

Influenza Weekly Surveillance Bulletin

Northern Ireland, Week 9 (23 February 2015 – 01 March 2015)

Summary

- GP Influenza activity in Northern Ireland has decreased however most indicators remain at a moderate level.
- GP consultation rates for combined flu and flu-like illness (flu/FLI) have decreased in week 9, 2015, and have fallen below the pre-epidemic Northern Ireland threshold of 52.0 per 100,000 population at 51.0 per 100,000 population. Most indicators however remain higher than noted during the same period last year.
- The OOH consultation rate for flu/FLI has decreased but remains moderate in week 9 at 9.3 per 100,000 population. The rate also remained relatively low in most age groups with the highest rate noted among those aged 15-44 years.
- RSV activity has slightly increased in week 9, 2015.
- Influenza vaccine uptake to 31st January 2015 was 71.7% for those aged 65 and over, 69.0% for those aged under 65 and in an at risk group, 53.8% among 2-4 year old children and 79.6% among children in P1 to P7.
- There have been four new admissions to ICU with confirmed influenza reported since the last bulletin; there have been a total of 34 ICU patients with confirmed influenza this season to date.
- There were no deaths in ICU patients with laboratory confirmed influenza reported since the last bulletin. There have been seven deaths in ICU patients with laboratory confirmed influenza this season to date.
- There were eleven new confirmed influenza outbreaks reported to PHA in week 9, 2015.
- In week 9 2015, no significant all-cause excess mortality was reported through the EuroMOMO algorithm.
- In week 9, 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

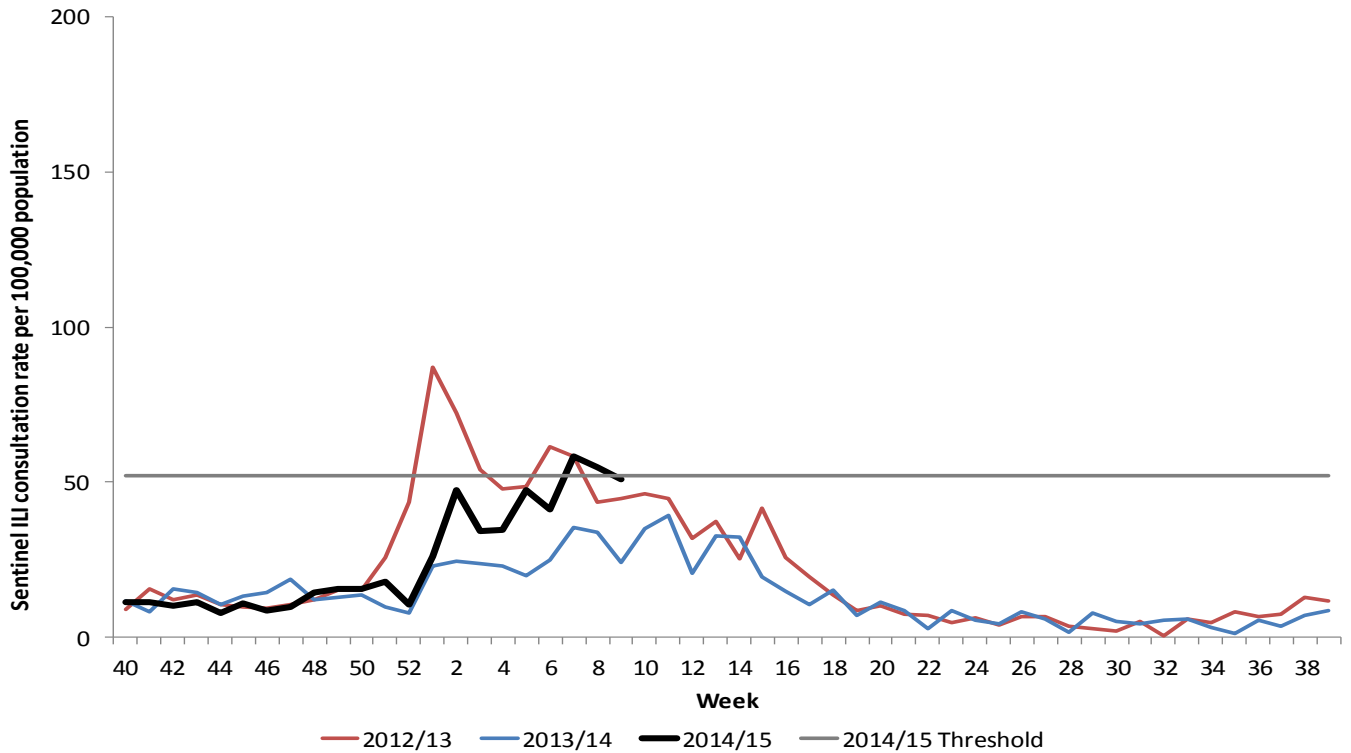


Figure 2. Sentinel GP combined consultation rates for flu/FLI and number of influenza positive detections 2009/10 – 2014/15

