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Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 3 (12 January 2015 – 18 January 2015)

Summary

- GP Influenza activity in Northern Ireland has slightly decreased while virological detections have increased- most indicators remain at a moderate level.
- GP consultation rates for combined flu and flu-like illness (flu/FLI) have decreased and remain below the updated pre-epidemic Northern Ireland threshold of 52.0 per 100,000 population at 34.1 per 100,000 population in week 3, 2015 with most indicators higher than noted during the same period last year.
- The OOH consultation rate for flu/FLI has decreased and remained low in week 3 at 7.0 per 100,000 population. The rate also remained relatively low in all age groups with the highest rate again noted among the 15-44 years age group.
- RSV activity has decreased in week 3, 2015.
- Influenza vaccine uptake to 31st December 2014 was 70.3% for those aged 65 and over, 66.4% for those aged under 65 and in an at risk group, 52.7% among 2-4 year old children and 79.4% among children in P1 to P7.
- There have been three new admissions to ICU with confirmed influenza reported since the last bulletin; there have been a total of 9 ICU patients with confirmed influenza this season to date.
- There were two deaths in ICU patients with laboratory confirmed influenza reported in week 3, 2015; there have been 4 deaths in ICU patients with laboratory confirmed influenza this season to date.
- There was one new confirmed influenza outbreak reported to PHA in week 3, 2015.
- No overall excess mortality was reported from week 51 to week 3, 2015.
- In week 3, 2015 there were fewer than five attendances for influenza like illness across the contributing emergency departments.

Introduction

In order to monitor influenza activity in Northern Ireland a number of surveillance systems are in place.

Additional surveillance systems are:

- 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);
- 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;
- Critical Care Network for Northern Ireland reports on critical care patients with confirmed influenza;
- Emergency department syndromic surveillance system (EDSSS) which includes attendance data from 5 emergency departments in Northern Ireland.

