

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 43 2010 (25th – 31st October 2010)



Summary

- During week 43 2010, all indicators of influenza activity in Ireland are at low levels:
 - ◆ The sentinel GP ILI consultation rate was 5.7 per 100,000 population in week 43 2010, remaining unchanged from the updated rate of 5.9 per 100,000 reported during week 42 2010.
 - ILI rates remain well below the Irish baseline threshold (17.8 per 100,000 population)
 - ILI rates remain at low levels in all age groups
 - ◆ The first and only positive influenza case of the 2010/2011 influenza season to date was reported by the National Virus Reference Laboratory (NVRL) during week 41 2010, an influenza A H1N1 (2009) case.
 - ◆ Respiratory syncytial virus (RSV) positive detections are at low levels, compared to the same period in previous seasons.
 - ◆ The proportion of influenza-related calls to GP Out-of-Hours services remains at low 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. Outbreak reporting on CIDR
7. Network of sentinel schools reporting absenteeism and sentinel hospitals reporting admission data

1. GP sentinel surveillance system

Clinical Data

During week 43 2010, 55 of 60 (91.7%) sentinel general practices provided data, with 12 practices (20.0%) reporting 14 influenza-like illness (ILI) cases. This corresponds to an ILI consultation rate of 5.7 per 100,000 population, remaining unchanged from the updated rate of 5.9 per 100,000 reported during week 42 2010. Forty-eight (80.0%) practices reported no ILI cases during week 43 2010. Figure 1 shows the ILI consultation rates, the baseline threshold rate (17.8 per 100,000 population) and the number of positive specimens detected by the NVRL.