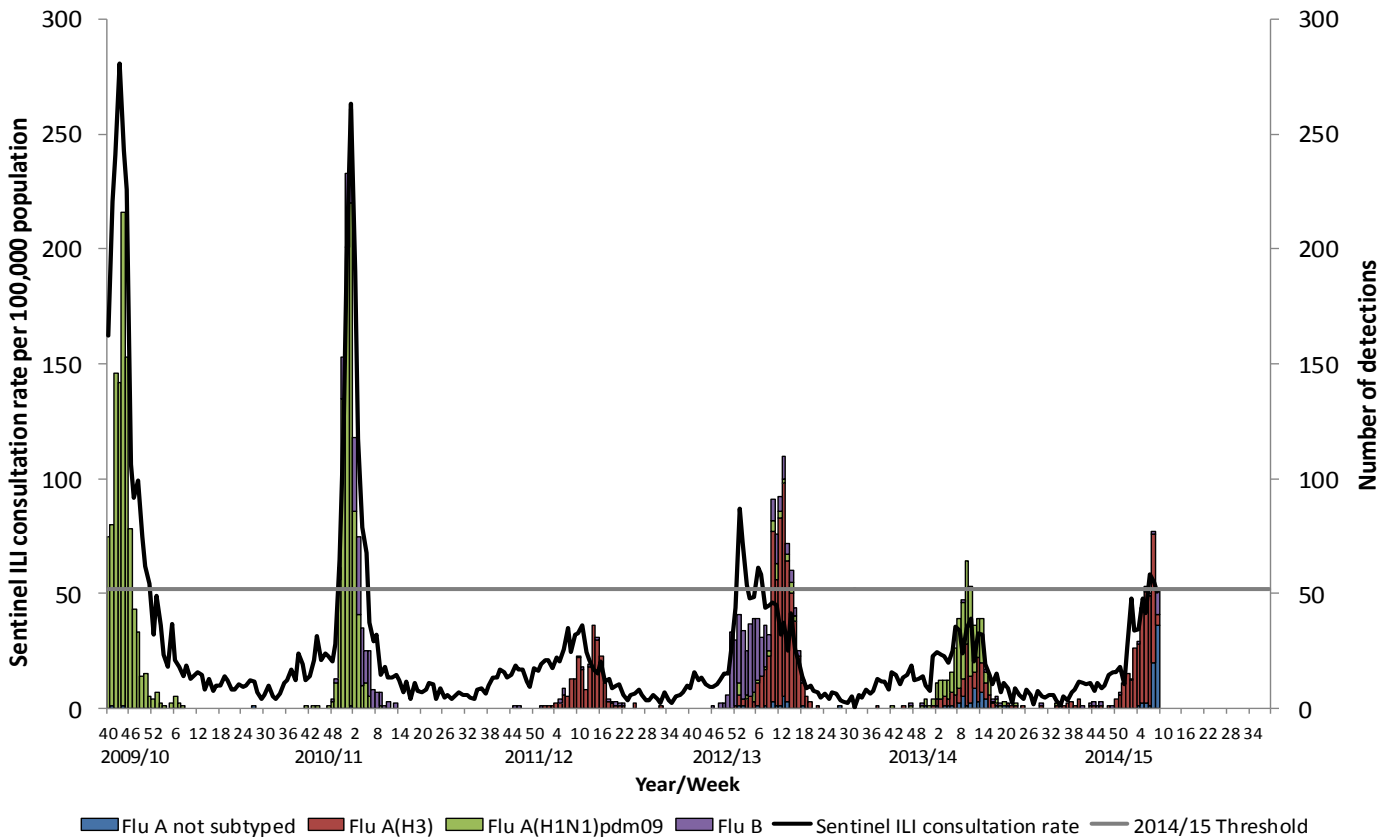
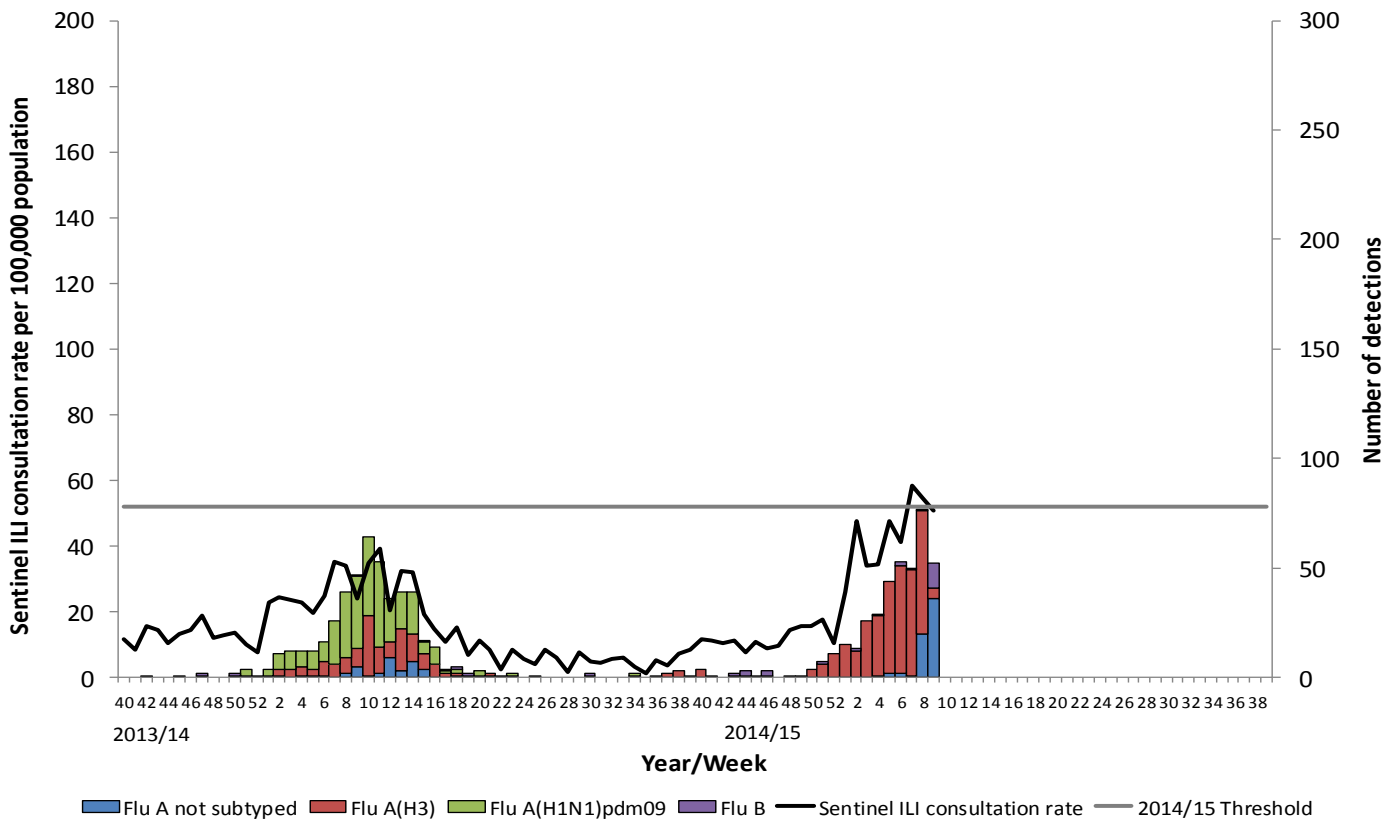


