

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 45 2012 (5th – 11th November 2012)



Summary

- **All indicators of influenza activity in Ireland were at low levels during week 45 2012:**
 - The sentinel GP influenza-like illness (ILI) consultation rate was 4.0 per 100,000 population in week 45 2012, remaining unchanged from the updated rate of 4.1 per 100,000 reported during week 44 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 45 2012.
- No influenza positive specimens were reported from the NVRL from sentinel or non-sentinel sources for week 45 2012. To date this season, only one confirmed influenza specimen was reported from the NVRL, an influenza B specimen from sentinel GP sources.
- The proportion of respiratory syncytial virus (RSV) positive specimens increased during weeks 44 and 45 2012, compared to the previous week.
- One adenovirus, two parainfluenza virus type-3 and three human metapneumovirus positive specimens were reported from the NVRL from non-sentinel sources during week 45 2012.
- During week 45 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/influenza-like illness outbreaks were reported to HPSC during week 45 2012.
- Many countries of the Northern Hemisphere temperate region reported increasing detections of influenza viruses, particularly in North America and Western Europe, however none have crossed ILI threshold levels.

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 45 2012, nine influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 4.0 per 100,000 population, remaining unchanged compared to the updated rate of 4.1 per 100,000 reported during week 44 2012. Forty-eight of 60 (80.0%) sentinel general practices provided data during week 45 2012, with 9 practices (18.8%) reporting 9 ILI cases. The ILI consultation rate for week 45 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.

