

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 51 2014 (15th – 21st December 2014)



 **Intensive Care Society of Ireland**

Summary

Influenza activity in Ireland remained at low levels during week 51 2014.

- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate was 11.8 per 100,000 population in week 51 2014, remaining low, and decreasing slightly compared to the updated rate of 14.6 per 100,000 reported during week 50 2014.
 - ILI rates remain below the Irish baseline threshold (21.0 per 100,000 population)
 - ILI rates remain at low levels in all age groups.
- **GP Out of Hours:** The proportion of influenza-related calls to GP Out-of-Hours services remained stable and at low levels during week 51 2014.
- **National Virus Reference Laboratory (NVRL):**
 - Influenza positivity increased slightly during week 51 2014, with 12 (4.8%) influenza positive specimens reported from the NVRL: 11 influenza A(H3) and 1 influenza B.
 - Respiratory syncytial virus (RSV) positivity decreased during week 51 2014, however remained at high levels, as expected at this time of year.
 - Sporadic detections of adenovirus, parainfluenza viruses and human metapneumovirus (hMPV) have been reported for the season to date.
- **Respiratory admissions:** The latest complete data on respiratory admissions reported from a network of sentinel hospitals were elevated, as expected at this time of year.
- **Hospitalisations:** No confirmed influenza hospitalised cases were notified to HPSC during week 51 2014.
- **ICU admissions:** No confirmed influenza cases admitted to ICU have been reported to HPSC this season to date.
- **Mortality:** There were no reports of any influenza-associated deaths during week 51 2014.
- **Outbreaks:** Two acute respiratory outbreaks were reported to HPSC during week 51 2014, one associated with influenza A(H3) in HSE-NE and one associated with an unidentified pathogen in HSE-W. Both were in residential care facilities/community hospitals/long stay units.
- **International:** Overall influenza activity in the European Region remained low, however increased during week 50 2014. Influenza A(H3N2) viruses have predominated in Europe for the season to date. The genetic characteristics of A(H3N2) viruses indicate that in Europe, as in the United States of America, there may be significant differences between circulating A(H3N2) viruses and the virus used in the influenza vaccine. Although this may affect the effectiveness of the A(H3N2) component of the vaccine, the current influenza vaccine is likely to provide protection against infection by other currently circulating influenza viruses. Vaccination is the most effective means of preventing infection by seasonal influenza viruses, and it is still important that people are vaccinated. The benefits of vaccination are considerable in protecting the elderly and those in risk groups, even if vaccine effectiveness against one of the circulating viruses may turn out to be low. The latest ECDC rapid risk assessment is available [here](#).

Surveillance Systems

In order to monitor influenza activity in Ireland a number of surveillance systems are currently in place:

1. Irish College of General Practitioners (ICGP) GP sentinel surveillance system
2. Virological data from the National Virus Reference Laboratory (NVRL)
3. GP Out-of-Hours surveillance system
4. Influenza notifications reported on the Computerised Infectious Disease Reporting system (CIDR)
5. Enhanced surveillance of all hospitalised confirmed influenza cases aged 0-14 years
6. Intensive Care Society of Ireland (ICSI) enhanced surveillance of all critical care patients with confirmed influenza.
7. Outbreak reporting on CIDR
8. Network of sentinel hospitals reporting hospital admission data

1. GP sentinel surveillance system - Clinical Data

During week 51 2014, 27 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 11.8 per 100,000 population, remaining low, and decreasing slightly compared to the updated rate of 14.6 per 100,000 population during week 50 2014. The ILI rate remained below the Irish baseline threshold (21/100,000 population). ILI age specific rates were low in all age groups during week 51 2014 (figures 1 & 2).

