

Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 48 - 49 (27th November – 10th December 2017)

Summary

Influenza activity across Northern Ireland remains low but all indicators showed an increase in week 49. Both in-hours and OOH consultations increased although the increase in in-hours was more pronounced. Detections of influenza virus have increased, with both influenza A and B type viruses being detected in weeks 48 - 49 (weeks commencing 27th November 2017).

Note that due to technical issues there has been a delay in the reporting of some virology results.

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 48 and 8.2 per 100,000 population in week 49, 2017. Rates remain well below the 2017/18 Northern Ireland pre-epidemic threshold¹
- OOH GP consultation rates for flu/FLI increased slightly over the two week period rising from 3.2 in week 47 to 4.7 per 100,000 population in week 48 and 5.4 per 100,000 population in week 49, 2017

Microbiological Surveillance (Flu and RSV)

- The proportion of positive influenza detections from both sentinel and non-sentinel sources increased to 6% in week 48 and 9% in week 49.
- RSV activity remains high but lower than the same period last season with 22% of specimens positive for RSV in week 48 and 16% in week 49.

Secondary Care (Hospital both non-ICU and ICU)

- Sixteen detections of influenza from hospital wards were reported to PHA in weeks 48 and 49, 2017
- One case was reported in ICU with laboratory confirmed influenza in weeks 48 – 49.
- No deaths were reported in weeks 48 – 49 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

- There was no excess all-cause mortality reported through the EuroMOMO algorithm for weeks 48-49, 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/ILI 2015/16 - 2017/18

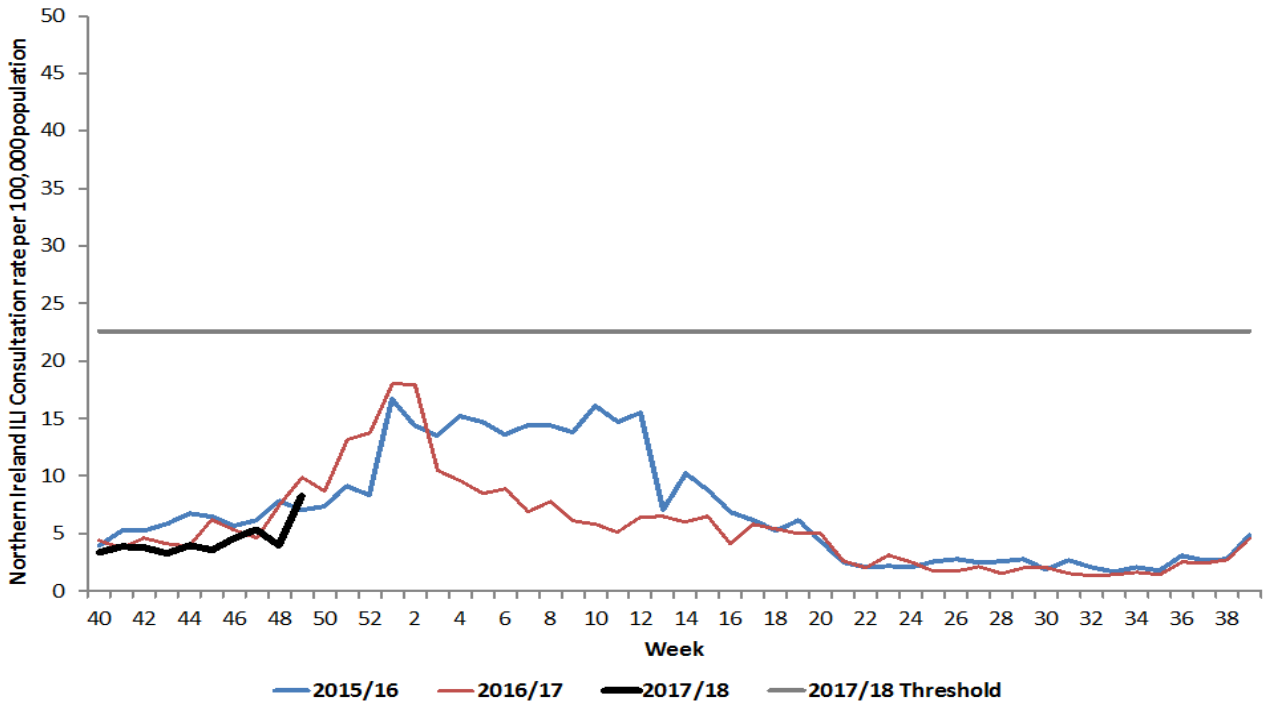


Figure 2. Northern Ireland GP consultation rates for flu/ILI and number of influenza positive detections 2012/13 – 2017/18

