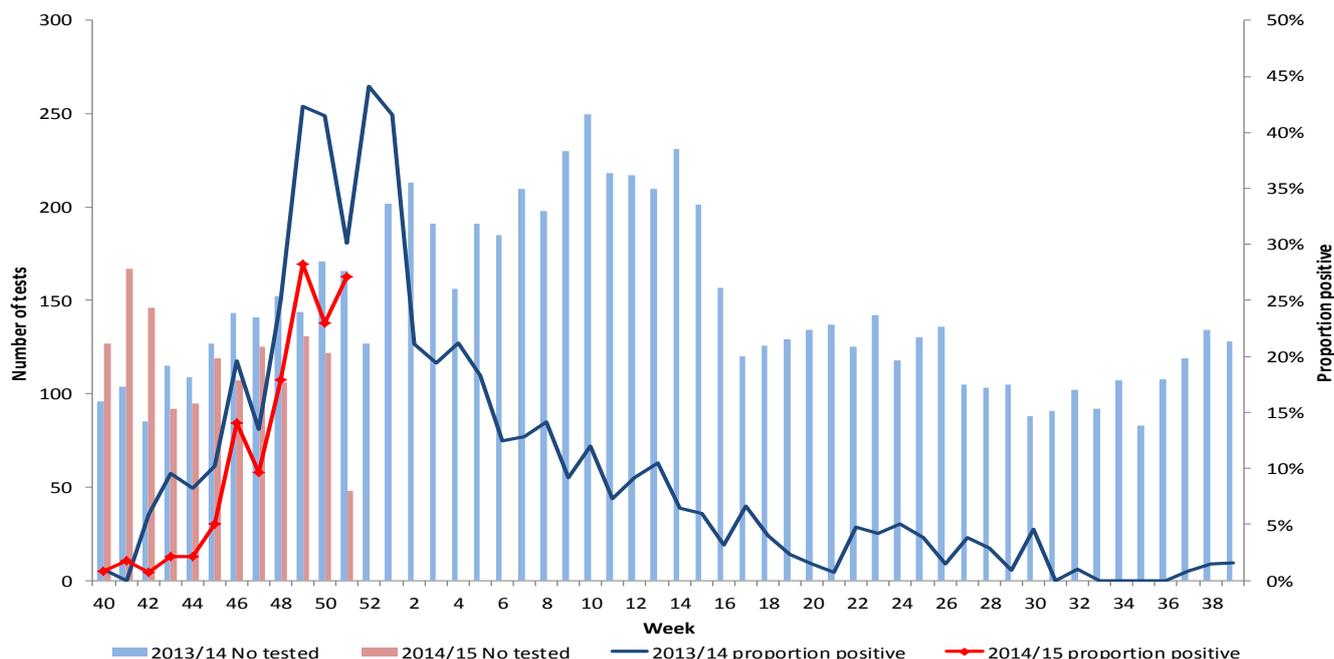
During weeks 50 to 51, there were 165 specimens submitted for testing, of which 7 were confirmed as influenza A (H3); higher than the previous 2-week period and also higher than the same period last year. Positivity rates for influenza have increased over the 2-week period (Figure 7).

**Figure 7. Number of samples tested for influenza and proportion positive, 2013/14 and 2014/15, all sources**



## Respiratory Syncytial Virus

**Figure 8. Number of samples tested for RSV and proportion positive, 2013/14 and 2014/15, all sources**



### Comment

There were 41 RSV positive detections between weeks 50 and 51 with positivity rates decreasing from 28% in week 49 to 23% in week 50, then increasing to 27% in week 51, however this should be interpreted with caution as the most recent week's data is at this stage incomplete- more accurate data will be available in the next bulletin. Despite rising, the positivity rate is still slightly lower than the same period in recent seasons. There have been a total of 139 detections of RSV since the beginning of the 2014-15 influenza season, of which 85% fall within the 0-4 years age group (Figure 8, Table 2).

## Influenza Vaccine Uptake

To 30<sup>th</sup> November 2014, provisional data suggested that vaccine uptake for those aged 65 years and over was 67.5%, lower than the same period in the 2013 (69.8%); while 61.7% of those under 65 and in an at risk group had received the vaccine, lower than in 2013 when 67.1% had received the vaccine during the same period.

This season for the first time, all children aged between 2 and 4 years and all those in P1 – P7 have been offered the seasonal influenza vaccine. To 30<sup>th</sup> November 2014, provisional data suggested that vaccine uptake among 2-4 year old children was 49.7%, while provisional uptake among children in P1 – P7 was 78.9%.

## Emergency Department Syndromic Surveillance System

In weeks 50 and 51 there were fewer than ten influenza-like-illness (ILI) attendances reported in EDSSS. Later in the season the bulletin will include a graphical representation of ILI attendances if numbers increase.

## ICU/HDU Surveillance

There have been two ICU patient confirmed with influenza since the last bulletin. To date there have been three ICU patients with confirmed influenza, all of which have been confirmed as influenza A (H3).

