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Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 3 (18 January 2016 – 24 January 2016)

Summary

- Influenza GP consultations have remained stable while the proportion of positive influenza virological detections in Northern Ireland have slightly decreased.
- GP consultation rates for combined flu and flu-like illness (flu/FLI) remain below the 2015/16 pre-epidemic Northern Ireland threshold[1] at 29.5 per 100,000 population in week 3, 2016.
- The OOH consultation rate for flu/FLI has increased to 9.2 per 100,000 population overall, and also increased in some age groups.
- RSV activity has further decreased in week 3 and is lower than the same period during last season.
- There were seven admissions to ICU with confirmed influenza reported in week 3, 2016.
- There were no deaths in ICU patients with laboratory confirmed influenza reported in week 3, 2016.
- In week 3, 2016 significant all-cause excess mortality was reported through the EuroMOMO algorithm.
- There were two confirmed influenza outbreaks reported to the PHA in week 3, 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

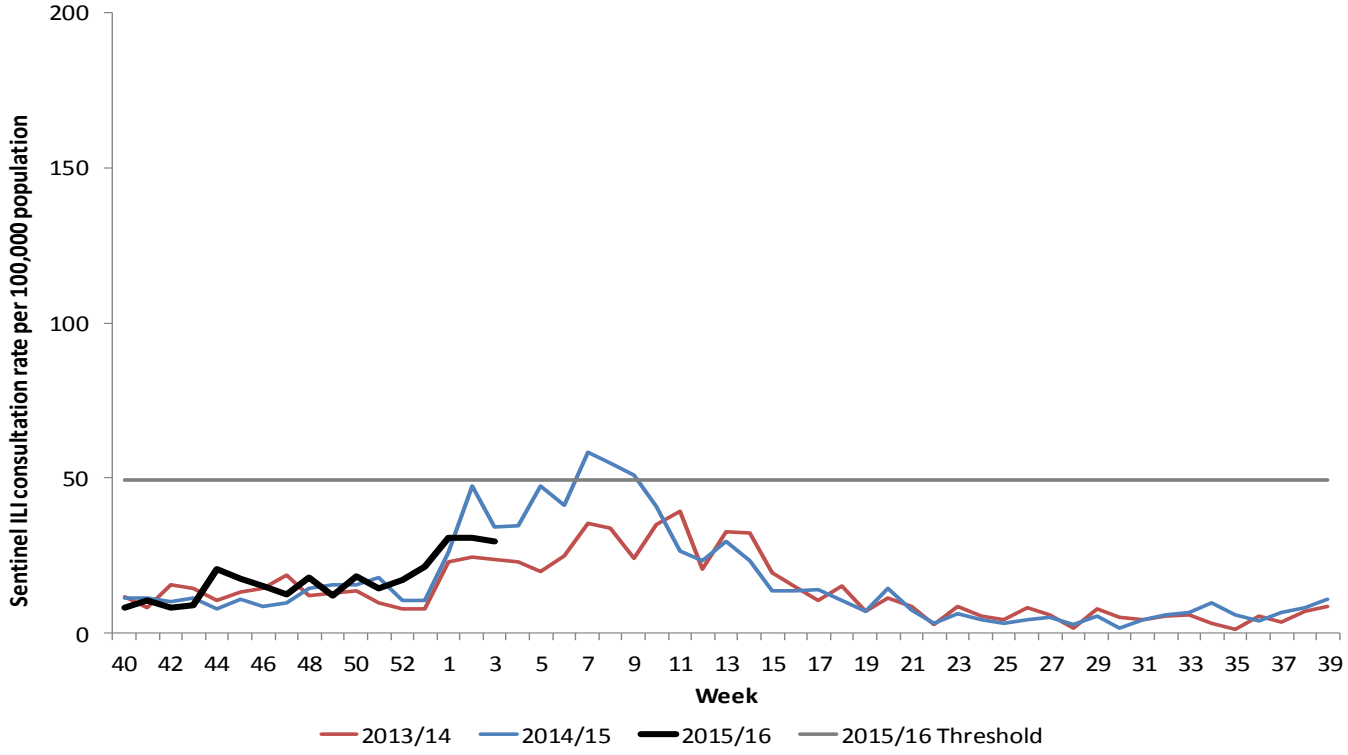


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2010/11 – 2015/16

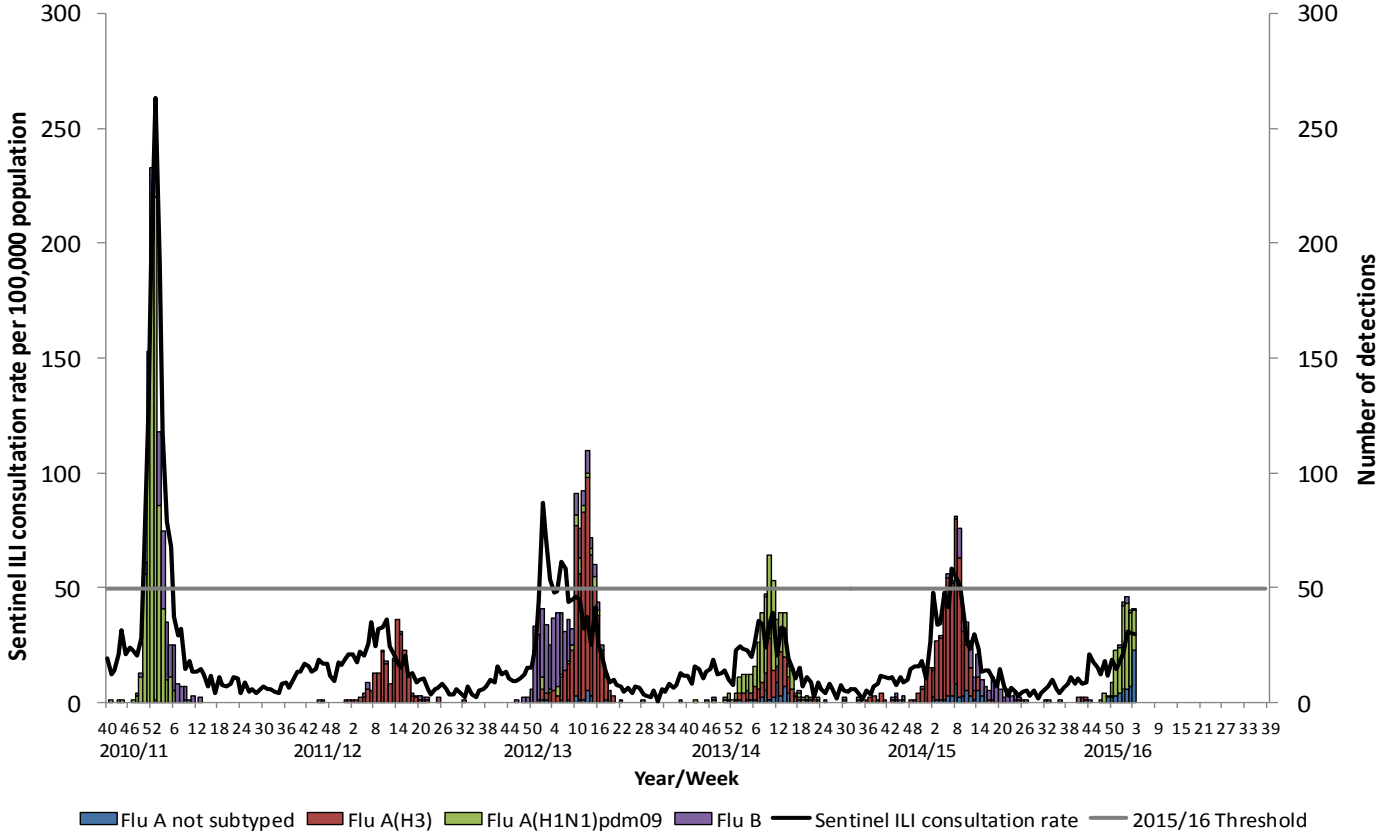
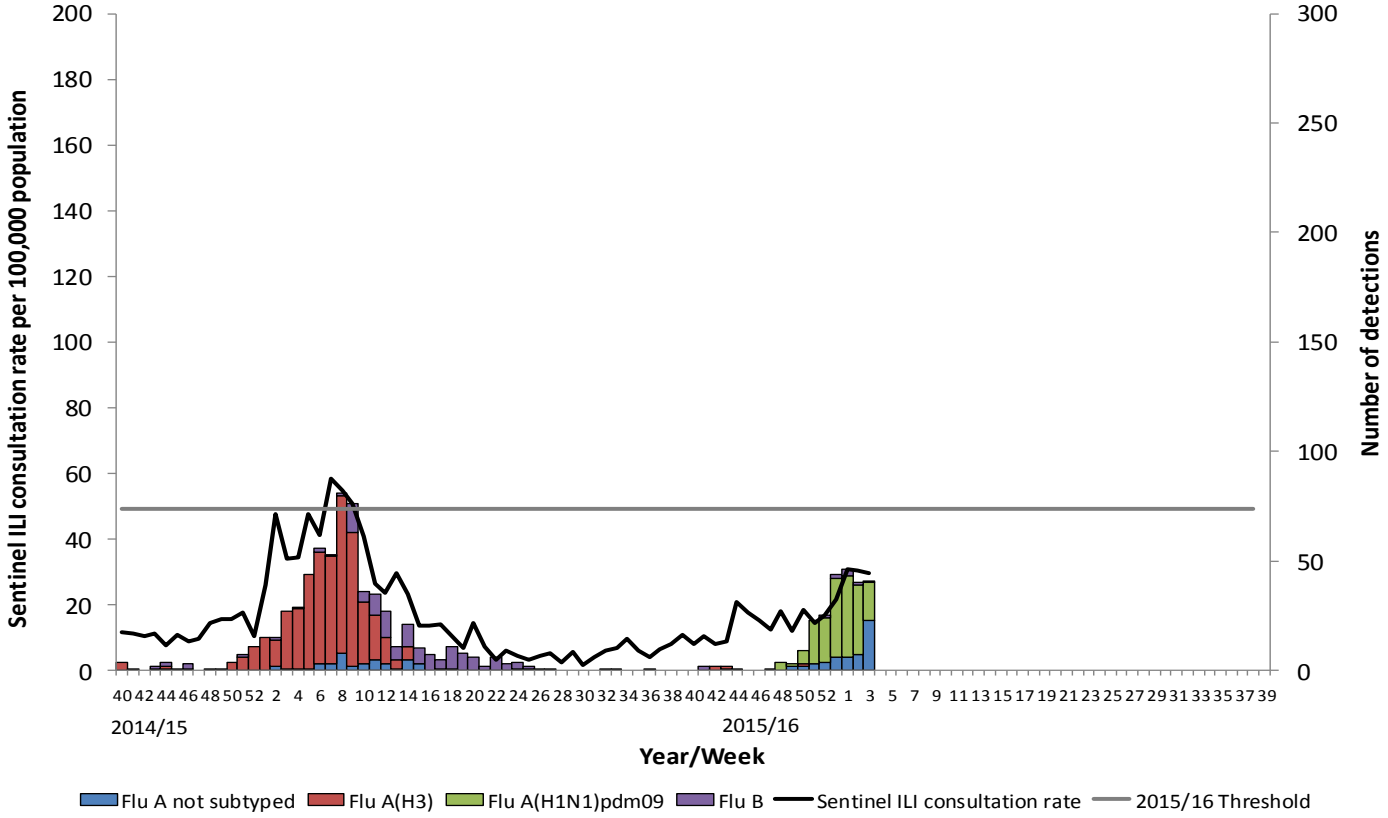


