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Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 40 - 41 (03 October 2016 – 16 October 2016)

Summary

At the start of the 2016/17 influenza season, activity is at low levels in weeks 40 (week commencing 3rd October 2016) and 41 (week commencing 10th October 2016):

Weekly Influenza GP Consultation Rates

- GP consultation rates for combined flu and flu-like illness (flu/FLI) have fluctuated over the two week period, at 12.2 in week 40 then falling to 10.3 per 100,000 population in week 41. Rates remain below the 2016/17 pre-epidemic threshold[1]
- OOH GP consultation rates for flu/FLI fluctuated slightly from 2.9 in week 40 to 2.5 per 100,000 population in week 41

Microbiological Surveillance

- The proportion of positive influenza detections from both sentinel and non-sentinel sources was 1% in weeks 40 and 41

Respiratory Syncytial Virus (RSV) Activity

- RSV activity remains moderate with levels similar to the same period last season

Influenza Confirmed Intensive Care Unit (ICU) Cases and Deaths

- No cases in ICU with laboratory confirmed influenza were reported
- No deaths were reported in ICU patients with laboratory confirmed influenza

Influenza Outbreaks across Northern Ireland

- No confirmed influenza outbreaks were reported to the PHA

[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

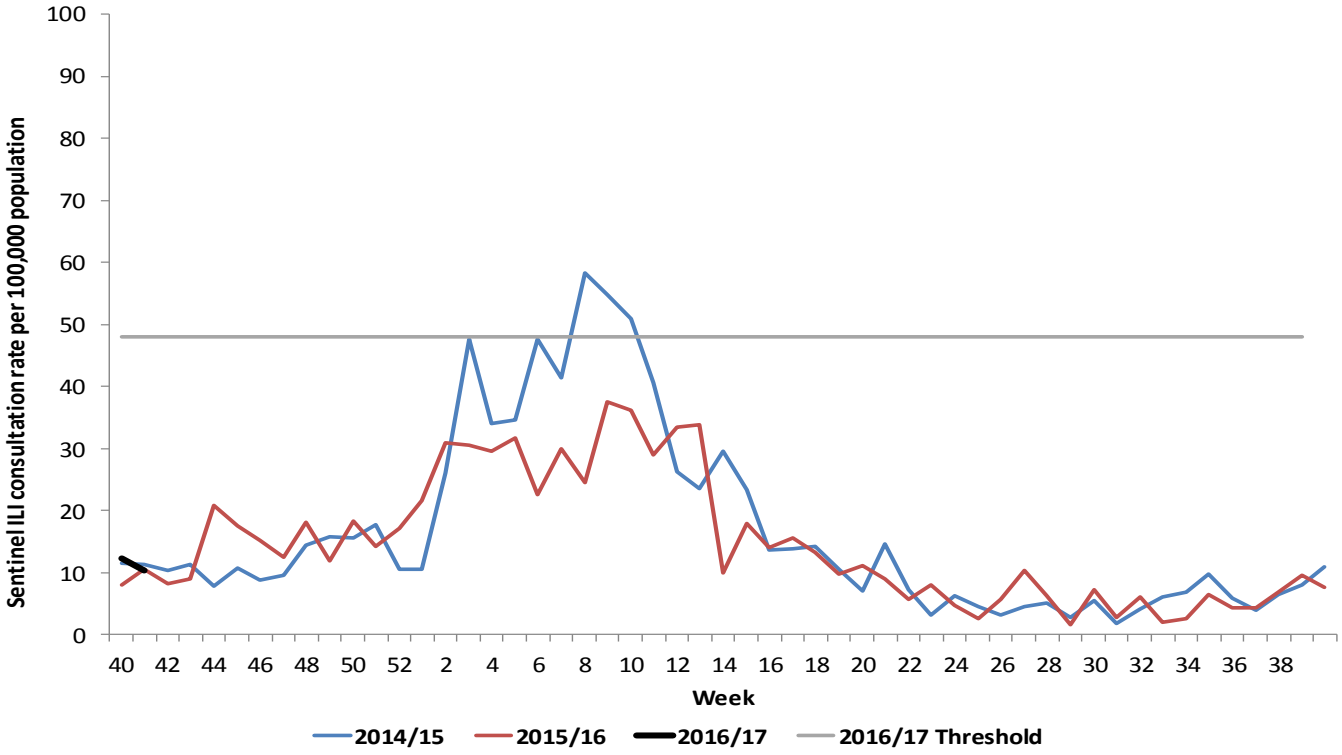


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2011/12 – 2016/17

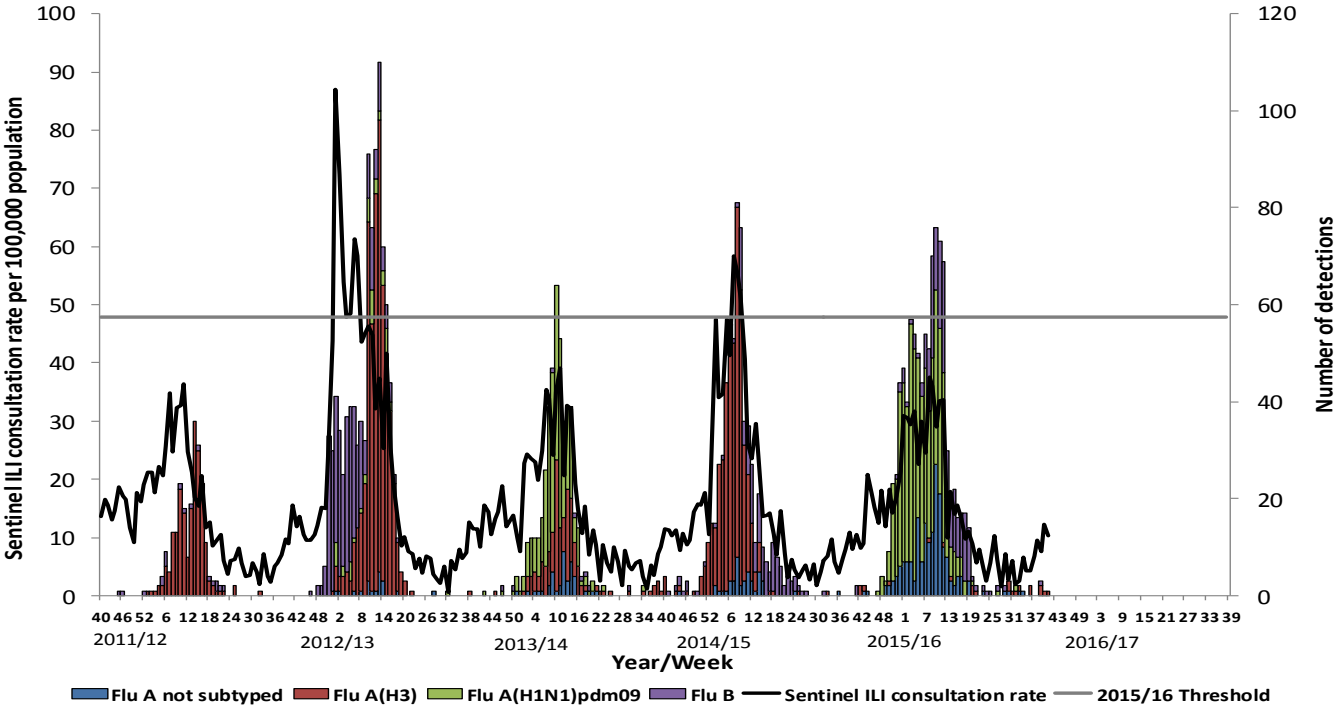
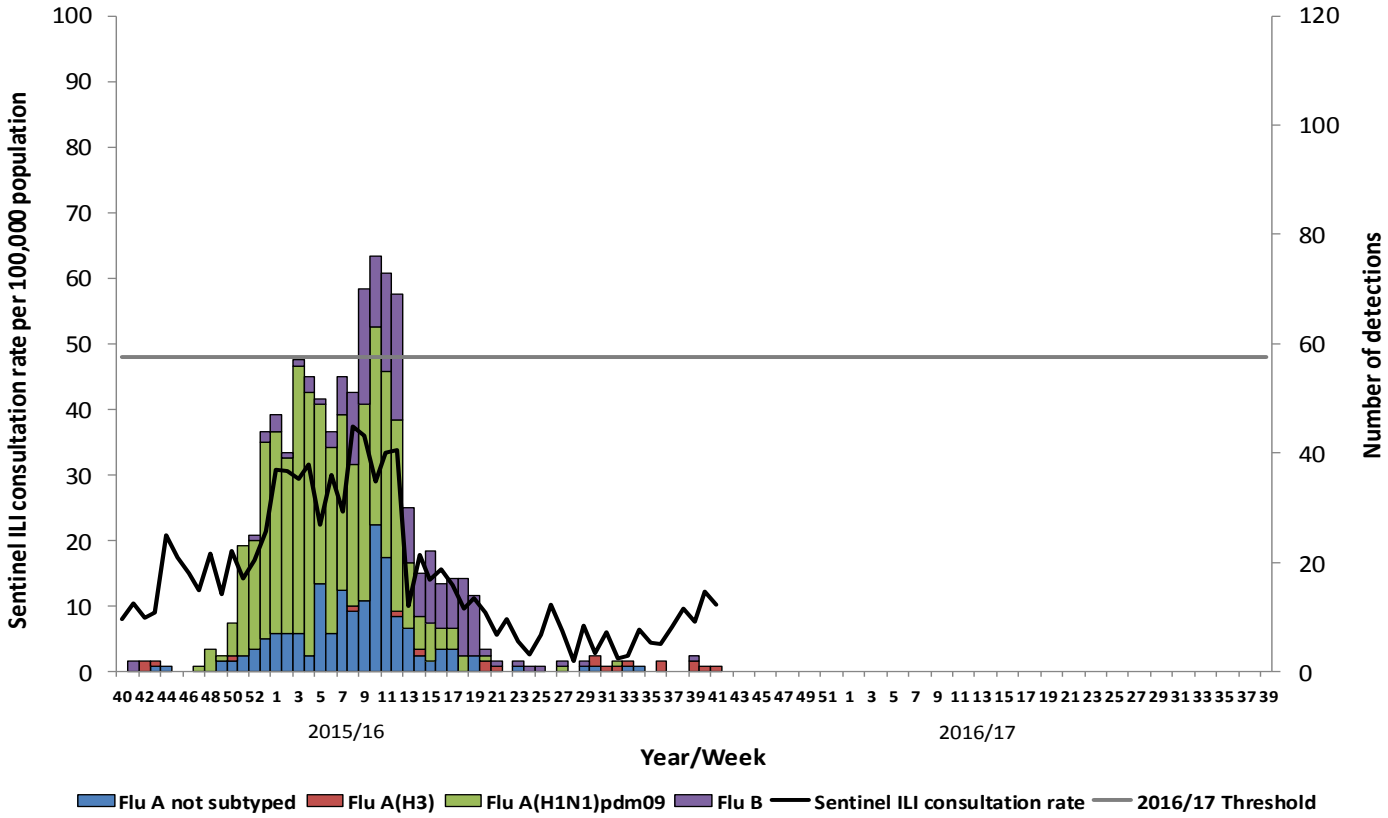


