

Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 13 (28 March 2016 – 03 April 2016)

Summary

In Northern Ireland, as of week 13 2016, the 2015/16 influenza season has seen decreasing community influenza activity, with low GP consultation rates and no Care Home outbreaks reported. ICU admissions in week 13 remain higher than seen in week 13 in 2014/15 but similar to 2013/14; however the total number of ICU admissions this season to date is higher than in the previous two seasons. 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 13, 2016:

- GP consultation rates for combined flu and flu-like illness (flu/FLI) decreased to 10.0 per 100,000 population, the lowest recorded in recent seasons, and remain below the 2015/16 pre-epidemic threshold¹
- OOH consultation rate for flu/FLI increased to 10.8 per 100,000 population, increasing among most age groups
- RSV activity has decreased and remains 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 14%, with influenza A the dominant circulating strain
- Six admissions to ICU were reported with 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

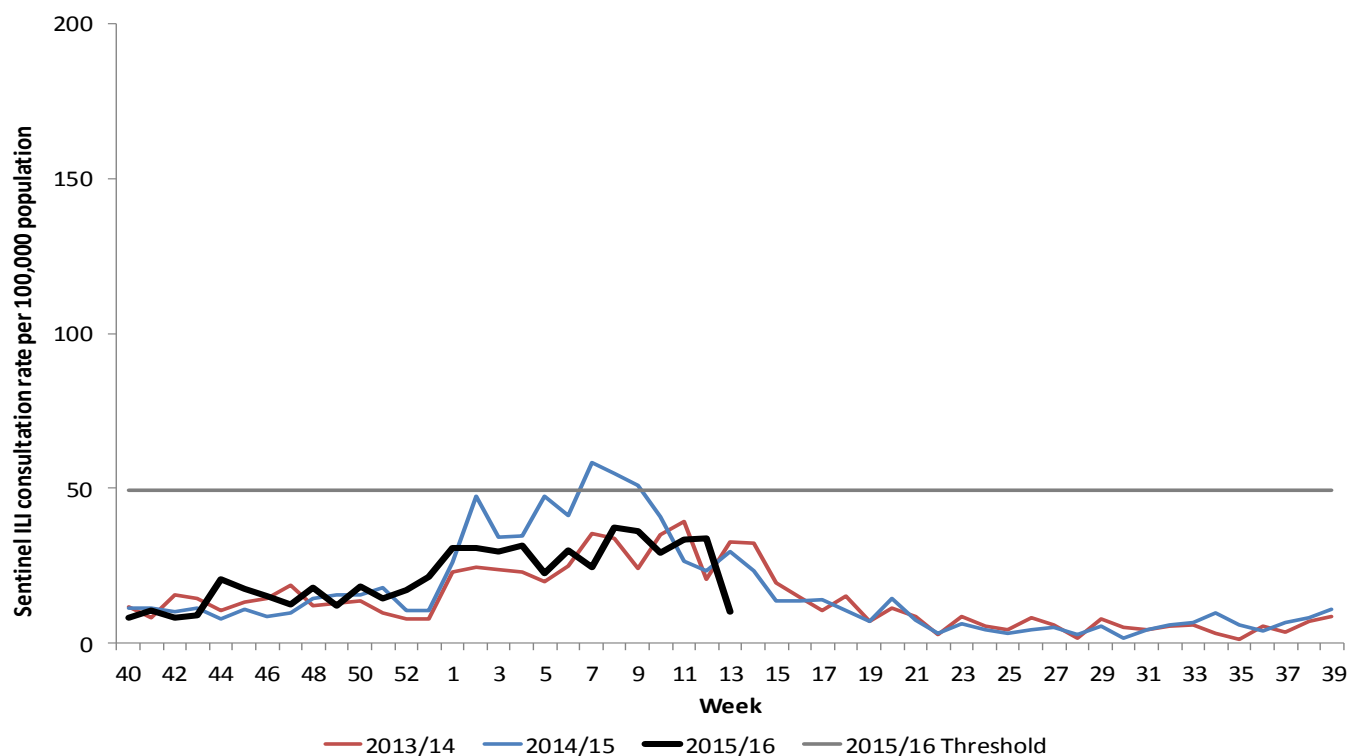


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2010/11 – 2015/16

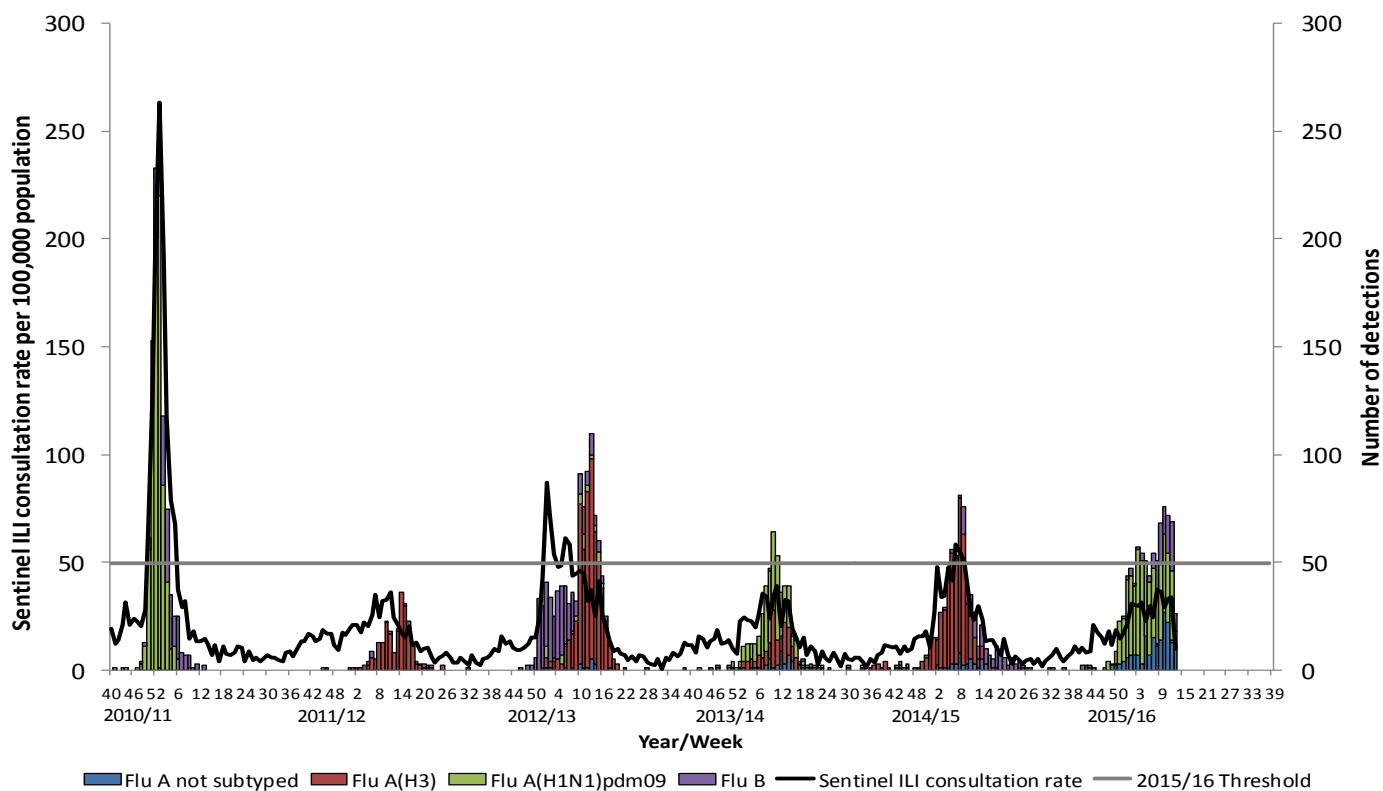
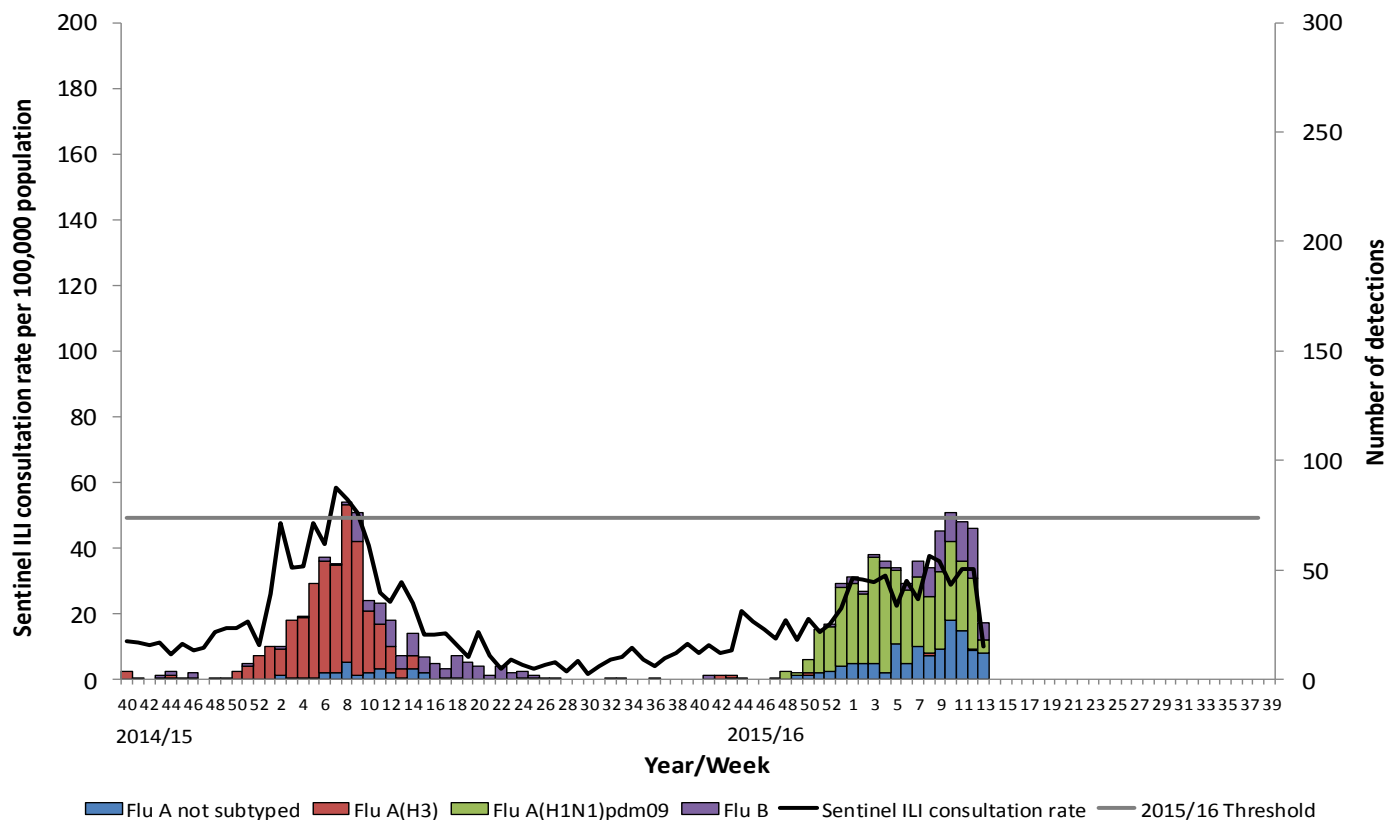