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2014

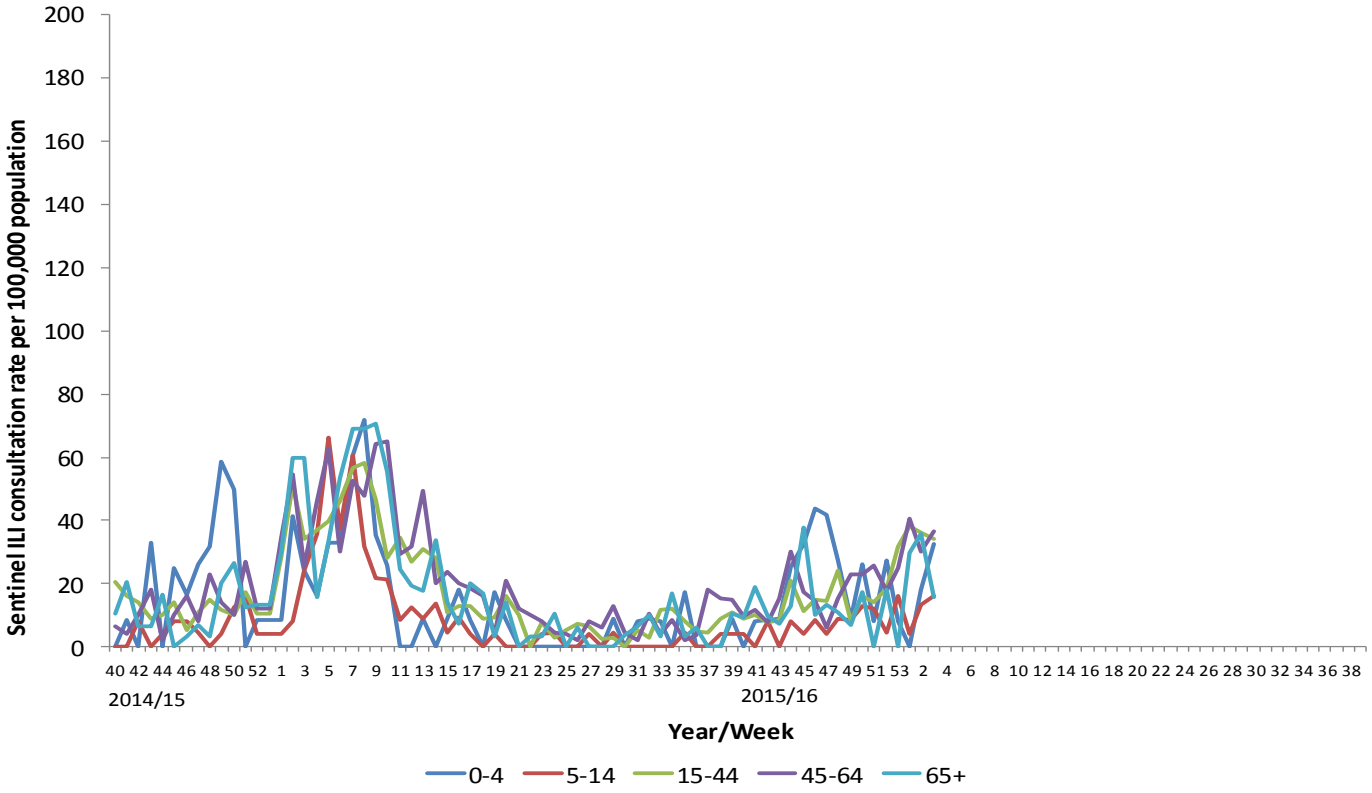


Comment

GP consultation rates have remained fairly stable in week 3, 2016 at 29.5 per 100,000 population compared with 30.5 per 100,000 in week 2. 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 3 2016, GP consultation rates increased among the 0-4, 5-14 and 45-64 years and age groups in comparison with the previous week, while rates among those aged 15-44 and 65 years and over decreased.

