

Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 2 (11 January 2016 – 17 January 2016)

Summary

- Influenza GP consultations have remained stable, while the proportion of positive influenza virological detections in Northern Ireland have increased.
- GP consultation rates for combined flu and flu-like illness (flu/FLI) remain below the 2015/16 pre-epidemic Northern Ireland threshold¹ at 30.5 per 100,000 population in week 2, 2016.
- The OOH consultation rate for flu/FLI has remained stable at 8.5 per 100,000 population overall, with increases in some age groups.
- RSV activity has further decreased in week 2 and is lower than the same period during last season.
- There were ten admissions to ICU with confirmed influenza reported in week 2, 2016.
- There were three deaths in ICU patients with laboratory confirmed influenza reported in week 2, 2016.
- In week 2, 2016 significant all-cause excess mortality was reported through the EuroMOMO algorithm.
- There were no confirmed influenza outbreaks reported to PHA in week 2, 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;

¹ 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

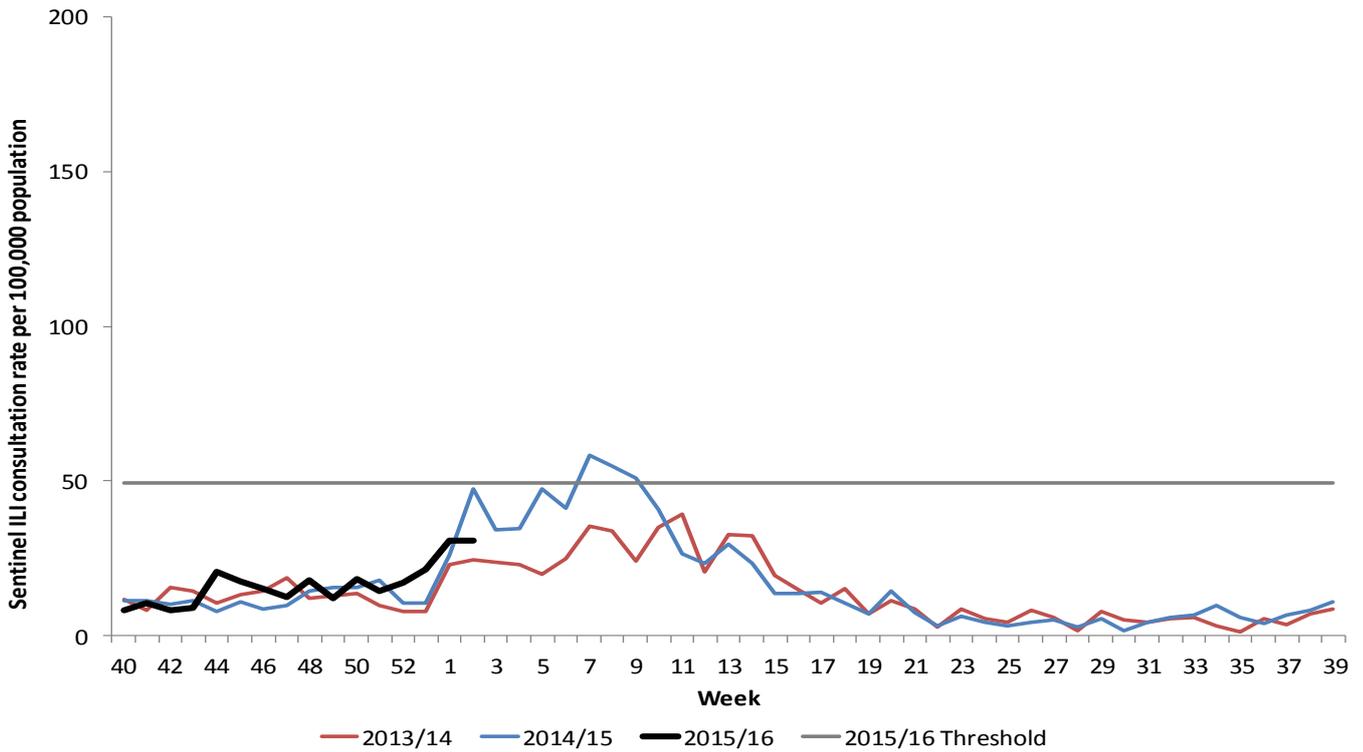


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2010/11 – 2015/16

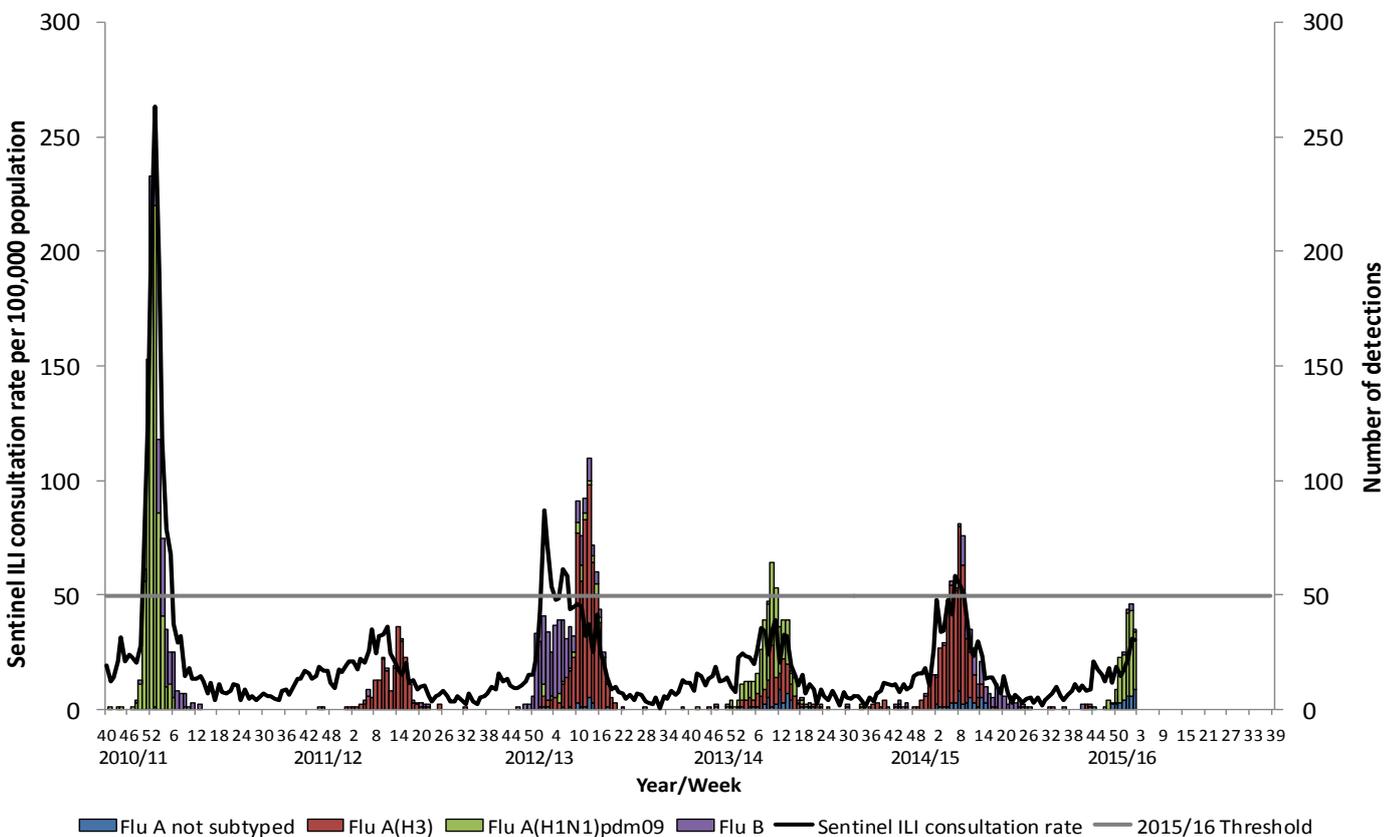
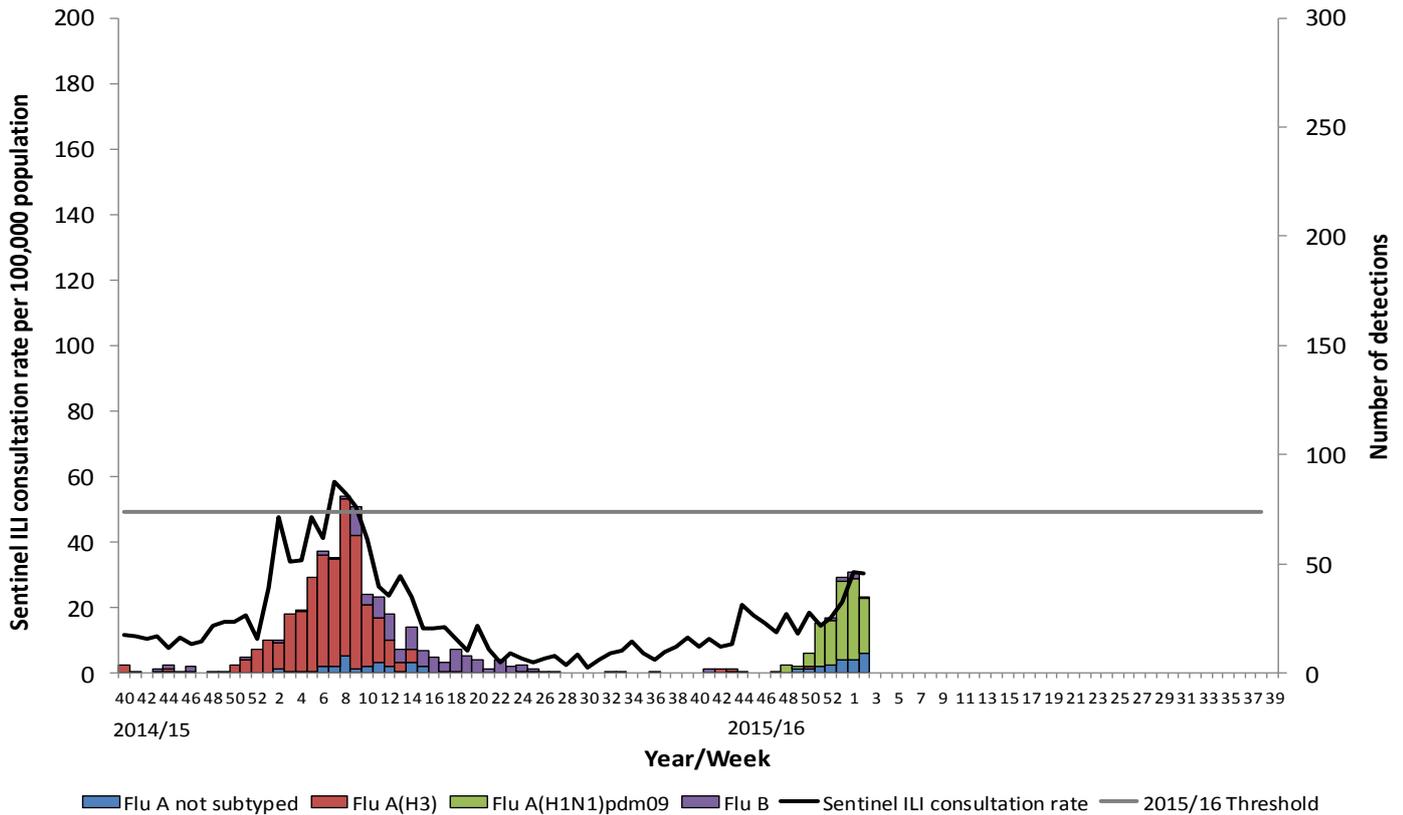


