

Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 44 - 45 (30th October – 12th November 2017)

Summary

Influenza activity across Northern Ireland remains low. In-hours and OOH Flu/FLI consultations have also remained low and relatively stable. Influenza viruses were detected sporadically both in sentinel and non-sentinel specimens, including hospitalised patients, with both influenza A and B type viruses being detected in weeks 44 - 45 (week commencing 30th October 2017).

Northern Ireland Primary Care Consultation Rates

- GP consultation rates for combined flu and flu-like illness (flu/FLI) were 4.0 per 100,000 population in week 44 and 3.6 per 100,000 population in week 45, 2017. Rates remain well below the 2017/18 Northern Ireland pre-epidemic threshold¹
- OOH GP consultation rates for flu/FLI remained relatively stable compared to recent weeks at 2.5 per 100,000 population in week 44 and 2.4 per 100,000 population in week 45, 2017

Microbiological Surveillance (Flu and RSV)

- The proportion of positive influenza detections from both sentinel and non-sentinel sources was 1% in weeks 44 and 3% in week 45 similar to those since week 40.
- RSV activity continues to increase but remains lower than the same period last season with 10% of specimens positive for RSV in week 44 and 11% in week 45.

Secondary Care (Hospital both non-ICU and ICU)

- Eight detections of influenza from hospital wards were reported to PHA in weeks 44 and 45, 2017
- No new cases were reported in ICU with laboratory confirmed influenza in weeks 44 - 45, there have been no cases this season so far
- No deaths were reported in weeks 44 – 45 among ICU patients with laboratory confirmed influenza; there have been no deaths in ICU patients with laboratory confirmed influenza this season

Influenza Outbreaks across Northern Ireland

- No confirmed influenza outbreaks were reported to the PHA. There have been no confirmed influenza outbreaks this season

Mortality

- No excess all-cause mortality was reported through the EuroMOMO algorithm for week 44, 2017

¹¹ The pre-epidemic threshold for Northern Ireland is 22.58 per 100,000 population this year (2017/18)

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 2017/18 season commenced on 2nd October 2017.

Surveillance systems used to monitor influenza activity include:

- Northern Ireland GP surveillance representing 98% of Northern Ireland population;
- Sentinel flu-swabber GP practices representing 11.2% of the NI population, contributing to the measurement of circulating influenza in the community
- 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 patients in ICU/HDU with confirmed influenza;
- Mortality data from Northern Ireland Statistics and Research Agency (NISRA);
- Excess mortality estimations are calculated using the EuroMOMO (Mortality Monitoring in Europe) model based on raw death data supplied by NISRA

NB: Please note the change in the collection of Flu/FLI consultation data in 2017-18. Data will now be collected from 325 GP practices, representing 98% of the Northern Ireland (NI) population. This represents a change from previous seasons when data was collected from 37 sentinel GP practices (representing 11.7% of the NI population).

As a result, Flu/FLI consultation rates and the MEM threshold in 2017-18 will be generally lower than in previous years. Please take this into account when interpreting the figures in this season's bulletin.

Northern Ireland GP Consultation Data

Figure 1. Northern Ireland GP consultation rates for flu/FLI 2015/16 - 2017/18

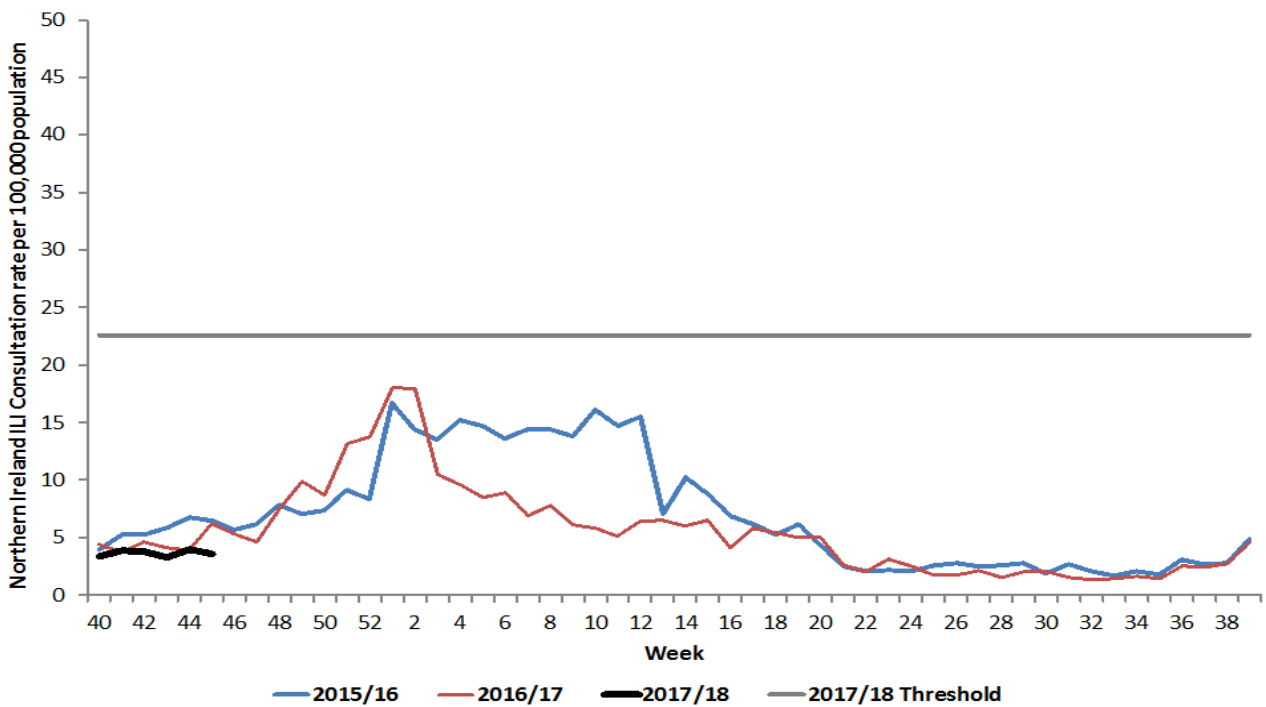


Figure 2. Northern Ireland GP consultation rates for flu/FLI and number of influenza positive detections 2012/13 – 2017/18