The highest consultation rate in week 3 was noted in those aged 45-64 years at 36.7 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

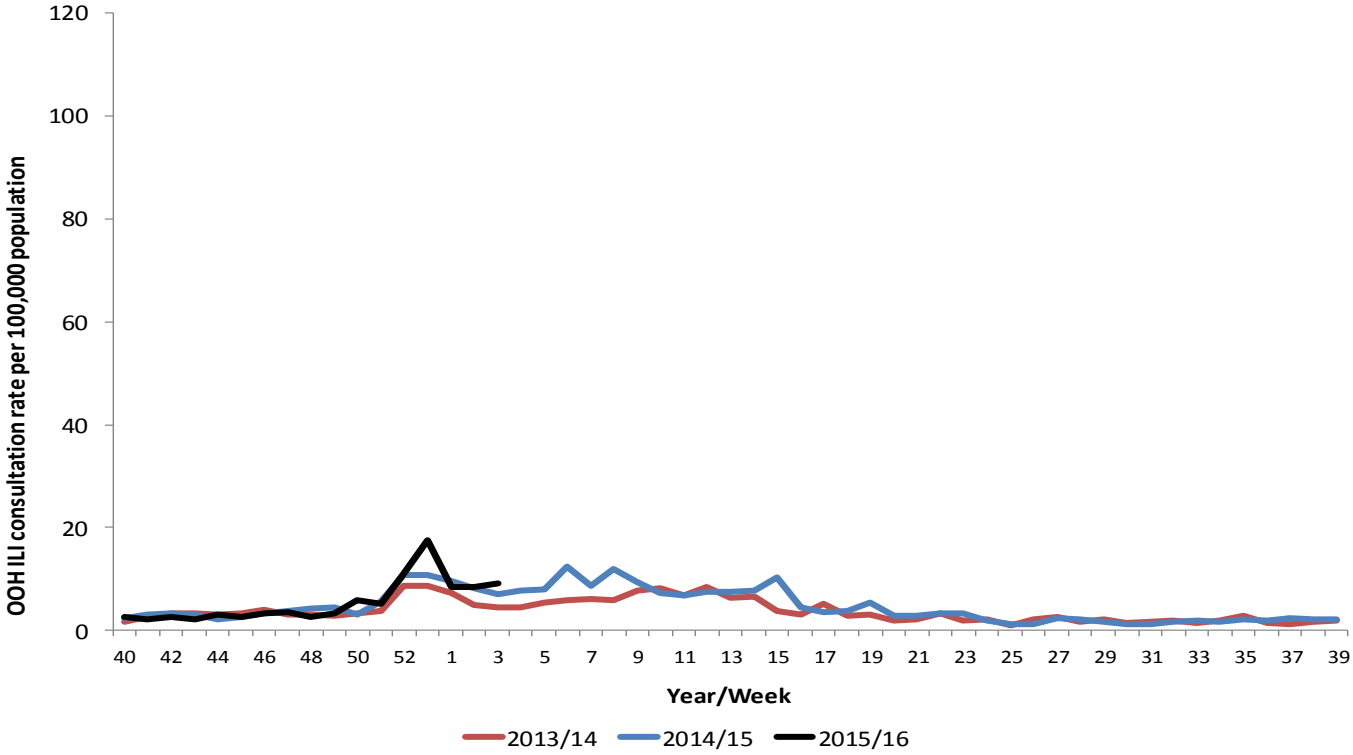
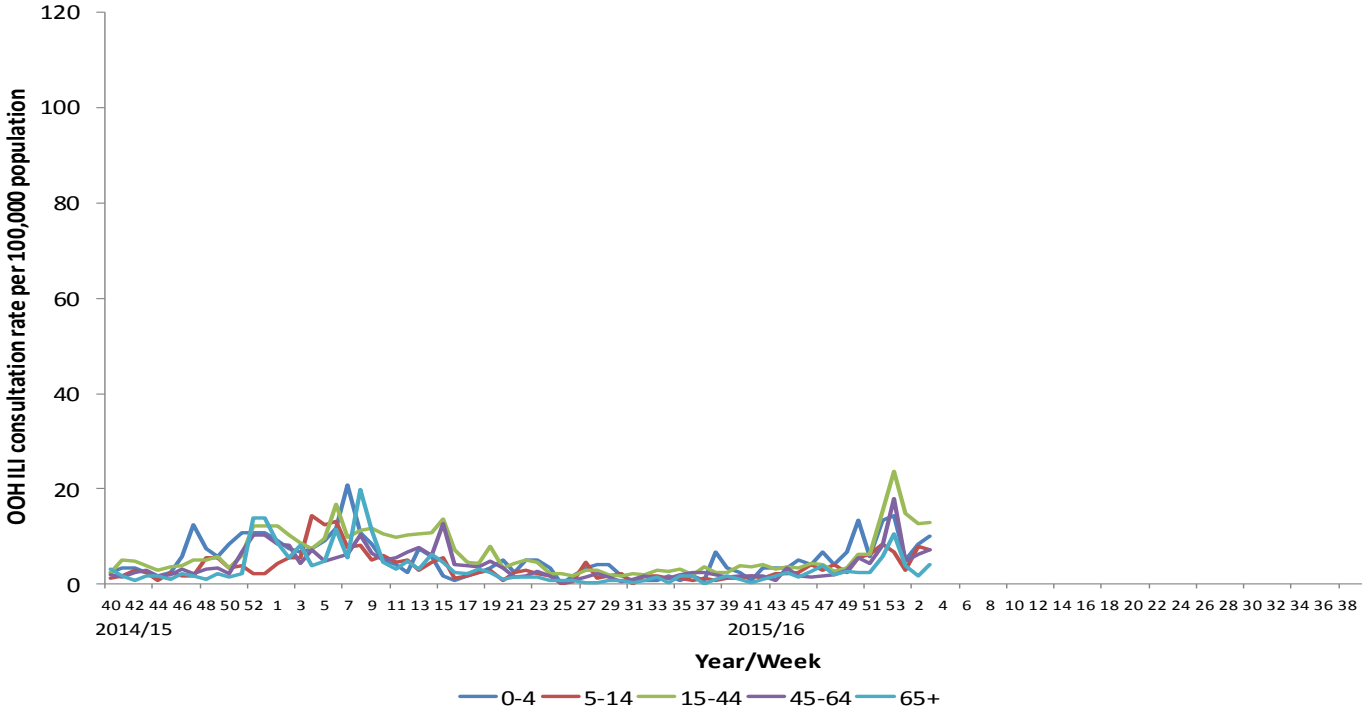


