

Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 17 - 18 (25 April 2016 – 08 May 2016)

Summary

In Northern Ireland, as of weeks 17 - 18 2016, the 2015/16 influenza season has seen low community influenza activity, low GP consultation rates, and seven influenza outbreaks. ICU admissions in weeks 17 and 18 are lower than weeks 17 and 18 2014/15 but higher than similar weeks in 2013/14; however the total number of ICU admissions this season to date is higher than in the previous two seasons. This year the predominant circulating influenza strain is influenza A (H1N1) pdm09. This strain first occurred in 2009, is of swine origin, and is sometimes referred to as 'swine flu'. It is now one of the annual circulating seasonal viruses and is contained in the 2015/16 vaccine.

In weeks 17 - 18, 2016:

- GP consultation rates for combined flu and flu-like illness (flu/FLI) have decreased over the two week period, from 15.6 per 100,000 population in week 16 to 13.3 in week 17 and 9.7 per 100,000 population in week 18 and remain below the 2015/16 pre-epidemic threshold¹
- OOH GP consultation rates for flu/FLI increased from 1.5 per 100,000 population in week 16 to 2.4 in week 17 and 4.8 per 100,000 population in week 18.
- RSV activity remains low with levels lower than the similar period last season
- One confirmed influenza outbreak was reported to the PHA
- The proportion of positive influenza detections remained at 9%
- Four admissions to ICU were reported with laboratory confirmed influenza
- One death was reported in an ICU patient with laboratory confirmed influenza
- No significant excess mortality was reported through the EuroMOMO algorithm

Introduction

Influenza activity in Northern Ireland is monitored throughout the year using a number of surveillance systems. The influenza season typically runs from week 40 to week 20. Week 40, 2015 commenced on 28th September 2015.

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);
- Influenza outbreak report notification to PHA Duty Room;
- Critical Care Network for Northern Ireland reports on critical care patients with confirmed influenza;
- 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;