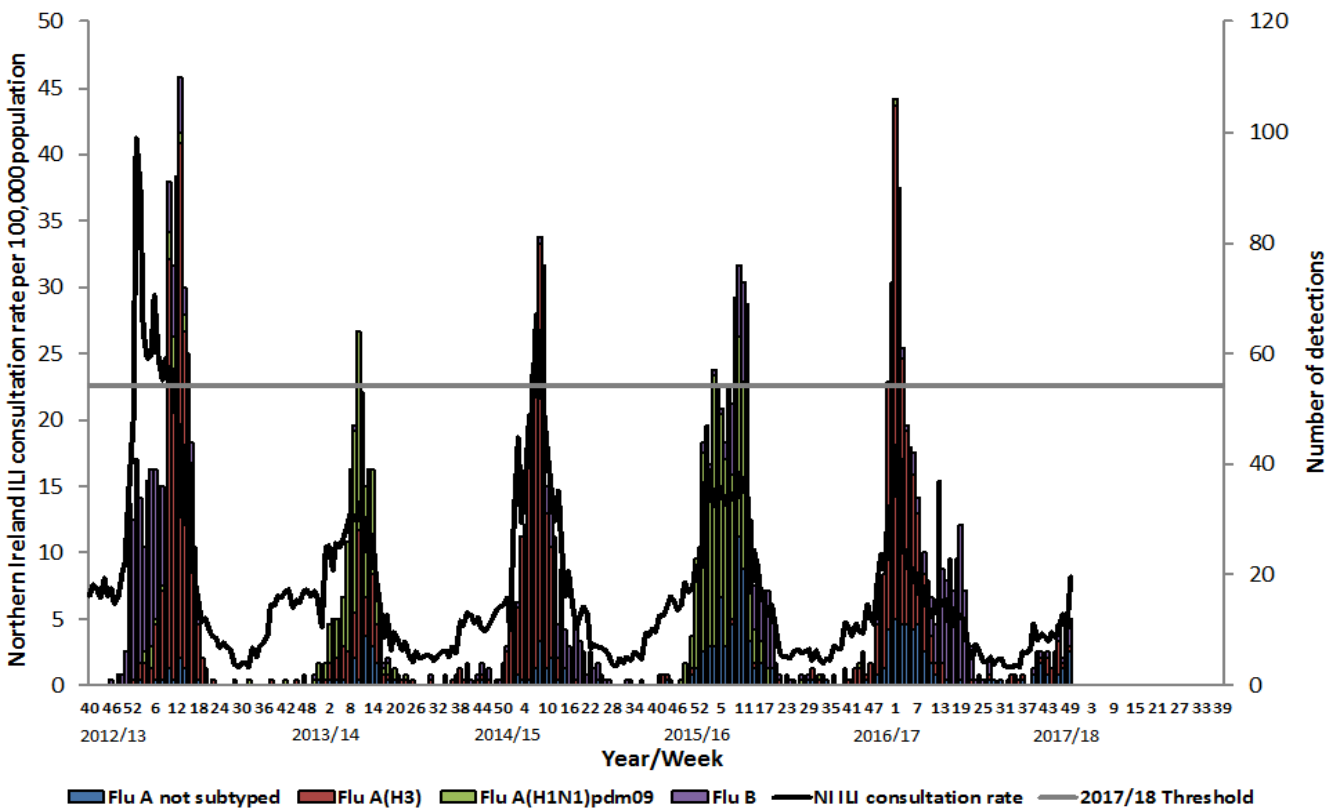
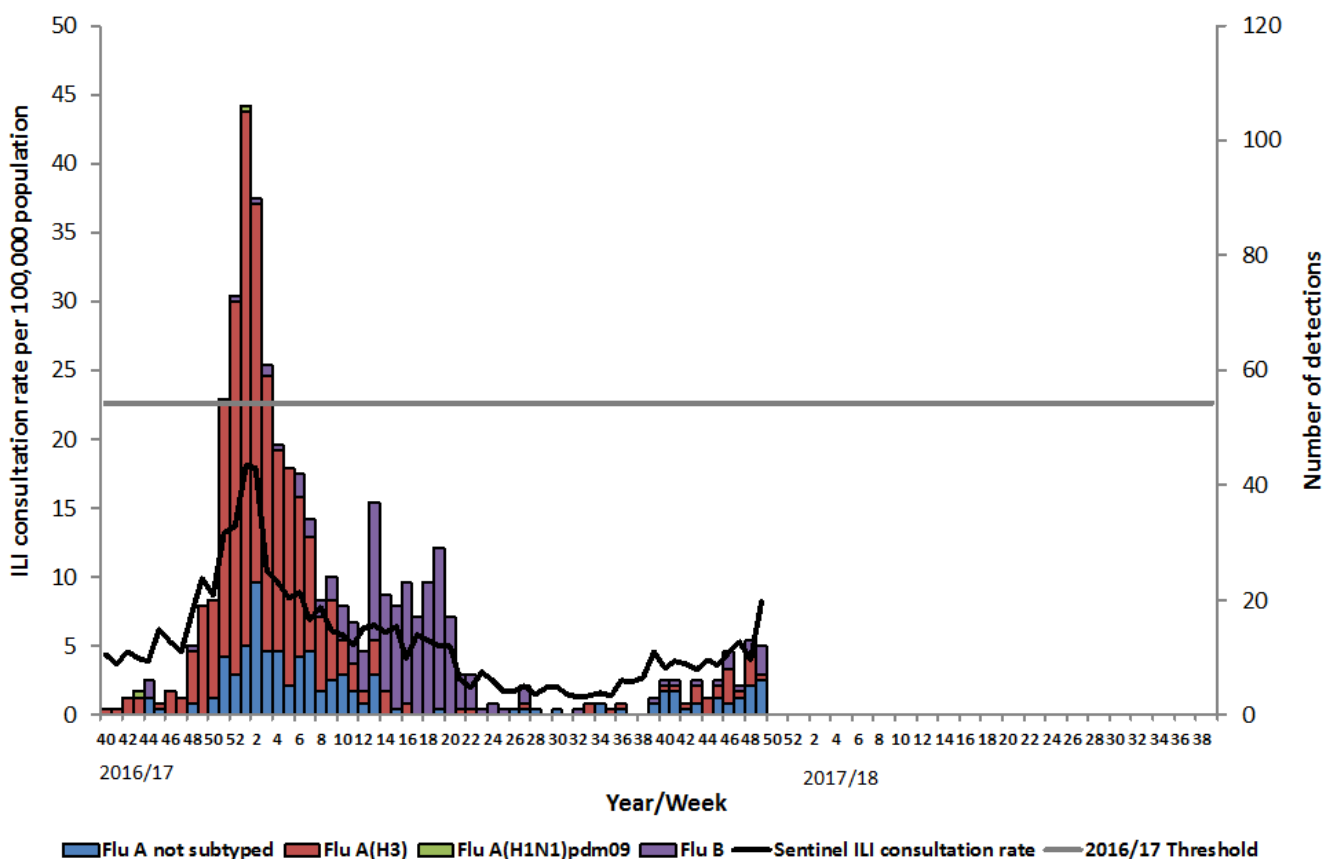