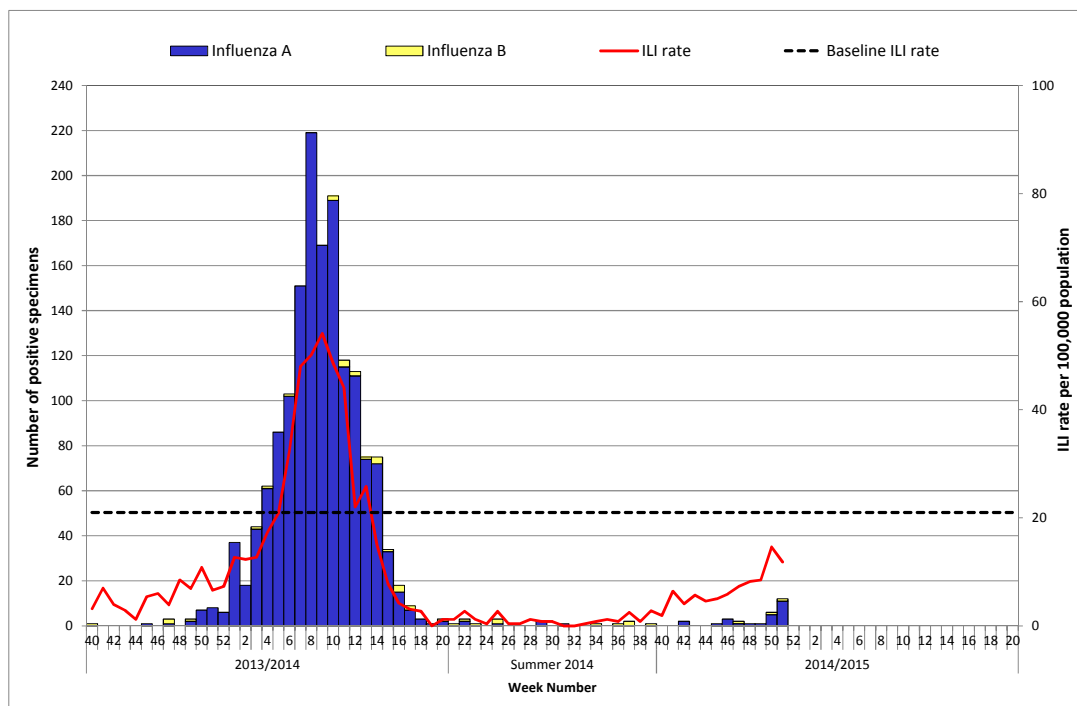


Figure 1. ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season. *Source: ICGP and NVRL*