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2014

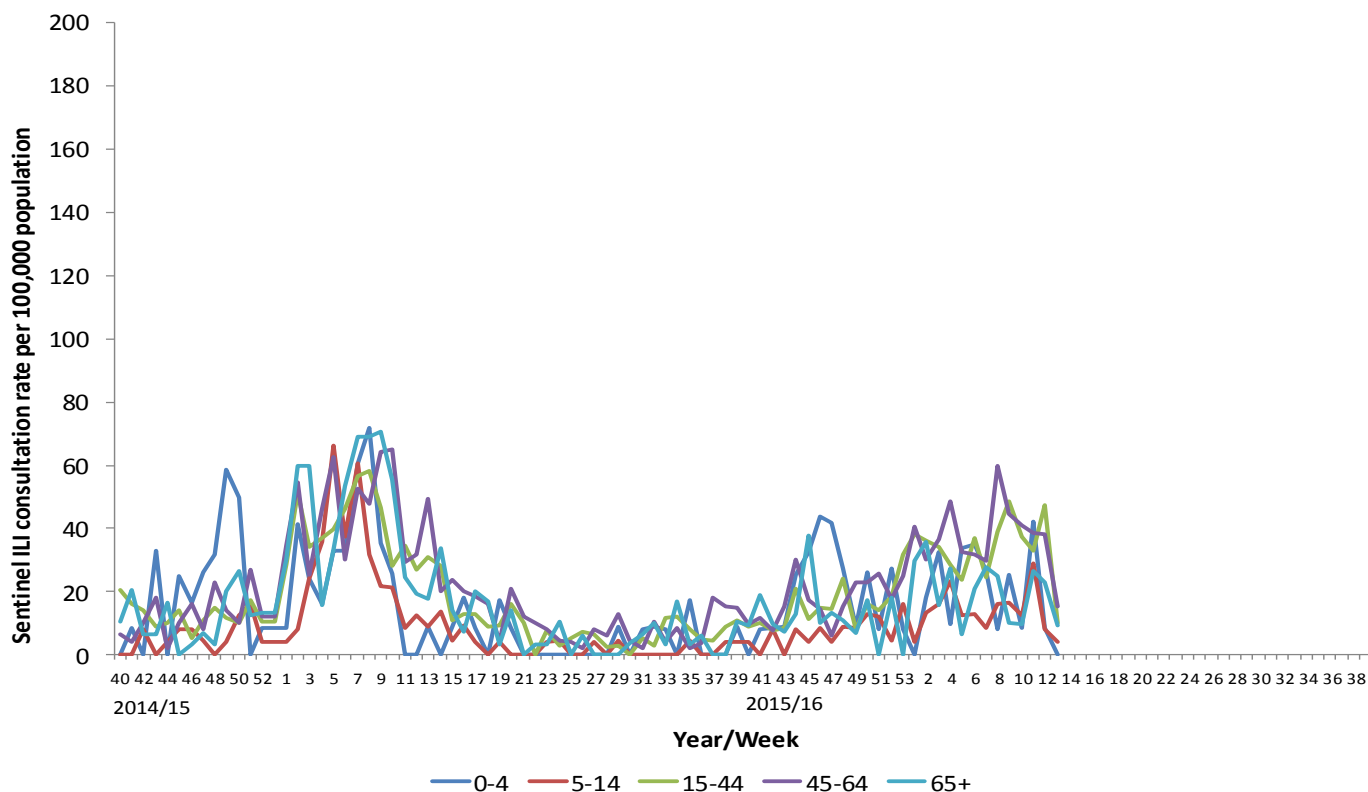


Comment

GP consultation rates have decreased in week 13, 2016 to 10.0 per 100,000 population from 33.7 per 100,000 in week 12. The GP consultation rate is the lowest recorded during this period in recent seasons.

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 13 2016, GP consultation rates decreased among all age groups in comparison with the previous week. Age-specific consultation rates are the lowest in all age groups since 2011/12.

