

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 48 2012 (26th November – 2nd December 2012)



Summary

- **All indicators of influenza activity in Ireland were at low levels during week 48 2012:**
 - The sentinel GP influenza-like illness (ILI) consultation rate was 6.6 per 100,000 population in week 48 2012, a slight decrease compared to the updated rate of 7.8 per 100,000 reported during week 47 2012.
 - ◆ ILI rates remain below the Irish baseline threshold (21.0 per 100,000 population)*
 - ◆ ILI rates remain at low levels in all age groups
- The proportion of influenza-related calls to GP Out-of-Hours services remained at low levels during week 48 2012.
- One influenza positive specimen (influenza B) was reported from the NVRL from sentinel sources for week 48 2012. No influenza positive specimens were reported from the NVRL from non-sentinel sources for week 48 2012.
- Respiratory syncytial virus (RSV) positivity levels remained at high levels during week 48 2012, as expected for this time of year.
- Two human metapneumovirus positive specimens were reported from the NVRL from non-sentinel sources during week 48 2012.
- During week 48 2012, no confirmed influenza cases were hospitalised or admitted to ICU. There were no reports of any influenza-associated deaths occurring during this period.
- No influenza/ILI outbreaks were reported to HPSC during week 48 2012.
- There remains little evidence of sustained influenza virus transmission in Europe. Much of the clinical influenza activity reported in EU/EEA countries was probably due to other respiratory pathogens including RSV.

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 and enhanced surveillance of all severe acute respiratory infections (SARI) in two pilot ICU sites.
7. Outbreak reporting on CIDR
8. Network of sentinel hospitals reporting admission data

* HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) have revised the Irish baseline threshold for the 2012/2013 influenza season to 21.0 per 100,000 population.

1. GP sentinel surveillance system

Clinical Data

During week 48 2012, 16 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 6.6 per 100,000 population, a slight decrease compared to the updated rate of 7.8 per 100,000 reported during week 47 2012. Fifty-five of 60 (91.7%) sentinel general practices provided data during week 48 2012, with 11 practices (20.0%) reporting 16 ILI cases. The ILI consultation rate for week 48 2012 remained below the Irish baseline threshold (21.0 per 100,000 population). HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) have revised the Irish baseline threshold for the 2012/2013 influenza season to 21.0 per 100,000 population. Figure 1 shows the ILI consultation rates, the baseline threshold rate and the number of positive specimens detected by the NVRL.