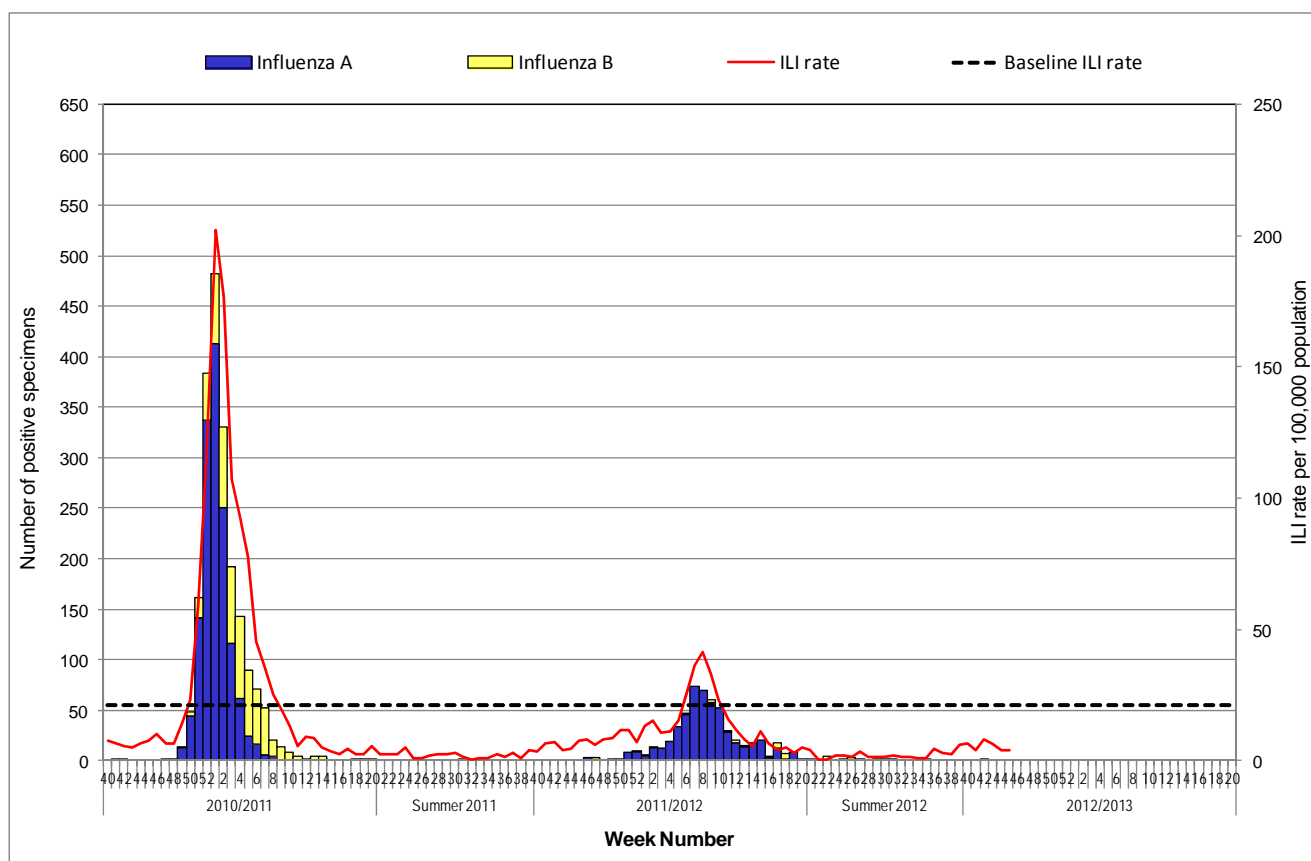


Figure 1. ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.

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

ILI age specific rates were low in all age groups during week 45 2012 and for the 2012/2013 influenza season to date (figure 2 2012). No ILI cases were reported in the 0-4 and 5-14 year age groups and in those aged 65 years or older during week 45 2012. Nine ILI cases were reported in the 15-64 year age group (6.0 per 100,000) during week 45 2012.

