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Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 9 (29 February 2016 – 06 March 2016)

Summary

In Northern Ireland, as of week 9 2016, the 2015/16 influenza season has seen stable community influenza activity, with moderate GP consultation rates but low numbers of Care Home outbreaks. However, numbers of ICU admissions remain 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 9, 2016:

- GP consultation rates for combined flu and flu-like illness (flu/FLI) decreased to 36.1 per 100,000 population and remain below the 2015/16 pre-epidemic threshold[1]
- OOH consultation data is temporarily unavailable and will be updated in the next bulletin
- RSV activity has remained stable 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 20%, with influenza A (H1N1) pdm09 the dominant circulating strain
- Four admissions to ICU were reported with confirmed influenza
- No deaths were reported in ICU patients with laboratory confirmed influenza
- All-cause excess mortality through the EuroMOMO algorithm is temporarily unavailable between weeks 7 and 10.

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

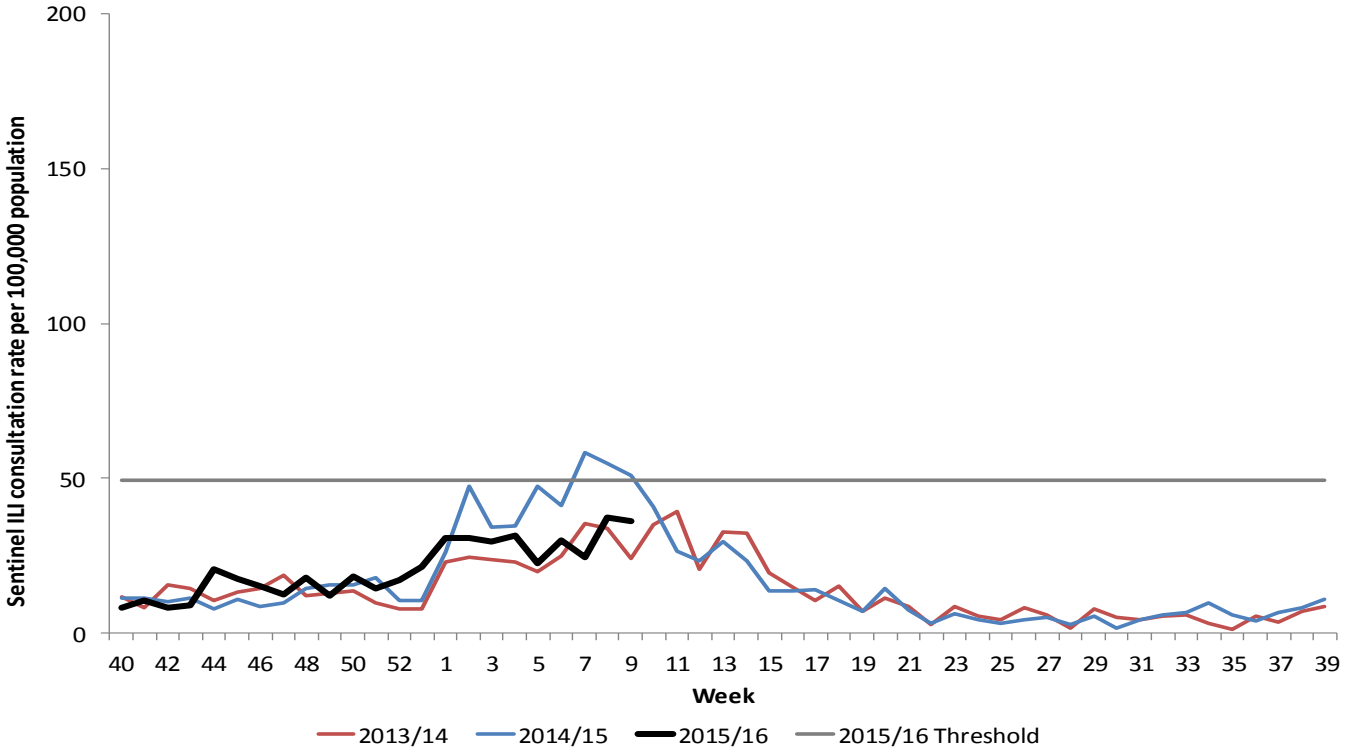


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2010/11 – 2015/16

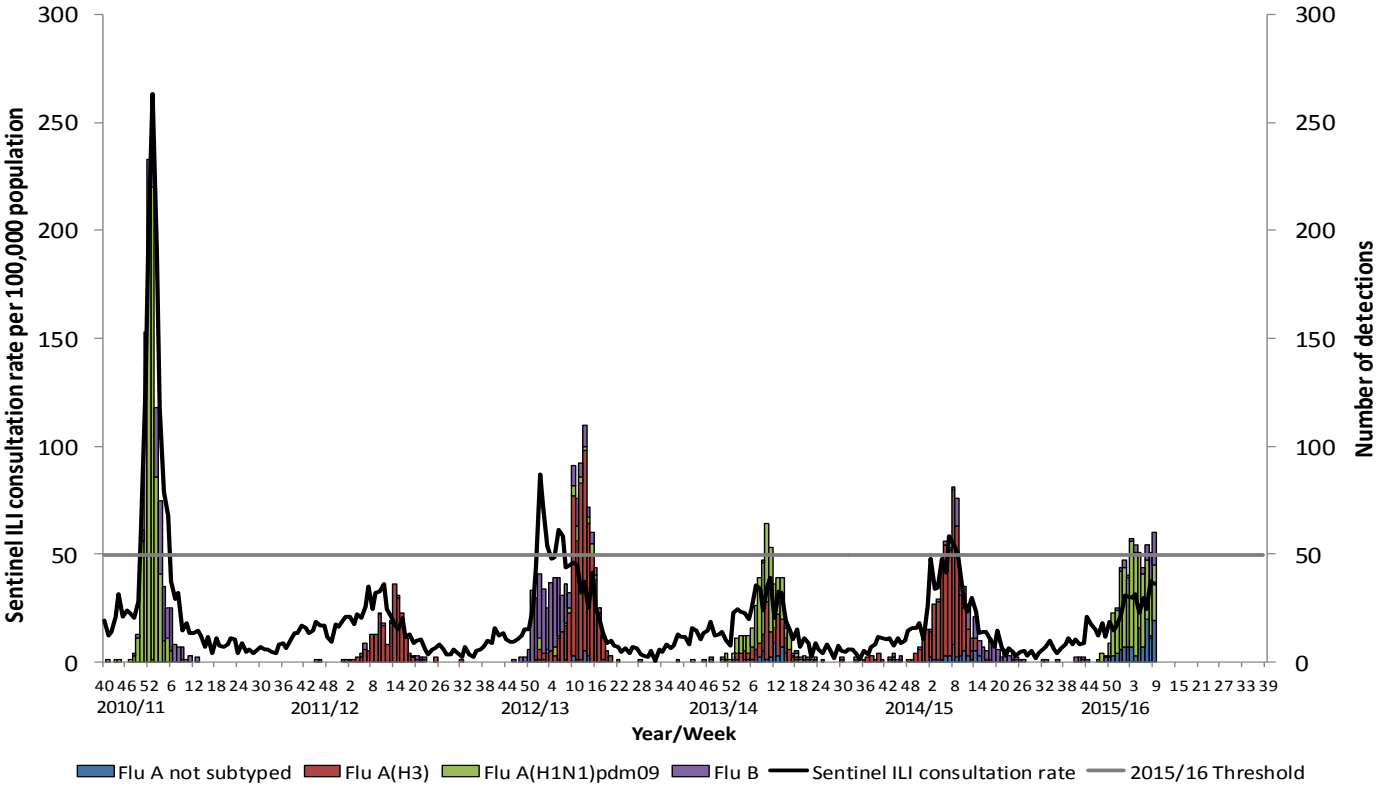
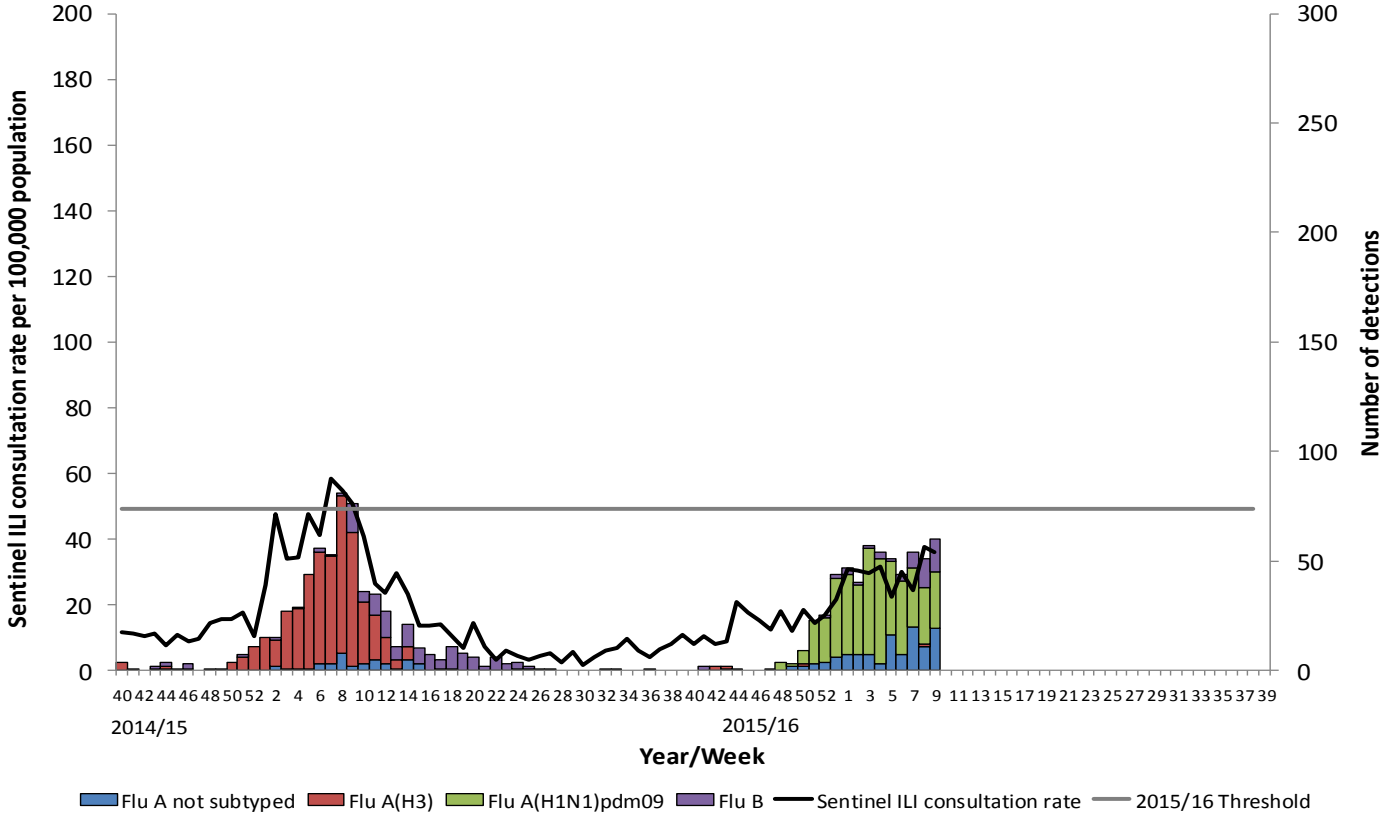