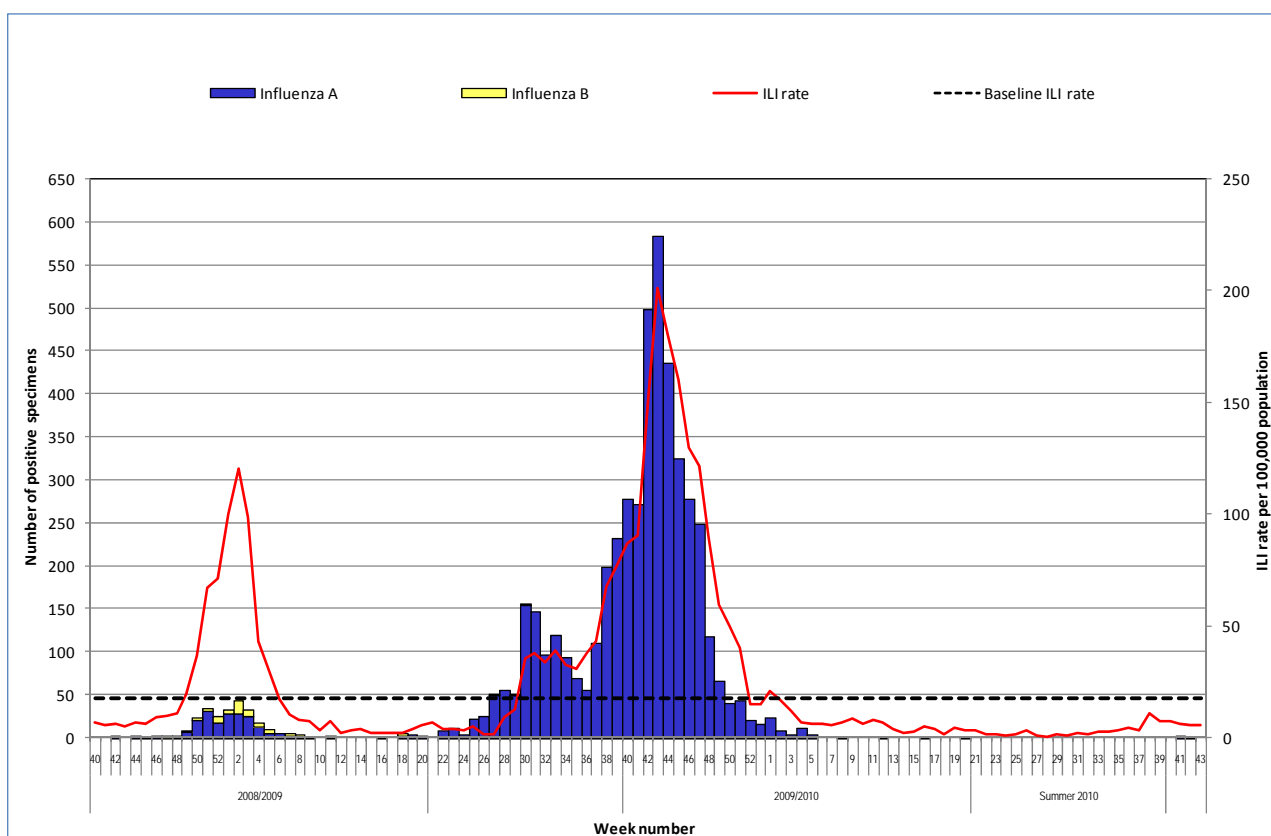


Figure 1. ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza A and B specimens, by influenza week and season.

Source: Clinical ILI data from ICGP and virological data from the NVRL^{*†}

* Please note that in addition to the NVRL, Cork University Hospital (CUH) and Galway University Hospital(s) (GUH) also tested for influenza A H1N1 (2009) during the pandemic period.

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

ILI rates remained at low levels in all age groups during week 43 2010, with the highest rates reported from those aged 65 years or older. Sentinel GPs reported one ILI case in the 0-4 year age group (5.7 per 100,000 population), one case in the 5-14 year age group (3.1 per 100,000 population), 10 in the 15-64 year age group (5.9 per 100,000 population) and two ILI cases in the ≥ 65 years age group (7.3 per 100,000 population) (figure 2).