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

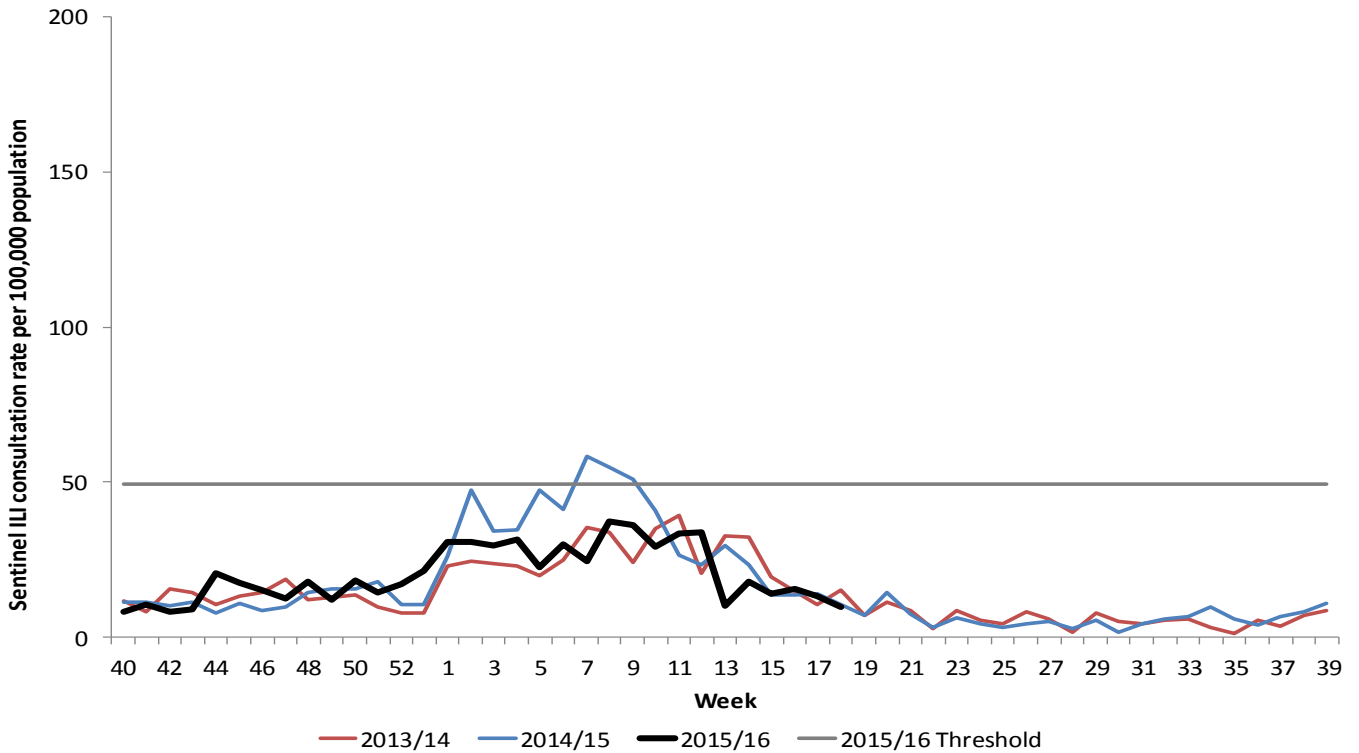


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2010/11 – 2015/16

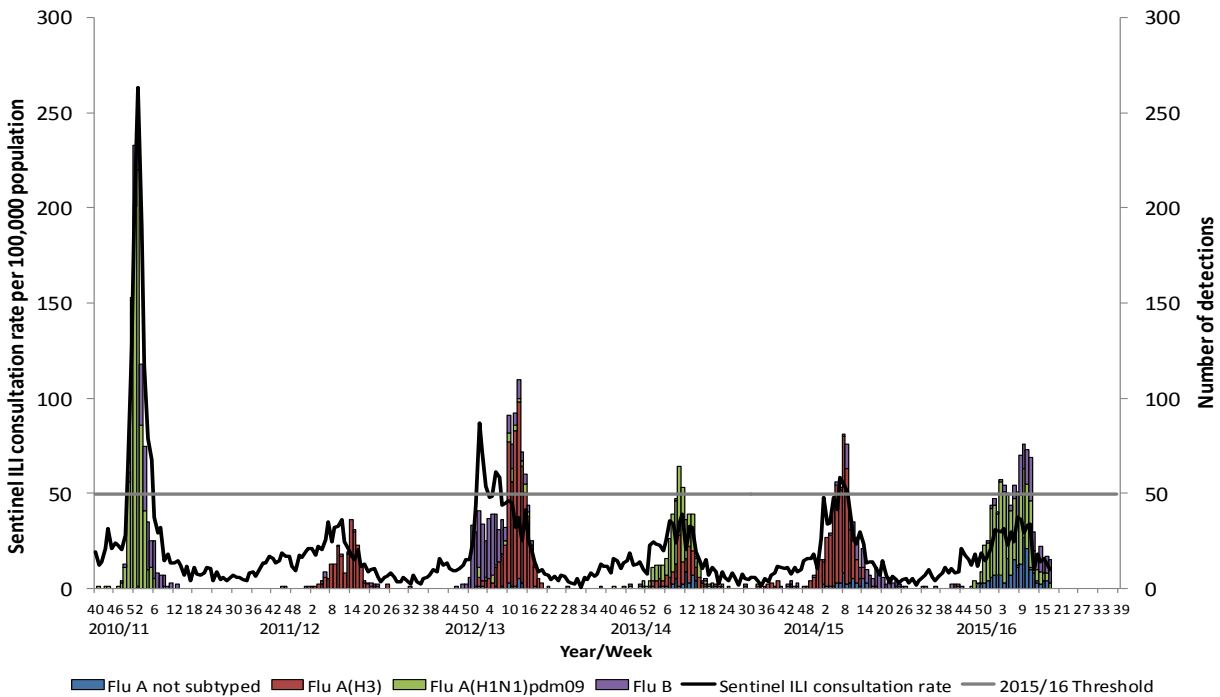
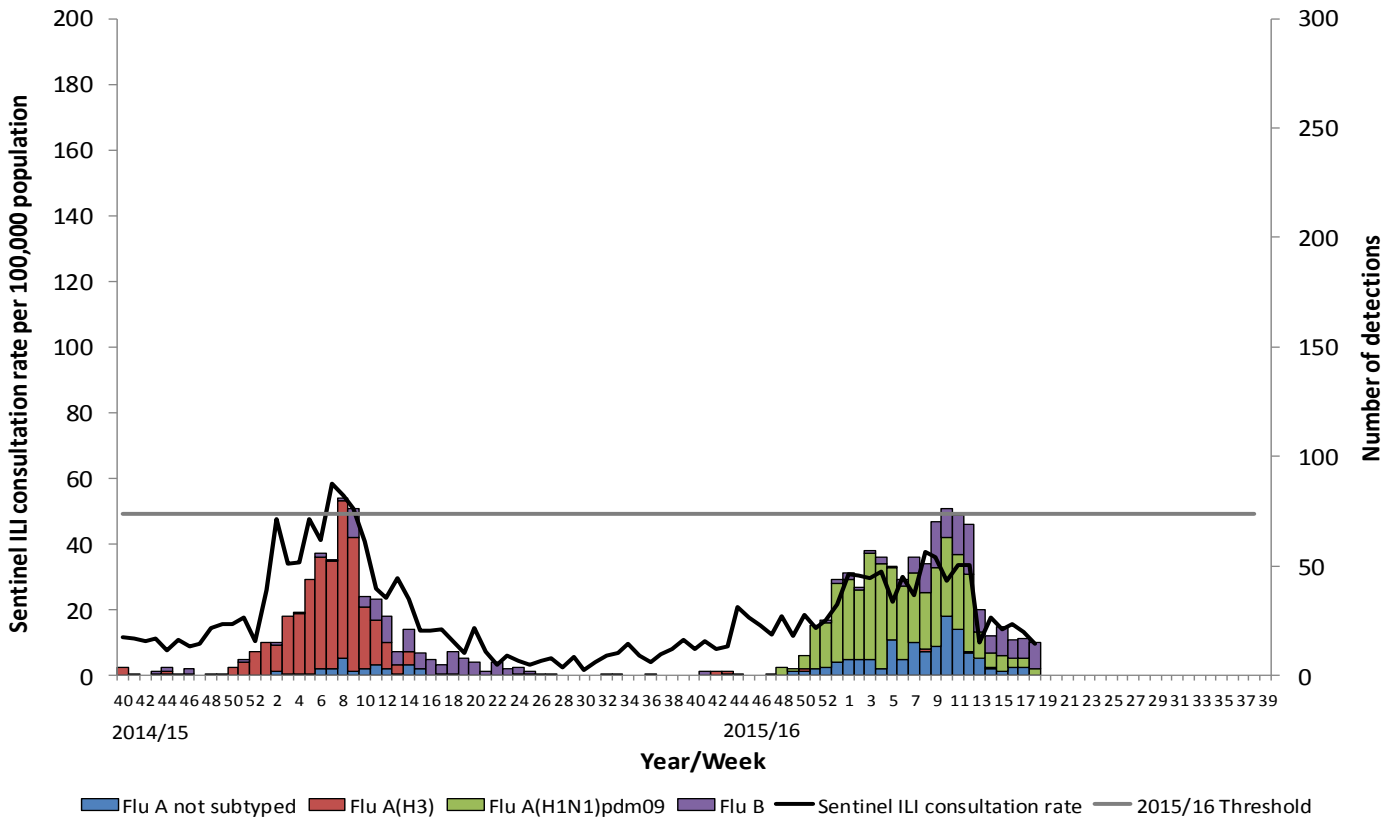