Figure 3. Northern Ireland GP consultation rates for flu/FLI and number of virology 'flu' detections from week 40, 2016



Comment

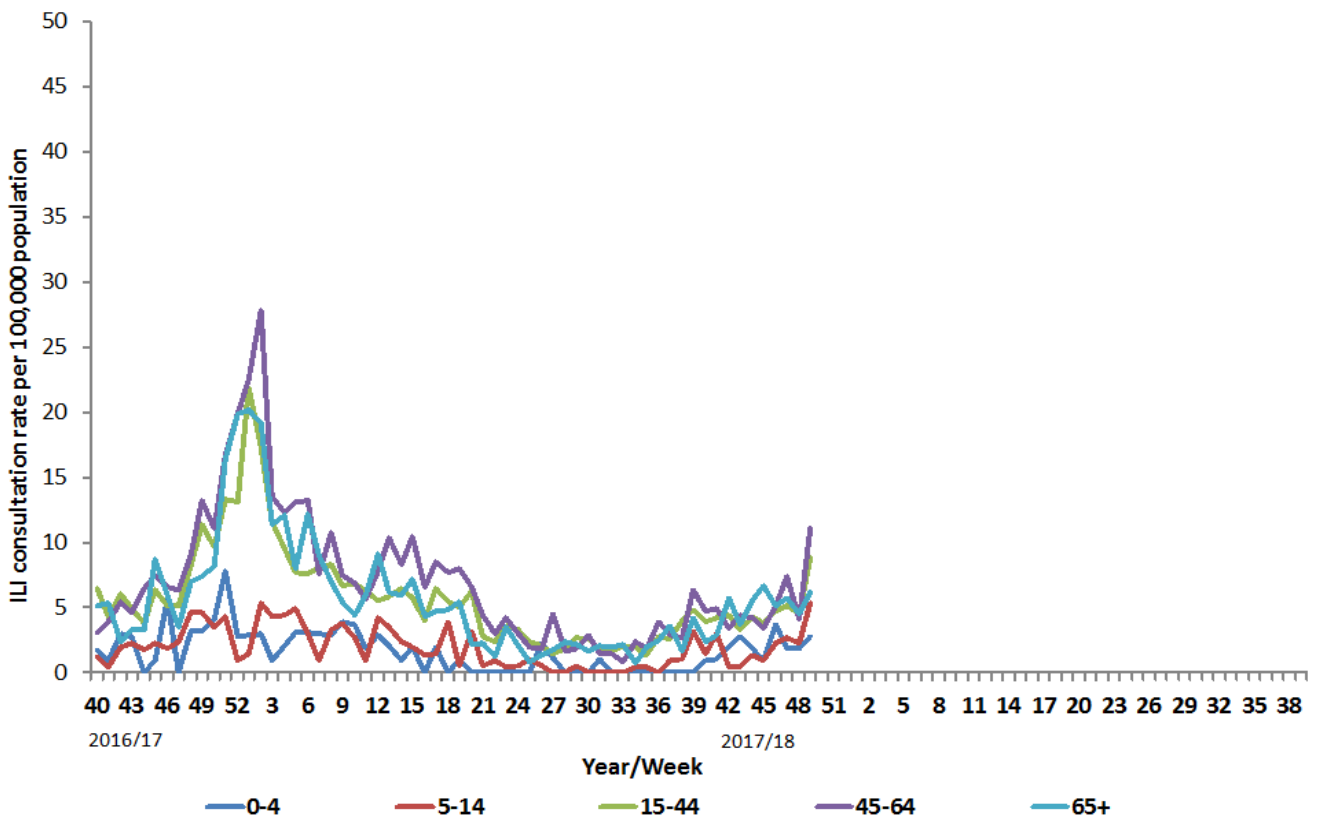
NI GP consultation rates decreased slightly in week 48 to 4.0 per 100, 000 population; however, rates increased to 8.2 per 100,000 population in week 49. The NI GP consultation rate in both week 48 and 49 are slightly lower than the same period in 2016/17 (7.5 and 9.9 and per 100,000 population respectively).

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 increased from 16 in weeks 46 and 47 to 25 in weeks 48 and 49, 2017. At this point in the season there have been a total of 30 detections of influenza A (typing awaited), 24 of influenza A(H3) and 16 of 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

In week 48 age-specific flu/FLI rates were similar to or slightly lower than in week 47. There was a rise in all age-specific flu/FLI rates in week 49, 2017 with the highest rate among those aged those aged 45-64 years at 11.1 per 100,000 population. Similar to the previous report the lowest rates in both weeks were in children aged less than 4 years (Figure 4).

