

Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 52 - 1 (22 December 2014 – 04 January 2015)

Summary

This bulletin covers the Christmas and New Year holiday period when GP surgeries are closed, and therefore caution is required when interpreting primary care and laboratory data. The bulletin will be produced on a weekly basis from now until the end of the influenza season.

- Influenza activity in Northern Ireland has increased but remains at relatively low levels.
- GP consultation rates for combined flu and flu-like illness (flu/FLI) have increased but remain below the updated pre-epidemic Northern Ireland threshold of 52.0 per 100,000 population at 10.4 and 26.1 per 100,000 population in weeks 52 and 1 respectively, with all indicators slightly higher than noted during the same period last year.
- The OOH consultation rate for flu/FLI has increased but remained low in weeks 52 and week 1 at 10.7 and 9.5 per 100,000 population respectively. The rate remained relatively low in all age groups with the highest rate noted among the 15-44 years age group.
- RSV activity has increased in weeks 52 and 1.
- Influenza vaccine uptake to 30th 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 5 ICU patients with confirmed influenza this season to date.
- There were two deaths in ICU patients with laboratory confirmed influenza reported in week 52, 2014 and week 1, 2015.
- There was one new confirmed influenza outbreak reported to PHA in weeks 52 and 1.
- EuroMOMO estimates for weeks 51, 2014 to 1, 2015 will be available in the next bulletin.
- In week 52, 2014 and week 1, 2015 there were fewer than five attendances for influenza like illness across the contributing emergency departments.