Figure 3. Sentinel GP consultation rates for flu/FLI and number of virology 'flu detections from week 40, 2013

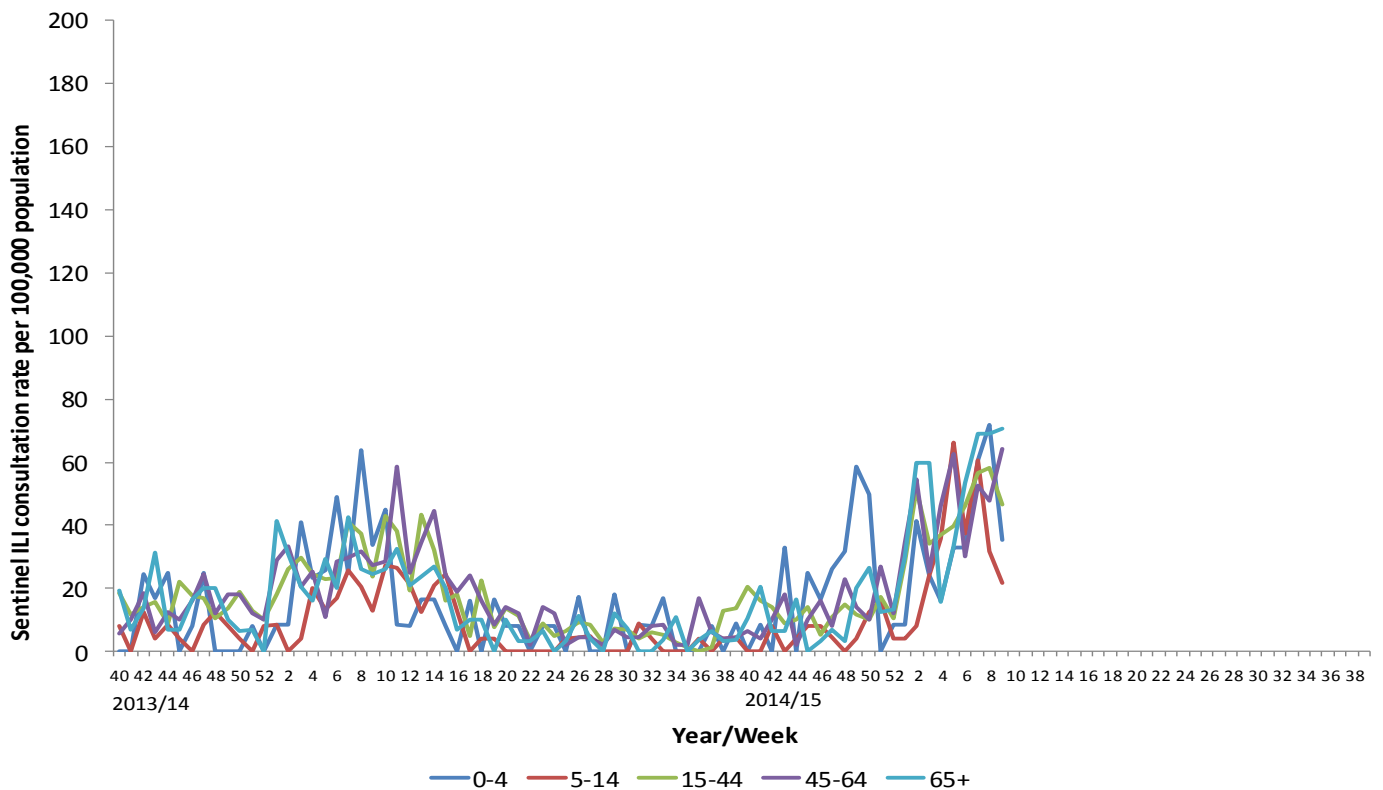


Comment

GP consultation rates have decreased in week 9 to 51.0 per 100,000 from 54.8 per 100,000 in week 8, 2015 and have fallen below the pre-epidemic Northern Ireland 2014/15 threshold of 52.0 per 100,000 for the first time in three weeks.

GP Flu/FLI consultations in week 9, 2015 are however are higher than noted during the same period in recent seasons (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 among most age groups in week 9, 2015; however increases were noted among the older age groups.

In week 9, GP Flu/FLI consultation rates for combined flu' and flu'-like-illness increased among those aged 45-64 and 65 years and over to 64.1 and 70.6 per 100,000 respectively; representing the highest noted among each group since 2012/13. Rates among all other age groups have decreased in week 9, and those aged 65 years and over represent the highest age-specific consultation rate this week.

In generally age-specific GP flu/FLI consultations have fluctuated in recent weeks while remaining higher than noted earlier in the season. A steady decrease has been noted only among those aged 5-14 years (Figure 4).