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2014

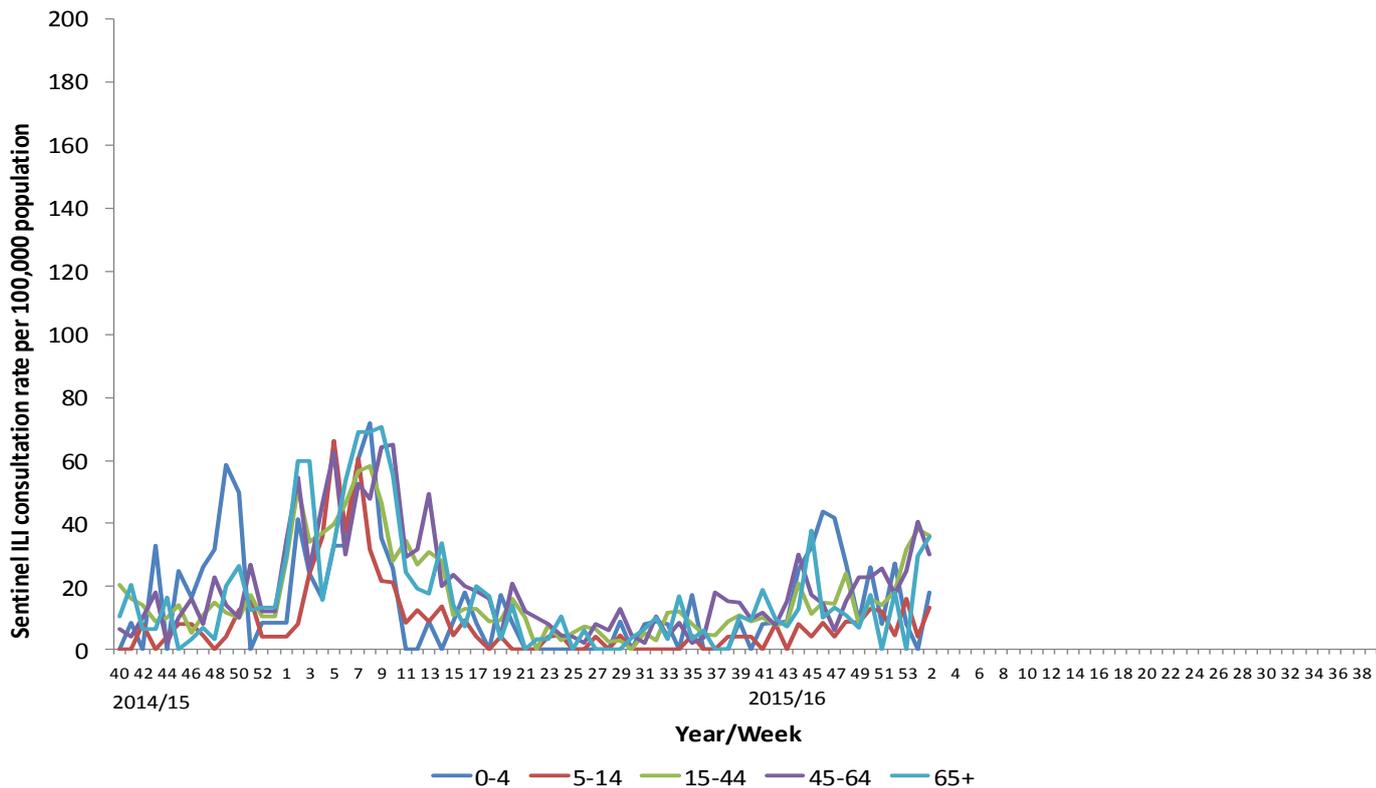


Comment

GP consultation rates have remained fairly stable in week 2, 2016 at 30.5 per 100,000 population compared with 30.9 per 100,000 in week 1. 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 2 2016, GP consultation rates increased among the 0-4, 5-14 and 65 years and over age groups in comparison with the previous week, while rates among those aged 15-44 and 45-64 years decreased.