Out-of-Hours (OOH) Centres Call Data

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

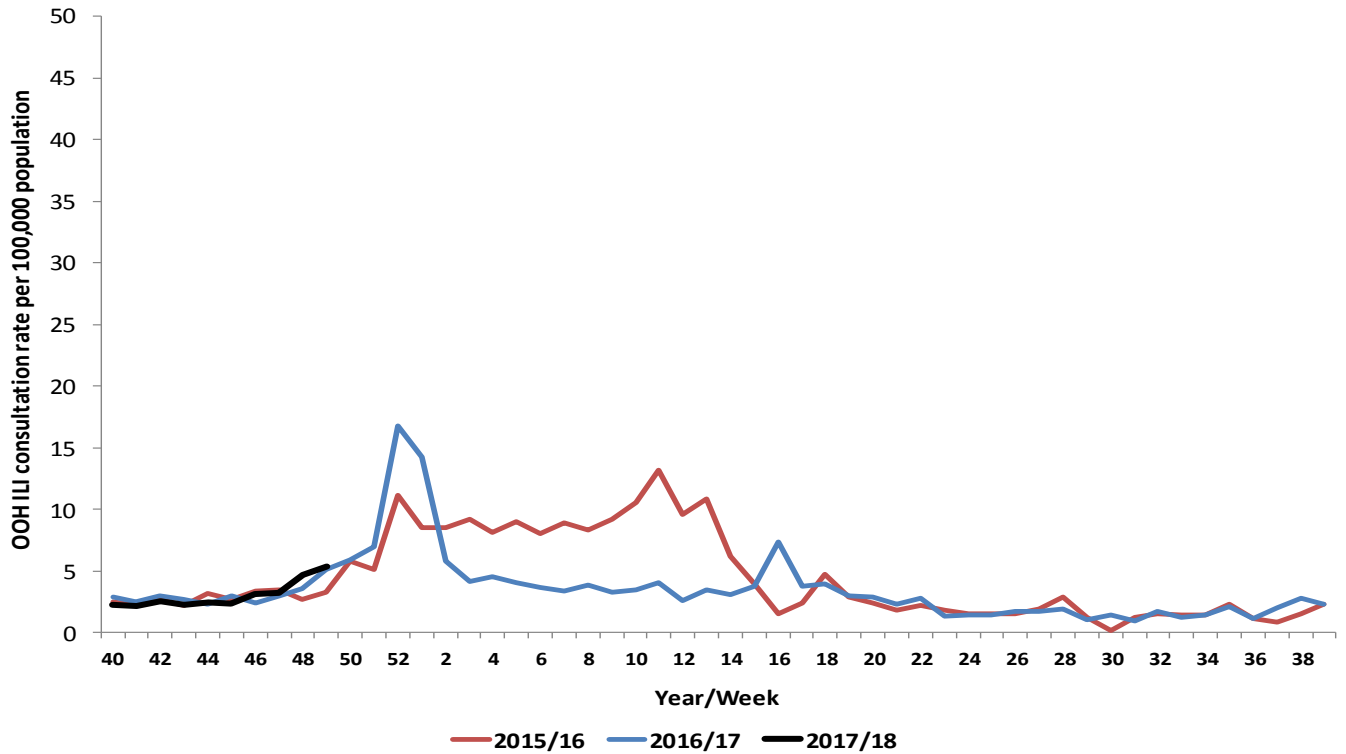
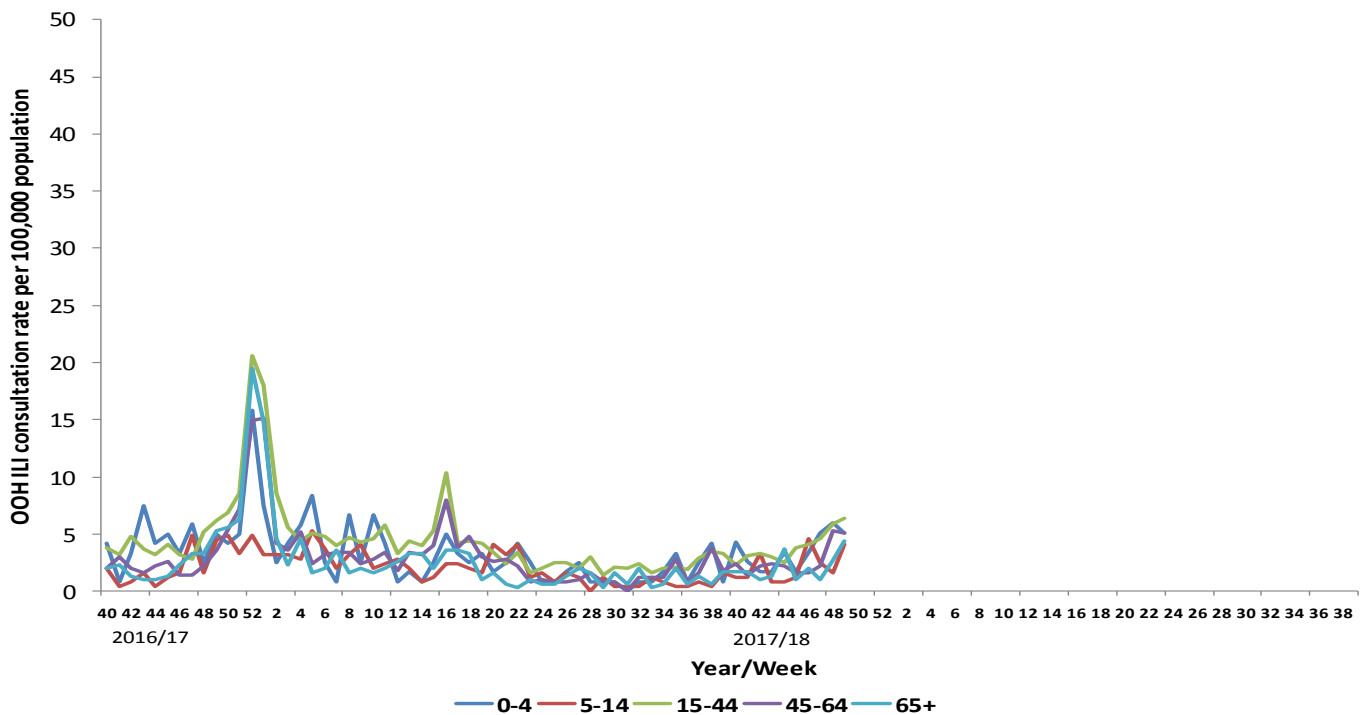


Figure 6. OOH call rates of flu/FLI by age-group from week 40, 2016



Comment

OOH GP consultation rates increased slightly to 4.7 per 100,000 population in week 48 and 5.4 per 100,000 in week 49. Rates are slightly below those in the same period in 2016/17 (3.5 and 5.1 per 100,000 population respectively (Figure 5).

The proportion of calls related to flu also increased slightly across the two-week period but remain less than 1% of total calls to the OOH service in weeks 48 and 49, 2017.

