

Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 52 - 53 (21 December 2015 – 03 January 2016)

Summary

- Influenza GP consultations in Northern Ireland have steadily increased but remain at relatively low levels, while virological detections of influenza 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 17.0 and 21.5 per 100,000 population in weeks 52 to 53.
- The OOH consultation rate for flu/FLI has increased and in week 53 at 17.6 per 100,000 population, both overall and in most age groups.
- RSV activity has decreased in weeks 52-53 and is lower than the same period during last season.
- There were eight admissions to ICU with confirmed influenza reported in weeks 52-53, 2015.
- There were two deaths in ICU patients with laboratory confirmed influenza reported in weeks 52 - 53, 2015.
- In weeks 52 - 53, 2015 EuroMOMO did not report an excess in mortality.
- There were no confirmed influenza outbreaks reported to PHA in weeks 52 - 53, 2015.

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

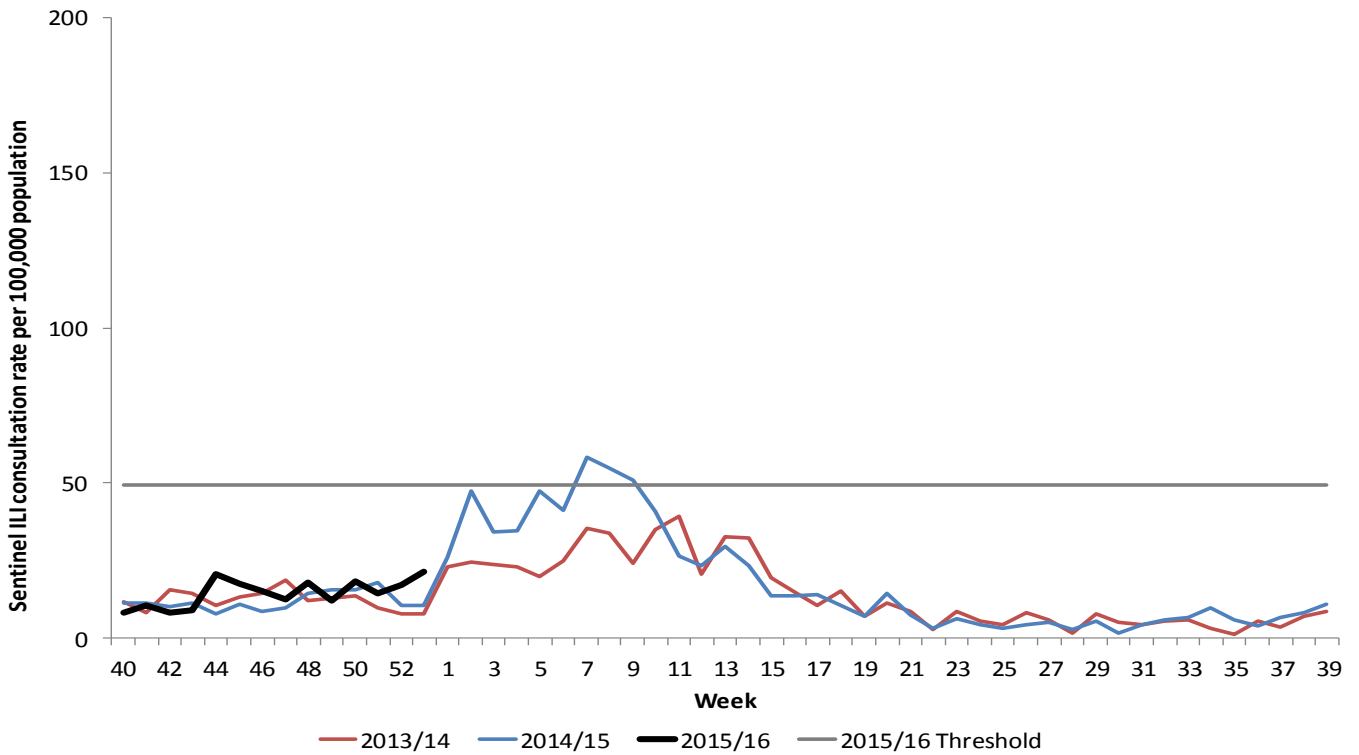


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2010/11 – 2015/16

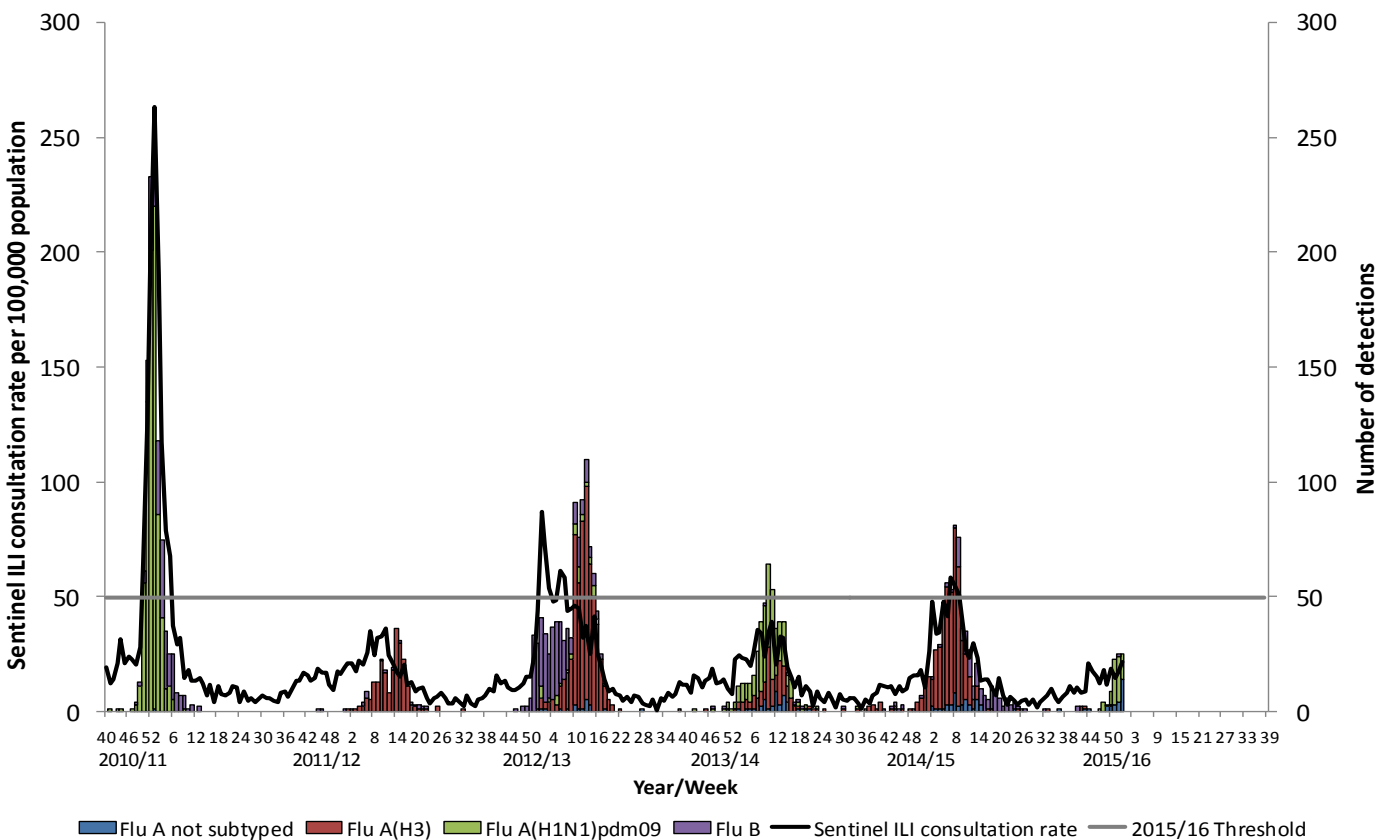
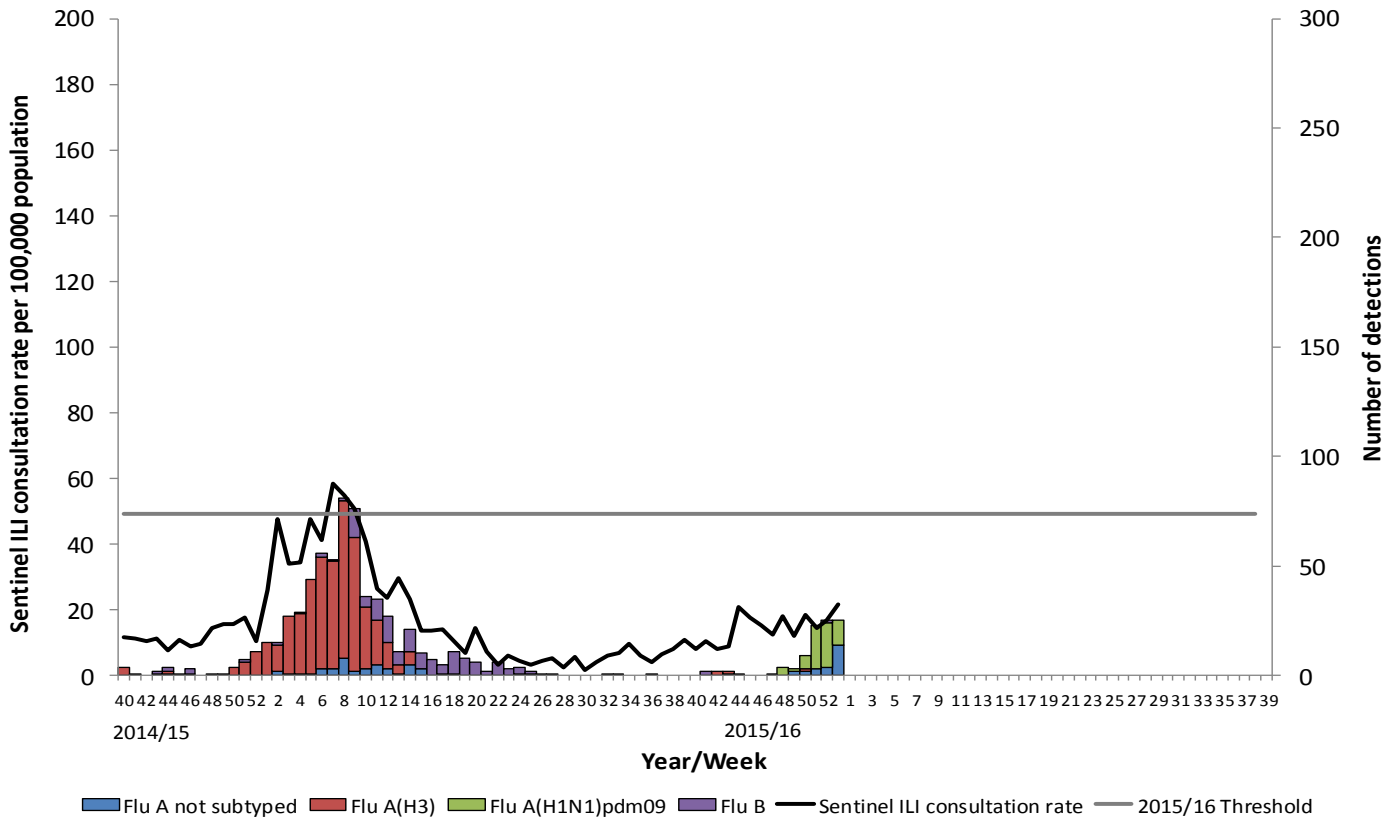