There were no deaths in ICU patients with laboratory confirmed influenza reported in weeks 50 to week 51 in the 2014/15 season.

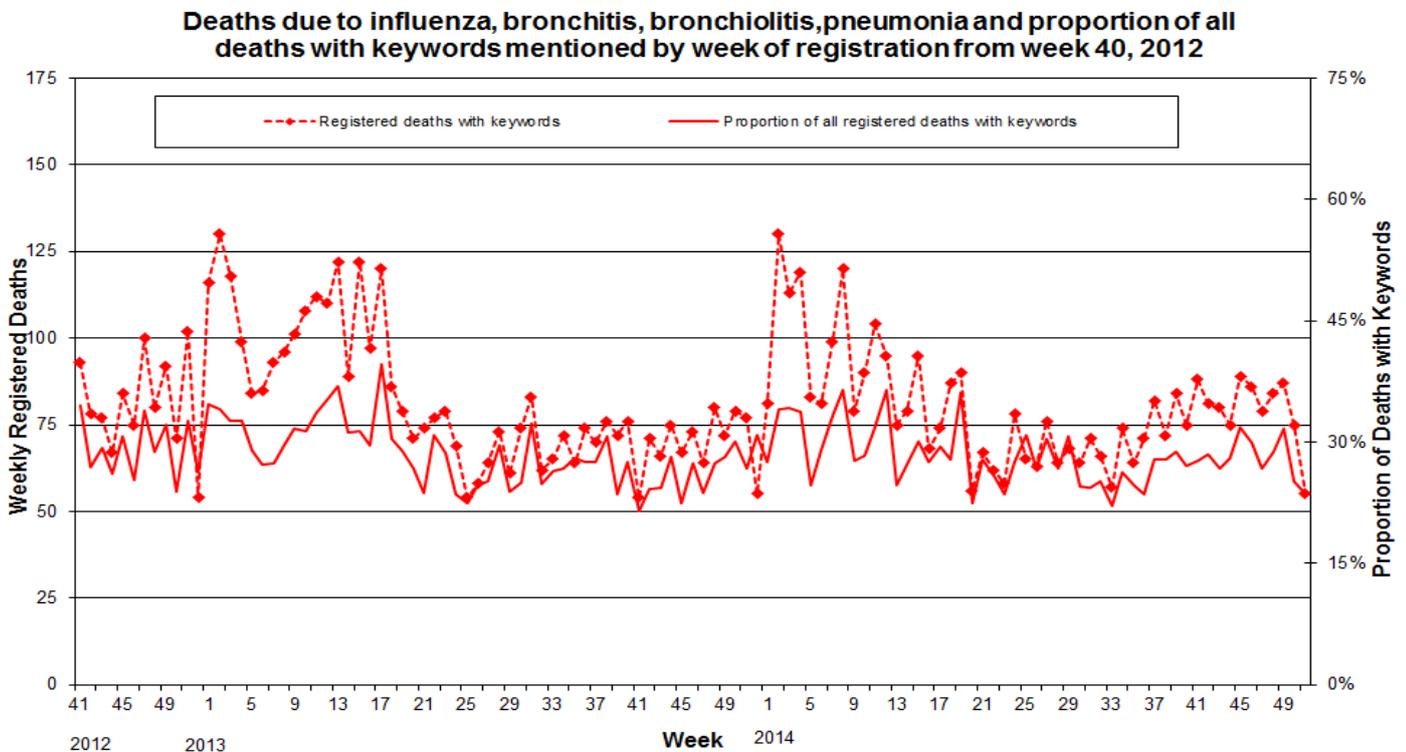
## Outbreak Surveillance

There were no confirmed influenza outbreaks reported in weeks 50 and 51, 2014.

## 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

The proportion of deaths related to respiratory keywords has decreased slightly across the 2-week period. During week 50, 2014 the proportion of registered deaths decreased to 25%, from 32% the previous week, decreasing further to 24% in week 51. This is lower than noted during the same period in 2013 (31%).

The number of registered deaths due to respiratory keywords decreased to 75 in week 50, compared with 87 in week 49. In week 51, 2014, there were 234 registered deaths of which 55 related to these specific respiratory infections.

## EuroMOMO

In week 50 2014 EuroMOMO did not report an excess in mortality, EuroMOMO estimates for week 51 will be available in the next bulletin. This data will be presented in a chart later in the season.

## International Summary

### Europe

Week 50, 2014:

- In week 50/2014, influenza activity in the WHO European Region remained low but was on the increase.
- Fourteen Rates of consultations for influenza-like illness (ILI) and/or acute respiratory infection (ARI) rose in 24 countries and the percentage of positive sentinel specimens increased to 9%, from the average for the season since week 40 of 3%.
- At present, the predominant influenza virus is influenza A in both primary care and hospitalized cases. A(H3N2) is the predominant subtype in cases from primary care.
- The genetic characteristics of A(H3N2) viruses indicate that in Europe, as in the United States of America, there may be significant differences between circulating A(H3N2) viruses and the virus used in the influenza vaccine for the 14-15 season. Although this may affect the effectiveness of the A(H3N2) component of the vaccine, it is still important that people be vaccinated; see the WHO/Europe website (<http://www.euro.who.int/en/health-topics/communicable-diseases/influenza/news/news/2014/12/seasonal-influenza-vaccines-20142015-provide-protection-against-circulating-flu-viruses>).