Sentinel GP Consultation Data

Figure 1. Sentinel GP consultation rates for flu/FLI 2012/13 - 2014/15

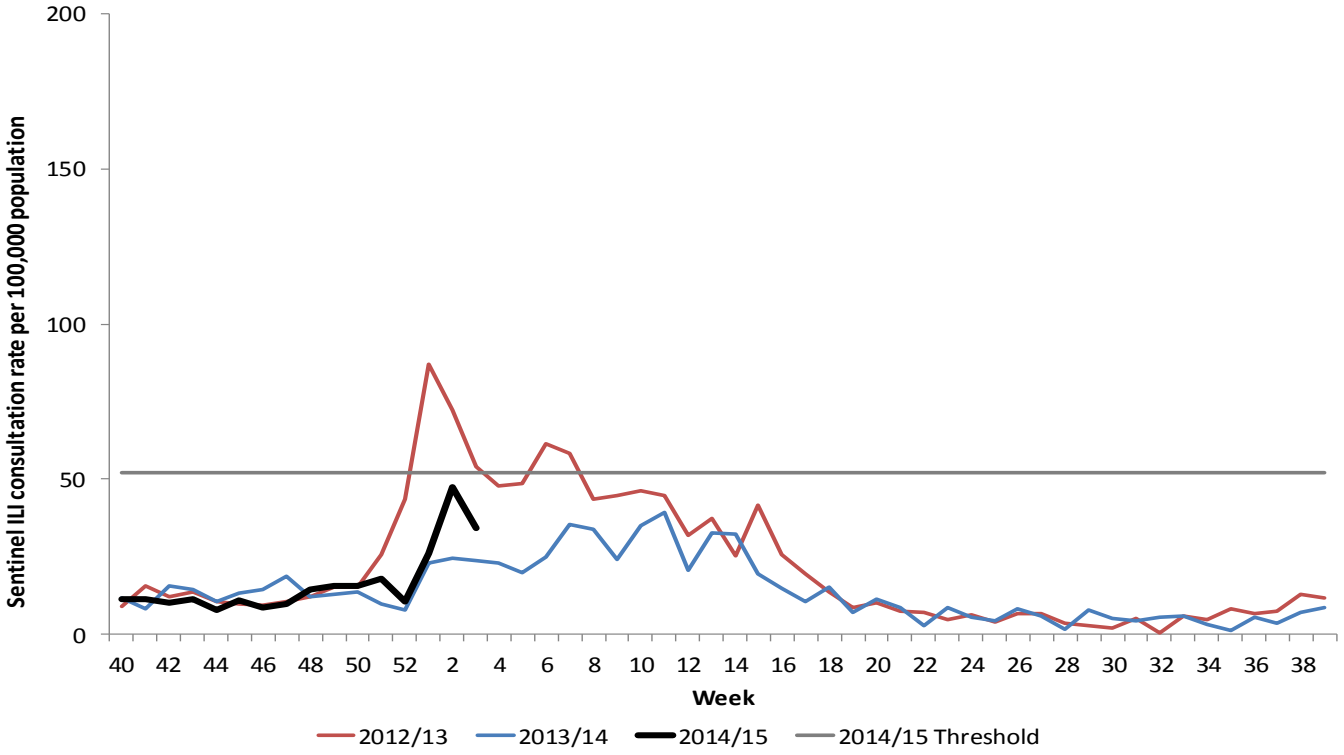


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2009/10 – 2014/15

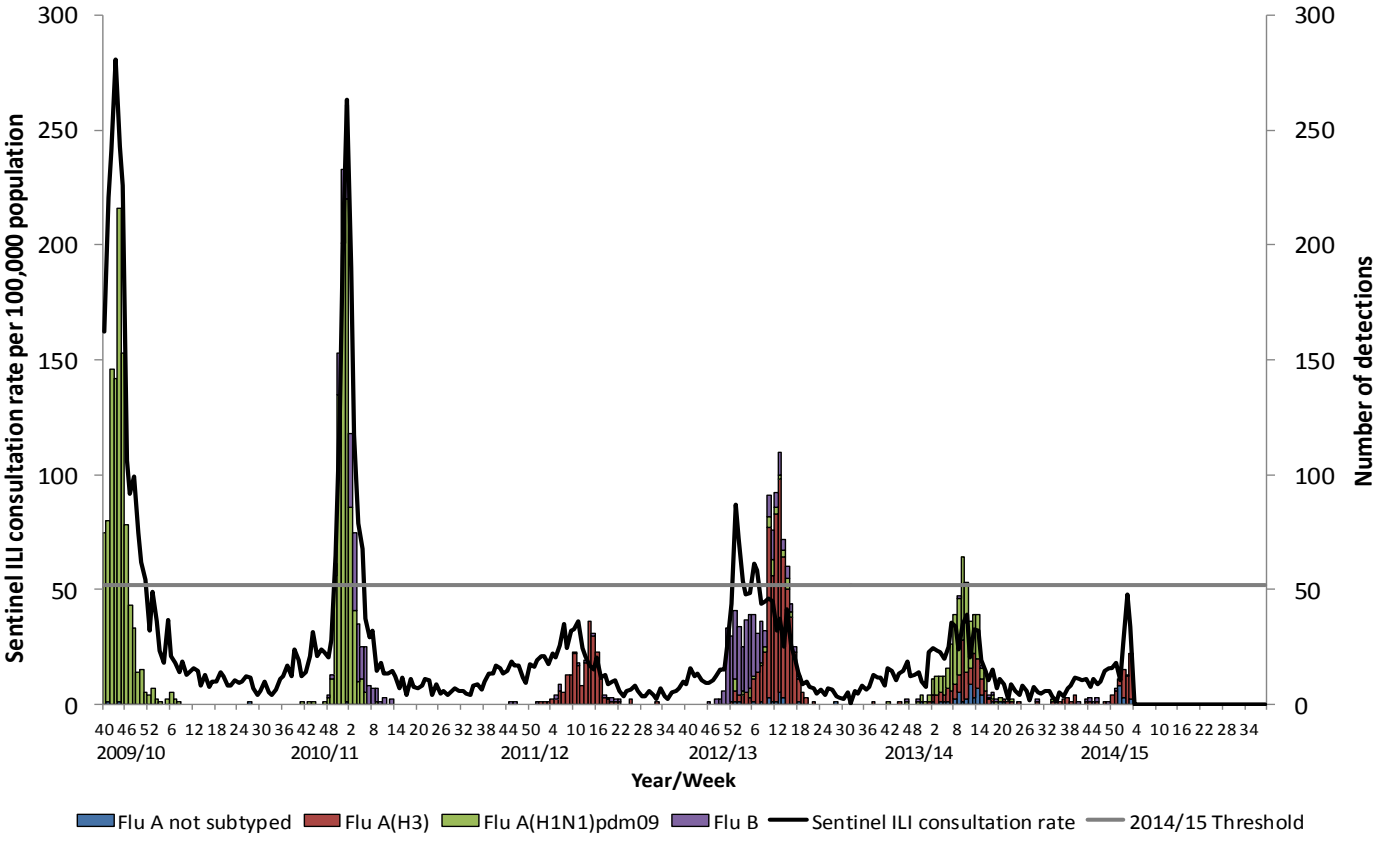
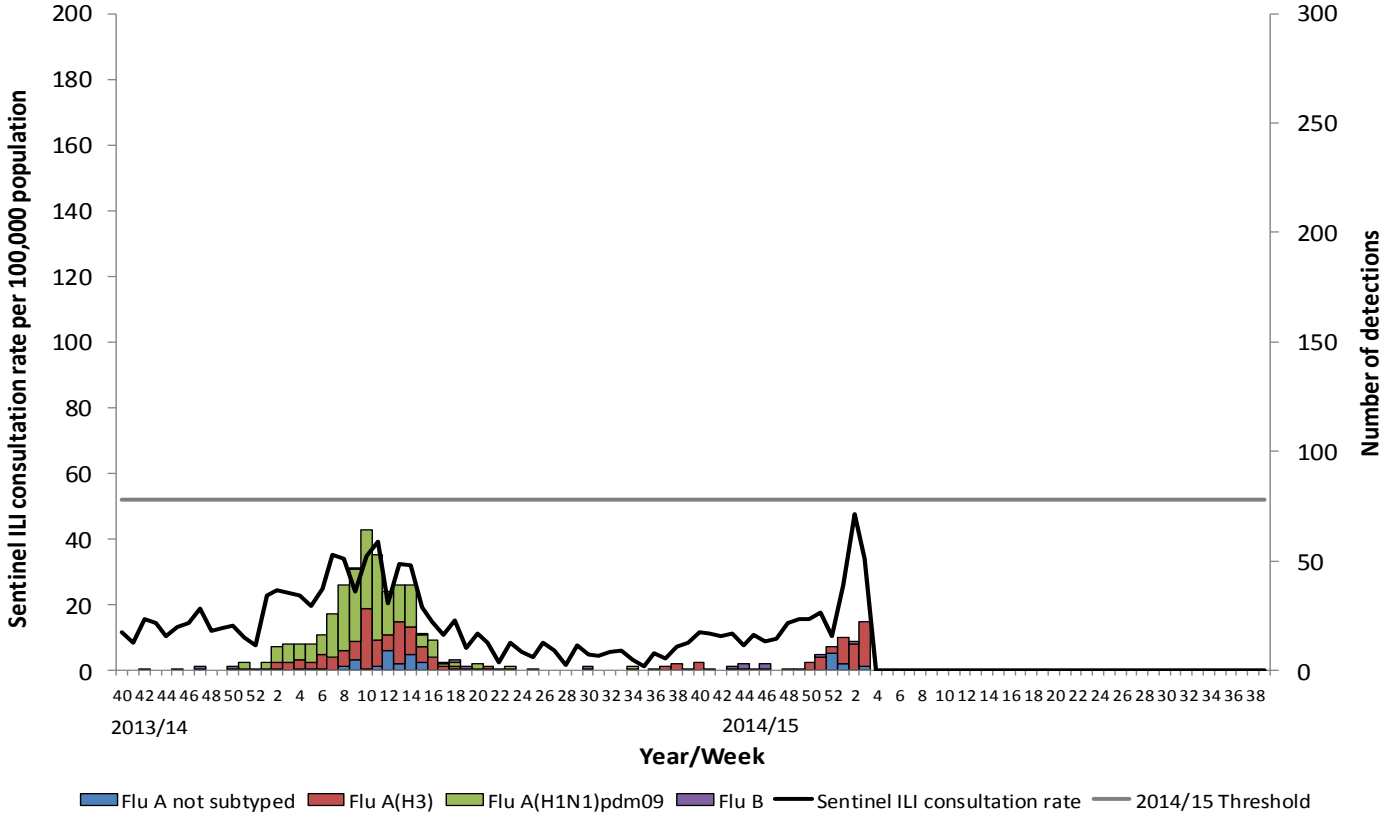