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2014

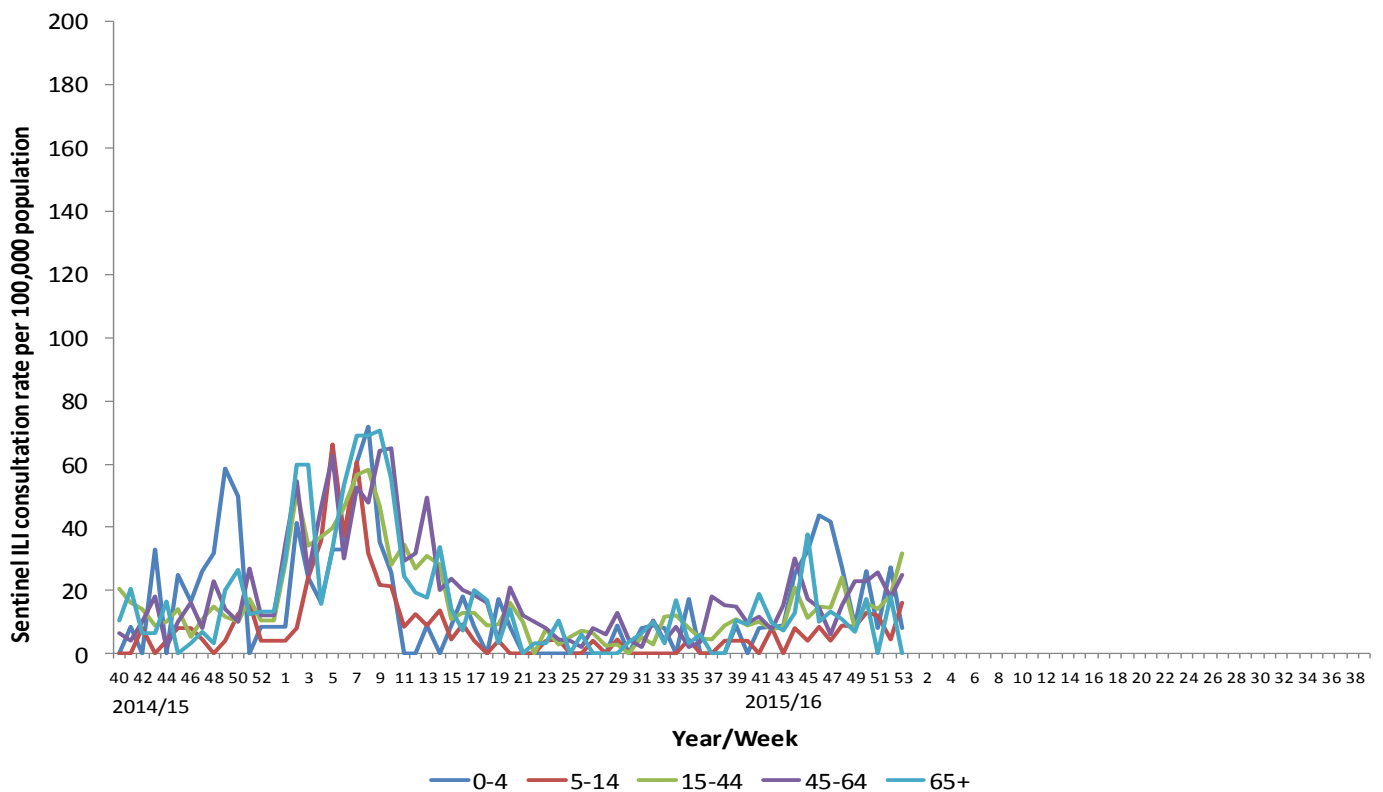


Comment

GP consultation rates have steadily increased across the two-week period, increasing from 14.3 per 100,000 population in week 51 to 17.0 per 100,000 in week 52 and further to 21.5 per 100,000 population in week 53. In week 53, the GP consultation rate is the higher than noted during the previous two seasons.