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2014



Comment

During week 3, 2016, the OOH GP consultation rate for flu/FLI increased to 9.2 per 100,000 population. The OOH GP consultation rate is higher than the same period in both 2013/14 and 2014/15 (Figure 5).

The proportion of calls related to flu represents 1.5% of total calls to the OOH service.

During week 3, OOH flu/FLI rates have increased among 0-4, 45-64 and 65 years and over age groups while rates among those aged 5-14 years have decreased. Rates among those aged 15-44 years remained stable in week 3, 2016. The highest OOH flu/FLI rate was noted in those aged 15-44 years at 12.9 per 100,000 population (Figure 6). Age specific-rates are higher than the same period in both 2013/14 and 2014/15.

Virology Data

Table 1. Virus activity in Northern Ireland, Week 3, 2015/16

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	9	0	2	4	1	0	7	78%
Non-sentinel	172	0	15	19	0	14	34	20%
Total	181	0	17	23	1	14	41	23%

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 3, 2015/16

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	29	5	2	36	396
5-14	0	7	1	0	8	15
15-64	0	106	37	6	149	56
65+	4	32	12	2	50	58
Unknown	0	0	0	0	0	0
All ages	4	174	55	10	243	525

Table 3. Cumulative virus activity, Week 40 - Week 3, 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	29	5	2	36	395
5-14	0	0	0	0	0	1	0	7	1	0	8	14
15-64	0	11	5	4	20	9	0	95	32	2	129	47
65+	0	1	1	0	2	0	4	31	11	2	48	58
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	0	12	6	4	22	11	4	162	49	6	221	514