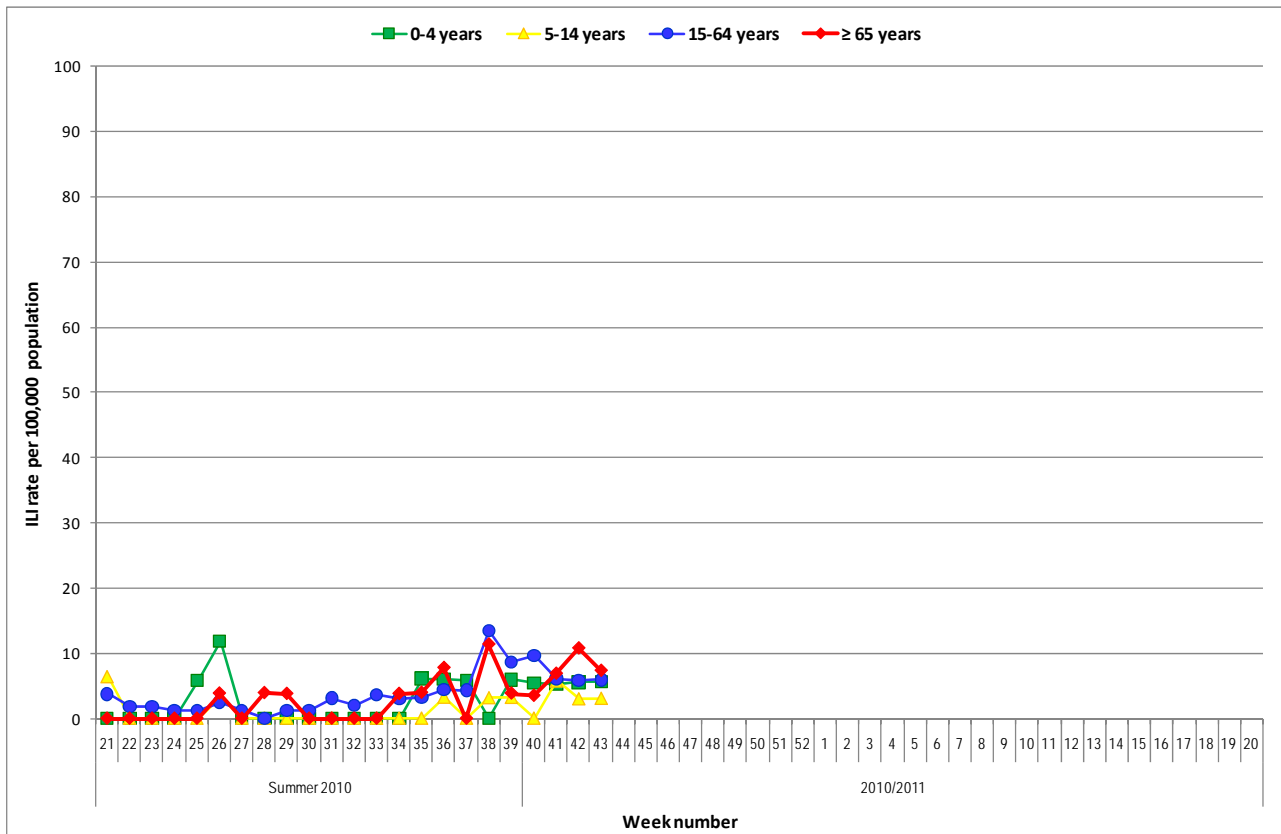


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the Summer of 2010 and the 2010/2011 influenza season to date

Source: ICGP ILI clinical data

2. Virological Data from the National Virus Reference Laboratory (NVRL)

A total of 73 specimens (2 sentinel and 71 non-sentinel) were tested by the NVRL during week 43 2010, all of which were negative for influenza virus. All sentinel specimens tested to date this season were negative for influenza. To date this season, three non-sentinel specimens have tested positive for influenza: two A (unsubtyped) and one A H1N1 (2009). All three specimens were from the same patient, a hospitalised case in the 0-4 year age group.

Of the 71 non-sentinel specimens tested during week 43 2010, two (2.8%) were positive for RSV, one (1.4%) for Adenovirus and one (1.4%) for parainfluenza virus (PIV) type 2 (Tables 1 & 2 and figure 3). RSV positive detections remain at low levels for the time of year, compared to data for the same period from previous seasons (data available from 2000). Figure 4 shows the number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2010/2011 and 2009/2010 seasons.[‡]

[‡] 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.

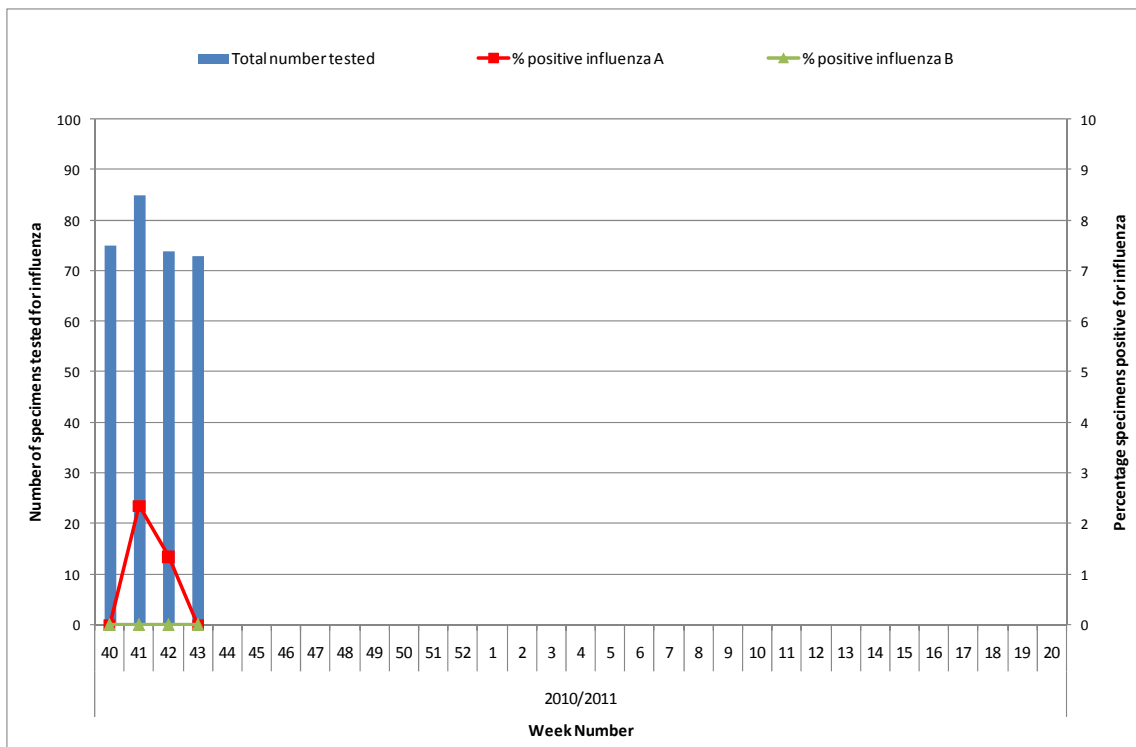


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive
 Source: NVRL[§]

