

Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 5 (01 February 2016 – 07 February 2016)

Summary

In Northern Ireland, as of week 5 2016, the 2015/16 influenza season has seen low community influenza activity, with low GP consultation rates and low numbers of Care Home outbreaks. However, numbers of ICU admissions are higher than the same period last year. 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 week 5, 2016:

- GP consultation rates for combined flu and flu-like illness (flu/FLI) decreased to 22.5 per 100,000 population and remains below the 2015/16 pre-epidemic threshold¹
- OOH consultation rate for flu/FLI increased to 9.0 per 100,000 population, increasing in a number of age groups
- RSV activity has further decreased and is lower than the same period during last season
- No confirmed influenza outbreaks were reported to the PHA
- The proportion of positive influenza detections decreased to 17%, with influenza A (H1N1) pdm09 the dominant circulating strain
- Four admissions to ICU were reported with confirmed influenza
- One death was reported in an ICU patient with laboratory confirmed influenza
- No significant all-cause 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 commences 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

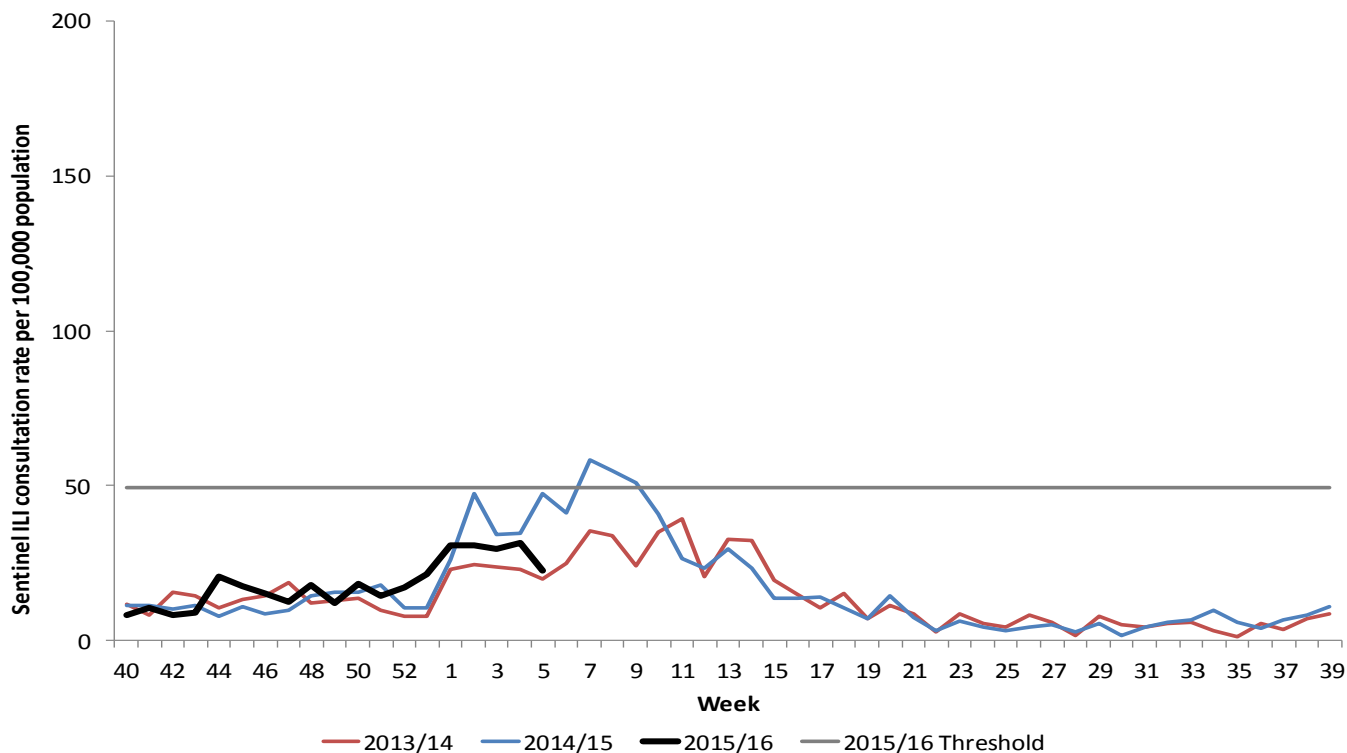


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2010/11 – 2015/16

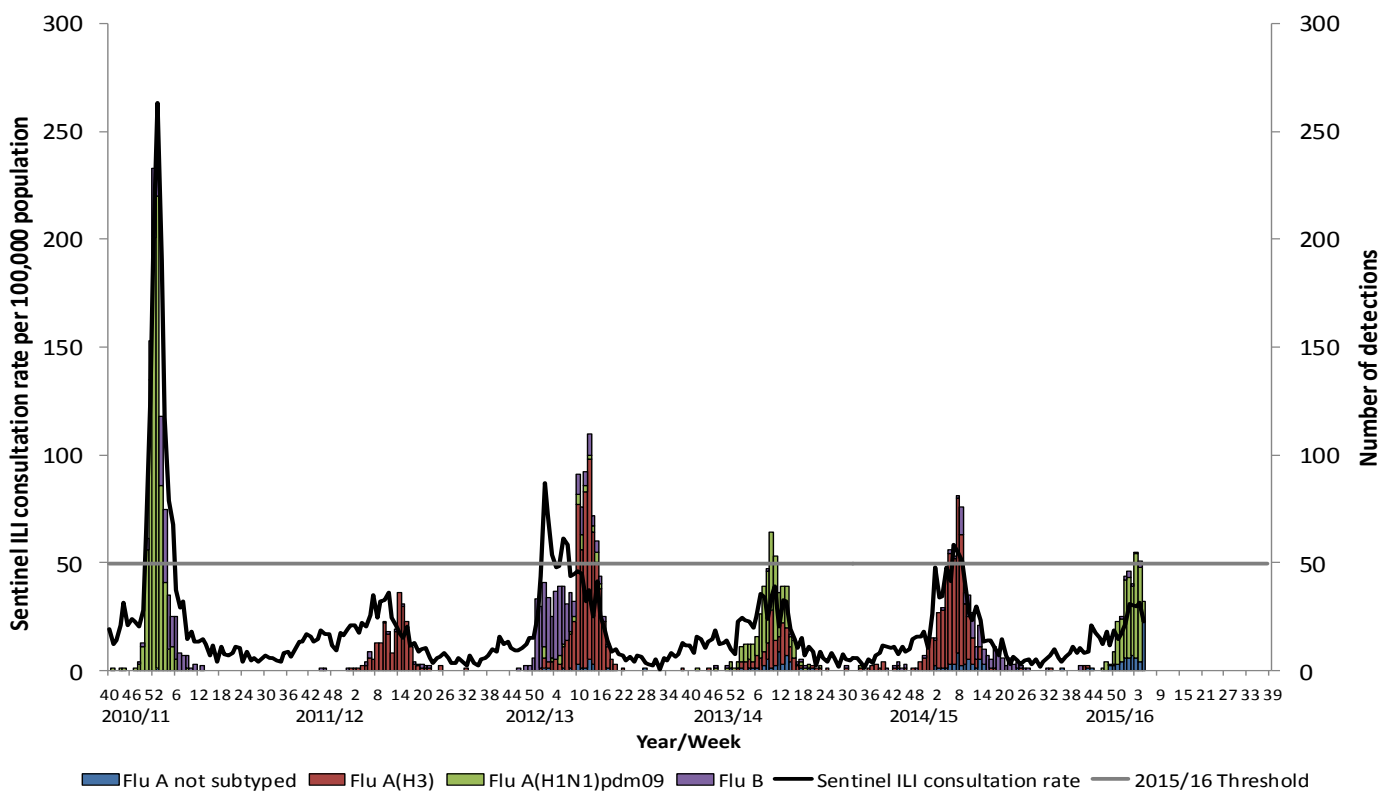
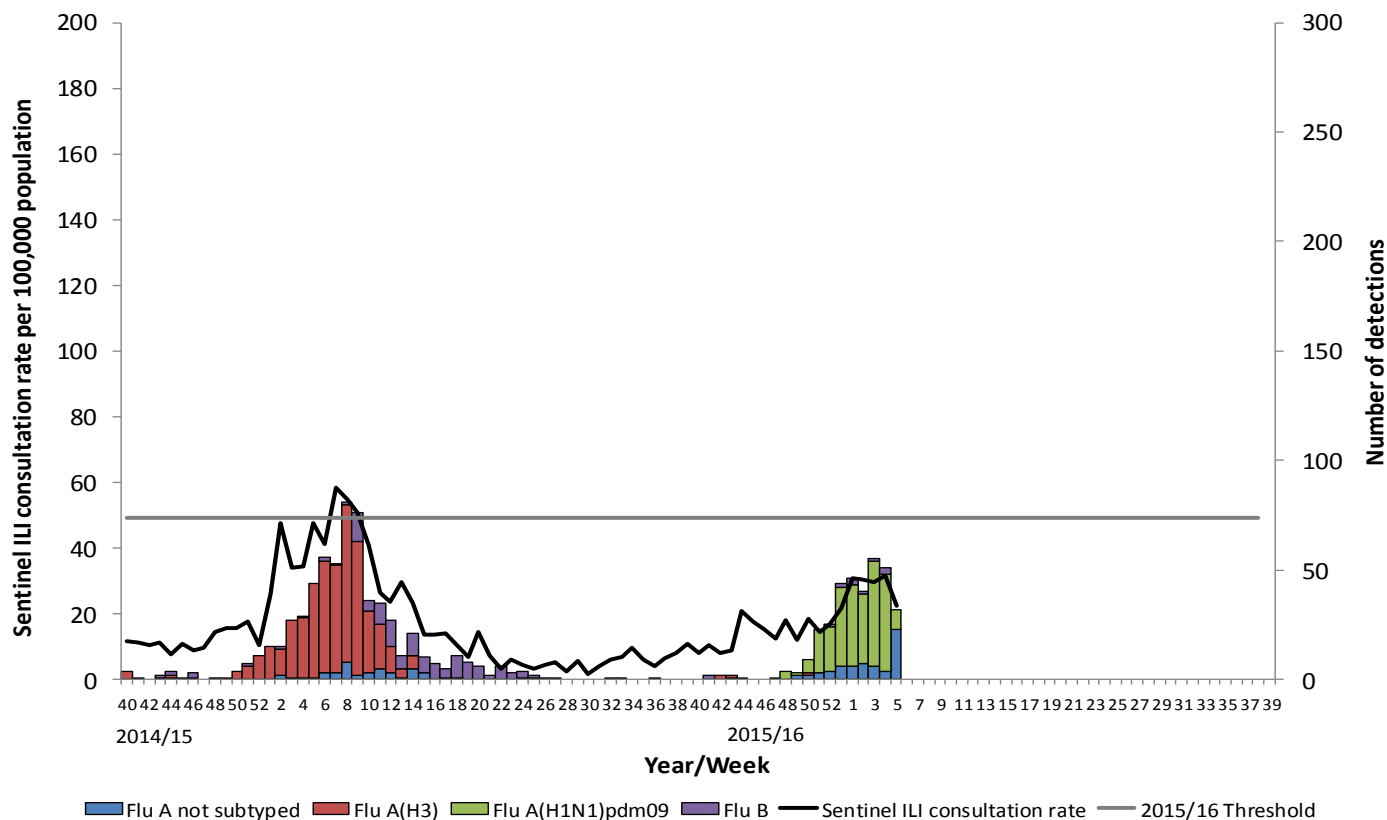