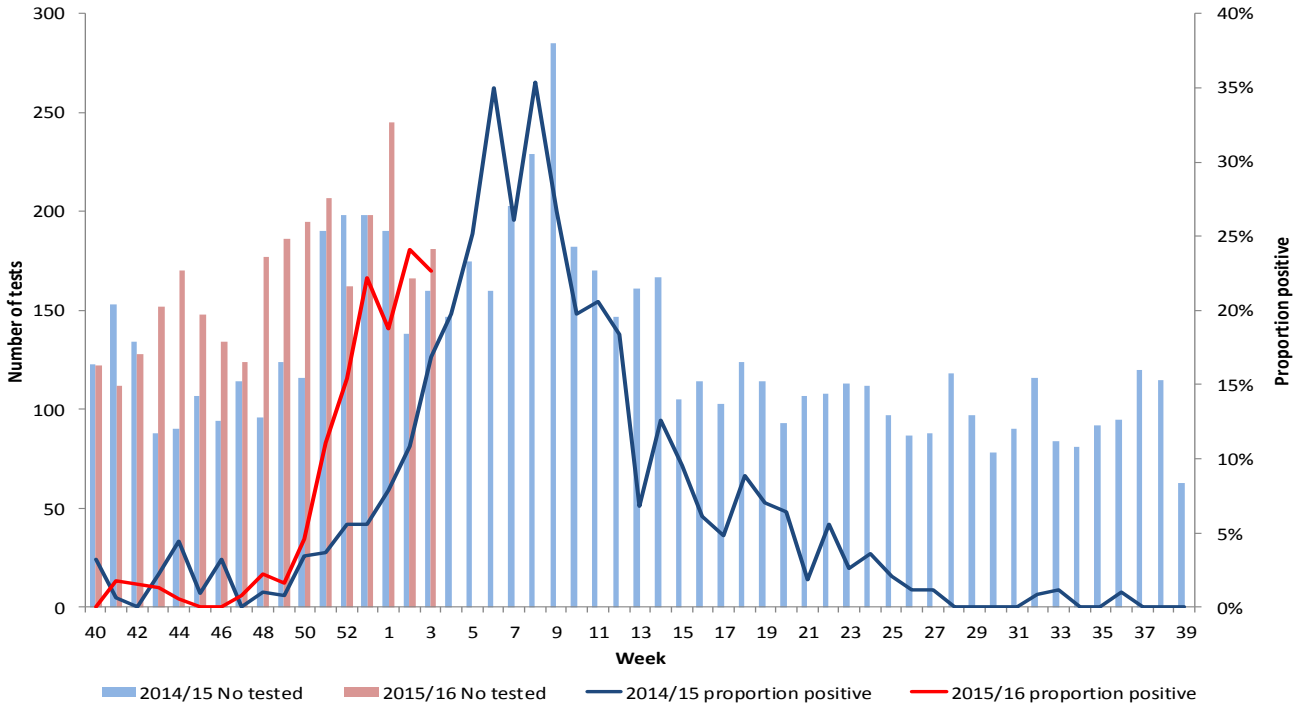
Note

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

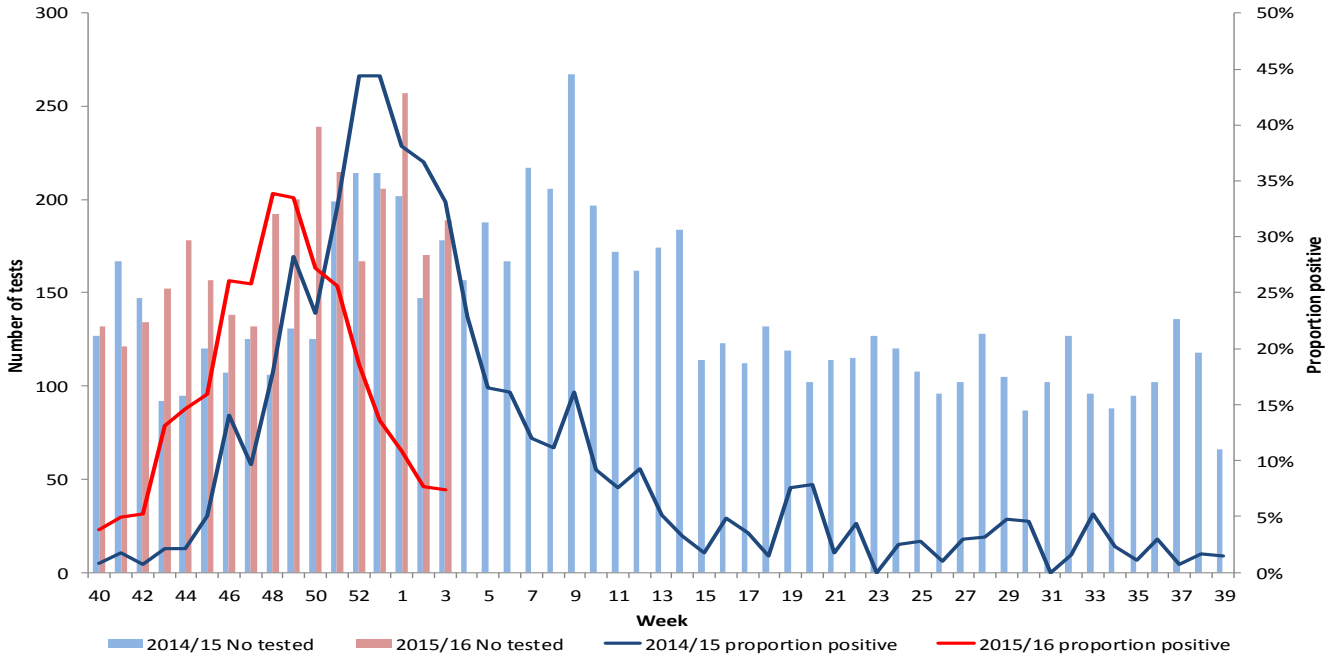
During week 3, 181 specimens were submitted for virological testing. There were 41 detections of influenza (positivity rate of 23%) - 17 were typed as influenza A(H1N1)pdm09, 1 as influenza B and 23 as influenza A (typing awaited). The positivity rate for influenza has decreased from 24% in week 2. Overall this season, there have been 243 detections of influenza reported, more than in the same period in the 2013/14 (n=38) and 2014/15 (n=96) (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 3, there were 14 RSV positive detections. Positivity rates have further decreased from 8% in week 2, to 7% in week 3. RSV positivity rates during this period have been the lowest recorded in recent years. Overall this season there have been 525 detections of RSV, of which the majority (75%) were in those aged 0-4 years (Figure 8 and table 2).