The highest consultation rate in week 2 was noted in those aged 15-44 years at 36.2 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

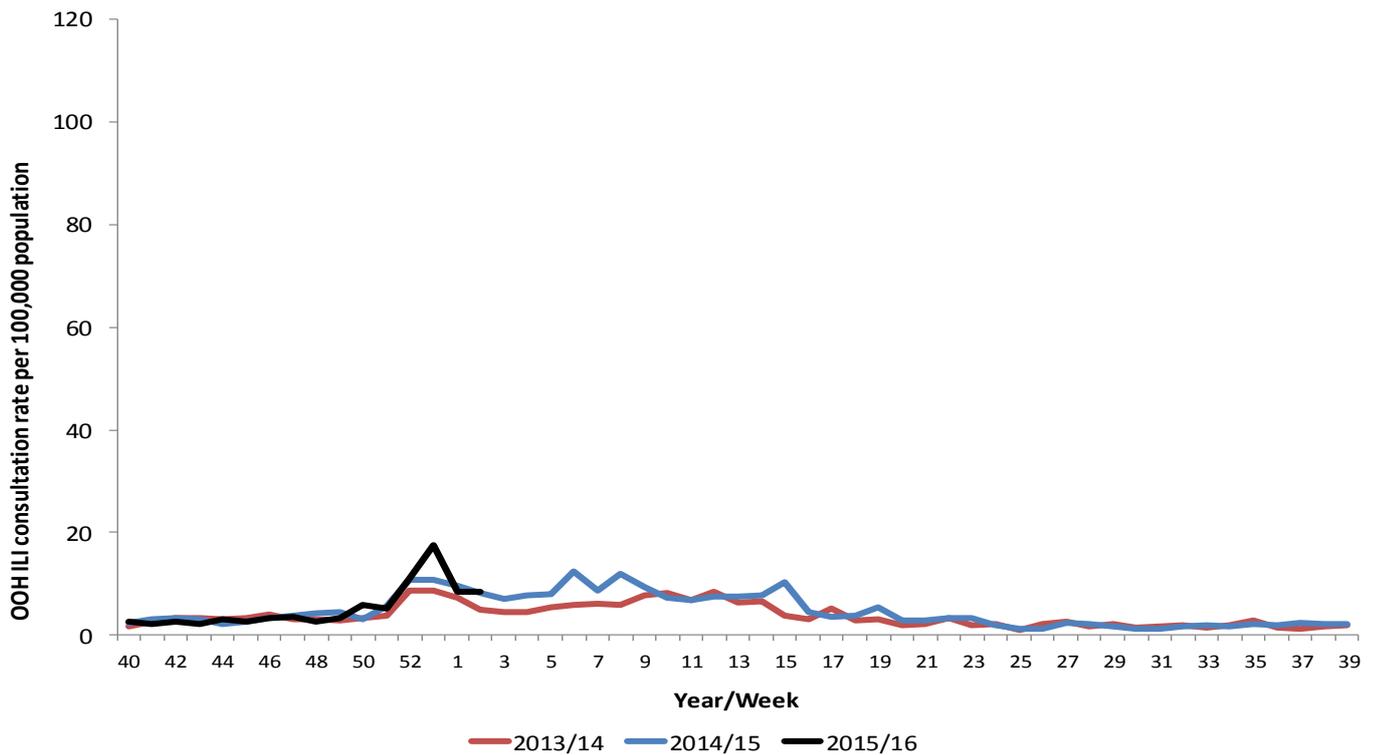
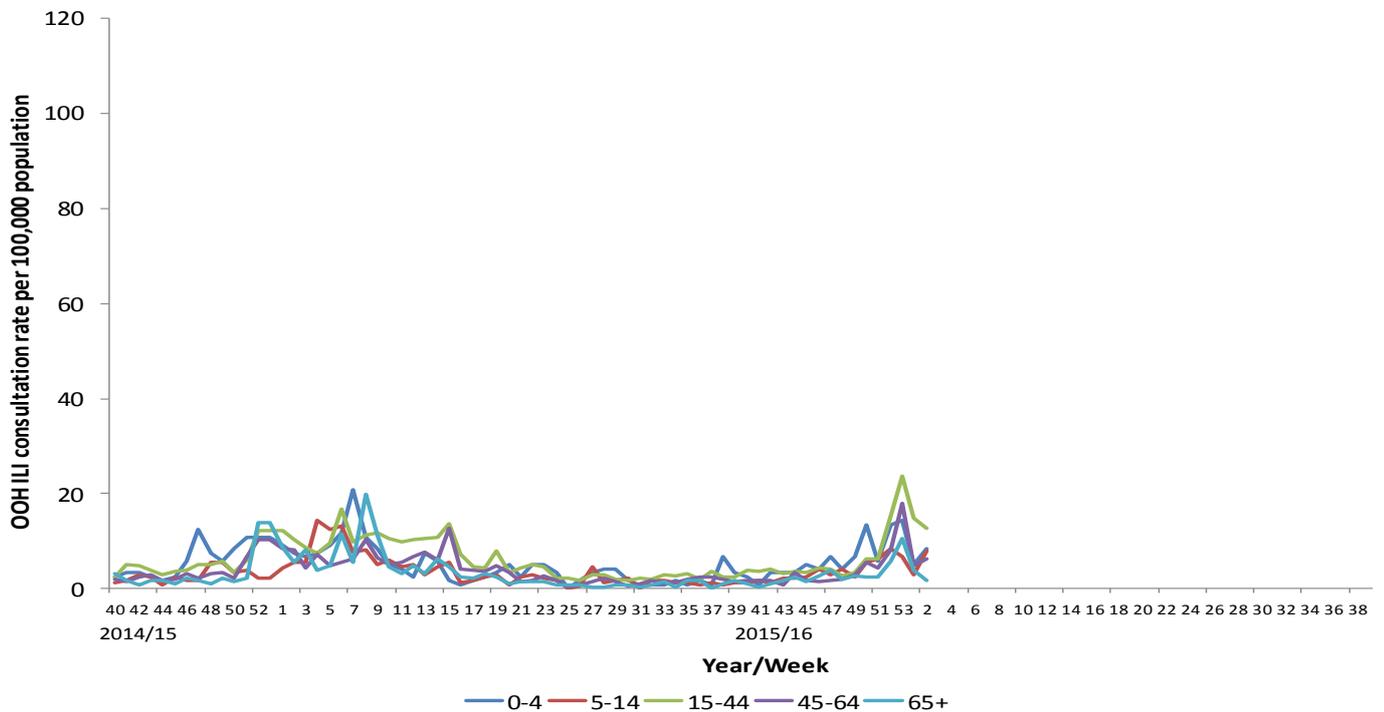