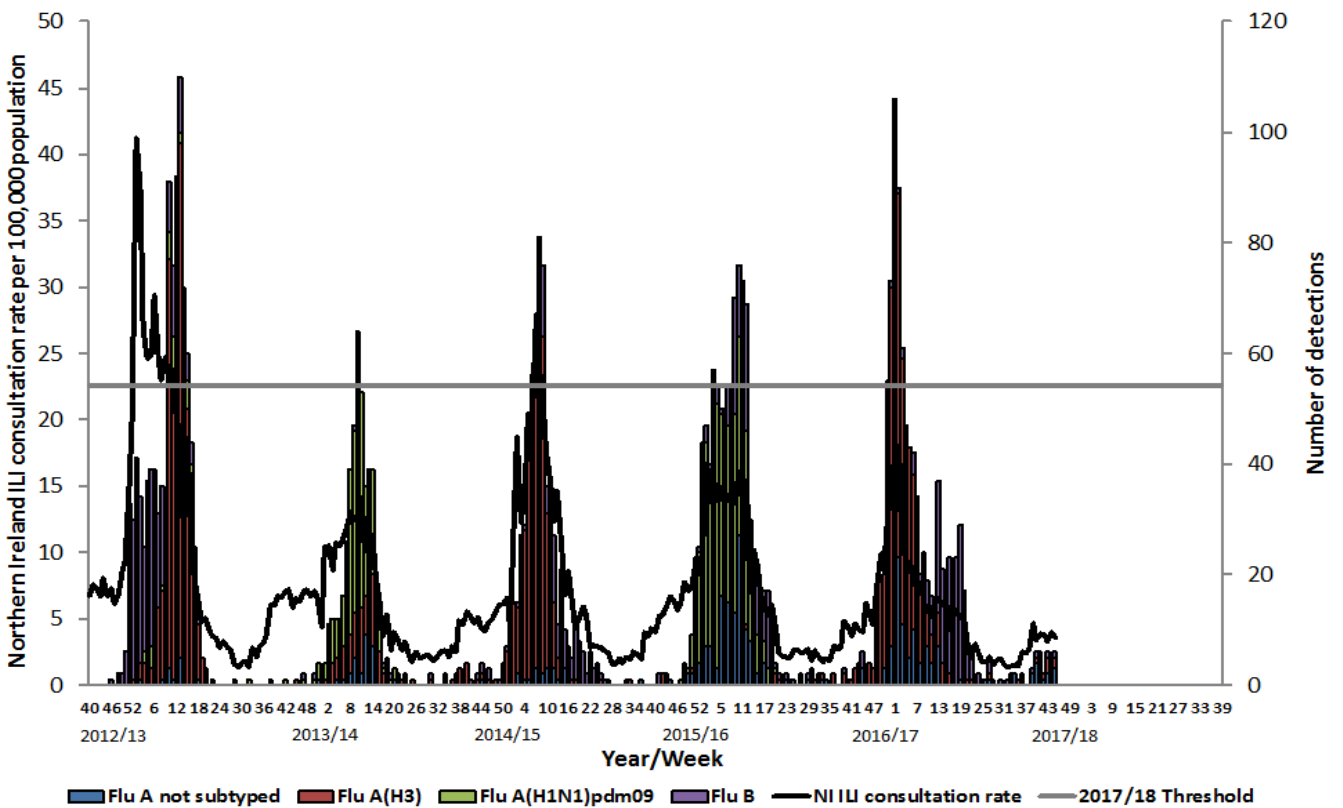
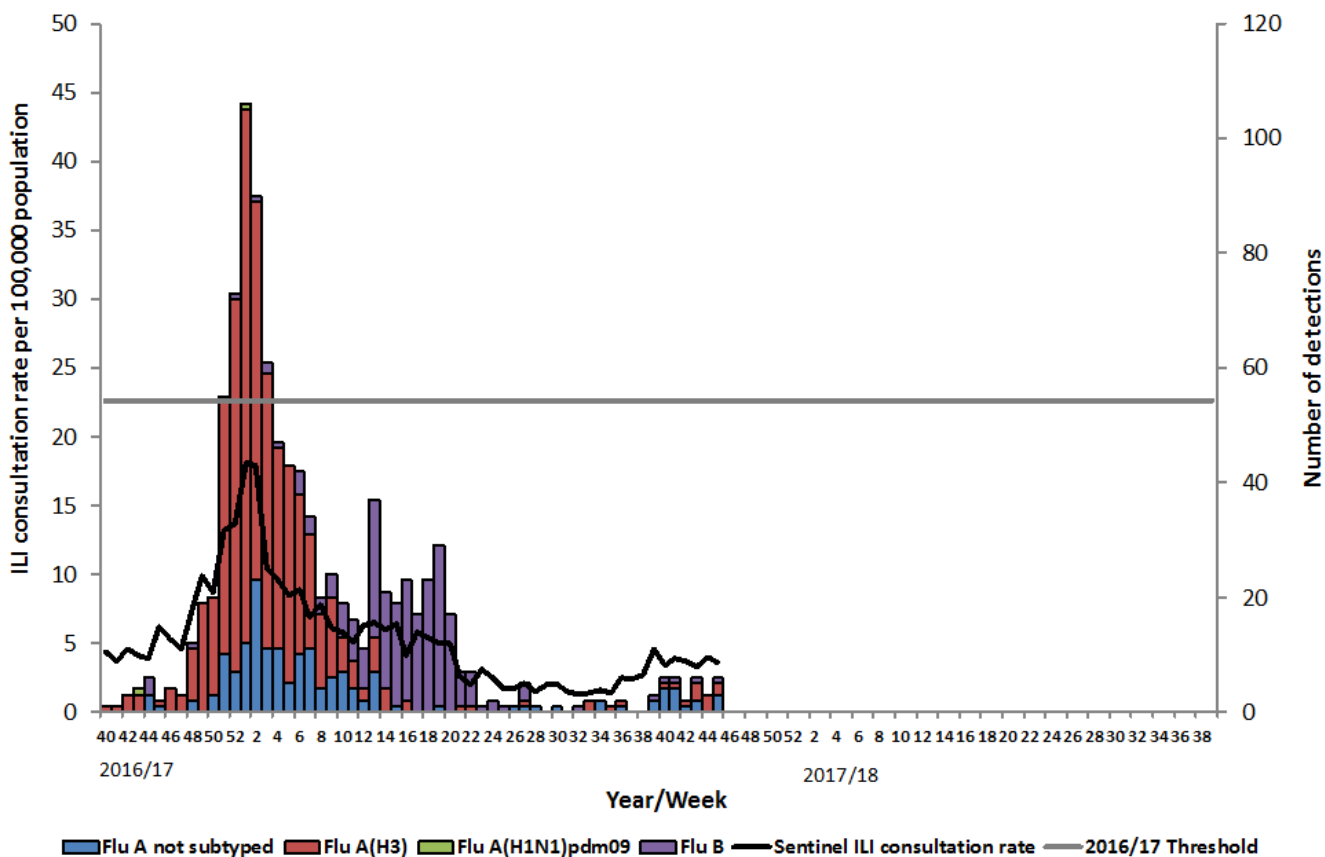


