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Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 50 (12 December 2016 – 18 December 2016)

Summary

At this point in the 2016/17 influenza season, activity has decreased in week 50 (week commencing 12th December 2016):

Weekly Influenza GP Consultation Rates

- GP consultation rates for combined flu and flu-like illness (flu/FLI) have decreased in week 50, 2016 to 21.5 per 100,000 population. Rates remain below the 2016/17 pre-epidemic threshold[1]
- OOH GP consultation rates for flu/FLI increased to 5.9 per 100,000 population in week 50

Microbiological Surveillance

- The proportion of positive influenza detections from both sentinel and non-sentinel sources was 9% in week 50

Respiratory Syncytial Virus (RSV) Activity

- RSV activity has slightly decreased since week 49 with levels remaining slightly lower than the same period last season

Influenza Confirmed Intensive Care Unit (ICU) Cases and Deaths

- Three cases were reported in ICU with laboratory confirmed influenza in week 50, giving a total of five cases this season to date
- No deaths were reported in week 50 among ICU patients with laboratory confirmed influenza

Influenza Outbreaks across Northern Ireland

- No confirmed influenza outbreaks were reported to the PHA

Influenza Vaccine Uptake in Northern Ireland

- To 31st October 2016; uptake was 50.6% among those aged 65 years and over, 35.1% among those under 65 in an at risk group, 34.3% among 2-4 year olds and 75.4% among primary school children

[1] The pre-epidemic threshold for Northern Ireland is 47.9 per 100,000 population this year (2016/17)

Introduction

Influenza is an acute viral infection of the respiratory tract (nose, mouth, throat, bronchial tubes and lungs). There are three types of flu virus: A, B and C, with A and B responsible for most clinical illness. Influenza activity in Northern Ireland is monitored throughout the year to inform public health action and to prevent spread of the infection. The influenza season typically runs from week 40 to week 20. Week 40 for the 2016/17 season commenced on 3rd October 2016.

Surveillance systems used to monitor influenza activity 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

NB: Please note changes in the y axes on figures 1 – 6 from last season's bulletin when interpreting the charts contained in this season's bulletin.