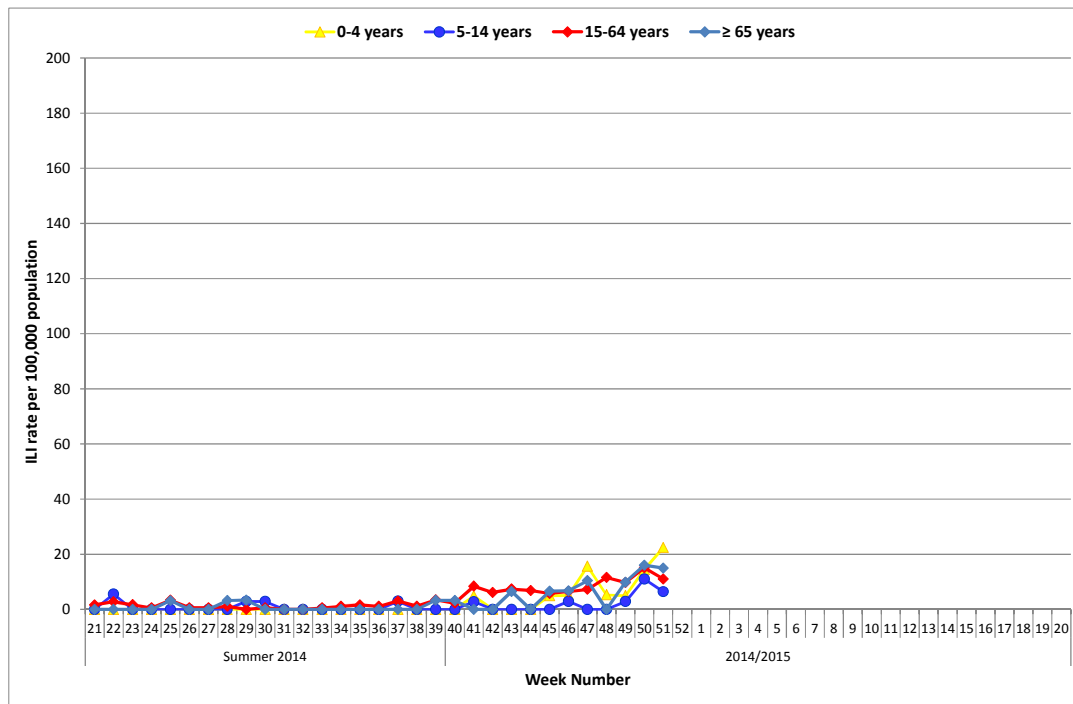


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2014 and the 2014/2015 influenza season to date. Source: ICGP.

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2014/2015 influenza season refers to sentinel and non-sentinel respiratory specimens routinely tested for influenza, respiratory syncytial virus (RSV) and human metapneumovirus (hMPV) by the National Virus Reference Laboratory (NVRL). The NVRL also test respiratory specimens for adenovirus and parainfluenza viruses types 1, 2 & 3 (PIV-1, -2, & -3) upon clinical request (figure 3, tables 1 & 2).

- Influenza positivity increased during week 51 2014, with 12 (4.8%) influenza positive specimens reported from the National Virus Reference Laboratory (NVRL): 11 influenza A(H3) and 1 influenza B.
 - 1 of 10 (10.0%) sentinel specimens were influenza positive: 1 A(H3).
 - 11 of 240 (4.6%) non-sentinel specimens were influenza positive: 10 A(H3) and 1 B.
- Sixty-six (66/250; 26.4%) respiratory syncytial virus (RSV) positive sentinel GP and non-sentinel specimens were reported from the NVRL during week 51 2014.
 - Respiratory syncytial virus (RSV) positivity decreased for the second consecutive week, during week 51 2014, however remained at high levels as expected at this time of year. The number and percentage of RSV positive specimens from non-sentinel sources are shown in figure 3.
- Two (0.8%) parainfluenza virus type 3 (PIV-3), two (0.8%) PIV-4 and six (2.4%) human metapneumovirus (hMPV) positive specimens were reported from sentinel GP and non-sentinel sources from the NVRL during week 51 2014.
- Sporadic detections of adenovirus, parainfluenza virus types -1, -3 & -4 and hMPV have been reported for the season to date.

