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Influenza Weekly Surveillance Bulletin

Northern Ireland, Weeks 19 - 20 (09 May 2016 – 22 May 2016)

Please note that this is the last bulletin of the 2015-16 influenza season, the PHA would like to extend their thanks to all who have collaborated and contributed throughout the influenza season.

Summary

In Northern Ireland, as of weeks 19 - 20 2016, the 2015/16 influenza season has seen low community influenza activity, low GP consultation rates, and seven influenza outbreaks. ICU admissions remain high, with higher numbers in weeks 19 and 20 and overall this season to date than the in 2014/15 and 2013/14. This year the predominant circulating influenza strain is influenza A (H1N1) pdm09. This strain first occurred in 2009, is of swine origin, and is sometimes referred to as 'swine flu'. It is now one of the annual circulating seasonal viruses and is contained in the 2015/16 vaccine.

In weeks 19 - 20, 2016:

- GP consultation rates for combined flu and flu-like illness (flu/FLI) have fluctuated over the two week period, rising from 9.7 per 100,000 population in week 18 to 11.2 in week 19, then falling to 9.0 per 100,000 population in week 20. Rates remain below the 2015/16 pre-epidemic threshold[1]
- OOH GP consultation rates for flu/FLI decreased from 4.8 per 100,000 population in week 18 to 2.9 in week 19 and 2.4 per 100,000 population in week 20
- RSV activity remains low with levels lower than the similar period last season
- No confirmed influenza outbreaks were reported to the PHA
- The proportion of positive influenza detections decreased to 5%
- Four admissions to ICU were reported with laboratory confirmed influenza
- One death was reported in an ICU patient with laboratory confirmed influenza
- No significant excess mortality was reported through the EuroMOMO algorithm

Introduction

Influenza activity in Northern Ireland is monitored throughout the year using a number of surveillance systems. The influenza season typically runs from week 40 to week 20. Week 40, 2015 commenced on 28th September 2015.

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);
- 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