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2014



Comment

During week 2, 2016, the OOH GP consultation rate for flu/FLI remained stable at 8.5 per 100,000 population. 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 1.5% of total calls to the OOH service.

During week 2, OOH flu/FLI rates have increased among the 0-4, 5-14 and 45-64 years age groups while rates among those aged 15-44 and 65 years and over have decreased. The highest OOH flu/FLI rate was noted in those aged 15-44 years at 12.7 per 100,000 population (Figures 5 and 6). Age specific-rates are similar to 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 2, 2015/16

| Source | Specimens Tested | Flu AH3 | Flu A(H1N1) 2009 | A (untyped) | Flu B | RSV | Total influenza Positive | % Influenza Positive |
|--------------|------------------|----------|------------------|-------------|----------|-----------|--------------------------|----------------------|
| Sentinel | 9 | 0 | 4 | 0 | 0 | 2 | 4 | 44% |
| Non-sentinel | 131 | 0 | 21 | 9 | 1 | 9 | 31 | 24% |
| Total | 140 | 0 | 25 | 9 | 1 | 11 | 35 | 25% |

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

| | Flu AH3 | Flu A(H1N1) 2009 | A (untyped) | Flu B | Total Influenza | RSV |
|-----------------|----------|------------------|-------------|----------|-----------------|------------|
| 0-4 | 0 | 25 | 3 | 2 | 30 | 388 |
| 5-14 | 0 | 7 | 0 | 0 | 7 | 14 |
| 15-64 | 0 | 92 | 22 | 5 | 119 | 54 |
| 65+ | 4 | 26 | 9 | 2 | 41 | 53 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 |
| All ages | 4 | 150 | 34 | 9 | 197 | 509 |

Table 3. Cumulative virus activity, Week 40 - Week 2, 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 | 25 | 3 | 2 | 30 | 387 |
| 5-14 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 7 | 0 | 0 | 7 | 13 |
| 15-64 | 0 | 9 | 1 | 3 | 13 | 9 | 0 | 83 | 21 | 2 | 106 | 45 |
| 65+ | 0 | 1 | 1 | 0 | 2 | 0 | 4 | 25 | 8 | 2 | 39 | 53 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| All ages | 0 | 10 | 2 | 3 | 15 | 11 | 4 | 140 | 32 | 6 | 182 | 498 |

