

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 47 2010 (22nd – 28th November 2010)



Summary

- During week 47 2010, all indicators of influenza activity in Ireland are at low levels.
 - ♦ The sentinel GP ILI consultation rate was 6.7 per 100,000 population in week 47 2010, a decrease from the updated rate of 9.6 per 100,000 reported during week 46 2010.
 - ILI rates remain at low levels in all age groups.
 - ♦ One influenza positive specimen taken by a sentinel GP was detected by the National Virus Reference Laboratory during week 47 2010, an influenza A (H1N1 2009) case.
 - ♦ The proportion of respiratory syncytial virus (RSV) positive detections remains at low levels compared to the same period in previous seasons.
 - ♦ Sporadic detections of adenovirus and parainfluenza virus types -1, -2 and -3 have been reported since week 40 2010.
 - ♦ 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. Enhanced surveillance of all critical care patients with confirmed influenza A (H1N1 2009)
7. Outbreak reporting on CIDR
8. Network of sentinel schools reporting absenteeism and sentinel hospitals reporting admission data

1. GP sentinel surveillance system

Clinical Data

During week 47 2010, 50 of 60 (83.3%) sentinel general practices provided data, with 12 practices (24.0%) reporting 15 influenza-like illness (ILI) cases. This corresponds to an ILI consultation rate of 6.7 per 100,000 population, a slight decrease from the updated rate of 9.6 per 100,000 reported during week 46 2010. ILI rates remain well below the Irish baseline threshold (17.8 per 100,000 population). Thirty-eight (76.0%) practices reported no ILI cases during week 47 2010. Figure 1 shows the ILI consultation rates, the baseline threshold rate and the number of positive specimens detected by the NVRL.

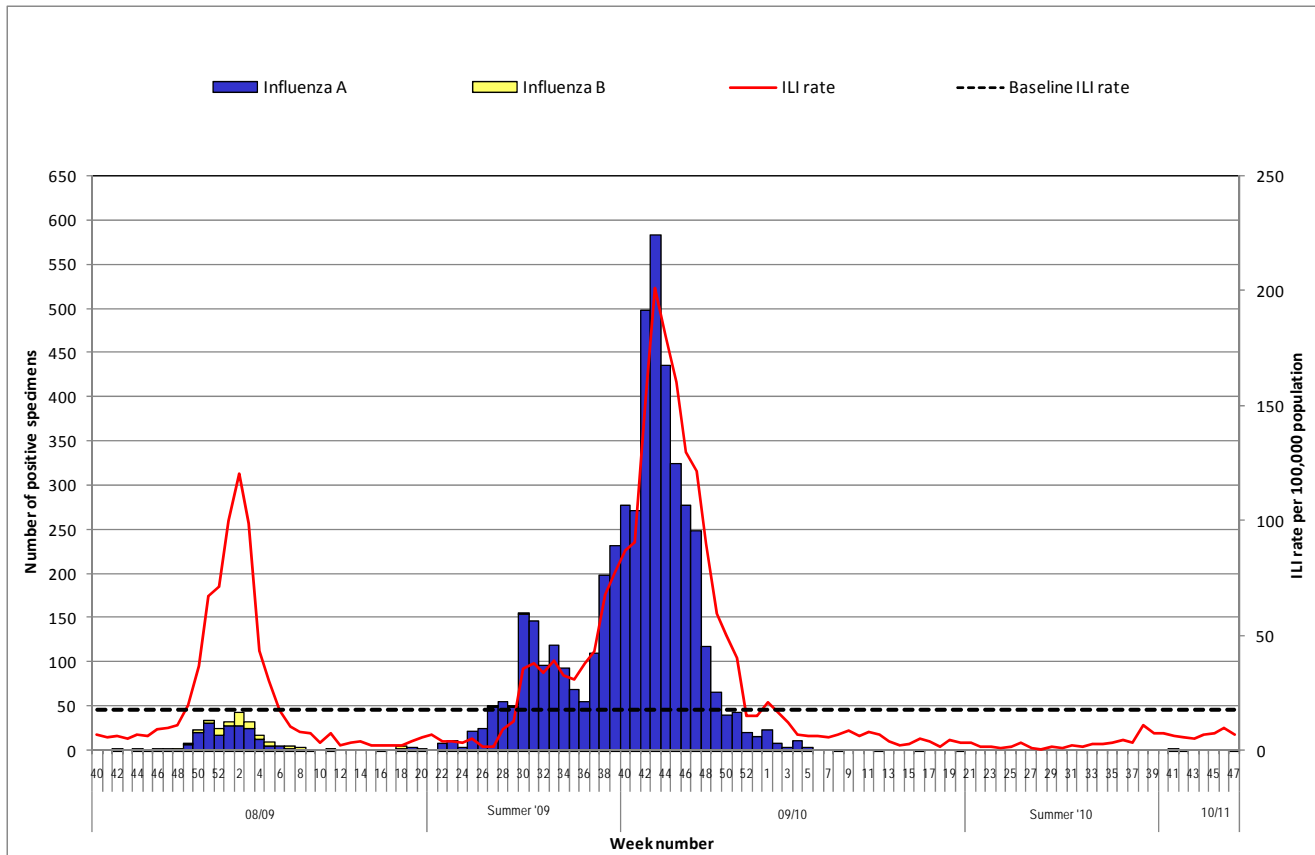


Figure 1. ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza A and B specimens, by influenza week and season.