[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

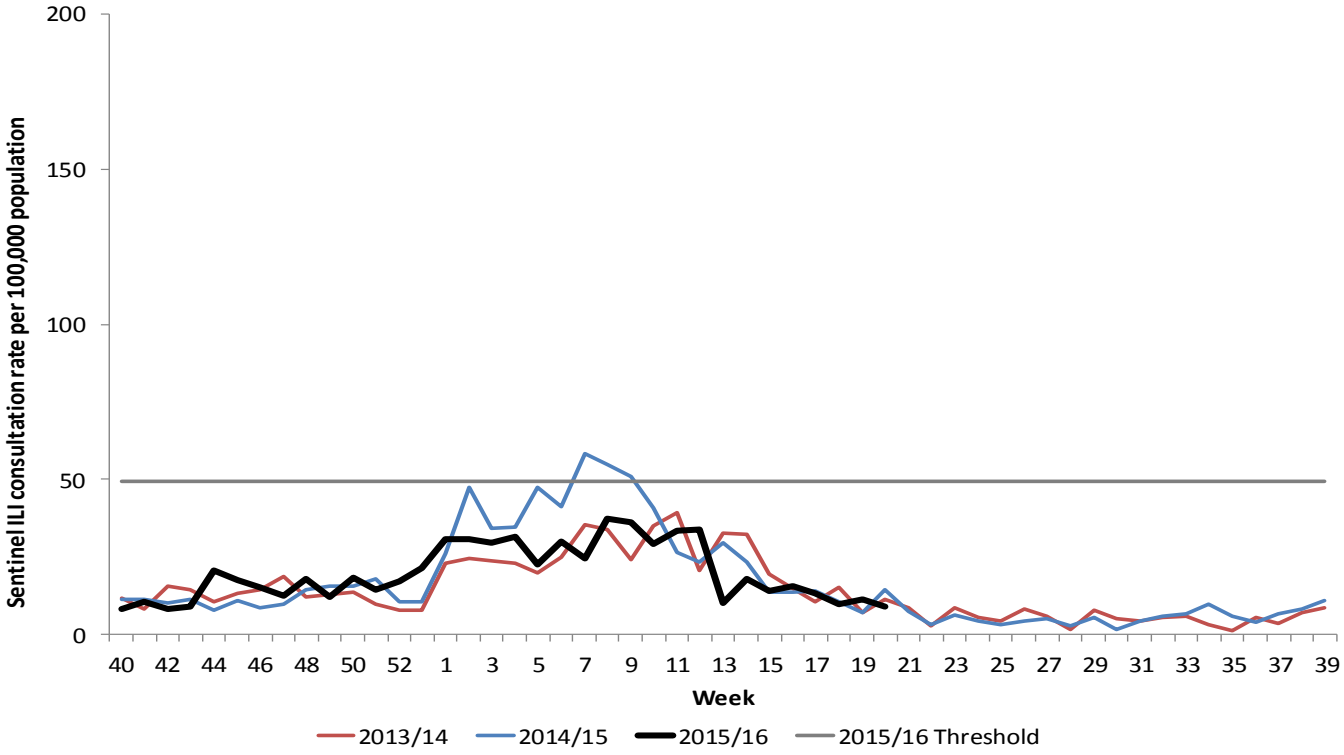


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2010/11 – 2015/16

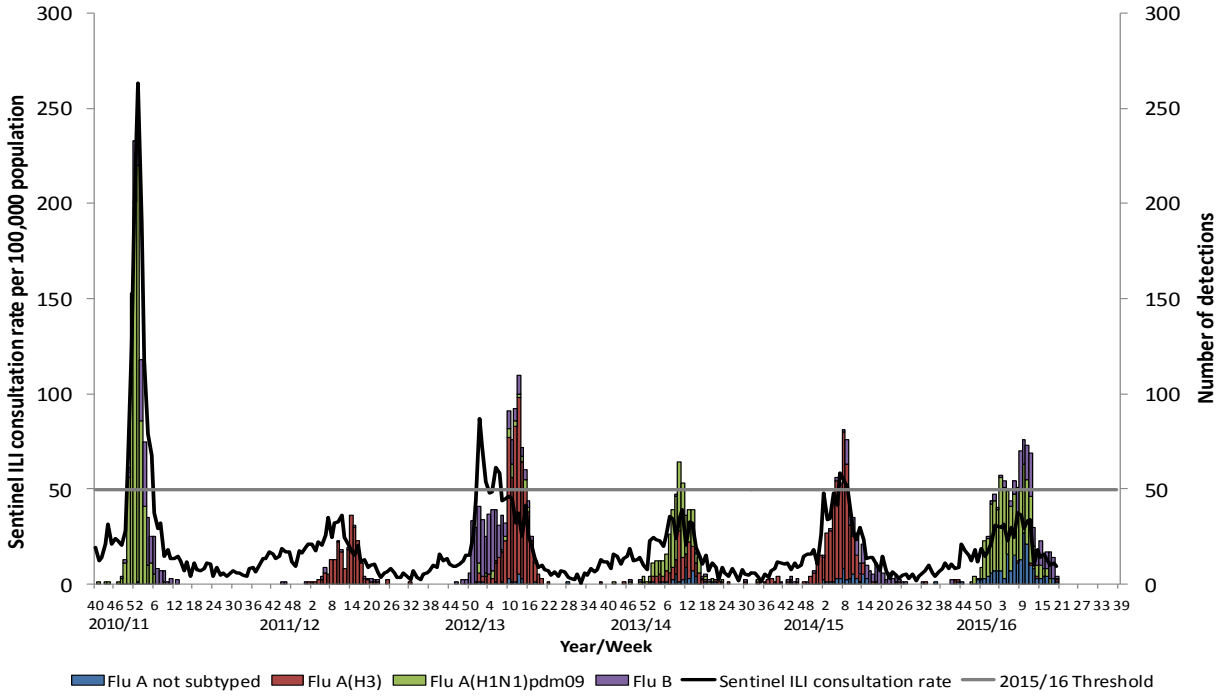
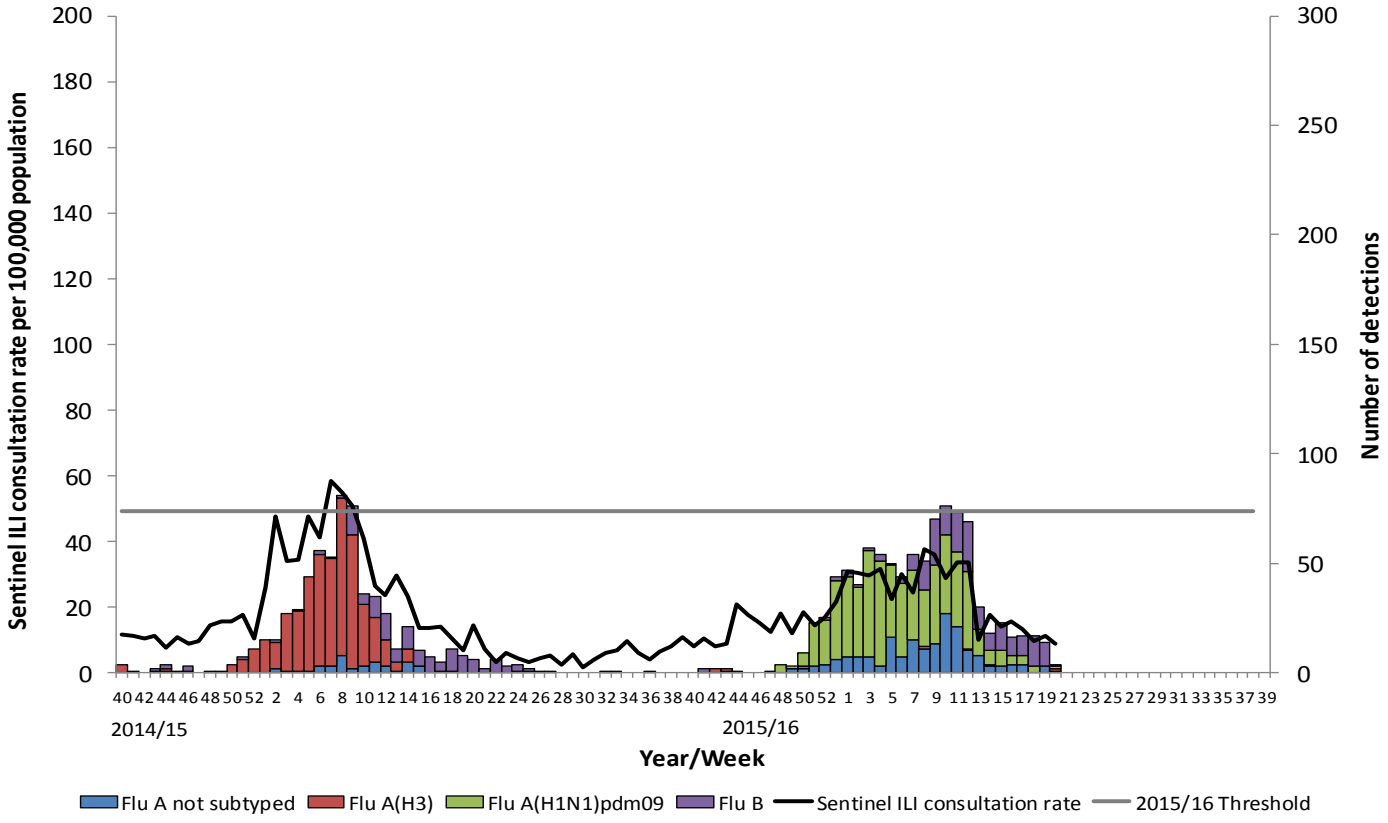