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2013

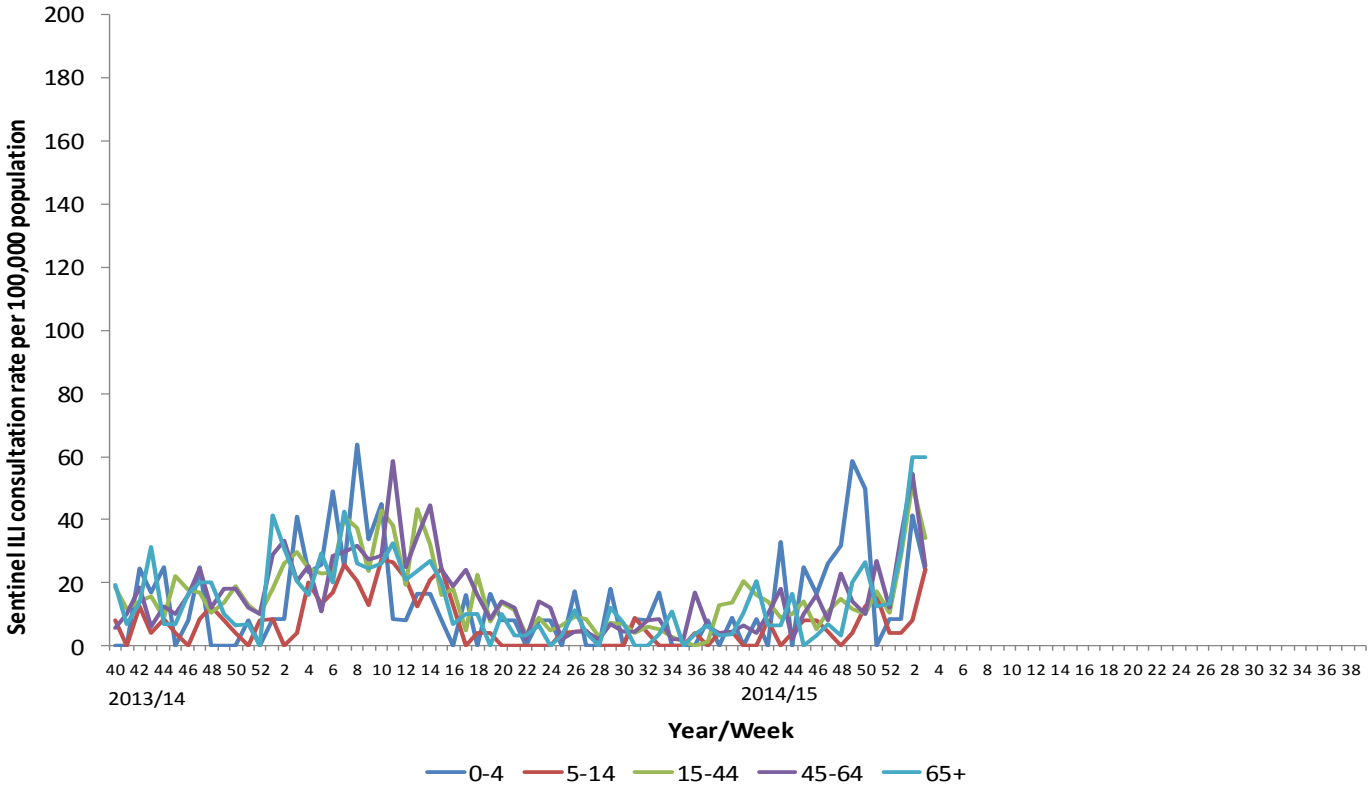


Comment

GP consultation rates have decreased in week 3 to 34.1 per 100,000 from 47.6 per 100,000 in week 2, 2015. GP consultation rates in week 3, 2015 despite decreasing remain higher than noted earlier in the season and are higher than noted during the same period last season, although still lower than noted during the same period in 2012/13.

Rates remain below the pre-epidemic Northern Ireland 2014/15 threshold of 52.0 per 100,000 population (Figures 1, 2 and 3).

Figure 4. Sentinel GP age-specific consultation rates for flu/FLI from week 40, 2013



Comment

Sentinel GP flu/FLI consultations have decreased for almost all age groups in week 3, 2015.