Figure 3. Northern Ireland GP consultation rates for flu/FLI and number of virology 'flu' detections from week 40, 2016



Comment

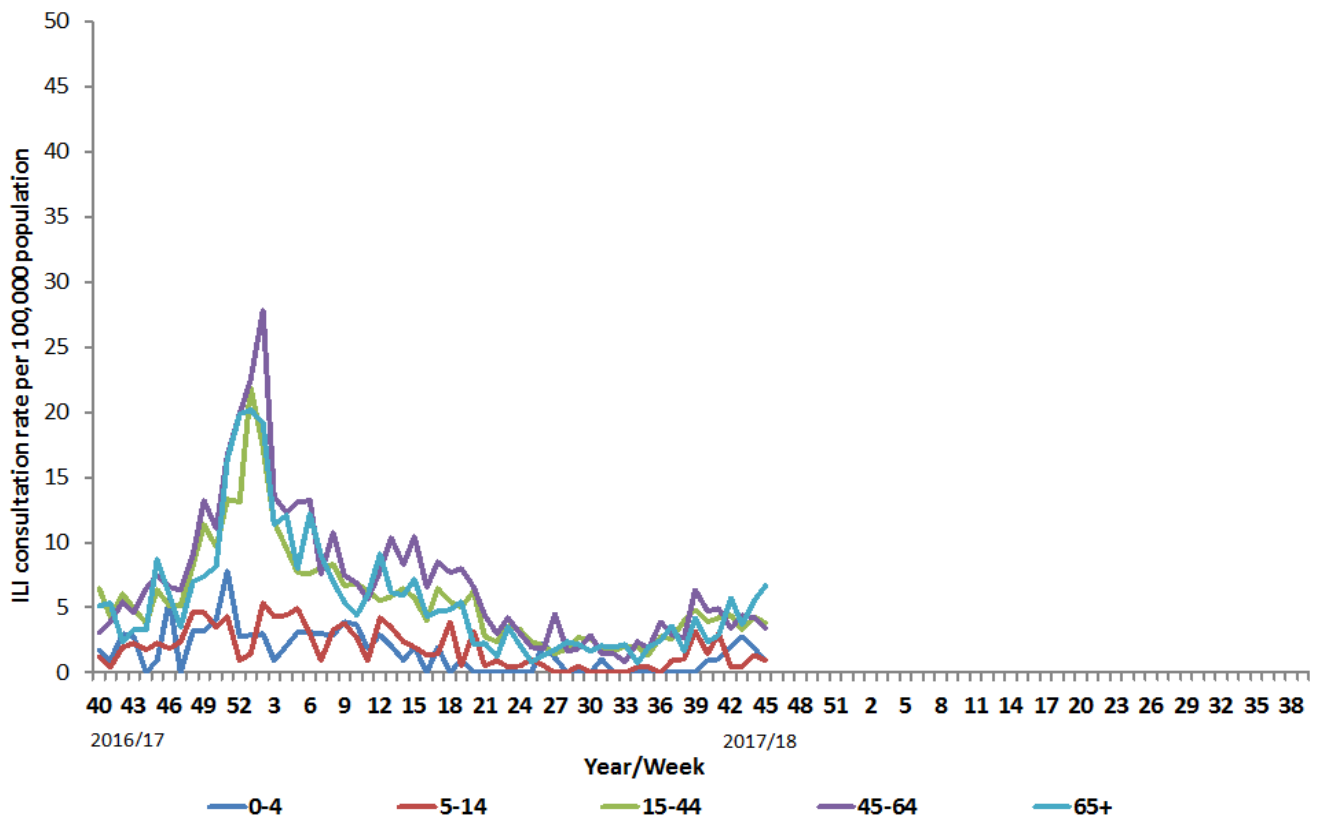
NI GP consultation rates have remained relatively stable since week 40. Rates increased slightly from 3.3 per 100,000 population in week 43 to 4.0 per 100,000 population in week 44 but decreased to 3.6 per 100,000 population in week 45. The NI GP consultation rate in week 45 is lower than the same period in 2016/17 (6.2 per 100,000 population) and 2015/16 (6.4 per 100,000 population).

Rates remain below the pre-epidemic Northern Ireland 2017/18 threshold of 22.58 per 100,000 population.

The number of positive influenza laboratory detections in weeks 44 and 45, 2017 has increased slightly from weeks 42 and 43. At this point in the season there have been a total of 14 detections of influenza A (typing awaited), 11 of influenza A(H3) and four influenza B (Figures 1, 2 and 3).

Further information about laboratory detections of influenza is detailed on page 9.

Figure 4. Northern Ireland GP age-specific consultation rates for flu/FLI from week 40, 2016



Comment

Age-specific rates were highest among those aged 65 years and over with rates of 5.6 and 6.7 per 100,000 population in weeks 44 and 45 respectively. The lowest rate in both weeks was again represented by those aged 5-14 years (1.4 and 0.9 per 100,000 population respectively).

Age-specific consultation rates in week 45 are similar to or lower than for the same period for both 2015/15 and 2016/17 (Figure 4).