Out-of-Hours (OOH) Centres Call Data

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

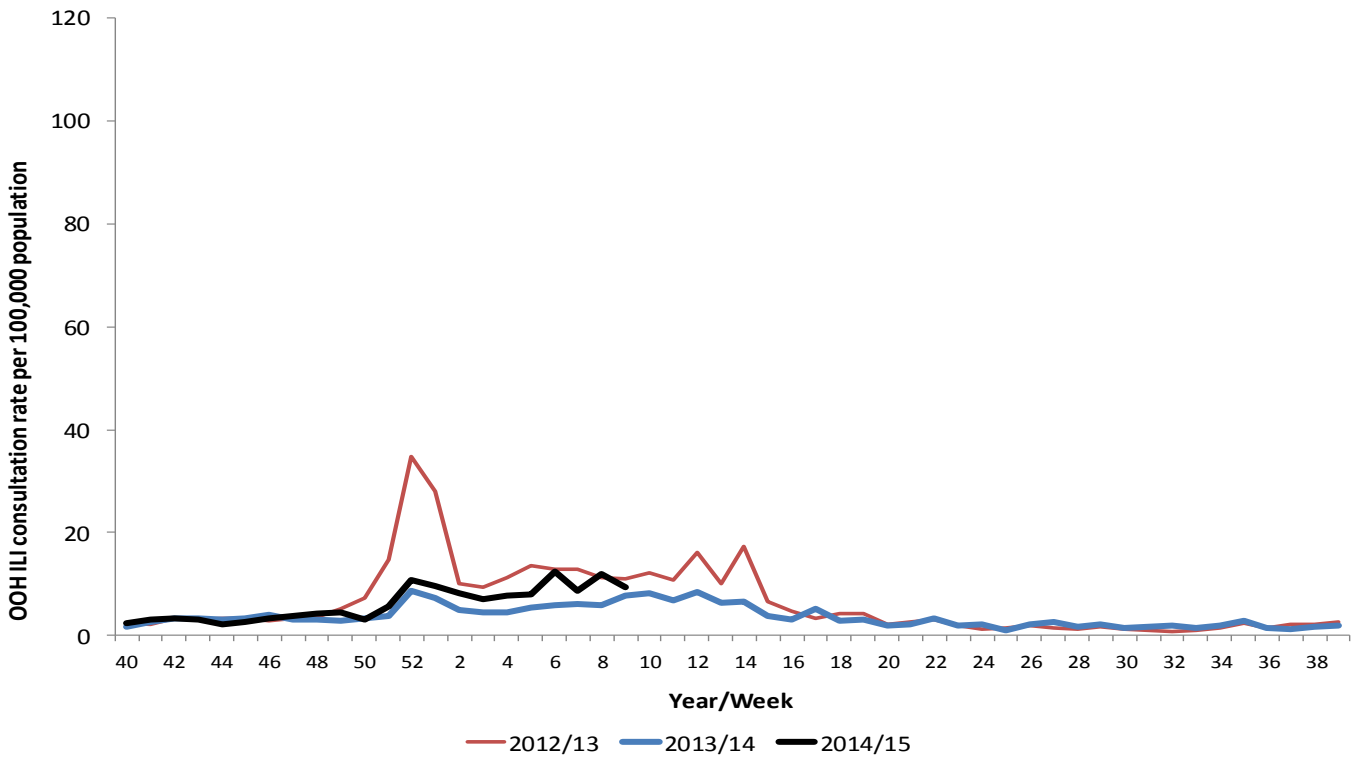
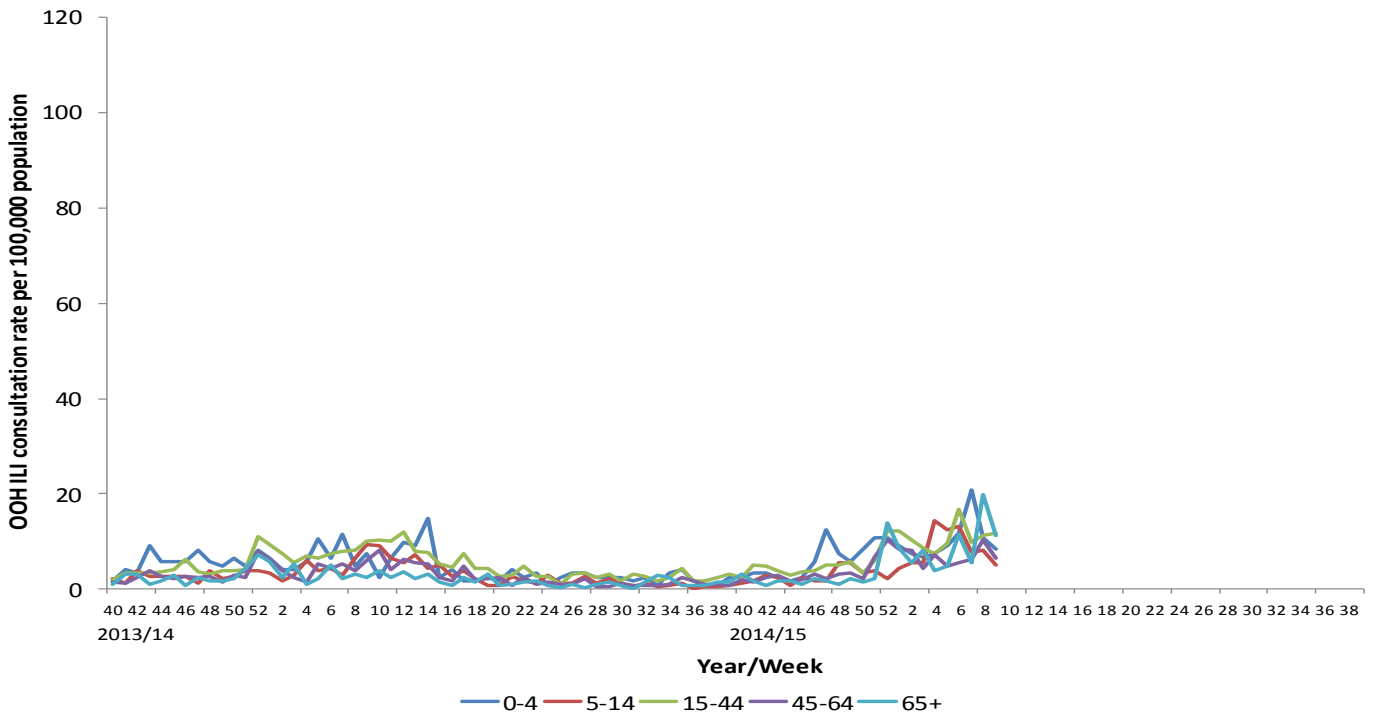