OOH flu/FLI rates fluctuated amongst all the age groups during weeks 48 and 49 but were generally higher than the previous two week period; however, this may be due to relatively small numbers in some of the age groups. The highest age-specific OOH flu/FLI rate in week 48 was in the 0-4 years age group (6.0 per 100,000 population) and in the 15-44 year olds (6.4 per 100,000 population) in week 49. The lowest rates in both weeks were in the 5-14 years age group at 1.7 per 100,000 population in week 48 and 4.1 per 100,000 population in week 49 (Figure 6).

Virology Data

Table 1. Virus activity in Northern Ireland by source, Week 48 - 49, 2017/18

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	8	2	0	0	2	0	4	50%
Non-sentinel	341	4	0	11	6	73	21	6%
Total	349	6	0	11	8	73	25	7%

Table 2. Cumulative virus activity from all sources by age group, Week 40 - 49, 2017/18

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	1	0	2	1	4	174
5-14	2	0	0	2	4	7
15-64	11	0	11	11	33	31
65+	10	0	17	2	29	43
Unknown	0	0	0	0	0	0
All ages	24	0	30	16	70	255

Table 3. Cumulative virus activity by age group and source, Week 40 - Week 49, 2017/18

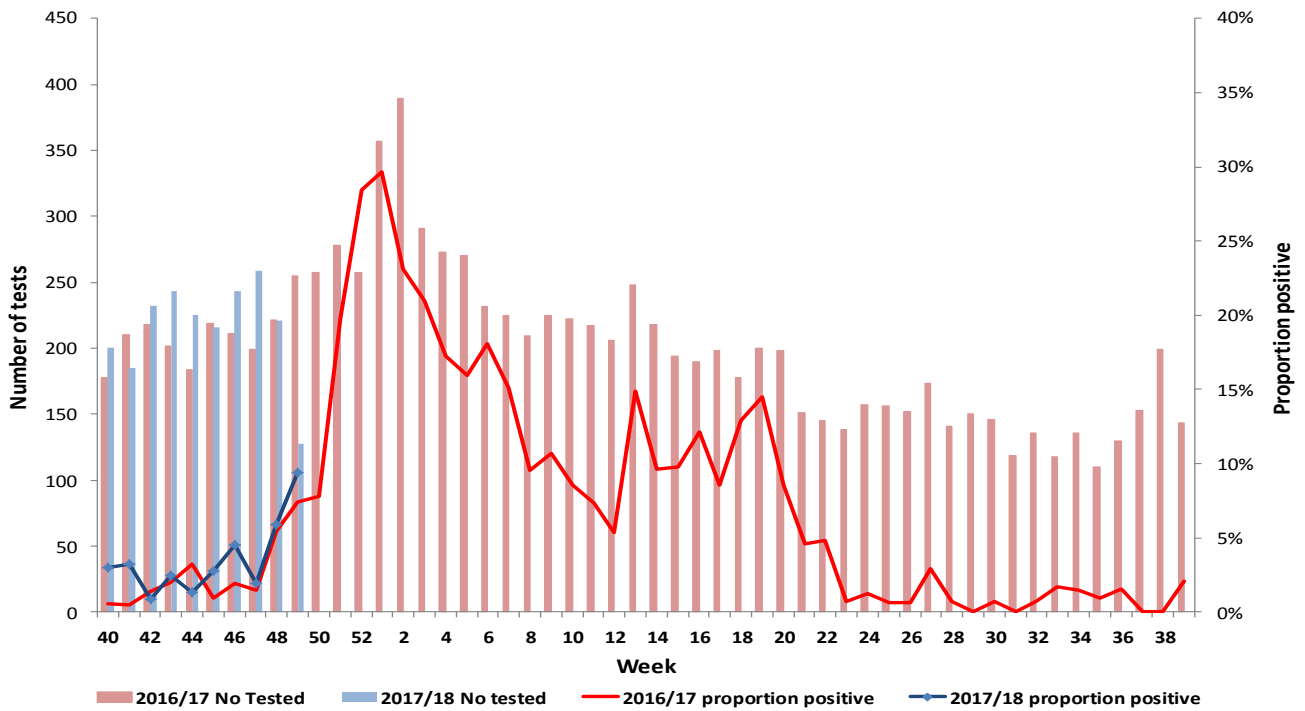
	Sentinel						Non-sentinel					
	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	0	0	0	0	0	1	0	2	1	4	174
5-14	1	0	0	0	1	0	1	0	0	2	3	7
15-64	4	0	4	3	11	3	7	0	7	8	22	28
65+	1	0	0	0	1	0	9	0	17	2	28	43
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	6	0	4	3	13	3	18	0	26	13	57	252

Note

Note that due to technical issues there has been a delay in the reporting of some virology results.