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2015

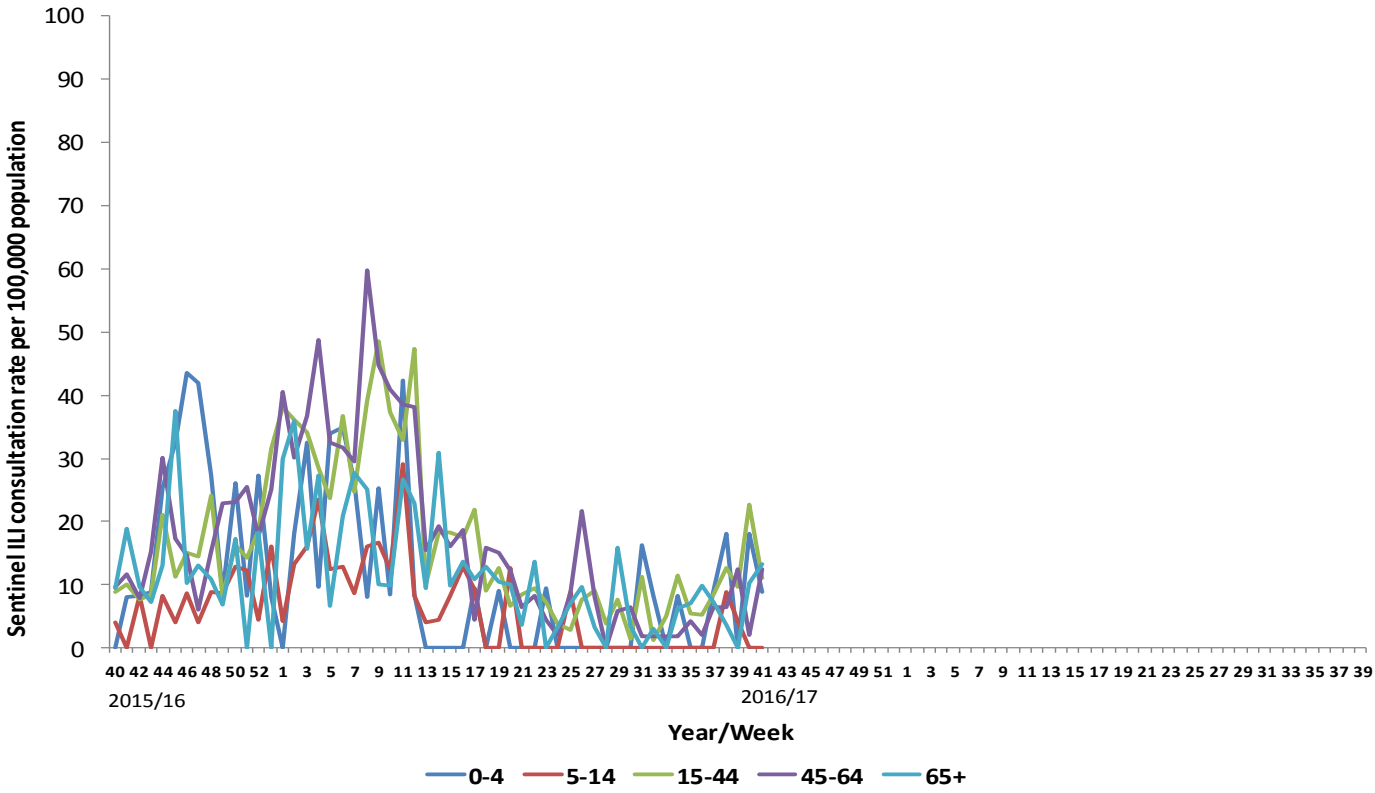


Comment

GP consultation rates have fluctuated over the two week period decreasing from 12.2 per 100,000 population in week 40 to 10.3 per 100,000 population in week 41. The GP consultation rates are slightly higher than the same period in 2015/16 (8.0 in week 40 and 10.5 in week 41) but similar to 2014/15 (11.5 in week 40 and 11.3 in week 41).

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 fluctuated among most age groups across weeks 40 and 41, 2016 while a steady increase was noted in the oldest age category.

In weeks 40 and 41 the highest age-specific rates were noted among those aged 15-44 years (22.8 per 100,000 population) and 65 years and over (13.4 per 100,000 population) respectively, while those aged 5-14 years represented the lowest rate in both weeks with no consultations reported.