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2014

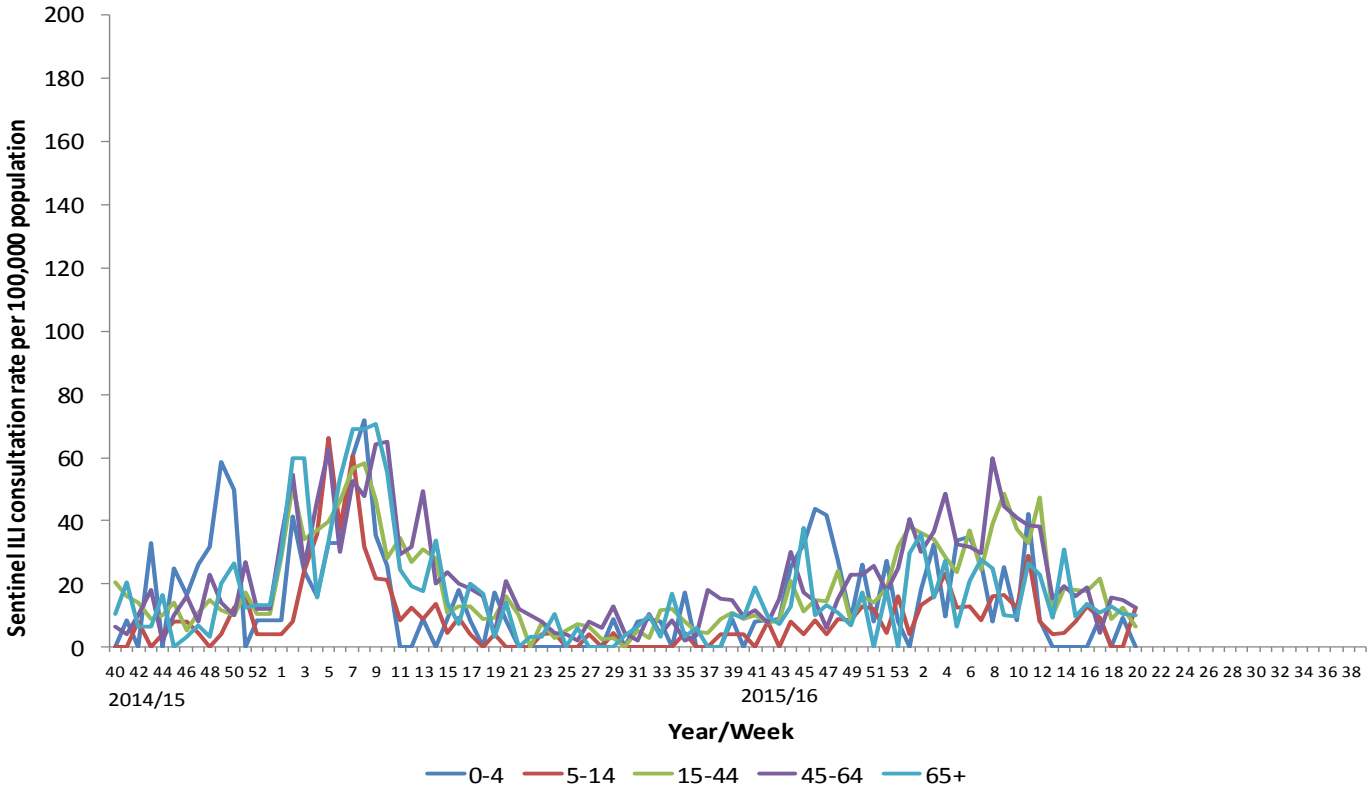


Comment

GP consultation rates have fluctuated over the two week period, rising from 9.7 per 100,000 population in week 18 to 11.2 in week 19, then decreasing to 9.0 per 100,000 population in week 20. The GP consultation rates are lower than the same period in 2014/15 and similar to 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

Sentinel GP flu/FLI consultations generally fluctuated among younger age groups across weeks 19 and 20, 2016 while rates among older age groups have decreased. During week 19, 2016 rates increased among those aged 0-4 and 15-44 years compared with week 18, while rates among those aged 45-64 and 65 years and over decreased. GP flu/FLI consultation rates among those aged 5-14 years remained stable.