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

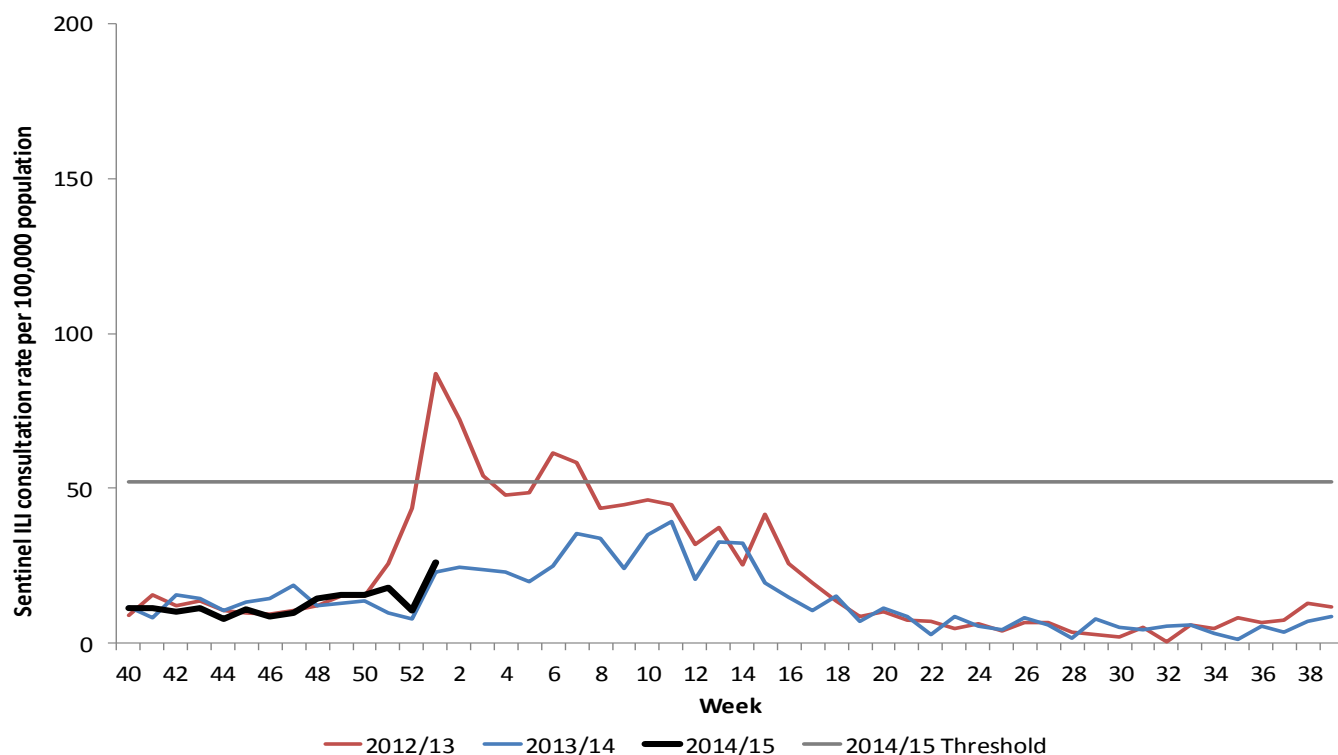


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