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



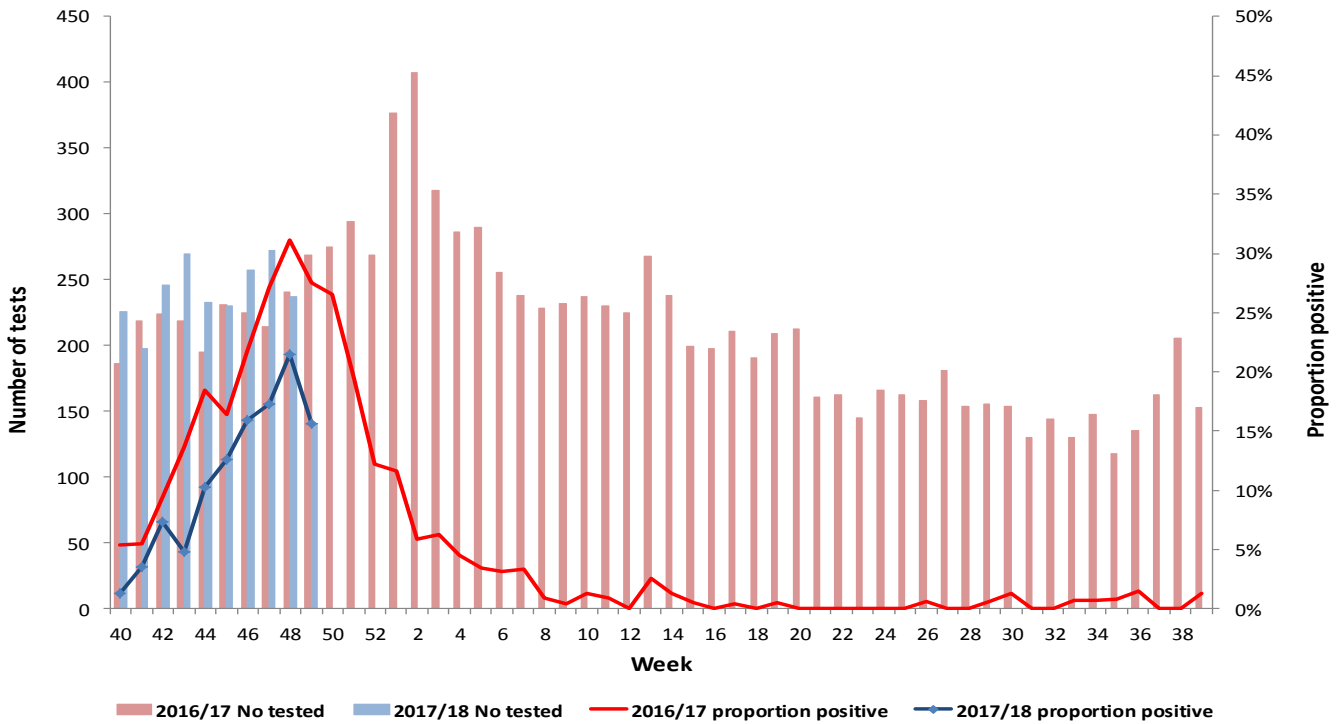
Comment

During weeks 48 and 49, 2017 there were 349 specimens submitted for virological testing. There were 25 detections of influenza in total (positivity rate of 7%), of which 11 were influenza A (typing awaited), six were typed as influenza A(H3) and eight as influenza B. There were no detections of influenza A(H1N1)pdm09 (Figure 7).

There were no two influenza A(H3) and two influenza B reported through the GP based sentinel scheme across Northern Ireland during this period (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

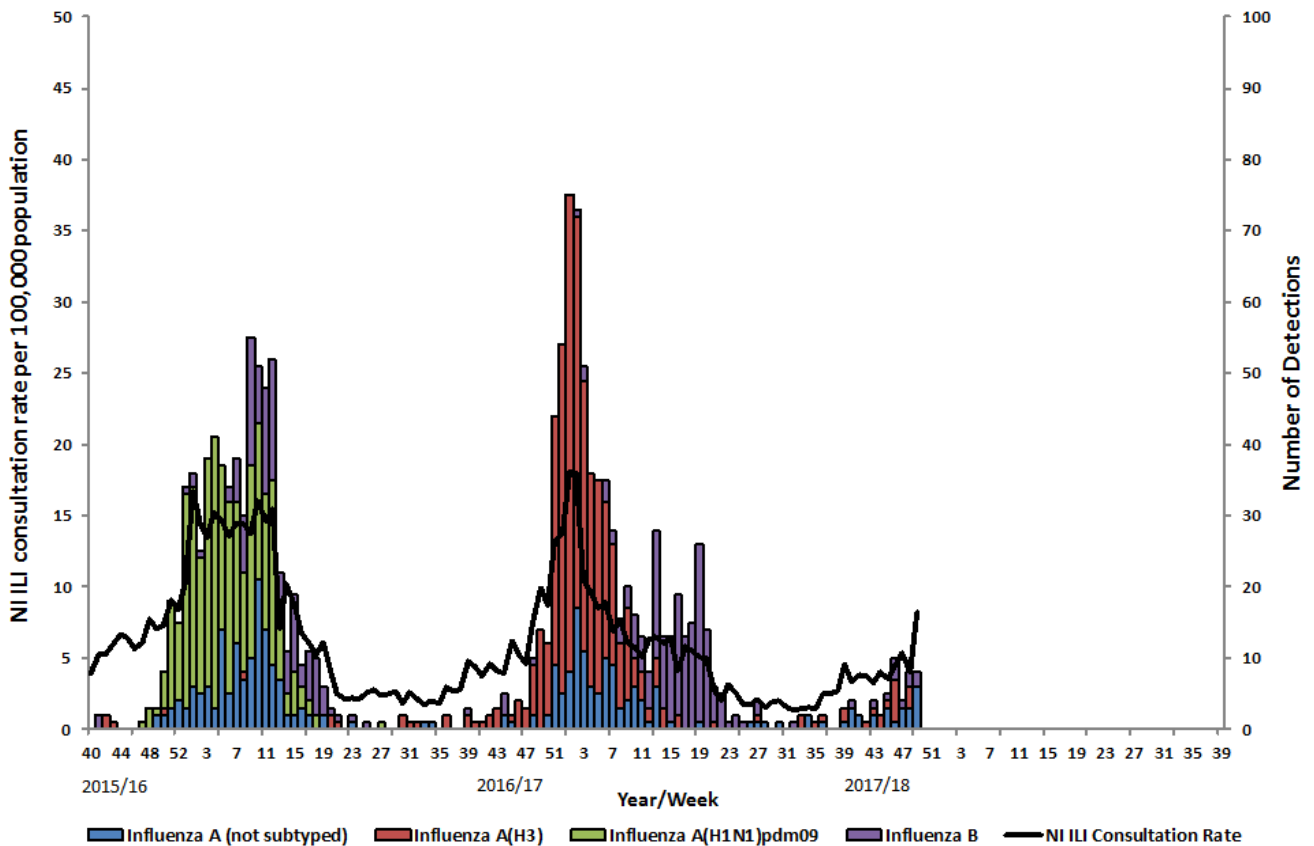


Comment

During weeks 48 and 49, 2017 there were 73 positive detections of RSV giving a positivity rate of 19%, lower than the same period in 2016/17 (29%). To date there have been a total of 255 detections of RSV of which the majority (68%) 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