In week 20, GP flu/FLI consultations increased among only those aged 5-14 years while a decrease was noted among all other age groups. The highest age-specific consultation rate in week 20, 2016 was in those aged 5-14 years at 12.7 per 100,000 population.

Age-specific consultation rates are lower in most age groups in weeks 19 and 20 than similar weeks in 2014/15. Rates were marginally higher among only the oldest age groups, however still remaining at low levels (Figure 4).

Out-of-Hours (OOH) Centres Call Data

Figure 5. OOH call rate for flu/FLI, 2013/14 – 2015/16

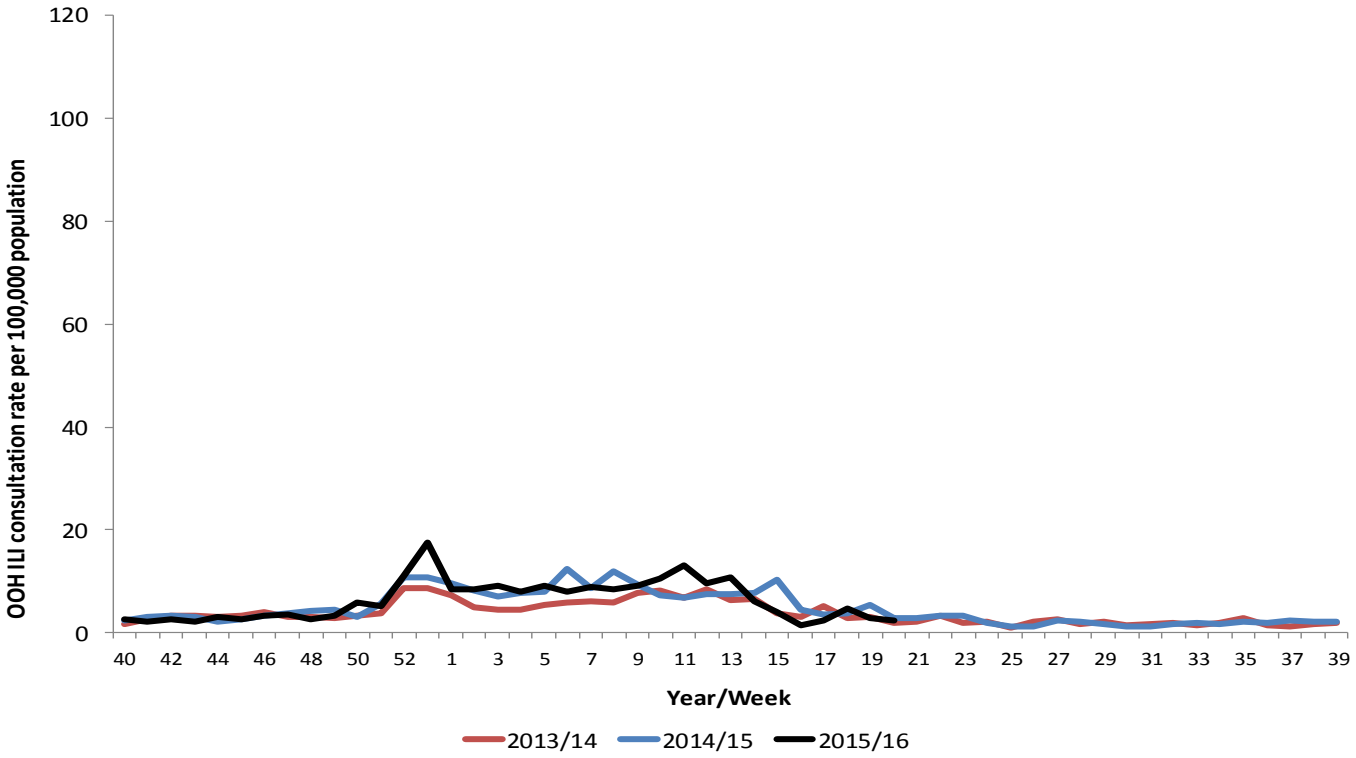
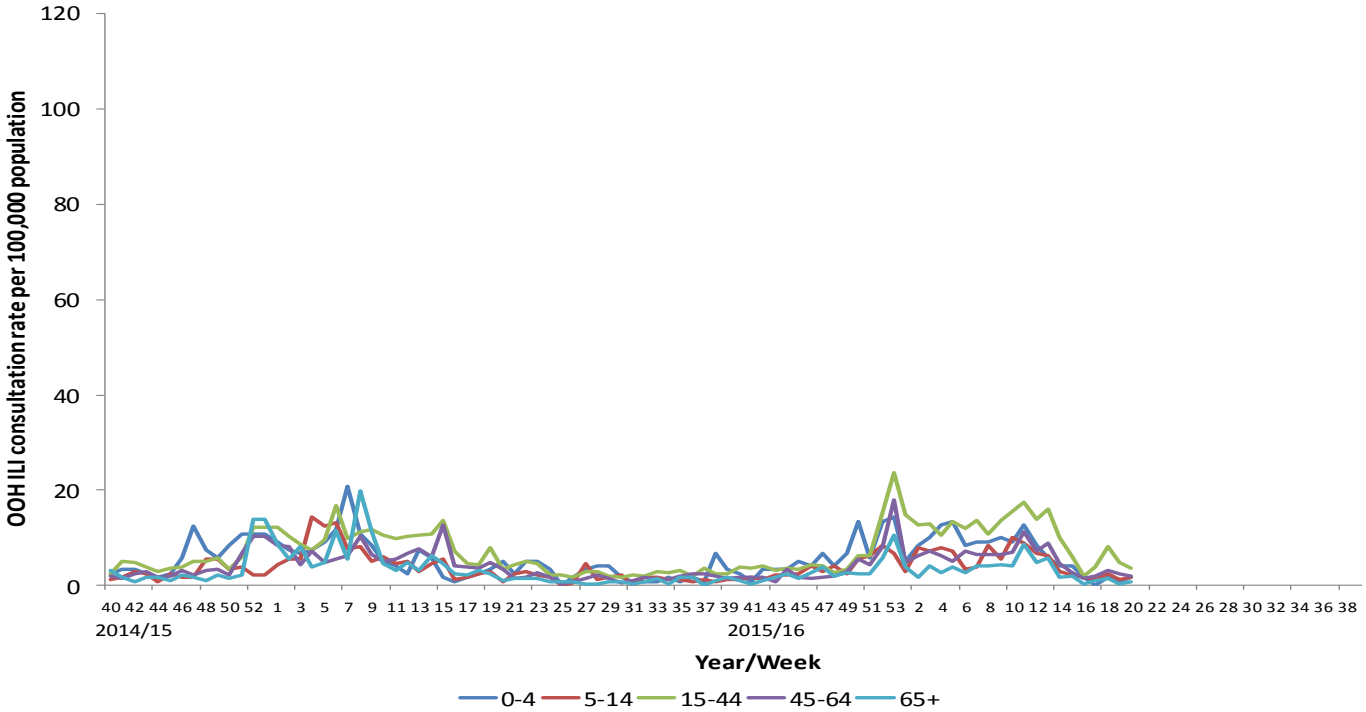