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2014

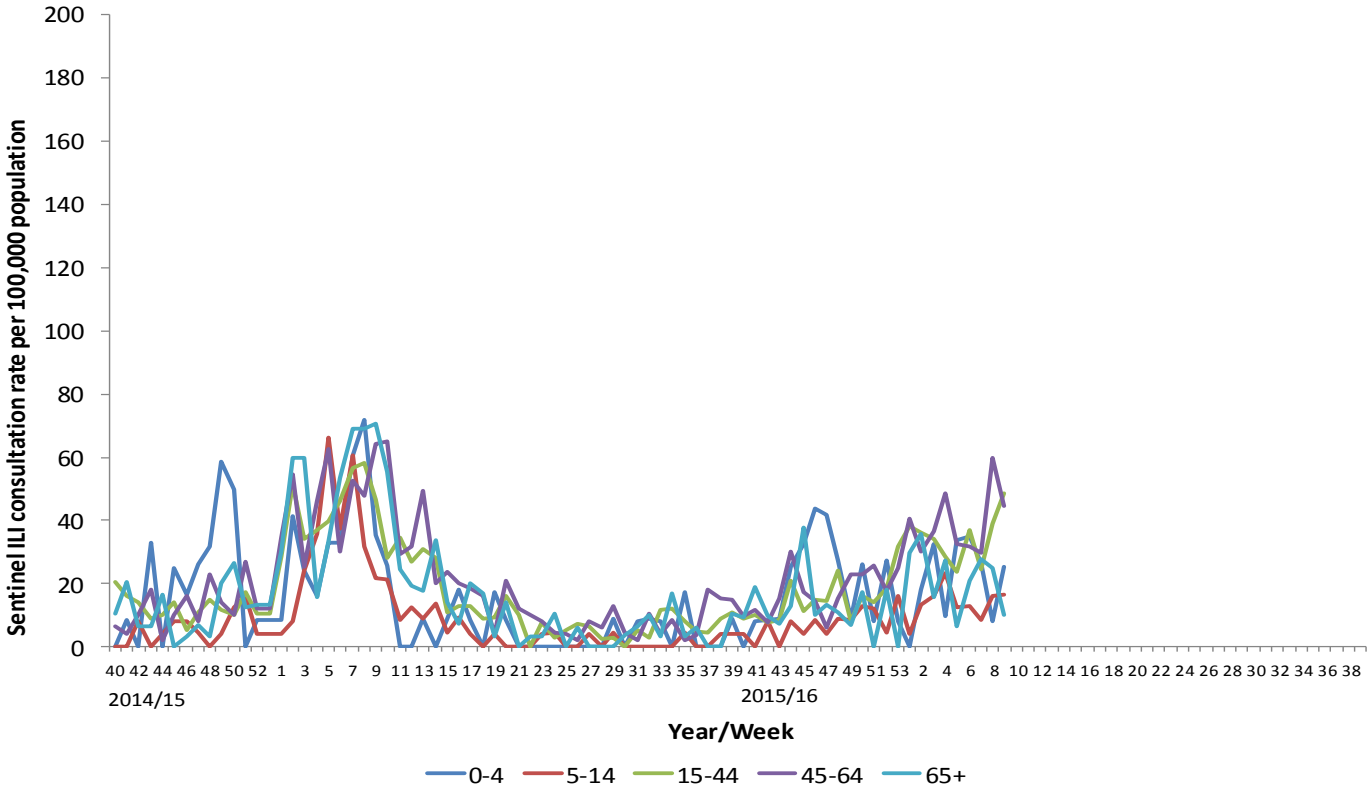


Comment

GP consultation rates have decreased in week 9, 2016 to 36.1 per 100,000 population compared with 37.5 per 100,000 in week 8. 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 9 2016, GP consultation rates increased among the 0-4 and 15-44 years age groups in comparison with the previous week, while rates among those aged 45-64 and 65 years and over decreased. Rates among those aged 5-14 years remained relatively stable.