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 weeks 52 - 53, GP consultations have fluctuated but remained relatively low in most age groups. Small numbers contributed to fluctuations throughout the two week period.

In week 52, consultation rates increased among the 0-4, 15-44 and 65 years and over age groups, while a decrease was noted among those aged 5-14 and 45-64 years.

In week 53, consultation rates increased in the 5-14, 15-44 and 45-64 years age groups in comparison with the previous week, while rates among those aged 0-4 years and 65 years and over decreased. The highest consultation rate in week 53 was noted in those aged 15-44 years at 31.69 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

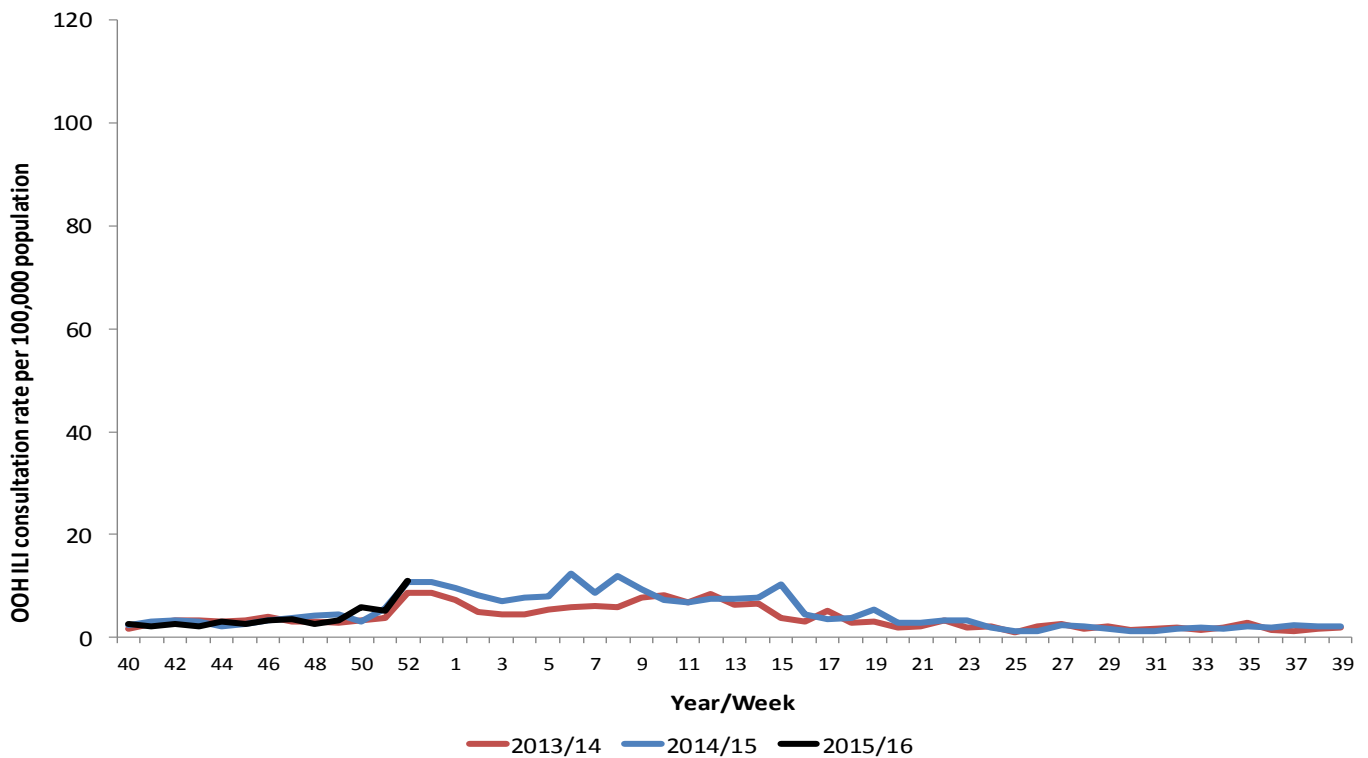
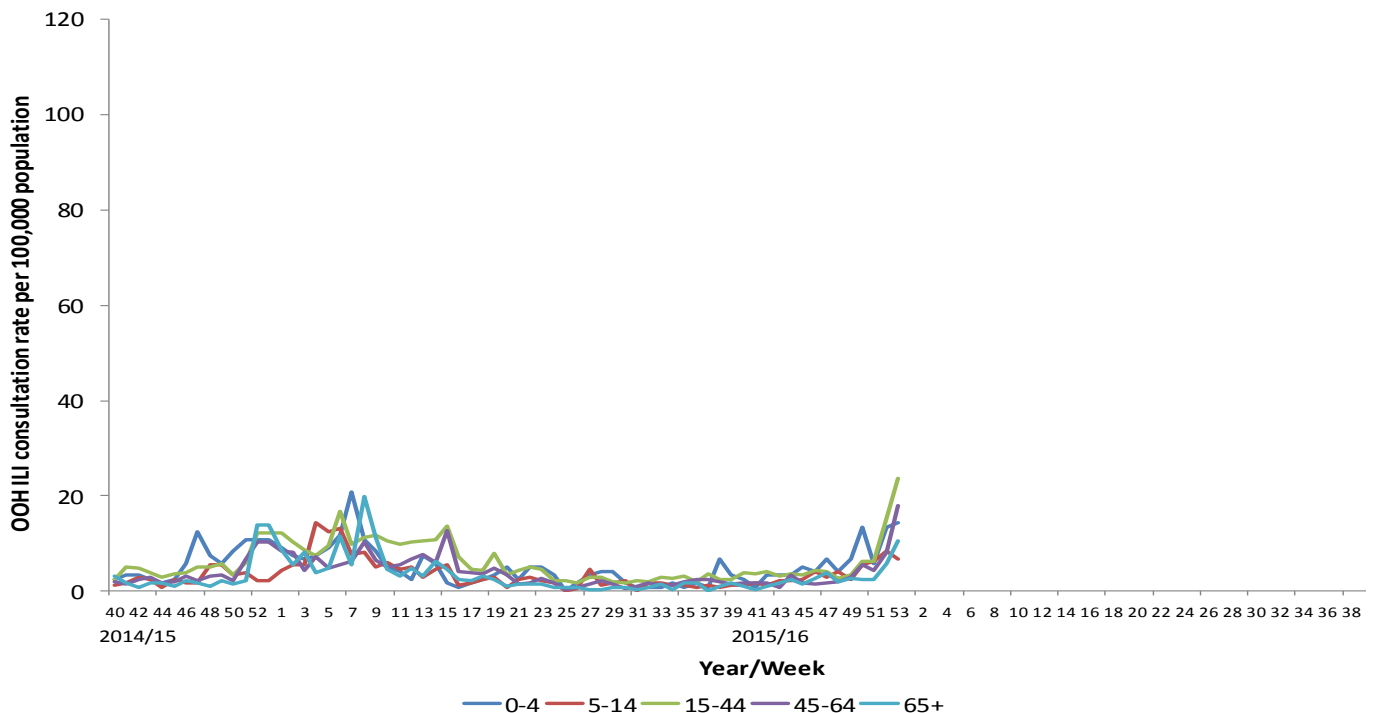