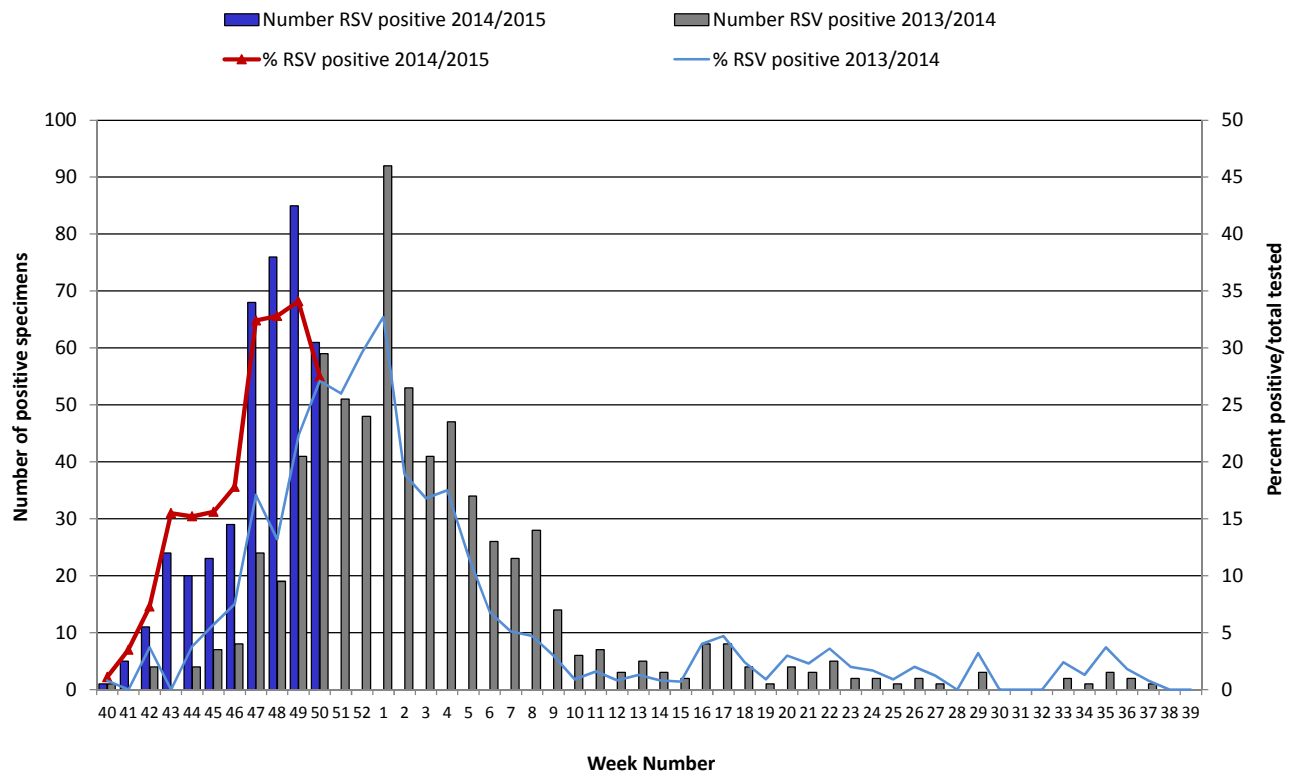


Figure 3: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2014/2015 season, compared to the 2013/2014 season. Source: NVRL.

Table 1: Number of sentinel and non-sentinel* respiratory specimens tested by the NVRL and positive influenza results, for week 51 2014 and the 2014/2015 season to date. Source: NVRL

Week	Specimen type	Total tested	Number influenza positive	% Influenza positive	Influenza A				Influenza B
					A (H1)pdm09	A (H3)	A (not subtyped)	Total influenza A	
51 2014	Sentinel	10	1	10.0	0	1	0	1	0
	Non-sentinel	240	11	4.6	0	10	0	10	1
	Total	250	12	4.8	0	11	0	11	1
2014/2015	Sentinel	137	9	6.6	0	8	0	8	1
	Non-sentinel	2177	19	0.9	1	14	2	17	2
	Total	2314	28	1.2	1	22	2	25	3

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 51 2014 and the 2014/2015 season to date. Source: NVRL

Week	Specimen type	Total tested	RSV	% RSV	Adenovirus	% Adenovirus	PIV-1	% PIV-1	PIV-2	% PIV-2	PIV-3	% PIV-3	PIV-4	% PIV-4	hMPV	% hMPV
51 2014	Sentinel	10	1	10.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	20.0
	Non-sentinel	240	65	27.1	0	0.0	0	0.0	0	0.0	2	0.8	2	0.8	4	1.7
	Total	250	66	26.4	0	0.0	0	0.0	0	0.0	2	0.8	2	0.8	6	2.4
2014/2015	Sentinel	137	9	6.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	12	8.8
	Non-sentinel	2177	484	22.2	9	0.4	1	0.0	0	0.0	37	1.7	3	0.1	28	1.3
	Total	2314	493	21.3	9	0.4	1	0.0	0	0.0	37	1.6	3	0.1	40	1.7

* Please note that non-sentinel specimens relate to specimens referred to the NVRL (other than sentinel specimens) and may include more than one specimen from each case.