2009/10 – 2014/15

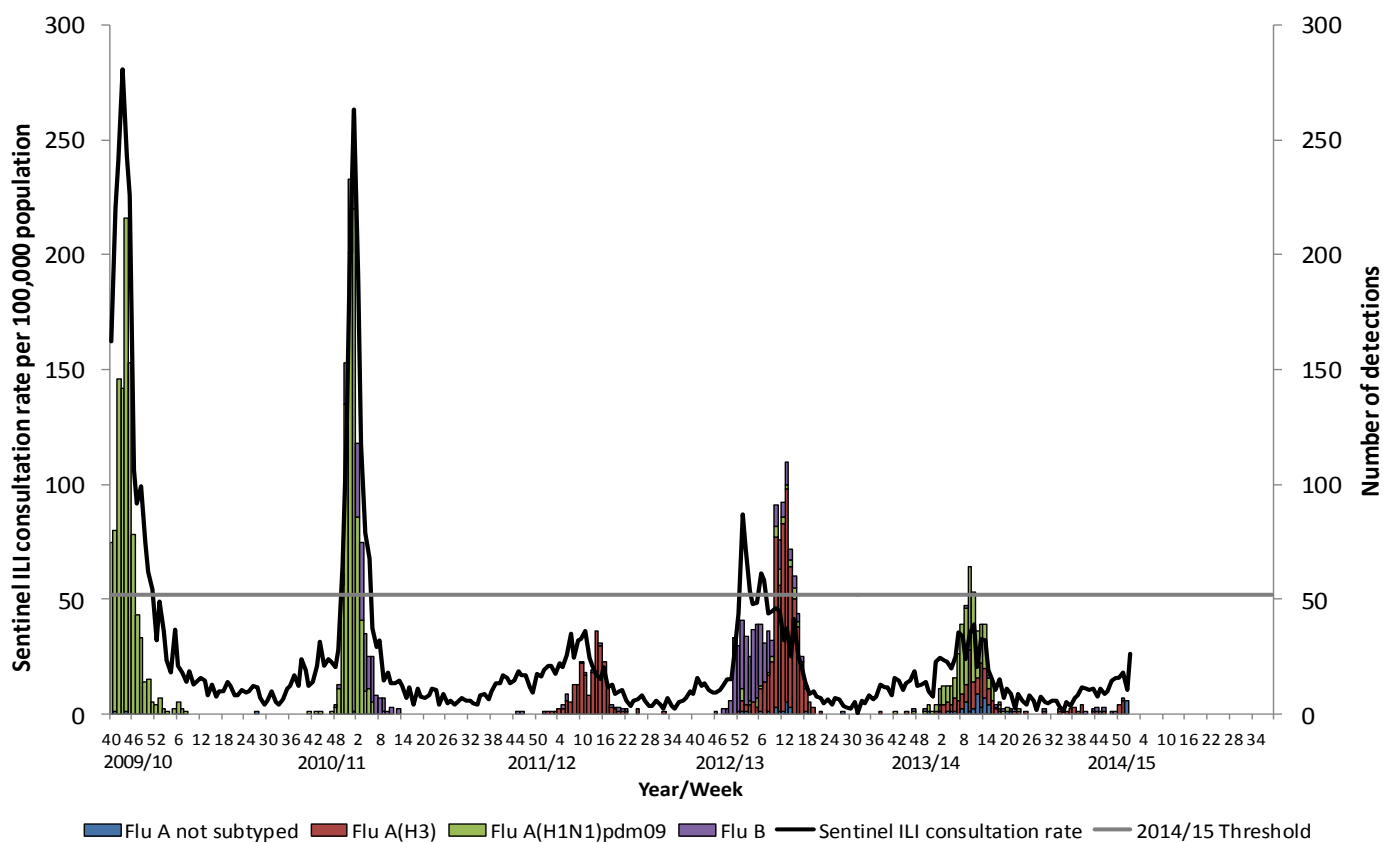
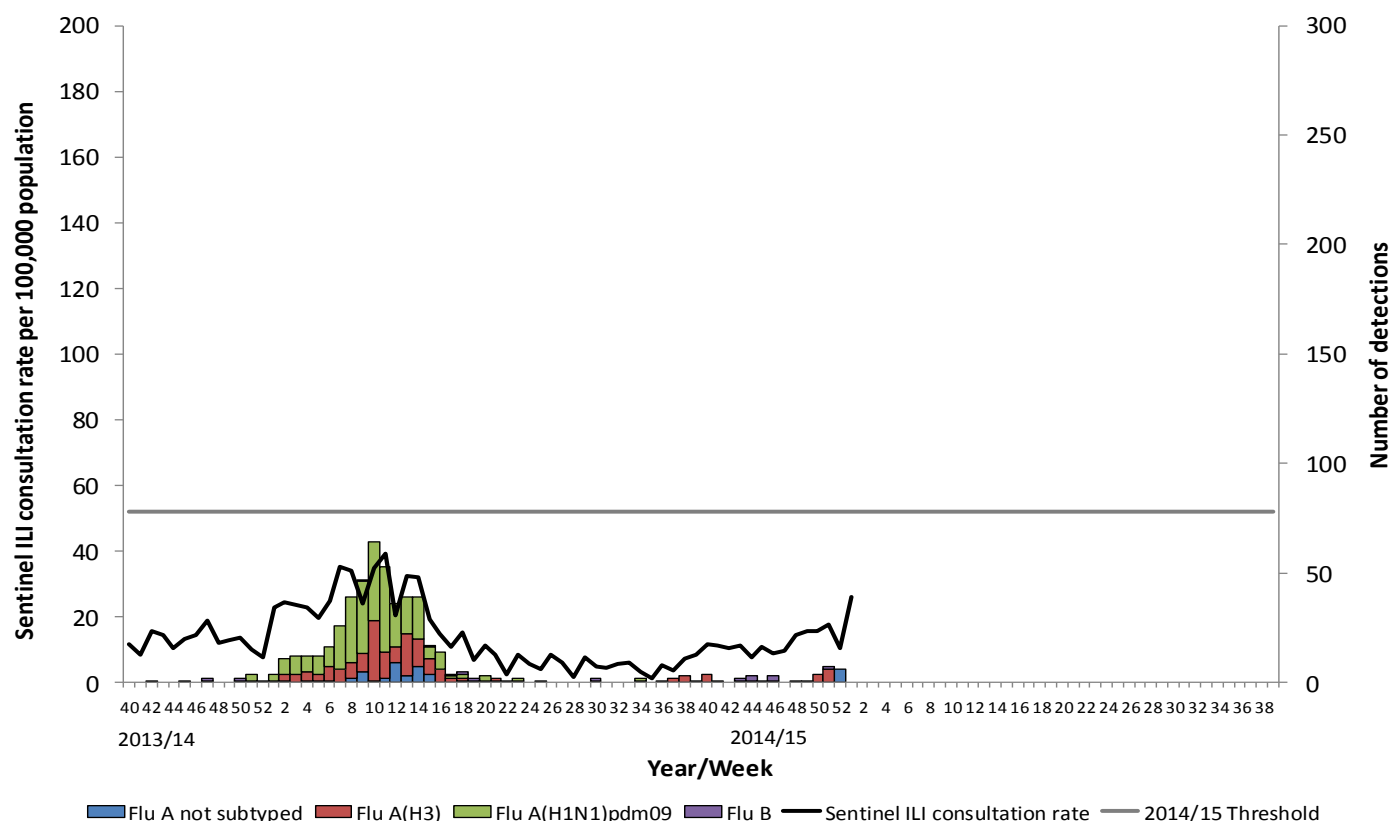