The highest consultation rate in week 9 was noted in those aged 15-44 years at 48.6 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

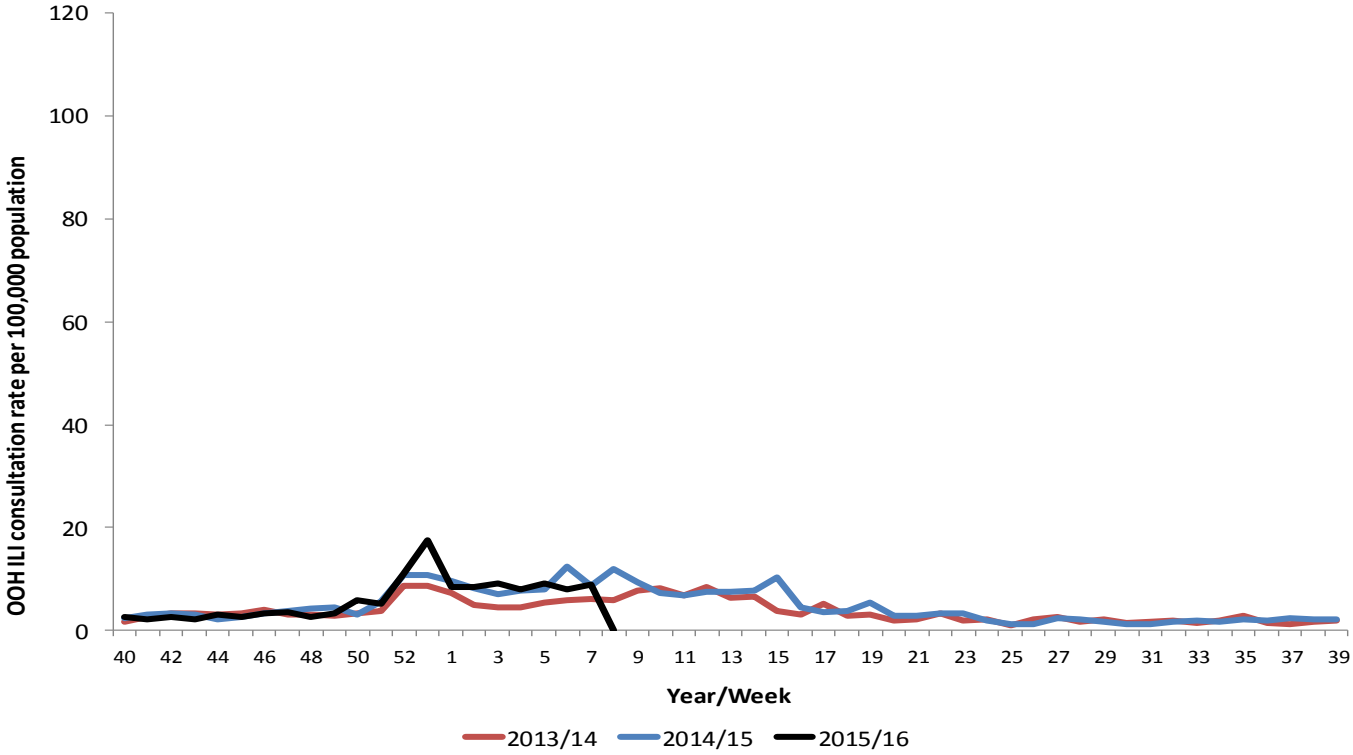
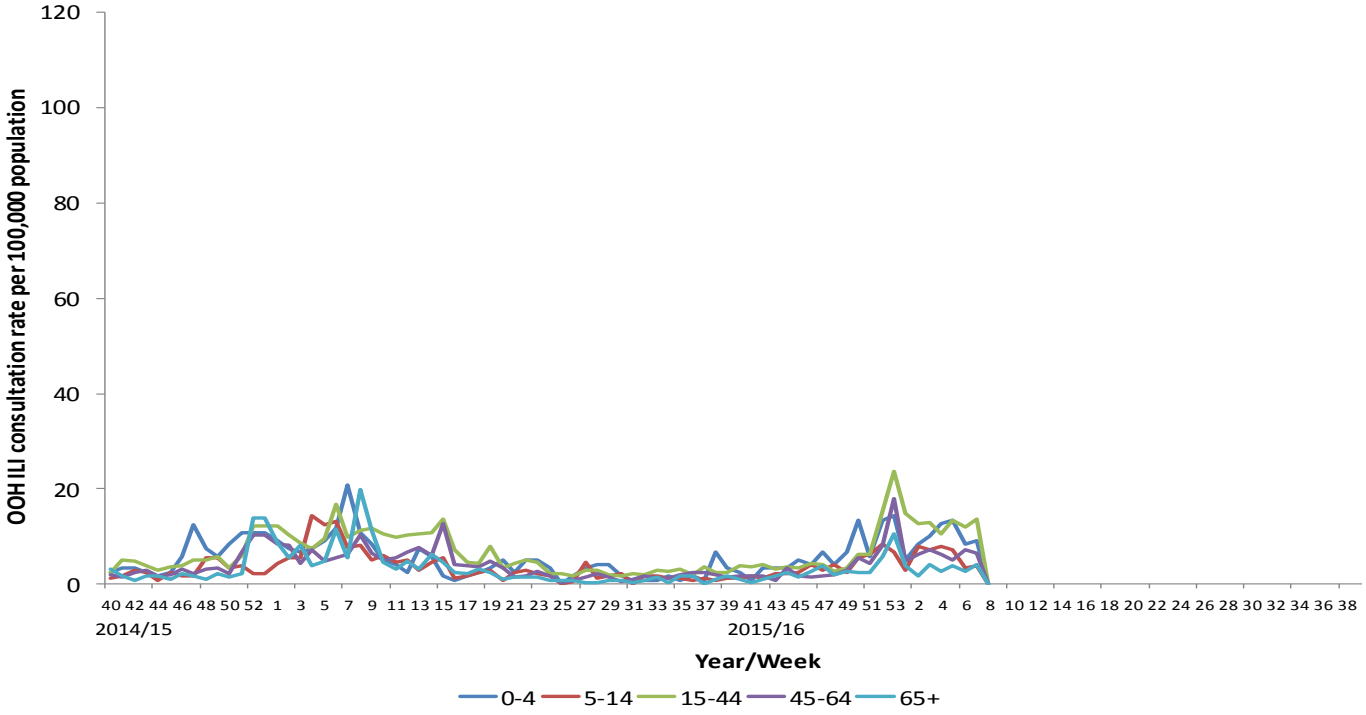