Out-of-Hours (OOH) Centres Call Data

Figure 5. OOH call rate for flu/FLI, 2015/16 – 2017/18

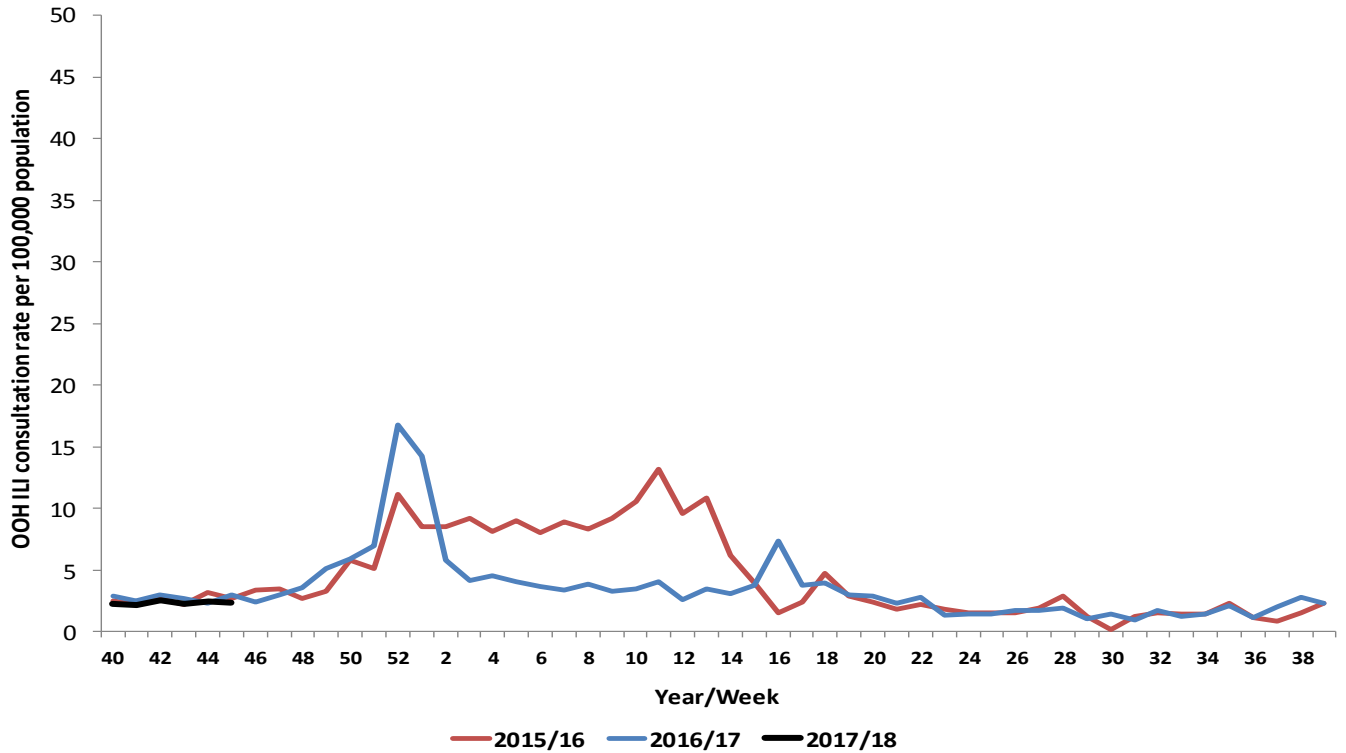
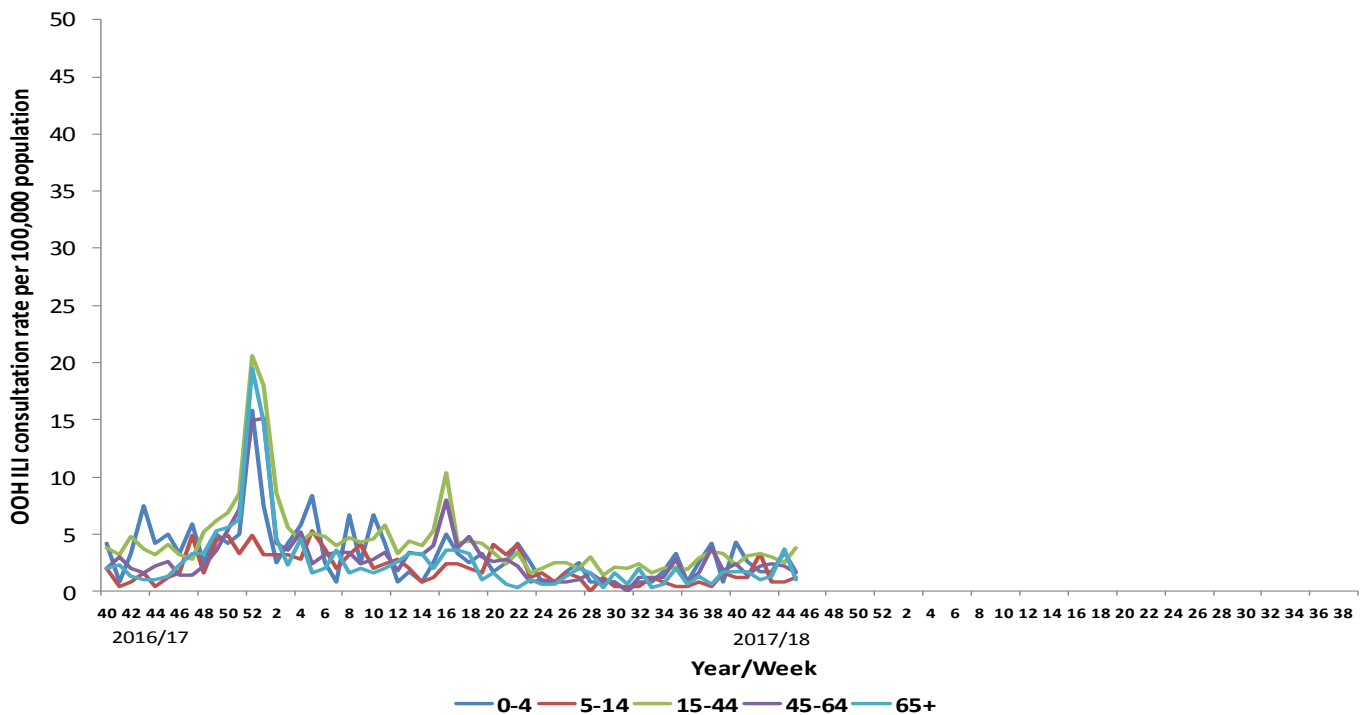


Figure 6. OOH call rates of flu/FLI by age-group from week 40, 2016



Comment

OOH GP consultation rates remained relatively stable with only minor fluctuations. Rates increased from 2.2 per 100,000 population in week 43 to 2.5 per 100,000 population in week 44, then decreasing to 2.4 per 100,000 population in week 45. The OOH GP consultation rate in week 45 is lower than the same period in both 2016/17 (3.0 per 100,000 population) and 2015/16 (2.7 per 100,000 population) (Figure 5).