Age-specific consultation rates in most age groups in weeks 40 and 41 are similar to 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

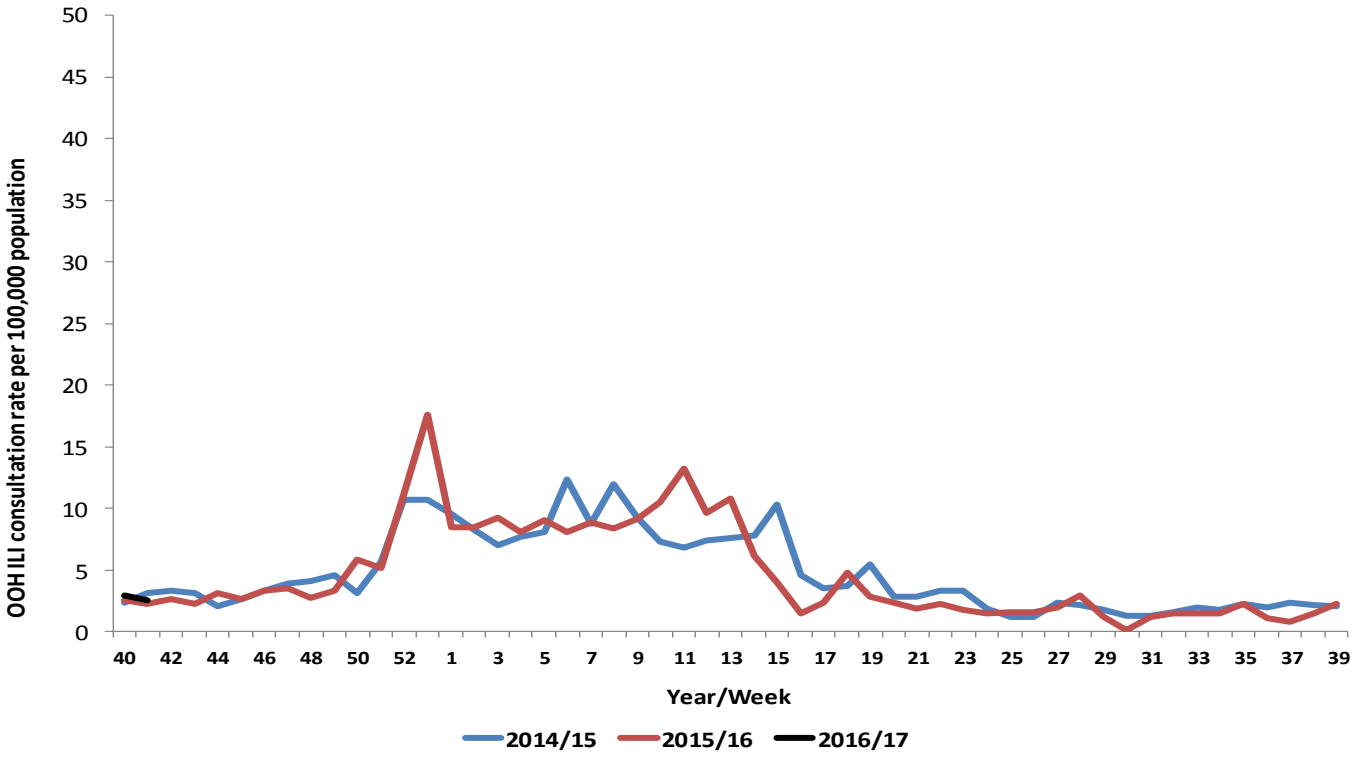
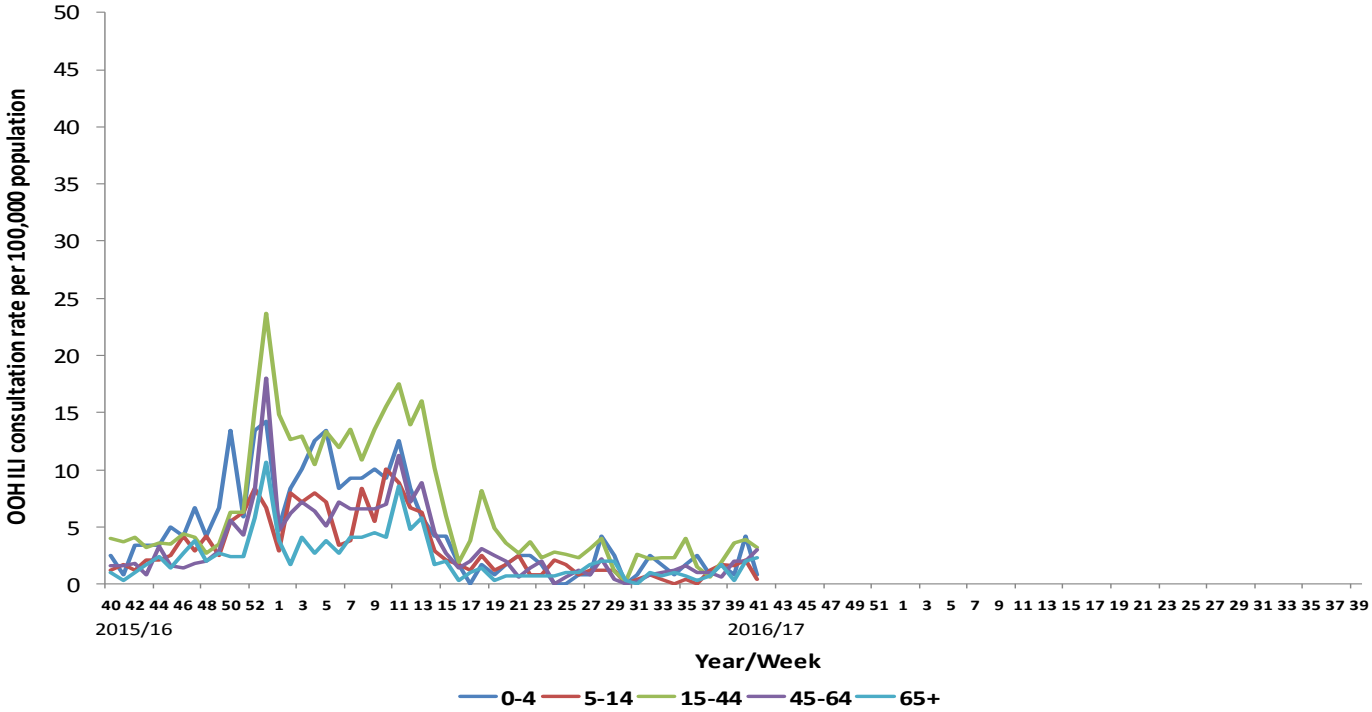