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2014



Comment

During weeks 52 - 53, the OOH GP consultation rate for flu/FLI has steadily increased and is the highest reported this season to date at 11.1 per 100,000 in week 52 and 17.6 per 100,000 in week 53, compared to 5.2 per 100,000 in week 51. Increases may be partly due to GP closures during the holiday period. In week 53, the OOH GP consultation rate is the highest reported since the same period in 2012/13.

The proportion of calls related to flu represents 1.6% of total calls to the OOH service.

OOH flu/FLI rates have increased in almost all age groups, with the exception of the 5-14 years age group. Age specific-rates are slightly higher than during the same period in 2013/14 and 2014/15. In week 52, rates increased in all age groups, while in week 53 rates further increased in all age groups except those 5-14 years which slightly decreased. The highest OOH flu/FLI rate in week 53 was in those aged 15-44 years at 23.7 per 100,000 population (Figures 5 and 6).

Virology Data

Table 1. Virus activity in Northern Ireland, Week 52 - 53, 2015/16

| Source | Specimens Tested | Flu AH3 | Flu A(H1N1) 2009 | A (untyped) | Flu B | RSV | Total influenza Positive | % Influenza Positive |
|--------------|------------------|----------|------------------|-------------|----------|-----------|--------------------------|----------------------|
| Sentinel | 8 | 0 | 3 | 0 | 1 | 2 | 4 | 50% |
| Non-sentinel | 257 | 0 | 28 | 18 | 0 | 40 | 46 | 18% |
| Total | 265 | 0 | 31 | 18 | 1 | 42 | 50 | 19% |

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 53, 2015/16

| | Flu AH3 | Flu A(H1N1) 2009 | A (untyped) | Flu B | Total Influenza | RSV |
|-----------------|----------|------------------|-------------|----------|-----------------|------------|
| 0-4 | 0 | 13 | 1 | 2 | 16 | 354 |
| 5-14 | 0 | 4 | 0 | 0 | 4 | 14 |
| 15-64 | 0 | 37 | 17 | 1 | 55 | 43 |
| 65+ | 4 | 9 | 9 | 0 | 22 | 42 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 |
| All ages | 4 | 63 | 27 | 3 | 97 | 453 |