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2014

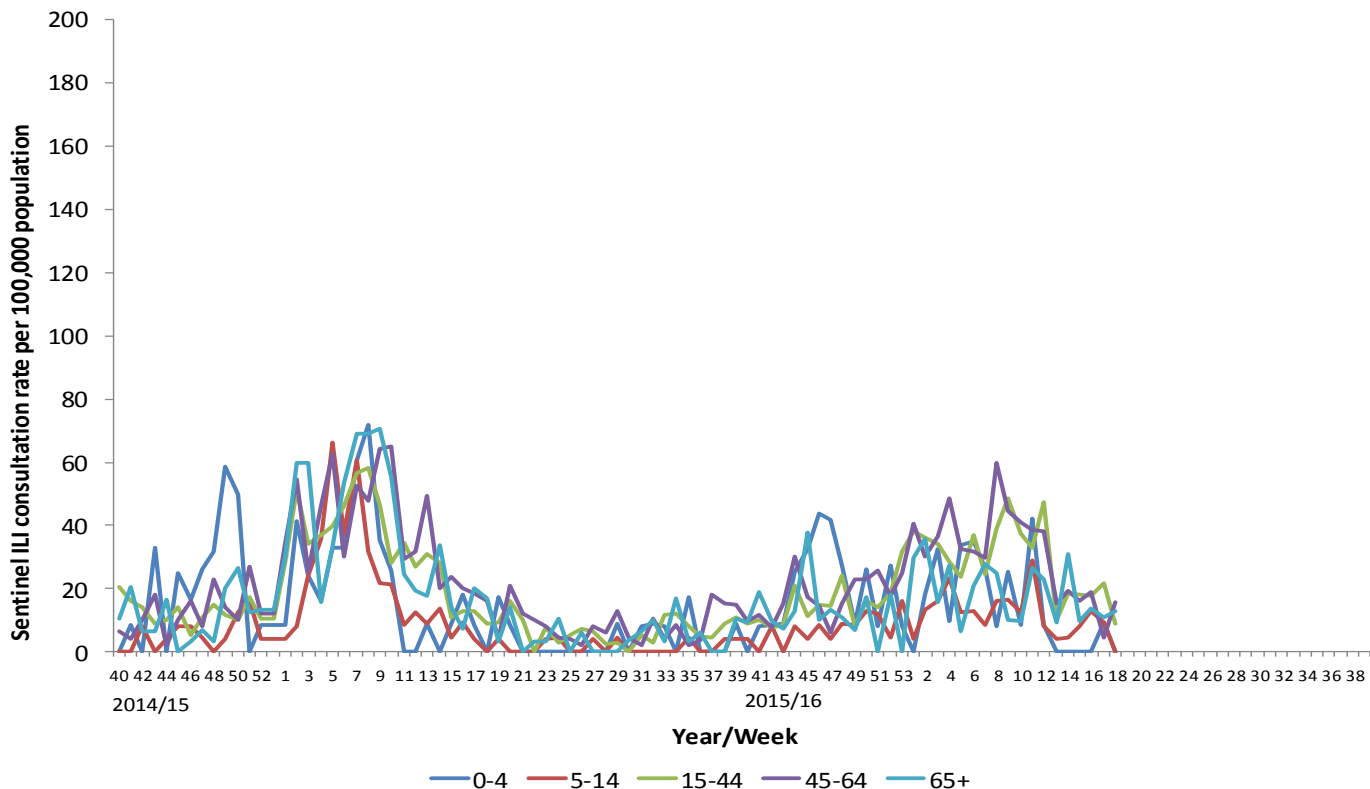


Comment

GP consultation rates have decreased over the two week period, from 15.6 per 100,000 population in week 16 to 13.3 in week 17 and 9.7 per 100,000 population in week 18. The GP consultation rates are similar to the same period in 2014/15 but slightly lower 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

Sentinel GP flu/FLI consultations decreased in most age groups during weeks 17 and 18 compared with week 16, 2016. In week 17 the highest age-specific consultation rate was in those aged 15-44 years at 21.9 per 100,000 population. In week 18 consultations for flu/FLI were highest in those aged 45-64 years at 15.8 per 100,000 population.

Age-specific consultation rates in the younger age groups in weeks 17 and 18, 2016 are marginally higher than similar weeks in 2014/15 but remain at low levels (Figure 4).