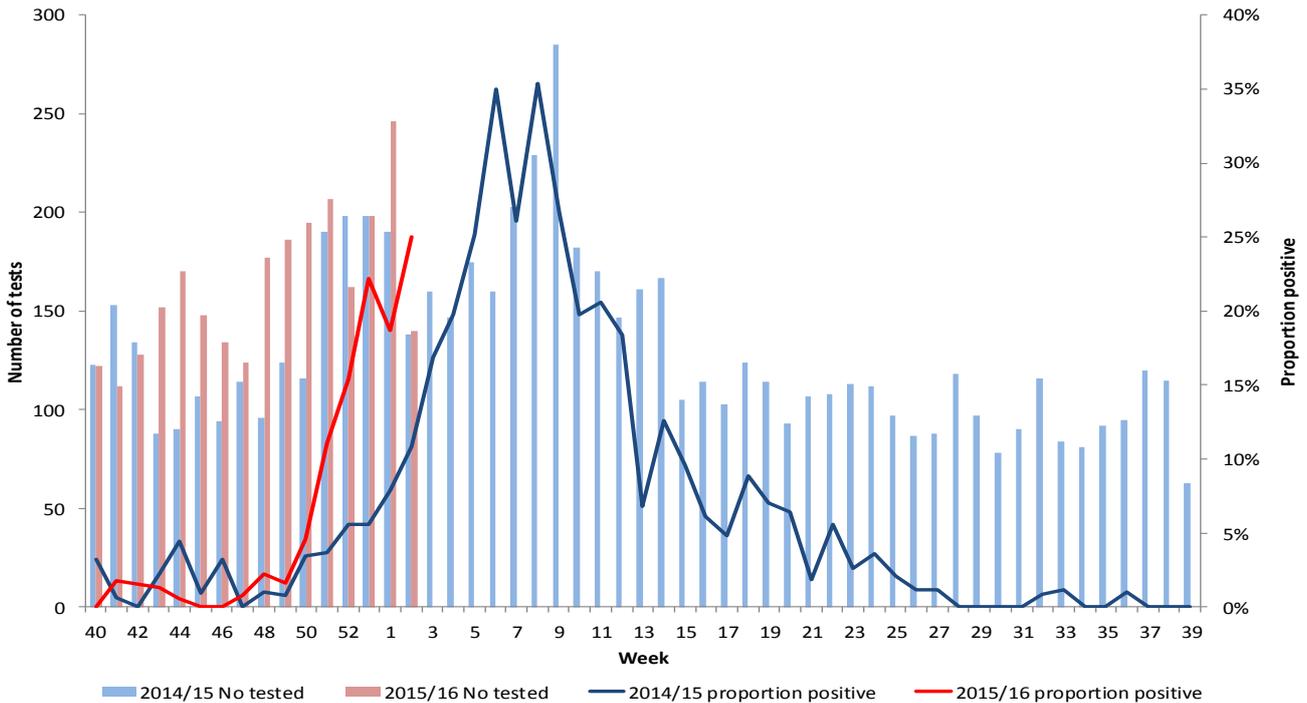
Note

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

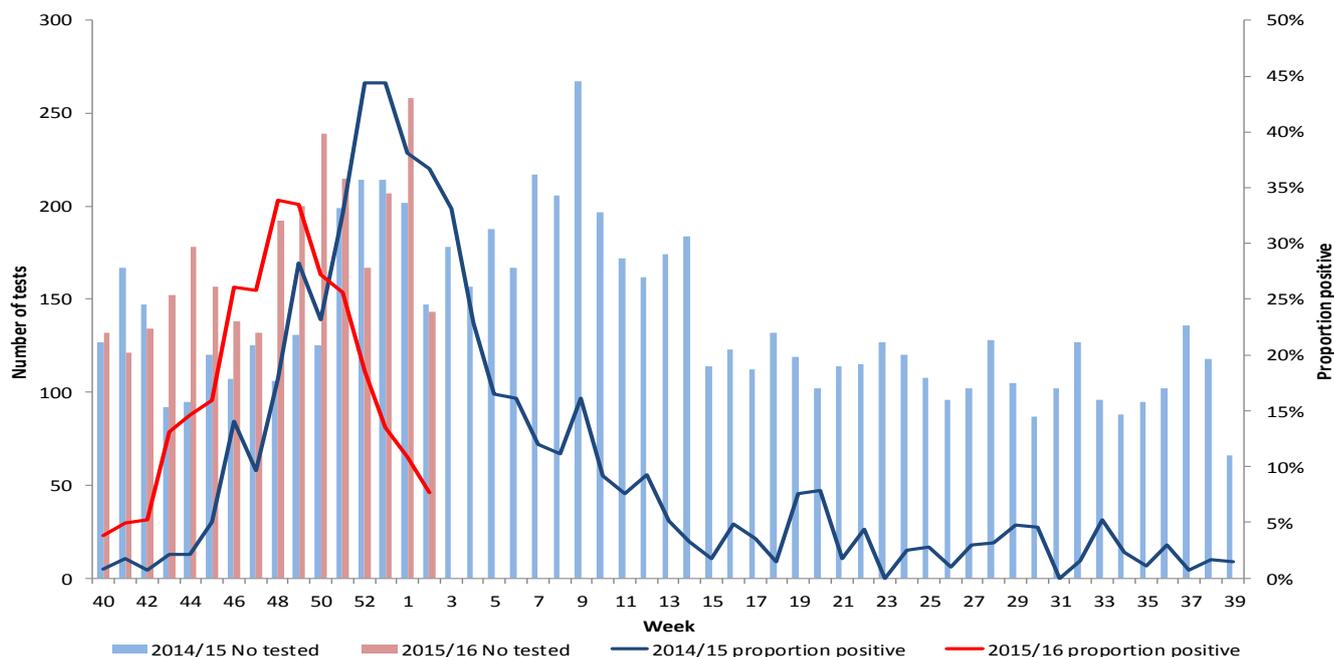
During week 2, 140 specimens were submitted for virological testing. There were 35 detections of influenza (positivity rate of 25%) - 25 were typed as influenza A(H1N1)pdm09, 1 as influenza B and 9 as influenza A (typing awaited). The positivity rate for influenza has increased from 19% in week 1. Overall this season, there have been 197 detections of influenza reported, more than in the same period in the 2013/14 (n=26) and 2014/15 (n=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 2, there were 11 RSV positive detections. Positivity rates have further decreased from 11% in week 1, to 8% in week 2. RSV positivity rates during this period have been the lowest recorded in recent years. Overall this season there have been 509 detections of RSV, of which the majority (76%) were in those aged 0-4 years (Figure 8 and table 2).