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2015



Comment

During weeks 40 and 41, 2016 the OOH GP consultation rate was 2.9 in week 40 before decreasing to 2.5 in week 41. The OOH GP consultation rate in week 41 is marginally higher than the same period in 2015/16 (2.2 per 100,000 population) but lower 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 weeks 40 and 41, OOH flu/FLI rates have fluctuated among most age groups with a steady increase noted among only the oldest age category. The highest age-specific OOH flu/FLI rate in weeks 40 and 41 was seen among those aged 0-4 years (4.2 per 100,000 population) and 15-44 years (3.2 per 100,000 population) respectively. Those aged 45-64 and 65 years and over represented the joint lowest rate in week 40 (2.0 per 100,000 population), while the lowest age-specific rate in week 41 was noted among those aged 5-14 years (0.4 per 100,000 population) (Figure 6). Age-specific rates in week 41 are similar to those noted during the same period in 2015/16 but lower than in 2014/15.

Virology Data

Table 1. Virus activity in Northern Ireland by source, Week 40 - 41, 2016/17								
Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	5	0	0	0	0	1	0	0%
Non-sentinel	357	2	0	0	0	19	2	1%
Total	362	2	0	0	0	20	2	1%

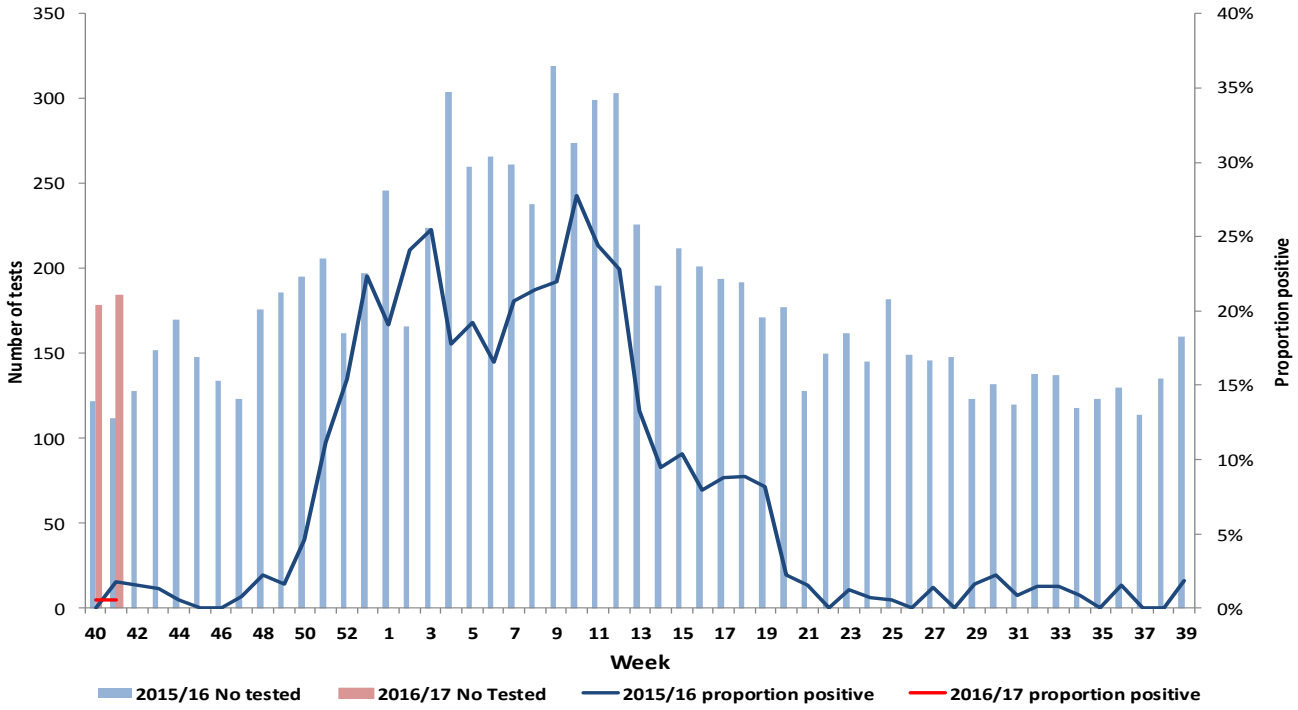
Table 2. Cumulative virus activity from all sources by age group, Week 40 - 41, 2016/17						
	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	0	0	0	0	16
5-14	0	0	0	0	0	0
15-64	0	0	0	0	0	2
65+	2	0	0	0	2	2
Unknown	0	0	0	0	0	0
All ages	2	0	0	0	2	20

