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Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 7 (15 February 2016 – 21 February 2016)

Summary

In Northern Ireland, as of week 7 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 7, 2016:

- GP consultation rates for combined flu and flu-like illness (flu/FLI) decreased to 24.5 per 100,000 population and remain below the 2015/16 pre-epidemic threshold[1]
- OOH consultation rate for flu/FLI increased to 8.9 per 100,000 population, also increasing in almost all age groups
- RSV activity has remained stable and is lower than the same period during last season
- One confirmed influenza outbreak was reported to the PHA
- The proportion of positive influenza detections increased to 21%, with influenza A (H1N1) pdm09 the dominant circulating strain
- Ten admissions to ICU were reported with confirmed influenza
- One death was reported in ICU patients with laboratory confirmed influenza
- All-cause excess mortality through the EuroMOMO algorithm was unavailable

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

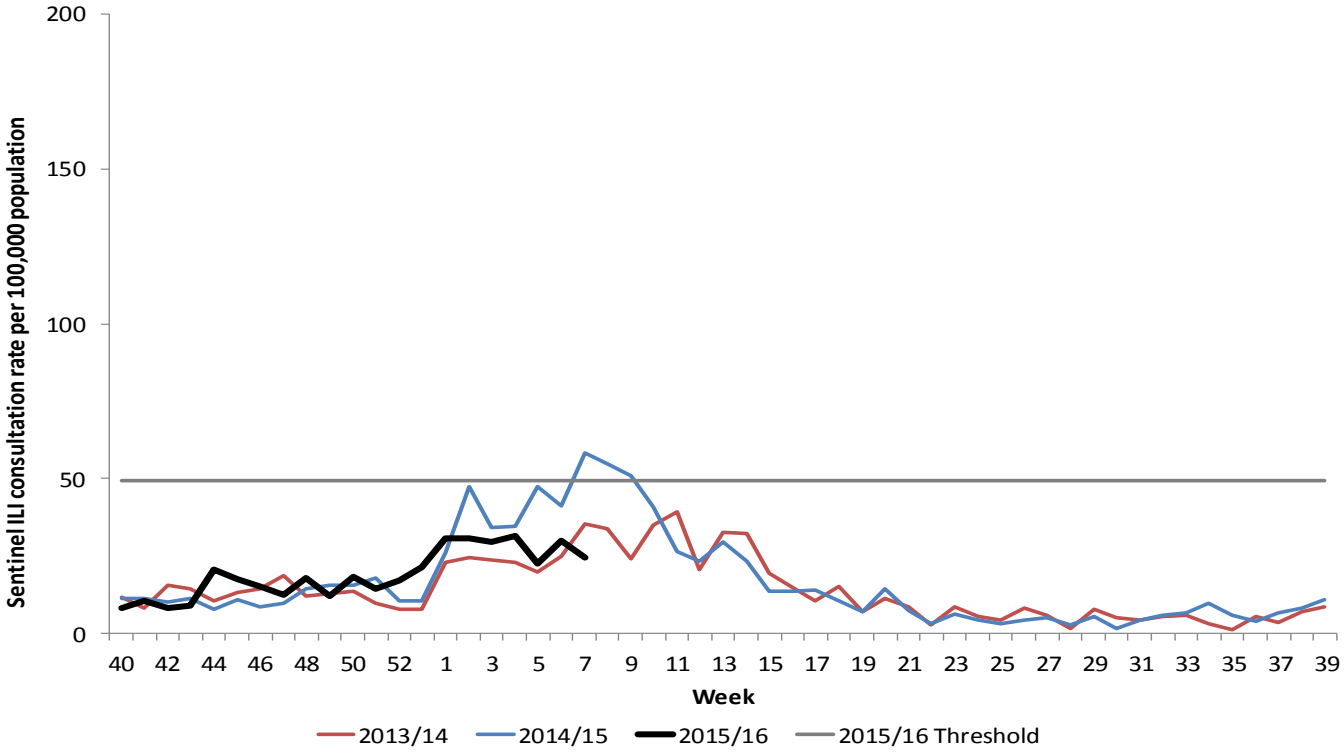


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2010/11 – 2015/16

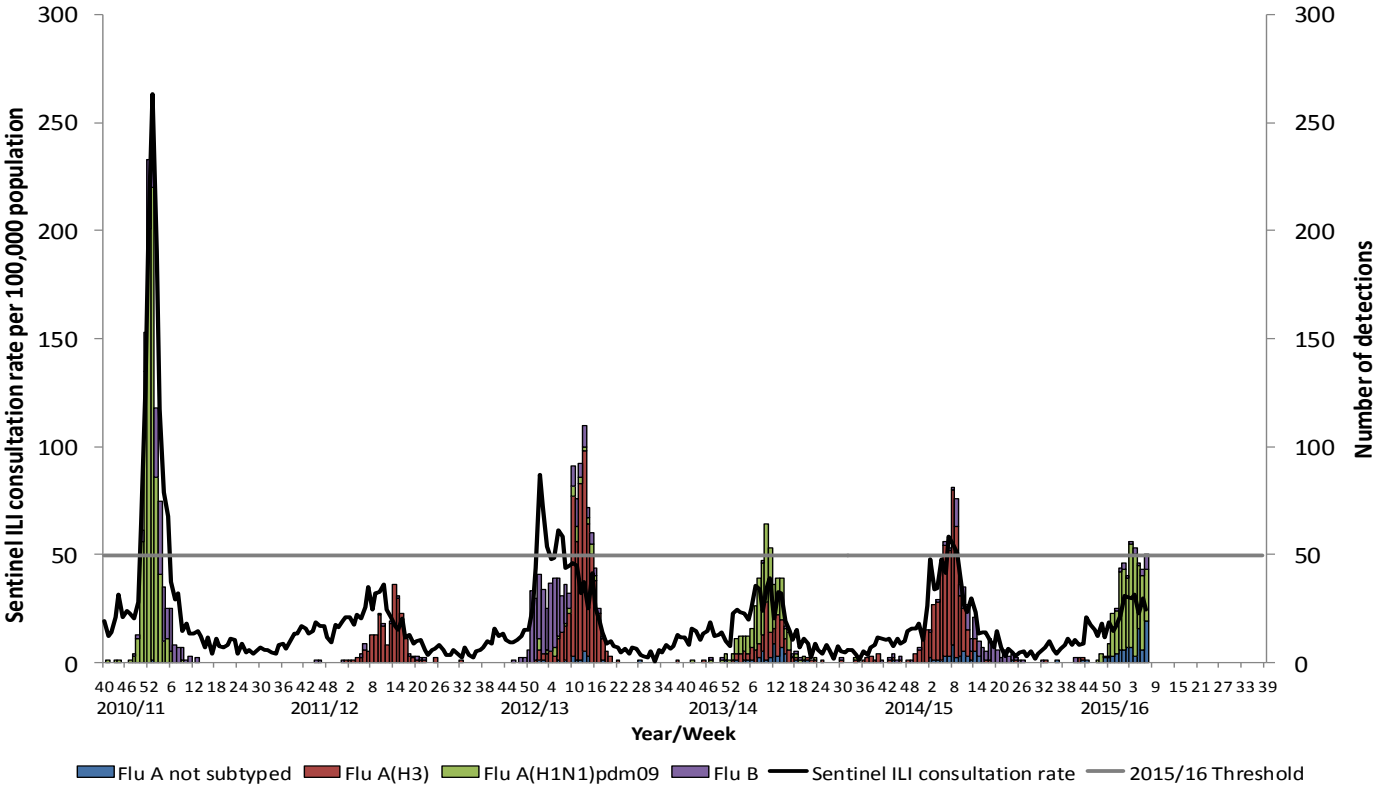
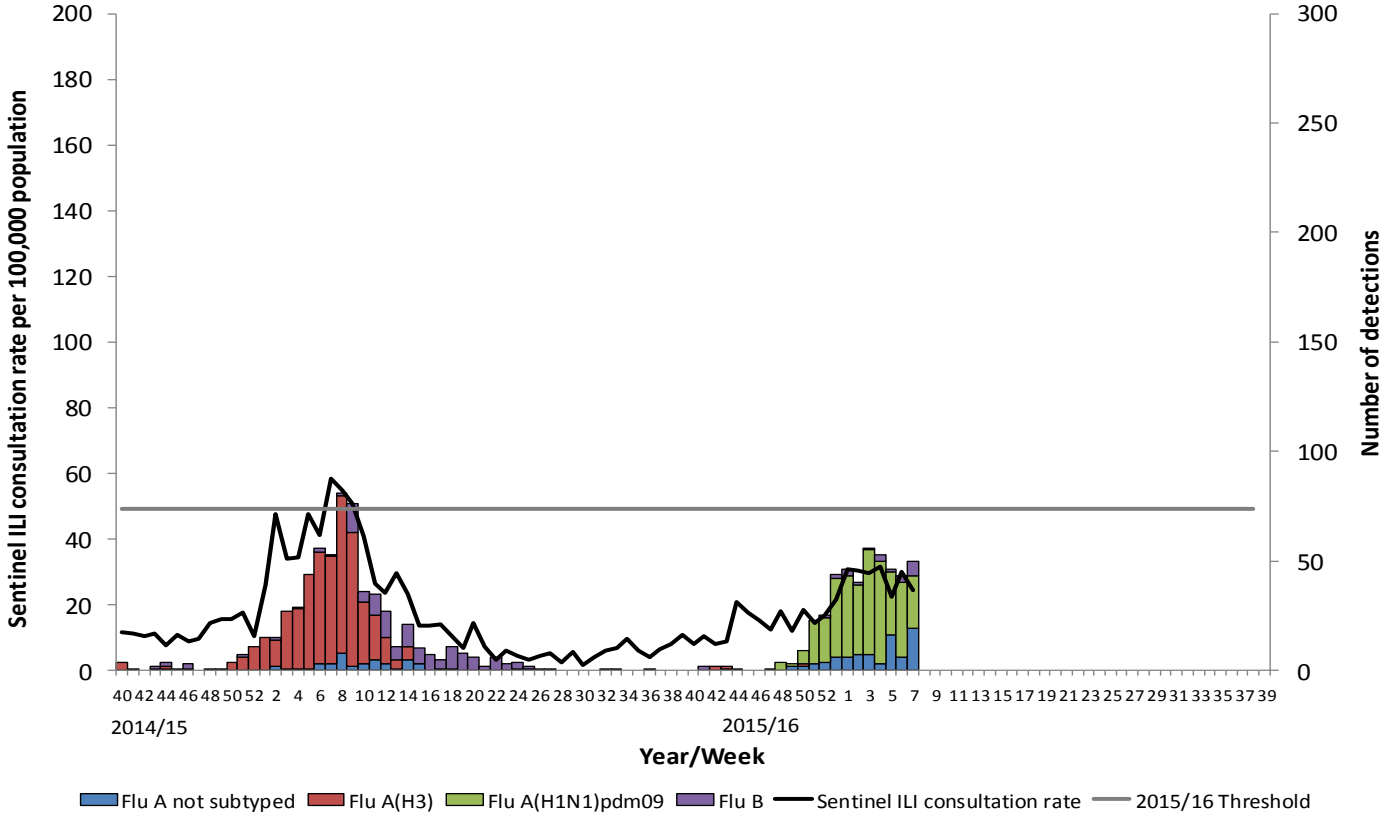