Sentinel GP Consultation Data

Figure 1. Sentinel GP consultation rates for flu/FLI 2014/15 - 2016/17

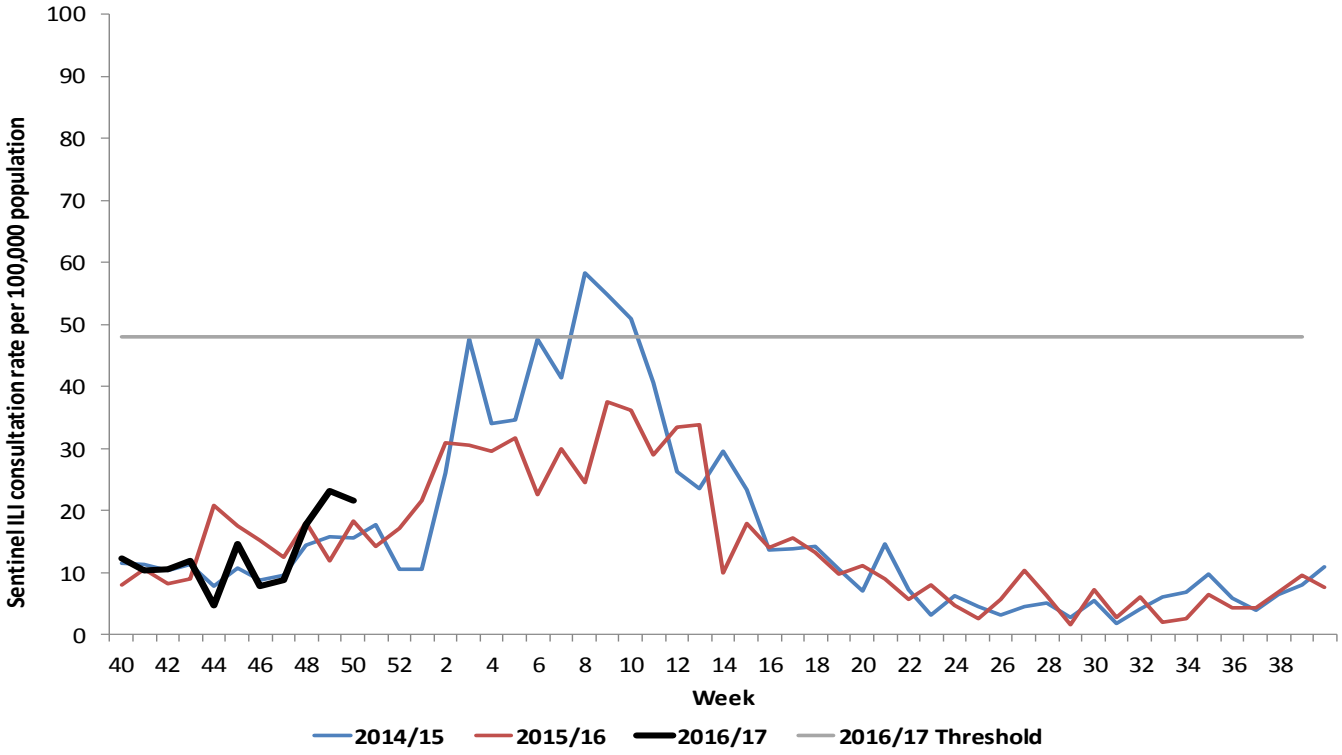


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2011/12 – 2016/17

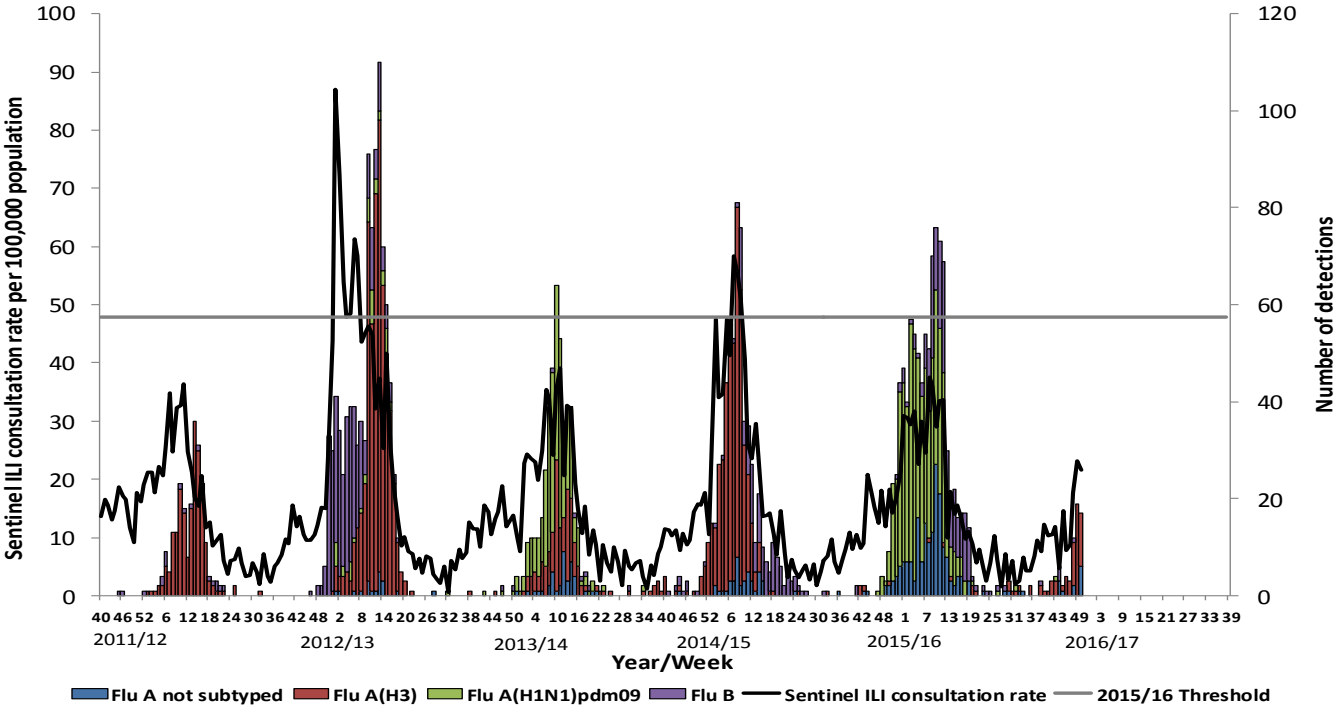
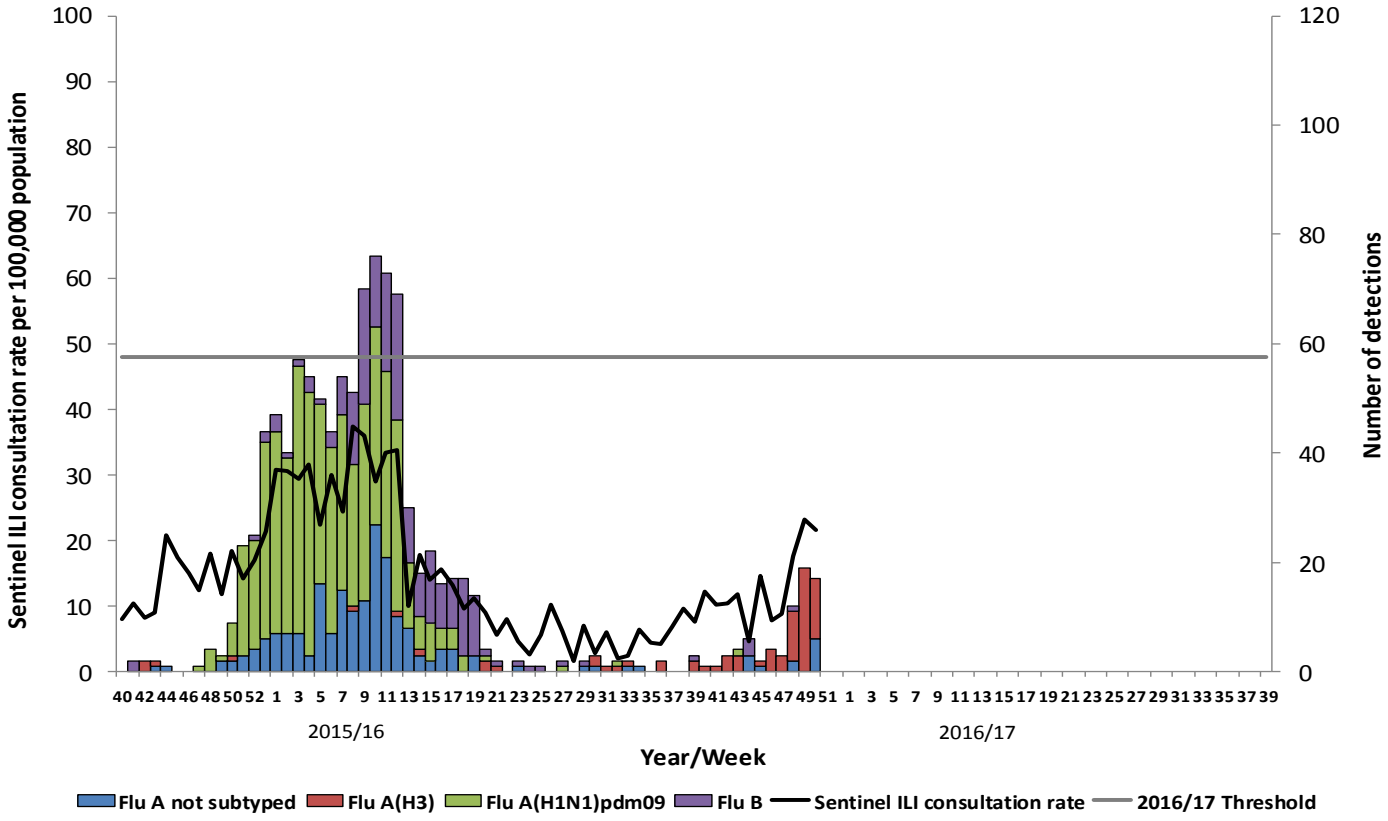


