

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 49 2012 (3rd – 9th December 2012)



Summary

- **All indicators of influenza activity in Ireland remained at low levels, however there was an increase in several indicators during week 49 2012:**
 - The sentinel GP influenza-like illness (ILI) consultation rate was 11.7 per 100,000 population in week 49 2012, an increase compared to the updated rate of 6.3 per 100,000 reported during week 48 2012.
 - ◆ ILI rates remain below the Irish baseline threshold (21.0 per 100,000 population)*
 - ◆ There was an increase in ILI rates in all age groups, in particular in the 5-14 year age group
- The proportion of influenza-related calls to GP Out-of-Hours services remained at low levels during week 49 2012.
- Influenza positivity increased during week 49 2012, compared to the previous week. One influenza A (H1N1)pdm09 and six influenza B positive specimens were reported from the NVRL for week 49 2012.
- Respiratory syncytial virus (RSV) positivity levels remained at high levels during week 49 2012, as expected for this time of year.
- Four adenovirus, one parainfluenza virus type 3, 10 human metapneumovirus positive specimens were reported from the NVRL from non-sentinel sources during week 49 2012.
- During week 49 2012, no confirmed influenza cases were reported as hospitalised or admitted to ICU. There were no reports of any influenza-associated deaths occurring during this period.
- One ILI outbreak and one human metapneumovirus outbreak were reported to HPSC during week 49 2012.
- Influenza activity remained low in Europe but has continued to increase slightly.

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 49 2012, 26 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 11.7 per 100,000 population, an increase compared to the updated rate of 6.3 per 100,000 reported during week 48 2012. Forty-nine of 60 (81.7%) sentinel general practices provided data during week 49 2012, with 14 practices (28.6%) reporting 26 ILI cases. The ILI consultation rate for week 49 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.