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2014

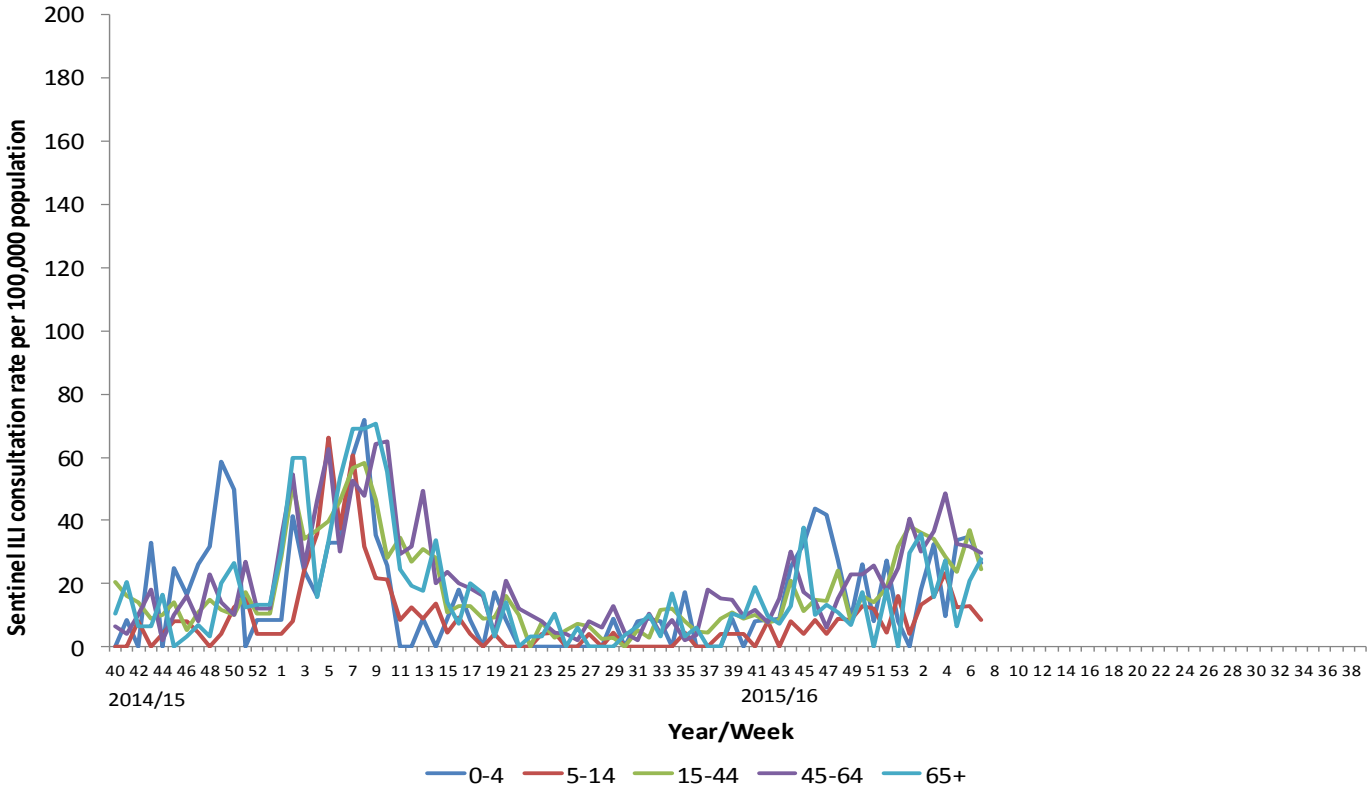


Comment

GP consultation rates have decreased in week 7, 2016 to 24.5 per 100,000 population compared with 29.9 per 100,000 in week 6. The GP consultation rate is lower than the same period in both 2014/15 and 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 7 2016, GP consultation rates increased among only those aged 65 years and over in comparison with the previous week, while rates among all other age groups decreased.