Figure 6. OOH Call rates of flu/FLI by age-group from week 40, 2013



Comment

The OOH consultation rate for flu/FLI has decreased in week 9, but remains higher than the same period last year. Rates in week 9, 2015 decreased to 9.3 per 100,000 population from 12.0 per 100,000 in week 8, and although higher than the same period in 2013/14 are lower than noted during the same period in 2012/13 (Figures 5 and 6).

The OOH flu/FLI rate has very slightly increased among those aged 15-44 years from 11.4 per 100,000 population in week 8 to 11.7 per 100,000 population in week 9, while rates among all other age groups have decreased. Rates among those aged 15-44 years represent the highest age-specific OOH GP flu/FLI consultation rate this week. The proportion of OOH total calls has further decreased from 1.9% in week 8 to represent 1.7% of total calls to the OOH service in week 9, 2015.

Virology Data

Table 1. Virus activity in Northern Ireland, Week 9, 2014/15

Source	Specimens Tested	Flu AH3	Flu A (H1N1) 2009	A (untyped)	Flu B	RSV	Total influenza Positive	% Influenza Positive
Sentinel	17	0	0	6	1	5	7	41%
Non-sentinel	187	5	0	30	10	22	45	24%
Total	204	5	0	36	11	27	52	25%

Table 2. Cumulative virus activity in Northern Ireland, Week 40 - 9, 2014/15

	Flu AH3	Flu A (H1N1) 2009	A (untyped)	Flu B	Total Influenza	RSV
0-4	26	1	3	3	33	404
5-14	28	1	1	2	32	23
15-64	97	2	21	10	130	110
65+	158	5	37	11	211	106
Unknown	0	0	0	0	0	1
All ages	309	9	62	26	406	644

Table 3. Cumulative virus activity, Week 40 - Week 9, 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	25	1	3	3	32	404
5-14	6	0	0	0	6	2	22	1	1	2	26	21
15-64	29	1	7	3	40	20	68	1	14	7	90	90
65+	10	1	4	0	15	6	148	4	33	11	196	100
Unknown	0	0	0	0	0	0	0	0	0	0	0	1
All ages	46	2	11	3	62	28	263	7	51	23	344	616

Note

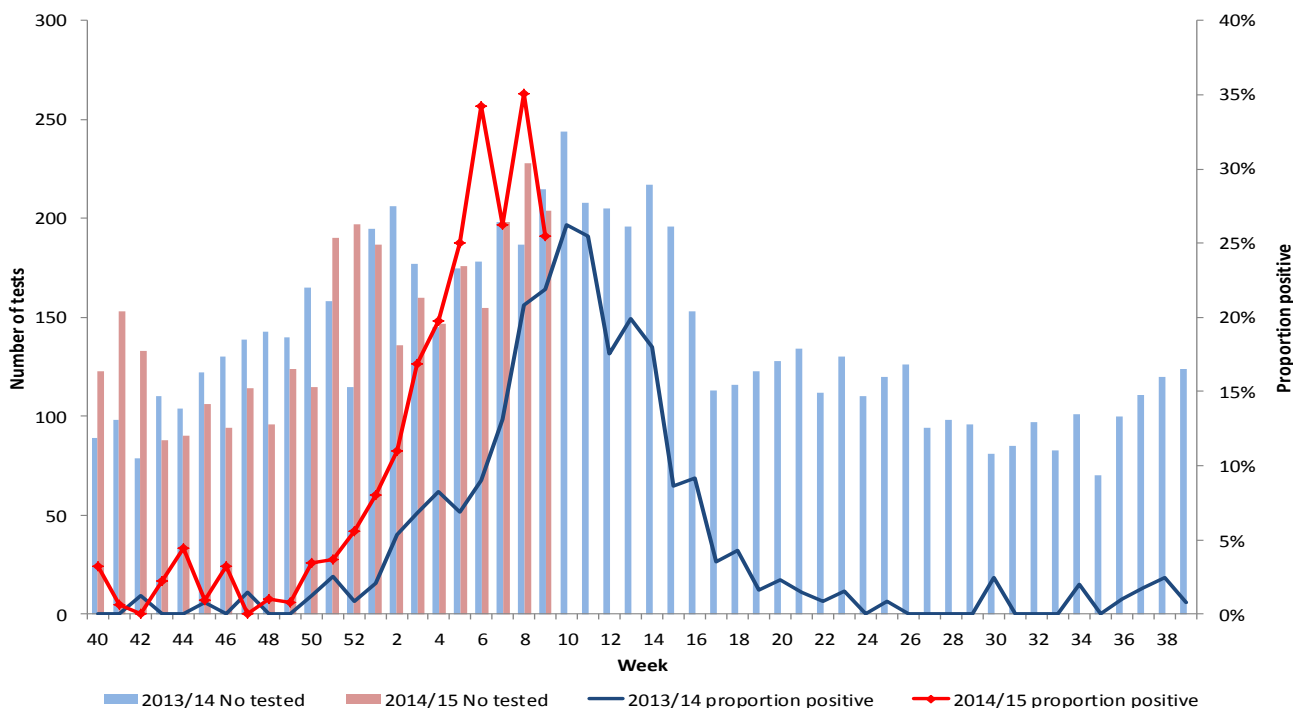
All virology data is provisional. The virology figures for previous weeks included in this or future bulletins are updated with data from laboratory returns received after the production of the last bulletin. The current bulletin reflects the most up-to-date information available.