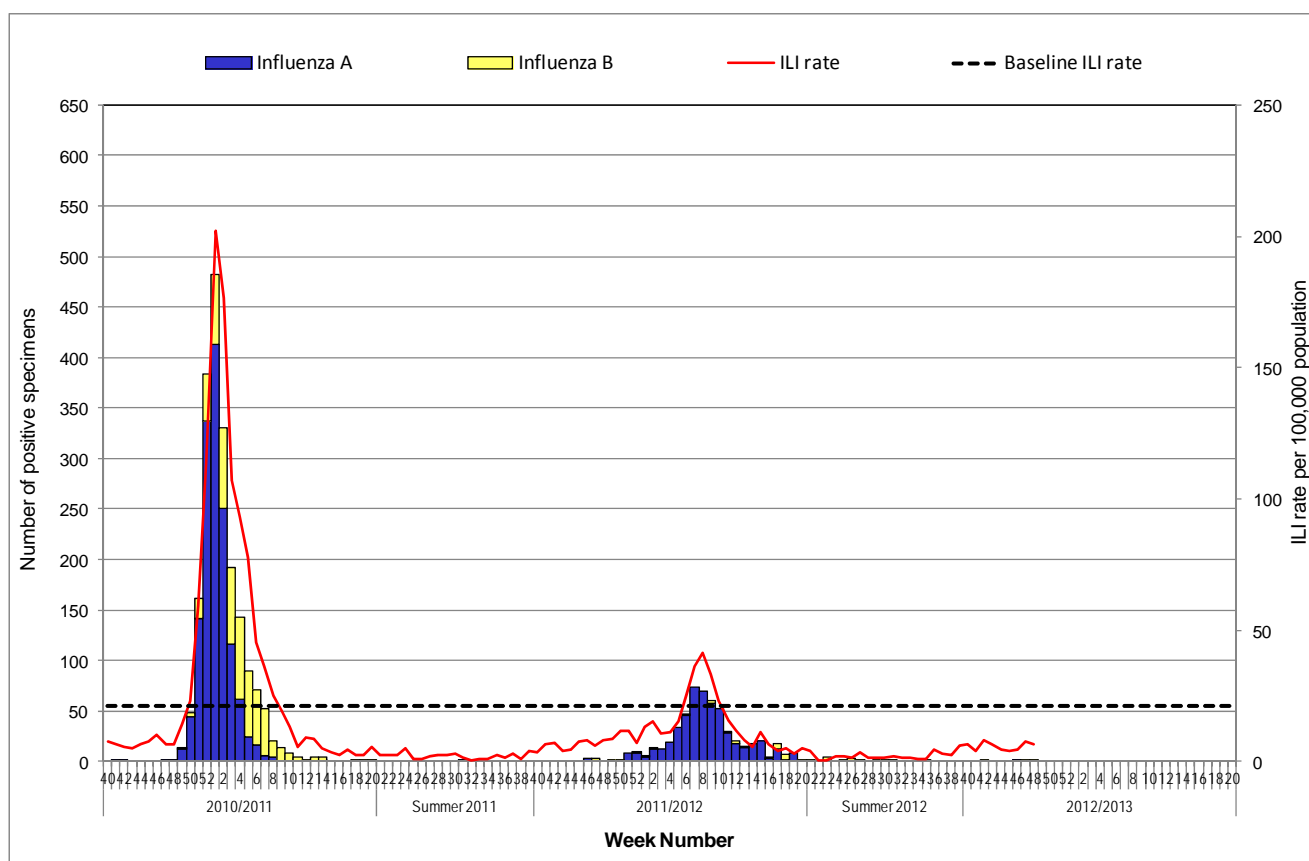


Figure 1. ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.

Source: Clinical ILI data from ICGP and virological data from the NVRL[†]

ILI age specific rates were low in all age groups during week 48 2012 and for the 2012/2013 influenza season to date (figure 2 2012). One ILI case was reported in the 0-4 year age group (5.3 per 100,000), one ILI case was reported in the 5-14 year age group (3.0 per 100,000), 13 cases in the 15-64 year age group (8.0 per 100,000) and one ILI case was reported in those aged 65 years or older (3.5 per 100,000) during week 48 2012.

[†] Sentinel GP consultations and virological data are updated on an ongoing basis, ILI rates and virological data are adjusted accordingly.