The highest consultation rate in week 7 was noted in those aged 45-64 years at 29.6 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

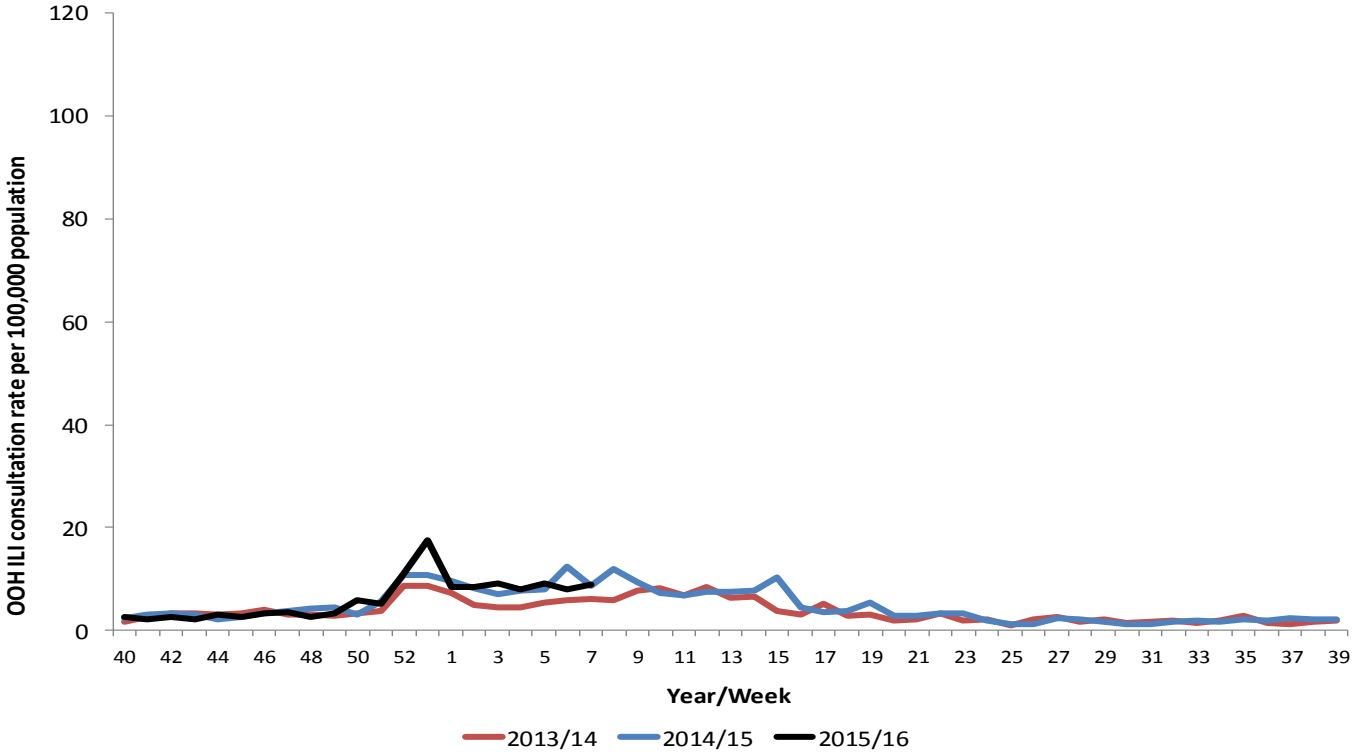
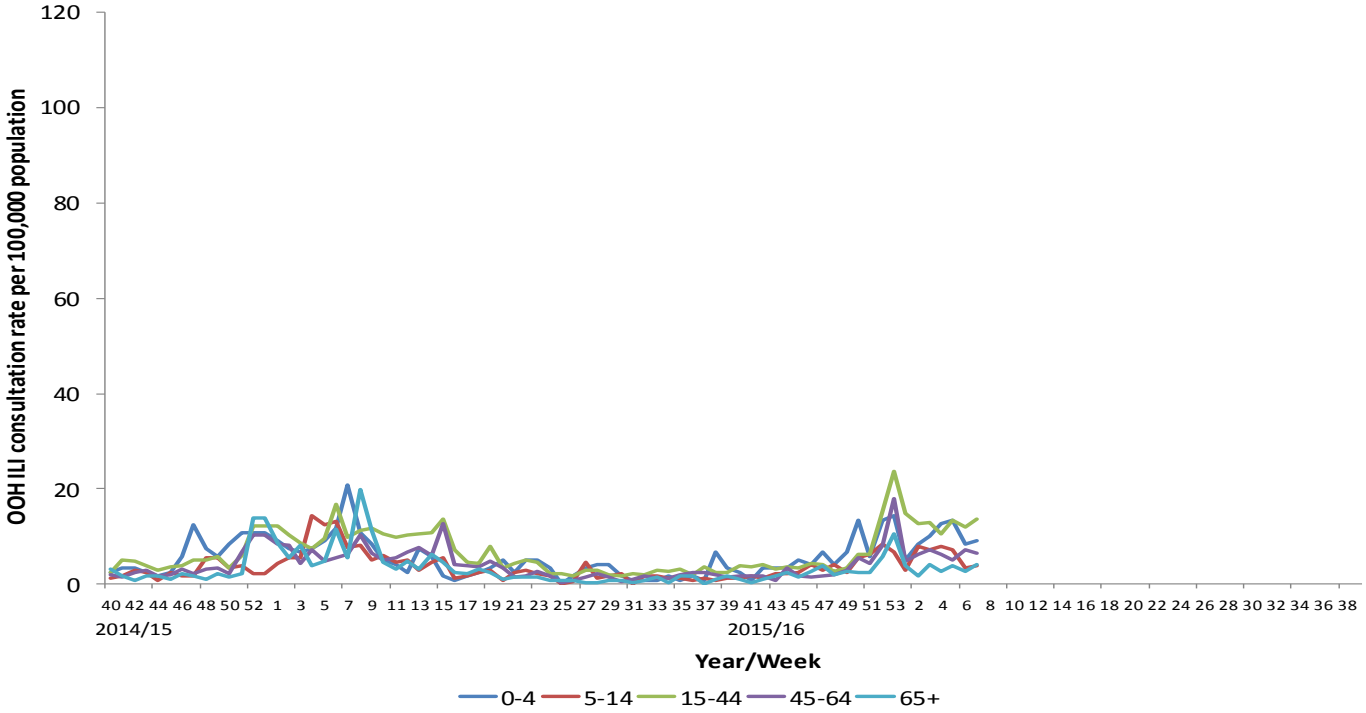


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2014



Comment

During week 7, 2016, the OOH GP consultation rate for flu/FLI increased to 8.9 per 100,000 population. The OOH GP consultation rate is similar to the same period in 2014/15 but higher than in 2013/14 (Figure 5).