The proportion of calls related to flu also remained relatively stable across the two-week period and represents approximately 2% of total calls to the OOH service in weeks 44 and 45, 2017.

OOH flu/FLI rates fluctuated amongst all the age groups during weeks 44 and 45; however, this may be due to relatively small numbers in the age groups other than the 15-44 year old group. The highest age-specific OOH flu/FLI rate in week 45 was in the 15-44 years age group (3.8 per 100,000 population) while those aged 65 and over represented the lowest rate (1.0 per 100,000 population) (Figure 6).

Age-specific rates in week 45 were generally similar to or lower than those in 2016/17 and 2015/16.

Virology Data

Table 1. Virus activity in Northern Ireland by source, Week 44 - 45, 2017/18

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	12	1	0	0	0	0	1	8%
Non-sentinel	420	4	0	3	1	49	8	2%
Total	432	5	0	3	1	49	9	2%

Table 2. Cumulative virus activity from all sources by age group, Week 40 - 45, 2017/18

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	0	0	1	1	66
5-14	1	0	0	1	2	2
15-64	5	0	6	1	12	12
65+	5	0	8	1	14	10
Unknown	0	0	0	0	0	0
All ages	11	0	14	4	29	90

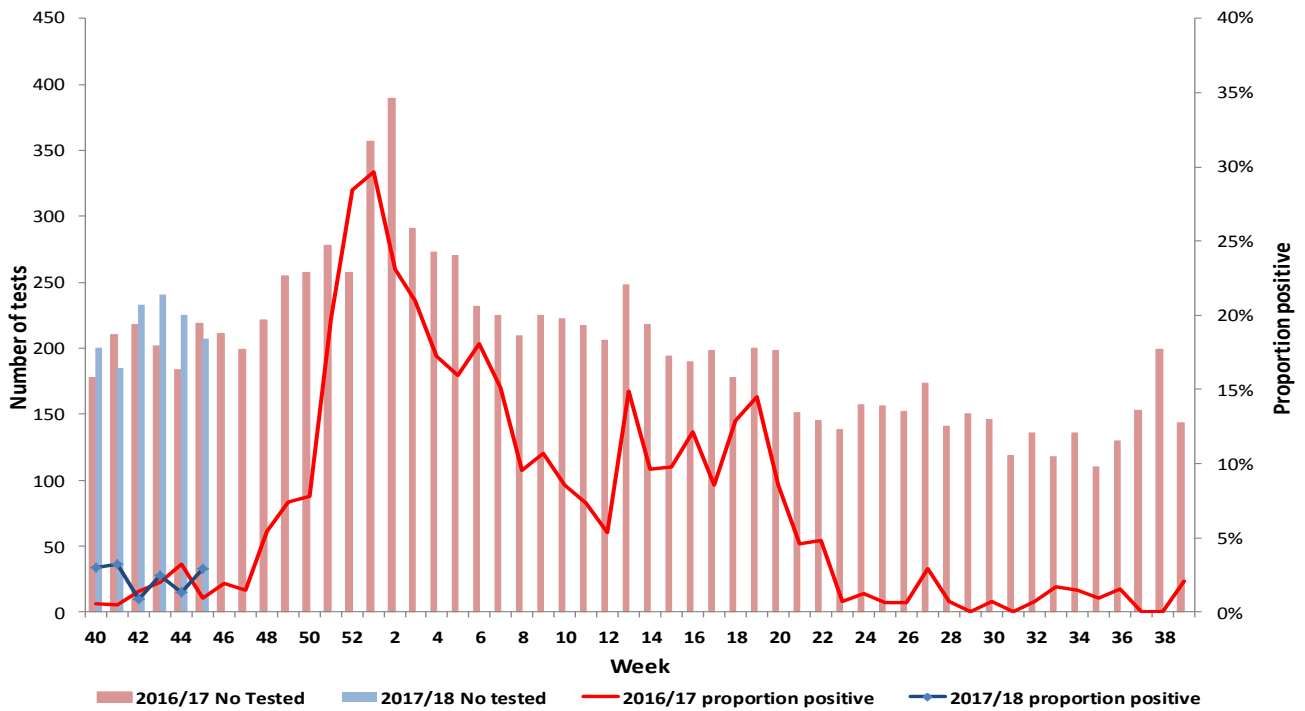
Table 3. Cumulative virus activity by age group and source, Week 40 - Week 45, 2017/18

	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	1	1	66
5-14	1	0	0	0	1	0	0	0	0	1	1	2
15-64	2	0	4	1	7	1	3	0	2	0	5	11
65+	1	0	0	0	1	0	4	0	8	1	13	10
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	4	0	4	1	9	1	7	0	10	3	20	89

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, 2016/17 and 2017/18, all sources