14/15 Season to date:

- An increasing number of countries are reporting influenza virus detections.
- Influenza A(H3N2) has so far been the predominant virus. There are indications that circulating A(H3N2) virus strains may have drifted from the strain used in the vaccine. Although this does not change the recommendation to vaccinate risk groups, careful monitoring of the situation will be required, as well as ensuring dissemination of information to clinicians on treatment guidelines.
- No indications of increased mortality have been reported through the European monitoring of excess mortality for public health action project (EuroMOMO – <http://www.euromomo.eu/>).

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

## Worldwide (WHO)

As at 15<sup>th</sup> December 2014:

Globally, influenza activity increased in the northern hemisphere and in several countries has passed the seasonal threshold. Influenza A(H3N2) viruses predominated so far.

- In North America, the levels of influenza activity, mainly associated with A(H3N2) virus, passed the seasonal threshold.
- In Europe overall influenza activity continued to increase, though with no clear indication that the influenza season had begun.
- In eastern Asia, influenza activity increased with, influenza A(H3N2) predominated.
- In northern and western Africa influenza activity increased with influenza B virus predominant.
- In tropical countries of the Americas, influenza activity increased in some countries of the Caribbean, decreased in Central America and was low in the tropical countries of South America.
- In tropical Asia, influenza activity was low.
- In the southern hemisphere, influenza activity remained at a low level, but ILI activity remained high in several Pacific Islands.
- Based on FluNet reporting (as of 11 December 2014, 14:25 UTC , during weeks 47 to 48 (16 November 2014 to 29 November 2014), National Influenza Centres (NICs) and other national influenza laboratories from 49 countries, areas or territories reported data. The WHO GISRS laboratories tested more than 59 940 specimens. 7227 were positive for influenza viruses, of which 6603 (91.4%) were typed as influenza A and 624 (8.6%) as influenza B. Of the sub-typed influenza A viruses, 84 (2.4%) were influenza A(H1N1)pdm09 and 3472 (97.6%) were influenza A(H3N2). Of the characterized B viruses, 140 (97.2%) belonged to the B-Yamagata lineage and 4 (2.8%) to the B-Victoria lineage.
- Due to changes in data collection platforms, data from the WHO Regional Office for Europe are temporarily not available at the global level. Those data will be uploaded to FluNet and FluID as soon as possible. Information on European influenza activity can be found at <http://www.flunewseurope.org>.

[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)

## ECDC – Circulation of drifted influenza A(H3N2) viruses in the EU/EEA

The recently published US CDC health alert network notification on antigenically drifted influenza A(H3N2) viruses is the first signal from a northern hemisphere country that circulating viruses will include strains that are antigenically distinct from the A(H3N2) vaccine virus, A/Texas/50/2012, which was recommended by WHO for the northern hemisphere 2014–15 season at the February 2014 strain selection meeting.

Very few influenza virus characterisations have been conducted to date in EU/EEA countries, and the majority of them have been genetic rather than antigenic. The genetic information reported so far suggests the following:

- Influenza A(H3N2) viruses circulating in EU/EEA countries this season will be antigenically distinct from the northern hemisphere A(H3N2) vaccine virus.

- Early indications are that circulating A(H1N1)pdm09 viruses are antigenically similar to the vaccine virus.
- Too few type B viruses have been characterised to date to comment on the likely effectiveness of the B/Massachusetts/2/2012 vaccine component.

These observations indicate that the 2014-15 influenza season may be associated with a greater number of cases with more severe disease, given the higher proportion of A(H3N2) strains among isolates typed to date and the early evidence of drift that is likely to be associated with reduced vaccine effectiveness.

Despite the expected low vaccine effectiveness (VE) of the A(H3N2) vaccine virus component in the vaccines administered for protection in the 2014–15 influenza season, the current tri- and quadrivalent vaccines are likely to provide protection against infection by other currently circulating influenza viruses. Even with low VE of the A(H3N2) vaccine virus components, the vaccine may ameliorate or shorten the duration of influenza disease in infected individuals and is likely to reduce the number of severe outcomes and mortality. Influenza vaccination remains the most effective measure to prevent illness and possibly fatal outcomes.

The circulating viruses are susceptible to the antiviral drugs oseltamivir and zanamivir. Physicians should therefore always consider treatment or post-exposure prophylaxis with antivirals when treating influenza-infected patients and exposed individuals in risk groups.

For more information:

[http://www.ecdc.europa.eu/en/publications/\\_layouts/forms/Publication\\_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=1234](http://www.ecdc.europa.eu/en/publications/_layouts/forms/Publication_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=1234)

## 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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