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2014

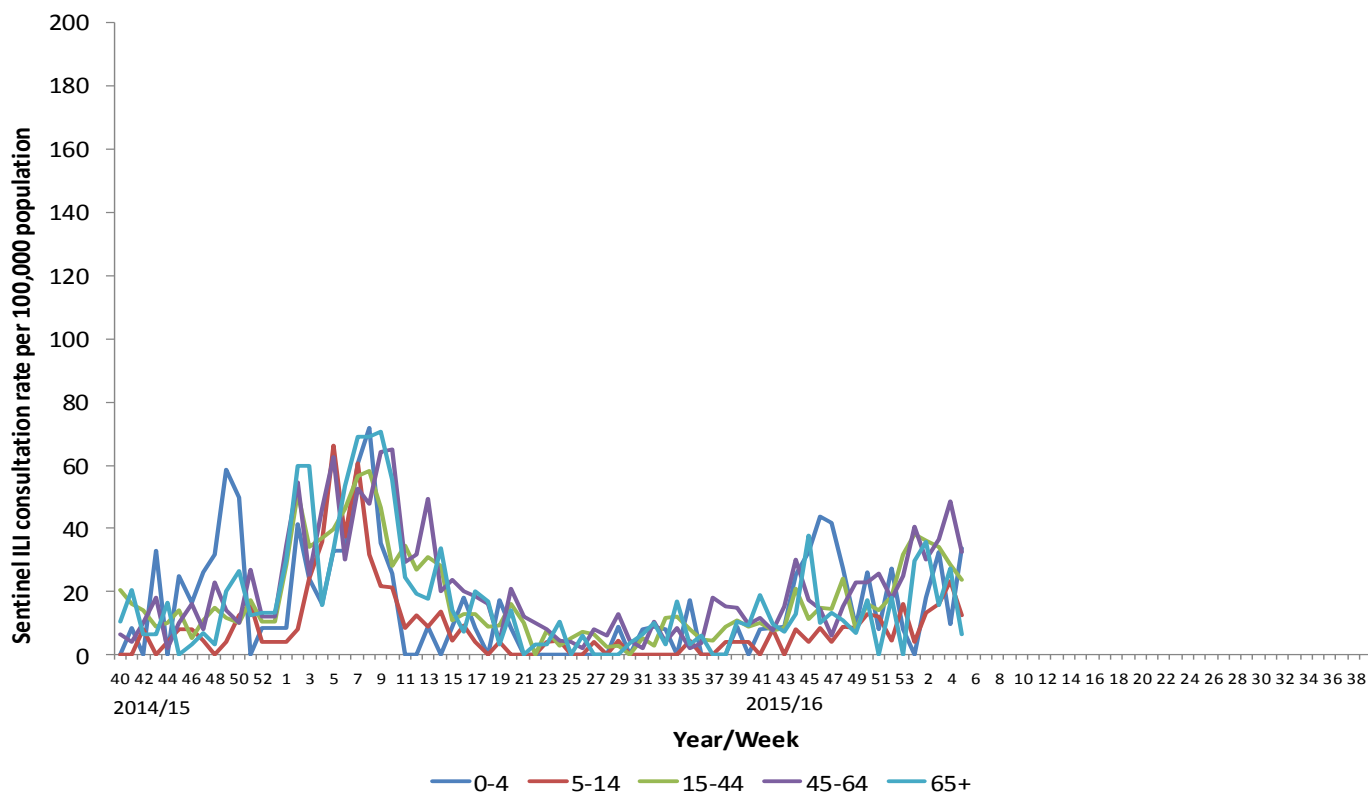


Comment

GP consultation rates have decreased in week 5, 2016 to 22.5 per 100,000 population compared with 31.7 per 100,000 in week 4. The GP consultation rate is lower than the same period in 2014/15, but higher than in 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

During week 5 2016, GP consultation rates increased among the 0-4 years age group in comparison with the previous week, while rates among all other age groups decreased.

The highest consultation rate in week 5 was noted in those aged 0-4 years at 33.8 per 100,000 population (Figure 4).