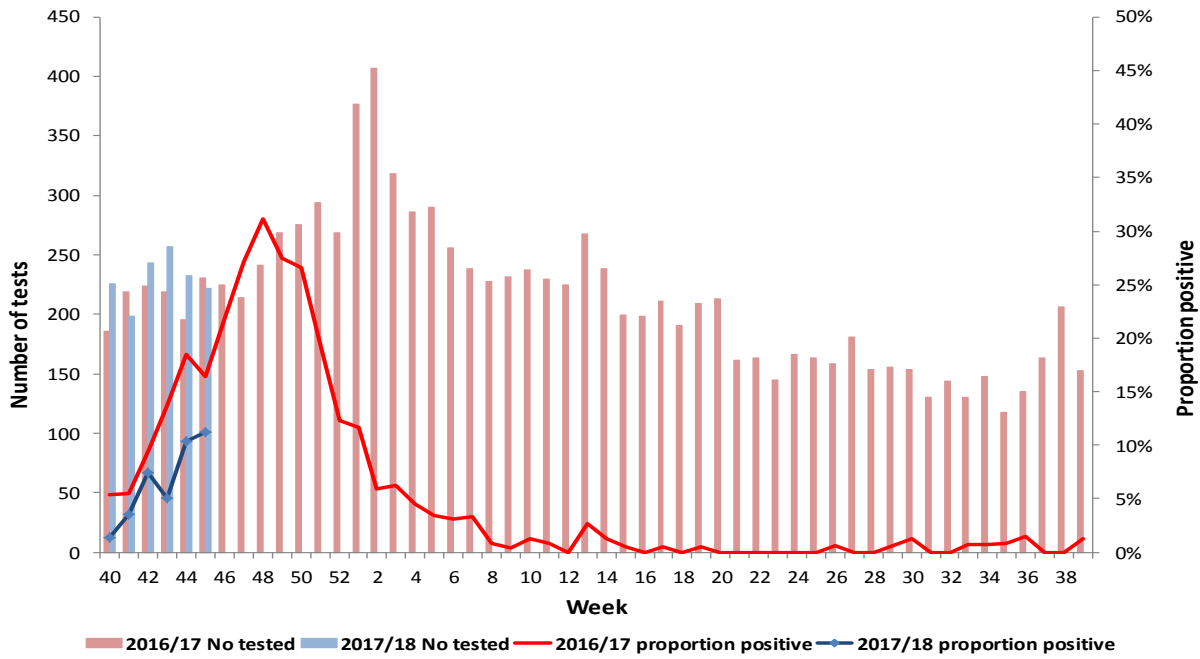
Comment

During weeks 44 and 45, 2017 there were 432 specimens submitted for virological testing. There were nine detections of influenza in total (positivity rate of 2%), of which five were typed as influenza A(H3), three were influenza A (typing awaited), and one as influenza B. There were no detections of influenza A(H1N1)pdm09 (Figure 7).

There was one sample positive for influenza submitted through the GP based sentinel scheme across Northern Ireland, which was typed as influenza A (typing awaited) (Tables 1, 2, 3; Figures 2 and 3).

Respiratory Syncytial Virus

Figure 8. Number of samples tested for RSV and proportion positive, 2016/17 and 2017/18, all sources

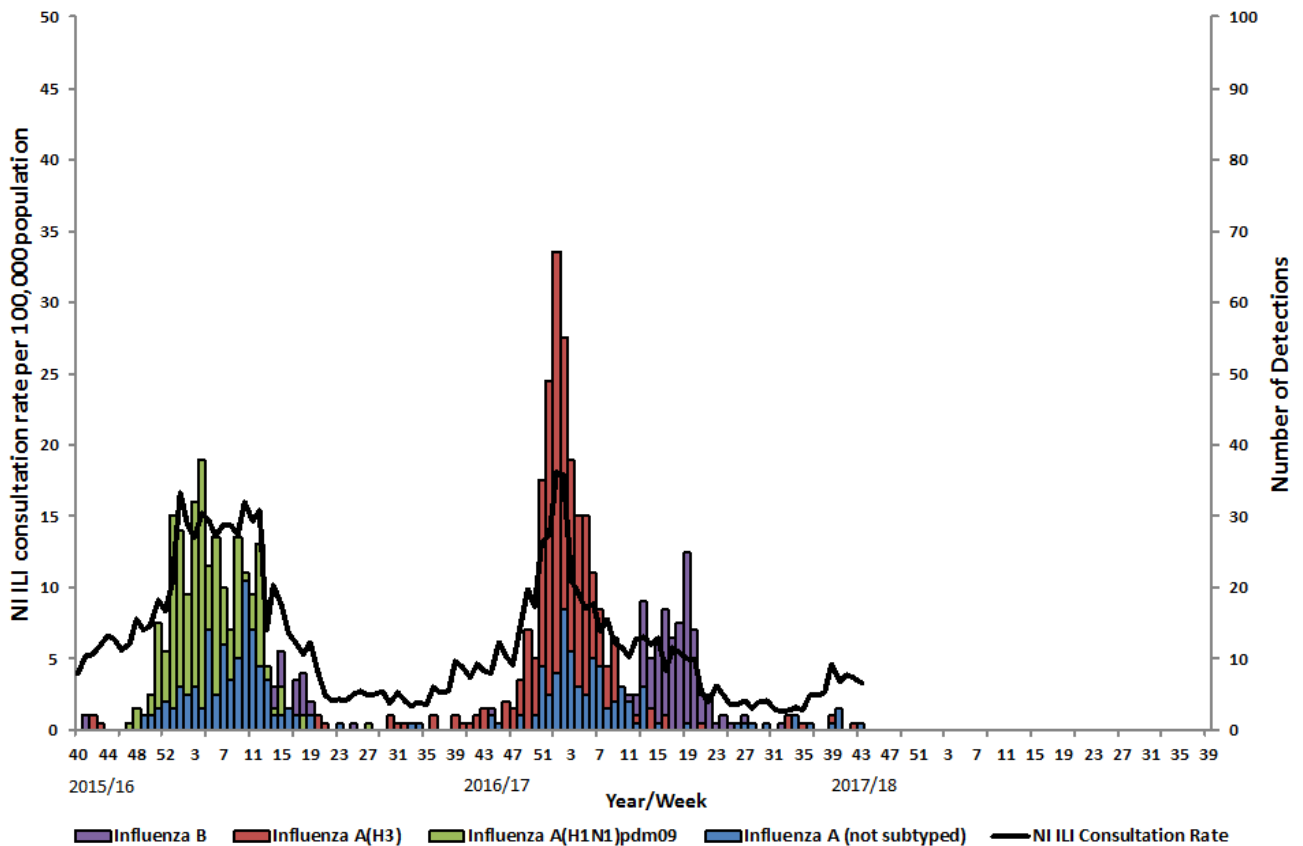


Comment

During weeks 44 and 45, 2017 there were 49 positive detections of RSV giving a positivity rate of 11%, lower than the same period in 2016/17 (17%). To date there have been a total of 90 detections of RSV of which the majority (73%) were in those aged 0-4 years (Figure 8 and Table 2).