Out-of-Hours (OOH) Centres Call Data

Figure 5. OOH call rate for flu/FLI, 2013/14 – 2015/16

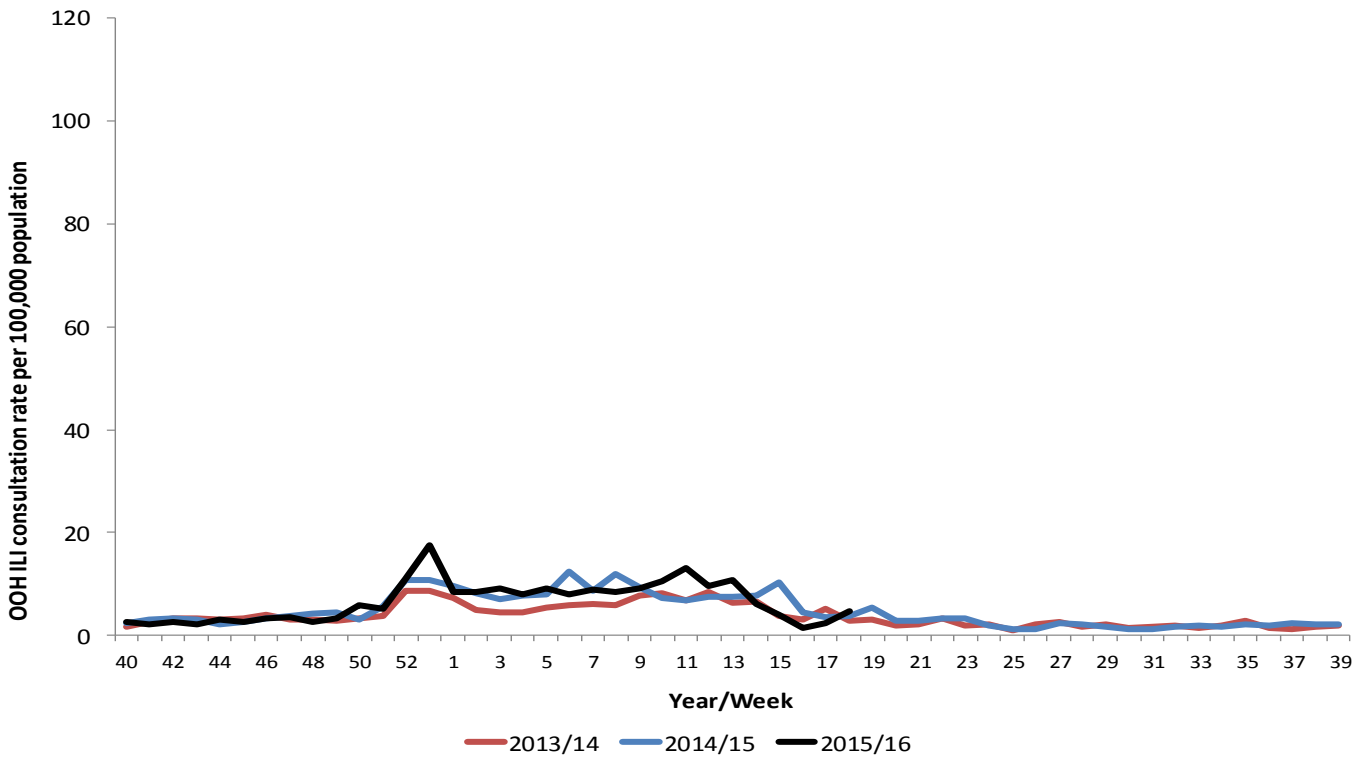
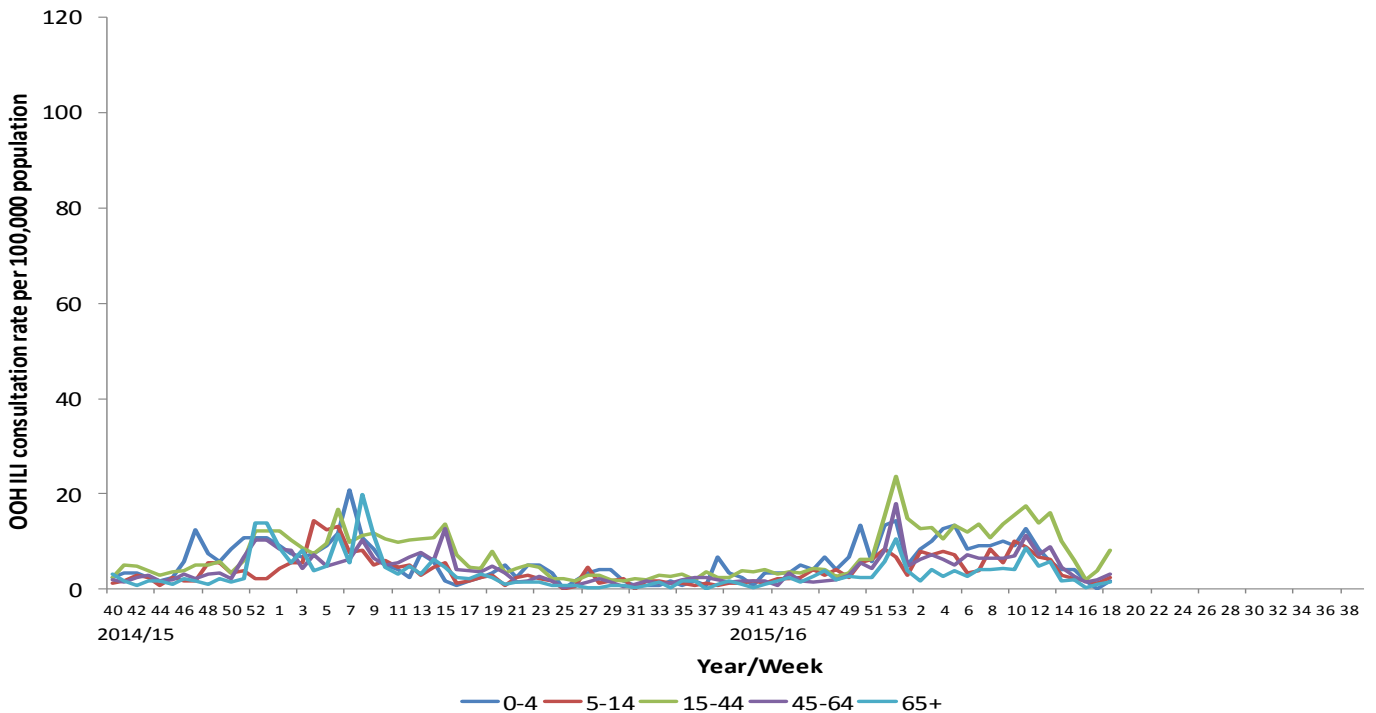