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

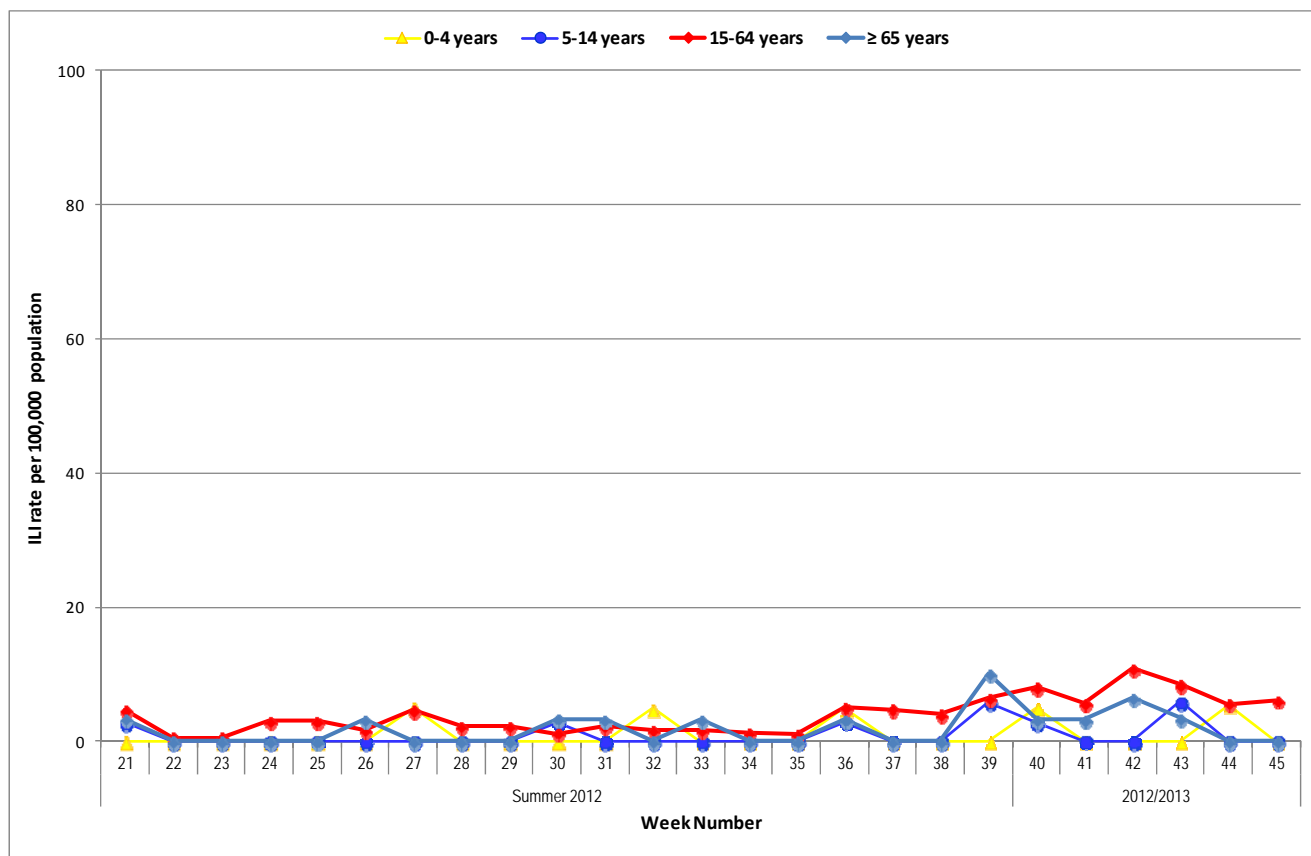


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2012 and the 2012/2013 influenza season to date Source: ICGP ILI clinical data

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 121 specimens (5 sentinel and 116 non-sentinel[‡] specimens) were tested by the NVRL during week 45 2012. No specimens tested positive for influenza virus during week 45 2012. To date this season, only one confirmed influenza specimen was reported from the NVRL, an influenza B specimen from sentinel GP sources during week 42 2012 (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.