The proportion of calls related to flu represents 1.4% of total calls to the OOH service.

During week 7, OOH flu/FLI rates have increased among all age groups with the exception of those aged 45-64 years, among whom a decrease was noted. The highest OOH flu/FLI rate was again noted in those aged 15-44 years at 13.6 per 100,000 population (Figure 6). Age specific-rates are lower than the same period in 2014/15 but similar to 2013/14.

Virology Data

Table 1. Virus activity in Northern Ireland, Week 7, 2015/16

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	7	0	2	0	0	0	2	29%
Non-sentinel	236	0	22	19	7	7	48	20%
Total	243	0	24	19	7	7	50	21%

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 7, 2015/16

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	52	8	3	63	411
5-14	0	17	1	2	20	17
15-64	0	206	57	17	280	68
65+	4	64	17	2	87	70
Unknown	0	0	0	0	0	0
All ages	4	339	83	24	450	566

Table 3. Cumulative virus activity, Week 40 - Week 7, 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	52	8	3	63	410
5-14	0	2	0	1	3	1	0	15	1	1	17	16
15-64	0	28	1	7	36	9	0	178	56	10	244	59
65+	0	2	1	0	3	1	4	62	16	2	84	69
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	0	32	2	8	42	12	4	307	81	16	408	554

Note

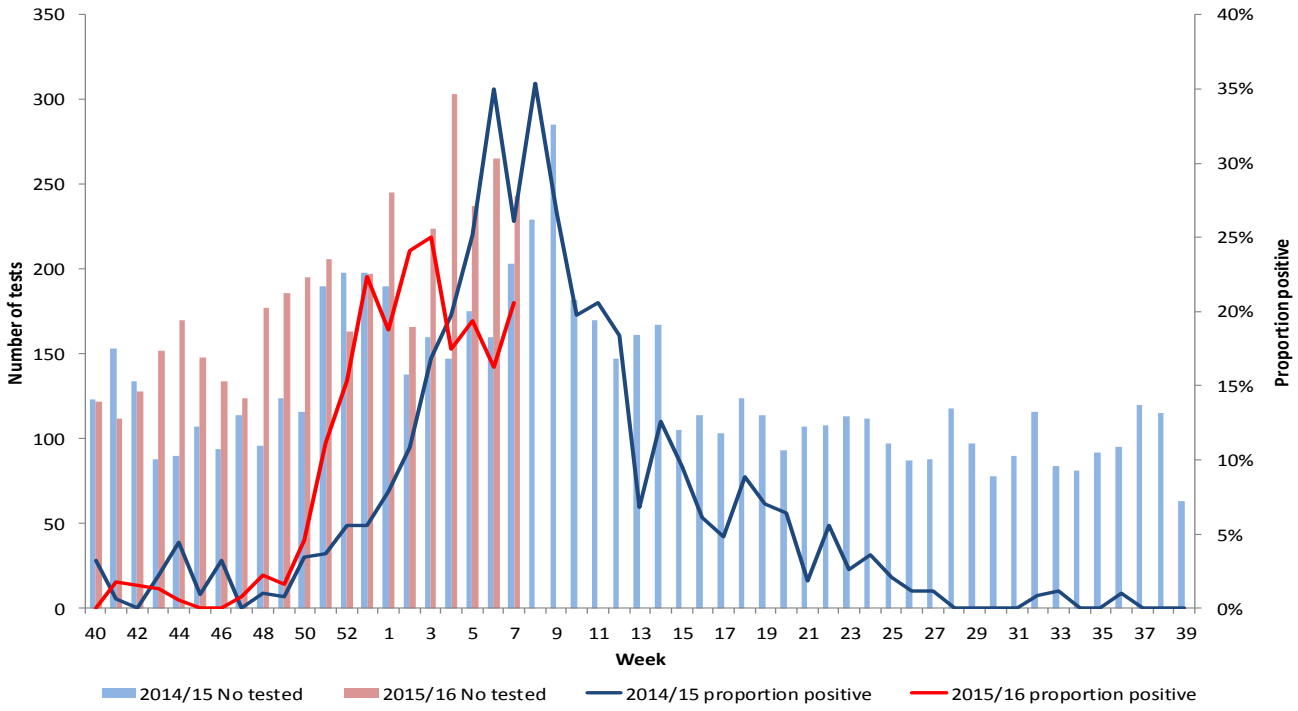
All virology data is provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available. Sentinel and non-sentinel 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 7, 243 specimens were submitted for virological testing. There were 50 detections of influenza (positivity rate of 21%) - 24 were typed as influenza A(H1N1)pdm09, 19 as influenza A (typing awaited) and 7 as influenza B. The positivity rate for influenza has increased from 16% in week 6 (Figure 7).