3. Regional Influenza Activity by HSE-Area

Influenza activity is based on sentinel GP ILI consultation rates, laboratory data and outbreaks.

Sporadic influenza activity (based on ILI cases and/or confirmed influenza cases) was reported from HSE-E, -M, -MW, -NE, and -S during week 51 2014. All other HSE Areas reported no influenza activity during week 51 2014 (figure 4).

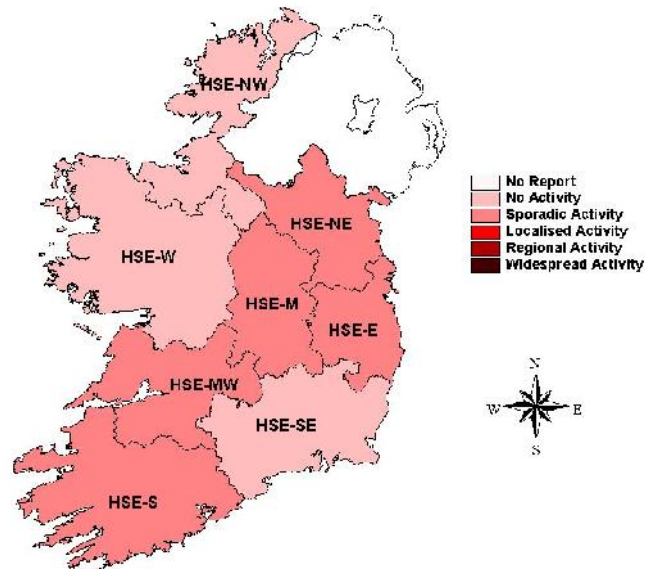


Figure 4: Map of provisional influenza activity by HSE-Area during influenza week 51 2014

Sentinel hospitals

The Departments of Public Health have established at least one sentinel hospital in each HSE-Area, to report data on total, emergency and respiratory admissions on a weekly basis.

Respiratory admissions reported from sentinel hospitals increased during week 50 2014, with 407 respiratory admissions reported, compared to 336 in week 49 2014 (figure 5). Data for week 50 2014 were complete with all eight sentinel hospitals reporting. Data reported during weeks 48 and 49 (shown in figure 5) should be interpreted with caution as data were incomplete; with reports from 7/8 sentinel hospitals. Data for week 51 2014 were incomplete with 5/8 sentinel hospitals reporting.