The highest consultation rate in week 13 was noted in those aged 45-64 years at 15.4 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

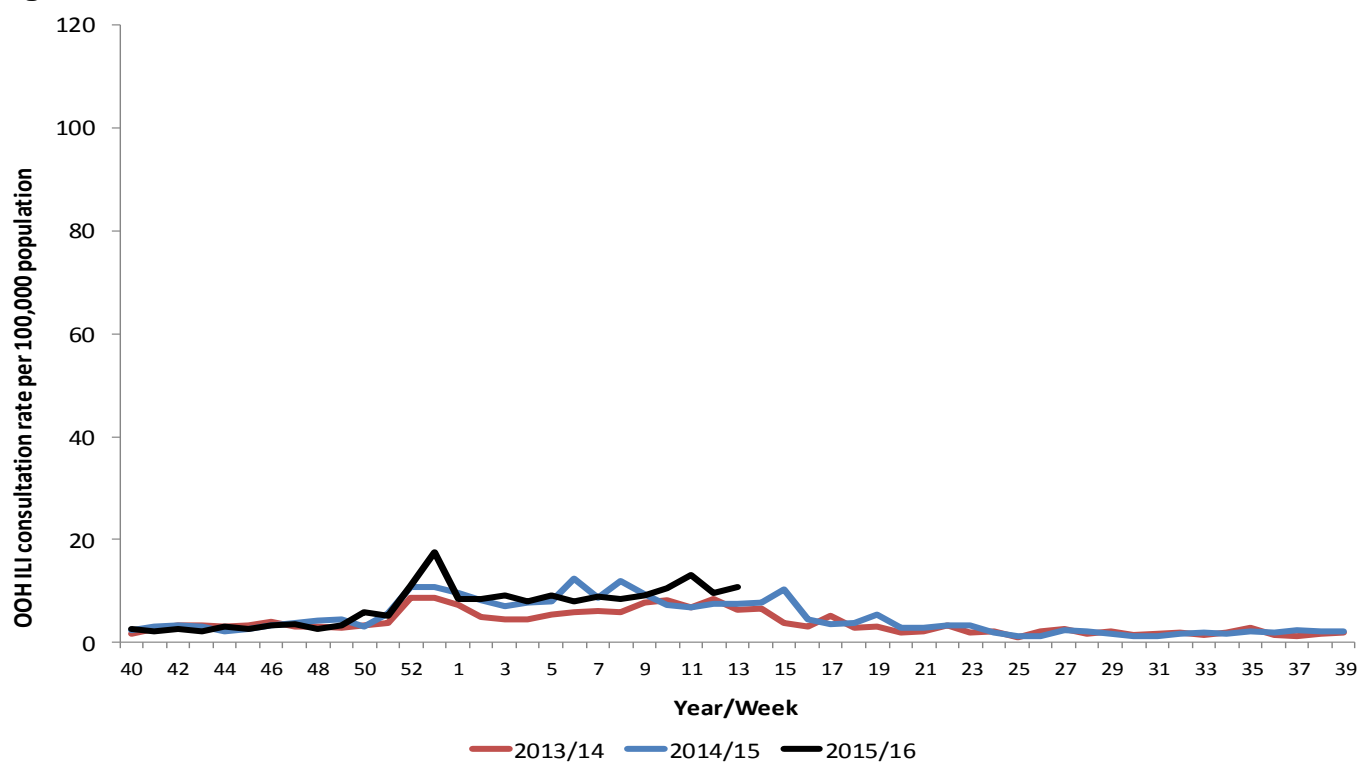
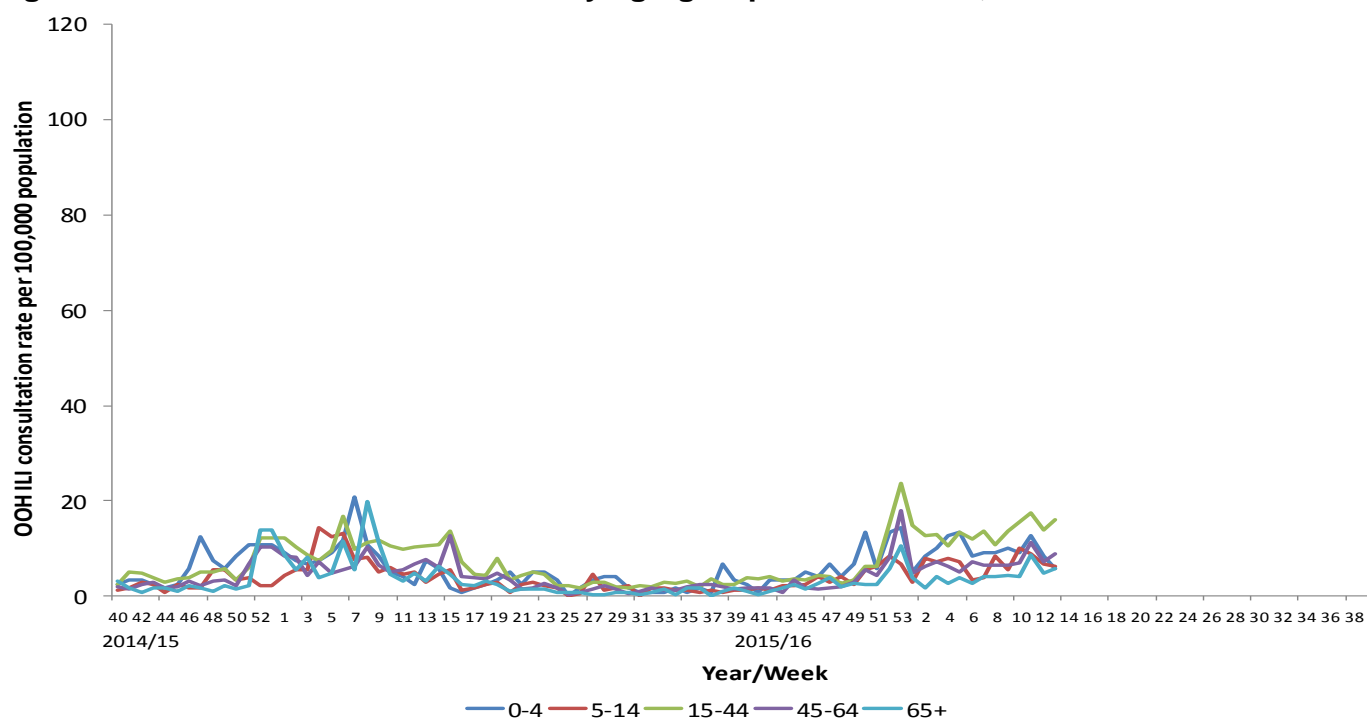