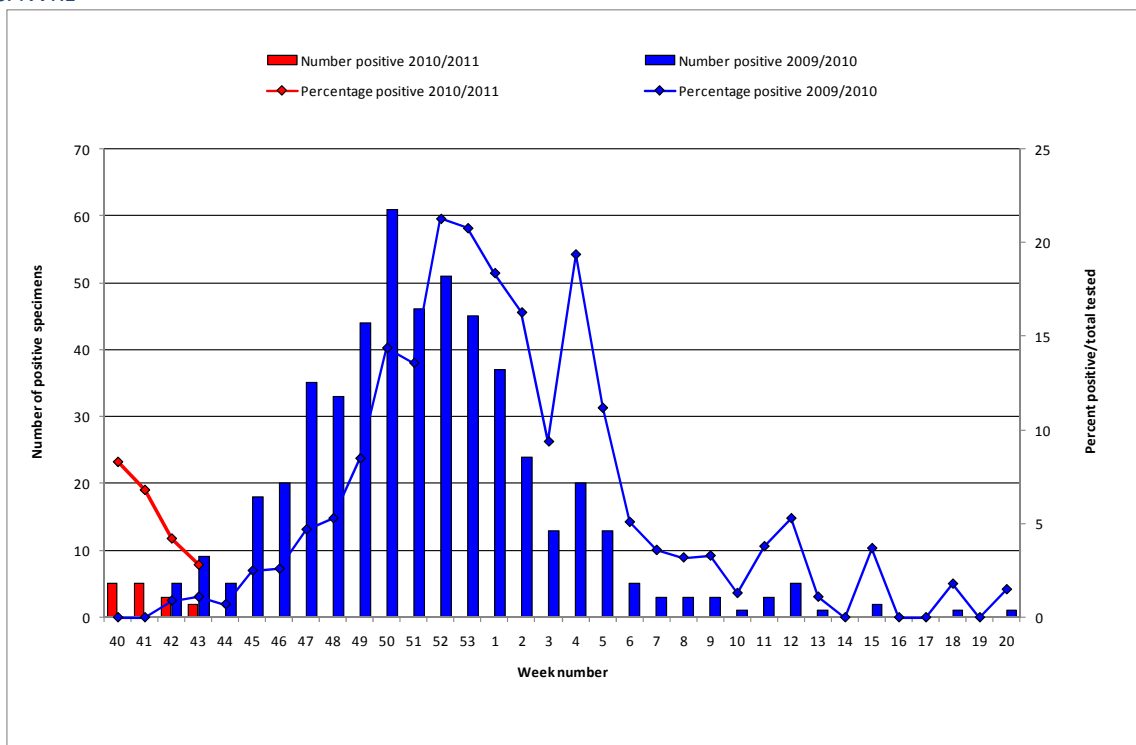


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2010/2011 season, compared to the 2009/2010 season. Source: NVRL

[§] 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.

Table 1: Number of sentinel and non-sentinel respiratory specimens tested and positive influenza results, for week 43 and the season to date**

Source: NVRL

Week number	Specimen type	Total specimens tested	Number influenza positive	% Influenza positive	Influenza A					Influenza B
					Total influenza A	A H1N1 (2009)	A (H3)	A (H1)	A (unsubtyped)	
43 2010	Sentinel	2	0	0.0	0	0	0	0	0	0
	Non-sentinel	71	0	0.0	0	0	0	0	0	0
	Total	73	0	0.0	0	0	0	0	0	0
2010/2011 season	Sentinel	30	0	0.0	0	0	0	0	0	0
	Non-sentinel	277	3	1.1	3	1	0	0	2	0
	Total	307	3	1.0	3	1	0	0	2	0

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 43 and the season to date Source: NVRL

Week number	Total specimens tested	RSV	% RSV Positive	Adenovirus	% Adenovirus positive	Parainfluenza virus type 1	% Parainfluenza virus type 1	Parainfluenza virus type 2	% Parainfluenza virus type 2	Parainfluenza virus type 3	% Parainfluenza virus type 3
43 2010	71	2	2.8	1	1.4	0	0.0	1	1.4	0	0.0
2010/2011 season	277	15	5.4	1	0.4	2	0.7	1	0.4	0	0.0

** 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

Regional 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.