Hospital Surveillance (Non-ICU/HDU)

Figure 9. Confirmed influenza cases in hospital by week of specimen, with Northern Ireland ILI consultation rate, 2015/16 - 2017/18



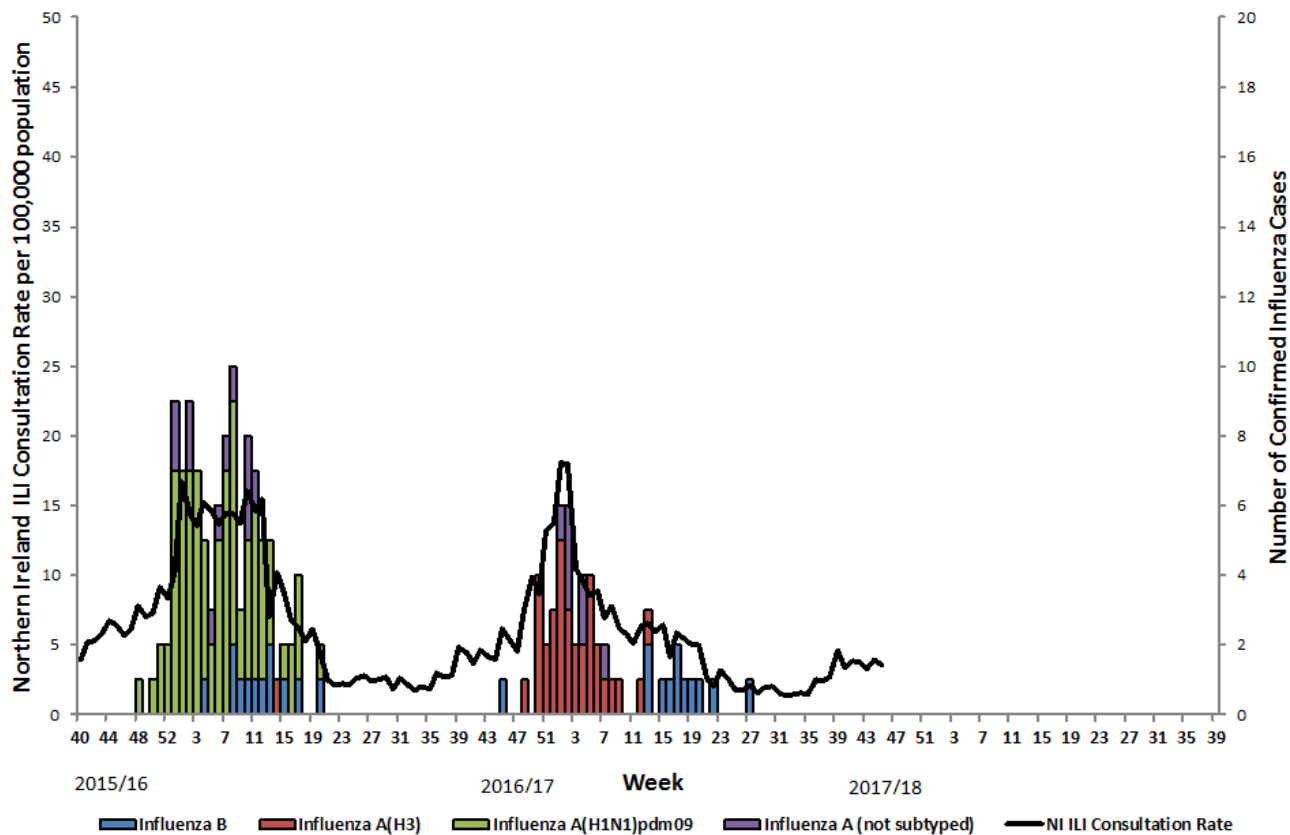
Comment

For the first time in 2017/18 the PHA will be reporting on detections of influenza from specimens taken in hospital wards across Northern Ireland, reported to PHA through the regional virology laboratory.

During weeks 44 and 45, 2017 there were a total of eight detections of influenza from specimens taken in hospital settings across Northern Ireland. There were four detections of influenza A(H3), three of influenza A (typing awaited) and one detection of influenza B. There have been no detections of influenza A(H1N1)pdm09 to date this season.

ICU/HDU Surveillance

Figure 10. Confirmed ICU/HDU influenza cases by week of specimen, with Northern Ireland ILI consultation rate, 2015/16 - 2017/18



Comment

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

During weeks 44 and 45, no confirmed cases of influenza in ICU were reported to the PHA. There were also no deaths reported in ICU patients with laboratory confirmed influenza.

There have been no confirmed cases of influenza in ICU reported this season to date.