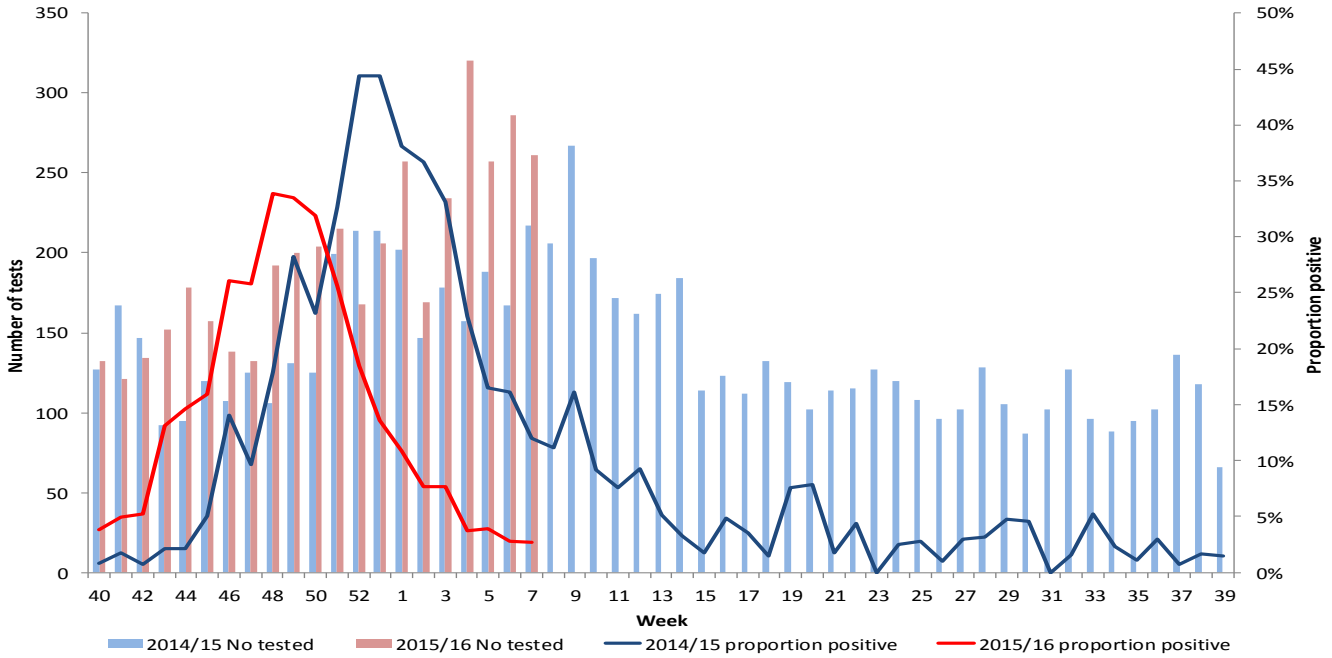
Overall this season, there have been 450 detections of influenza reported, more than in the same period in the 2013/14 (n=104) and 2014/15 (n=278) (Tables 1, 2, and 3).

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 7, there were 7 RSV positive detections. Positivity rates have remained stable at 3% since week 6. RSV positivity rates during this period are the lowest recorded in recent years. Overall this season there have been 566 detections of RSV, of which the majority (73%) were in those aged 0-4 years (Figure 8 and table 2).