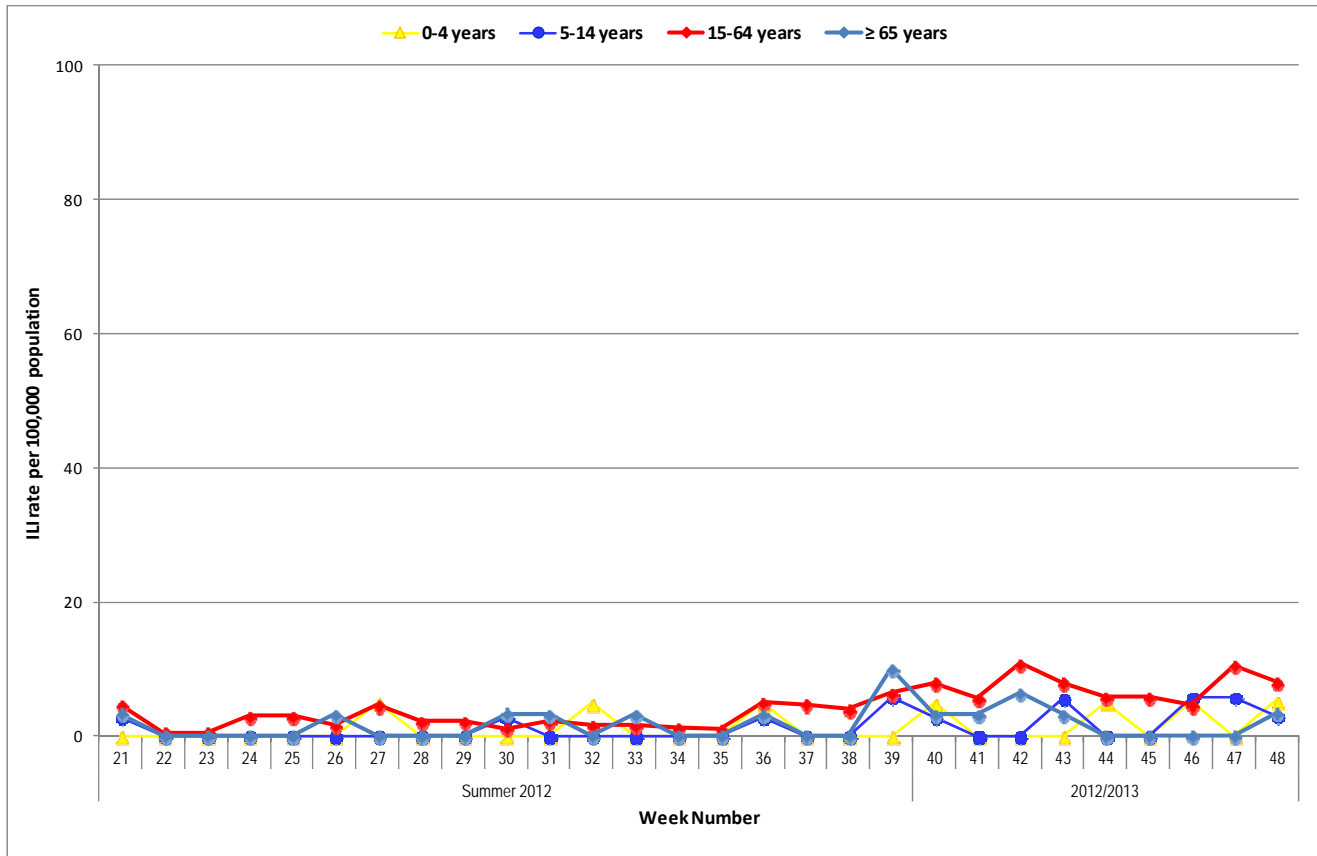


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2012 and the 2012/2013 influenza season to date *Source: ICGP ILI clinical data*

2. Influenza and Other Respiratory Virus Detections - National Virus Reference Laboratory

The data reported in this section for the 2012/2013 influenza season refers to specimens tested by the National Virus Reference Laboratory (NVRL). The NVRL are now testing all sentinel and non-sentinel specimens for a panel of respiratory viruses: influenza A and B, respiratory syncytial virus (RSV), adenovirus, parainfluenza viruses types 1, 2, and 3 (PIV-1, -2 & -3) and human metapneumovirus.

A total of 159 specimens (9 sentinel and 150 non-sentinel[‡] specimens) were tested by the NVRL during week 48 2012. One (1/9; 11.9%) sentinel specimen tested positive for influenza virus during week 48 2012, an influenza B positive specimen. No non-sentinel specimens were positive for influenza during week 48 2012. To date this season, the NVRL has reported one influenza A (H3) and four influenza B positive specimens from sentinel and non-sentinel sources (figure 3, tables 1 & 2).

[‡] 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.

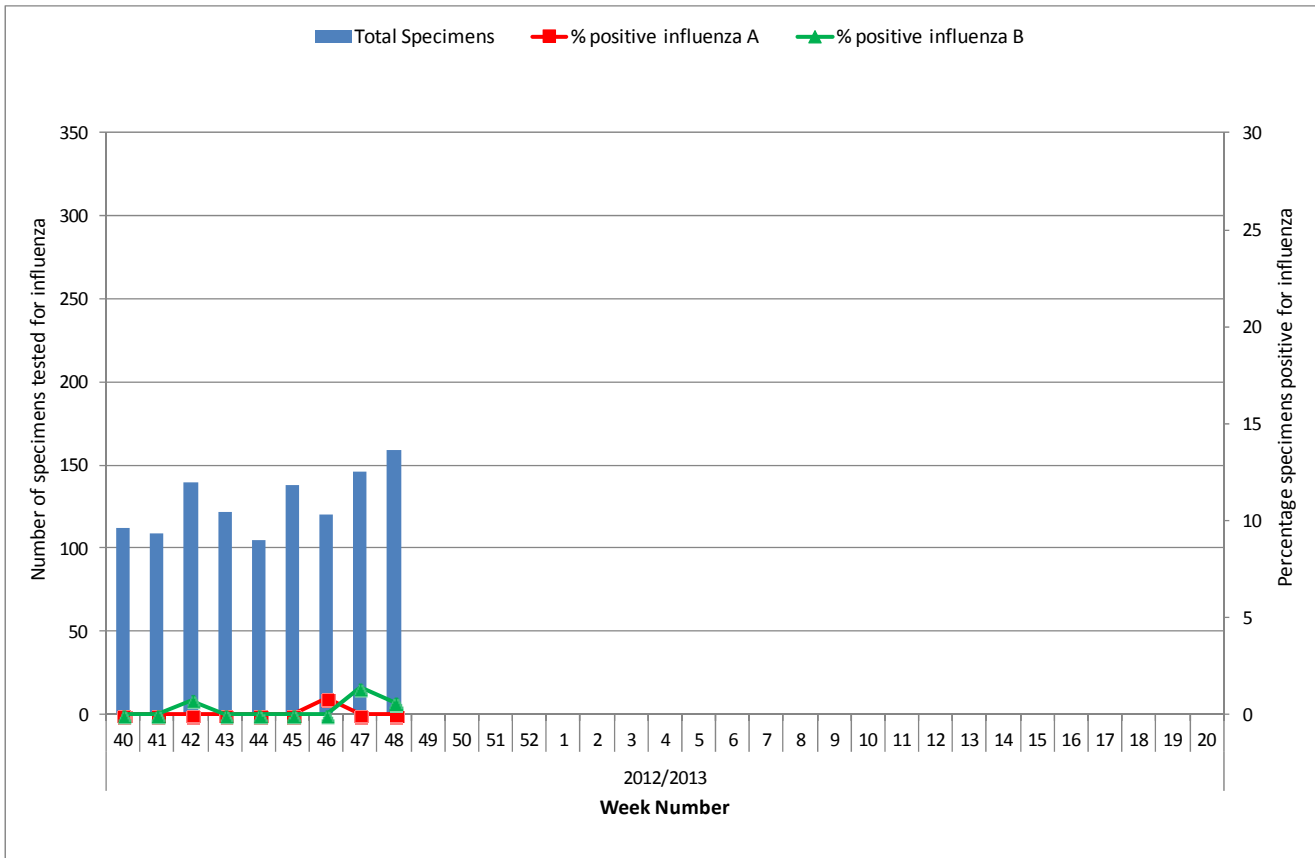


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive by week for the 2012/2013 influenza season. Source: NVRL