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2014



Comment

Due to a temporary technical issue; OOH consultation is unavailable for week 9 but will be updated in the next weekly bulletin.

Virology Data

Table 1. Virus activity in Northern Ireland, Week 9, 2015/16								
Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	9	0	3	2	0	0	5	56%
Non-sentinel	285	0	23	17	15	7	55	19%
Total	294	0	26	19	15	7	60	20%

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 9, 2015/16						
	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	58	11	5	74	418
5-14	0	20	1	7	28	17
15-64	1	245	73	35	354	70
65+	4	78	31	5	118	73
Unknown	0	0	0	0	0	0
All ages	5	401	116	52	574	578

Table 3. Cumulative virus activity, Week 40 - Week 9, 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	58	11	5	74	417
5-14	0	3	0	1	4	1	0	17	1	6	24	16
15-64	0	37	2	9	48	9	1	208	71	26	306	61
65+	0	2	2	0	4	1	4	76	29	5	114	72
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	0	42	4	10	56	12	5	359	112	42	518	566

Note

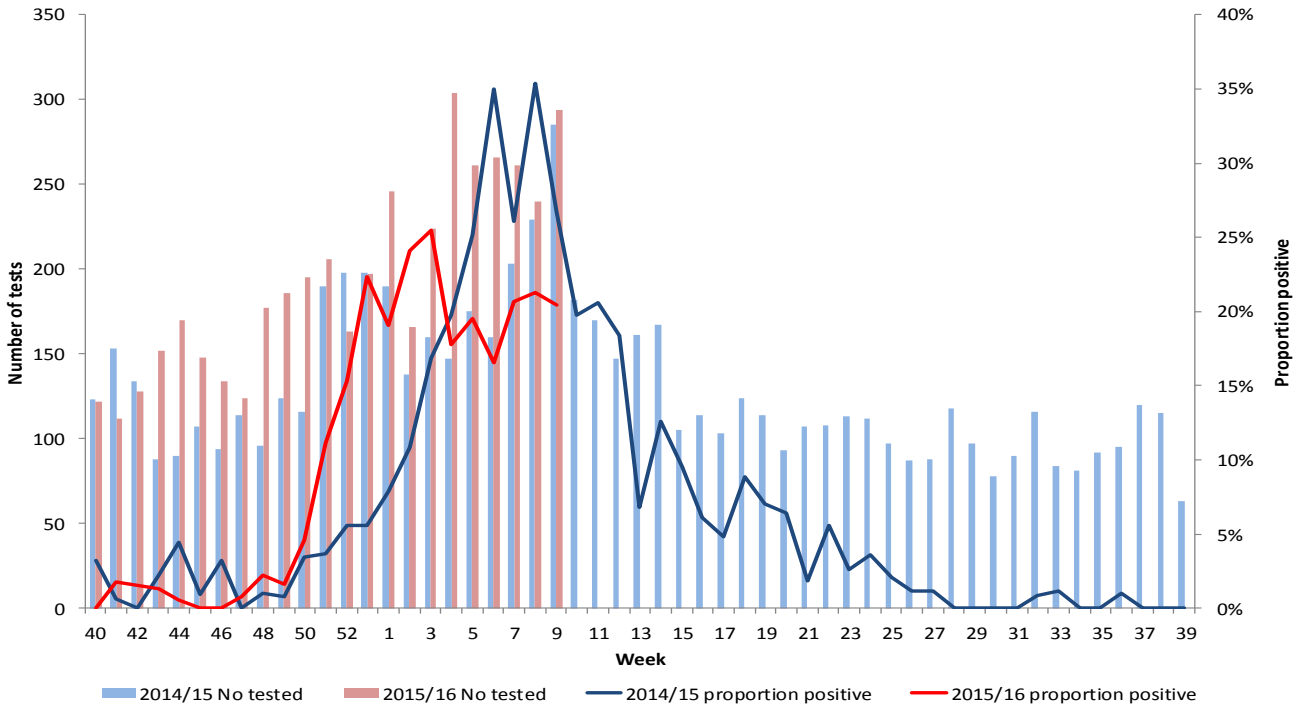
All virology data is provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available. Sentinel and non-sentinel 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 9, 294 specimens were submitted for virological testing. There were 60 detections of influenza (positivity rate of 20%) - 26 were typed as influenza A(H1N1)pdm09, 19 as influenza A (typing awaited) and 15 as influenza B. The positivity rate for influenza has decreased from 21% in week 8 (Figure 7).