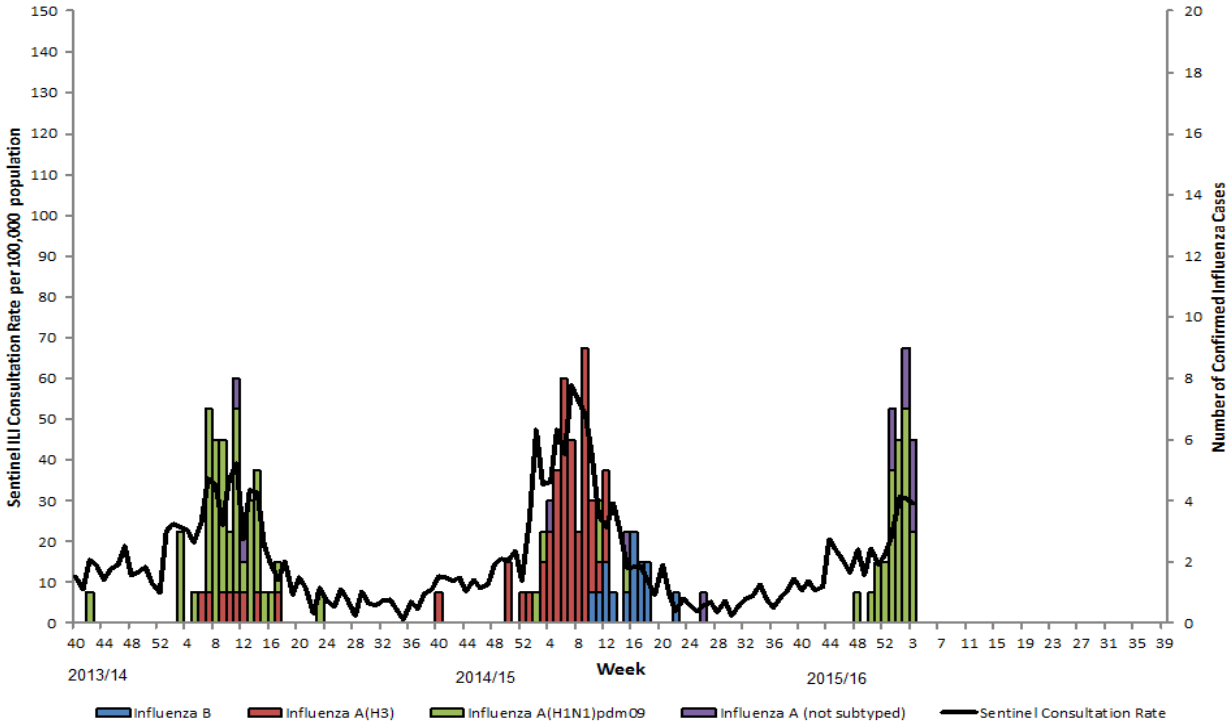
Influenza Vaccine Uptake

The most recent provisional data suggest that vaccine uptake for those aged 65 years and over is 68.6%, lower than the same period in 2014; while 52.0% of those under 65 and in an at risk group received the vaccine, lower than in 2014 when 66.4% 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. The most recent provisional data suggest that vaccine uptake among 2-4 year old children is 46.4%, lower than in 2014 during the same period. Uptake among children in primary school is 76.4%, slightly lower than in 2014.

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 3, there were seven admissions to ICU confirmed with influenza reported to the PHA - four with influenza A (H1N1)pdm09 and three with influenza A untyped (typing awaited). There have been a total of 34 admissions to ICU with confirmed influenza reported this season to date, of which 27 have been confirmed as influenza A (H1N1)pdm09 and 7 as influenza A untyped (typing awaited) (Figure 9).

Up to week 3, 2016, of the 34 ICU patients with confirmed influenza 21 had co-morbidities. Provisional data shows that 18 of the 34 cases met the criteria for influenza vaccine and 5 had received it (Table 4).

There were no 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 - 3, 2015/16							
Age Group	No of patients	Flu vaccine clinical risk group	Vaccinated	Flu A (H1N1)pdm09	Flu A(H3)	Flu A(untyped)	Flu B
0 - 4	6	2	0	5	0	1	0
5-14	2	2	0	2	0	0	0
15-44	6	1	1	4	0	2	0
45-64	16	9	3	13	0	3	0
65+	4	4	2	3	0	1	0
All	34	18	6	27	0	7	0