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2013

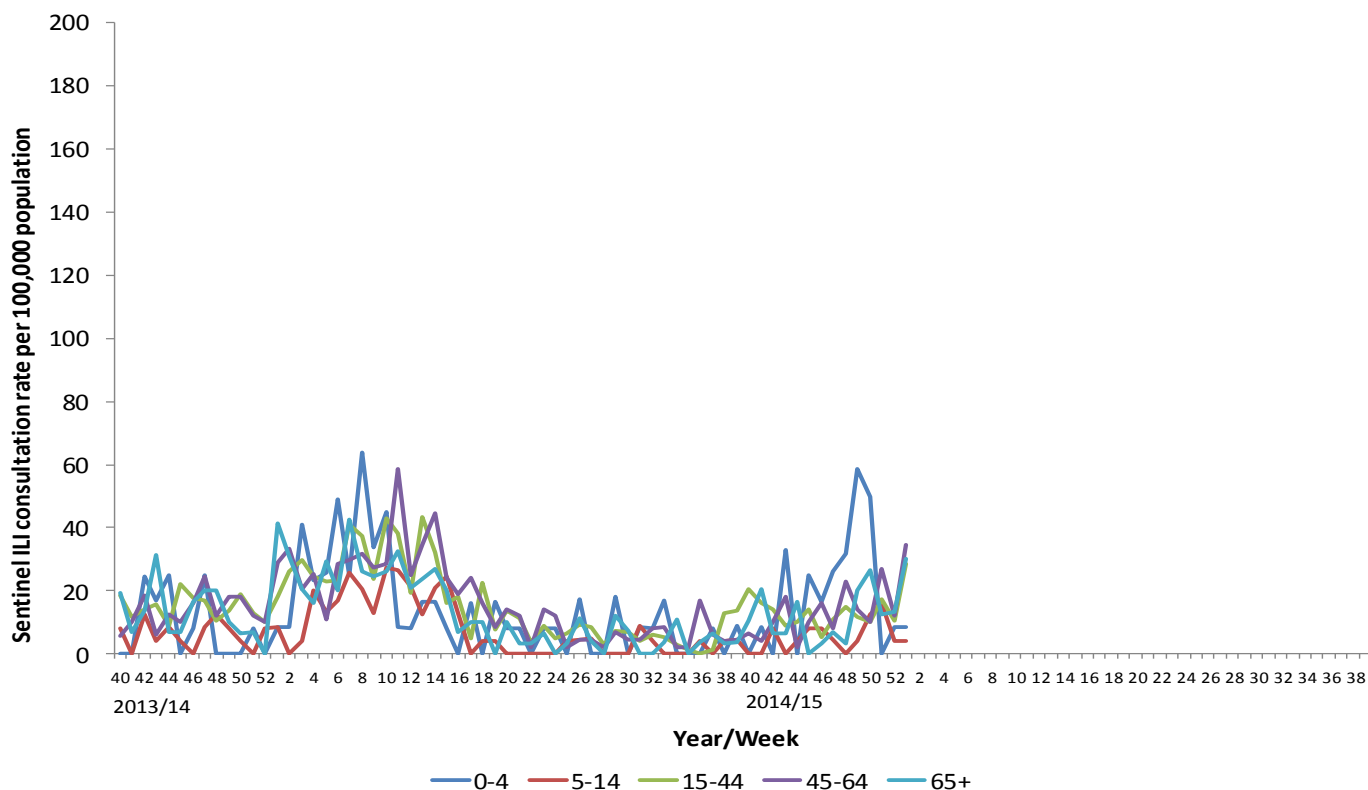


Comment

GP consultation rates have increased but remained low throughout weeks 52, 2014 to week 1, 2015. In week 52 the GP consultation rate decreased from the previous week to 10.4 per 100,000 population, increasing in week 1 to 26.1 per 100,000 population. The reduced rate noted in week 52 may be partly due to the closure of GP practices over the holiday period, while the rate in week 1, 2015 represents the highest GP Flu/FLI consultation rate this season to date. The rate in week 1 is also slightly higher than noted during the same period last season but much lower than noted during the same period in 2012/13.

Rates remain 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 have fluctuated for almost all age groups across weeks 52, 2014 to week 1, 2015 however small numbers and the holiday period may have contributed to the fluctuation.

In week 52 the 0-4 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 1, GP consultation rates among those aged 15-44, 45-64 and 65 years and over increased, while rates among those aged 0-4 and 5-14 years remained stable.

In general, GP consultation rates for combined flu' and flu'-like-illness in most age groups have steadily increased in recent weeks, although those among the younger age groups have subsided somewhat in comparison with the higher rates noted earlier in the season. Rates among those aged 45-64 years again represented the highest age-specific consultation rate in week 1, 2015 (Figure 4).