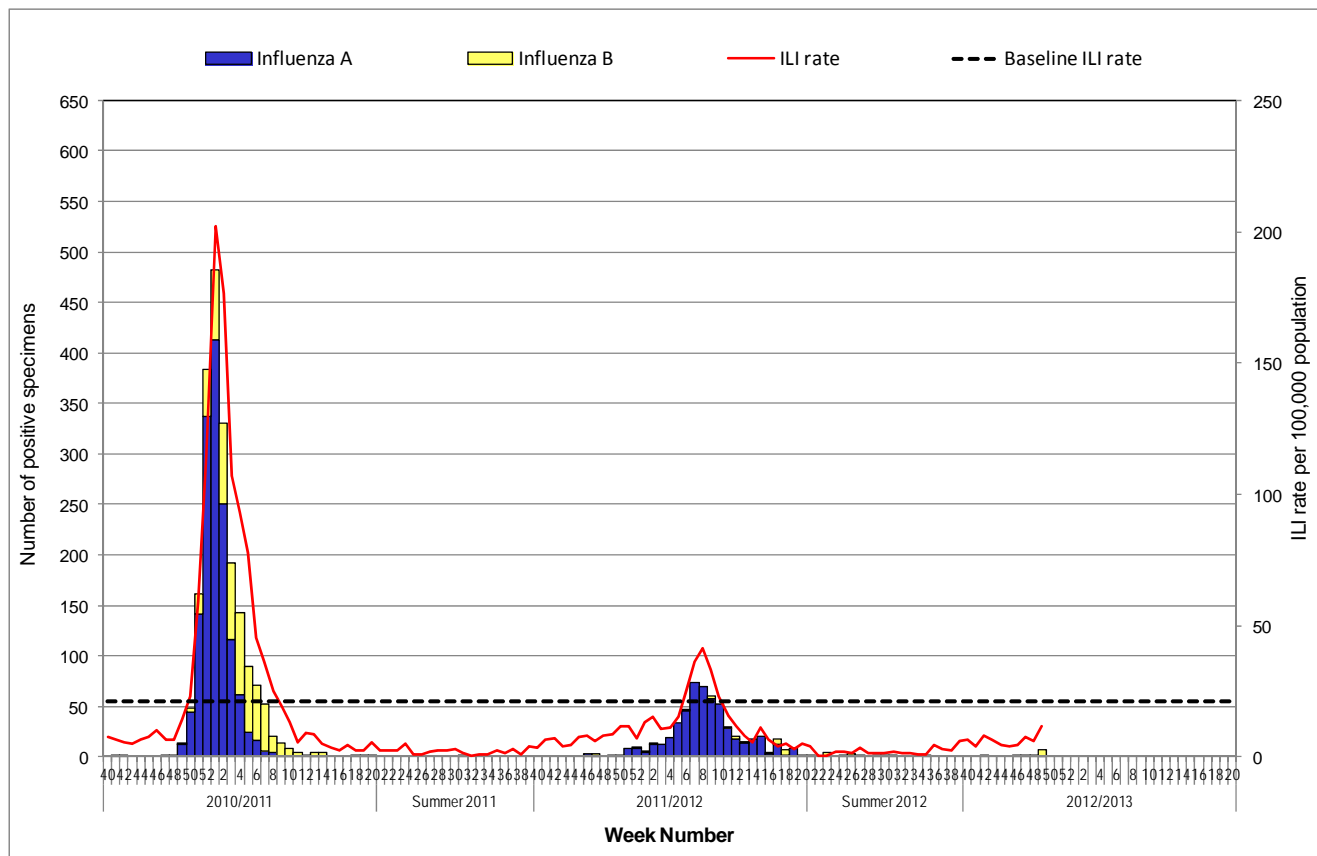


Figure 1. ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.

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

ILI age specific rates increased slightly in all age groups during week 49 2012 and in particular in the 5-14 year age group (figure 2 2012). Two ILI cases were reported in the 0-4 year age group (11.7 per 100,000), nine ILI cases was reported in the 5-14 year age group (30.1 per 100,000), 13 cases in the 15-64 year age group (8.8 per 100,000) and two ILI cases were reported in those aged 65 years or older (7.8 per 100,000) during week 49 2012.