During week 43 2010, sporadic influenza activity (based on sporadic ILI cases and/or positive influenza detections) was reported from four HSE-Areas (HSE-E, -MW, -NW and -SE). All other areas reported no influenza activity during week 43 2010 (figure 5).

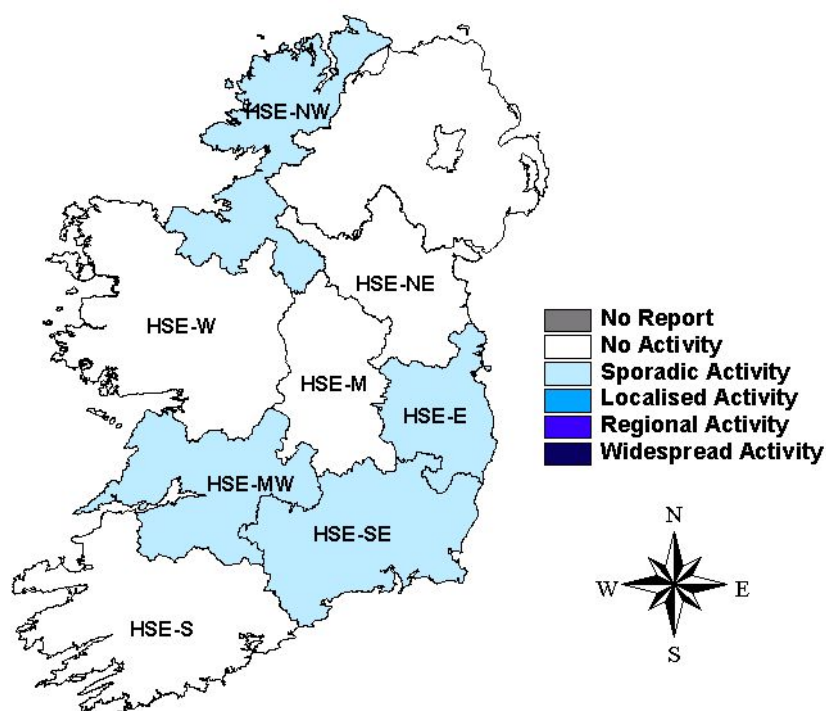


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 43 2010

Sentinel hospitals and schools

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. Sentinel primary and secondary schools were also established in each HSE-Area, in close proximity to the sentinel GPs, to report absenteeism data on a weekly basis. Hospital admissions and school absenteeism data act as a crude indicator for influenza activity.

The proportion of respiratory admissions increased slightly above average levels for this time of year for two sentinel hospitals, one in HSE-E (week 43 2010) and one in HSE-NW (week 42 2010). Data were not available from sentinel schools during week 43 2010, due to the school midterm holidays.

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.

During week 43 2010, the proportion of influenza-related calls to GP Out-of-Hours services remained at low levels, at 1.9%, a slight increase from the updated data for week 42 2010 at 1.8% (figure 6). Eight GP Out-of-Hours services reported during week 43 2010.