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2014



Comment

During week 13, 2016 the OOH GP consultation rate increased to 10.8 per 100,000 population compared with 9.6 in week 12. The OOH GP consultation rate remained higher than the same period in both 2014/15 and 2013/14 (Figure 5).

The proportion of calls related to flu in week 13 represents 1.2% of total calls to the OOH service.

During week 13, OOH flu/FLI rates have increased in most age groups in comparison with the previous week. OOH flu/FLI rates increased among those aged 15-44, 45-64 and 65 years and over while rates have decreased among those aged 0-4 and 5-14 years. The highest OOH flu/FLI rate was noted in those aged 15-44 years at 16.0 per 100,000 population (Figure 6). Age-specific rates remain generally higher than noted during the same period in both 2014/15 and 2013/14.

Virology Data

Table 1. Virus activity in Northern Ireland, Week 13, 2015/16

Source	Specimens Tested	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	1	0	0	0	0	0	0	0%
Non-sentinel	184	0	6	12	8	1	26	14%
Total	185	0	6	12	8	1	26	14%

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 13, 2015/16

	Flu AH3	Flu A(H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	0	72	15	13	100	422
5-14	0	22	4	11	37	17
15-64	2	317	108	74	501	75
65+	4	110	53	20	187	74
Unknown	0	0	0	0	0	0
All ages	6	521	180	118	825	588

Table 3. Cumulative virus activity, Week 40 - Week 13, 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	72	15	13	100	421
5-14	0	4	0	1	5	1	0	18	4	10	32	16
15-64	0	52	8	15	75	10	2	265	100	59	426	65
65+	0	2	2	0	4	1	4	108	51	20	183	73
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
All ages	0	58	10	16	84	13	6	463	170	102	741	575

Note

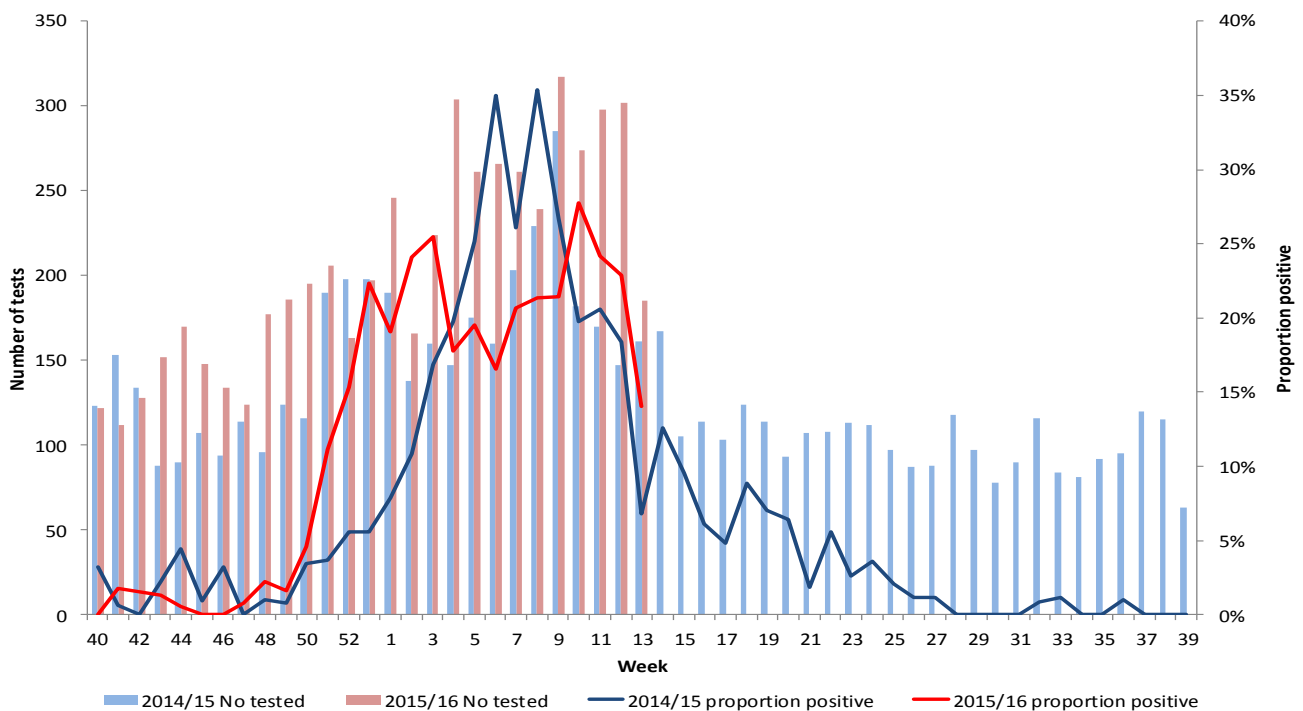
All virology data is provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available. Sentinel and non-sentinel 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 13, 185 specimens were submitted for virological testing. There were 26 detections of influenza (positivity rate of 14%) - 6 were typed as influenza A(H1N1)pdm09, 12 as influenza A (typing awaited), and 8 as influenza B. The positivity rate for influenza has decreased from 23% in week 12 (Figure 7).