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

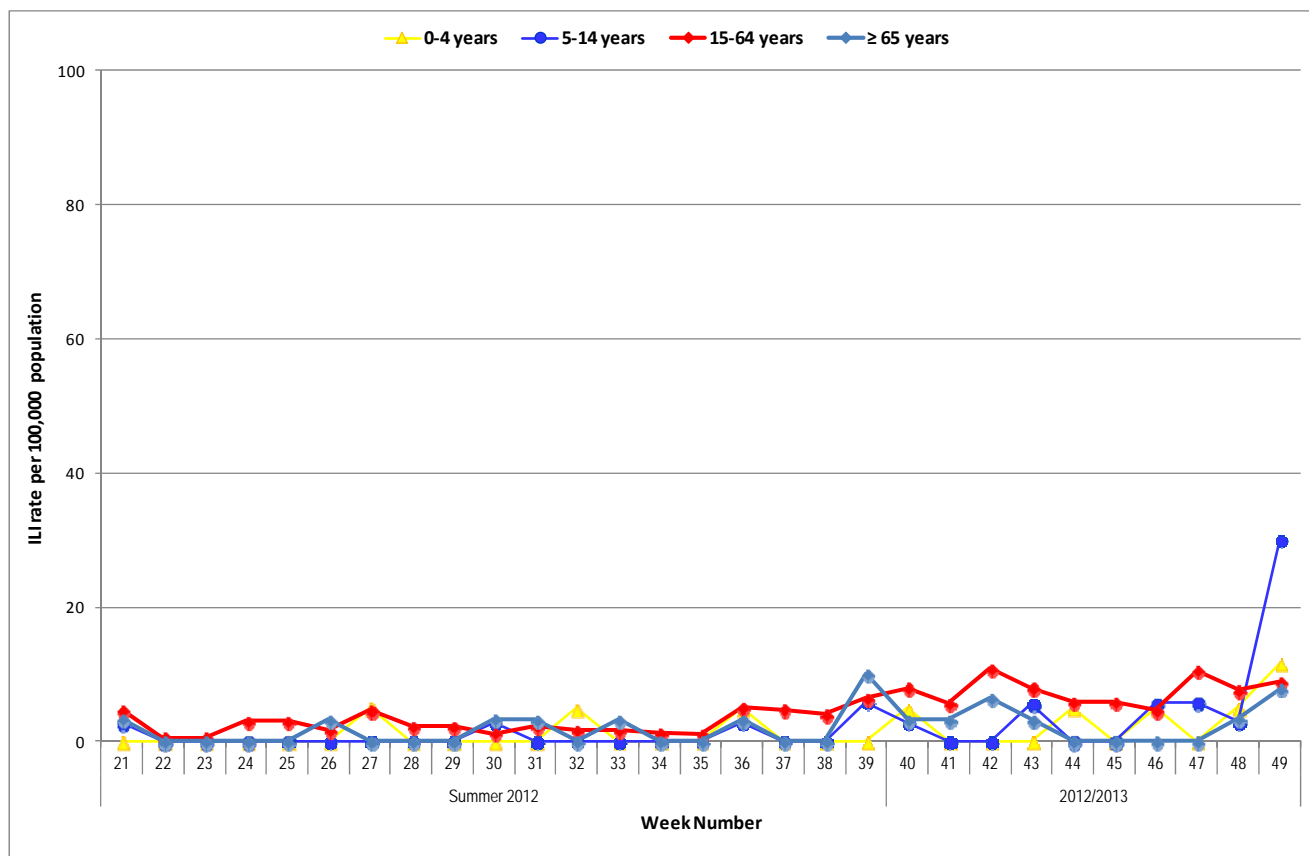


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2012 and the 2012/2013 influenza season to date *Source: ICGP ILI clinical data*

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 179 specimens (12 sentinel and 167 non-sentinel[‡] specimens) were tested by the NVRL during week 49 2012. Seven (7/179; 3.9%) sentinel and non-sentinel specimens tested positive for influenza virus during week 49 2012, one influenza A (H1N1)pdm09 and six influenza B. Five (5/12; 41.7%) sentinel specimens tested positive for influenza virus during week 49 2012, one influenza A (H1)pdm09 and four influenza B positive specimens. Two (2/167; 1.2%) non-sentinel specimens tested positive for influenza virus during week 49 2012, both were influenza B positive specimens.

To date this season, the NVRL has reported one influenza A (H3), one influenza A (H1)pdm09 and 11 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.