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2014



Comment

During weeks 19 and 20, 2016 the OOH GP consultation rate decreased from 4.8 per 100,000 population in week 18 to 2.9 in week 19 and 2.4 in week 20. The OOH GP consultation rate in week 20 is marginally lower than the same period in 2014/15 but higher than in 2013/14 (Figure 5). The proportion of calls related to flu continues to remain at less than 1% of total calls to the OOH service.

During weeks 19 and 20, OOH flu/FLI rates have fluctuated among most age groups. In week 19, OOH flu/FLI rates decreased among all age groups in comparison with week 18. In week 20 however, rates marginally increased among those aged 0-4, 5-14 and 65 years and over, while rates among those aged 15-44 and 45-64 years have decreased. The highest OOH flu/FLI rate in both weeks was again noted in those aged 15-44 years at 4.9 and 3.6 per 100,000 population, respectively (Figure 6). Age-specific rates are generally lower than noted during the same period in 2014/15 but similar to 2013/14.

Virology Data

Table 1. Virus activity in Northern Ireland, Week 19 - 20, 2015/16

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	3	0	0	0	1	0	1	33%
Non-sentinel	335	1	1	4	11	4	17	5%
Total	338	1	1	4	12	4	18	5%

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 20, 2015/16

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	77	12	22	111	433
5-14	0	24	4	12	40	18
15-64	3	339	115	110	567	79
65+	5	116	58	42	221	76
Unknown	0	1	0	0	1	0
All ages	8	557	189	186	940	606

Table 3. Cumulative virus activity, Week 40 - Week 20, 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	77	12	22	111	432
5-14	0	4	1	1	6	1	0	20	3	11	34	17
15-64	0	55	8	24	87	10	3	284	107	86	480	69
65+	0	2	2	2	6	1	5	114	56	40	215	75
Unknown	0	0	0	0	0	0	0	1	0	0	1	0
All ages	0	61	11	27	99	13	8	496	178	159	841	593