Table 3. Cumulative virus activity, Week 40 - Week 53, 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 | 13 | 1 | 2 | 16 | 353 |
| 5-14 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 4 | 13 |
| 15-64 | 0 | 4 | 1 | 1 | 6 | 5 | 0 | 33 | 16 | 0 | 49 | 38 |
| 65+ | 0 | 0 | 1 | 0 | 1 | 0 | 4 | 9 | 8 | 0 | 21 | 42 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| All ages | 0 | 4 | 2 | 1 | 7 | 7 | 4 | 59 | 25 | 2 | 90 | 446 |

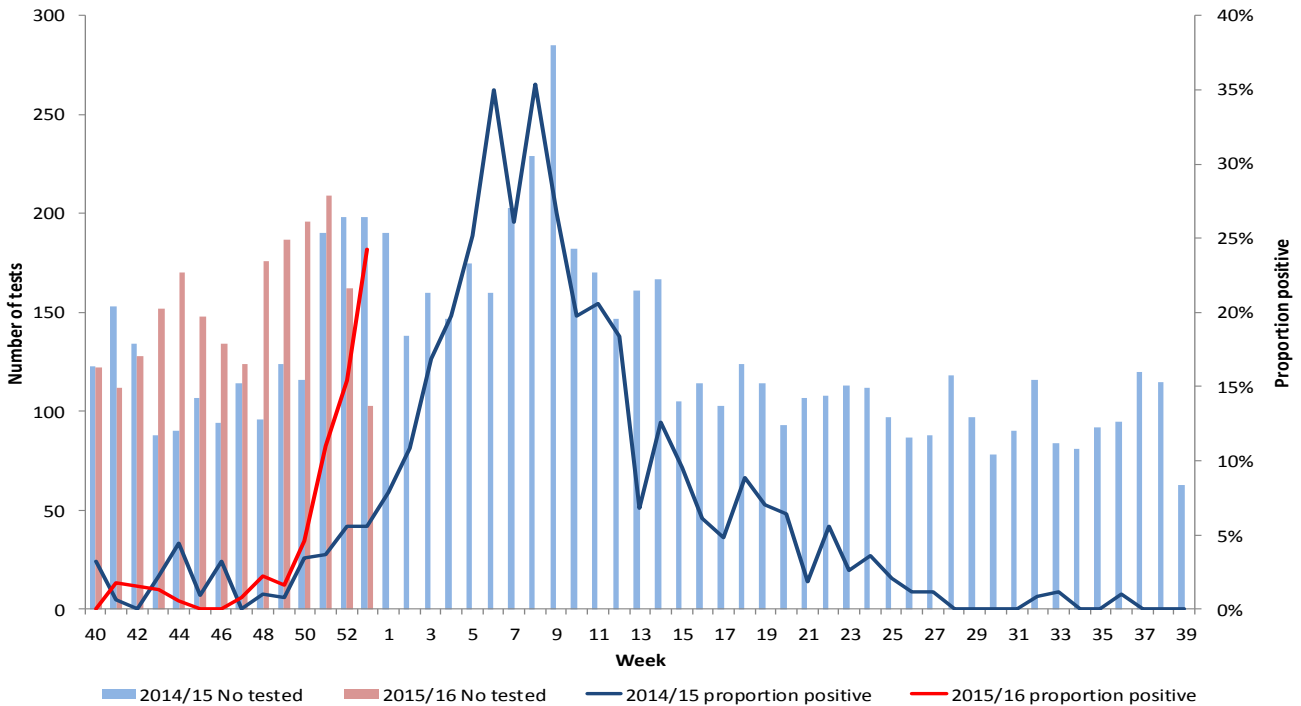
Note

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

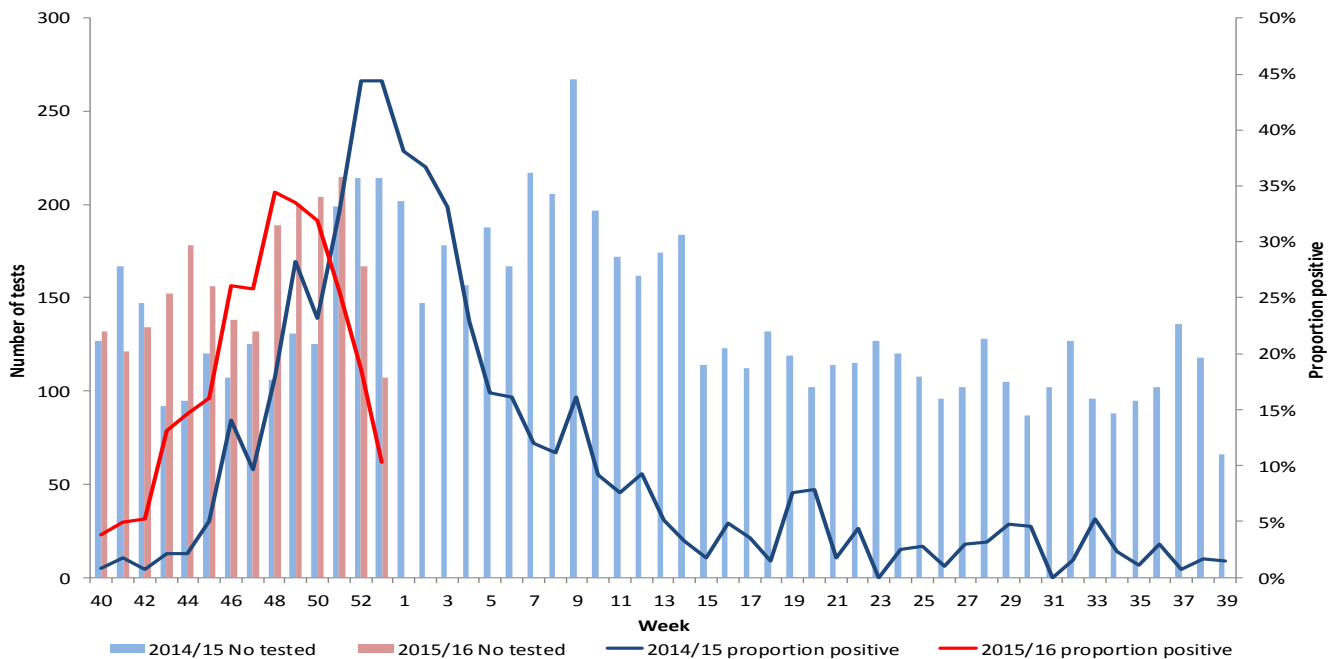
During weeks 52 - 53, 265 specimens were submitted for virological testing. There were 50 (19%) detections of influenza - 31 influenza A(H1N1)pdm09, 1 influenza B and 18 influenza A (typing awaited). Overall this season, there have been 97 detections of influenza reported, more than in the same period in the 2013/14 (n=15) and 