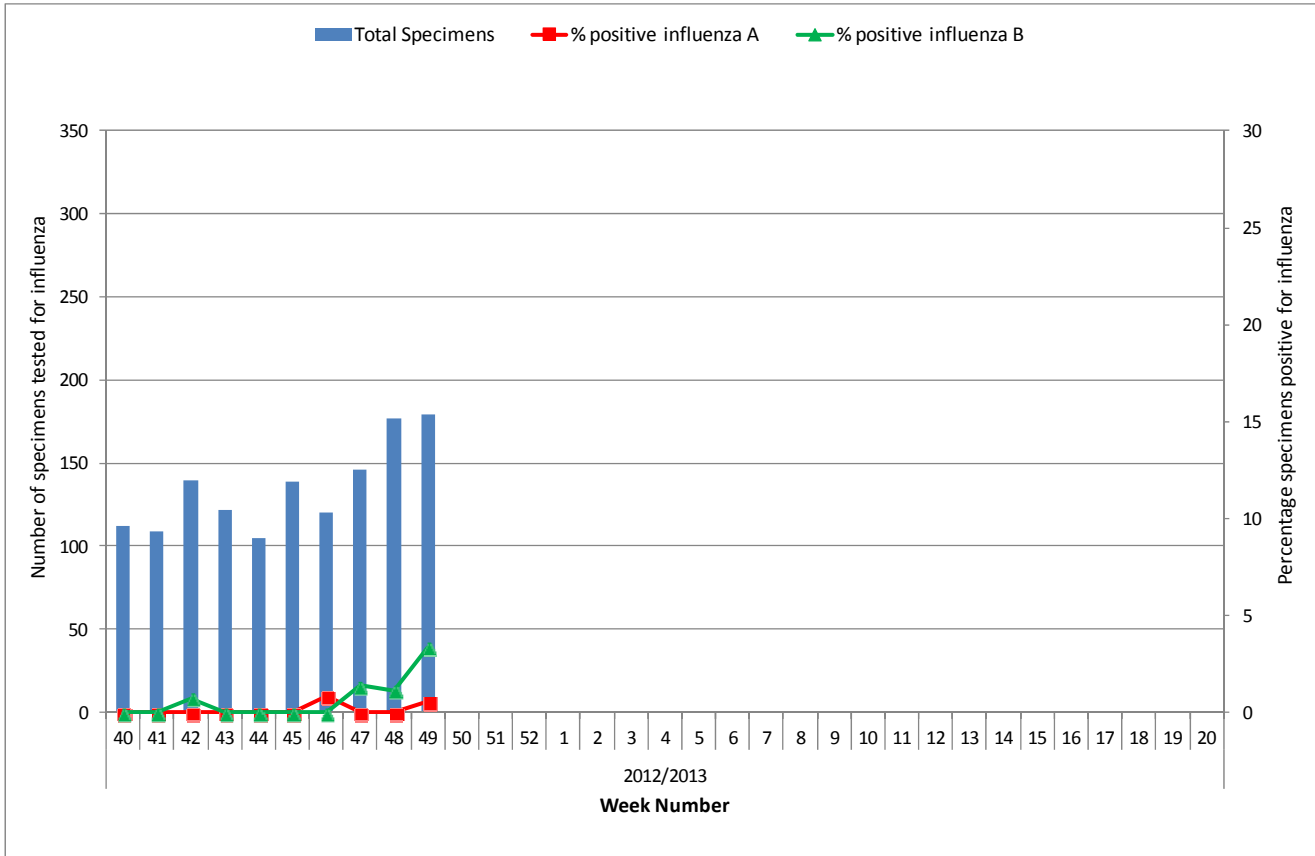


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive by week for the 2012/2013 influenza season. Source: NVRL

Respiratory Syncytial Virus (RSV)

The proportion of non-sentinel specimens positive for RSV for week 49 2012 decreased slightly compared to the previous week, however remained at high levels as expected for this time of year (figure 4). Forty-four (26.3%) RSV positive detections from non-sentinel sources were reported from the NVRL[§] during week 49 2012. No RSV positive specimens were detected from sentinel sources during week 49 2012.

RSV was made notifiable in Ireland on 1st January 2012. During week 49 2012, 86 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.