In week 3, a decrease in consultation rates were noted among all age groups when compared with the previous week, with rates rising in the 5-14 year age group while rates among the 0-4, 15-44 and 45-64 years age groups decreased. GP consultation rates in week 3, 2015 remained stable among those aged 65 years and over.

In general, GP consultation rates for combined flu' and flu'-like-illness in most age groups have fluctuated in recent weeks although remained higher than noted earlier in the season. Rates among those aged 65 years and over again represented the highest age-specific consultation rate in week 3, 2015 (Figure 4).

Out-of-Hours (OOH) Centres Call Data

Figure 5. OOH call rate for flu/FLI, 2012/13 – 2014/15

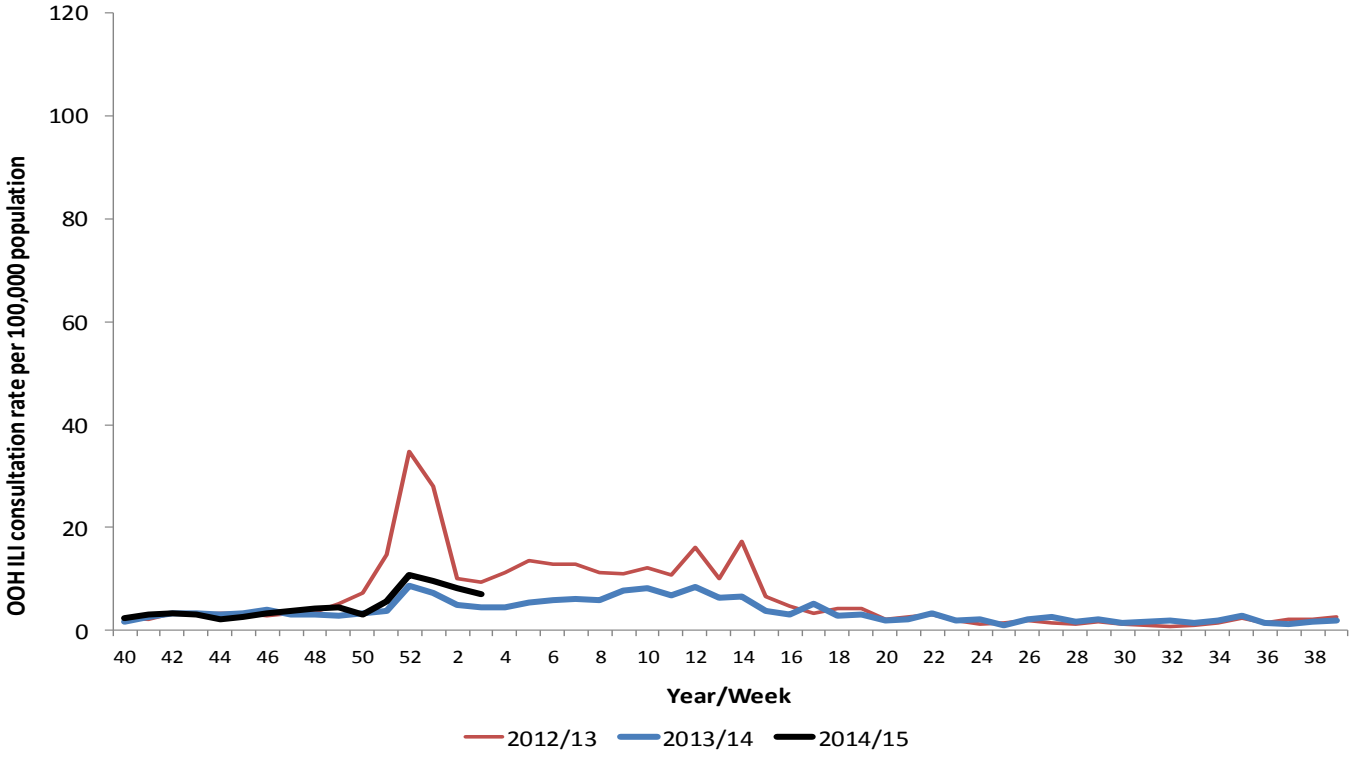
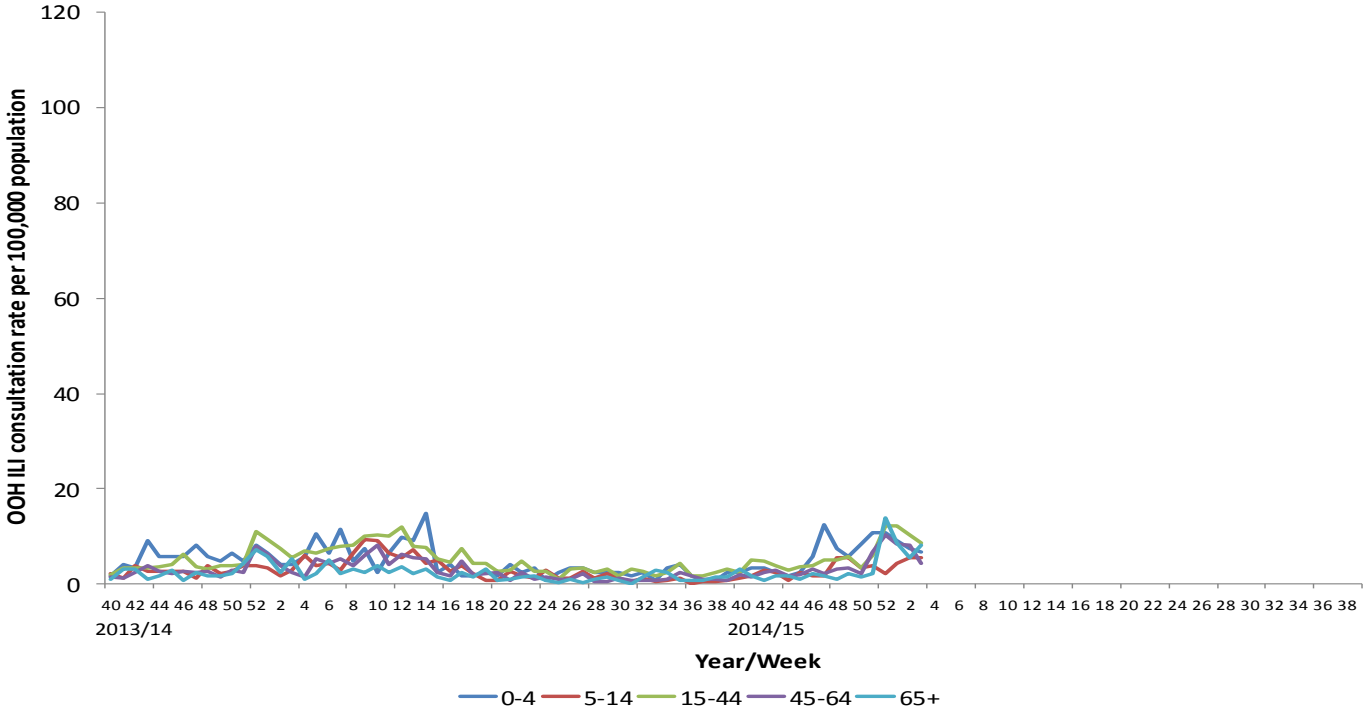