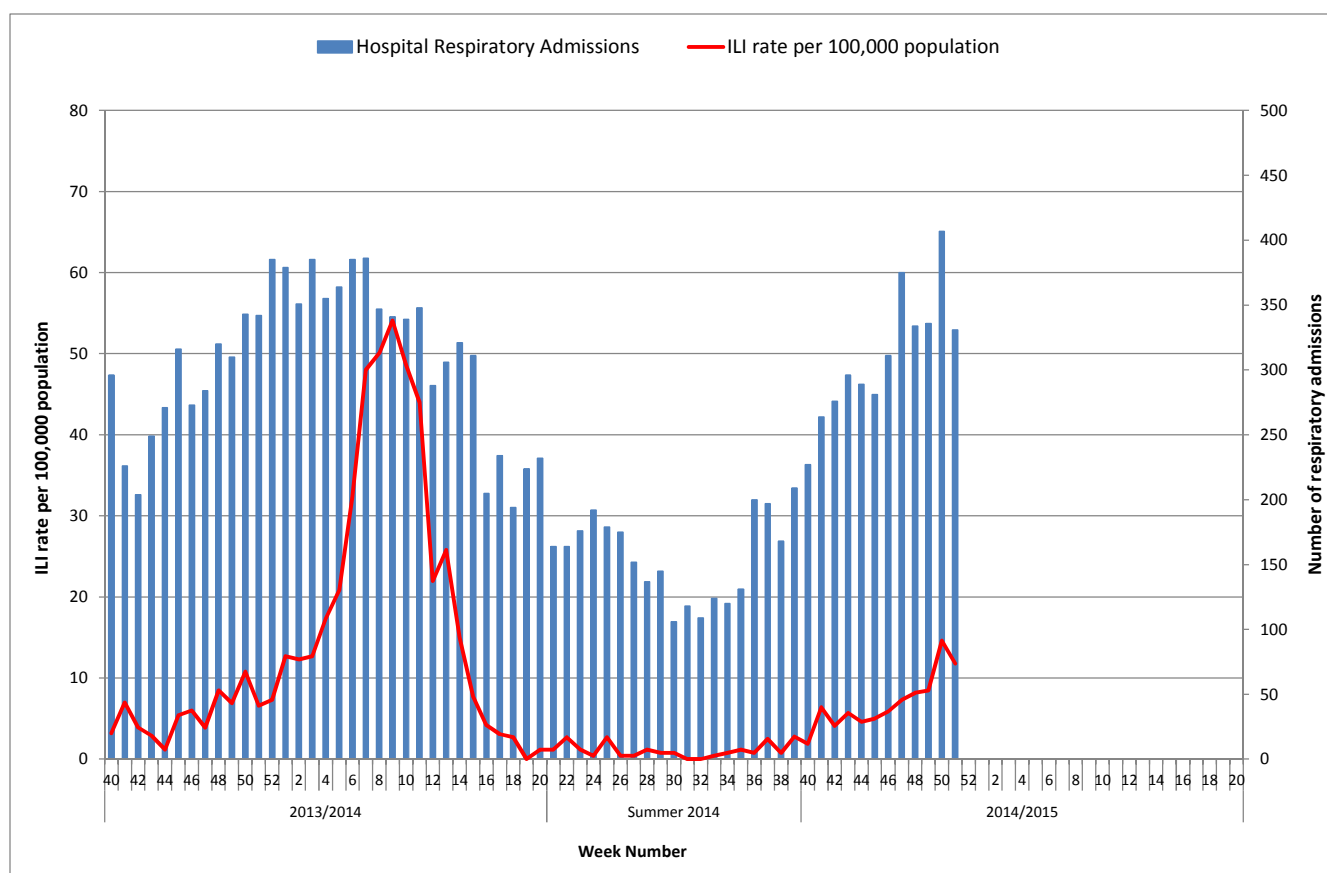


Figure 5: Number of respiratory admissions reported from sentinel hospitals and ILI sentinel GP consultation rate per 100,000 population by week and season. Source: Departments of Public Health - Sentinel Hospitals & ICGP. *It should be noted that data for weeks 48, 49 and 51 2014 were incomplete.*

4. GP Out-Of-Hours services surveillance

The Department of Public Health in HSE-NE is collating national data on calls to nine of thirteen GP Out-of-Hours services in Ireland. Records with clinical symptoms reported as flu or influenza are extracted for analysis. This information may act as an early indicator of increased ILI activity. However, data are self-reported by callers and are not based on coded influenza diagnoses.

The proportion of influenza-related calls to GP Out-of-Hours services remained stable and at low levels during week 51 2014, at 2.4%. The proportion of influenza-related calls had increased in week 50 2014 to 2.5% from 2.0% in week 49 2014 (figure 6).