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

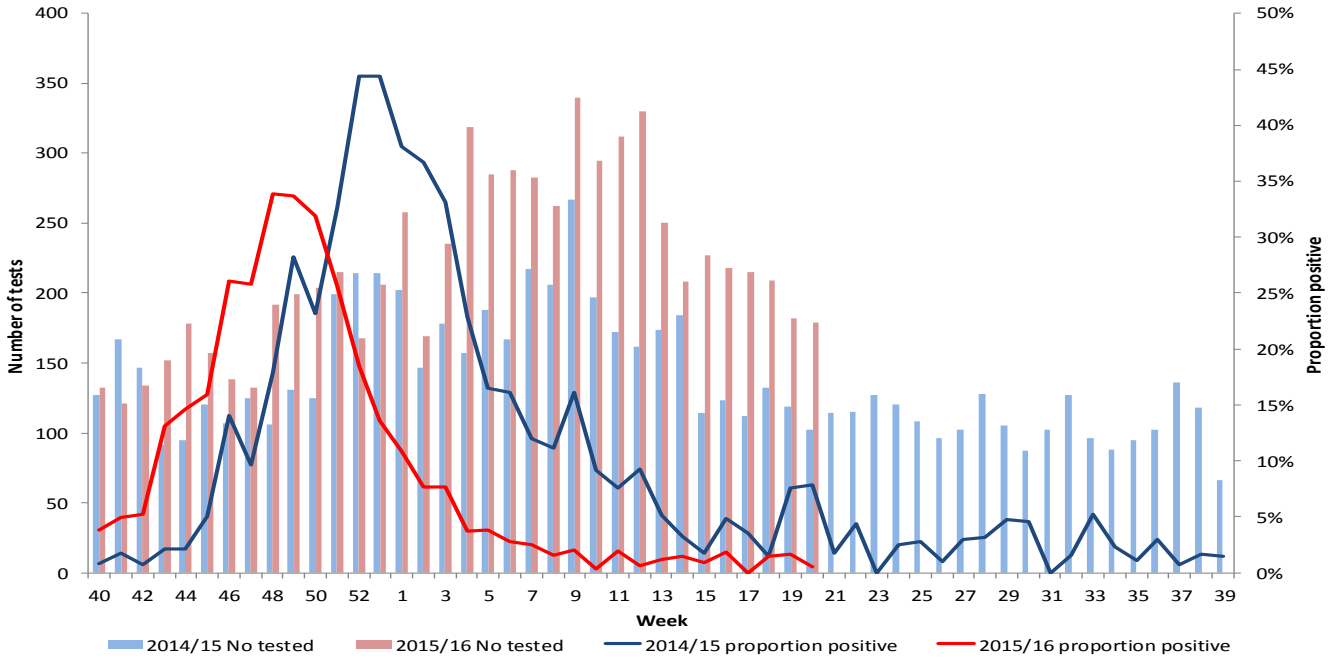
During weeks 19 and 20, 2016 there were 338 specimens submitted for virological testing. There were 18 detections of influenza (positivity rate of 5%) - 12 were typed as influenza B, 1 as influenza A(H1N1)pdm09, 1 as influenza A(H3) and 4 as influenza A (typing awaited). The positivity rate for influenza has decreased from 9% in weeks 17- 18 (Figure 7).

Overall this season, there have been 940 detections of influenza reported, more than in the same period in 2014/15 (n=612) (Tables 1, 2, and 3).

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 weeks 19 and 20, there were four positive detections of RSV. Positivity rates remain low at 1% and are lower than the same period in 2014/15. Overall this season there have been 606 detections of RSV, of which the majority (71.5%) were in those aged 0-4 years (Figure 8 and Table 2).

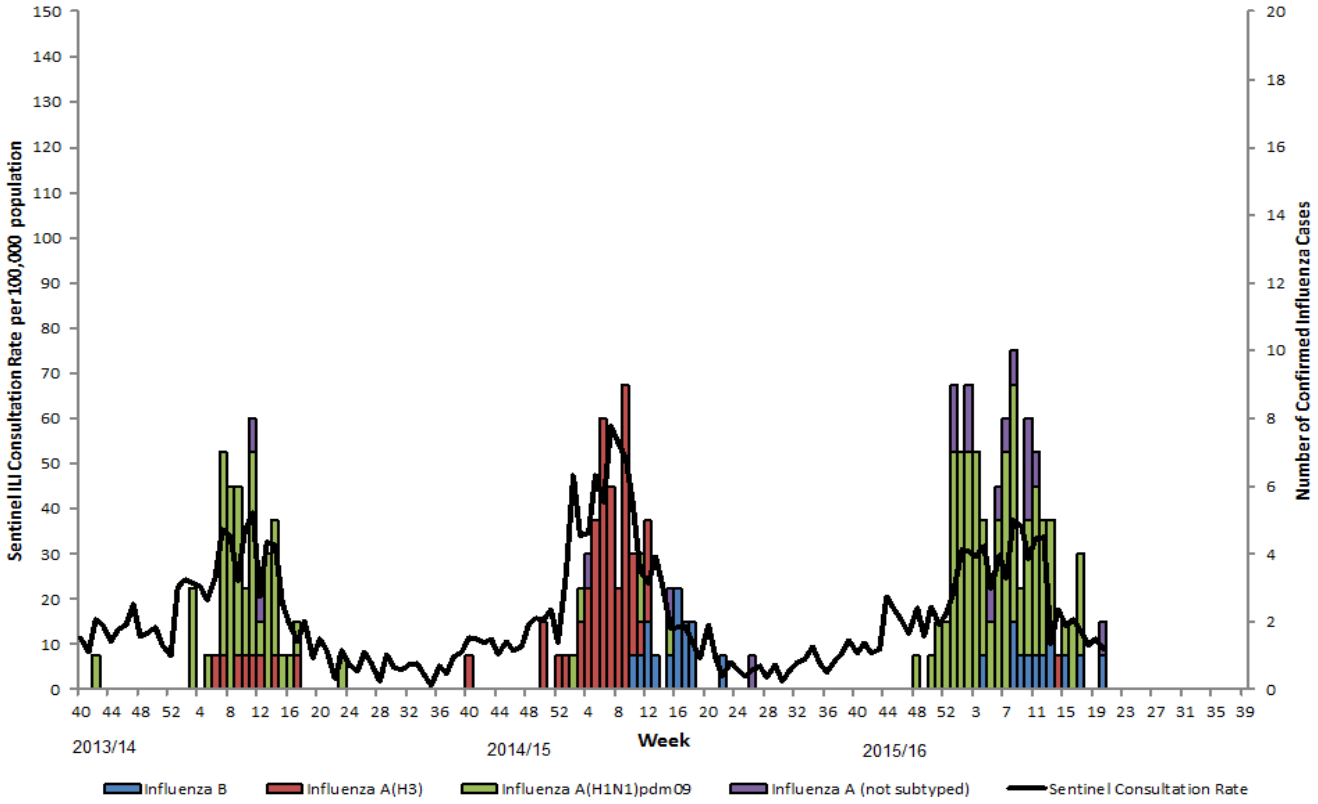
Influenza Vaccine Uptake

To 31st March 2016, vaccine uptake for those aged 65 years and over was 74.4%, higher than the same period in 2014/15; while 59.9% of those under 65 and in an at risk group received the vaccine, lower than in 2014/15 when 71.8% received the vaccine during the same period.