Respiratory Syncytial Virus (RSV)

Respiratory syncytial virus (RSV) positivity levels decreased slightly during week 48 2012, following significant increases in recent weeks (figure 4). The proportion of non-sentinel specimens positive for RSV for week 48 2012 was significantly higher than the same period last season. Thirty-three (22.0%) RSV positive detections from non-sentinel sources were reported from the NVRL[§] during week 48 2012. No RSV positive specimens were detected from sentinel sources during week 48 2012.

RSV was made notifiable in Ireland on 1st January 2012. During week 48 2012, 186 laboratory notifications of RSV were reported on Ireland’s Computerised Infectious Disease Reporting System (CIDR). It should be noted that during week 48, 79.6% (n=148) of RSV notifications were late notifications, from weeks 43–47 2012. Laboratory notifications of RSV are reported in more detail in the [Weekly Infectious Disease Report for Ireland](#).

[§] It should be noted that these data only include specimens referred to the NVRL for RSV testing. Not all hospitals refer respiratory specimens for RSV testing to the NVRL.

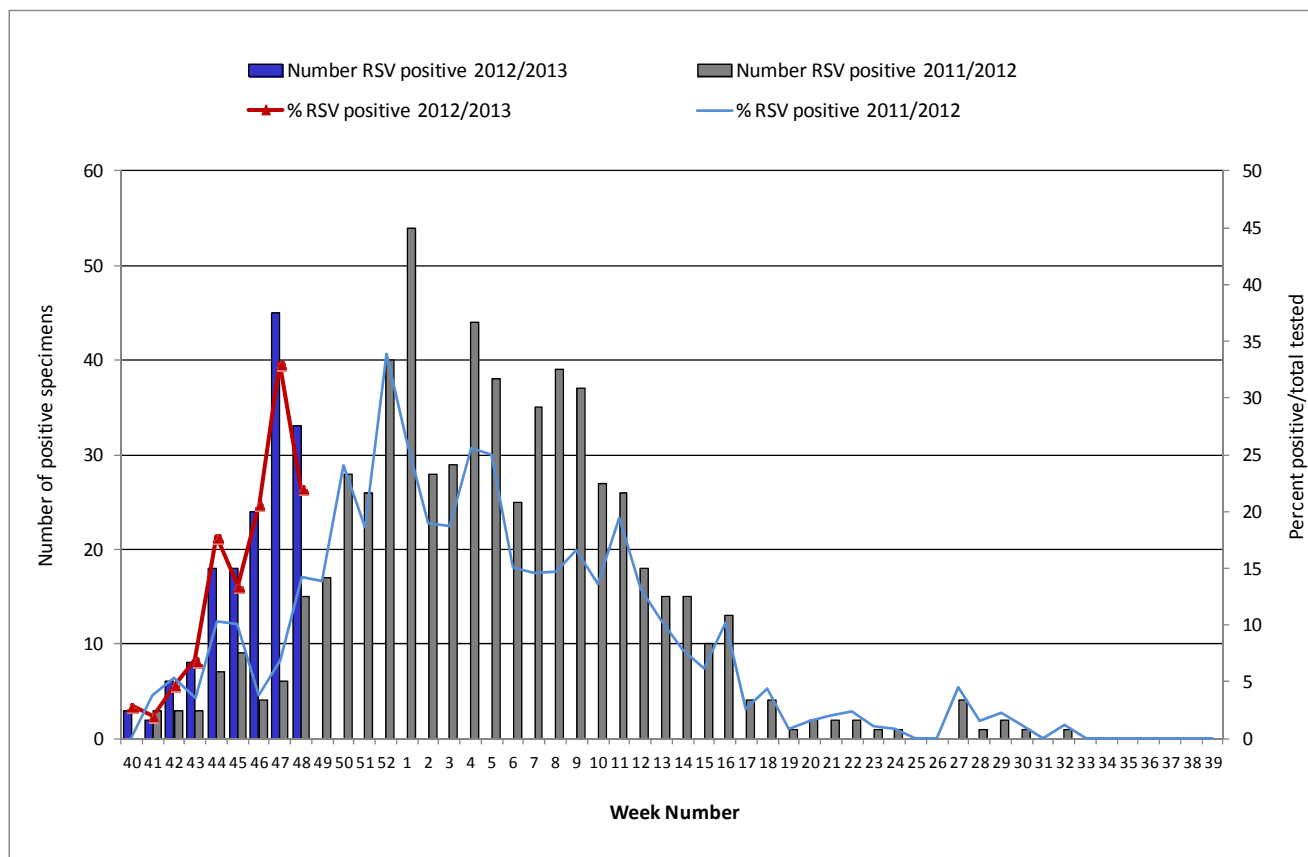


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2012/2013 season, compared to the 2011/2012 season. Source: NVRL