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2014



Comment

During weeks 17 and 18, 2016 the OOH GP consultation rates increased from 1.5 per 100,000 population in week 16 to 2.4 in week 17 and 4.8 in week 18. The OOH GP consultation rate in week 18 is marginally higher than the same period in 2014/15 and 2013/14 (Figure 5). The proportion of calls related to flu continues to remain at less than 1% of total calls to the OOH service.

During weeks 17 and 18, OOH flu/FLI rates have increased among all age groups in comparison with week 16. The highest OOH flu/FLI rates in both weeks was again noted in those aged 15-44 years at 3.8 and 8.2 per 100,000 population, respectively (Figure 6). Age-specific rates are generally lower than noted during the same period in both 2014/15 and 2013/14.

Virology Data

Table 1. Virus activity in Northern Ireland, Week 17 - 18, 2015/16

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	12	0	0	1	4	0	5	42%
Non-sentinel	360	0	7	3	17	2	27	8%
Total	372	0	7	4	21	2	32	9%

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 18, 2015/16

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	77	12	22	111	430
5-14	0	24	4	12	40	17
15-64	2	339	112	102	555	79
65+	5	115	56	36	212	75
Unknown	0	1	0	0	1	0
All ages	7	556	184	172	919	601

Table 3. Cumulative virus activity, Week 40 - Week 18, 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	77	12	22	111	429
5-14	0	4	1	1	6	1	0	20	3	11	34	16
15-64	0	55	8	23	86	10	2	284	104	79	469	69
65+	0	2	2	2	6	1	5	113	54	34	206	74
Unknown	0	0	0	0	0	0	0	1	0	0	1	0
All ages	0	61	11	26	98	13	7	495	173	146	821	588

Note

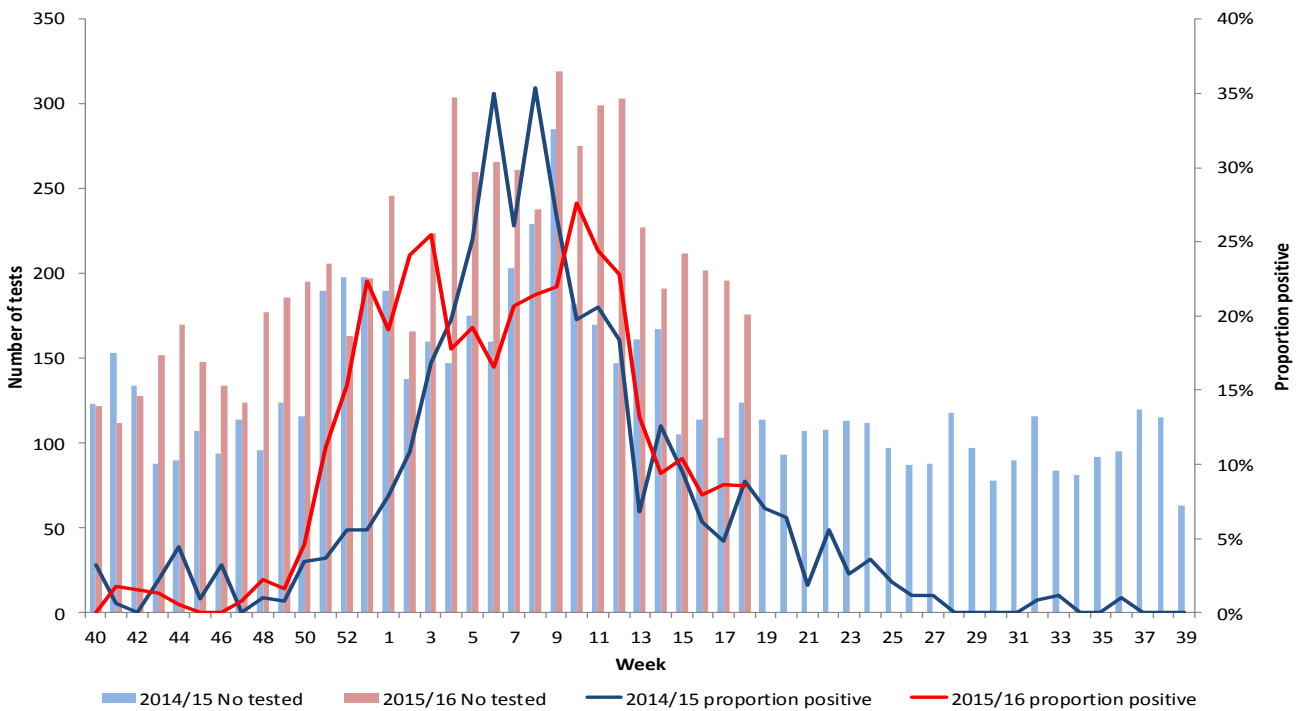
All virology data is provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available. Sentinel and non-sentinel 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 17 and 18, 2016 there were 372 specimens submitted for virological testing. There were 32 detections of influenza (positivity rate of 9%) - 21 were typed as influenza B, 7 as influenza A(H1N1)pdm09 and 4 as influenza A (typing awaited). The positivity rate for influenza has increased slightly from 8% in week 16 (Figure 7).