Similar to last season, all children aged between 2 and 4 years and all primary school children have been offered the seasonal influenza vaccine in 2015/16. To 31st March 2016, vaccine uptake among 2-4 year old children was 50.5%, slightly lower than in 2014/15 during the same period. Uptake among children in primary school was 76.8%, marginally lower than in 2014/15 when 79.7% received the vaccine.

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 weeks 19 and 20, there were four admissions to ICU confirmed with influenza reported to the PHA; 3 as influenza B and 1 as A (H1N1)pdm09.

Overall, there have been 111 admissions to ICU with confirmed influenza reported this season, of which 84 have been confirmed as influenza A (H1N1)pdm09, 1 as influenza A(H3), 12 as influenza A untyped (typing awaited) and 14 as influenza B (Figure 9).

Up to week 20 2016, 70 of the 111 ICU patients with confirmed influenza had co-morbidities. Provisional data show that 68 of the 111 (61%) cases met the criteria for influenza vaccination and only 24 of these individuals had received the vaccination (35%) (Table 4).

There was one death in an ICU patient with laboratory confirmed influenza reported since the last bulletin. To date, there have been 16 deaths in ICU patients with laboratory confirmed influenza.

Table 4. Flu Confirmed ICU Cases in Northern Ireland, Week 40 - 20, 2015/16							
Age Group	No of patients	Flu vaccine eligibility group*	Vaccinated	Flu A(H1N1)pdm09	Flu A(H3)	Flu A(untyped)	Flu B
0 - 4	17	8	1	13	0	1	3
5-14	3	3	0	3	0	0	0
15-44	28	14	4	24	0	1	3
45-64	41	22	6	31	0	9	1
65+	22	21	13	13	1	1	7
All	111	68	24	84	1	12	14

*Includes all children aged 2-4 and those in primary school, people aged under 65 in an at risk group, and all those aged 65 years and over.

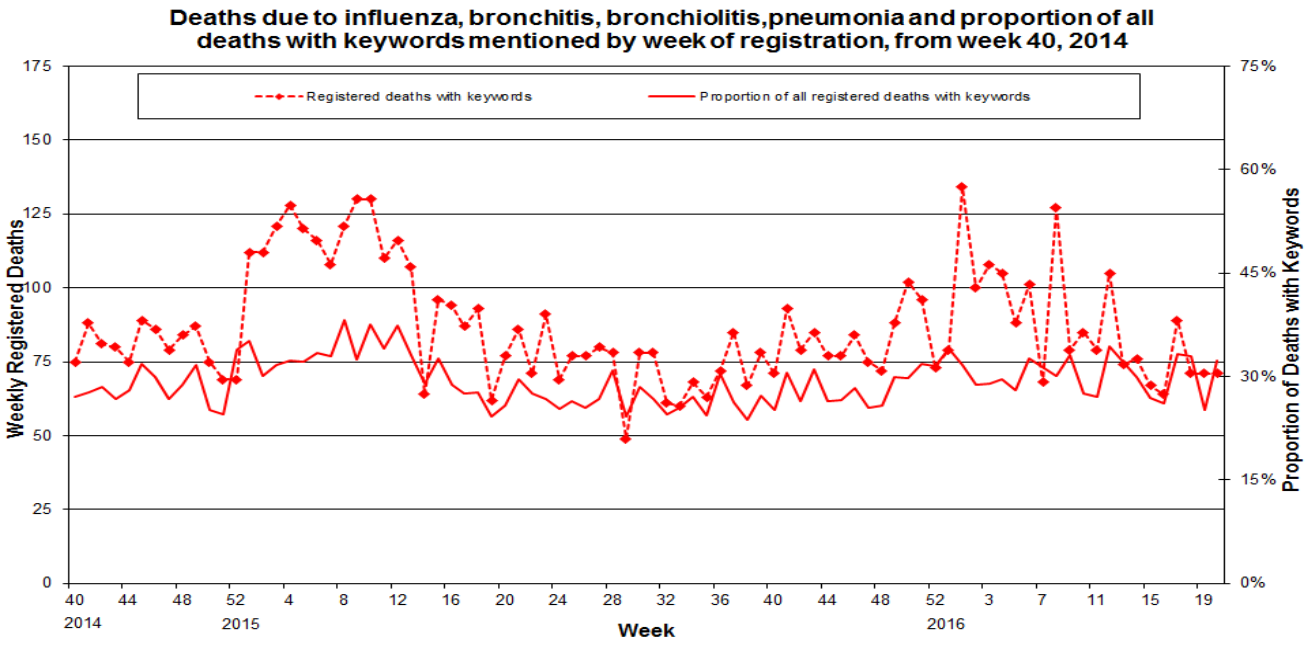
Outbreak Surveillance

During weeks 19 and 20, 2016 there were no reports of confirmed influenza outbreaks to the PHA. There have been a total of seven confirmed influenza outbreaks reported to the PHA this season to date; six influenza A(H1N1)pdm09 and one influenza A (untyped).