Out-of-Hours (OOH) Centres Call Data

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

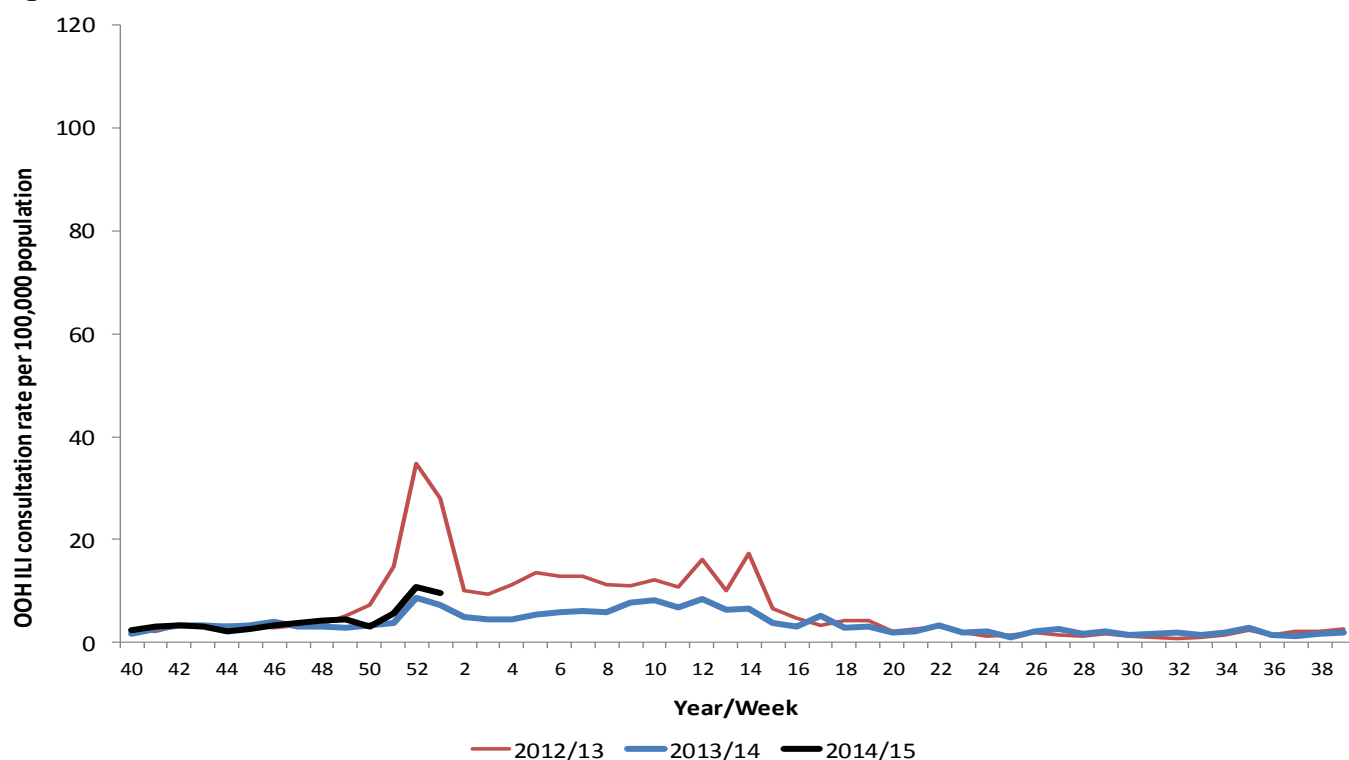
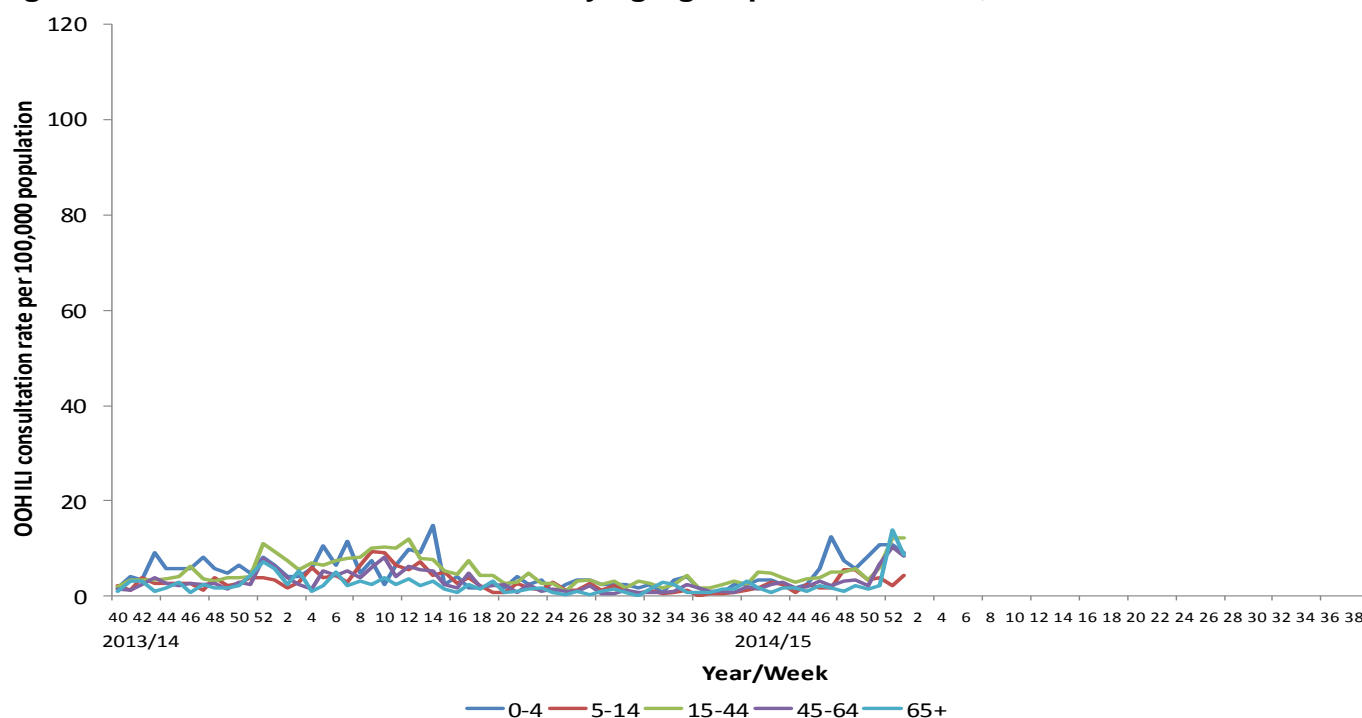


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2013



Comment

The OOH consultation rate for flu/FLI has generally increased in weeks 52 to week 1, and is similar to the same period last year although lower than 2012/13. Rates in week 52 increased to 10.7 per 100,000 population from 5.6 per 100,000 in week 51, while in week 1, 2015 the rate

decreased slightly to 9.5 per 100,000 population but remained higher than has been noted throughout this season to date.

The OOH flu/FLI rate has generally increased but remained relatively low in all age groups. In week 52, 2014 and week 1, 2015 rates have increased among those aged 15-44, 45-64 and 65 years and over in comparison with the previous fortnight, while rates among those aged 0-4 and 5-14 years have remained relatively stable across the period. The proportion of OOH total calls increased to represent more than 1% for the first time this season to date in week 1, 2015 (Figures 5 and 6).