Other Respiratory Viruses

Two (1.3%) human metapneumovirus (hMPV) positive specimens were reported from the NVRL from non-sentinel sources during week 48 2012. There were no positive detections of adenovirus, parainfluenza viruses or human metapneumovirus (hMPV) reported by the NVRL from sentinel GP sources for week 48 2012 (table 2).

Table 1: Number of sentinel and non-sentinel respiratory specimens tested by the NVRL and positive influenza results, for week 48 2012 and the 2012/2013 season to date. Source: NVRL**

Week	Specimen type	Total tested	Number influenza positive	% Influenza positive	Influenza A					Influenza B
					A (H1) 2009	A (H3)	A (H1)	A (unsubtyped)	Total influenza A	
48 2012	Sentinel	9	1	11.1	0	0	0	0	0	1
	Non-sentinel	150	0	0.0	0	0	0	0	0	0
	Total	159	1	0.6	0	0	0	0	0	1
2012/2013	Sentinel	67	4	6.0	0	0	0	0	0	4
	Non-sentinel	1084	1	0.1	0	1	0	0	1	0
	Total	1151	5	0.4	0	1	0	0	1	4

Table 2: Number of sentinel and non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 48 2012 and the 2012/2013 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	hMPV	% hMPV
48 2012	Sentinel	9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	150	33	22.0	0	0.0	0	0.0	0	0.0	0	0.0	2	1.3
	Total	159	33	20.8	0	0.0	0	0.0	0	0.0	0	0.0	2	1.3
2012/2013	Sentinel	67	1	1.5	3	4.5	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	1084	157	14.5	12	1.1	0	0.0	2	0.2	11	1.0	9	0.8
	Total	1151	158	13.8	15	1.3	0	0.0	2	0.2	11	1.0	9	0.8

** 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 reported on a weekly basis for each HSE area. Influenza activity is based on sentinel GP ILI consultation rates, laboratory confirmed influenza cases and ILI/influenza outbreaks.

Sporadic influenza activity (based on ILI cases) was reported from HSE-E, -MW, -S and -SE during week 48 2012. No influenza activity was reported from HSE-M, -NE, -NW and -W during week 48 2012 (figure 5).

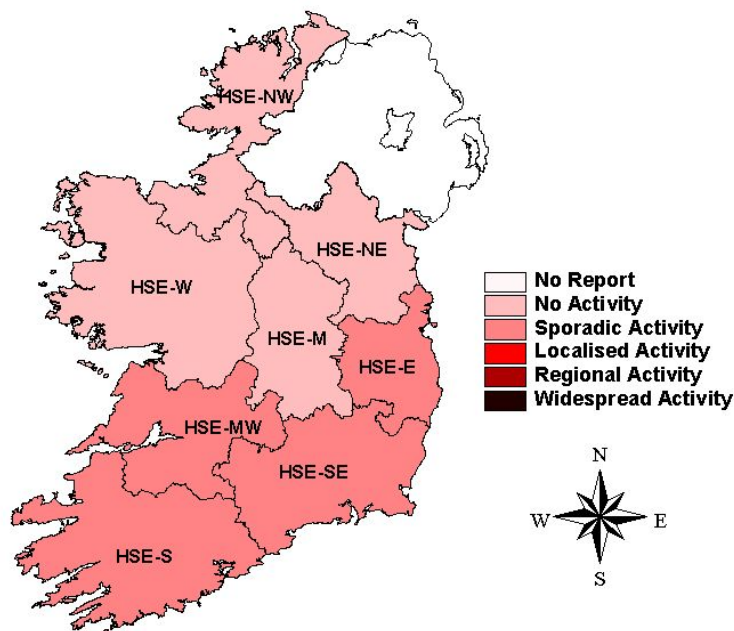


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 48 2012

Sentinel hospitals

The Departments of Public Health have established at least one sentinel hospital in each HSE-Area, to report data on total hospital admissions, total emergency admissions and total respiratory admissions by age group on a weekly basis. Hospital admissions data act as a crude indicator for influenza activity.

Overall, the total number of respiratory admissions reported from sentinel hospitals during week 48 2012 increased to 303, compared to 244 in the previous week. Respiratory admissions data reported from sentinel hospitals were incomplete for week 48 2012 (figure 6).