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2015

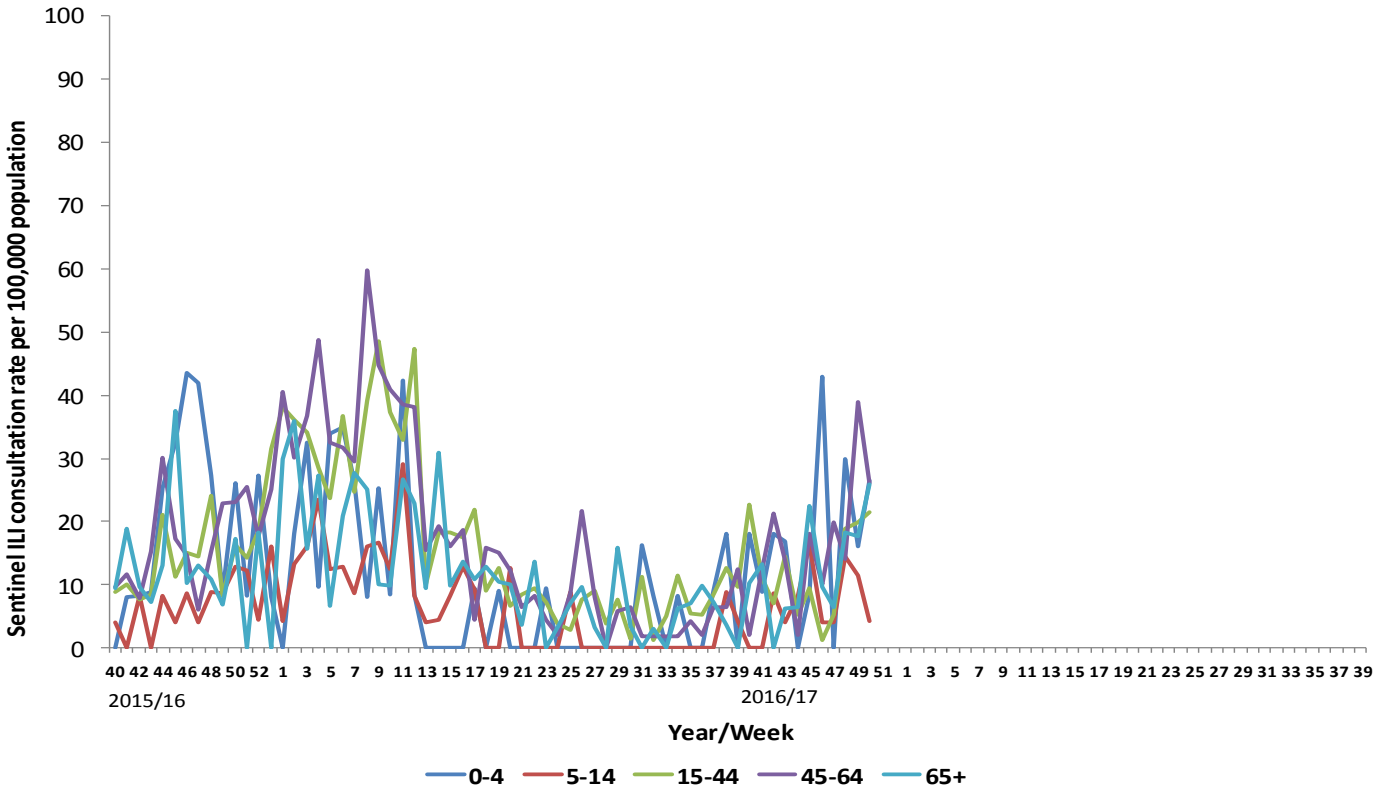


Comment

GP consultation rates have decreased in week 50, 2016 to 21.5 per 100,000 population from 23.2 per 100,000 population in week 49. The GP consultation rate in week 50 however is higher than the same period in both 2015/16 (18.4 per 100,000 population) and 2014/15 (15.5 per 100,000 population).

Rates remain below the pre-epidemic Northern Ireland 2016/17 threshold of 47.9 per 100,000 (Figures 1, 2 and 3).

Figure 4. Sentinel GP age-specific consultation rates for flu/FLI from week 40, 2015



Comment

Sentinel GP flu/FLI consultations have decreased among the 5-14 and 45-64 years age groups in week 50, with increases noted among all other age groups.

In week 50, 2016 the highest age-specific rate was noted among those aged 0-4 years (26.5 per 100,000 population), while the lowest rate was represented by those aged 5-14 years (4.2 per 100,000 population).

Age-specific consultation rates are higher in almost all age groups in week 50 than the same time period in 2015/16 (Figure 4).