Out-of-Hours (OOH) Centres Call Data

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

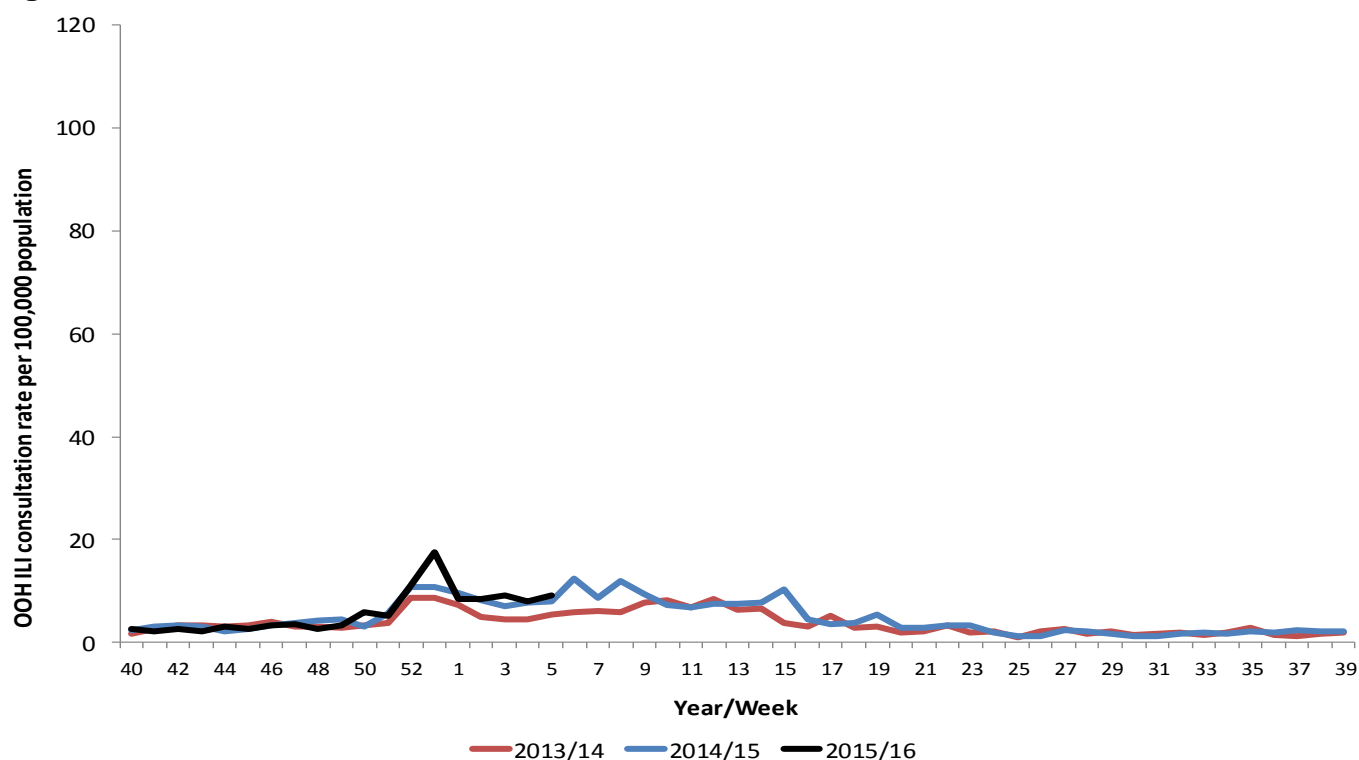
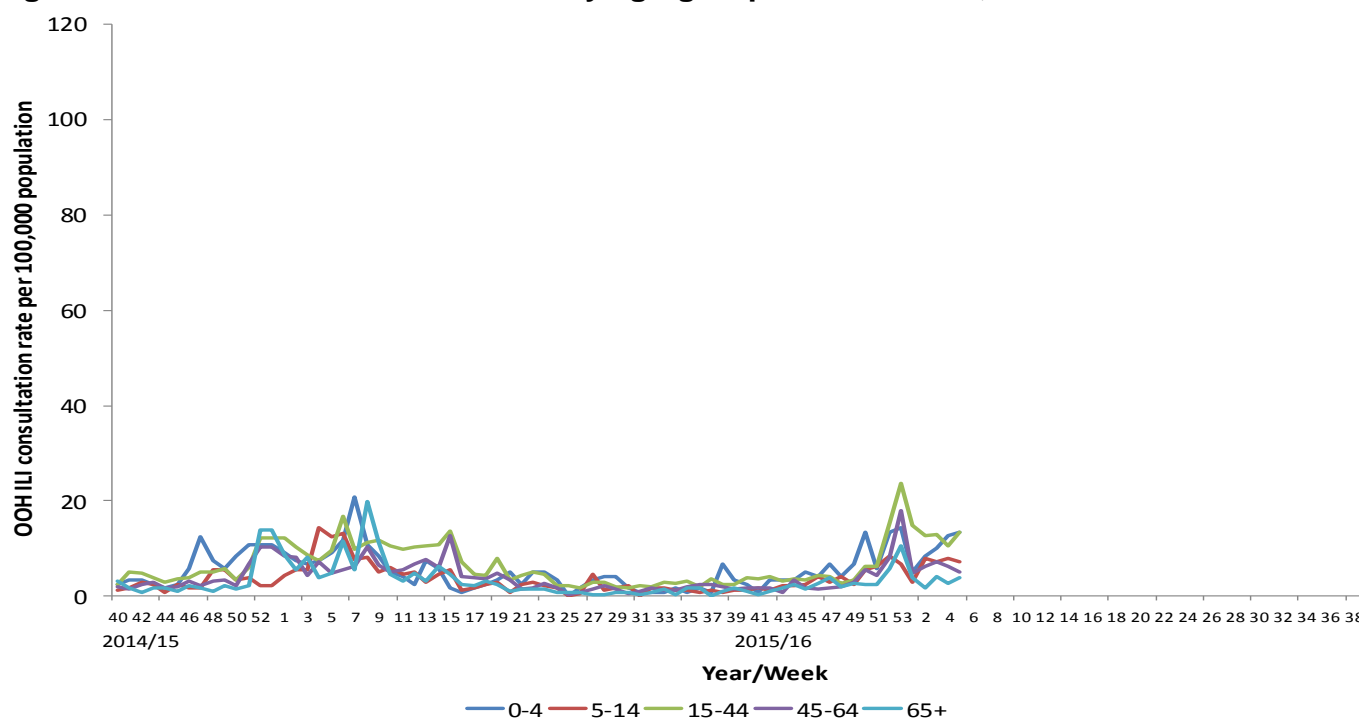


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2014



Comment

During week 5, 2016, the OOH GP consultation rate for flu/FLI increased to 9.0 per 100,000 population. The OOH GP consultation rate is higher than the same period in both 2013/14 and 2014/15 (Figure 5).