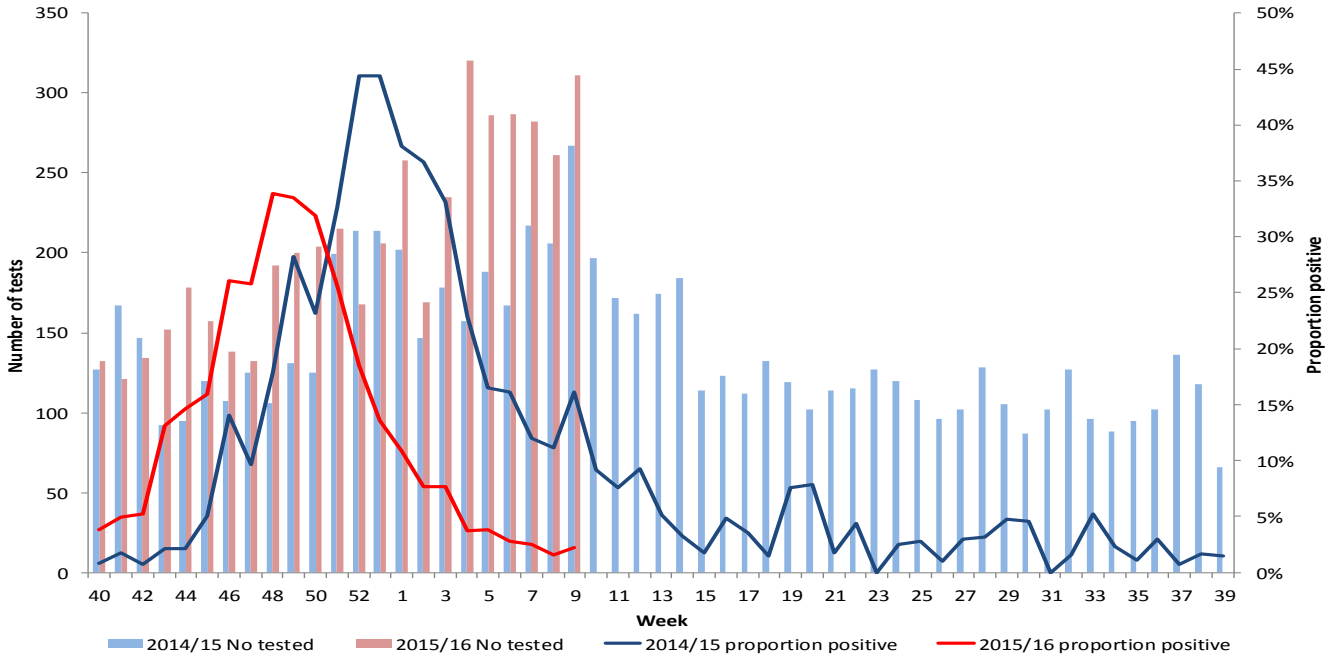
Overall this season, there have been 574 detections of influenza reported, more than in the same period in 2013/14 (n=190) and 2014/15 (n=435) (Tables 1, 2, and 3).

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 9, there were 7 RSV positive detections. Positivity rates have remained stable at 2% from week 8. RSV positivity rates during this period are the lowest recorded in recent years. Overall this season there have been 578 detections of RSV, of which the majority (72%) were in those aged 0-4 years (Figure 8 and table 2).