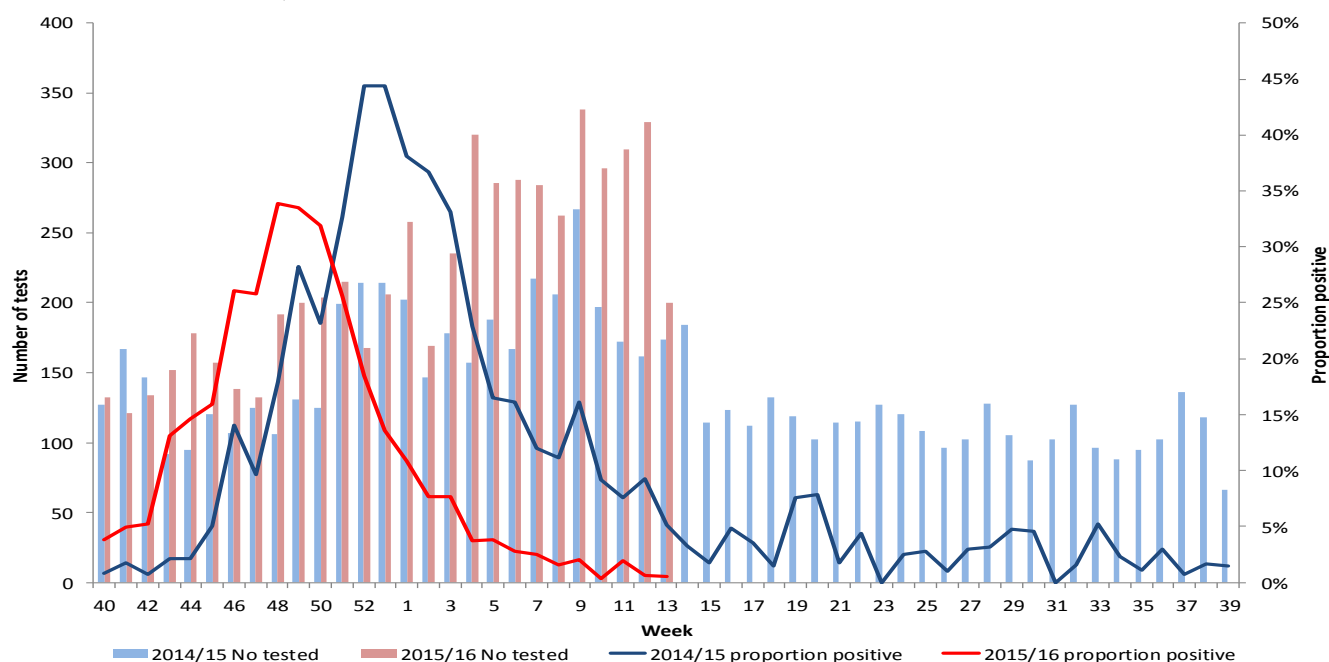
Overall this season, there have been 825 detections of influenza reported, more than in the same period in 2013/14 (n=382) and 2014/15 (n=544) (Tables 1, 2, and 3).

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 13, there was 1 positive detection of RSV. Positivity rates have decreased to less than 1% from 1% in week 12. RSV positivity rates during this period are the lowest recorded in recent years. Overall this season there have been 588 detections of RSV, of which the majority (72%) were in those aged 0-4 years (Figure 8 and Table 2).