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2013



Comment

The OOH consultation rate for flu/FLI has further decreased in week 3, and although remaining higher than the same period last year, is lower than 2012/13. Rates in week 3, 2015 decreased

to 7.0 per 100,000 population from 8.2 per 100,000 in week 2, representing the lowest OOH rate observed in recent weeks, although still higher than noted earlier in the season (Figures 5 and 6).

The OOH flu/FLI rate has generally decreased among almost all age groups and remained relatively low. In week 3, 2015 however, an increase was noted among those aged 65 years and over, while rates among those aged 0-4, 15-44 and 45-64 years displayed a decrease in comparison with the previous week. The OOH flu/FLI rate remained stable among the 5-14 years age-group. The proportion of OOH total calls decreased slightly from 1.4% in week 2 to represent 1.2% of total calls to the OOH service in week 3, 2015.

Virology Data

Table 1. Virus activity in Northern Ireland, Week 3, 2014/15

Source	Specimens Tested	Flu AH3	Flu A (H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	8	4	0	0	0	4	4	50%
Non-sentinel	100	16	1	2	0	29	19	19%
Total	108	20	1	2	0	33	23	21%

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 3, 2014/15

	Flu AH3	Flu A (H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	10	0	3	3	16	311
5-14	4	1	0	2	7	14
15-64	20	2	5	4	31	63
65+	31	1	5	1	38	58
Unknown	0	0	0	0	0	1
All ages	65	4	13	10	92	447

Table 3. Cumulative virus activity, Week 40 - Week 3, 2014/15

	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	1	0	0	0	1	0	9	0	3	3	15	311
5-14	0	0	0	0	0	0	4	1	0	2	7	14
15-64	6	1	0	1	8	9	14	1	5	3	23	54
65+	1	0	0	0	1	2	30	1	5	1	37	56
Unknown	0	0	0	0	0	0	0	0	0	0	0	1
All ages	8	1	0	1	10	11	57	3	13	9	82	436