2014/15 (n=54). The positivity rate for influenza has increased in weeks 52 and 53 (15% and 24% respectively) (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 weeks 52 - 53, there were 42 RSV positive detections. Positivity rates have continued to decrease from 26% in week 51, to 19% in week 52 and 10% in week 53. RSV positivity rates are lower than detected during the same period last year. Overall this season there have been 453 detections of RSV, of which the majority (78%) were in those aged 0-4 years (Figure 8 and table 2).

Influenza Vaccine Uptake

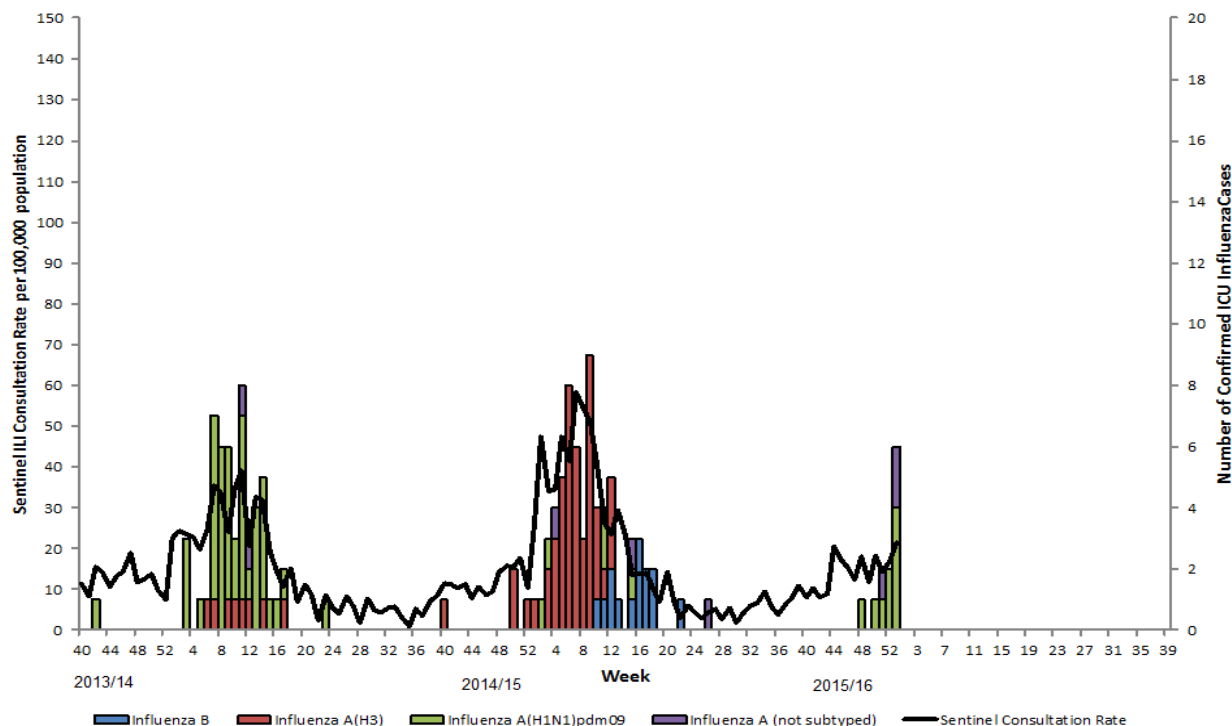
Up to 30th November 2015, provisional data suggests that vaccine uptake for those aged 65 years and over is 67.6%, similar to the same period in 2014; while 48.8% of those under 65 and in an at risk group received the vaccine, lower than in 2014 when 51.4% received the vaccine during the same period.