Out-of-Hours (OOH) Centres Call Data

Figure 5. OOH call rate for flu/FLI, 2014/15 – 2016/17

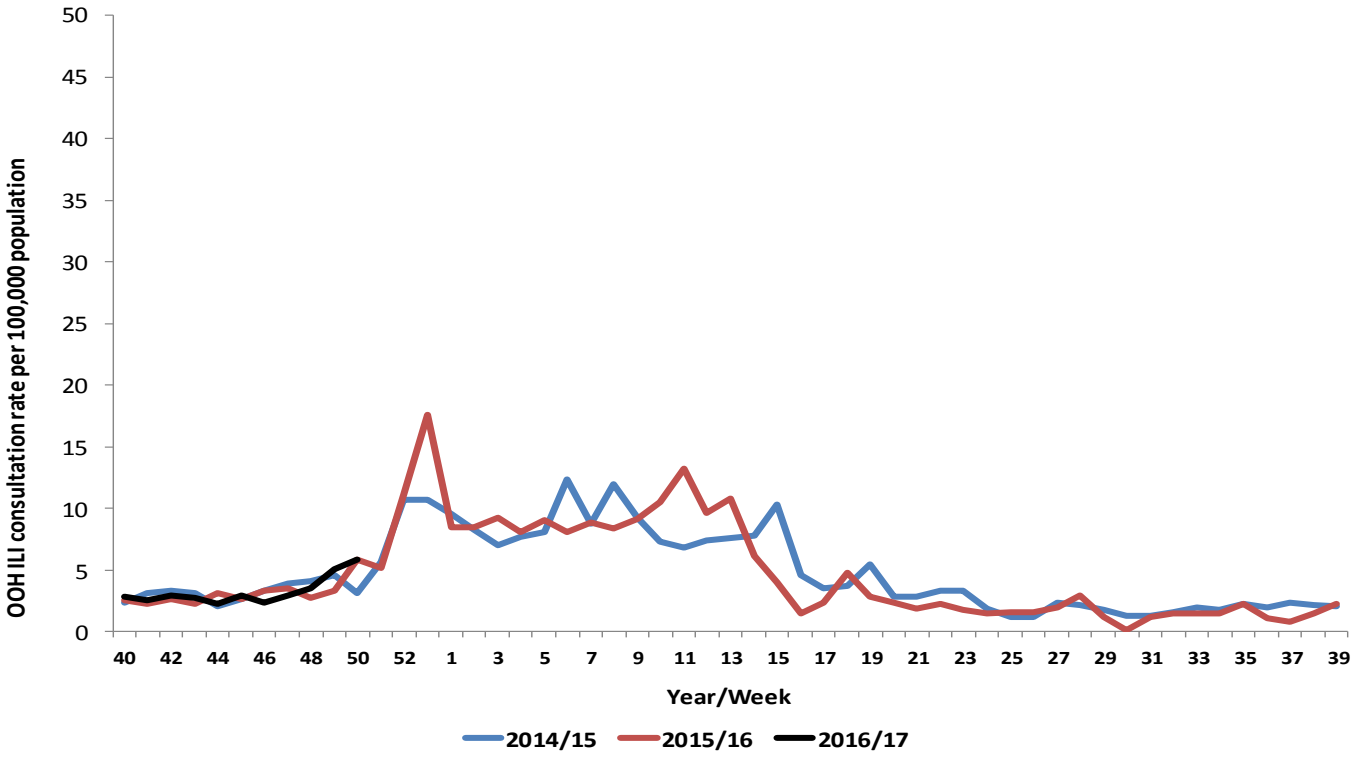
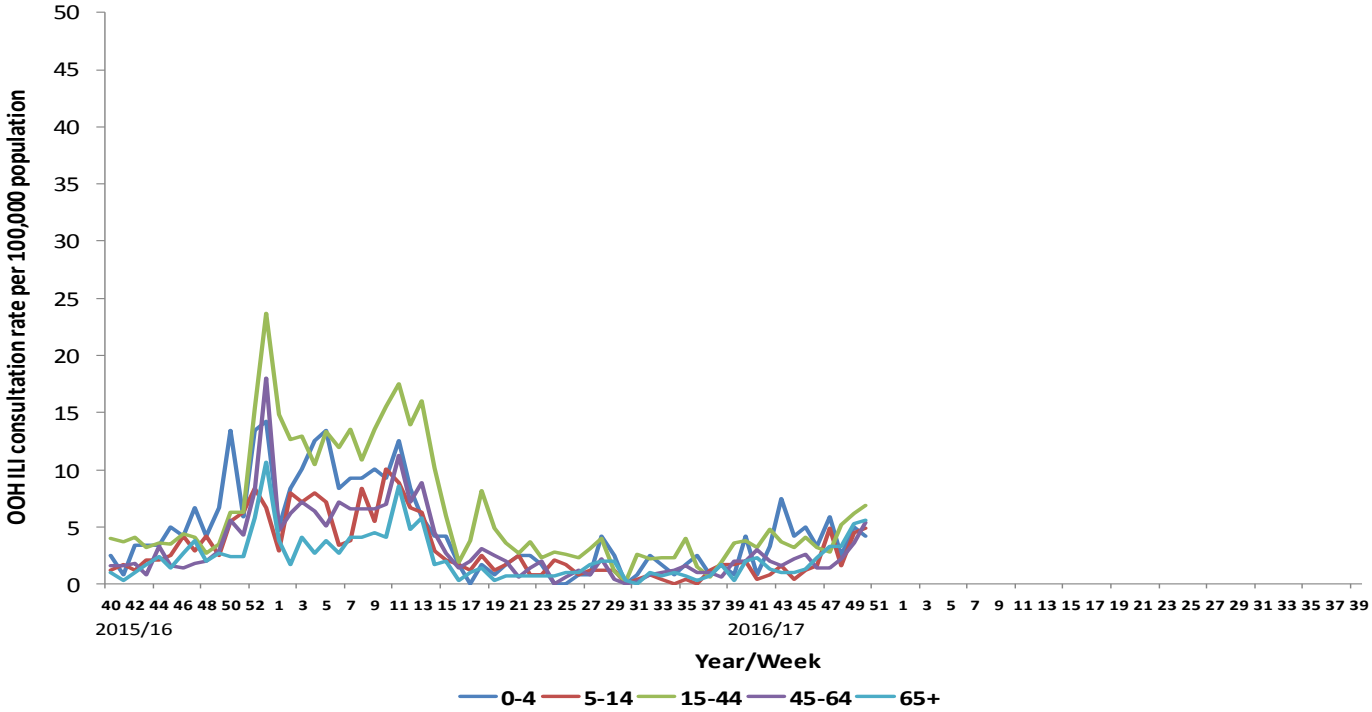