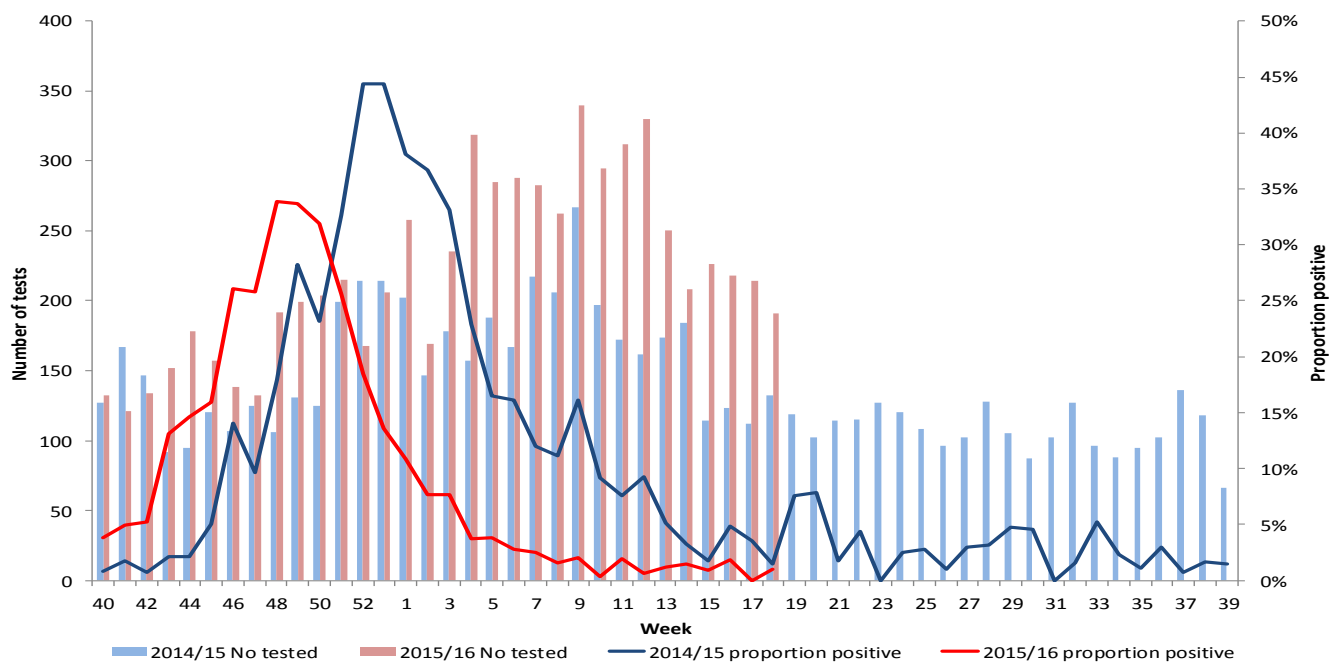
Overall this season, there have been 919 detections of influenza reported, more than in the same period in 2014/15 (n=590) (Tables 1, 2, and 3).

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 17 and 18, there were two positive detections of RSV. Positivity rates remain low at 1% are lower than the same period in 2014/15. Overall this season there have been 601 detections of RSV, of which the majority (73%) were in those aged 0-4 years (Figure 8 and Table 2).