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

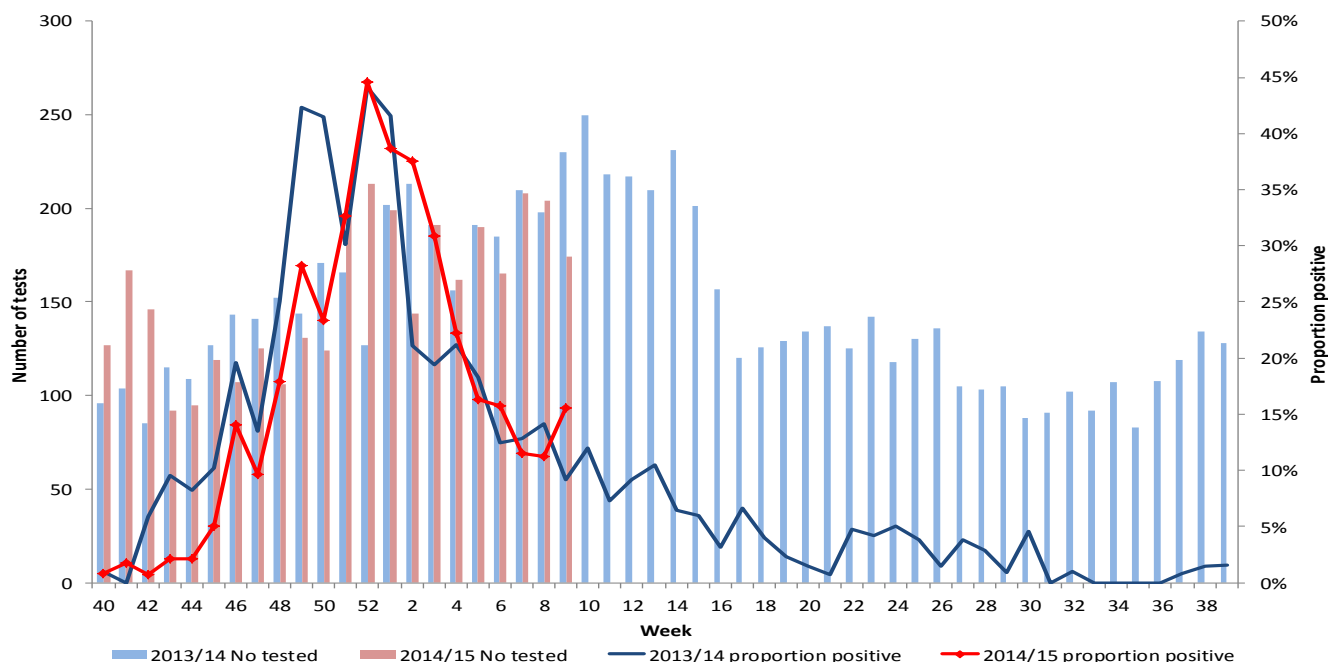
During week 9, 2015 there were 204 specimens submitted for testing, of which 36 were confirmed as influenza A untyped (typing awaited), 11 as influenza B and 5 as influenza A (H3). This is slightly lower than the number detected in week 8 but is higher than the number of positive detections during the same period last year. Positivity rates for influenza have again decreased this week to 25% from 35% the previous week, however data are provisional and more accurate data will be available in the next bulletin. The proportion positive in week 9, 2015 is higher than the same period in 2013/14 but slightly lower than in 2012/13 (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 27 RSV positive detections in week 9, 2015 with positivity rates increasing to 16% from 11% in week 8, 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 noted during the same period in both 2013/14 and 2012/13. There have been a total of 644 detections of RSV since the beginning of the 2014-15 influenza season of which 63% fall within the 0-4 years age group (Figure 8, Table 2).

Influenza Vaccine Uptake

To 31st January 2015, provisional data suggested that vaccine uptake for those aged 65 years and over was 71.7%, lower than the same period in last season (73.6%); while 69.0% of those under 65 and in an at risk group had received the vaccine, lower than in the 2013/14 season when 74.4% had received the vaccine during the same period.