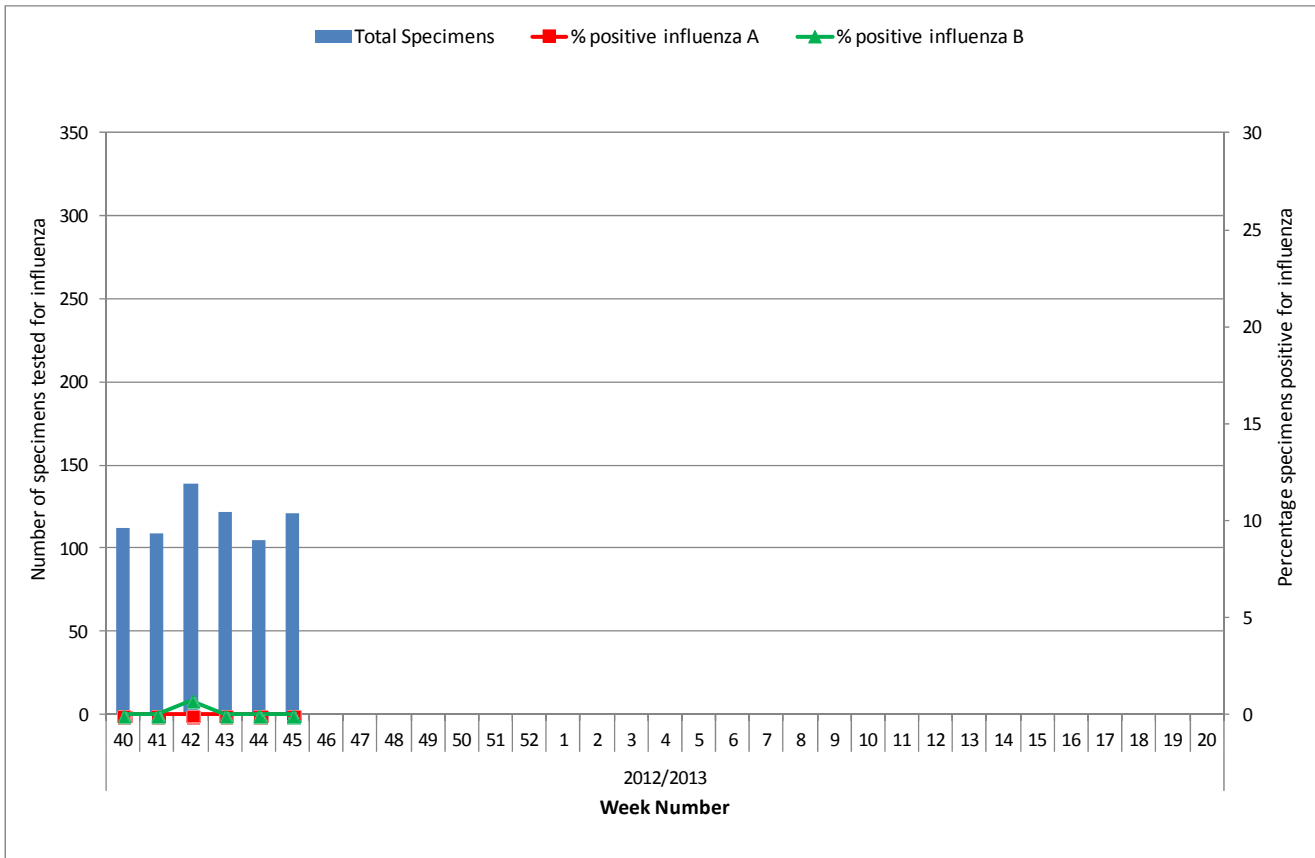


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive by week for the 2012/2013 influenza season. Source: NVRL

Respiratory Syncytial Virus (RSV)

The proportion of respiratory syncytial virus (RSV) positive specimens increased during weeks 44 and 45 2012. Thirteen (11.2%) RSV positive detections from non-sentinel sources were reported from the NVRL[§] during week 45 2012 (figure 4). No RSV positive specimens have been detected from sentinel specimens for the 2012/2013 season to date.

RSV was made notifiable in Ireland on 1st January 2012. During week 45 2012, 16 laboratory notifications of RSV were reported on Ireland’s Computerised Infectious Disease Reporting System (CIDR). 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.