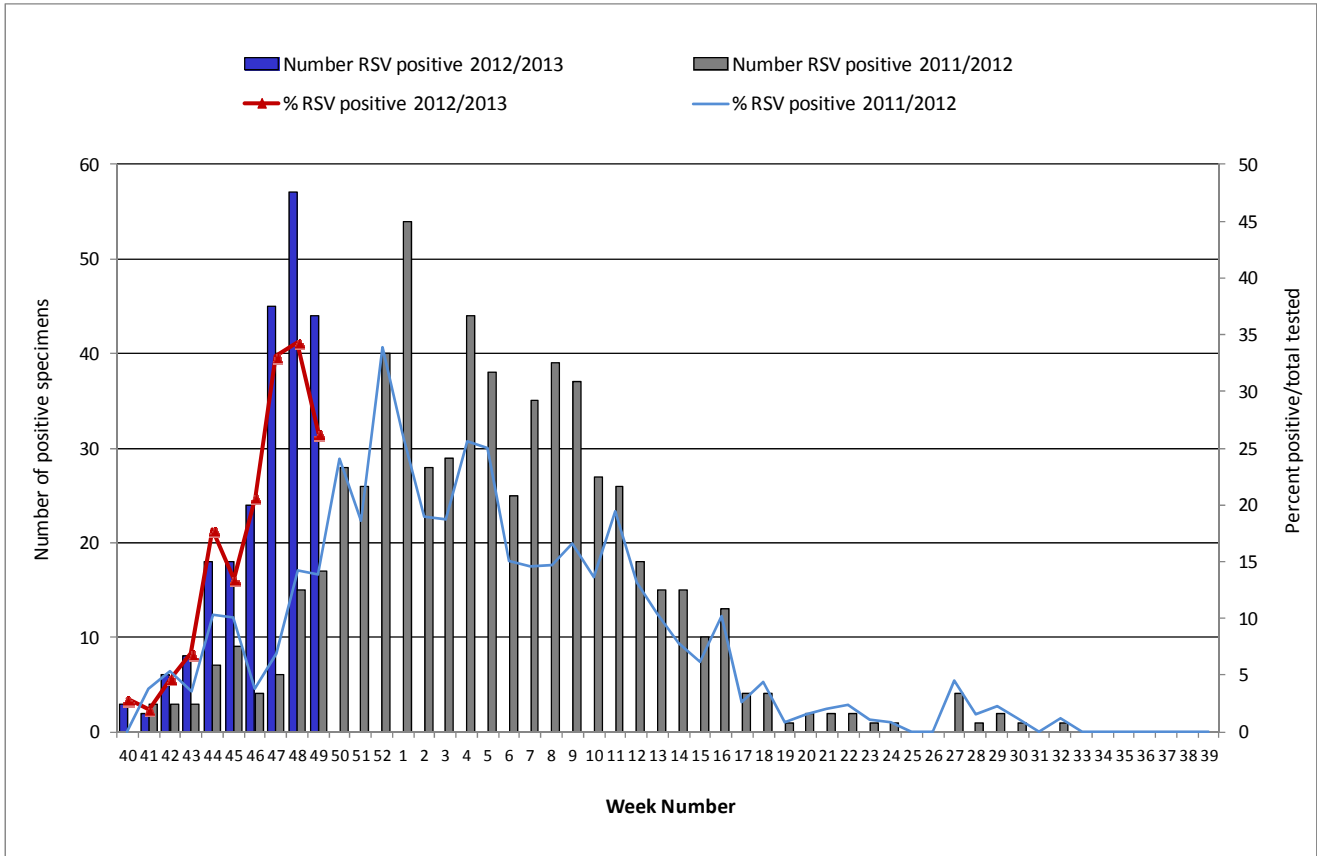


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2012/2013 season, compared to the 2011/2012 season. Source: NVRL

Other Respiratory Viruses

Four (2.4%) adenovirus, one (0.6%) parainfluenza virus type 3 and 10 (6.0%) human metapneumovirus (hMPV) positive specimens were reported from the NVRL from non-sentinel sources during week 49 2012. The proportion of hMPV positive specimens increased during week 49 2012, compared to the previous week.

There were no positive detections of adenovirus, parainfluenza viruses or human metapneumovirus (hMPV) reported by the NVRL from sentinel GP sources for week 49 2012 (table 2).

Table 1: Number of sentinel and non-sentinel respiratory specimens tested by the NVRL and positive influenza results, for week 49 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)pdm09	A (H3)	A (H1)	A (unsubtyped)	Total influenza A	
49 2012	Sentinel	12	5	41.7	1	0	0	0	1	4
	Non-sentinel	167	2	1.2	0	0	0	0	0	2
	Total	179	7	3.9	1	0	0	0	0	6
2012/2013	Sentinel	82	10	12.2	1	0	0	0	1	9
	Non-sentinel	1267	3	0.2	0	1	0	0	1	2
	Total	1349	13	1.0	1	1	0	0	2	11

Table 2: Number of sentinel and non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 49 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
49 2012	Sentinel	12	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	167	44	26.3	4	2.4	0	0.0	0	0.0	1	0.6	10	6.0
	Total	179	44	24.6	4	2.2	0	0.0	0	0.0	1	0.6	10	5.6
2012/2013	Sentinel	82	1	1.2	3	3.7	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	1267	225	17.8	17	1.3	0	0.0	2	0.2	12	0.9	21	1.7
	Total	1349	226	16.8	20	1.5	0	0.0	2	0.1	12	0.9	21	1.6

** 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, -NE, -MW, -S and -W during week 49 2012. No influenza activity was reported from HSE-M, -NW and SE during week 49 2012 (figure 5).

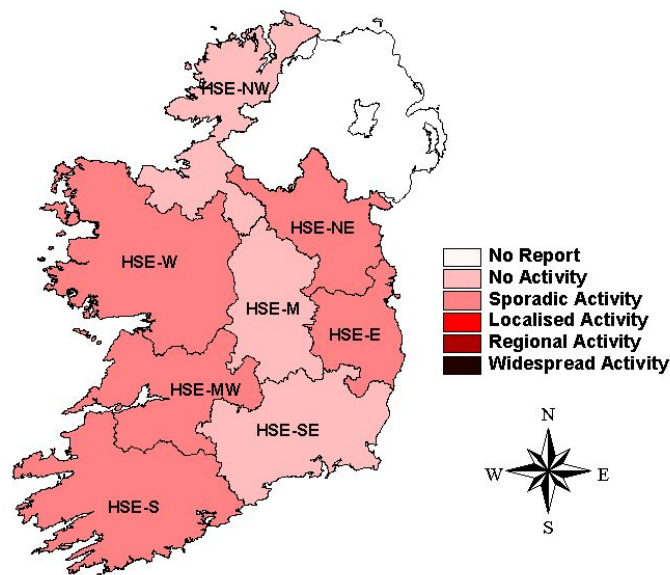


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 49 2012

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 49 2012 was 61. Respiratory admissions data reported from sentinel hospitals were incomplete for week 49 2012 (figure 6).