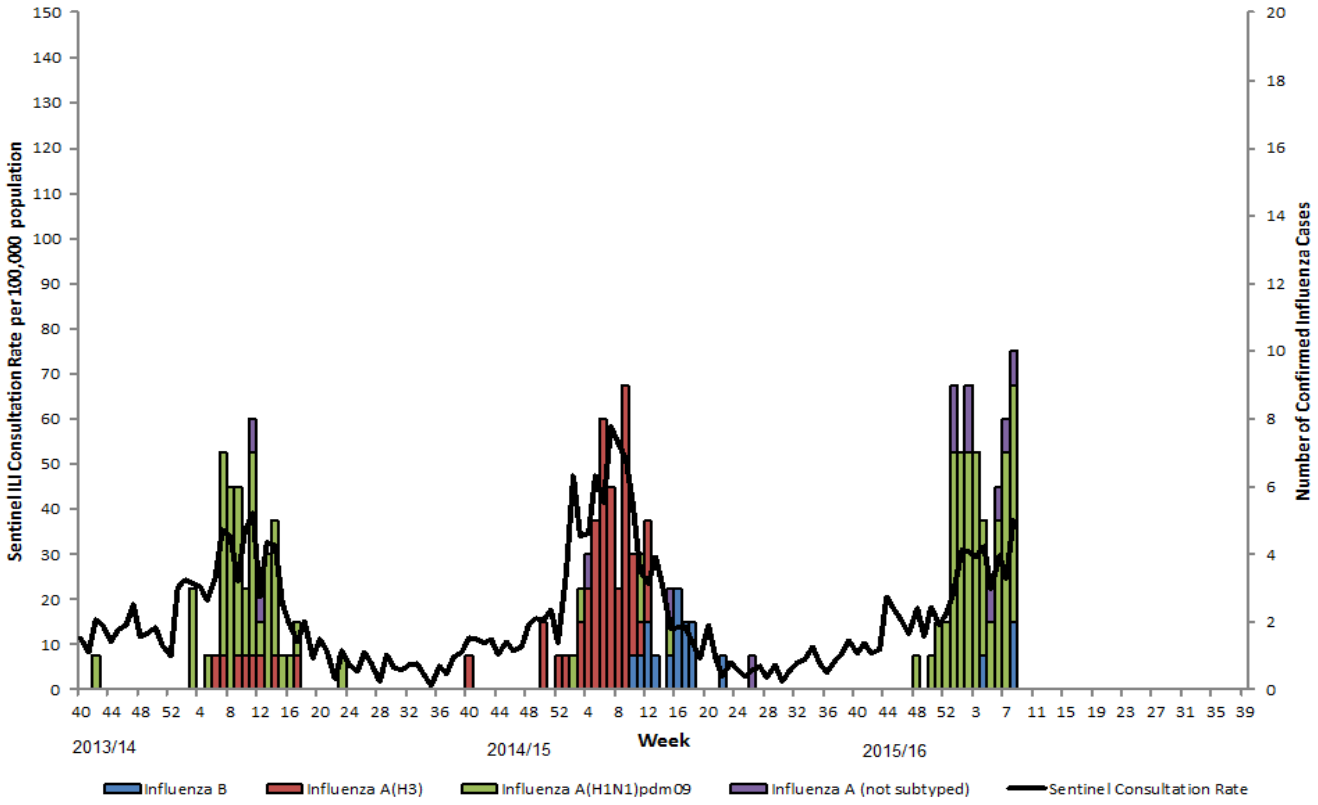
Influenza Vaccine Uptake

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 69.0% 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 9, there were four admissions to ICU confirmed with influenza reported to the PHA - two with influenza A (H1N1)pdm09, one with influenza A untyped (typing awaited) and one with influenza B. In addition, one case previously reported as influenza positive has now been identified as flu negative.

Overall, there have been 73 admissions to ICU with confirmed influenza reported this season, of which 60 have been confirmed as influenza A (H1N1)pdm09, 9 as influenza A untyped (typing awaited) and 4 as influenza B (Figure 9).

Up to week 9, 2016, 43 of the 73 ICU patients with confirmed influenza had co-morbidities. Provisional data show that 39 of the 73 (56%) cases met the criteria for influenza vaccination and only 12 had received the vaccination (31%) (Table 4).

There were no deaths in ICU patients 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 - 9, 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	11	3	0	9	0	1	1
5-14	2	2	0	2	0	0	0
15-44	20	7	1	18	0	1	1
45-64	29	16	6	23	0	5	1
65+	11	11	5	8	0	2	1
All	73	39	12	60	0	9	4

*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.