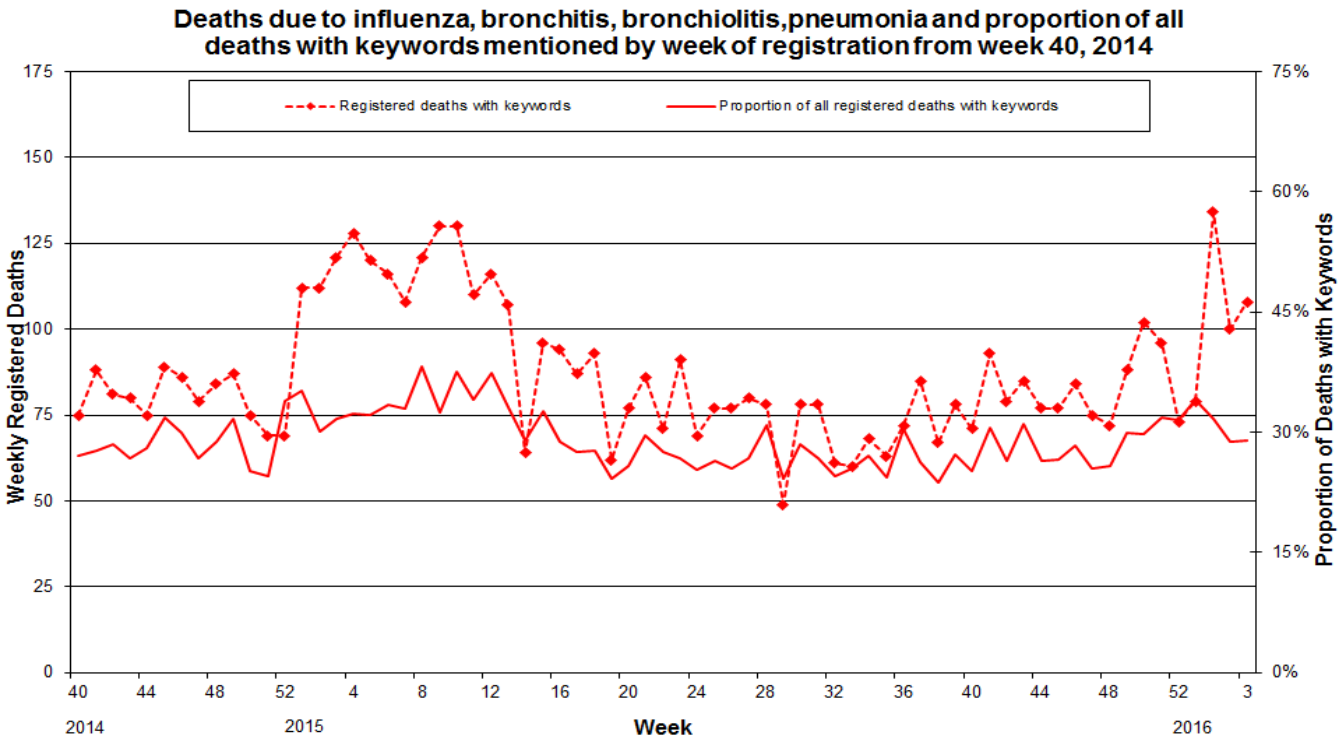
Outbreak Surveillance

During week 3, 2016 there were two reports of confirmed influenza outbreaks to the PHA, one as influenza A(H1N1)pdm09 and the other as influenza A (untyped). These are the first confirmed influenza outbreaks reported to the PHA this season to date.

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 3, the proportion of registered deaths from specific respiratory infections remained stable at 29%.

In week 3, there were 372 registered deaths, of which 108 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 3 in Northern Ireland. Therefore including previous reports, excess all-cause mortality has been reported in six 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 2, 2016:

- Thirty-two countries reported influenza viruses in specimens from sentinel influenza-like illness (ILI) and acute respiratory infection (ARI) surveillance this week, suggesting that influenza activity is increasing in the WHO European Region.
- Influenza A(H1N1)pdm09 continues to be the predominant virus detected since the start of the season, accounting for 59% of detections in the current week.
- The predominance of A(H1N1)pdm09 corresponds with an increase in cases of severe acute respiratory infection (SARI) in eastern European countries, predominantly in people aged 15–64.

Season:

- So far, the 2015–2016 influenza season is characterized by a predominance of the influenza A(H1N1)pdm09 virus, which is known to cause more severe disease and death in younger, otherwise healthy, adults than influenza A(H3N2).
- Three quarters (77%) of the detected viruses were type A, and 23% were type B. The vast majority of the subtyped A viruses were A(H1N1)pdm09, and B viruses ascribed to a lineage were B/Victoria. Most of the viruses characterized so far are genetically similar to the strains recommended for inclusion in this winter's trivalent or quadrivalent vaccines for the northern hemisphere.
- Since week 52/2015, several eastern European countries have reported from sentinel systems increasing numbers of cases of severe acute respiratory infection (SARI) associated with A(H1N1)pdm09. Similarly, in western European countries reporting laboratory-confirmed influenza in hospitals and intensive care units (ICUs), influenza A(H1N1)pdm09 has been detected in 158 of 385 cases since the start of the season.

http://www.flunewseurope.org/

Worldwide (WHO) and CDC

As at 11th January 2015:

A high level 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/

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 Chris Nugent, Dr Naomh Gallagher and Dr Jillian Johnston.