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2015



Comment

During week 50, 2016 the OOH GP consultation rate increased to 5.9 per 100,000 population from 5.1 per 100,000 population in week 49. The OOH GP consultation rate in week 50 is similar to the same period in 2015/16 (5.8 per 100,000 population) but higher than in 2014/15 (3.1 per 100,000 population) (Figure 5). The proportion of calls related to flu represents less than 1% of total calls to the OOH service.

During week 50, OOH flu/FLI rates have increased among almost all age groups, with a slight decrease noted among only those aged 0-4 years. The highest age-specific OOH flu/FLI rate in week 50 was noted among the 15-44 years age group (6.8 per 100,000 population) while those aged 0-4 years represented the lowest rate in week 50 (4.2 per 100,000 population) (Figure 6).

Age-specific rates in week 50 are slightly lower among most age groups than those noted during the same period in 2015/16 but higher than in 2014/15.

Virology Data

Table 1. Virus activity in Northern Ireland by source, Week 50, 2016/17								
Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	8	3	0	0	0	2	3	38%
Non-sentinel	171	8	0	6	0	46	14	8%
Total	179	11	0	6	0	48	17	9%

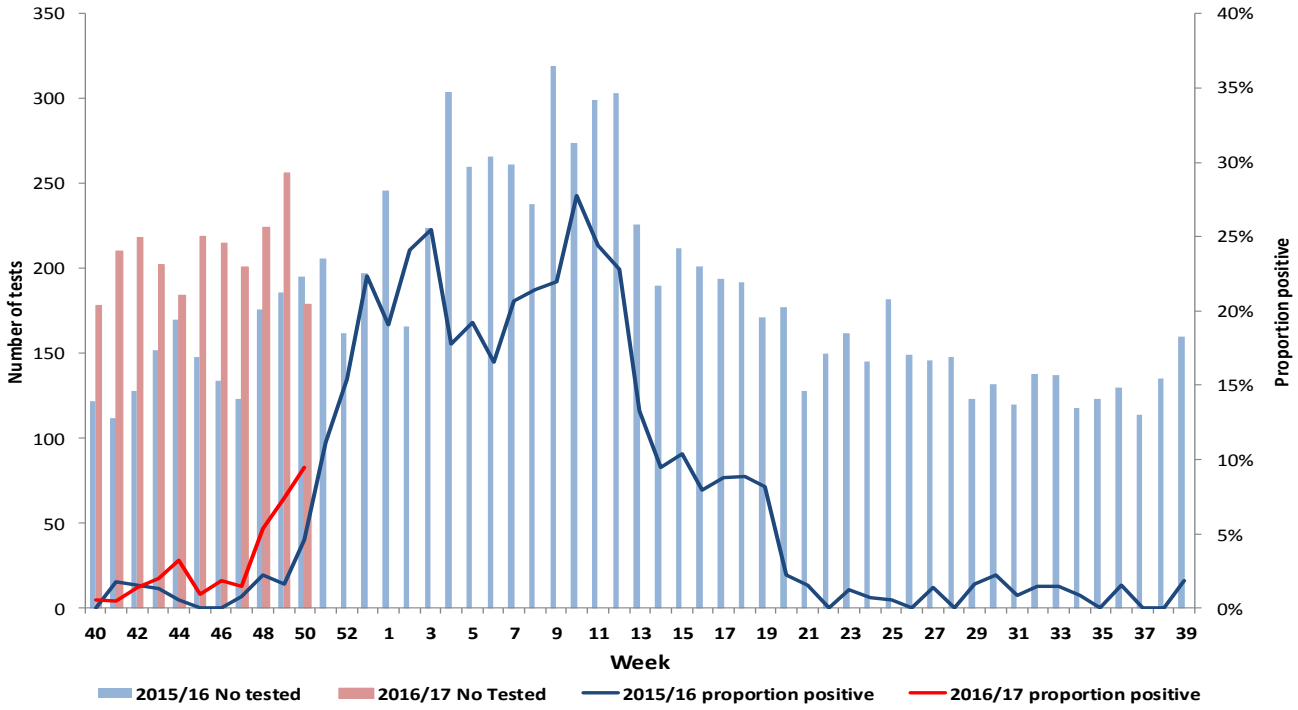
Table 2. Cumulative virus activity from all sources by age group, Week 40 - 50, 2016/17						
	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	3	0	1	1	5	329
5-14	1	0	0	1	2	14
15-64	29	1	7	2	39	53
65+	22	0	4	0	26	57
Unknown	0	0	0	0	0	0
All ages	55	1	12	4	72	453

Table 3. Cumulative virus activity by age group and source, Week 40 - Week 50, 2016/17												
	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	0	3	0	1	1	5	329
5-14	1	0	0	0	1	0	0	0	0	1	1	14
15-64	5	1	0	0	6	6	24	0	7	2	33	47
65+	1	0	1	0	2	1	21	0	3	0	24	56
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	7	1	1	0	9	7	48	0	11	4	63	446

Note

All virology data are 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.