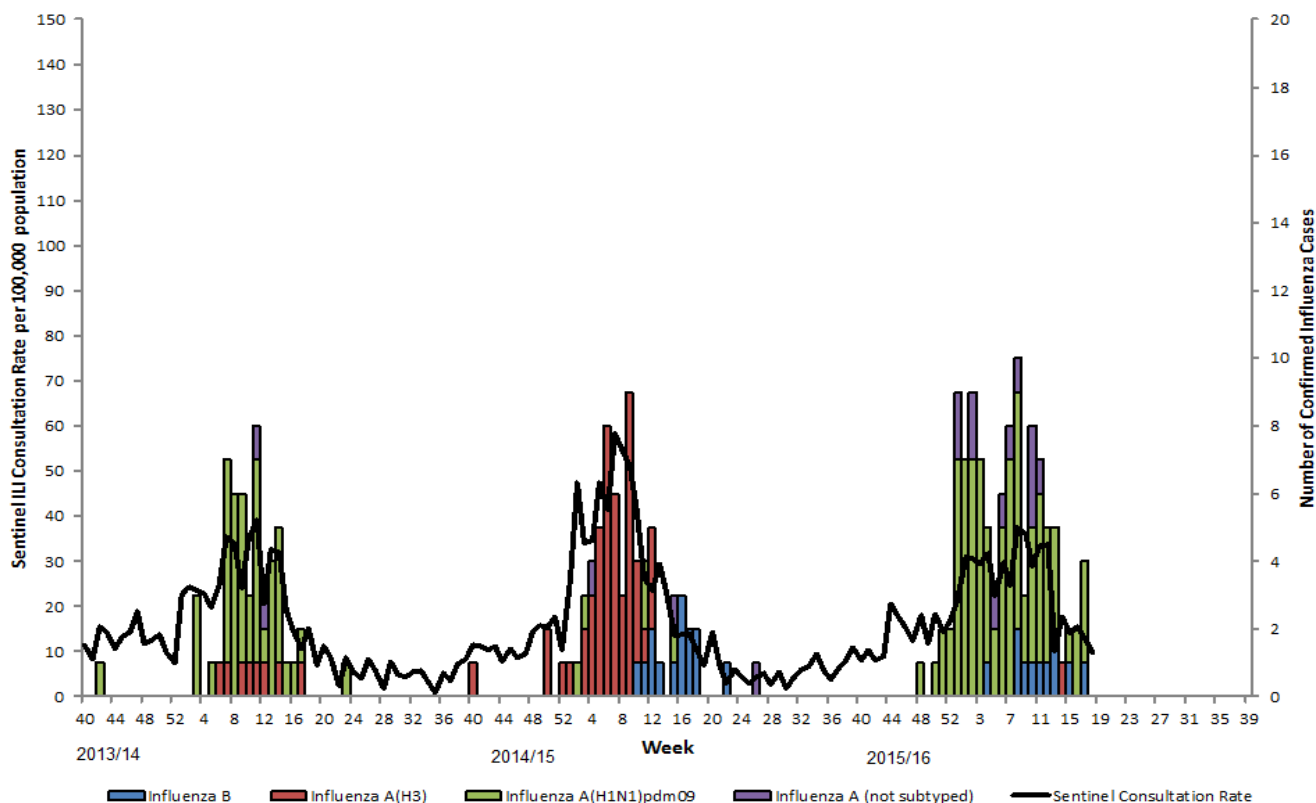
Influenza Vaccine Uptake

The most recent provisional data suggest that vaccine uptake for those aged 65 years and over is 68.9%, lower than the same period in 2014/15; while 53.2% of those under 65 and in an at risk group received the vaccine, lower than in 2014/15 when 69.0% 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 2014/15 during the same period. Uptake among children in primary school is 76.5%, slightly lower than in 2014/15.

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 17 and 18, there were four admissions to ICU confirmed with influenza reported to the PHA; 3 as A (H1N1)pdm09 and 1 as influenza B..

Overall, there have been 107 admissions to ICU with confirmed influenza reported this season, of which 83 have been confirmed as influenza A (H1N1)pdm09, 1 as influenza A(H3), 12 as influenza A untyped (typing awaited) and 11 as influenza B (Figure 9).

Up to week 18 2016, 66 of the 107 ICU patients with confirmed influenza had co-morbidities. Provisional data show that 65 of the 107 (61%) cases met the criteria for influenza vaccination and only 23 of these individuals had received the vaccination (35%) (Table 4).

There was one death in an ICU patient with laboratory confirmed influenza reported since the last bulletin. To date, there have been 15 deaths in ICU patients with laboratory confirmed influenza.

Table 4. Flu Confirmed ICU Cases in Northern Ireland, Week 40 - 18, 2015/16

Age Group	No of patients	Flu vaccine eligibility group*	Vaccinated	Flu A(H1N1)pdm09	Flu A(H3)	Flu A(untyped)	Flu B
0 - 4	17	8	1	13	0	1	3
5-14	3	3	0	3	0	0	0
15-44	27	13	4	24	0	1	2
45-64	41	22	6	31	0	9	1
65+	19	19	12	12	1	1	5
All	107	65	23	83	1	12	11

*Includes all children aged 2-4 and those in primary school, people aged under 65 in an at risk group, and all those aged 65 years and over.

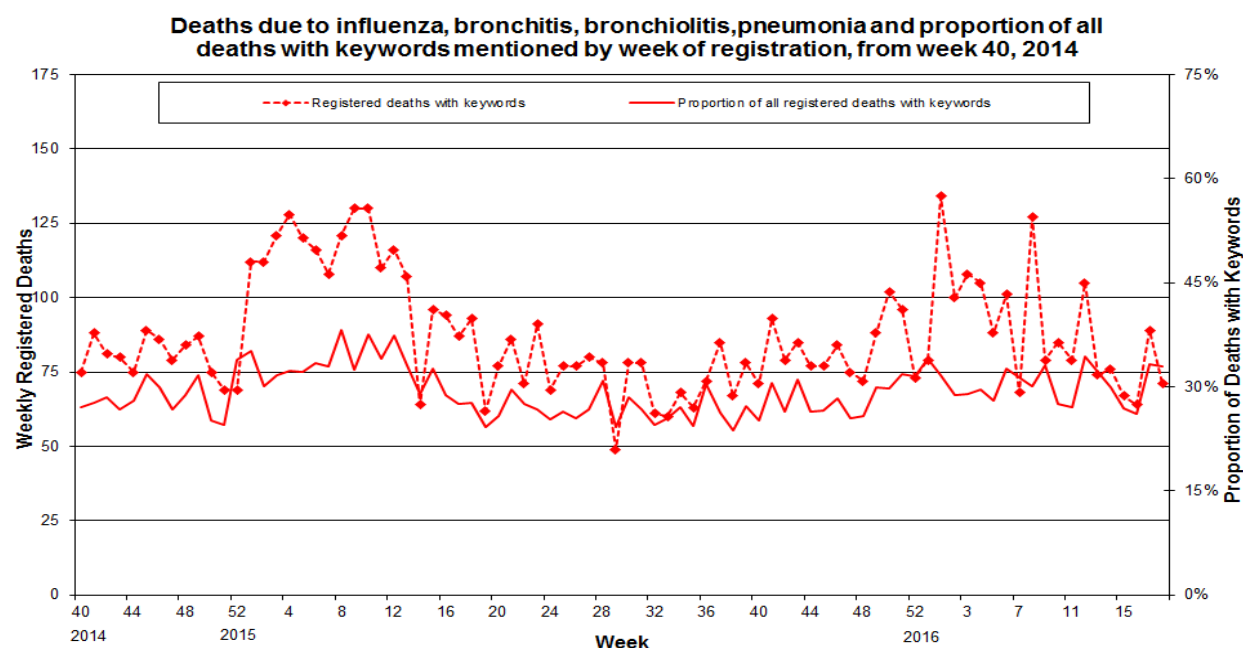
Outbreak Surveillance

During weeks 17 and 18, 2016 there was one report of a confirmed influenza A (H1N1)pdm09 outbreak to the PHA. There have been a total of seven confirmed influenza outbreaks reported to the PHA this season to date; six influenza A(H1N1)pdm09 and one 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 weeks 17, the proportion of registered deaths from specific respiratory infections increased to 33% from 26% in week 16. In week 18 the proportion remained stable at 33% (Figure 9).