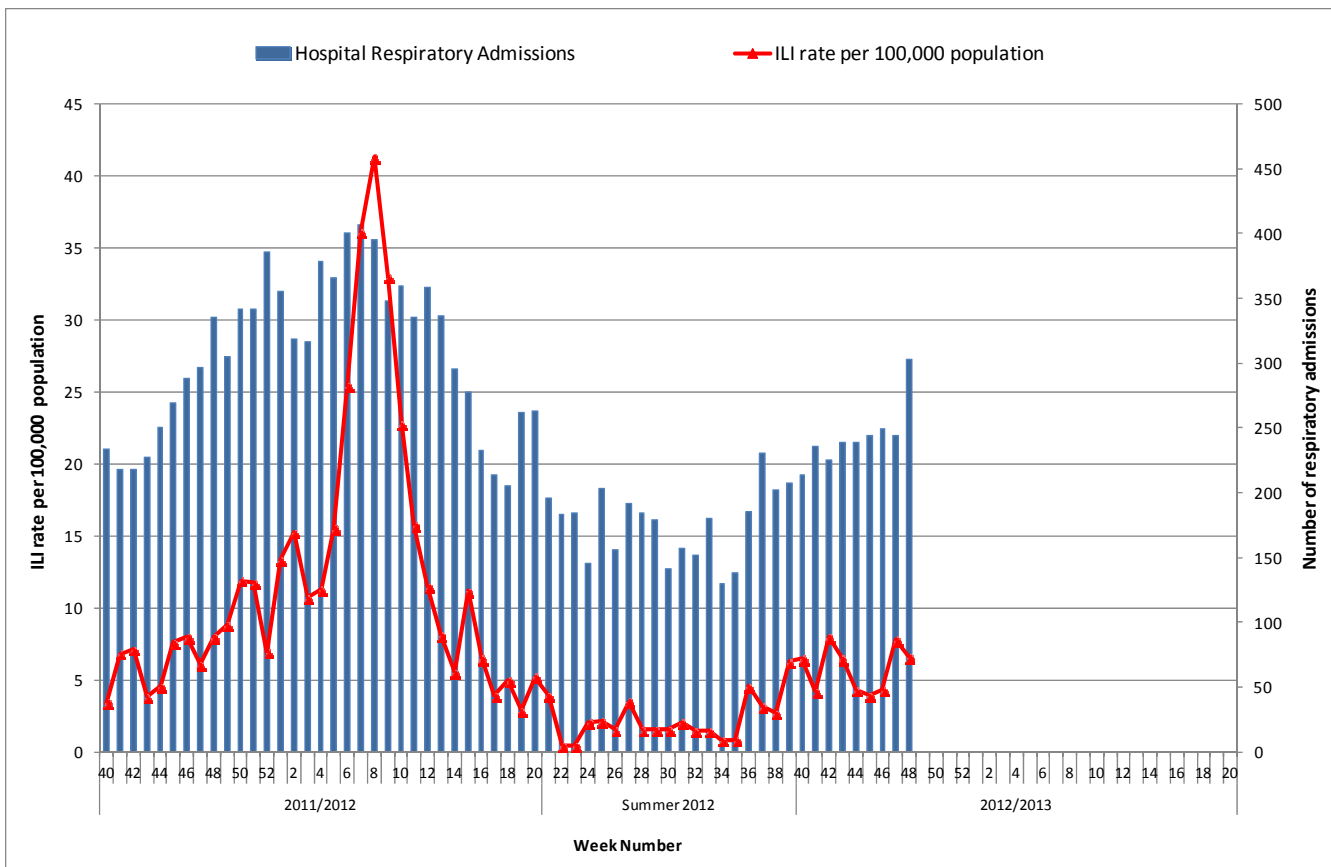


Figure 6: Number of respiratory admissions reported from sentinel hospitals and national sentinel GP ILI consultation rate per 100,000 population by week for the 2011/2012 season, summer 2012 and the 2012/2013 season to date.
 Source: Departments of Public Health - Sentinel Hospitals & ICGP.

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. Clinical details from all calls are recorded. 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 during week 48 2012 remained at low levels (at 1.6%). Six GP Out-of-Hours services reported during week 48 2012 (figure 7).