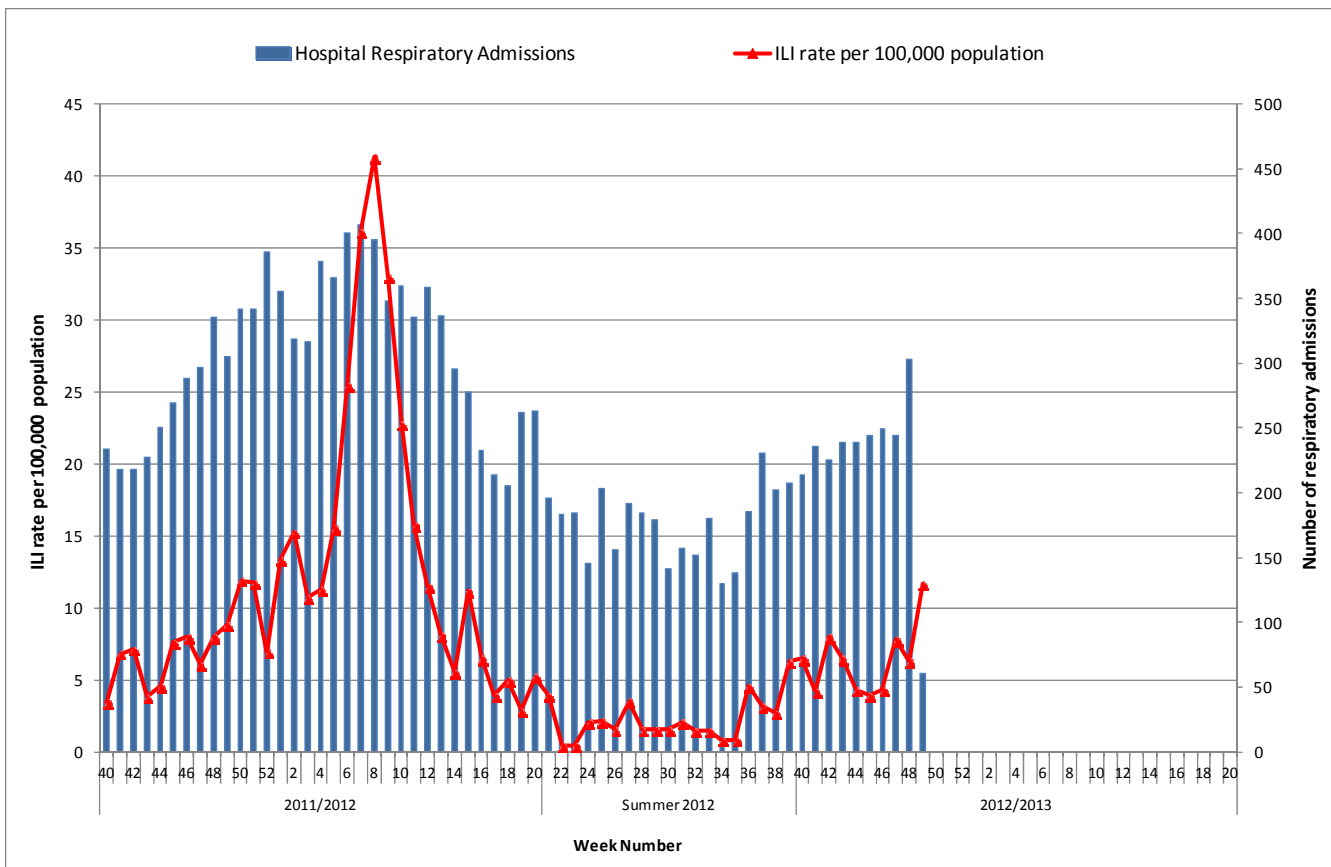


Figure 6: Number of respiratory admissions reported from sentinel hospitals and national sentinel GP ILI consultation rate per 100,000 population by week for the 2011/2012 season, summer 2012 and the 2012/2013 season to date.
 Source: Departments of Public Health - Sentinel Hospitals & ICGP.