Note

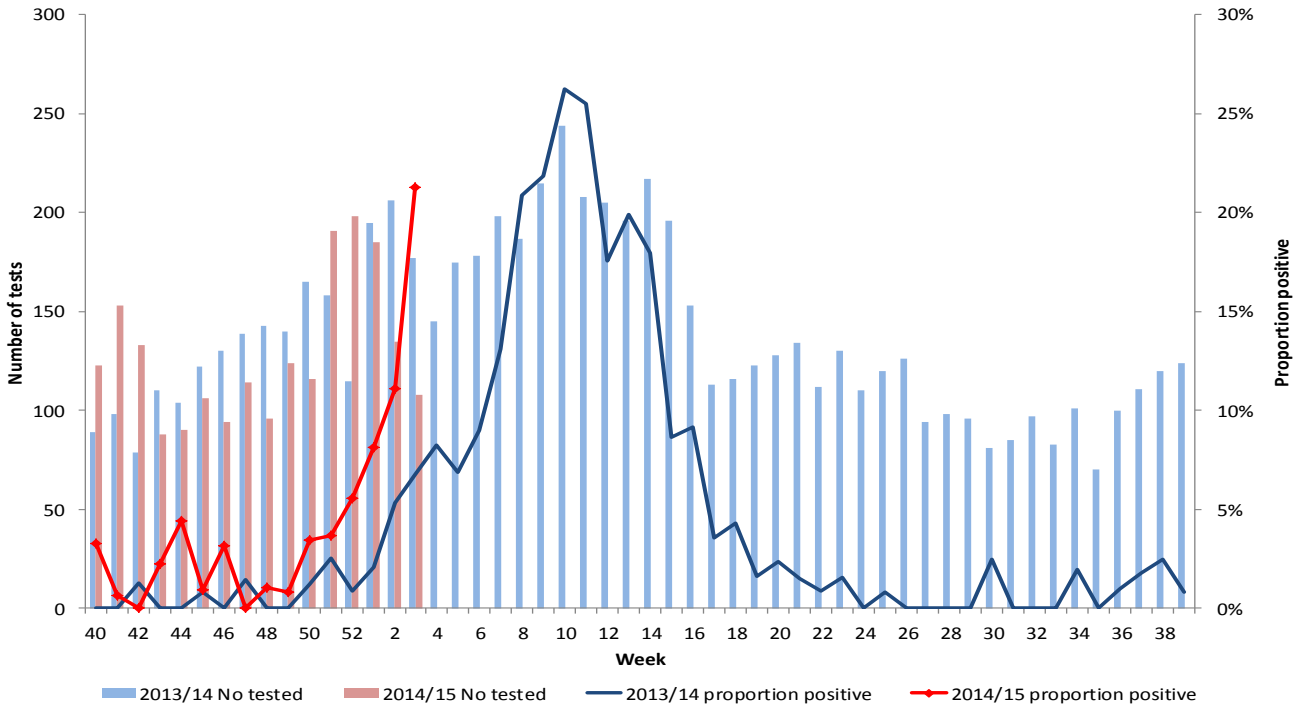
All virology data is provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available.

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

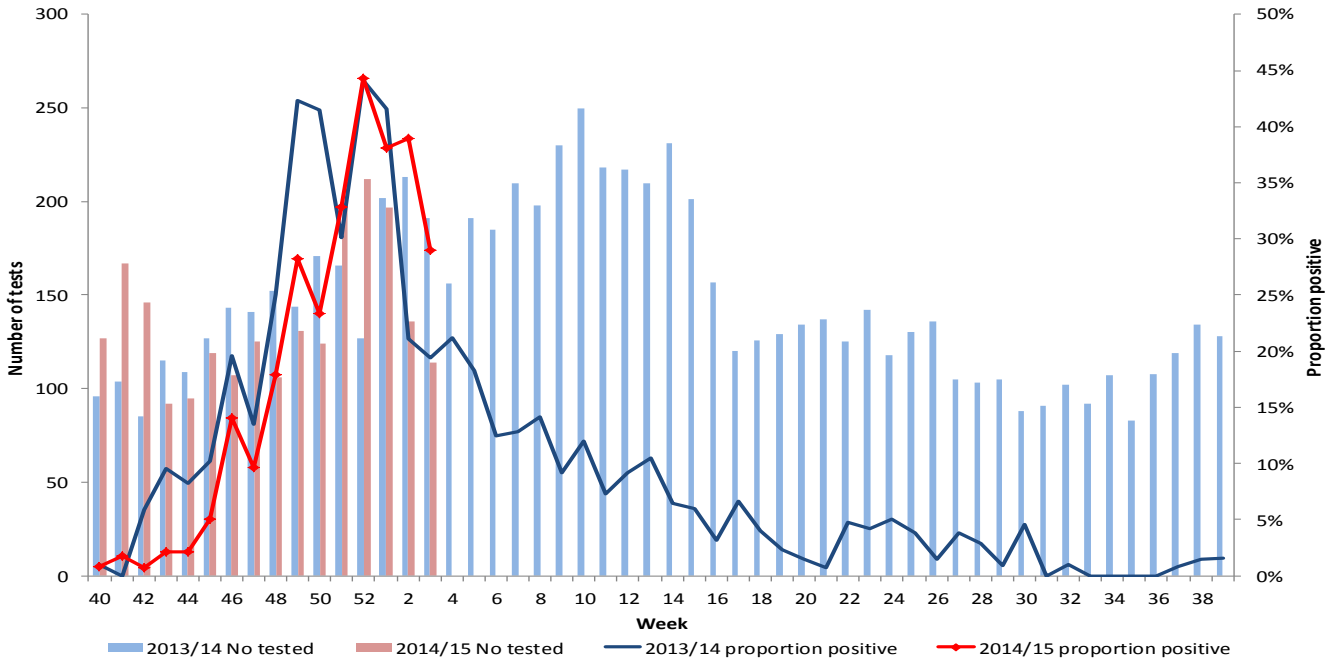
During week 3, 2015 there were 108 specimens submitted for testing, of which 20 were confirmed as influenza A(H3), 1 as influenza A (H1N1)pdm09 and 2 as influenza A untyped (typing awaited). This is higher than the number detected in week 2 and higher than the number of positive detections during the same period last year. Positivity rates for influenza have increased this week to 21% from 11% the previous week and represent the highest proportion of influenza tests positive this season to date. The proportion positive in week 3, 2015 is also higher than the same period in both 2012/13 and 2013/14 (Figure 7).