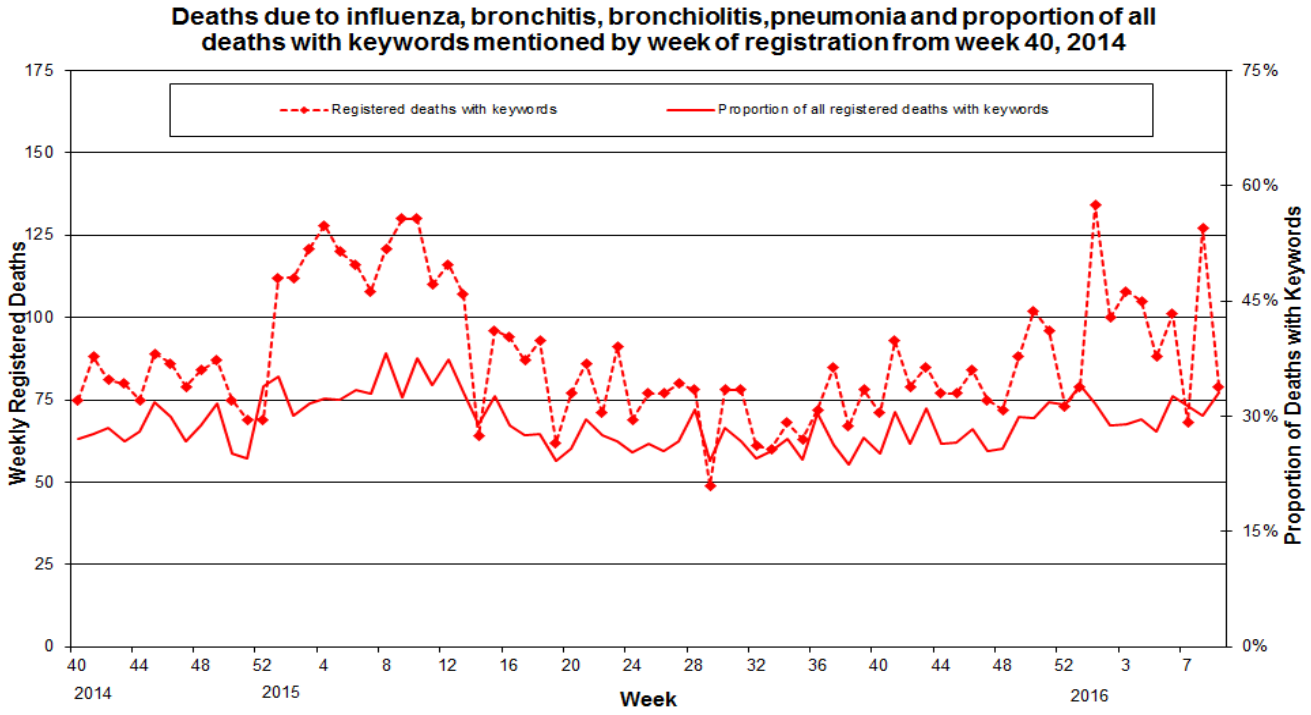
Outbreak Surveillance

During week 9, 2016 there were no reports of confirmed influenza outbreaks 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

Weekly mortality data has now been updated to include weeks 7, 8 and 9 – previously unavailable due to a temporary system transition.

During week 9, the proportion of registered deaths from specific respiratory infections increased to 33% from 30% in week 8 (Figure 9).

In week 9 there were 239 registered deaths, of which 79 related to specific respiratory infections (33%). 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

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 8, 2016:

- For week 08/2016, 25 of the 45 Member States in the WHO European Region that uploaded epidemiological data reported widespread influenza activity.
- As only five countries reported high-intensity activity, influenza may have peaked in some parts of the Region, as indicated by reports of decreasing or stable trends in 33 countries.
- Thirty-six countries reported influenza virus detections in 47% of specimens from sentinel sources, which is similar to previous weeks. Influenza B virus constituted 47% of detections in sentinel samples, compared to 43% for the previous week, indicating a gradual shift towards influenza B. Influenza A(H1N1)pdm09 remained the predominant virus detected through sentinel surveillance, accounting for 85% of the A viruses subtyped.
- Cases of severe disease were fewer than in previous weeks, but varied between countries. Most severe cases were associated with A(H1N1)pdm09 and were in people aged 15-64 years.
- For the 17 countries or regions reporting to the European monitoring of excess mortality for public health action project (EuroMOMO), there is a pattern suggesting excess all-cause mortality among those aged 15-64.

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 subtype may cause more severe disease and deaths in people under 65 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 those recommended for inclusion in the trivalent or quadrivalent vaccines for this season in the northern hemisphere.
- Recommendations for the vaccine composition for the 2016-2017 season in the northern hemisphere call for including a virus of the B/Victoria lineage and a more recent A(H3N2) virus in trivalent vaccine.
- 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 7th March 2016:

In the Northern Hemisphere high levels of influenza activity continued with influenza A(H1N1)pdm09 predominating and an increase in the proportion of influenza B viruses detected. In the Southern Hemisphere and in tropical countries influenza activity was generally low.

- In Europe ongoing high levels of influenza activity continued to be reported, although in some countries activity seemed to have peaked already. Influenza A(H1N1)pdm09 accounted for most virus detections with an increase in the proportion of influenza B detections. In Russian Federation and Ukraine, elevated SARI activity continued but at lower levels compared to previous weeks.
- In North America, influenza activity increased further with influenza A(H1N1)pdm09 predominating in Canada and United States of America and A(H3N2) in Mexico.
- In Northern/Temperate Asia, influenza activity remained high but seemed to have peaked already in some countries.
- In Western Asia, influenza activity continued to decrease. Oman reported ongoing low levels of both influenza A(H1N1)pdm09 and influenza B viruses.
- In Africa influenza A(H1N1)pdm09 activity was reported in northern Africa.
- In tropical countries of the Americas, Central America and the Caribbean, influenza and other respiratory virus activity were overall at low levels, except Jamaica, and Puerto Rico with high but decreasing influenza activity.
- In South East Asia, ongoing low influenza activity was reported during this period.
- In the temperate countries of the Southern Hemisphere influenza activity remained low at inter-seasonal level.
- National Influenza Centres (NICs) and other national influenza laboratories from 98 countries, areas or territories reported data to FluNet for the time period from 08 February 2016 to 21 February 2016* (data as of 2016-03-04 07:20:12 UTC).The WHO GISRS laboratories tested more than 158158 specimens during that time period. 42727 were positive for influenza viruses, of which 33745 (79%) were typed as influenza A and 8982 (21%) as influenza B. Of the sub-typed influenza A viruses, 19269 (87.7%) were influenza A(H1N1)pdm09 and 2709 (12.3%) were influenza A(H3N2). Of the characterized B viruses, 589 (24.4%) belonged to the B-Yamagata lineage and 1821 (75.6%) 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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