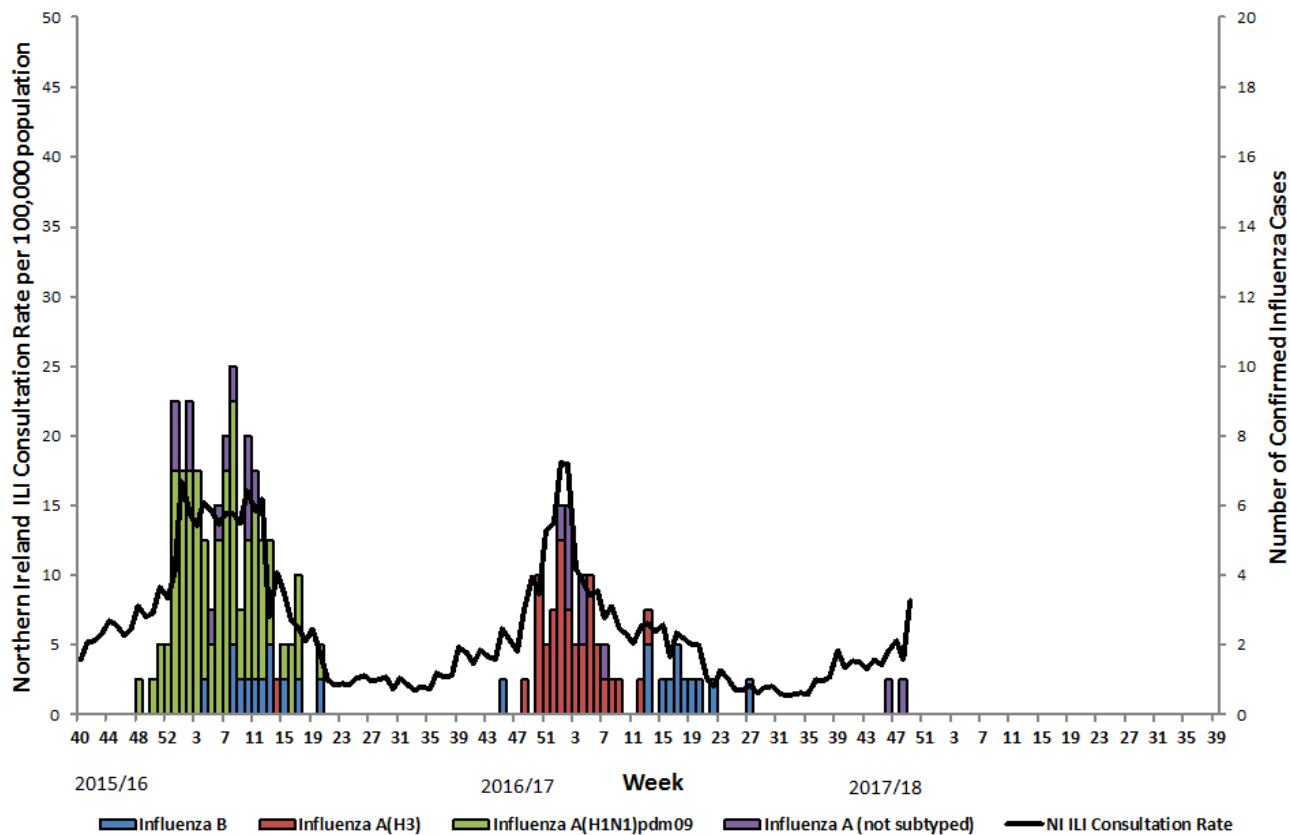
Comment

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 48 and 49, 2017 there were a total of 16 detections of influenza from specimens taken in hospital settings across Northern Ireland. There were nine detections of influenza A (typing awaited), four of influenza B and three of influenza A(H3). 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 48 and 49, one confirmed case of influenza in ICU was reported to the PHA. There were no deaths reported in ICU patients with laboratory confirmed influenza.