Figure 7. Number of samples tested for influenza and proportion positive, 2015/16 and 2016/17, all sources



Comment

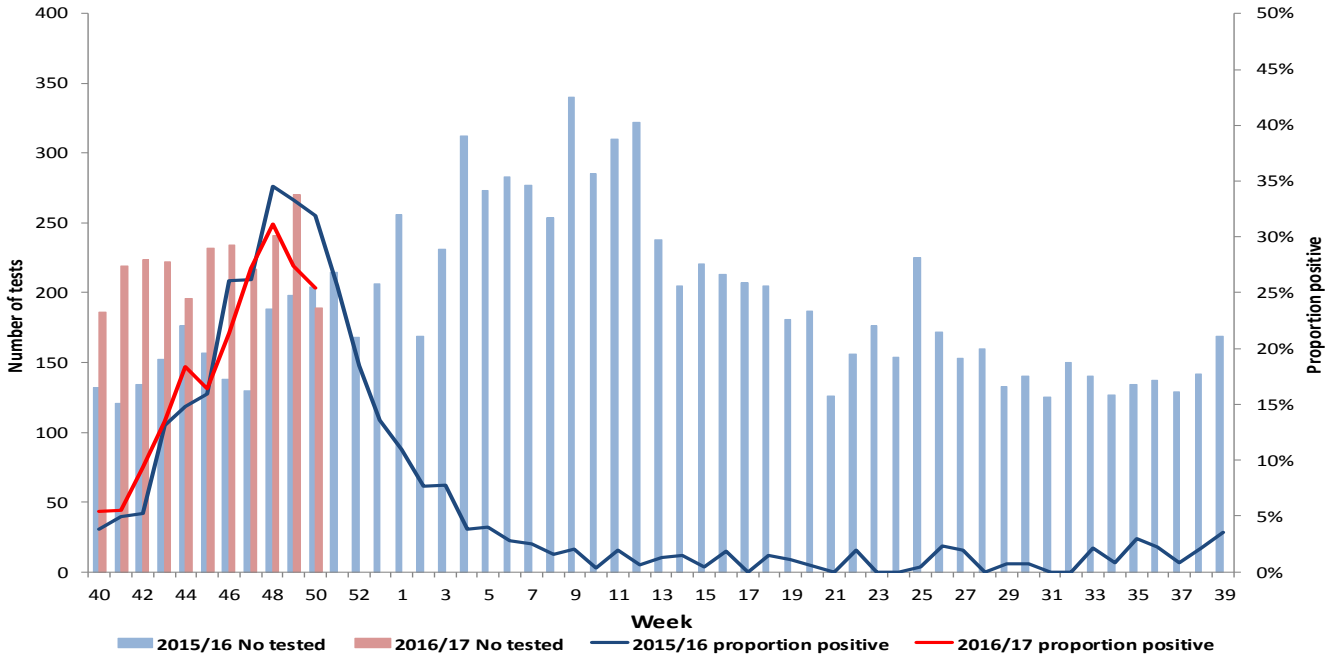
During week 50, 2016 there were 179 specimens submitted for virological testing. There were 17 detections of influenza in total (positivity rate of 9%) (Figure 7). There were 11 detections of influenza A(H3) and 6 detections of influenza A (typing awaited). There were no detections of influenza A(H1N1)pdm09 or influenza B.

There were 3 samples positive for influenza submitted through the GP based sentinel scheme across Northern Ireland.

This season to date there have been a total of 72 detections of influenza, of which 55 have been typed as influenza A(H3). There have been 4 detections of influenza B, 12 of influenza A (typing awaited), and 1 detection of influenza A(H1N1)pdm09 (Tables 1, 2, and 3).

Respiratory Syncytial Virus

Figure 8. Number of samples tested for RSV and proportion positive, 2015/16 and 2016/17, all sources