Virology Data

Table 1. Virus activity in Northern Ireland, Week 52 - 1, 2014/15

Source	Specimens Tested	Flu AH3	Flu A (H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	3	0	0	0	0	1	0	0%
Non-sentinel	252	1	0	17	0	111	18	7%
Total	255	1	0	17	0	112	18	7%

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 1, 2014/15

	Flu AH3	Flu A (H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	5	0	5	3	13	230
5-14	1	0	0	2	3	11
15-64	6	1	5	4	16	26
65+	7	0	7	0	14	36
Unknown	0	0	0	0	0	1
All ages	19	1	17	9	46	304

Table 3. Cumulative virus activity, Week 40 - Week 1, 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	5	3	12	230
5-14	0	0	0	0	0	0	1	0	0	2	3	11
15-64	0	1	0	1	2	1	6	0	5	3	14	25
65+	0	0	0	0	0	2	7	0	7	0	14	34
Unknown	0	0	0	0	0	0	0	0	0	0	0	1
All ages	1	1	0	1	3	3	18	0	17	8	43	301

Note

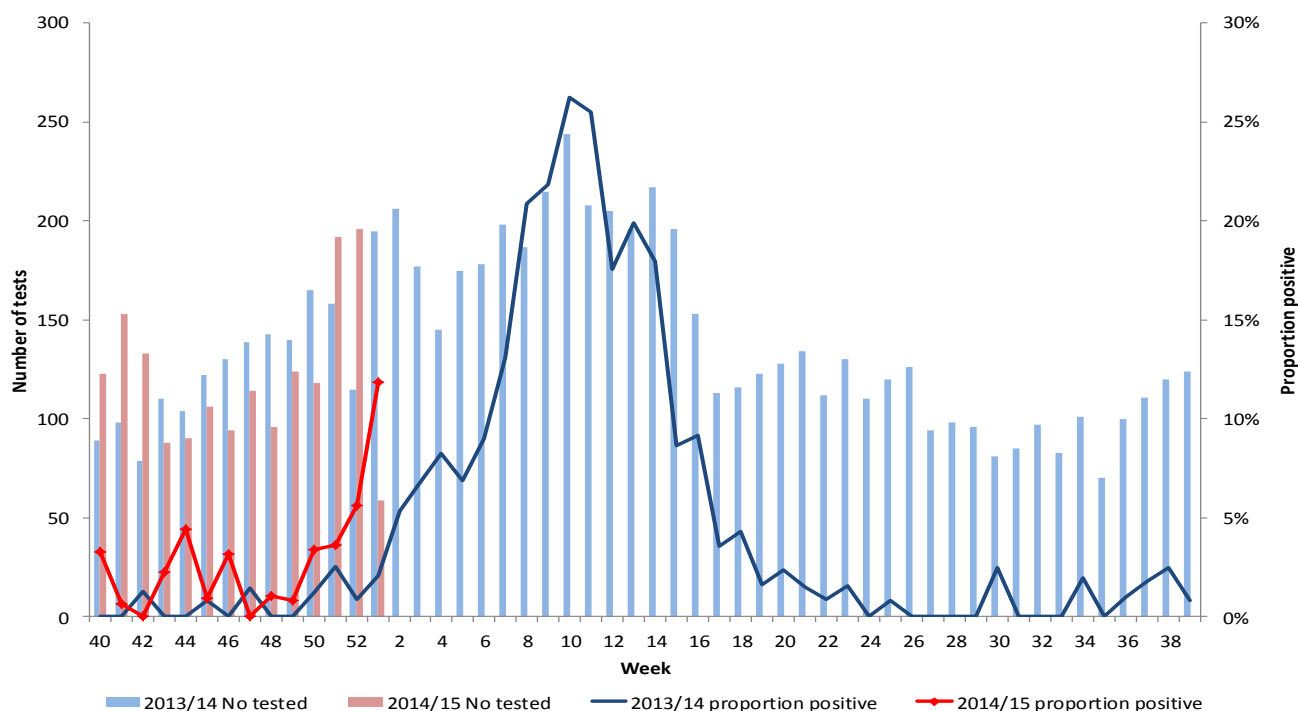
All virology data is provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available.