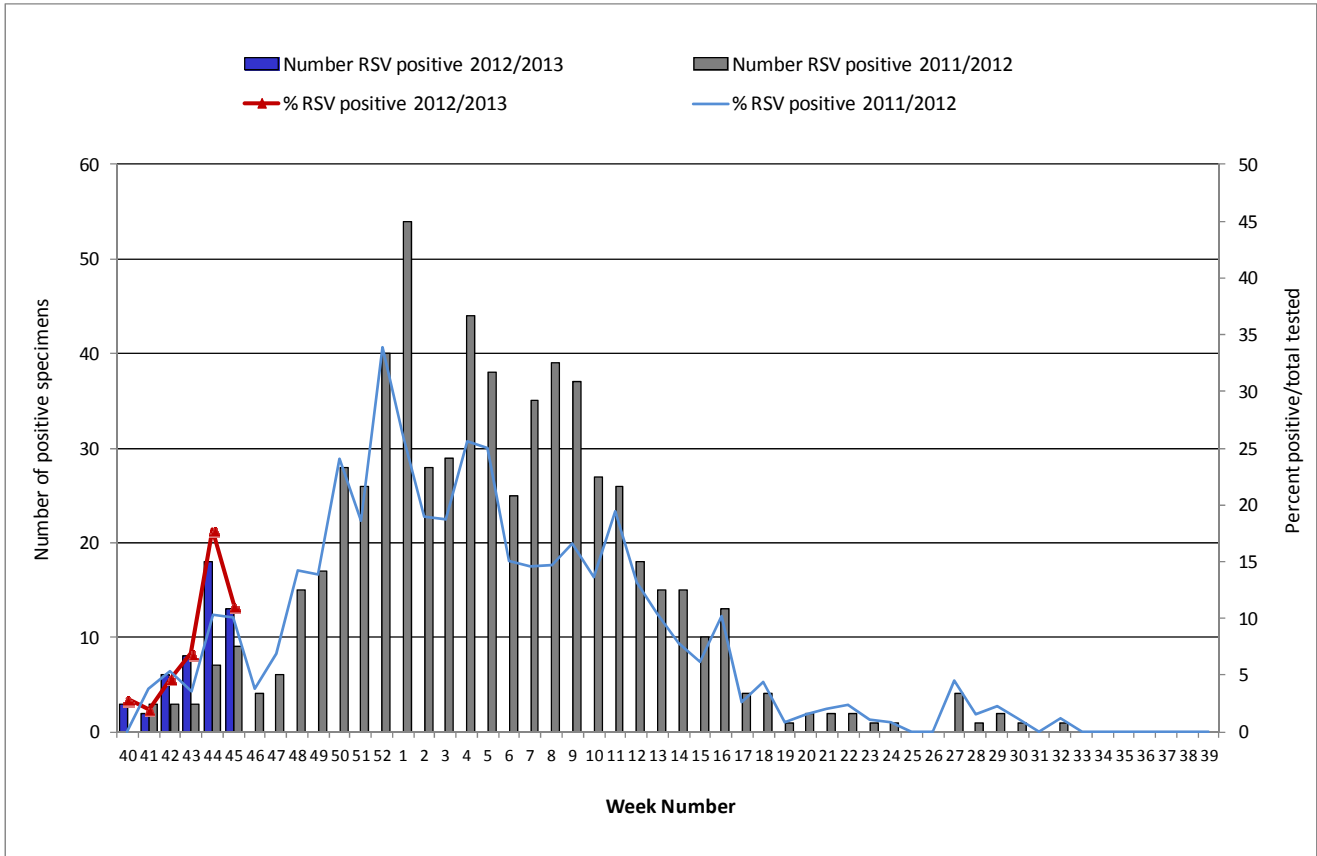


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2012/2013 season, compared to the 2011/2012 season. Source: NVRL

Other Respiratory Viruses

There were no positive detections of adenovirus, RSV, parainfluenza viruses or human metapneumovirus (hMPV) reported from the NVRL from sentinel GP sources for week 45 2012.

One (0.9%) adenovirus, two (1.7%) parainfluenza virus type 3 and three (2.6%) hMPV positive detections were reported from the NVRL from non-sentinel sources during week 45 2012 (table 2). There were no positive detections of parainfluenza viruses type 1 or 2 reported from the NVRL from non-sentinel sources for week 45 2012.

Table 1: Number of sentinel and non-sentinel respiratory specimens tested by the NVRL and positive influenza results, for week 45 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	
45 2012	Sentinel	5	0	0.0	0	0	0	0	0	0
	Non-sentinel	116	0	0.0	0	0	0	0	0	0
	Total	121	0	0.0	0	0	0	0	0	0
2012/2013	Sentinel	43	1	2.3	0	0	0	0	0	1
	Non-sentinel	665	0	0.0	0	0	0	0	0	0
	Total	708	1	0.1	0	0	0	0	0	1

Table 2: Number of sentinel and non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 45 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
45 2012	Sentinel	5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	116	13	11.2	1	0.9	0	0.0	0	0.0	2	1.7	3	2.6
	Total	121	13	10.7	1	0.8	0	0.0	0	0.0	2	1.7	3	2.5
2012/2013	Sentinel	43	0	0.0	1	2.3	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	665	50	7.5	7	1.1	0	0.0	1	0.2	7	1.1	5	0.8
	Total	708	50	7.1	8	1.1	0	0.0	1	0.1	7	1.0	5	0.7

** 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 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 and –MW during week 45 2012. No influenza activity was reported from HSE-M, -NE, -NW, -SE, -S and -W during week 45 2012 (figure 5).

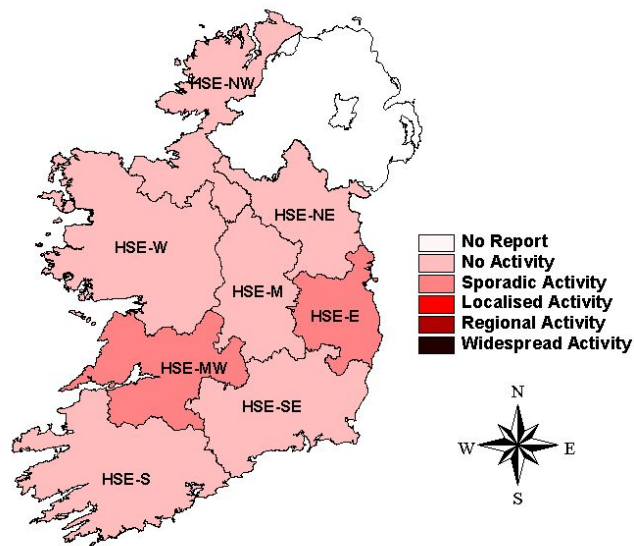


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 45 2012

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 increased slightly, however remained at low levels (n=244) and within expected levels for this time of year. Respiratory admissions data reported from sentinel hospitals were incomplete for week 45 2012 (figure 6).