Table 3. Cumulative virus activity by age group and source, Week 40 - Week 41, 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	0	0	0	0	0	16
5-14	0	0	0	0	0	0	0	0	0	0	0	0
15-64	0	0	0	0	0	1	0	0	0	0	0	1
65+	0	0	0	0	0	0	2	0	0	0	2	2
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	0	0	0	0	0	1	2	0	0	0	2	19

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



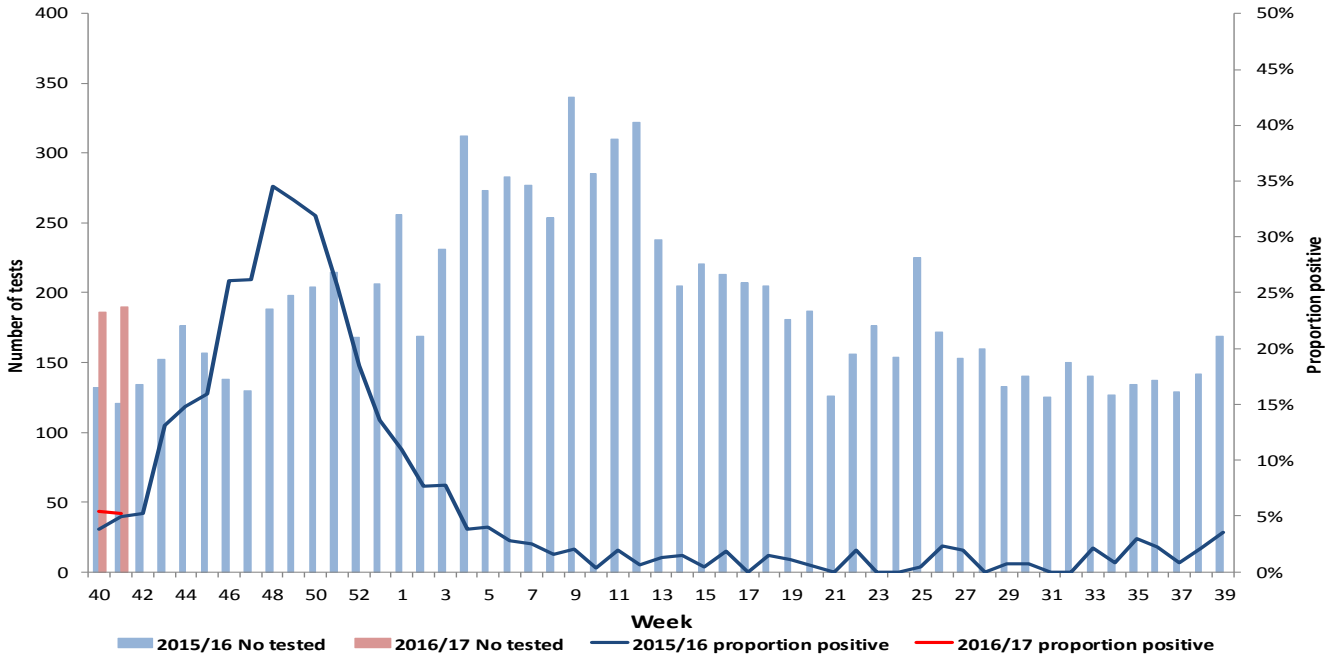
Comment

During weeks 40 and 41, 2016 there were 362 specimens submitted for virological testing. There were two detections of influenza in total (positivity rate of 1%) (Figure 7). There were two detections of influenza, both of which were typed as influenza A(H3). There were no detections of influenza A(H1N1)pdm09 or influenza B.

There were no samples positive for influenza submitted through the GP based sentinel scheme across Northern Ireland (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