Influenza Vaccine Uptake

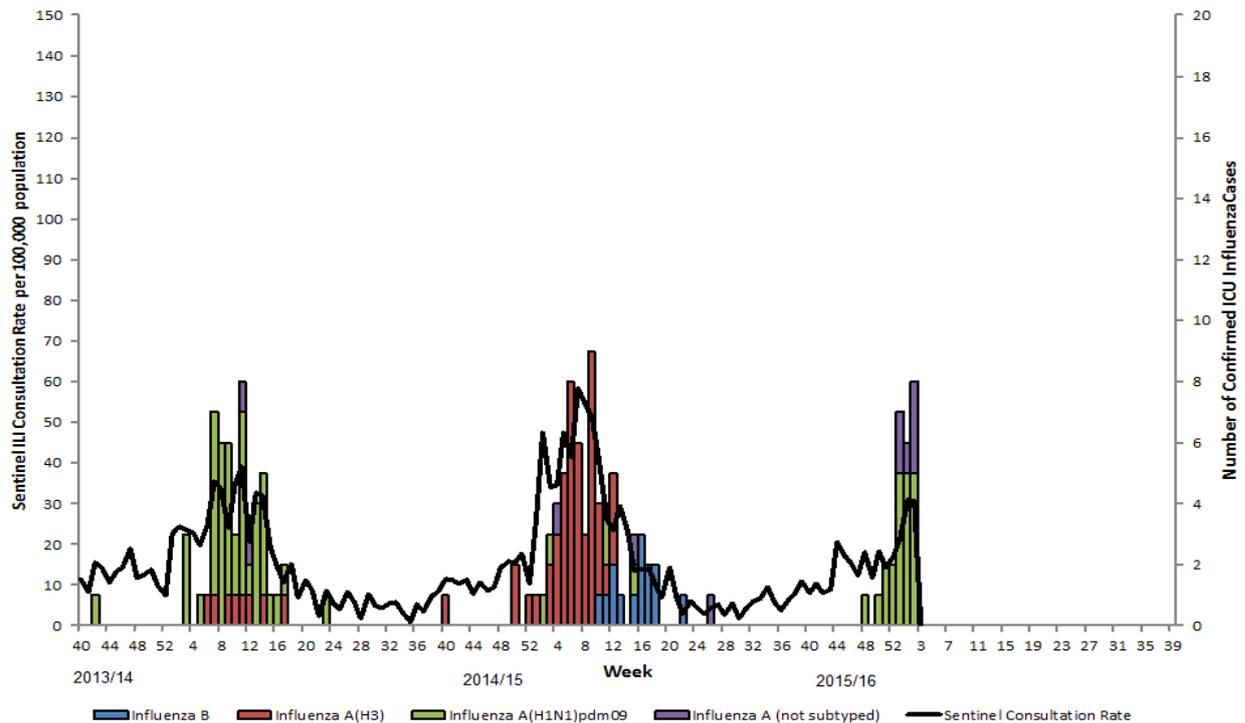
Up to 30th November 2015, provisional data suggests that vaccine uptake for those aged 65 years and over is 67.6%, similar to the same period in 2014; while 48.8% of those under 65 and in an at risk group received the vaccine, lower than in 2014 when 51.4% received the vaccine.

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 30th 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 2, there were ten admissions to ICU confirmed with influenza reported to the PHA - six with influenza A (H1N1)pdm09 and four with influenza A untyped (typing awaited). There have been a total of 27 admissions to ICU with confirmed influenza reported this season to date, of which 21 have been confirmed as influenza A (H1N1)pdm09 and 6 as influenza A untyped (typing awaited) (Figure 9).

Up to week 2, 2016, of the 27 ICU patients with confirmed influenza 18 had co-morbidities. Provisional data shows that 16 of the 27 cases met the criteria for influenza vaccine and 5 had received it (Table 4).

There were three deaths in ICU patients with laboratory confirmed influenza reported since the last bulletin. To date, there have been 6 deaths in ICU patients with laboratory confirmed influenza.

Table 4. Flu Confirmed ICU Cases in Northern Ireland, Week 40 - 2, 2015/16

| Age Group | No of patients | Flu vaccine clinical risk group | Vaccinated | Flu A | Flu B |
|------------|----------------|---------------------------------|------------|-----------|----------|
| 0 - 4 | 5 | 2 | 0 | 5 | 0 |
| 5-14 | 2 | 2 | 0 | 2 | 0 |
| 15-44 | 4 | 1 | 0 | 4 | 0 |
| 45-64 | 12 | 7 | 3 | 12 | 0 |
| 65+ | 4 | 4 | 2 | 4 | 0 |
| All | 27 | 16 | 5 | 27 | 0 |