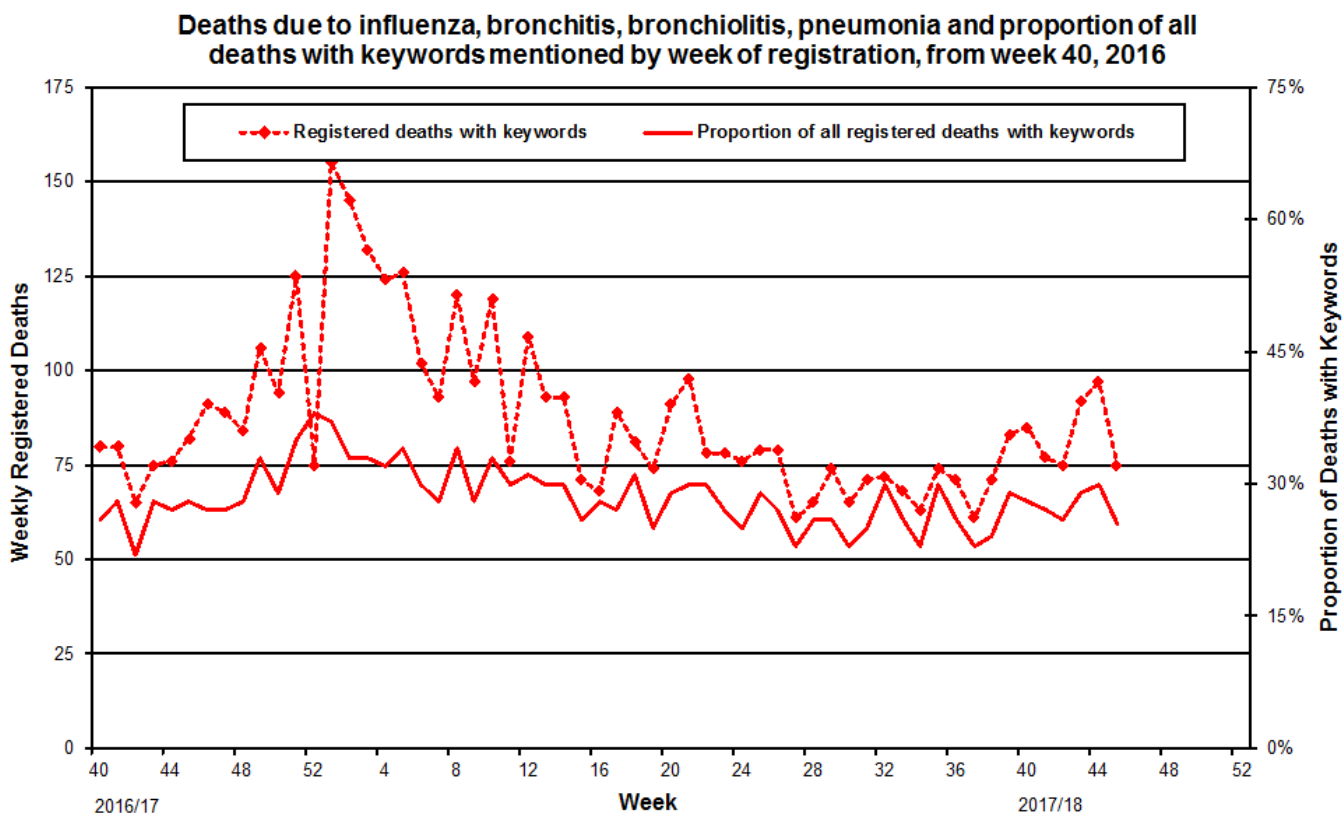
Outbreak Surveillance

During weeks 44 and 45, 2017 there were no confirmed influenza outbreaks reported to the PHA. There have been no confirmed influenza outbreaks reported this season to date.

Mortality Data

Weekly mortality data is provided from Northern Ireland Statistics and Research Agency (NISRA). 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 11. Weekly registered deaths



Comment

During week 44, 2017 the proportion of deaths related to respiratory keywords increased to 30% from 29% in week 43, but decreased to 25% in week 45. In week 45 there were 295 registered deaths, of which 75 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 to the same period in 2016/17 (28%) but similar to 2015/16 (25%).

EuroMOMO

No significant excess all-cause mortality was reported for week 44 in Northern Ireland.

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

International Summary

Europe

Week 44, 2017

- Intensity of influenza activity in Europe remained at a low level, although sporadic detections or local spread were reported by 40% of the reporting countries.
- Overall, 1% of sentinel specimens tested positive for influenza virus.
- Data from the 14 countries or regions reporting to the EuroMOMO project indicated that all-cause mortality was at low levels, as expected for this time of the year.

Additional information on global influenza activity is available from [WHO's biweekly global updates](#).

Season Overview:

- Since week 40/2017, few influenza viruses have been detected in sentinel and non-sentinel specimens.
- Of the viruses subtyped or assigned to a lineage, for detections in both sentinel or non-sentinel surveillance systems, most were identified as A(H3N2) or B/Yamagata viruses. For the northern hemisphere season the A(H3N2) vaccine component is the same as that used in 2015–2016 and only the quadrivalent vaccine contains a B/Yamagata component; both were recommended to be changed for the trivalent vaccine to be used in the next southern hemisphere season. See also the [ECDC summary report for September](#) and the [ECDC commentary](#).

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

Worldwide (WHO)

As at 13th November 2017:

Influenza activity remained at low levels in the temperate zone of the northern hemisphere. Declining levels of influenza activity were reported in the temperate zone of the southern hemisphere and in some countries of South and South East Asia. In Central America and the

Caribbean, low influenza activity was reported in a few countries. Worldwide, influenza A(H3N2) and B viruses accounted for the majority of influenza detections. In temperate South America, influenza and respiratory syncytial virus (RSV) activity continued a downward trend throughout most of the sub-region.

- In North America, overall influenza activity increased slightly but remained low, with detections of predominantly influenza A(H3N2) and B viruses in the past weeks.
- In Europe, influenza activity remained low, with detections of predominantly influenza A(H3N2) and B viruses.
- In Western Asia, influenza activity was low in general. In Qatar, influenza activity remained high with all seasonal subtypes co-circulating.
- In Central Asia, influenza like illness (ILI) and severe acute respiratory infection (SARI) indicators appeared to increase in Kazakhstan, Tajikistan and Uzbekistan.
- In East Asia, influenza activity remained low in general. In Northern China, influenza A(H3N2) detections increased slightly in recent weeks.
- In South East Asia, influenza activity continued to decrease, with influenza A(H3N2) and B viruses most frequently detected.
- In Southern Asia, influenza activity remained low in general. In India, influenza A(H1N1)pdm09 and A(H3N2) detections decreased in recent weeks.
- In Northern Africa, there were no reports during the reporting period.
- In Western and Middle Africa, influenza detections continued to be reported, with all seasonal influenza subtypes present in the region. In Eastern Africa, little to no influenza activity was reported.
- In the Caribbean and Central American countries, respiratory illness indicators and influenza activity remained low in general but respiratory syncytial virus (RSV) activity remained high in several countries.
- In the tropical countries of South America, influenza and RSV activity remained at low levels.
- In the temperate zone of the Southern Hemisphere, influenza activity appeared to have decreased overall.
- National Influenza Centres (NICs) and other national influenza laboratories from 101 countries, areas or territories reported data to FluNet for the time period from 16 October 2017 to 29 October 2017 (data as of 2017-11-10 04:06:39 UTC). The WHO GISRS laboratories tested influenza viruses, of which 2,954 (72.3%) were typed as influenza A and 1,134 (27.7%) as influenza B. Of the sub-typed influenza A viruses, 318 (13.8%) were influenza A(H1N1)pdm09 and 1,985 (86.2%) were influenza A(H3N2). Of the characterized B viruses, 485 (81.1%) belonged to the B-Yamagata lineage and 113 (18.9%) to the B-Victoria lineage.

http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html

Acknowledgments

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The author also acknowledges the Northern Ireland Statistics and Research Agency (NISRA) and the General Register Office Northern Ireland (GRONI) for the supply of data used in this publication. NISRA and GRONI do not accept responsibility for any alteration or manipulation of data once it has been provided.

Further information

Further information on influenza is available at the following websites:

<http://www.fluawareni.info>

<https://www.gov.uk/government/organisations/public-health-england>

<http://www.publichealth.hscni.net>

<http://www.who.int>

<http://ecdc.europa.eu>

<http://www.flunewseurope.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/statistics/weekly-national-flu-reports>

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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