Figure 7. Number of samples tested for influenza and proportion positive, 2013/14 and 2014/15, all sources



Respiratory Syncytial Virus

Figure 8. Number of samples tested for RSV and proportion positive, 2013/14 and 2014/15, all sources



Comment

There were 33 RSV positive detections in week 3, 2015 with positivity rates decreasing from 39% in week 2 to 29% in week 3, however this should be interpreted with caution as the most recent week's data is at this stage incomplete- more accurate data will be available in the next bulletin. The positivity rate is higher than the same period in recent seasons. There have been a total of 447 detections of RSV since the beginning of the 2014-15 influenza season of which 70% fall within the 0-4 years age group (Figure 8, Table 2).

Influenza Vaccine Uptake

To 31st December 2014, provisional data suggested that vaccine uptake for those aged 65 years and over was 70.3%, lower than the same period in last season (72.6%); while 66.4% of those under 65 and in an at risk group had received the vaccine, lower than in the 2013/14 season when 72.3% had received the vaccine during the same period.

This season for the first time, all children aged between 2 and 4 years and all those in P1 – P7 have been offered the seasonal influenza vaccine. To 31st December 2014, provisional data suggested that vaccine uptake among 2-4 year old children was 52.7%, while provisional uptake among children in P1 – P7 was 79.4%.

Emergency Department Syndromic Surveillance System

In week 3, 2015 there were fewer than five influenza-like-illness (ILI) attendances reported in EDSSS. Later in the season the bulletin will include a graphical representation of ILI attendances if numbers increase.

ICU/HDU Surveillance

There have been three ICU patients confirmed with influenza since the last bulletin. To date there have been nine ICU patients with confirmed influenza, of which seven have been confirmed as influenza A (H3) and two as influenza A (H1N1)pdm09.

There were two deaths in ICU patients with laboratory confirmed influenza reported in week 3 in the 2015. To date, there have been four deaths in ICU patients with laboratory confirmed influenza.