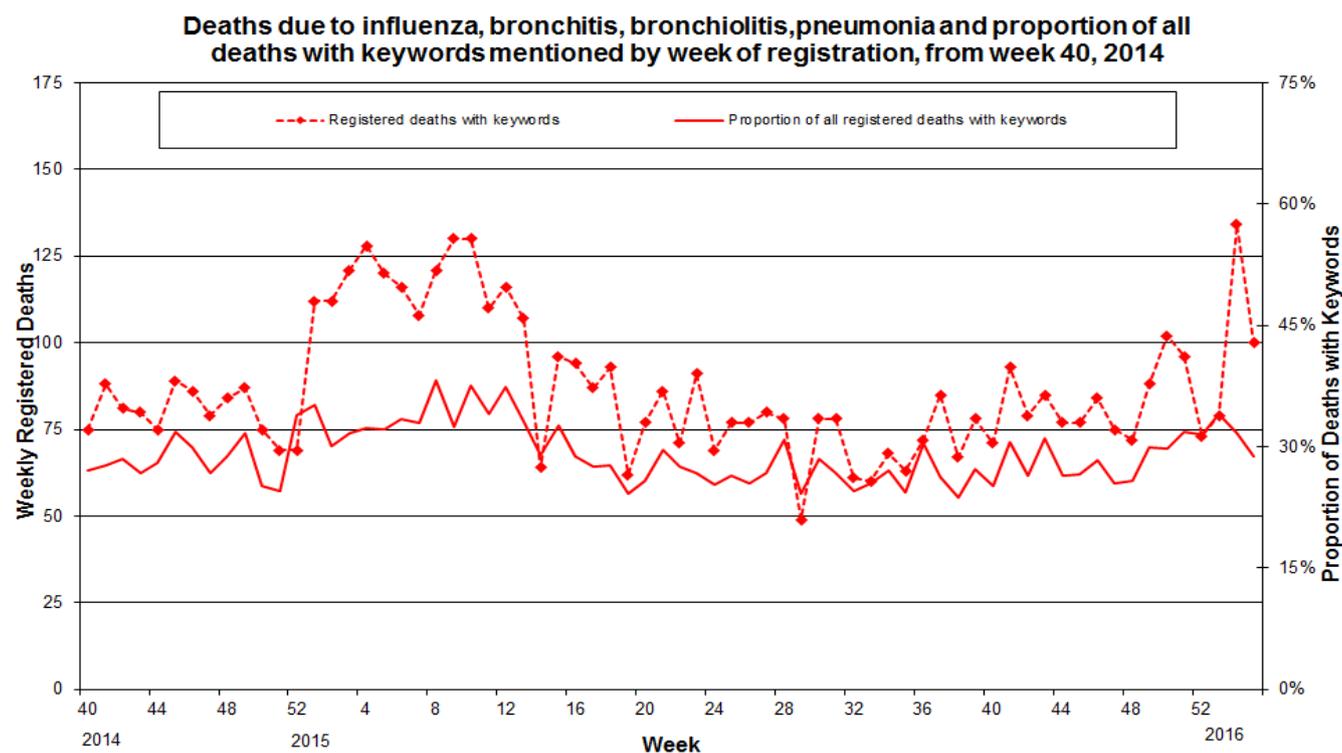
Outbreak Surveillance

During week 2, 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 2, the proportion of registered deaths from specific respiratory infections decreased to 29% from 32% in week 1.

In week 2, there were 348 registered deaths, of which 100 related to specific respiratory infections (29%). The proportion of deaths attributed to specific respiratory infections is lower than the same period in both 2014/15 and 2013/14.

EuroMOMO

Significant excess all-cause mortality was reported for week 2 in Northern Ireland. Significant excess all-cause mortality has also been reported retrospectively for weeks 52, 53 and 1. Therefore including the previous report of excess all-cause mortality in week 49, excess all-cause mortality has been reported in five weeks of this influenza season.

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

International Summary

Europe

Week 1, 2016:

- Of the 43 reporting countries, 35 reported low influenza activity and eight medium activity.
- The proportion of influenza virus-positive sentinel specimens continued to increase: from 30% in week 53/2015 to 37% in week 01/2016. Most specimens came from only two countries.
- Detection of A(H1N1)pdm09, A(H3N2) and type B influenza viruses was reported in sentinel surveillance specimens by an increasing number of countries: 22, as compared with 17 in the previous week.

Season:

- The proportion of influenza virus-positive sentinel surveillance specimens has been over 10% since week 51/2015, indicating that the influenza season in the European Region started in week 51/2015.
- Three quarters (74%) of the viruses detected were type A, and 26% were type B. The vast majority of the subtyped A viruses and B viruses ascribed to a lineage were A(H1N1)pdm09 and B/Victoria, respectively. The dominance of the A(H1N1)pdm09 virus coincides with reports of severe disease and deaths associated with infection with this virus in Armenia, Israel, Turkey and Ukraine.
- The majority of the viruses characterized so far are genetically similar to the strains recommended for inclusion in this winter's trivalent and quadrivalent vaccines for the northern hemisphere. Nevertheless, a small number of A(H3N2) viruses were dissimilar to the vaccine strain. Furthermore, the most prevalent B virus lineage (Victoria) is not included in the trivalent vaccine, which is the more widely used in Europe.

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

Worldwide (WHO) and CDC

As at 4th January 2015:

High levels of influenza activity was reported from some countries in Western Asia. Globally influenza activity was picking up in some temperate countries of the Northern Hemisphere, but in general remained low.

- In Eastern Asia, influenza activity continued at low levels, except Mongolia where increased influenza activity was reported.
- In Central Asia, influenza activity increased in a few countries, but in general remained low.
- In Western Asia, influenza activity remained at high levels. Israel, Jordan and Oman reported increased influenza activity associated with influenza A(H1N1)pdm09 and influenza B viruses, and the Islamic Republic of Iran and Pakistan reported elevated influenza activity, predominantly due to influenza A(H1N1)pdm09. Bahrain and Qatar reported a decline in influenza activity.
- In Europe influenza activity continued at low levels, except in some countries in Northern and Eastern Europe where an increase in influenza activity was observed.
- In Northern Africa, influenza activity increased in a few countries, but in general remained low.
- In tropical Africa, few influenza virus detections were reported.
- In tropics of the Americas, respiratory virus activity was at low levels.
- In tropical Asia, countries in Southern and South East Asia reported low influenza activity overall with the exception of Lao People's Democratic Republic and Thailand where influenza B viruses continue to be detected.
- In the temperate countries of the Southern Hemisphere, respiratory virus activity was generally low in recent weeks.
- National Influenza Centres (NICs) and other national influenza laboratories from 76 countries, areas or territories reported data to FluNet for the time period from 14 December 2015 to 27 December 2015 (data as of 2016-01-08 07:58:13 UTC). The WHO Global Influenza Surveillance and Response System (GISRS) laboratories tested more than 35732 specimens during that time period. 4383 were positive for influenza viruses, of which 3900 (89%) were typed as influenza A and 483 (11%) as influenza B. Of the sub-typed influenza A viruses, 2919 (93.3%) were influenza A(H1N1)pdm09 and 210 (6.7%) were influenza A(H3N2). Of the characterized B viruses, 46 (52.9%) belonged to the B-Yamagata lineage and 41 (47.1%) 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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