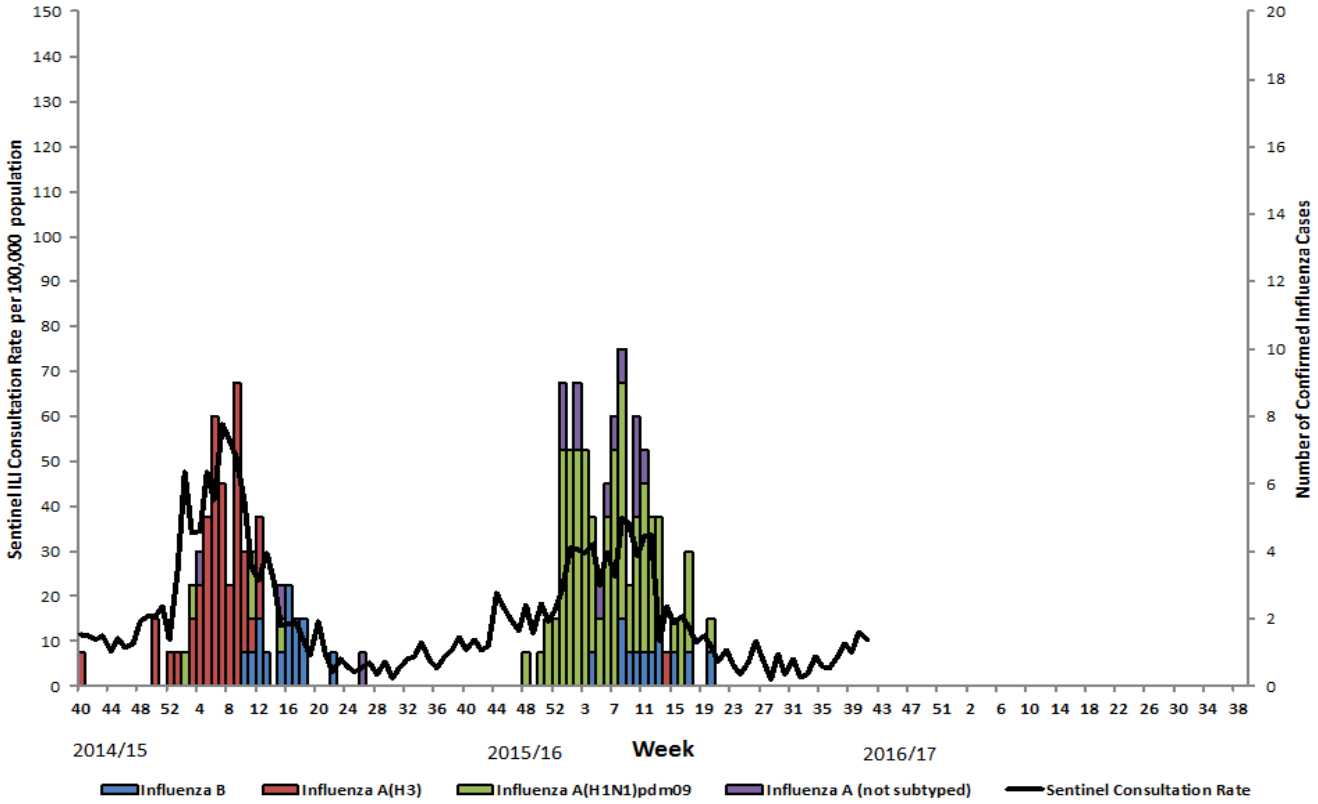


Comment

During weeks 40 and 41, there were 20 positive detections of RSV. Positivity rates were 5% and are similar to the same period in 2015/16. The majority (84%) of these detections 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 weeks 40 and 41, there were no confirmed cases of influenza in ICU reported to the PHA.