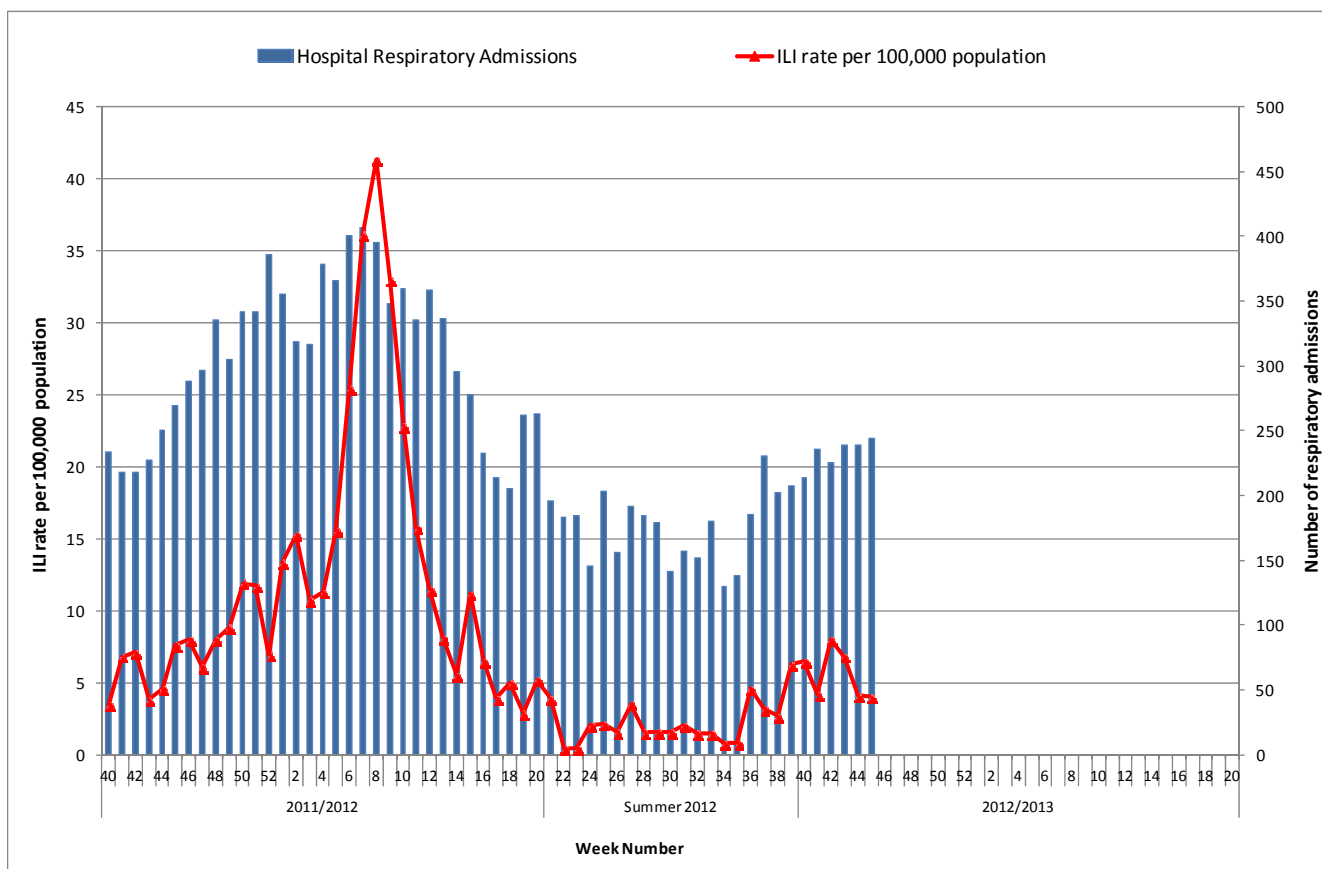


Figure 6: Number of respiratory admissions reported from sentinel hospitals and national sentinel GP ILI consultation rate per 100,000 population by week for the 2011/2012 season, summer 2012 and the 2012/2013 season to date.
 Source: Departments of Public Health - Sentinel Hospitals & ICGP.