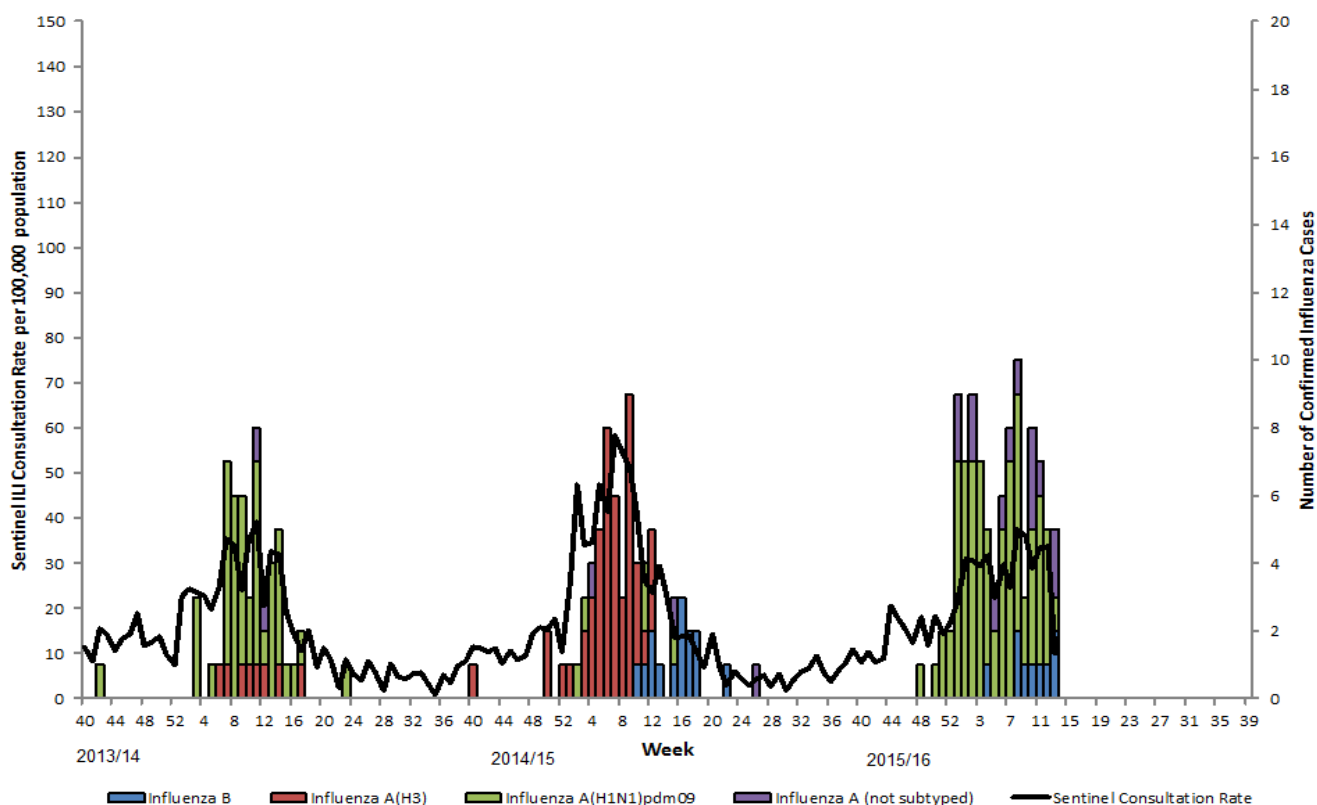
Influenza Vaccine Uptake

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 13, there were six admissions to ICU confirmed with influenza reported to the PHA – two with influenza A (H1N1)pdm09, two with influenza A untyped (typing awaited) and two with influenza B.

Overall, there have been 98 admissions to ICU with confirmed influenza reported this season, of which 75 have been confirmed as influenza A (H1N1)pdm09, 14 as influenza A untyped (typing awaited) and 9 as influenza B (Figure 9).

Up to week 13, 2016, 62 of the 98 ICU patients with confirmed influenza had co-morbidities. Provisional data show that 58 of the 98 (59%) cases met the criteria for influenza vaccination and only 20 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 14 deaths in ICU patients with laboratory confirmed influenza.

Table 4. Flu Confirmed ICU Cases in Northern Ireland, Week 40 - 13, 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	15	6	1	11	0	2	2
5-14	2	2	0	2	0	0	0
15-44	25	11	3	23	0	1	1
45-64	38	21	5	28	0	9	1
65+	18	18	11	11	0	2	5
All	98	58	20	75	0	14	9

*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.