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

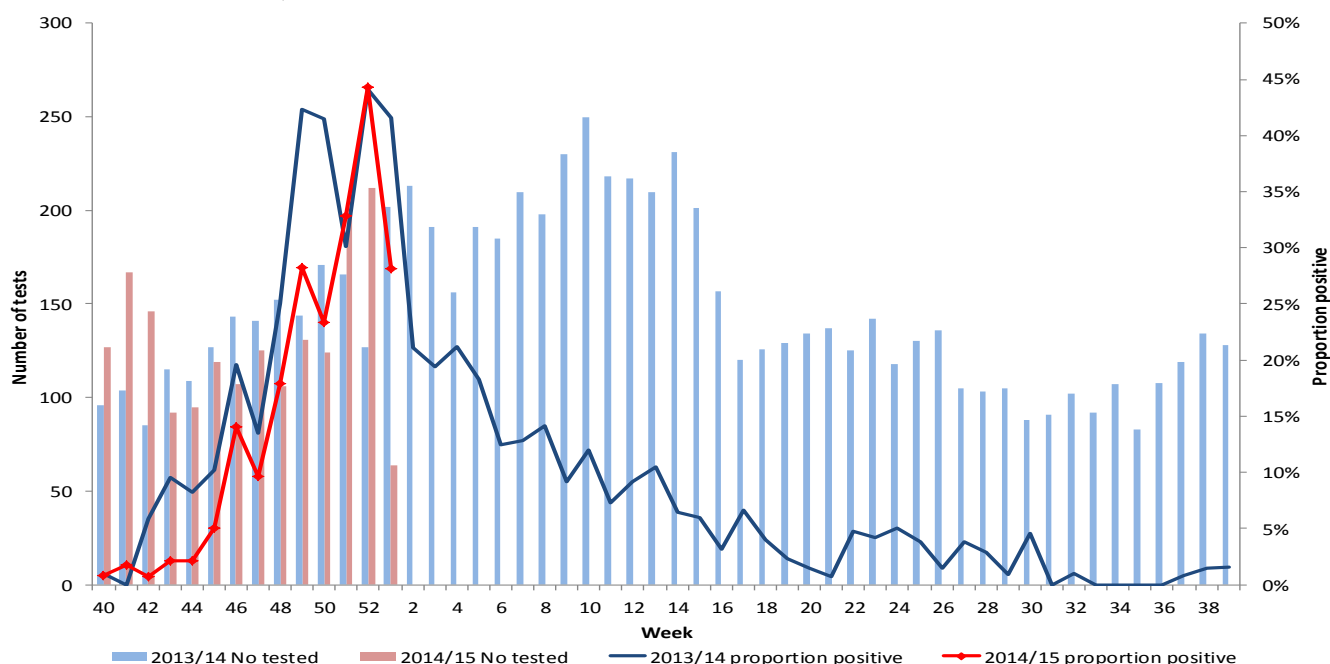
During weeks 52 to 1, there were 255 specimens submitted for testing, of which 17 were confirmed as influenza A untyped (typing awaited), and 1 as influenza A (H3); higher than the previous 2-week period and also much higher than the same period last year. Positivity rates for influenza have increased 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 112 RSV positive detections between weeks 52 and 1 with positivity rates increasing from 33% in week 51 to 44% in week 52, then decreasing to 28% in week 1, 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. The positivity rate is similar to the same period in recent seasons. There have been a total of 304 detections of RSV since the beginning of the 2014-15 influenza season, of which 76% fall within the 0-4 years age group (Figure 8, Table 2).

Influenza Vaccine Uptake

To 30th 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 30th 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 week 52, 2014 and week 1, 2015 there were fewer than five 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 five ICU patients with confirmed influenza, all of which have been confirmed as influenza A (H3).

There were two deaths in ICU patients with laboratory confirmed influenza reported in weeks 52 and week 1 in the 2014/15 season.

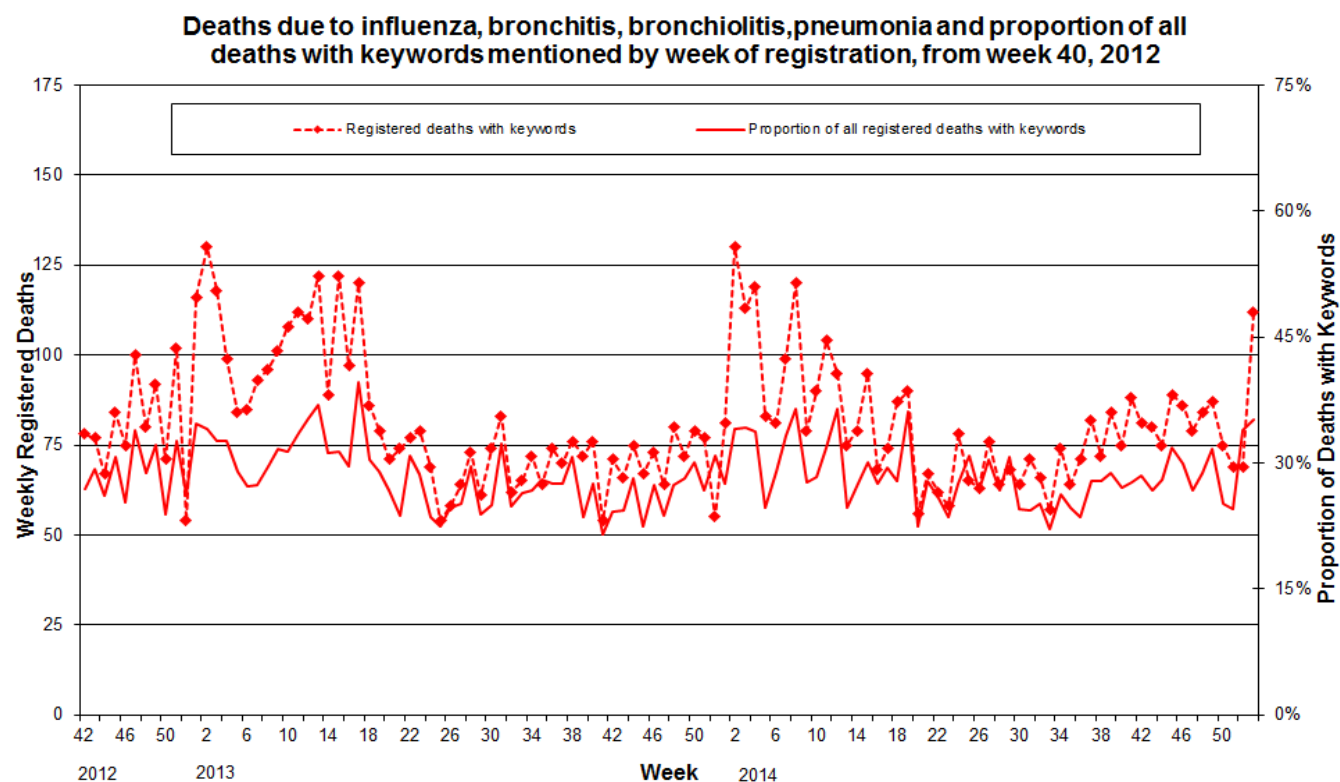
Outbreak Surveillance

There has been one new confirmed influenza outbreak reported in weeks 52 and 1 in the 2014-15 season, confirmed as influenza A (H3). There has been one confirmed influenza outbreak reported so far this season, compared with a total of three outbreaks for the duration of the 2013/14 season.