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 45 2012 remained at low levels (at 1.5%). Six GP Out-of-Hours services reported during week 45 2012 (figure 7).

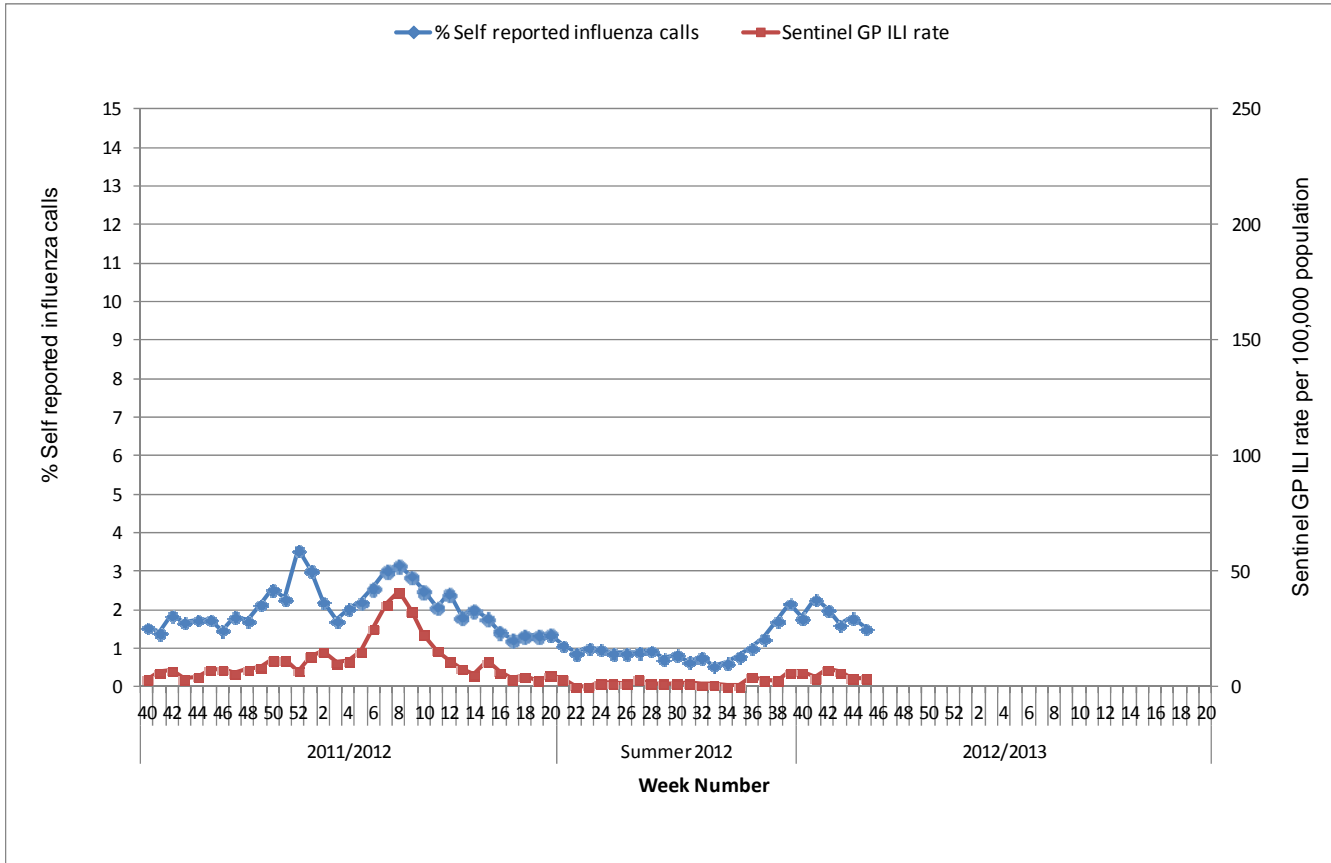


Figure 7: Self reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and national sentinel GP ILI consultation rate per 100,000 population by week for the 2011/2012 and 2012/2013 seasons

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. No laboratory confirmed influenza cases were notified during week 45 2012. No confirmed influenza cases were hospitalised and reported to HPSC during week 45 2012 or for the 2012/2013 influenza season to date.