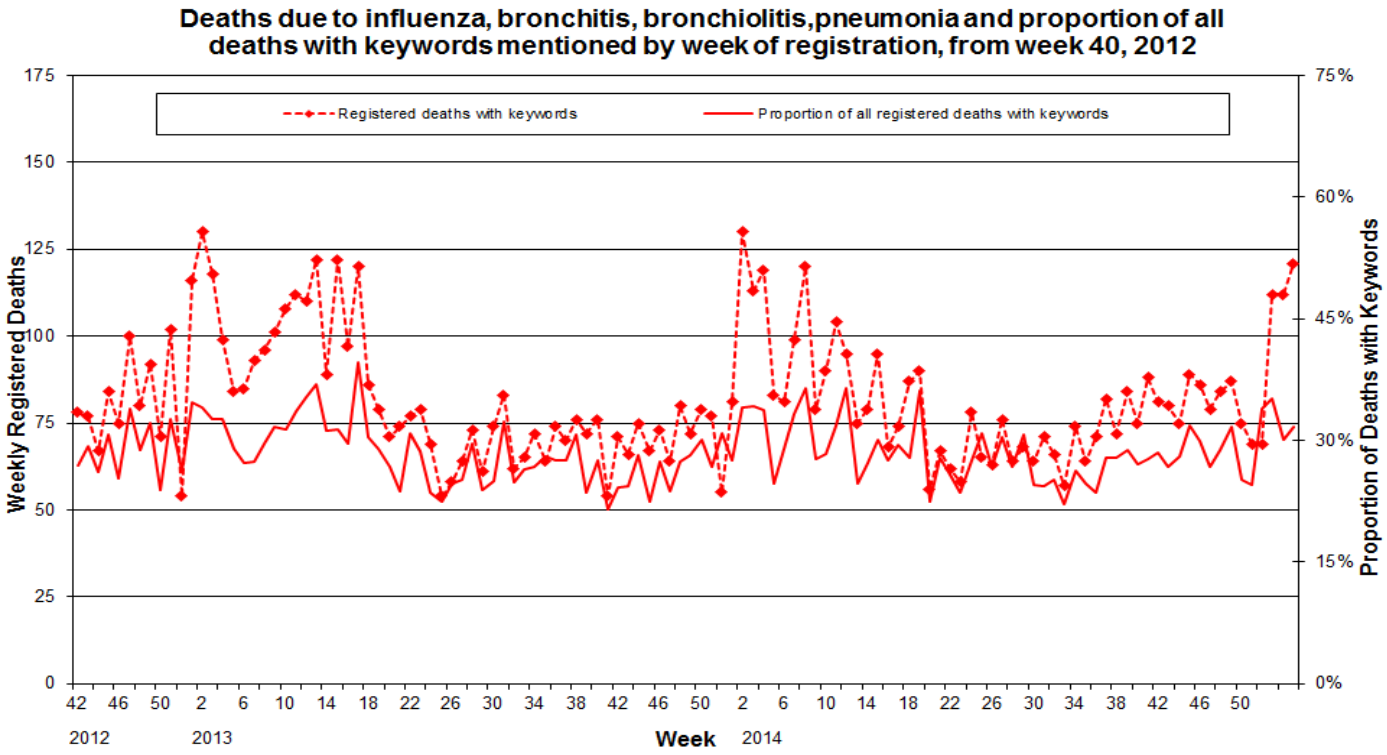
Outbreak Surveillance

There was one new confirmed influenza A (H3) outbreak reported in week 3, 2015. There have been two confirmed influenza A (H3) outbreaks reported so far this season, compared with a total of three outbreaks for the duration of the 2013/14 season.

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

The proportion of deaths related to respiratory keywords has increased in week 3, 2015 compared with the previous week. During week 2, 2015 the proportion of registered deaths increased to 32%, from 30% the previous week. This is lower than noted during week 3 in 2014 (34%).

The number of registered deaths due to respiratory keywords increased in week 3 compared with week 2. In week 3, 2015, there were 383 registered deaths of which 121 related to these specific respiratory infections.

EuroMOMO

No overall excess mortality was reported by EuroMOMO between weeks 51, 2014 and week 3, 2015 in Northern Ireland.

International Summary

Europe

Week 2, 2015:

- The number of countries in the WHO European Region with increased influenza activity continued to rise in week 02/2015, particularly in the west and north, and the proportion of sentinel specimens testing positive for influenza virus increased to 28% from 16% and 17% in the previous two weeks.
- Although influenza activity remained low in most countries in the Region, 15 of 45 countries reported medium activity.
- Influenza A(H3N2) viruses continued to predominate in most countries, according to data from primary care, the numbers of laboratory-confirmed hospitalized cases and other information.

Season:

- The influenza season is clearly underway, mainly in western and northern European countries: the overall proportion of influenza-positive sentinel specimens was above 10% for the fourth consecutive week, despite most countries' still reporting low intensity of influenza activity.
- Overall, influenza A(H3N2) viruses have been the predominant viruses detected across all surveillance systems, although some countries reported either influenza A(H1N1)pdm09 or influenza B virus. In addition, most of the A(H3N2) viruses characterized genetically belong to genetic subgroups containing viruses that have drifted antigenically compared to the A(H3N2) virus in use for the 2014–2015 northern hemisphere influenza vaccine.
- Ninety three A(H3N2) viruses, 20 A(H1N1)pdm09 viruses and four influenza B viruses tested since the start of the season showed susceptiblility to the antivirals oseltamivir and zanamivir that are licensed in Europe.
- No indication of increased mortality has been reported in the European project for monitoring excess mortality for public health action (http://www.euromomo.eu).

http://www.flunewseurope.org/

Worldwide (WHO)

As at 12th January 2015:

Globally, influenza activity continued to increase in the northern hemisphere with influenza A(H3N2) viruses predominating so far. Antigenic characterization of most recent A(H3N2) viruses so far indicated differences from the A(H3N2) virus used in the influenza vaccines for the northern hemisphere 2014-2015. The tested influenza A(H3N2) viruses so far did show sensitivity to neuraminidase inhibitors.

- In North America, the influenza season was on-going with influenza activity still increasing in most areas. Influenza A(H3N2) was the predominant virus.
- In Europe influenza activity was still low, but the season seemed to have started.
- In eastern Asia, influenza activity increased with influenza A(H3N2) virus predominated.
- In northern and western Africa influenza activity increased with influenza B virus predominant.
- In tropical countries of the Americas, influenza activity increased in some countries of the Caribbean, decreased in Central America and was low in the tropical countries of South America.
- In tropical Asia, influenza activity increased slightly but remained low with influenza B predominating.
- In the southern hemisphere, influenza activity remained at low levels, though ILI activity remained high in several Pacific Islands.
- Based on FluNet reporting (as of 9 January 2015 13:00 UTC), during weeks 51 to 52 (14 December 2014 to 27 December 2014), National Influenza Centres (NICs) and other national influenza laboratories from 80 countries, areas or territories reported data. The WHO GISRS laboratories tested more than 96 535 specimens. 23 421 were positive for influenza viruses, of which 22 129 (94.5%) were typed as influenza A and 1292 (5.5%) as influenza B. Of the sub-typed influenza A viruses, 163 (1.7%) were influenza A(H1N1)pdm09 and 9211 (98.3%) were influenza A(H3N2). Of the characterized B viruses, 423 (97.9%) belonged to the B-Yamagata lineage and 9 (2.1%) 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 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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