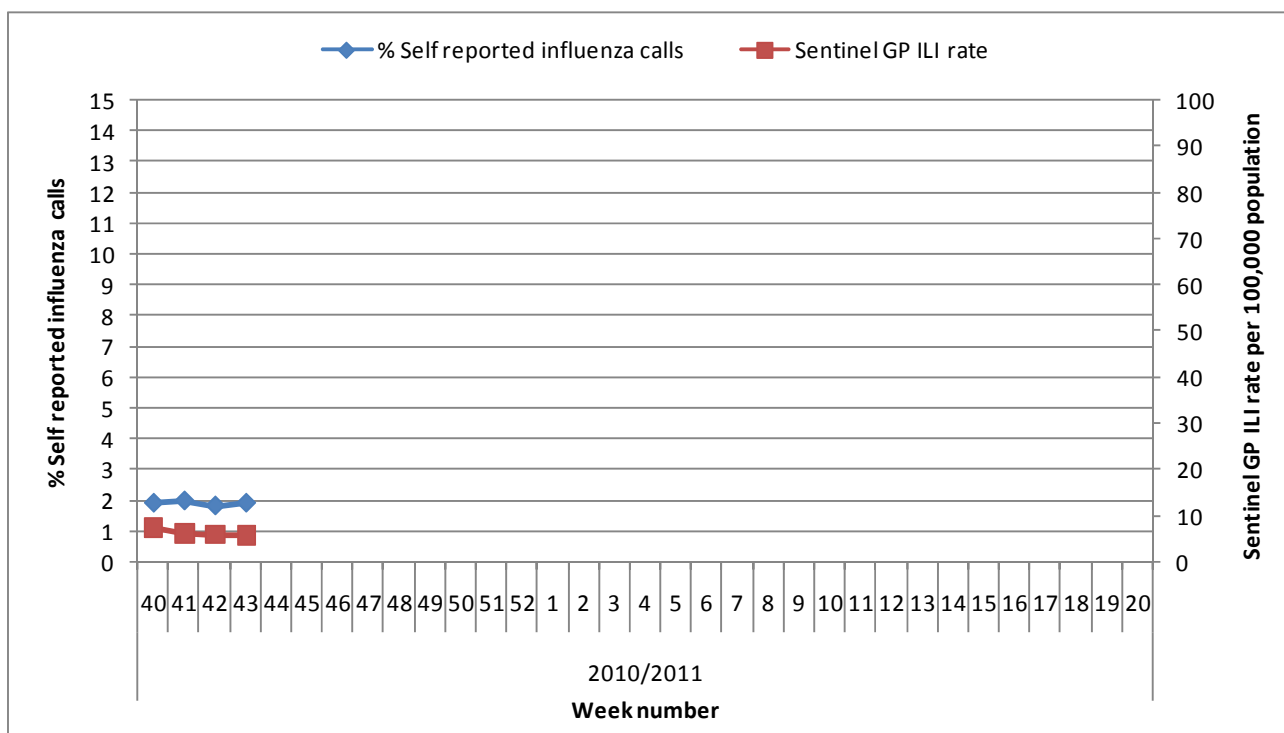


Figure 6: Self reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and national sentinel GP ILI consultation rate per 100,000 population by week for the 2010/2011 season
 Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

5. Influenza notifications and outbreak surveillance (CIDR)

As of 4th November 2010, no general outbreaks of ILI/influenza/pandemic (H1N1) 2009 have been reported to CIDR during the 2010/2011 influenza season. One influenza A H1N1 (2009) case was notified to CIDR during week 43 2010 from HSE-NE, this is the only confirmed positive influenza notification to date this season.

6. International summary

United Kingdom

During week 42 2010, influenza activity was reported as very low across the UK. Weekly influenza/ILI consultation rates increased slightly in England, Wales and Scotland and decreased in Northern Ireland. All GP consultation rates are well below baseline levels. Consultation rates for acute bronchitis have increased slightly and those for pneumonia remain low. There were no acute respiratory disease outbreaks reported in week 42. Three specimens were reported as positive for influenza through sentinel GP surveillance in week 42 in England (one A H1N1 (2009), one A (unsubtyped) and one B); no positive sentinel specimens were reported from Wales, Scotland and Northern Ireland. The number of RSV detections is low while the proportion of specimens positive for rhinovirus remains high. <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/>

On November 3rd 2010, the Public Health Agency in Northern Ireland reported that a child with confirmed influenza A H1N1 (2009), who attended a school for children with special needs, has died. This is the first influenza A H1N1 (2009) death reported from Northern Ireland for the 2010/2011 influenza season. <http://www.publichealth.hscni.net/news/pha-confirms-flu-death>

Europe

The majority of countries continue to report low rates and unchanging trends in sentinel physician consultations for ILI and acute respiratory infection (ARI) during week 42 2010. During this period, nine influenza viruses were detected in sentinel and non-sentinel specimens: 4 A (unsubtyped), 1 A H1N1 (2009), 2 A (H3) and 2 B. Rare detections of influenza virus along with sporadic detections of RSV in a number of European countries suggest that the low ILI and ARI activity currently observed is most likely due to respiratory pathogens other than influenza.