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 45 2012 or the 2012/2013 season to date.

7. Mortality surveillance

There were no reports of any influenza-associated deaths occurring during week 45 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 45 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 45 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 44 2012 in the UK. The weekly primary care ILI consultation rate was low in England (4.4 per 100,000), Scotland (9.2 per 100,000), Northern Ireland (10.5 per 100,000) and Wales (5.9 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 44. One new acute respiratory disease outbreak was reported during week 44 2012. Seventeen (2.5%) of the 669 respiratory specimens reported to Data Mart (England) tested positive for influenza in week 44: 2 A (H3), 11 A subtype not known and 4 B. The proportion of samples positive increased for RSV, decreased for rhinovirus and remained stable for parainfluenza, adenovirus and hMPV. Four influenza positive detections were recorded through the two English GP-based sentinel schemes in week 44 (three A(H3) and one B). Three new admissions to ICU/HDU with confirmed influenza (one A(H1N1)pdm09 and two A subtype not known) were reported across the UK in week 44. No excess all-cause mortality was reported by age group or region in week 44 across the UK.

Europe

Five weeks into the surveillance season for influenza, there has been no evidence of sustained influenza virus transmission in EU/EEA countries. In week 44 2012, all 26 reporting countries experienced low intensity of clinical influenza activity. Of 279 sentinel specimens tested across 19 countries, only two were positive for influenza virus. One, reported by Sweden, was influenza A(H1N1)pdm09 and the other, reported by Germany, was influenza A(H3). In week 44 2012, 51 non-sentinel source specimens, were positive for influenza virus: 37 were type A and 14 were type B. Of the 11 subtyped influenza A viruses, 10 (90.9%) were A(H1N1)pdm09 and one (9.1%) was A(H3). No hospitalised laboratory-confirmed influenza cases were reported.

United States of America

During week 44 2012, influenza activity increased in some areas in the United States, but overall was similar to activity last week. The proportion of outpatient ILI visits was 1.3%, which is below the national baseline of 2.2%. Of 3,277 specimens tested and reported during week 44, 227 (6.9%) were positive for influenza: 2 A

(H1N1)pdm09, 69 A (H3), 65 A (unsubtyped) and 91 B. The proportion of deaths attributed to pneumonia and influenza was slightly above the epidemic threshold. No influenza-associated paediatric deaths were reported.

Canada

Influenza activity in Canada increased slightly compared to the previous week; however overall activity remained fairly low, with most regions of the country reporting no activity. The ILI consultation rate increased in week 44 to 21.9 per 1,000 patient visits, which is within the expected level for this time of year. In week 44, a total of 64 laboratory detections of influenza were reported; of which 91% were for influenza A viruses [71% A(H3) and 29% A(un-subtyped)]. Six influenza outbreaks in long-term care facilities were reported in week 44. Eleven influenza A-associated hospitalisations were reported in week 44.

Worldwide

The WHO Global Influenza Programme monitors influenza activity worldwide and publishes an update every two weeks. The most recent update of 9th November 2012, reported that many countries of the Northern Hemisphere temperate region reported increasing detections of influenza viruses, particularly in North America and Western Europe, however none have crossed their seasonal threshold for ILI/ARI consultation rates. Several countries in the tropical areas experienced active transmission of influenza virus in recent weeks. In the Americas, Nicaragua and Costa Rica reported mainly influenza B virus detections. In Asia, India, Sri Lanka, Nepal, and Cambodia all reported a mixture of influenza viruses [A (H1N1)pdm09, A (H3) and B]. In Sub-Saharan Africa, Cameroon and Ethiopia have reported an increase in influenza virus detections. Influenza activity in the temperate countries of the Southern Hemisphere is 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/

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