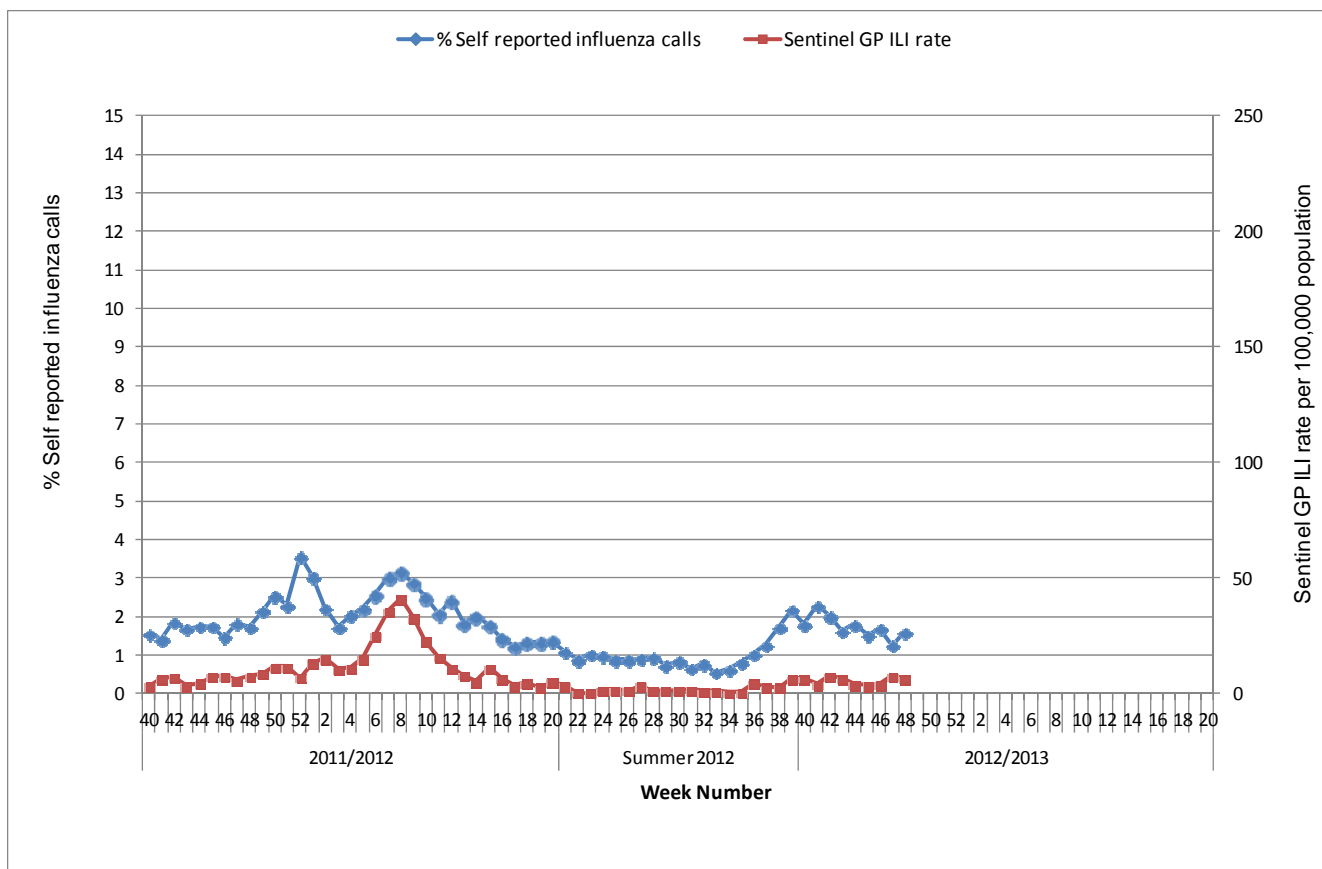


Figure 7: Self reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and national sentinel GP ILI consultation rate per 100,000 population by week for the 2011/2012 and 2012/2013 seasons

Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

5. Influenza notifications and hospitalisation status

Laboratory confirmed influenza cases notified on Ireland's Computerised Infectious Disease Reporting System (CIDR) include all positive influenza specimens reported from all laboratories testing for influenza and reporting to CIDR. Currently, the NVRL is the only laboratory subtyping positive influenza A specimens for *all* influenza A subtypes. Two laboratory confirmed influenza B cases were notified during week 48 2012. There were no reports of any confirmed influenza cases hospitalised during this period.

6. 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. A study on severe acute respiratory infections (SARI) in critical care at two pilot ICU sites which commenced during the 2011/2012 season will continue during the 2012/2013 season. HPSC process and report on this information on behalf of the regional Directors of Public Health/Medical Officers of Health. No confirmed influenza cases or severe acute respiratory infections (SARI) were admitted to critical care and reported to HPSC during week 48 2012 or the 2012/2013 season to date.

7. Mortality surveillance

There were no reports of any influenza-associated deaths occurring during week 48 2012 or the 2012/2013 season to date. 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 (Euro MoMo). During week 48 2012 and the 2012/2013 season to date, no excess all-cause mortality was reported in Ireland after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm. These data are provisional due to the time delay in deaths' registration in Ireland. <http://www.euromomo.eu/>

8. Outbreak surveillance

No influenza/ILI outbreaks were reported to HPSC during week 48 2012. To date this influenza season, only one acute respiratory outbreak has been reported to HPSC.