The proportion of calls related to flu represents 1.5% of total calls to the OOH service.

During week 5, OOH flu/FLI rates have increased among those aged 0-4, 15-44 and 65 years and over while rates among the 5-14 and 45-64 years age groups have decreased. The highest OOH flu/FLI rate was again noted in those aged 0-4 years at 13.4 per 100,000 population (Figure 6). Age specific-rates are similar to the same period in 2014/15 but generally higher than in 2013/14.

Virology Data

Table 1. Virus activity in Northern Ireland, Week 5, 2015/16

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	5	0	1	1	0	1	2	40%
Non-sentinel	184	0	8	22	0	6	30	16%
Total	189	0	9	23	0	7	32	17%

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 5, 2015/16

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	39	3	3	45	399
5-14	0	12	2	1	15	16
15-64	0	157	46	7	210	64
65+	4	50	14	2	70	69
Unknown	0	0	0	0	0	0
All ages	4	258	65	13	340	548

Table 3. Cumulative virus activity, Week 40 - Week 5, 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	39	3	3	45	398
5-14	0	0	0	1	1	1	0	12	2	0	14	15
15-64	0	17	3	5	25	9	0	140	43	2	185	55
65+	0	2	1	0	3	1	4	48	13	2	67	68
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	0	19	4	6	29	12	4	239	61	7	311	536

Note

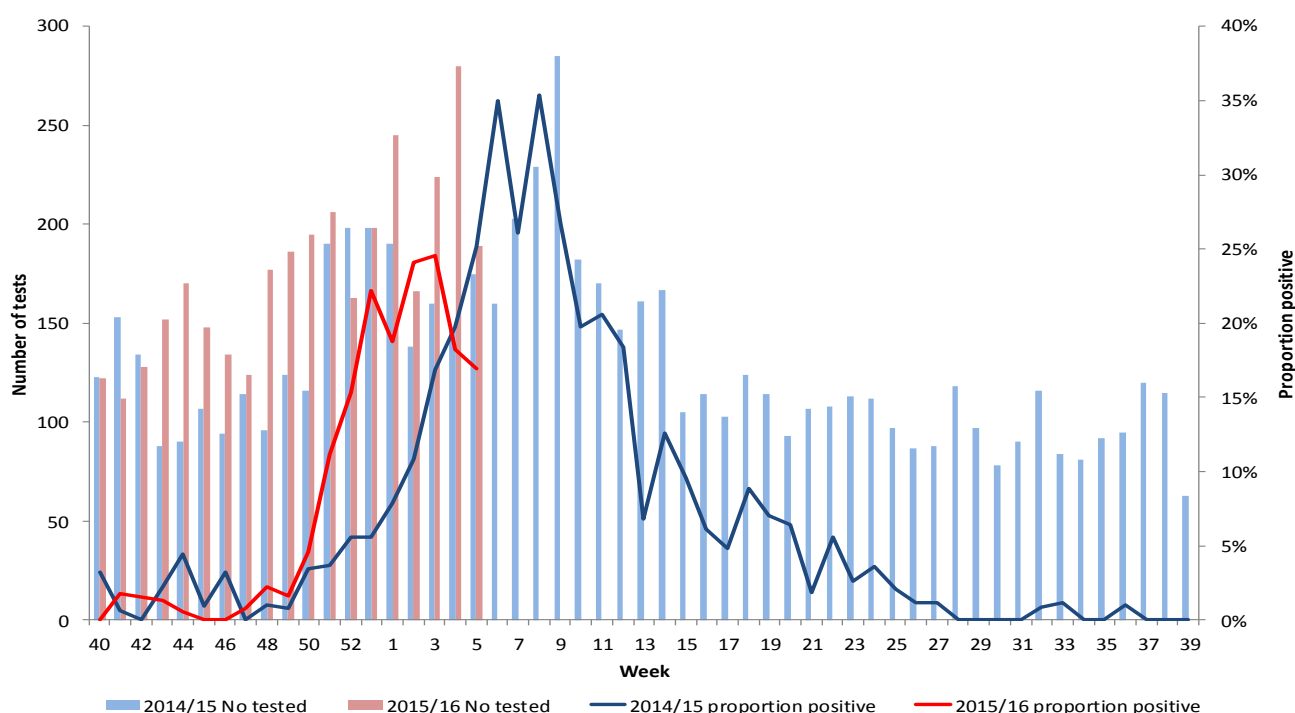
All virology data is provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available. Sentinel and non-sentinel 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 week 5, 189 specimens were submitted for virological testing. There were 32 detections of influenza (positivity rate of 17%) - 9 were typed as influenza A(H1N1)pdm09 and 23 as influenza A (typing awaited). The positivity rate for influenza has decreased from 18% in week 4 (Figure 7).