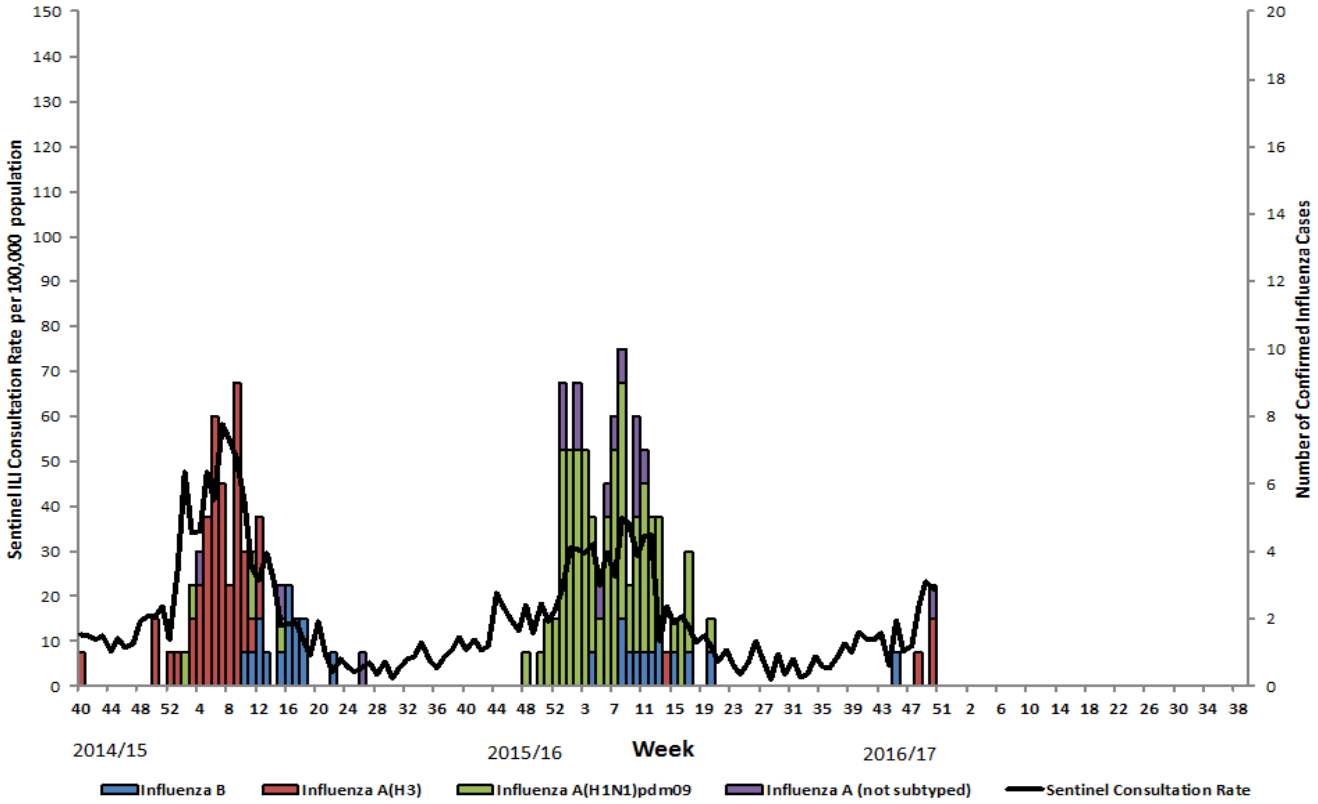


Comment

During week 50, 2016 there were 48 positive detections of RSV, giving a positivity rate of 25%; lower than the same period in 2015/16 (32%). To date there have been a total of 453 detections of RSV of which the majority (73%) were in those aged 0-4 years (Figure 8 and Table 2).

ICU/HDU Surveillance

Figure 9. Confirmed ICU influenza cases by week of specimen, with sentinel ILI consultation rate, 2014/15 - 2016/17



Comment

Data are collected on laboratory confirmed influenza patients and deaths in critical care (level 2 and level 3).

During week 50, three confirmed cases of influenza in ICU were reported to the PHA, of which two were typed as influenza A(H3) and one as influenza A (typing awaited). There were no deaths reported in ICU patients with laboratory confirmed influenza. There have been five confirmed cases of influenza in ICU reported this season to date, of which three have been typed as influenza A (H3), one as influenza A (typing awaited) and one influenza B.

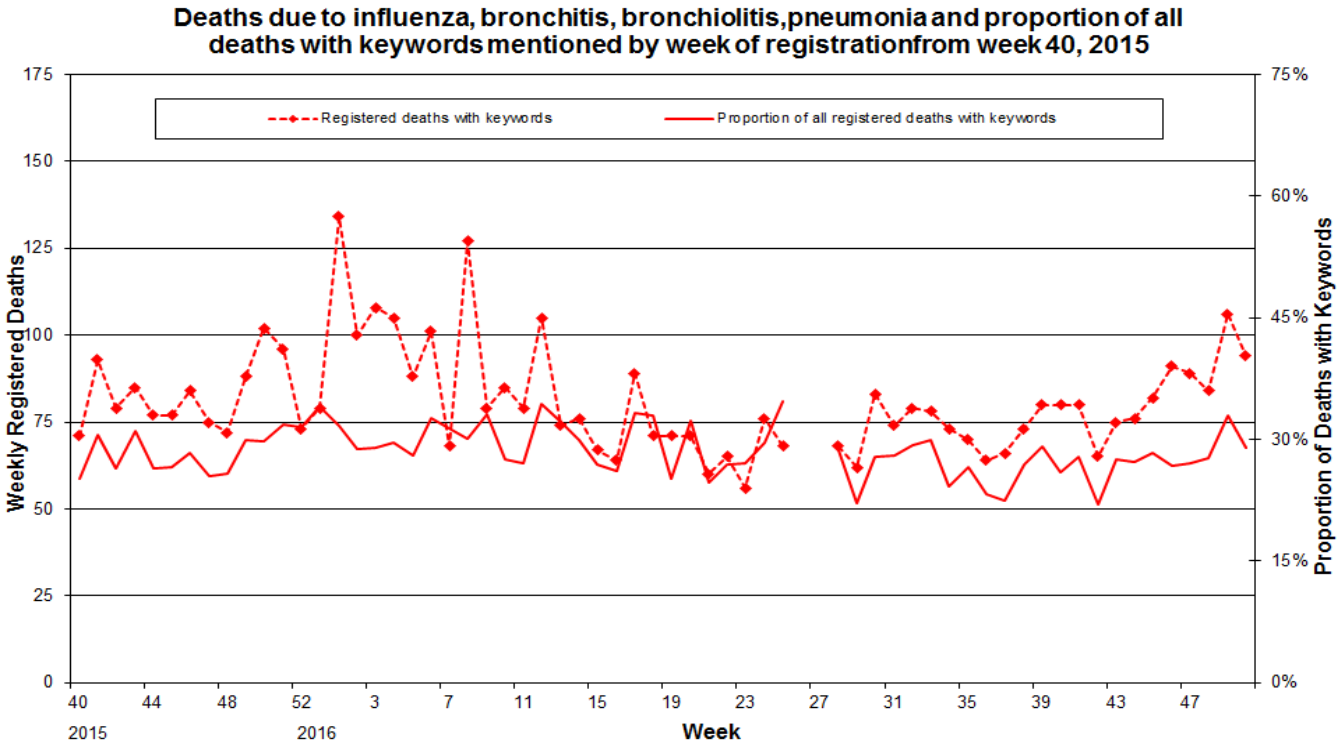
Outbreak Surveillance

During week 50 there were no confirmed influenza outbreaks reported to the PHA. There has been one confirmed influenza outbreak reported 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 10. Weekly registered deaths



***Please note data are currently unavailable for weeks 26 – 27, 2016**

Comment

During week 50 the proportion of deaths related to respiratory keywords has decreased to 29% from 33% in week 49. In week 50, 2016 there were 324 registered deaths, of which 94 related to specific respiratory infections (Figure 10).