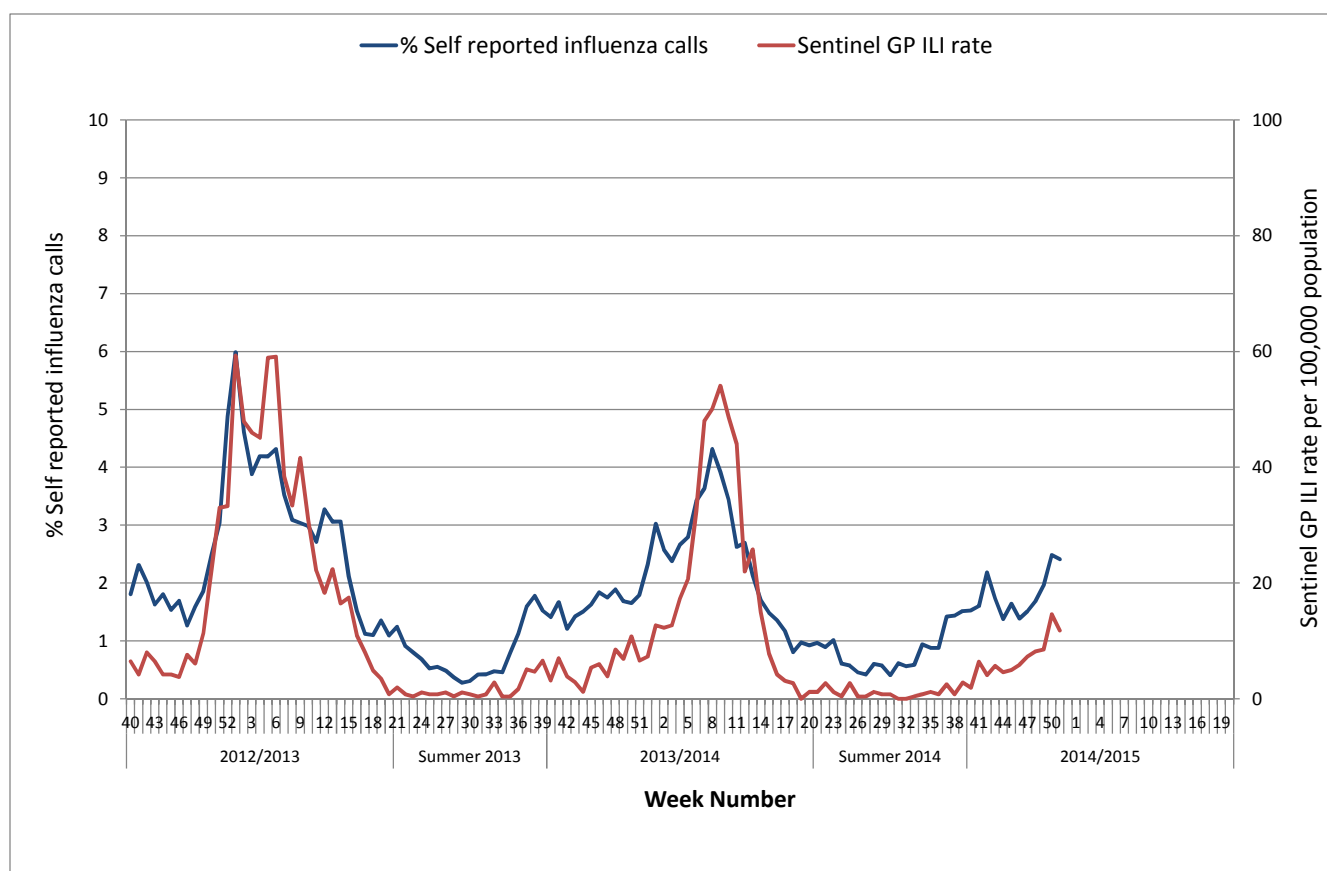


Figure 6: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

5. Influenza & RSV notifications

Influenza and RSV cases notifications are reported on Ireland’s Computerised Infectious Disease Reporting System (CIDR), including all positive influenza /RSV specimens reported from all laboratories testing for influenza/RSV and reporting to CIDR.

Influenza and RSV notifications are reported in the [Weekly Infectious Disease Report for Ireland](#).

6. Influenza Hospitalisations

No confirmed influenza hospitalised cases were notified to HPSC during week 51 2014. Between weeks 40 and 51 2014, four confirmed influenza cases were reported as hospitalised to HPSC, two associated with influenza A(H3), one influenza A (not subtyped) and one associated with influenza B.

7. Critical Care Surveillance

The Intensive Care Society of Ireland (ICSI) are continuing with the enhanced surveillance system set up during the 2009 pandemic, on all critical care patients with confirmed influenza. HPSC process and report on this information on behalf of the regional Directors of Public Health/Medical Officers of Health.