http://ecdc.europa.eu/en/healthtopics/influenza/epidemiological_data/Pages/Weekly_Influenza_Surveillance_Overview.aspx

USA

During week 42 2010, influenza activity remained low in the United States. The proportion of ILI outpatient visits was below the national baseline. Forty-eight (3.0%) specimens tested during this period were positive for influenza: 4 A H1N1 (2009), 7 A (unsubtyped), 22 A (H3) and 15 B. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. No influenza-associated paediatric deaths were reported. <http://www.cdc.gov/flu/weekly/>

Canada

Overall influenza activity in Canada increased slightly during week 42 2010, but was still within expected levels for this time of year. During week 42 2010, the national ILI consultation rates was 19.1 consultations per 1,000 patient visits which was slightly higher than what was observed in the previous weeks but was still within expected levels for this time of year. Children under 5 years of age had the highest consultation rates, followed by those aged between 5 and 19 years. The proportion of positive influenza specimens reported during week 42 increased slightly, with 16 out of 1,565 (1.02%) specimens testing positive; all influenza A (unsubtyped). Since the beginning of the season, the predominant influenza virus circulating in Canada has been A (H3N2). One new influenza outbreak was reported during week 42 in a long-term care facility. <http://www.phac-aspc.gc.ca/fluwatch/index-eng.php>

Worldwide (WHO)

The WHO Global Influenza Programme monitors influenza activity worldwide and publishes an update every two weeks. As of October 20th 2010, influenza activity in the temperate regions of the Southern Hemisphere has peaked and is continuing to decline. In most of the temperate regions of the Northern Hemisphere the level of activity is still low. Influenza A (H3N2) continues to be the most frequently detected influenza virus worldwide. Most of the A (H3N2) viruses have been characterised as A/Perth/16/2009-like, which is the virus strain included in the seasonal vaccines for the Northern and Southern Hemispheres. New Zealand's influenza activity has decreased since late August and is now below the baseline for the third consecutive week. The most common influenza virus detected this season in New Zealand is A H1N1 (2009). Australia has had a co-circulation of mainly influenza A H1N1 (2009) and B. In the southern cone of South America, Chile continues to report high transmission of influenza but since mid September the activity has declined. The predominant virus circulating in Chile has been A (H3N2) with co-circulation of A H1N1 (2009) in lower numbers. Argentina and Uruguay have both had a season with mostly influenza B, and are now reporting a decrease in number of virus detections. In South Africa, influenza activity continues to decline, after a season where the majority of the laboratory confirmed cases were influenza B, but with co-circulation of A (H3N2) and smaller numbers of A H1N1 (2009). In the tropical areas of the world most countries are reporting decreased influenza activity, but some countries in Southeast Asia, Central and South America are experiencing an increase in transmission intensity due mainly to A (H3N2). <http://www.who.int/csr/disease/influenza/update/en/index.html>

7. Northern hemisphere influenza vaccine for the 2010/2011 season:

For the 2010/2011 influenza season in the Northern Hemisphere, the members of the WHO Collaborating Centres on Influenza have recommended that seasonal influenza vaccines contain the following strains:

- an A/California/7/2009 (H1N1)-like virus
- an A/Perth/16/2009 (H3N2)-like virus^{††}
- a B/Brisbane/60/2008-like virus

http://www.who.int/csr/disease/influenza/recommendations2010_11north/en/index.html
http://www.who.int/csr/disease/influenza/201002_Recommendation.pdf

Further information on influenza in Ireland and internationally can be found on the following websites:

Ireland	www.hpsc.ie
Northern Ireland	http://www.cdscni.org.uk/
Europe – ECDC	http://ecdc.europa.eu/
Europe – EISN	http://ecdc.europa.eu/en/activities/surveillance/EISN/Pages/home.aspx

Acknowledgements

HPSC wishes to thank the Departments of Public Health, HSE-NE, ICGP, NVRL, CUH and UCHG for providing data for this report

^{††} A/Wisconsin/15/2009 is an A/Perth/16/2009 (H3N2)-like virus and is a 2010 southern hemisphere vaccine virus.