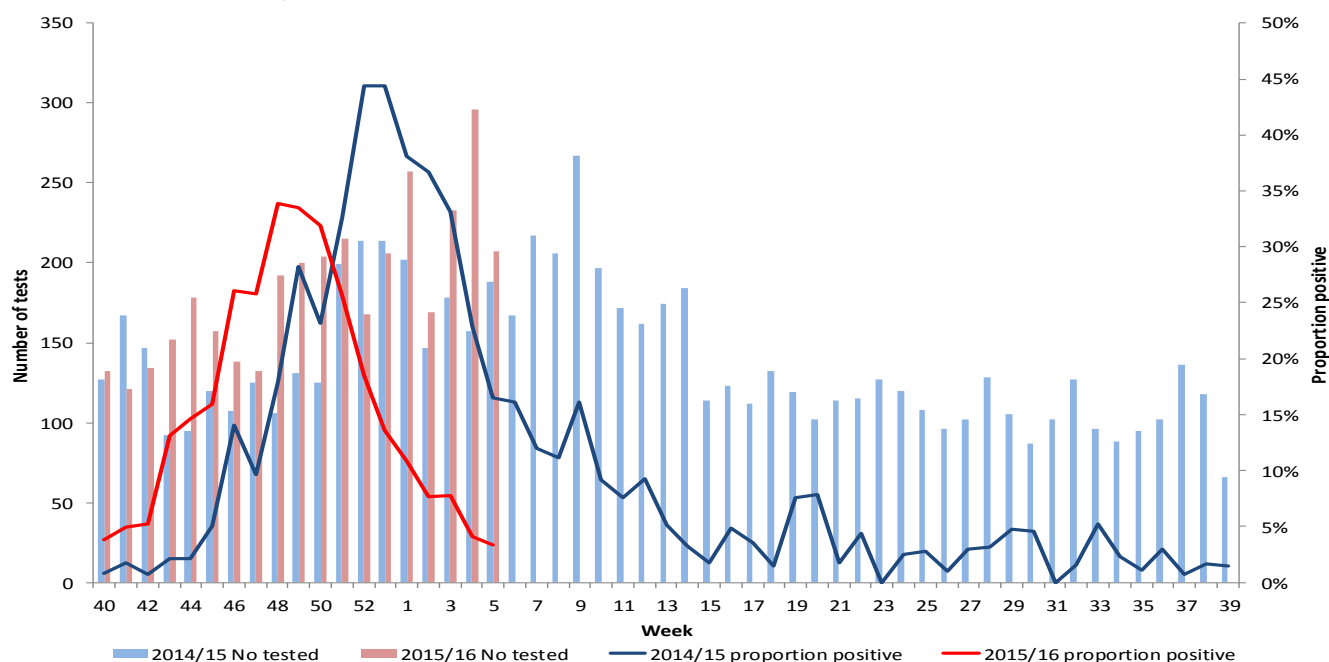
Overall this season, there have been 340 detections of influenza reported, more than in the same period in the 2013/14 (n=62) and 2014/15 (n=169) (Tables 1, 2, and 3).

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

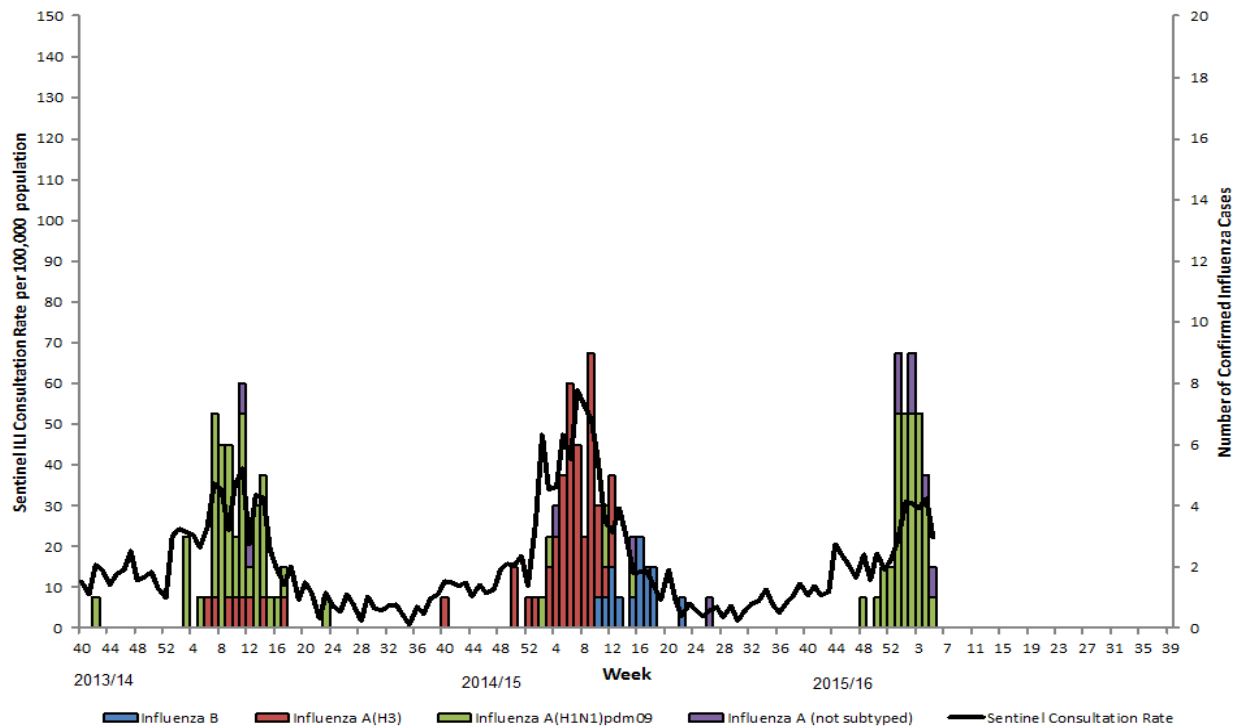
During week 5, there were 7 RSV positive detections. Positivity rates have further decreased from 4% in week 4, to 3% in week 5. RSV positivity rates during this period have been the lowest recorded in recent years. Overall this season there have been 548 detections of RSV, of which the majority (73%) were in those aged 0-4 years (Figure 8 and table 2).