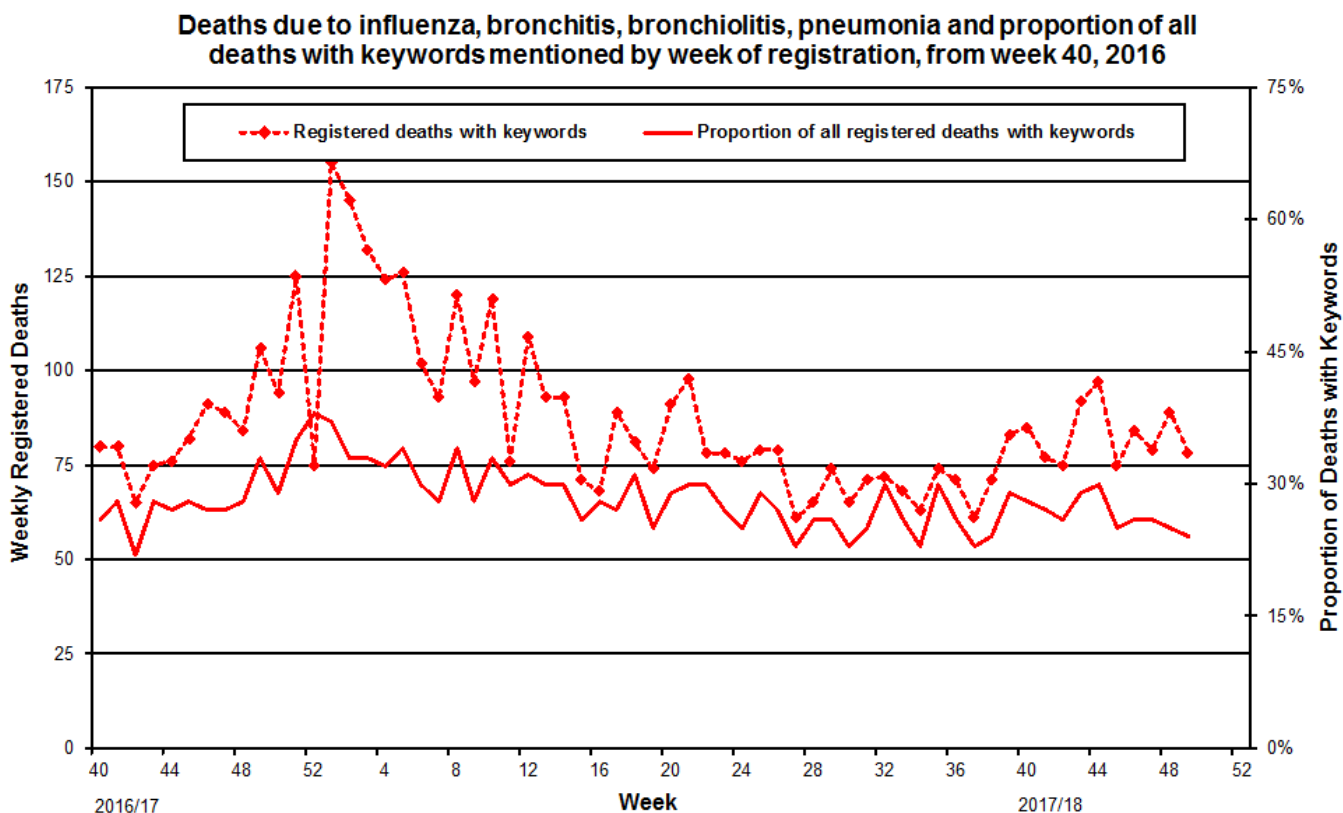
Outbreak Surveillance

During weeks 48 and 49, 2017 there were no confirmed influenza outbreaks reported to the PHA. There has 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 weeks 48 and 49, 2017 the proportion of deaths related to respiratory keywords decreased slightly from 26% in week 47 to 25% in week 48 and 24% in week 49. In week 49 there were 324 registered deaths, of which 78 related to specific respiratory infections (Figure 10).

The proportion of deaths attributed to specific respiratory infections is lower at this point in the season to the same period in 2016/17 (33%) and in 2015/16 (30%).

EuroMOMO

There was no excess all-cause mortality reported in Northern Ireland up to week 48.

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

Influenza Vaccine Uptake.

Vaccine uptake rates will be reported in the bulletin later in the season.

International Summary

Europe

Week 48, 2017

- Influenza activity across Europe remained at low levels.
- Of the individuals sampled, on presenting with ILI or ARI to sentinel primary healthcare sites, 8.8% tested positive for influenza viruses, a higher proportion than the previous week (7%).
- Data from 16 countries or regions reporting to the EuroMOMO project indicated that all-cause excess mortality was within normal ranges for this time of 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.
- For detections from sentinel surveillance systems, the proportions of influenza A(H1N1) pdm09 and A(H3N2) viruses were similar, while from non-sentinel sources most detections were A(H3N2). For both sentinel and non-sentinel surveillance systems, most influenza B viruses assigned to a lineage were B/Yamagata.
- While low in number (n=34), over 68% of the A(H3N2) viruses genetically characterized belonged to clade 3C.2a, the vaccine virus clade, as described in the [WHO recommendations for vaccine composition for the northern hemisphere 2017–18](#).

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

Worldwide (WHO)

As at 11th December 2017:

Influenza activity continued to increase in the temperate zone of the northern hemisphere while in the temperate zone of the southern hemisphere activity appeared to have decreased at inter-seasonal levels. In Central America and the Caribbean, influenza activity remained low. Worldwide, influenza A(H3N2) and B viruses accounted for the majority of influenza detections.

- In North America, overall influenza activity continued to increase in the region, with detections of predominantly influenza A(H3N2) viruses.
- In Europe, influenza activity increased since the previous weeks, but remained low, with detections of predominantly influenza B viruses followed by influenza A(H3N2) viruses.
- In Western Asia, high levels of influenza activity were reported in Oman and Qatar in recent weeks, with detections of all seasonal influenza subtypes.
- In Central Asia, respiratory illness indicators appeared to increase in Kazakhstan and Uzbekistan in recent weeks.
- In East Asia, influenza activity remained low in general. In Northern China, ILI and influenza percentage positive continued to increase, with influenza A(H3N2) and B Yamagata-lineage viruses predominantly detected.
- In South East Asia, low levels of influenza activity were reported.
- In Southern Asia, influenza activity remained low in general. In India, influenza A(H1N1)pdm09 and A(H3N2) detections continued to be reported.
- In Northern Africa, sporadic influenza A virus detections were reported in Morocco and Tunisia.
- In Western Africa, influenza A(H1N1)pdm09 virus detections increased in Cote d'Ivoire and Ghana. In Middle Africa, influenza B detections were reported in Central African Republic. In Eastern Africa, influenza B Yamagata-lineage virus detections were reported in Mozambique.
- 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 overall.
- 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 99 countries, areas or territories reported data to FluNet for the time period from 13 November 2017 to 26 November 2017 (data as of 2017-12-08 03:58:53 UTC). The WHO GISRS laboratories tested more than 113412 specimens during that time period. 8982 were positive for influenza viruses, of which 5617 (62.5%) were typed as influenza A and 3365 (37.5%) as influenza B. Of the sub-typed influenza A viruses, 1122 (33%) were influenza A(H1N1)pdm09 and 2273 (67%) were influenza A(H3N2). Of the characterized B viruses, 1521 (80%) belonged to the B-Yamagata lineage and 381 (20%) 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

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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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