9. International summary

United Kingdom

GP consultation rates and indicators of influenza activity remained low during week 47 2012. The weekly primary care ILI consultation rate was low in England (7.9 per 100,000), Scotland (9.7 per 100,000), Northern Ireland (10.5 per 100,000) and Wales (6.6 per 100,000). The weekly proportion of NHS Direct calls for colds/influenza and fever (in 5-14 year olds) were below the early warning thresholds for influenza in week 47. Eight new acute respiratory disease outbreaks were reported during week 48 2012. Thirty (3.5%) of the 864 respiratory specimens reported to DataMart (England) tested positive for influenza in week 47 (2 A(H3), 5 A subtype not known and 23 B). The proportion of samples positive increased for RSV, particularly in the under five year olds, increased for rhinovirus, parainfluenza and adenovirus and remained stable for hMPV. Three influenza A and one influenza B positive detections were recorded through the two English GP-based sentinel schemes in week 47. RSV activity continued to increase. Four new admissions to ICU/HDU with confirmed influenza (one A(H1N1)pdm09, two A(subtype not known) and one B) were reported across the UK in week 47. No excess all-cause mortality was reported by age.

Europe

In week 47 2012, all 28 countries reporting, experienced low-intensity ILI or acute respiratory infection activity. Of 519 sentinel specimens tested across 23 countries, only 16 (3.1%) were positive for influenza virus. Of the 106 influenza viruses detected from sentinel and non-sentinel sources during week 47 2012, 49 (46.2%) were type A and 57 (53.8%) were type B. Of the 24 influenza A viruses subtyped, 13 (54.2%) were A(H3) and 11 (45.8%) were A(H1)pdm09. No hospitalised laboratory-confirmed influenza cases were reported during week 47. The number of reported detections of RSV has risen substantially since week 42, as usually happens at this time of year. Although the proportion of positive sentinel specimens has increased slightly since the early weeks of the season, during week 47 2012, there was little evidence of sustained influenza virus transmission in EU/EEA countries. Much of the clinical influenza activity reported was probably due to other respiratory pathogens including RSV.

United States of America

Influenza activity in the United States increased substantially during week 47 2012. The proportion of GP ILI visits was at the national baseline. This is the earliest (excluding 2009 pandemic) that influenza activity has reached the national baseline level since the 2003/2004 season. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. No influenza-related paediatric deaths were reported for week 47 2012. Two influenza-associated paediatric deaths have been reported during the 2012/2013 season. Nationally, the percentage of respiratory specimens testing positive for influenza viruses during week 47 was 15.2%. This is an increase from the previous week and remains relatively elevated for this time of year. Both influenza A (H3N2 and H1N1pdm09) and influenza B viruses have been identified this season. During the week 47, 571 of the 812 influenza positive tests reported were influenza A and 241 were influenza B viruses. Among the 571 influenza A viruses identified, approximately 35% were H3 viruses and less than 1% were H1N1pdm09 viruses; 65% were not subtyped.

Canada

The influenza season has started in Canada with increases in all influenza indicators observed during week 47. More regions reported sporadic or localised activity compared to the previous week. The ILI consultation rate increased compared to the previous week but remained within the expected range for this time of year. A total of 278 laboratory detections of influenza were reported, of which 97.8% were for influenza A viruses, predominantly A(H3N2). Eight influenza outbreaks were reported: one in a hospital, five in long-term care facilities and two in other settings. Seven paediatric influenza-associated hospitalisations and 27 cases in adults ≥20 years of age were reported.

Worldwide

The WHO Global Influenza Programme monitors influenza activity worldwide and publishes an update every two weeks. The most recent update of 23rd November 2012, reported that countries of the Northern Hemisphere temperate region reported increasing influenza virus detections, however none have crossed their seasonal influenza thresholds or announced the beginning of their season. Countries in southern and south east Asia, except Cambodia, reported decreasing influenza virus detections. Cambodia has reported increased detections of influenza A(H3N2) for at least 6 weeks. In Sub-Saharan Africa, Cameroon has continued to experience circulation of influenza A(H3N2) but appears to have peaked and the rate of detections has decreased. Ethiopia and Ghana reported increases in influenza A(H1N1)pdm09 while Madagascar, Kenya and Togo reported low circulation of mainly influenza B. Influenza activity in the temperate countries of the Southern Hemisphere is now at inter-seasonal levels.

Human Avian and Swine Influenza Updates

Human Avian Influenza

No new cases of human avian influenza A (H5N1) infection have been reported by the WHO since August 10th 2012.

Human Swine Influenza

No new cases of human swine influenza/variant influenza A virus infections were reported in recent weeks in the US. For latest surveillance data see here: <http://www.cdc.gov/flu/swineflu/variant.htm>

2012/2013 seasonal influenza vaccine recommendations – WHO

The WHO vaccine strain selection committee recommended that vaccines for use in the 2012/2013 influenza season (northern hemisphere winter) contain the following:

- an A/California/7/2009 (H1N1)pdm09-like virus;
- an A/Victoria/361/2011 (H3N2)-like virus;
- a B/Wisconsin/1/2010-like virus.

Further information on influenza in Ireland and internationally

Ireland	www.hpsc.ie
Northern Ireland	http://www.fluawareni.info/
Europe – ECDC	http://ecdc.europa.eu/

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.