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 increased across the 2-week period. During week 52, 2014 the proportion of registered deaths increased to 34%, from 25% the previous week, increasing further to 35% in week 1, 2015. This is higher than noted during week 1 in 2014 (28%).

The number of registered deaths due to respiratory keywords remained stable at 69 in week 52, compared with week 51. In week 1, 2015, there were 319 registered deaths of which 112 related to these specific respiratory infections.

EuroMOMO

EuroMOMO estimates for weeks 51, 2014 to 1, 2015 will be available in the next bulletin. This data will be presented in a chart later in the season.

International Summary

Europe

Week 52, 2014:

- In week 52/2014, the intensity of influenza activity remained low in the majority of countries in Europe but the number of countries with increased activity continued to rise compared to previous weeks.
- The level of influenza activity increased in three of the 29 reporting countries, while the proportion of influenza virus-positive sentinel specimens increased to 13%, up from 9% in the previous week.
- The predominant influenza virus was type A, with A(H3N2) viruses predominating in primary care, among laboratory-confirmed hospitalized cases as well as other sources

Season:

- The influenza season in Europe appears to be starting: the proportion of influenza virus-positive sentinel specimens has increased to over 10%, despite the majority of countries still reporting low intensities of influenza activity.
- Influenza A(H3N2) viruses have been the predominant viruses detected across all surveillance systems. While there have been difficulties in characterizing A(H3N2) viruses antigenically, as in the United States of America, the majority of the A(H3N2) viruses characterized genetically have fallen in genetic subgroups containing viruses that have drifted antigenically compared to the virus recommended for use in the 2014–2015 northern hemisphere influenza vaccine. Although this may compromise the effectiveness of the A(H3N2) component of the vaccine, it is still important that people be vaccinated, particularly those in groups at risk of developing severe symptoms after influenza infection; see the WHO/Europe website and ECDC rapid risk assessment on drifted A(H3N2) viruses. The situation will be monitored carefully, and treatment guidelines must be disseminated to clinicians, including on use of antivirals.
- The circulating influenza A(H3N2), A(H1N1)pdm09 and B viruses remain susceptible to the antivirals oseltamivir and zanamivir currently licensed in Europe.

- No indication of increased mortality has been reported in the European project for monitoring excess mortality for public health action (EuroMOMO: <http://www.euromomo.eu>).

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

Worldwide (WHO)

As at 23rd December 2014:

Globally, influenza activity continued to increase in the northern hemisphere with influenza A(H3N2) viruses predominating so far. The antigenic characterization of most recent A(H3N2) viruses so far indicated differences from the A(H3N2) virus used in the influenza vaccines for the northern hemisphere 2014-2015.

- In North America, the levels of influenza activity continued to increase and had passed the seasonal thresholds. Influenza A(H3N2) virus predominated.
- The Centers for Disease Control and Prevention (CDC) reported that the rate of influenza-related hospitalisations is more than double that a year ago.
- In Europe overall influenza activity mainly associated with A(H3N2) virus continued to increase, but remained at low levels.
- In eastern Asia, influenza activity continued to increase with influenza A(H3N2) virus predominating.
- In northern Africa influenza activity increased with influenza B virus predominating, except for Egypt where influenza activity was low.
- In eastern and western Africa influenza activity was low or decreasing, except for the United Republic of Tanzania where increased detections of influenza A(H3N2) were reported.
- In tropical countries of the Americas, influenza activity was low with the exception of Costa Rica and Cuba where an increase of influenza detections was reported.
- In tropical Asia, influenza activity was low.
- In the southern hemisphere, influenza activity was at inter-seasonal level.
- Based on FluNet reporting (as of 23 December 2014 10:15 UTC), during weeks 49 to 50 (30 November 2014 to 13 December 2014), National Influenza Centres (NICs) and other national influenza laboratories from 79 countries, areas or territories reported data. The WHO GISRS laboratories tested more than 70 341 specimens. 12 567 were positive for influenza viruses, of which 11 826 (94.1%) were typed as influenza A and 741 (5.9%) as influenza B. Of the sub-typed influenza A viruses, 109 (1.8%) were influenza A(H1N1)pdm09 and 6025 (98.2%) were influenza A(H3N2). Of the characterized B viruses, 134 (99.3%) belonged to the B-Yamagata lineage and 1 (0.7%) to the B-Victoria lineage.

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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