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 19, the proportion of registered deaths from specific respiratory infections decreased to 25% from 33% in week 18. In week 20 the proportion increased to 32% (Figure 9).

In week 20 there were 220 registered deaths, of which 71 related to specific respiratory infections (32%). The proportion of deaths attributed to specific respiratory infections is higher at this point in the season than in both 2014/15 and 2013/14.

EuroMOMO

No significant excess all-cause mortality was reported for weeks 19 and 20 in Northern Ireland. To date, excess all-cause mortality had been reported in three weeks of the current influenza season (weeks 49, 52 and 53).

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

International Summary

Europe

Week 19, 2016

- Influenza activity continued to decrease in the WHO European Region. Most countries (95%) reported low intensity. The percentage of positive specimens and the absolute number of influenza virus detections decreased from the previous week.
- Type B viruses accounted for 95% of influenza detections in specimens from sentinel sources and 72% from non-sentinel sources.
- Few cases of severe disease were reported from intensive care units (ICUs). Most severe cases were associated with A(H1N1)pdm09 infection and were in people aged 15–64 years.

Season

- This season, influenza A(H1N1)pdm09 viruses have predominated in most countries in the Region. As is often seen late in the northern hemisphere's influenza season, a shift towards circulation of type B influenza virus has occurred, with type B dominating since week 09/2016 in specimens from sentinel sources.
- Influenza activity, based on laboratory-confirmed mild and severe cases in sentinel and non-sentinel sources, peaked in weeks 05–07/2016. The countries first affected were in general located in the eastern part of the Region.
- Data from the 18 countries or regions reporting to the European monitoring of excess mortality for public health action (EuroMOMO) project suggested a pattern of excess all-cause mortality among those aged 15–64 years between the end of 2015 and week 14/2016. This may have been associated with influenza, as well as other factors. The level of excess all-cause mortality was similar to that of the 2012–2013 winter season and slightly lower than that of the 2014–2015 winter season.
- Most of the viruses genetically characterized so far have been similar to those recommended for inclusion in the trivalent or quadrivalent vaccines for the 2015–2016 influenza season in the northern hemisphere.

- The vast majority of the viruses genetically and/or phenotypically characterized so far shows no indications of reduced susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir.
- Recommendations on the composition of the seasonal influenza vaccines for the 2016–2017 season in the northern hemisphere call for replacement of the A(H3N2) component with a more recent virus and inclusion of a B/Victoria-lineage virus in trivalent vaccines.
- Risk assessments for the season are available from the European Centre for Disease Prevention and Control (ECDC) and the WHO Regional Office for Europe websites.

Additional information on influenza in the world is available from WHO's global updates.

http://www.flunewseurope.org/

Worldwide (WHO) and CDC

As at 16th May 2016:

Influenza activity in the Northern Hemisphere continued to decrease. A predominance of influenza B virus activity continued to be reported in most of the northern hemisphere and in some tropical areas. In a few countries in the southern hemisphere, slight increases in influenza-like illness (ILI) activity were reported.

- In North America, influenza activity continued to decrease with influenza B detections predominating.
- Europe and temperate Asia reported decreased influenza activity with a continued predominance of influenza B virus activity.
- In North Africa, influenza activity continued to decrease in general, except in Egypt where in recent weeks influenza B activity continued.
- Influenza A virus was reported predominant in Eastern and Western Africa.
- In Central America and the Caribbean countries, influenza and other respiratory virus activity remained generally low, although levels of A(H1N1)pdm09 virus activity remained elevated in El Salvador and Guatemala. Active circulation of influenza A(H1N1)pdm09 activity was also reported in several countries in the Caribbean.
- In parts of tropical South America, low but increasing influenza A(H1N1)pdm09 activity was reported in Bolivia and Ecuador. In Peru, influenza detections decreased. In Brazil, influenza activity continued at elevated levels with a predominance of influenza A(H1N1)pdm09 virus. Respiratory syncytial virus (RSV) activity remained elevated in Colombia.
- In tropical countries of South Asia, influenza activity decreased with influenza B virus predominant.
- In temperate South America, respiratory virus activity remained low. ILI activity increased slightly in a few countries but remained below seasonal thresholds.
- In the temperate countries of Southern Africa and Oceania, influenza virus activity remained low. Some islands in the Pacific reported increased ILI activity.
- National Influenza Centres (NICs) and other national influenza laboratories from 90 countries, areas or territories reported data to FluNet for the time period from 18 April 2016 to 01 May 2016 (data as of 2016-05-13 03:33:09 UTC).The WHO GISRS laboratories tested more than 85968 specimens during that time period. 12819 were positive for influenza viruses, of which 4580 (35.7%) were typed as influenza A and 8239 (64.3%) as influenza B. Of the sub-typed influenza A viruses, 1728 (81.5%) were influenza A(H1N1)pdm09 and 391 (18.5%) were influenza A(H3N2). Of the characterized B viruses, 353 (20.6%) belonged to the B-Yamagata lineage and 1358 (79.4%) 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

Flusurvey, an online flu surveillance system run by the PHE and London School of Hygiene and Tropical Medicine was launched in 2013/14 and continues in 2015/16. 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:

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