Influenza Vaccine Uptake

The most recent provisional data suggest that vaccine uptake for those aged 65 years and over is 68.6%, lower than the same period in 2014; while 52.0% of those under 65 and in an at risk group received the vaccine, lower than in 2014 when 66.4% received the vaccine.

Similar to last season, all children aged between 2 and 4 years and all primary school children in 2014/15 have been offered the seasonal influenza vaccine. The most recent provisional data suggest that vaccine uptake among 2-4 year old children is 46.4%, lower than in 2014 during the same period. Uptake among children in primary school is 76.4%, slightly lower than in 2014.

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 week 5, there were four admissions to ICU confirmed with influenza reported to the PHA - three with influenza A (H1N1)pdm09 and one with influenza A untyped (typing awaited).

Overall, there have been 45 admissions to ICU with confirmed influenza reported this season, of which 39 have been confirmed as influenza A (H1N1)pdm09 and 6 as influenza A untyped (typing awaited) (Figure 9).

Up to week 5, 2016, 26 of the 45 ICU patients with confirmed influenza had co-morbidities. Provisional data shows that 24 of the 45 cases met the criteria for influenza vaccination and only 7 had received the vaccination (29%) (Table 4).

There was one death in ICU patients with laboratory confirmed influenza reported since the last bulletin. To date, there have been 8 deaths in ICU patients with laboratory confirmed influenza, all of whom had underlying comorbidities.

Table 4. Flu Confirmed ICU Cases in Northern Ireland, Week 40 - 5, 2015/16							
Age Group	No of patients	Eligible for flu vaccine*	Vaccinated	Flu A(H1N1)pdm09	Flu A(H3)	Flu A(untyped)	Flu B
0 - 4	8	2	0	7	0	1	0
5-14	2	2	0	2	0	0	0
15-44	10	4	1	9	0	1	0
45-64	19	10	4	16	0	3	0
65+	6	6	2	5	0	1	0
All	45	24	7	39	0	6	0

*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.