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 49 2012 remained at low levels (1.9%). Six GP Out-of-Hours services reported during week 49 2012 (figure 7).

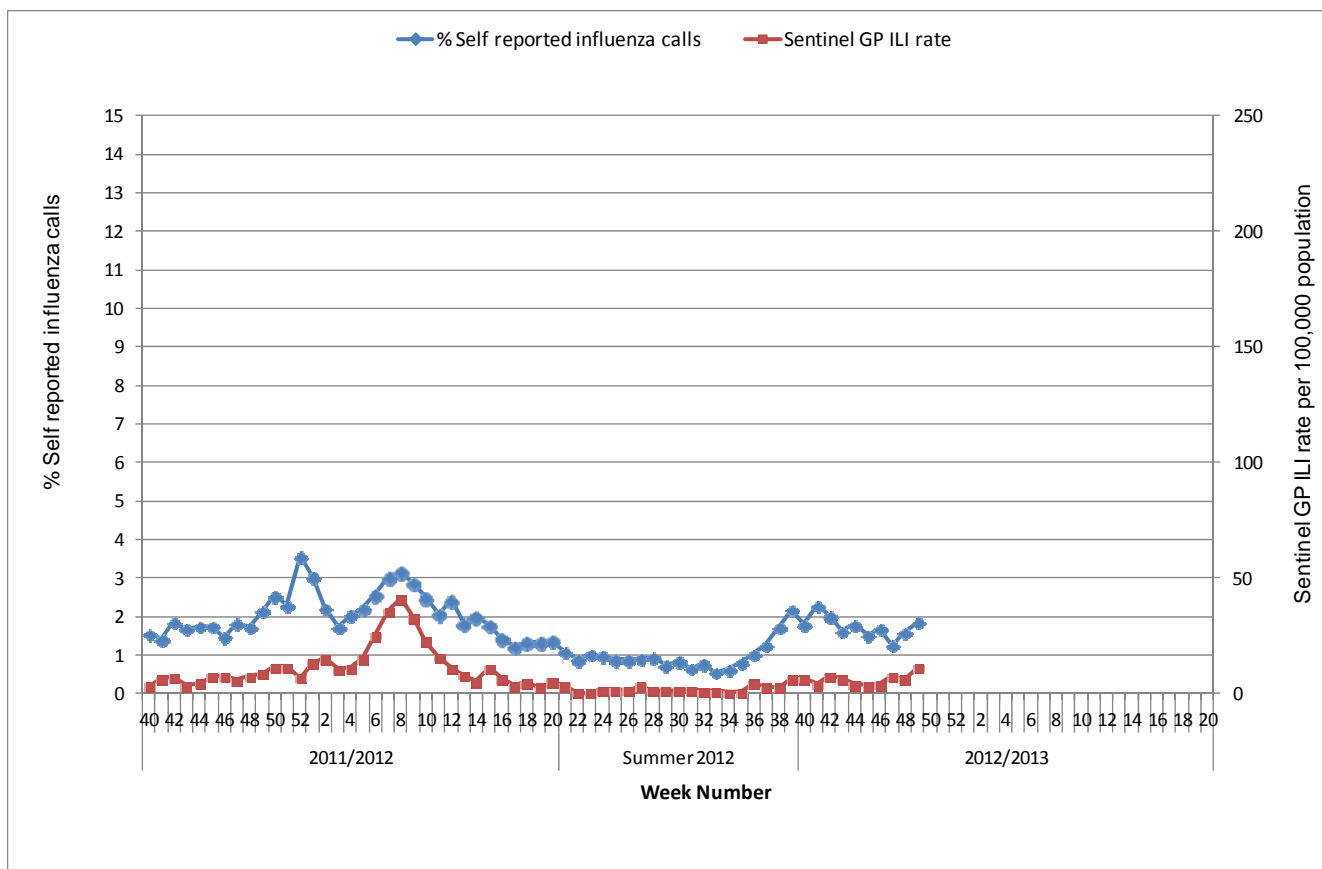


Figure 7: Self reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and national sentinel GP ILI consultation rate per 100,000 population by week for the 2011/2012 and 2012/2013 seasons

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. Seven laboratory confirmed influenza B cases were notified during week 49 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 49 2012 or the 2012/2013 season to date.