No confirmed influenza cases were admitted to critical care and reported to HPSC during week 51 2014 or for the 2014/2015 influenza season to date.

8. Mortality Surveillance

Influenza-associated deaths include all deaths where influenza is reported as the primary/main cause of death by the physician or if influenza is listed anywhere on the death certificate as the cause of death. HPSC receives daily mortality data from the General Register Office (GRO) on all deaths from all causes registered in Ireland. These data have been used to monitor excess all-cause and influenza and pneumonia deaths as part of the influenza surveillance system and the European Mortality Monitoring Project. These data are provisional due to the time delay in deaths' registration in Ireland. <http://www.euromomo.eu/>

- There were no reports of any influenza-associated deaths occurring during week 51 2014.
- During week 51 2014, no excess all-cause mortality was reported in Ireland after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm.
- No indications of increased mortality due to influenza have been reported through the European monitoring of excess mortality for public health action. <http://www.euromomo.eu>

9. Outbreak Surveillance

Two acute respiratory outbreaks were reported to HPSC during week 51 2014, one associated with influenza A(H3) in HSE-NE and one associated with an unidentified pathogen in HSE-W. Both were in residential care facilities/community hospitals/long stay units. To date this season, four acute respiratory outbreaks (one associated with influenza AH3 and three with no pathogens identified) were reported to HPSC.

10. International Summary

Overall influenza activity in the European Region remained low, but was increasing. Globally, influenza activity increased in the northern hemisphere and ILI rates have passed seasonal thresholds in several countries. The majority of hospitalised influenza cases in the US and Canada have been amongst those aged ≥ 65 years. Influenza A(H3N2) viruses have predominated for the season to date. The genetic characteristics of A(H3N2) viruses indicate that in Europe, as in the United States of America, there may be significant differences between circulating A(H3N2) viruses and the virus used in the influenza vaccine. Although this may affect the effectiveness of the A(H3N2) component of the vaccine, the current influenza vaccine is likely to provide protection against infection by other currently circulating influenza viruses. Vaccination is the most effective means of preventing infection by seasonal influenza viruses, and it is still important that people are vaccinated. The benefits of vaccination are considerable in protecting the elderly and those in risk groups, even if vaccine effectiveness against one of the circulating viruses may turn out to be low. The latest ECDC rapid risk assessment is available [here](#). See [ECDC](#) and [WHO](#) influenza surveillance reports for further information.

- Further information is available on the following websites:
 - Northern Ireland <http://www.fluawareni.info/>
 - Europe – ECDC <http://ecdc.europa.eu/>
 - Public Health England <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/>
 - United States CDC <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>
 - Public Health Agency of Canada <http://www.phac-aspc.gc.ca/fluwatch/index-eng.php>
- For up to date information on human infection with avian influenza A(H7N9) virus in China including the current case numbers and the WHO assessment of the situation please see [here](#).
- For information on highly pathogenic avian influenza A(H5N8) in Germany, please see [here](#).
- Information on Middle Eastern Respiratory Syndrome Coronavirus (MERS-CoV), including the latest ECDC rapid risk assessment is available on the [ECDC website](#). Further information and guidance documents are also available on the [HPSC website](#).
- Information on Enterovirus 68 (EV-D68), including the ECDC rapid risk assessment is available on the [ECDC website](#).

11. WHO recommendations on the composition of influenza virus vaccines

The WHO vaccine strain selection committee recommended that vaccines for use in the 2014/2015 influenza season (northern hemisphere winter) contain the following: an A/California/7/2009 (H1N1)pdm09-like virus; an A/Texas/50/2012 (H3N2)-like virus; a B/Massachusetts/2/2012-like virus.

Further information on influenza in Ireland is available at www.hpsc.ie

Acknowledgements

This report was prepared by Lisa Domegan and Joan O'Donnell, HPSC. HPSC wishes to thank the sentinel GPs, the ICGP, NVRL, Departments of Public Health, ICSI and HSE-NE for providing data for this report.