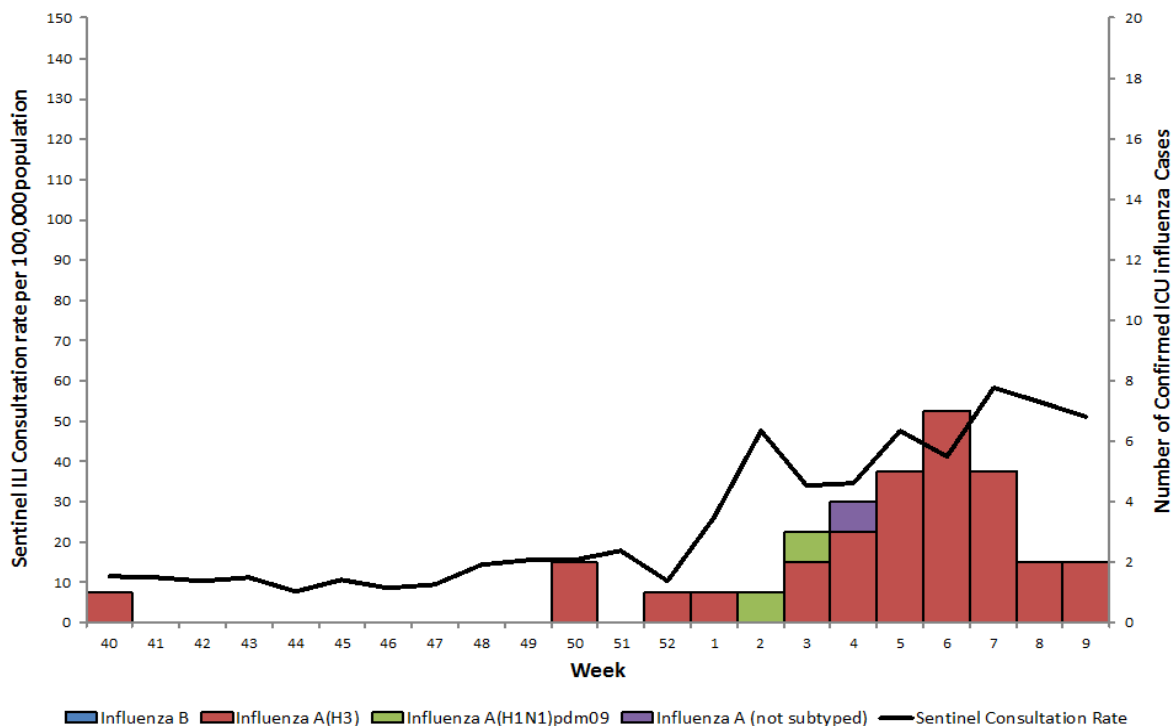
This season for the first time, all children aged between 2 and 4 years and all those in P1 – P7 have been offered the seasonal influenza vaccine. To 31st January 2015, provisional data suggested that vaccine uptake among 2-4 year old children was 53.8%, while provisional uptake among children in P1 – P7 was 79.6%.

Emergency Department Syndromic Surveillance System

In week 9, 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

Figure 9. Confirmed ICU influenza cases by week of specimen*, with sentinel ILI consultation rate, 2014-15



Comment

Similar to last year data will be collected on numbers of laboratory confirmed influenza patients and laboratory confirmed influenza deaths in critical care (level 2 and level 3) in Northern Ireland for this season.

There have been four ICU patients confirmed with influenza since the last bulletin. To date there have been 34 ICU patients with confirmed influenza, of which 31 have been confirmed as influenza A (H3), two as influenza A (H1N1)pdm09 and one as influenza A untyped (typing awaited) (Figure 9 and table 4).

Up to week 9, 2015, of the 34 ICU patients with confirmed influenza 28 had co-morbidities or were aged over 65, of which provisionally 25 met the criteria for inclusion in an influenza vaccine clinical risk group. To date, approximately half of those meeting the criteria for inclusion in a clinical risk group are reported to have received the influenza vaccine.

There were no deaths in ICU patients with laboratory confirmed influenza reported since the last bulletin. To date, there have been seven deaths in ICU patients with laboratory confirmed influenza.

Outbreak Surveillance

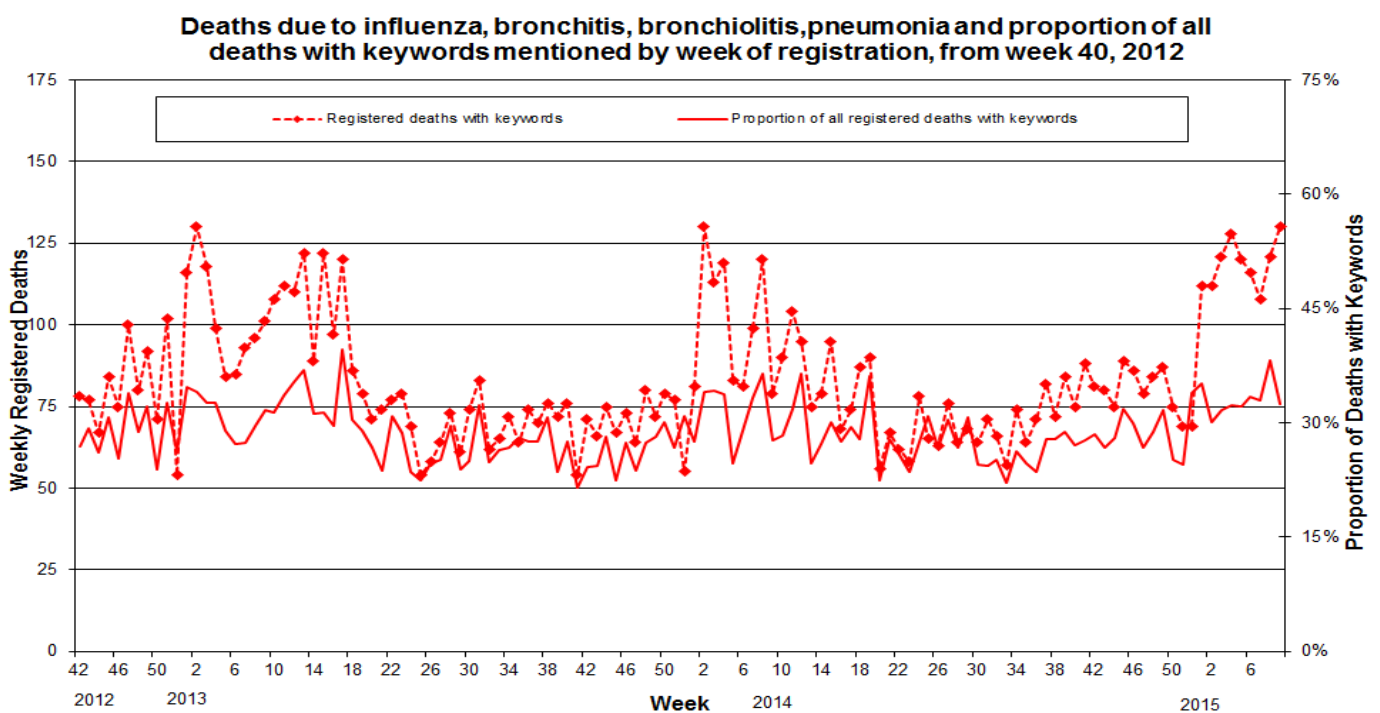
There were eleven new confirmed influenza outbreaks reported in week 9, 2015, of which five were confirmed as influenza A (H3), two as influenza B and four as influenza A untyped (typing awaited). There have been a total of 26 confirmed influenza outbreaks reported so far this season, of which 18 have been confirmed as influenza A (H3), two as influenza B and six as