7. Mortality surveillance

There were no reports of any influenza-associated deaths occurring during week 49 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 49 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

One ILI outbreak in a community hospital/long stay unit in HSE-S and one human metapneumovirus outbreak in a residential institute in HSE-NW were reported to HPSC during week 49 2012. To date this influenza season, only three acute respiratory outbreaks have been reported to HPSC.

9. International summary

United Kingdom

GP consultation rates and indicators of influenza activity remained low during week 48 2012. In week 48, the weekly primary care ILI consultation rate was low in England (9.5 per 100,000), Scotland (8.1 per 100,000), Northern Ireland (12.1 per 100,000) and Wales (4.7 per 100,000). The weekly proportion of NHS Direct calls for colds/influenza and fever (in 5-14 year olds) was below the early warning thresholds for influenza in week 48. Eight new acute respiratory disease outbreaks from schools have been reported during week 48 2012. Thirty (3.2%) of the 934 respiratory specimens reported to DataMart (England) tested positive for influenza in week 48 (6 A(H3), 5 A(H1N1)pdm09, 1 A subtype not known and 18 B). The proportion of samples positive continued to increase for RSV, particularly in the under five year olds; decreased for rhinovirus and adenovirus, and remained low for parainfluenza and hMPV. One influenza A and four influenza B positive detections were recorded through the two English GP-based sentinel schemes in week 48. Three new admissions to ICU/HDU with confirmed influenza (two A(subtype not known) and one B) were reported across the UK in week 48. No excess all-cause mortality was reported by age group or region in week 47 across the UK as calculated with the EuroMOMO algorithm.

Europe

In week 48 2012, all 28 countries reporting experienced low-intensity activity of ILI or acute respiratory infection. Of 520 sentinel specimens tested across 21 countries, 46 (8.8%) were positive for influenza virus, an increase compared to 3.1% during week 47 2012. Of the influenza virus detections in sentinel specimens since week 40 2012, 46% were type A and 54% were type B viruses. Of the A viruses subtyped, two thirds were A(H3) and one third were A(H1)pdm2009. The number of RSV detections continued to increase in week 48. No hospitalised laboratory-confirmed influenza cases were reported in week 48. The proportion of sentinel specimens positive for influenza virus has increased since the early weeks of the season, but there is still little epidemiological evidence of sustained influenza virus transmission in EU/EEA countries.

United States of America

During week 48 2012, influenza activity increased in the U.S. The proportion of outpatient ILI visits was 1.9%. Of 5,511 specimens tested and reported during week 48, 1,139 (20.7%) were positive for influenza: 406 A (H3), 4 A (H1N1)pdm09, 444 A (unsubtyped) and 285 B. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. Three influenza-associated paediatric deaths were reported. One of these deaths was associated with influenza B and two were associated with influenza A viruses for which the subtype was not determined.

Canada

Influenza activity in Canada continued to increase in week 48 2012. The ILI consultation rate increased compared to the previous week and was above the expected range for this time of year. More regions reported

sporadic activity compared to the previous week. A total of 414 laboratory detections of influenza were reported, of which 97.3% were for influenza A viruses, predominantly A(H3N2). Eleven influenza outbreaks were reported, all in long term care facilities. Eight paediatric influenza-associated hospitalizations and six hospitalisations 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 7th December 2012, reported that many countries of the northern hemisphere temperate region, especially in North America, reported increasing influenza virus detections. Canada and the United States of America (USA) crossed their seasonal threshold but activity was highest in the southern part of the USA. Influenza activity remained low in Europe but has continued to increase slightly. Low levels of influenza activity were reported in countries in southern and Southeast Asia, except Cambodia. In Sub-Saharan Africa, influenza activity remains at low levels. Influenza activity in the temperate countries of the southern hemisphere continued at inter-seasonal levels.

Human Avian and Swine Influenza and Novel Coronavirus 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>

Novel Coronavirus

Information from WHO on novel coronaviruses can be found here: <http://www.euro.who.int/en/what-we-do/health-topics/communicable-diseases/influenza/coronavirus-infections>

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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