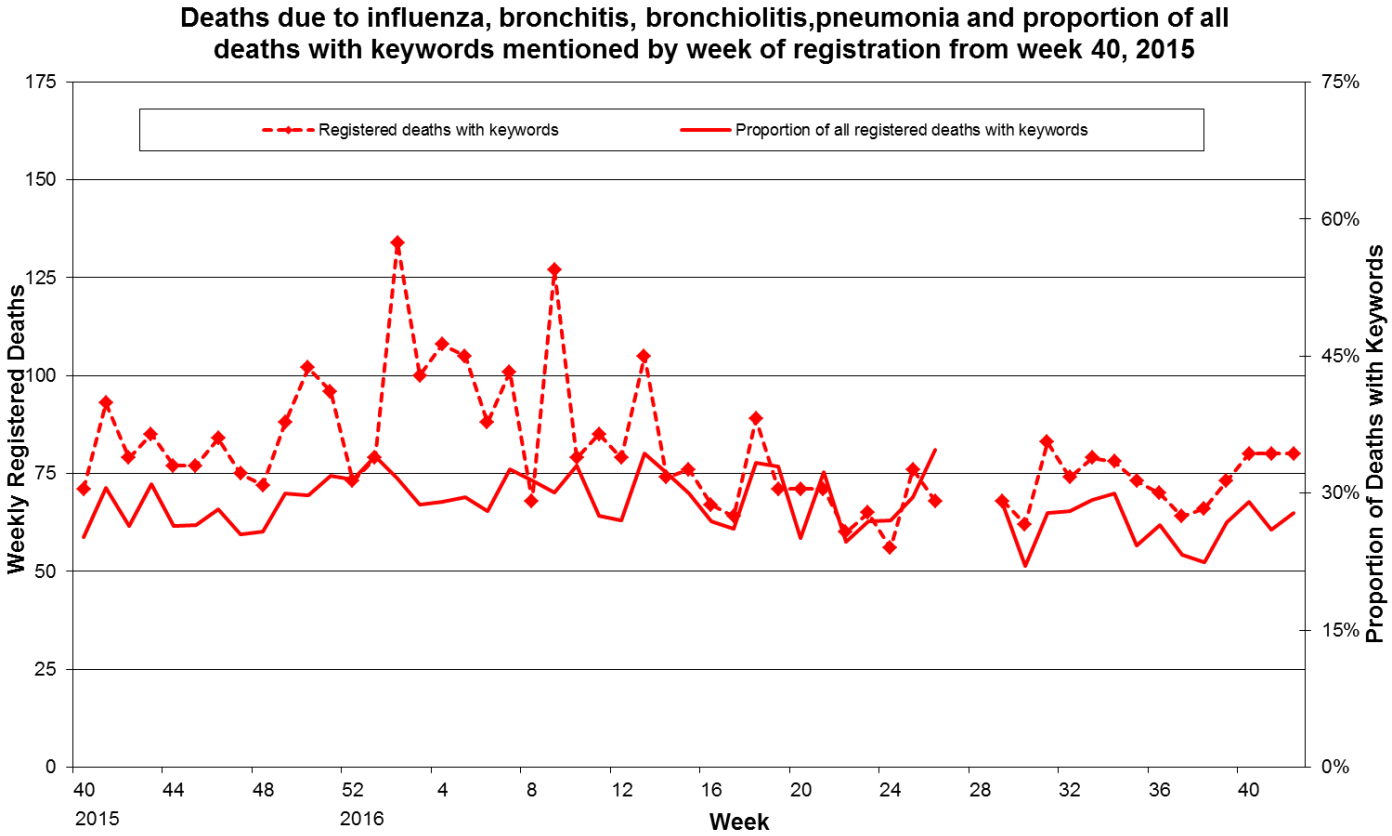
Outbreak Surveillance

During weeks 40 and 41 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 10. Weekly registered deaths



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

Comment

During week 40, the proportion of registered deaths from specific respiratory infections was 25% (288 registered deaths, of which 80 related to specific respiratory infections). In week 41 this proportion increased to 28% (288 registered deaths, of which 80 related to specific respiratory infections) (Figure 10).

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

EuroMOMO

EuroMOMO data will be available in November.

Influenza Vaccine Uptake

Vaccine uptake rates for 2016/17 will be reported in the bulletin later in the season.

International Summary

Europe

Week 40, 2016

- This is the first influenza report for the season 2016-2017
- Low influenza activity was reported by 41 countries.
- Only one influenza virus was detected in the community and none were detected in hospitalized cases.

Season

- As is usual for this time of year, influenza activity is low in the European Region.

Global

- As of mid-September, influenza activity was varied in countries of temperate South America, ongoing in South Africa with A(H1N1)pdm09 dominating and decreasing in Oceania where A(H3N2) remained the dominant circulating virus.

http://www.flunewseurope.org/

Worldwide (WHO) and CDC

As at 17th October 2016:

Influenza activity decreased in Oceania, South Africa and temperate South America. Influenza activity in the temperate zone of the northern hemisphere remained at inter-seasonal levels.

- In temperate South America, influenza and respiratory syncytial virus (RSV) activity decreased throughout most of the sub-region. In Chile, influenza-like illness (ILI) and laboratory confirmed influenza detections decreased but remained elevated with A(H3N2) viruses predominant followed by influenza B viruses. In Paraguay, ILI and severe acute respiratory infection (SARI) cases decreased with decreasing detections of respiratory viruses.
- In the temperate countries of Southern Africa, influenza detections decreased with A(H1N1)pdm09 virus dominant.
- In Oceania, influenza virus activity decreased in the last few weeks. Influenza A(H3N2) remained the dominant circulating influenza virus. In Australia, activity decreased but was still high, while in New Zealand ILI consultation rates remained below the seasonal baseline level.
- In the Caribbean countries, influenza and other respiratory virus activity remained low except in Cuba where influenza B virus detections increased and in French Guiana where

ILI activity and influenza detections increased slightly. In Central America, influenza virus activity remained low but detections of RSV increased in several countries.

- In tropical South America, respiratory virus activities remained low in most of the countries, except in Colombia, where RSV activity increased.
- In tropical countries of South Asia, influenza activity was generally low with predominantly influenza B detections.
- In South East Asia, in general a decreasing trend in influenza detection was observed, although in Lao People's Democratic Republic (PDR) and Thailand increased number of influenza detections were reported in recent weeks.
- In tropical countries of Africa, Ghana and Senegal reported slightly increased influenza activity.
- In Northern temperate Asia, influenza activity remained low with predominantly influenza A(H3N2) detections in northern China.
- In North America and Europe, influenza activity was low with few influenza virus detections and ILI levels below seasonal thresholds. In the United States, RSV activity increased.
- National Influenza Centres (NICs) and other national influenza laboratories from 76 countries, areas or territories reported data to FluNet for the time period from 19 September 2016 to 02 October 2016 (data as of 2016-10-14 04:42:06 UTC). The WHO GISRS laboratories tested more than 43038 specimens during that time period. 2619 were positive for influenza viruses, of which 2150 (82.1%) were typed as influenza A and 469 (17.9%) as influenza B. Of the sub-typed influenza A viruses, 161 (9.3%) were influenza A(H1N1)pdm09 and 1577 (90.7%) were influenza A(H3N2). Of the characterized B viruses, 22 (19.6%) belonged to the B-Yamagata lineage and 90 (80.4%) 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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