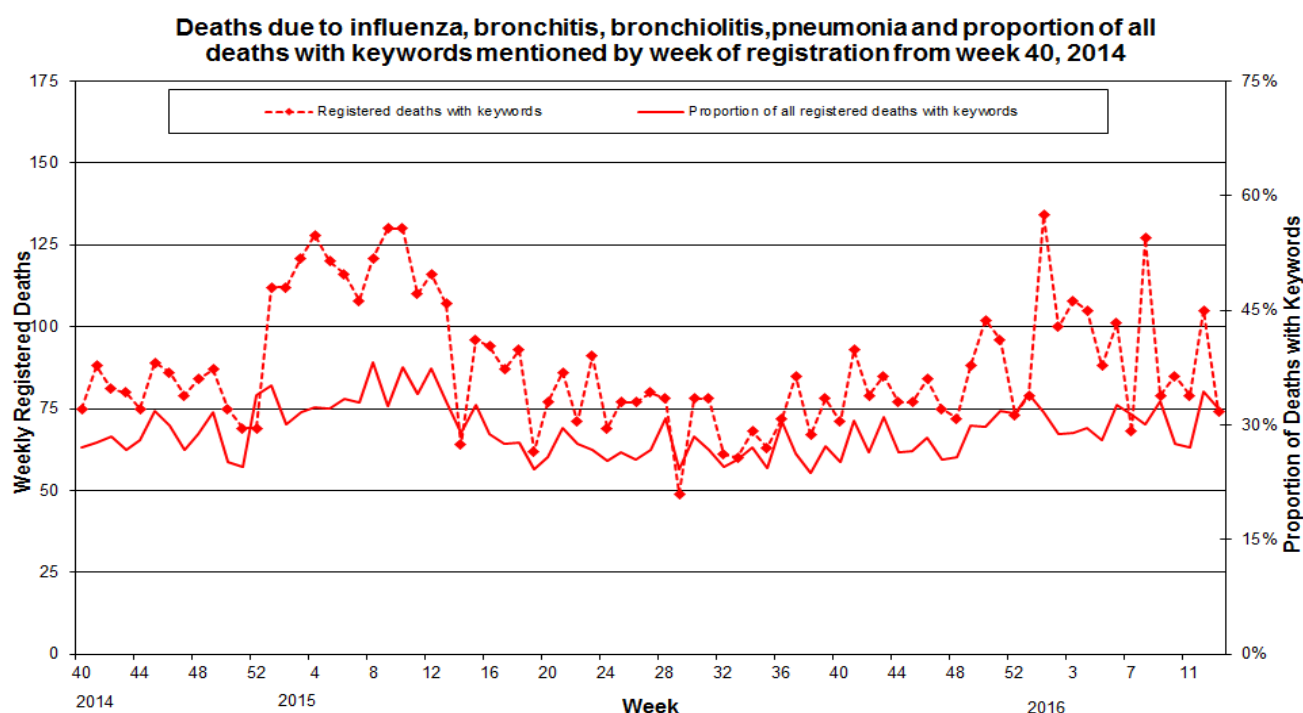
Outbreak Surveillance

During week 13, 2016 there were no reports of confirmed influenza outbreaks to the PHA. There have been a total of six confirmed influenza outbreaks reported to the PHA this season to date; four influenza A(H1N1)pdm09 and two 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 13, the proportion of registered deaths from specific respiratory infections decreased to 32% from 34% in week 12 (Figure 9).

In week 13 there were 230 registered deaths, of which 74 related to specific respiratory infections (32%). The proportion of deaths attributed to specific respiratory infections is lower at this point in the season than in 2014/15 but higher than in 2013/14.

EuroMOMO

No significant excess all-cause mortality was reported for week 13 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 12, 2016:

- Although 27 countries reported decreasing trends, influenza was still reported as widespread, largely in the southern and western part of the WHO European Region.
- The proportion of sentinel specimens testing positive for influenza virus remained high (46%), and 21 countries still reported positivity rates over 30%.
- Two thirds of detections in primary care were influenza virus type B.
- The proportions of type A viruses detected in hospitalized patients were 70% in intensive care units (ICUs) and 61% in regular wards.
- The number of cases of severe disease was lower than in previous weeks but varied between countries. Most severe cases were associated with A(H1N1)pdm09 infection and were in people aged 15–64 years.

Season:

- Influenza A(H1N1)pdm09 viruses predominated at the beginning of the season, but increased proportions of B virus detections in the community followed.
- Overall, based on laboratory-confirmed mild and severe cases in sentinel and non-sentinel sources, influenza activity peaked in weeks 5–7/2016. The number of severe cases, mainly due to A(H1N1)pdm09, has decreased or become stable in all reporting countries.
- Data from the 16 countries or regions reporting to the European monitoring of excess mortality for public health action project (EuroMOMO) suggest a pattern of excess all-cause mortality among those aged 15–64 years since the end of 2015. Nevertheless, mortality among elderly people is within expected levels this season.
- Most of the viruses antigenically and/or genetically characterized so far have been similar to those recommended for inclusion in the trivalent or quadrivalent vaccines for this season in the northern hemisphere. Most of the currently circulating seasonal influenza viruses show no indications of reduced susceptibility to the neuraminidase inhibitors oseltamivir or zanamivir.

- Recommendations on the seasonal influenza [vaccine composition](#) 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 the 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](#) 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 4th April 2016:

Globally, elevated levels of influenza activity continued to be reported in North America, in parts of Europe and in Northern Temperate Asia. An increase in influenza B virus activity has been reported in Northern Temperate Asia, South East Asia and Europe.

- In North America, influenza activity has peaked and remained elevated with influenza A(H1N1)pdm09 virus predominating. Canada reported increased detections of influenza B virus.
- In Europe, high level of influenza activity was still reported with increasing detections of influenza B virus. In most countries influenza activity seemed to have peaked.
- Northern Temperate Asia continued to report ongoing and elevated levels of influenza with increasing proportions of influenza B.
- In western Asia, influenza activity continued to decline as seen in previous reporting weeks.
- In Central America and the Caribbean, Jamaica reported elevated SARI activity associated with influenza A(H1N1)pdm09 virus infection. High influenza activity due to influenza A(H1N1)pdm09 was reported in Guatemala.
- In tropical South America, influenza activity in Brazil continued to remain high with influenza A(H1N1)pdm09 predominating. Elevated SARI activity associated with respiratory syncytial virus (RSV) infection was reported in Ecuador.
- In the temperate countries of the Southern Hemisphere influenza virus activity remained low.
- National Influenza Centres (NICs) and other national influenza laboratories from 89 countries, areas or territories reported data to FluNet for the time period from 07 March 2016 to 20 March 2016 (data as of 2016-04-01 04:47:34 UTC). The WHO GISRS laboratories tested more than 138525 specimens during that time period. 40448 were positive for influenza viruses, of which 24973 (61.7%) were typed as influenza A and 15475 (38.3%) as influenza B. Of the sub-typed influenza A viruses, 10087 (87.5%) were influenza A(H1N1)pdm09 and 1442 (12.5%) were influenza A(H3N2). Of the characterized B viruses, 862 (18.3%) belonged to the B-Yamagata lineage and 3836 (81.7%) 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:

Chris Nugent
Surveillance Officer
Public Health Agency
028 9536 3407

Dr Naomh Gallagher
Senior Epidemiological Scientist
Public Health Agency
028 9536 3498

Email: flusurveillance@hscni.net

This report was compiled by Chris Nugent, Dr Naomh Gallagher and Dr Jillian Johnston.