influenza A untyped (typing awaited). This compares 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 decreased to 32% in week 9, 2015 from 38% in week 8. In week 9, 2015, there were 401 registered deaths of which 130 related to these specific respiratory infections.

EuroMOMO

No significant excess all-cause mortality was reported in week 9 in Northern Ireland. Significant excess mortality has been reported in weeks 3 and 4 this season. This data is provisional due to the time delay in registration; numbers may vary from week to week.

International Summary

Europe

Week 8, 2015:

Influenza activity continues, particularly in western and central countries of the WHO European Region.

- Nine countries reported increasing rates of influenza-like illness (ILI) and/or acute respiratory infections (ARI). Thirty-five countries experienced usual and higher than usual levels of influenza activity; in the previous season most European countries continued to experience no influenza activity or activity at baseline level.
 - The number and percentage of influenza virus detections in sentinel specimens showed a slight reduction in what might be described as a high plateau phase of the influenza season.
 - Of 2535 sentinel specimens, 49% tested positive for influenza virus with positive detections in 34 countries.
 - Influenza A(H1N1)pdm09, A(H3N2) and type B viruses continued to circulate in the Region, with A(H3N2) predominating.
 - Excess all-cause mortality among elderly people (aged ≥ 65 years), concomitant with increased influenza activity and the predominance of A(H3N2) viruses, has been observed since the beginning of the year in six (Belgium, France, Portugal, Spain, Switzerland and the United Kingdom (England, Scotland and Wales)) of 14 reporting countries (see the European project for monitoring excess mortality for public health action - EuroMOMO)
 - Most of the A(H3N2) viruses characterized so far show antigenic differences from the virus included in the 2014–2015 northern hemisphere influenza vaccine. The observed reduced effectiveness (www.eurosurveillance.org) of the A(H3N2) component of the vaccine might have contributed to the excess mortality reported among elderly people.
 - The A(H1N1)pdm09 and B components of the vaccine are likely to be effective.
 - The circulation of respiratory syncytial virus (RSV) has decreased to low levels across the European Region.
-
- The vaccine recommendation for the northern hemisphere 2015-2016 season was made on 26 February 2015: it recommended that vaccines for use in the season (northern hemisphere) contain the following:
 - an A/California/7/2009 (H1N1)pdm09-like virus;
 - an A/Switzerland/9715293/2013 (H3N2)-like virus;
 - a B/Phuket/3073/2013-like virus
 - It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Brisbane/60/2008-like virus.

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

Worldwide (WHO) and CDC

As at 23rd February 2015:

Globally, influenza activity remained high in the northern hemisphere with influenza A(H3N2) viruses predominating. Some countries reported an increase in influenza A(H1N1)pdm09 activity. Antigenic characterization of most recent A(H3N2) viruses thus far indicated differences from the A(H3N2) virus used in the influenza vaccines for the northern hemisphere 2014-2015. The vast majority of influenza A(H3N2) viruses tested to date this season were sensitive to neuraminidase inhibitors.

- In North America, the influenza activity seemed to have peaked. Influenza A(H3N2) virus has predominated this season. During week 7 (February 15-21, 2015), influenza activity continued to decrease, but remained elevated in the United States. Of 18,505 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 7, 2,236 (12.1%) were positive for influenza. Outpatient Illness Surveillance: The proportion of outpatient visits for influenza-like illness (ILI) was 3.0%, above the national baseline of 2.0%. All 10 regions reported ILI at or above region-specific baseline levels.
- In Europe, the influenza season continued to rise, particularly in western and central countries. Influenza A(H3N2) remained the dominant virus detected this season. However, in south west Europe the proportion of influenza A(H1N1) and influenza B increased.
- In northern Africa and the middle East, influenza activity is ongoing. Some countries are reporting an increase in influenza A(H1N1)pdm09 activity (Jordan, Morocco, Tunisia).
- In the temperate countries of Asia, influenza activity decreased from its peak in northern China, but continued to increase in Mongolia and the Republic of Korea. Influenza A(H3N2) virus predominated so far.
- In tropical countries of the Americas, influenza activity remained low in most countries.
- In tropical Asia, influenza activity continued to increase in southern China, China Hong Kong Special Administrative Region and India.
- In the southern hemisphere, influenza activity remained at inter-seasonal levels.
- Based on FluNet reporting (as of 20 February 2015 08:25 UTC), during weeks 4 to 5 (25 January 2015 to 7 February 2015), National Influenza Centres (NICs) and other national influenza laboratories from 90 countries, areas or territories reported data. The WHO GISRS laboratories tested more than 138 720 specimens. 32 769 were positive for influenza viruses, of which 26 664 (81.4%) were typed as influenza A and 6105 (18.6%) as influenza B. Of the sub-typed seasonal influenza A viruses, 1580 (12.5%) were influenza A(H1N1)pdm09 and 11 094 (87.5%) were influenza A(H3N2). Of the characterized B viruses, 1813 (97.3%) belonged to the B-Yamagata lineage and 50 (2.7%) 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 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:

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.