The proportion of deaths attributed to specific respiratory infections is lower at this point in the season than during the same period in 2015/16 but higher than in 2014/15.

EuroMOMO

EuroMOMO data will be available later in the season.

Influenza Vaccine Uptake

To 31st October 2016, provisional data suggested that vaccine uptake for those aged 65 years and over was 50.6%, lower than the same period in the 2015 (55.7%); while 35.1% of those under 65 and in an at risk group had received the vaccine, lower than in 2015 when 40.5% had 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 2016/17 have been offered the seasonal influenza vaccine. To 31st October 2016, provisional data suggested that vaccine uptake among 2-4 year old children was 34.3%, lower than in 2015 when 36.0% had received the vaccine during the same period. Provisional data suggests uptake among children in primary school was 75.4%, also lower than in 2015 when 77.4% had received the vaccine during the same period.

International Summary

Europe

Week 49, 2016

- Influenza activity remained low, but is increasing across the region.
- The proportion of virus detections among sentinel surveillance specimens increased to 28%.

- The majority of influenza viruses detected for this week was A(H3N2).

- Laboratory-confirmed influenza cases from hospital settings increased in some countries.

Season Overview:

- In week 46/2016, influenza virus detections increased to 10% among sentinel surveillance specimens, which is a threshold indicative of increasing regional activity.

- This is the earliest week in a season that the positivity rate has reached 10% since the emergence of A(H1N1)pdm09 viruses in the 2009-2010 influenza season; during the last six seasons this occurred between weeks 48 and 51.

- Since week 40/2016, influenza A viruses have predominated; the great majority (99%) of subtyped influenza A viruses from sentinel sites have been A(H3N2).

http://www.flunewseurope.org/

Worldwide (WHO) and CDC

As at 12th December 2016:

Influenza activity in the temperate zone of the northern hemisphere increased slightly.

- In North America influenza activity slightly increased with influenza A(H3N2) virus predominating. Influenza-like illness (ILI) levels remained below seasonal thresholds. In the United States, respiratory syncytial virus (RSV) activity continued to be reported.
- In Europe, influenza activity was low but has started to rise, particularly in Northern European countries. Influenza A viruses were predominating with the most frequent subtype being A(H3N2). The season has started earlier than usual with a positivity rate ≥10% for influenza among sentinel surveillance samples.
- In East Asia, influenza activity increased slightly with influenza A(H3N2) remaining the dominant virus circulating.
- In Western Asia influenza detections remained low.
- In Northern Africa, influenza detections increased in Morocco with influenza A(H3N2) viruses dominating.
- In the Caribbean countries, influenza and other respiratory virus activity remained low. In Central America, there was a slight decrease in influenza and other respiratory viruses activity. RSV continued to circulate in Costa Rica.
- In tropical South America, influenza and other respiratory viruses activity remained low with exception of Colombia where RSV activity continued to be reported.
- In Southern Asia, there was a slight increase in influenza detections in both Iran and Sri Lanka with influenza A(H3N2) as the most frequently detected virus in this region.
- In South East Asia, influenza activity continued to be reported at low levels, with influenza A(H3N2) virus predominant in the region. A slight increase in influenza A(H1N1)pdm09 detections was reported in Vietnam.
- In West Africa, influenza detections increased in Ghana with B viruses dominating.
- In Southern Africa, influenza activity continued at inter-seasonal levels.
- In temperate South America, influenza and RSV activity continued to decrease throughout the sub-region.
- In Oceania, influenza virus activity was reported at inter-seasonal levels.
- National Influenza Centres (NICs) and other national influenza laboratories from 80 countries, areas or territories reported data to FluNet for the time period from 14 November 2016 to 27 November 2016 (data as of 2016-12-09 03:37:55 UTC).The WHO GISRS laboratories tested more than 93152 specimens during that time period. 6209 were positive for influenza viruses, of which 5630 (90.7%) were typed as influenza A and 579 (9.3%) as influenza B. Of the sub-typed influenza A viruses, 112 (2.9%) were influenza A(H1N1)pdm09 and 3787 (97.1%) were influenza A(H3N2). Of the characterized B viruses, 46 (36.2%) belonged to the B-Yamagata lineage and 81 (63.8%) 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

Internet-based surveillance of influenza in the general population is undertaken through the FluSurvey. A project run jointly by PHE and the London School of Hygiene and Tropical Medicine. If you would like to become a participant of the FluSurvey project please do so by visiting the Flusurvey website for more information.

Detailed influenza weekly reports can be found at the following websites:

Republic of Ireland:
http://www.hpsc.ie/hpsc/A-Z/Respiratory/Influenza/SeasonalInfluenza/Surveillance/InfluenzaSurveillanceReports/

England:
https://www.gov.uk/government/collections/seasonal-influenza-guidance-data-and-analysis#epidemiology

Scotland
http://www.hps.scot.nhs.uk/resp/seasonalInfluenza.aspx

Wales
http://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=34338

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:

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