In week 18 there were 216 registered deaths, of which 71 related to specific respiratory infections (33%). The proportion of deaths attributed to specific respiratory infections is higher at this point in the season than in 2014/15 but similar to 2013/14.

EuroMOMO

No significant excess all-cause mortality was reported for weeks 17 and 18 in Northern Ireland. To date, excess all-cause mortality had been reported in three weeks of the current influenza season (weeks 49, 52 and 53).

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

International Summary

Europe

Week 17, 2016

- Influenza activity continued to decrease in the WHO European Region. Most countries (92%) reported low intensity, with lower numbers of specimens being collected and fewer testing positive for influenza virus (14%) than in the previous week (22%).
- As is often seen late in the northern hemisphere's influenza season, a shift towards circulation of type B influenza virus has occurred. Type B accounted for 85% of detections in sentinel sources and 76% in non-sentinel sources.
- Fewer cases of severe disease were reported than in previous weeks, although numbers varied between countries. Most severe cases were associated with A(H1N1)pdm09 infection and were in people aged 15–64 years.

Season

- This season, influenza A(H1N1)pdm09 viruses have predominated in most countries in the Region, although type B has dominated since week 9/2016 in specimens from primary care surveillance.
- Influenza activity, based on laboratory-confirmed mild and severe cases in sentinel and non-sentinel sources, peaked in weeks 05–07/2016. The countries first affected were in general located in the eastern part of the Region.
- Data from the 18 countries or regions reporting to the European monitoring of excess mortality for public health action (EuroMOMO) project suggested a pattern of excess all-cause mortality among those aged 15–64 years between the end of 2015 and week 14/2016. This may have been associated with influenza, as well as other factors. The level of excess all-cause mortality was similar to that of the 2012–2013 winter season and slightly lower than that of the 2014–2015 winter season.
- Most of the viruses genetically characterized so far have been similar to those recommended for inclusion in the trivalent or quadrivalent vaccines for the 2015–2016 influenza season in the northern hemisphere.

- The vast majority of the viruses genetically and/or phenotypically characterized so far shows no indications of reduced susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir.
- Recommendations on the composition of the seasonal influenza [vaccines](#) for the 2016–2017 season in the northern hemisphere call for replacement of the A(H3N2) component with a more recent virus and inclusion of a B/Victoria-lineage virus in trivalent vaccines.
- Risk assessments for the season are available from the European Centre for Disease Prevention and Control ([ECDC](#)) and the [WHO Regional Office for Europe](#) websites.

Additional information on influenza in the world is available from WHO's global updates.

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

Worldwide (WHO) and CDC

As at 2nd May 2016:

Influenza activity in the Northern Hemisphere continued to decrease. A predominance of influenza B virus activity continued to be reported in parts of North America, in Northern Temperate Asia, South-East Asia and in parts of Europe. In a few countries in the Southern Hemisphere, slight increases in influenza-like illness (ILI) activity were reported.

- In North America, influenza activity continued to decrease with influenza A(H1N1)pdm09 and influenza B viruses co-circulating.
- Europe and Northern temperate Asia reported influenza activity decreased with a continued predominance of influenza B virus activity.
- In North Africa and West Africa, influenza activity continued to decrease, with influenza A virus predominant, while influenza activity remained low in the other regions in Africa.
- In Central America and the Caribbean countries, influenza activity in general was low. In Jamaica, severe acute respiratory infection (SARI) continued to decrease but remained elevated. In Guatemala and El Salvador, an increase in influenza activity was reported mainly due to influenza A(H1N1)pdm09 virus.
- In parts of tropical South America, low but increasing influenza A(H1N1)pdm09 activity was reported. In Brazil, influenza activity was already above expected levels for this time of year with influenza A(H1N1)pdm09 virus predominating. Respiratory syncytial virus (RSV) activity remained elevated in Colombia.
- In tropical countries of South Asia, influenza activity remained low.
- In Temperate South America, an increase in ILI and SARI activities were reported in Argentina and Paraguay.
- In the rest of the temperate countries of the Southern Hemisphere, influenza virus activity remained low.
- National Influenza Centres (NICs) and other national influenza laboratories from 90 countries, areas or territories reported data to FluNet for the time period from 04 April 2016 to 17 April 2016 (data as of 2016-04-29 03:39:10 UTC). The WHO GISRS laboratories tested more than 105838 specimens during that time period. 20933 were positive for influenza viruses, of which 9821 (46.9%) were typed as influenza A and 11112 (53.1%) as influenza B. Of the sub-typed influenza A viruses, 3758 (84.8%) were influenza A(H1N1)pdm09 and 673 (15.2%) were influenza A(H3N2). Of the characterized B viruses, 481 (17.7%) belonged to the B-Yamagata lineage and 2231 (82.3%) 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 continues in 2015/16. 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:

Chris Nugent
Surveillance Officer
Public Health Agency
028 9536 3407

Dr Naomh Gallagher
Senior Epidemiological Scientist
Public Health Agency
028 9536 3498

Email: flusurveillance@hscni.net

This report was compiled by Cathriona Kearns, Dr Naomh Gallagher and Dr Jillian Johnston.