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 weeks 52 - 53, there were eight admissions to ICU confirmed with influenza A (typing awaited). There have been a total of 12 admissions to ICU with confirmed influenza reported this season to date, of which 9 have been confirmed as influenza A (H1N1)pdm09 and 3 as influenza A untyped (typing awaited) (Figure 9).

Up to week 53, 2015, of the 12 ICU patients with confirmed influenza 8 had co-morbidities. Provisional data shows that 6 of the 12 cases met the criteria for influenza vaccine and 2 had received it.

There were 2 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.

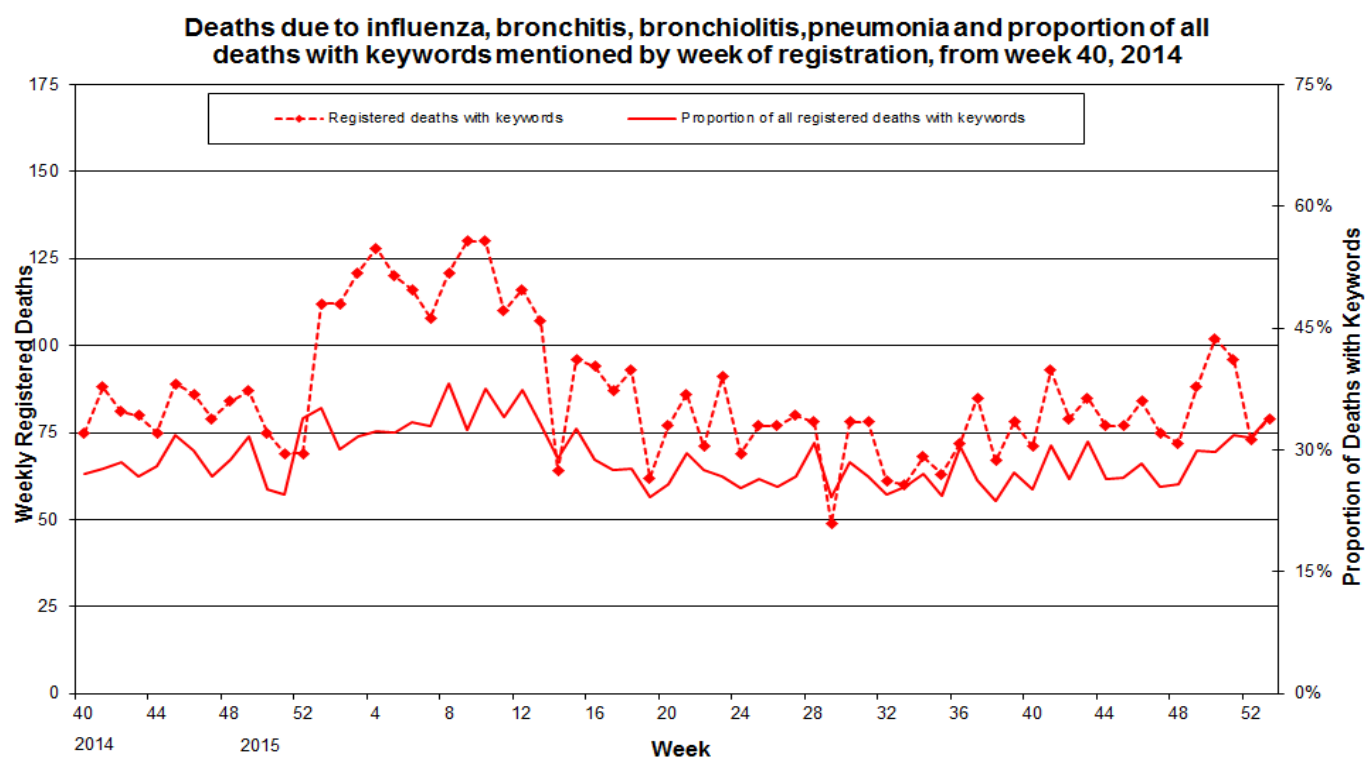
Outbreak Surveillance

During weeks 52 - 53, 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



International Summary

Europe

Week 52, 2015:

- Influenza activity remained low in most countries in the WHO European Region.
- The proportion of influenza virus-positive sentinel surveillance specimens increased to 17% from 11% the previous week.
- Detections of A(H1N1)pdm09, A(H3N2) and type B influenza viruses among sentinel surveillance specimens were reported by 14 countries.

Season:

- For the first time since week 40/2015, the proportion of influenza virus-positive sentinel surveillance specimens was over 10% for two consecutive weeks, confirming the start of the influenza season in week 51/2015.
- The increase since week 49/2015 in virus detections among sentinel and non-sentinel patients with respiratory disease is due largely to A(H1N1)pdm09 viruses, representing 84% of subtyped type A viruses. Influenza type B viruses of the Victoria lineage were detected more frequently (75%) than those of the Yamagata lineage (25%). 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 28th 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.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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