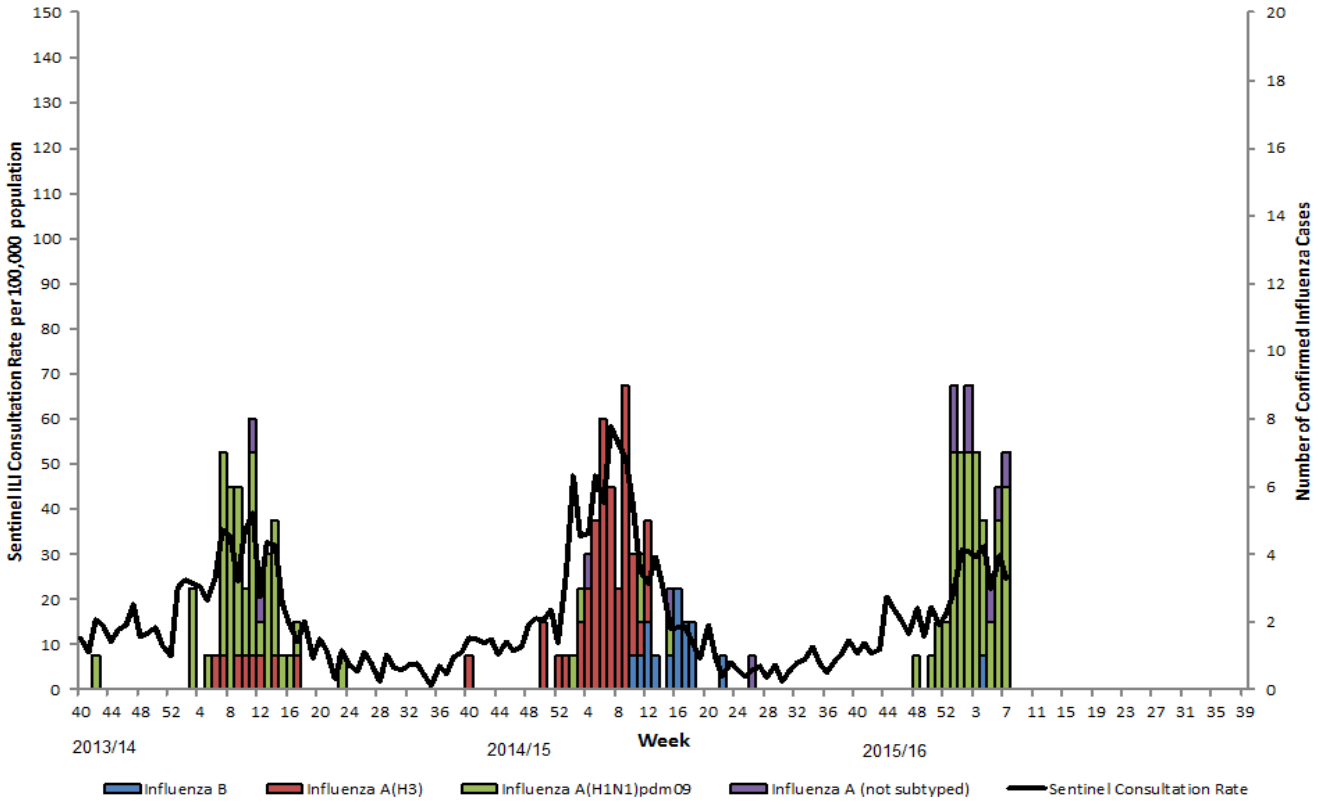
Influenza Vaccine Uptake

The most recent provisional data suggest that vaccine uptake for those aged 65 years and over is 68.9%, lower than the same period in 2014/15; while 53.2% of those under 65 and in an at risk group received the vaccine, lower than in 2014/15 when 69% 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 2014/15 during the same period. Uptake among children in primary school is 76.5%, slightly lower than in 2014/15.

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 week 7, there were ten admissions to ICU confirmed with influenza reported to the PHA - nine with influenza A (H1N1)pdm09 and one with influenza A untyped (typing awaited).

Overall, there have been 59 admissions to ICU with confirmed influenza reported this season, of which 51 have been confirmed as influenza A (H1N1)pdm09, 7 as influenza A untyped (typing awaited) and one as influenza B (Figure 9).

Up to week 7, 2016, 36 of the 59 ICU patients with confirmed influenza had co-morbidities. Provisional data show that 34 of the 59 cases met the criteria for influenza vaccination and only 8 had received the vaccination (24%) (Table 4).

There was one death in an ICU patient with laboratory confirmed influenza reported since the last bulletin. To date, there have been 9 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 - 7, 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	10	3	0	8	0	1	1
5-14	2	2	0	2	0	0	0
15-44	13	6	1	12	0	1	0
45-64	27	16	4	23	0	4	0
65+	7	7	3	6	0	1	0
All	59	34	8	51	0	7	1

*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.