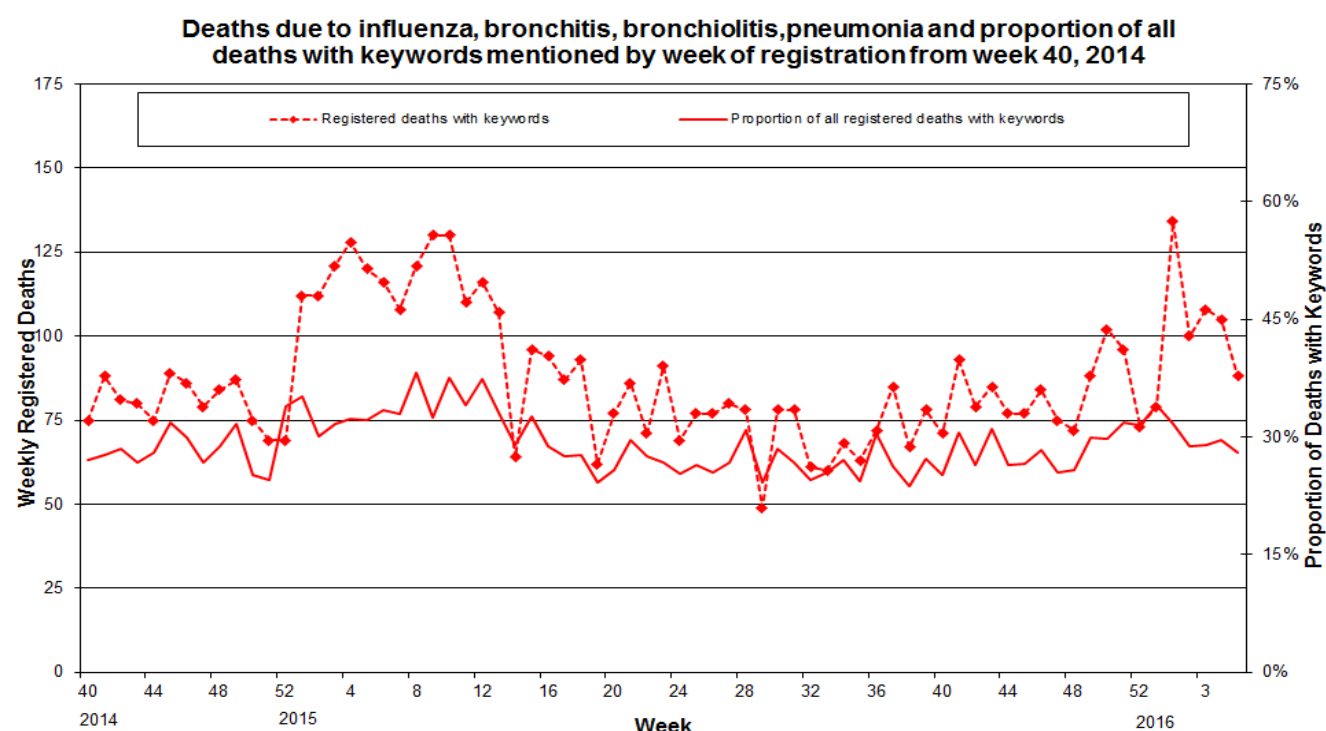
Outbreak Surveillance

During week 5, 2016 there were no reports of confirmed influenza outbreaks to the PHA. There have been a total of two confirmed influenza outbreaks reported to the PHA this season to date; one influenza A(H1N1)pdm09 and the other 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 5, the proportion of registered deaths from specific respiratory infections decreased to 28%.

In week 5, there were 314 registered deaths, of which 88 related to specific respiratory infections (28%). The proportion of deaths attributed to specific respiratory infections is slightly lower than the same period in 2014/15 but higher than in 2013/14.

EuroMOMO

No significant excess all-cause mortality was reported for week 5 in Northern Ireland. Including previous reports, excess all-cause mortality has been reported in six weeks of this influenza season (weeks 49, 52, 53 and 2).

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

International Summary

Europe

Week 4, 2016:

- Thirty-one of the 50 Member States that reported epidemiological data from surveillance for influenza-like illness (ILI) and acute respiratory infection (ARI) indicated increasing rates; 34 countries reported influenza virus detections in specimens from sentinel sources for week 04/2016, indicating increased influenza activity in the WHO European Region as a whole.
- Belarus, Greece, Ireland and Malta indicated high-intensity influenza activity, as in the previous week, and Finland, the Russian Federation and Ukraine reported very high activity.
- A(H1N1)pdm09 viruses predominated, accounting for 67% of sentinel surveillance detections of influenza in the WHO European Region.
- The predominance of A(H1N1)pdm09 corresponded to an increase in cases of severe disease, mainly in people aged 15–64 years.
- For week 04/2016, countries reported increasing numbers of cases of severe acute respiratory infection (SARI), as well as a high percentage of influenza-positive specimens.

Season:

- So far, a predominance of influenza A(H1N1)pdm09 viruses has characterized the 2015–2016 influenza season; these may cause more severe disease and death in adults aged 15–64 years than A(H3N2) viruses.
- Since week 52/2015, several European countries with sentinel surveillance systems for SARI have reported increasing numbers of cases associated with A(H1N1)pdm09 infection. Similarly, countries reporting laboratory-confirmed influenza cases in hospitals and intensive care units (ICUs) have detected influenza A virus in the majority of cases since the start of the season, with A(H1N1)pdm09 being the dominant subtype (94%).

- Most of the viruses characterized so far have been antigenetically similar to the strains recommended for inclusion in this winter's trivalent or quadrivalent vaccines for the northern hemisphere.

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

Worldwide (WHO) and CDC

As at 8th February 2015:

Globally, increasing levels of influenza activity continued to be reported in the temperate zones of the northern hemisphere with influenza A(H1N1)pdm09 as the most detected virus.

- Increasing influenza A(H1N1)pdm09 activity continued to be reported in Europe. Some countries in northern and eastern Europe reported a sharp increase in influenza like illness (ILI) and an increase in severe cases due to influenza A(H1N1)pdm09. A few countries in Europe reported an increase in activity predominantly of influenza B virus.
- In North America, a slight increase of influenza A(H1N1)pdm09 was reported, but overall levels were still low.
- In eastern Asia influenza activity was increasing in Japan and the Republic of Korea due to predominantly influenza A(H1N1)pdm09 virus. In North China, influenza A(H3N2) and B were the predominant circulating viruses detected.
- In western Asia, influenza activity remained at high levels in Israel but appeared to have peaked in Jordan, Oman and Iran.
- Few influenza virus detections were reported by countries in tropical Africa.
- In tropical countries of the Americas, Central America and the Caribbean, influenza and other respiratory virus activity were overall at low levels in most countries. Puerto Rico and Guadeloupe reported increased influenza and ILI activities in recent weeks. In Costa Rica, influenza activity continued at high but decreasing levels.
- In Tropical Asia, countries in Southern and South East Asia continued to report ongoing low influenza activity.
- In the temperate countries of the southern hemisphere respiratory virus activity remained low.
- National Influenza Centres (NICs) and other national influenza laboratories from 87 countries, areas or territories reported data to FluNet for the time period from 11 January 2016 to 24 January 2016 (data as of 2016-02-05 04:13:45 UTC). The WHO GISRS laboratories tested more than 112204 specimens during that time period. 20839 were positive for influenza viruses, of which 17413 (83.6%) were typed as influenza A and 3428 (16.4%) as influenza B. Of the sub-typed influenza A viruses, 10873 (81.9%) were influenza A(H1N1)pdm09 and 2405 (18.1%) were influenza A(H3N2). Of the characterized B viruses, 509 (42.1%) belonged to the B-Yamagata lineage and 700 (57.9%) to the B-Victoria lineage.
- A WHO A(H1N1)pdm09 risk assessment was published at the following link:
http://www.who.int/influenza/publications/riskassessment_AH1N1pdm09_201602/en/

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 will continue into 2014/15. 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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