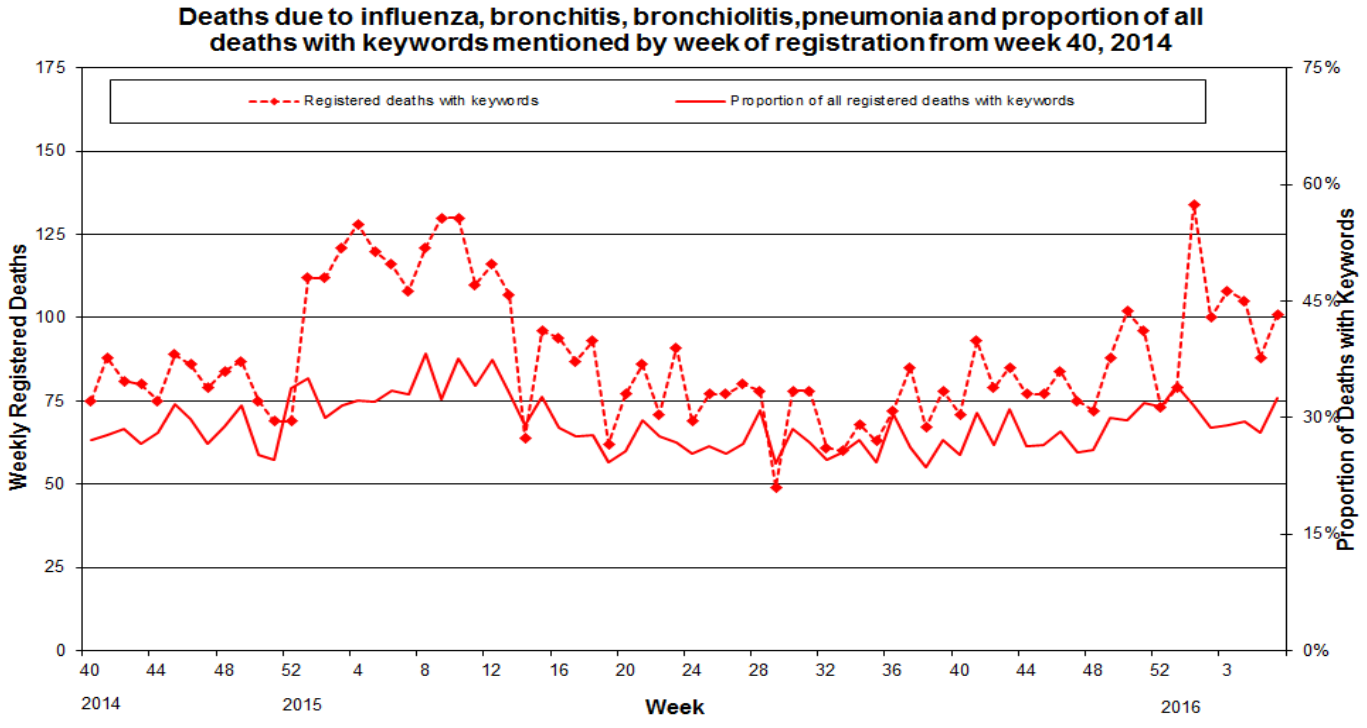
Outbreak Surveillance

During week 7, 2016 there was one report of a confirmed influenza outbreak to the PHA. There have been a total of three confirmed influenza outbreaks reported to the PHA this season to date; two 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

Due to a temporary system transition weekly mortality data will be temporarily unavailable for approximately four weeks. Figure 9 shows weekly numbers and proportions of deaths due to specific respiratory keywords to the end of week 6, 2016.

EuroMOMO

Due to a temporary system transition all-cause mortality data using the EuroMOMO algorithm will be temporarily unavailable for approximately four weeks. To the end of week 6, excess all-cause mortality had been reported in four weeks of the current 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 6, 2016:

- Twenty-one of the 46 Member States that reported epidemiological data from surveillance for influenza-like illness (ILI) and acute respiratory infection (ARI) indicated increasing rates for week 06/2016; 37 countries reported influenza-virus detections in specimens from sentinel sources, indicating influenza activity in the WHO European Region as a whole.
- Belarus, Finland, Greece, Ireland and Switzerland indicated high-intensity influenza activity. Influenza activity in the Russian Federation and Ukraine declined from very high in week 05/2016 to medium for week 06/2016.
- A(H1N1)pdm09 viruses continue to predominate, accounting for 90% of subtyped influenza A viruses detected through sentinel surveillance.
- Cases of severe disease, mainly in people aged 15–64 years, increased again in week 06/2016, with most of them associated with A(H1N1)pdm09.

Season:

- So far, a predominance of influenza A(H1N1)pdm09 viruses has characterized the 2015–2016 influenza season in most countries in the Region; this virus subtype may cause more severe disease and deaths in adults aged 15–64 years than A(H3N2) viruses.
- Since week 52/2015, several European countries with sentinel surveillance systems for severe acute respiratory infection (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.
- Most of the viruses characterized so far have been similar to the strains recommended for inclusion in this winter's trivalent or quadrivalent vaccines for the northern hemisphere.
- Risk assessments for the season are available from the European Centre for Disease Prevention and Control (ECDC) and the WHO Regional Office for Europe.

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

http://www.flunewseurope.org/

Worldwide (WHO) and CDC

As at 22nd February 2015:

Globally, influenza activity in the northern hemisphere continued to increase. High levels of influenza activity have been reported in some countries in Europe. In North America, northern Africa, central and western Asia, increasing activity predominantly of influenza A(H1N1)pdm09 virus was observed. In the temperate countries of northern Asia, activity was ongoing with various proportions of circulating seasonal influenza viruses.

- Increasing influenza A(H1N1)pdm09 activity continued to be reported in northern , eastern and southern Europe. Belarus, Greece and Ireland reported high-intensity influenza activity and Finland, the Russian Federation and Ukraine reported very high activity. Influenza A(H1N1)pdm09 viruses predominated.
- In North America, Canada and the United States of America reported increasing activity predominantly of influenza A(H1N1)pdm09 virus. Mexico reported low levels of A(H3N2) virus activity.
- In northern Asia, influenza activity was increasing in the Republic of Korea mainly due to influenza A(H1N1)pdm09 virus while in northern China a mixture of influenza A(H1N1)pdm09, A(H3N2) and B viruses were detected. Influenza activity in Mongolia seemed to have peaked with influenza A(H1N1)pdm09 predominating.
- In Western Asia, influenza activity remained at high levels in Israel and Jordan. Oman reported a decrease in influenza activity.
- In East Africa in Mauritius increasing influenza A(H1N1)pdm09 activity was reported. In northern Africa, Algeria and Morocco reported increasing influenza A(H1N1)pdm09 virus activity during this period.
- 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. In Cuba and Jamaica, influenza activity increased during this period.
- 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 100 countries, areas or territories reported data to FluNet for the time period from 25 January 2016 to 07 February 2016 (data as of 2016-02-18 13:53:12 UTC).The WHO GISRS laboratories tested more than 154579 specimens during that time period. 38419 were positive for influenza viruses, of which 31846 (82.9%) were typed as influenza A and 6573 (17.1%) as influenza B. Of the sub-typed influenza A viruses, 20503 (86.6%) were influenza A(H1N1)pdm09 and 3163 (13.4%) were influenza A(H3N2). Of the characterized B viruses, 595 (28.4%) belonged to the B-Yamagata lineage and 1499 (71.6%) to the B-Victoria lineage.
- A European and WHO risk assessment can be found at the links below.

WHO risk assessment for Seasonal Influenza A(H1N1)pdm09

European Risk assessment of the 2015–2016 influenza season

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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