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

ILI rates remained at low levels in all age groups during week 47 2010, with the highest rates reported from those aged 65 years or older. Two ILI cases were reported in those aged 65 years or older, corresponding to an ILI rate of 8.1 per 100,000, a slight increase from 3.5 per 100,000 in week 46 2010. There have been no ILI cases in the 0-4 year age group since week 43 2010. ILI rates decreased in the 5-14 year age group (from 11.6 to 3.4 per 100,000) and in the 15-64 year age group (from 11.2 to 7.8 per 100,000) during week 47 2010.

* 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.

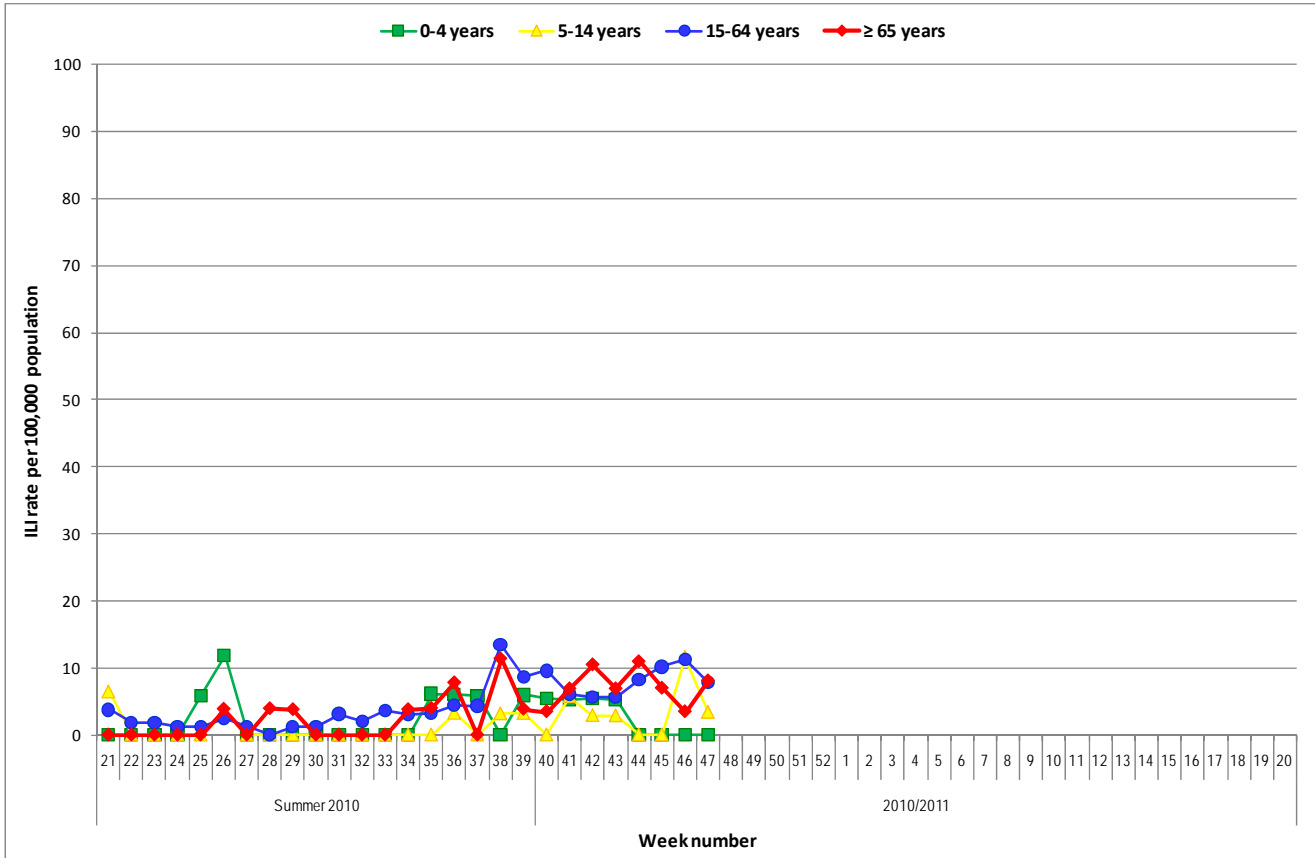


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2010 and the 2010/2011 influenza season to date

Source: ICGP ILI clinical data

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

A total of 64 specimens (12 sentinel and 52 non-sentinel) were tested by the NVRL during week 47 2010. One sentinel specimen was positive for influenza, an influenza A (H1N1 2009) virus. All non-sentinel specimens taken during week 47 2010 were negative for influenza (figure 3). To date this season, four specimens have tested positive for influenza virus: two A (H1N1 2009) and two A (unsubtyped). The four positive specimens were from two cases: one sentinel GP case in the 15-64 year age group and one hospitalised case in the 0-4 year age group.

Of the 52 non-sentinel specimens tested during week 47 2010, three (5.8%) were positive for RSV (Tables 1 & 2). The current proportion of RSV positive detections is at low levels compared to average levels for the same period over the last 10 years. 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.[‡] To date this season, there have been sporadic detections of adenovirus and parainfluenza virus (PIV) types -1, -2 and -3.

[‡] 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.

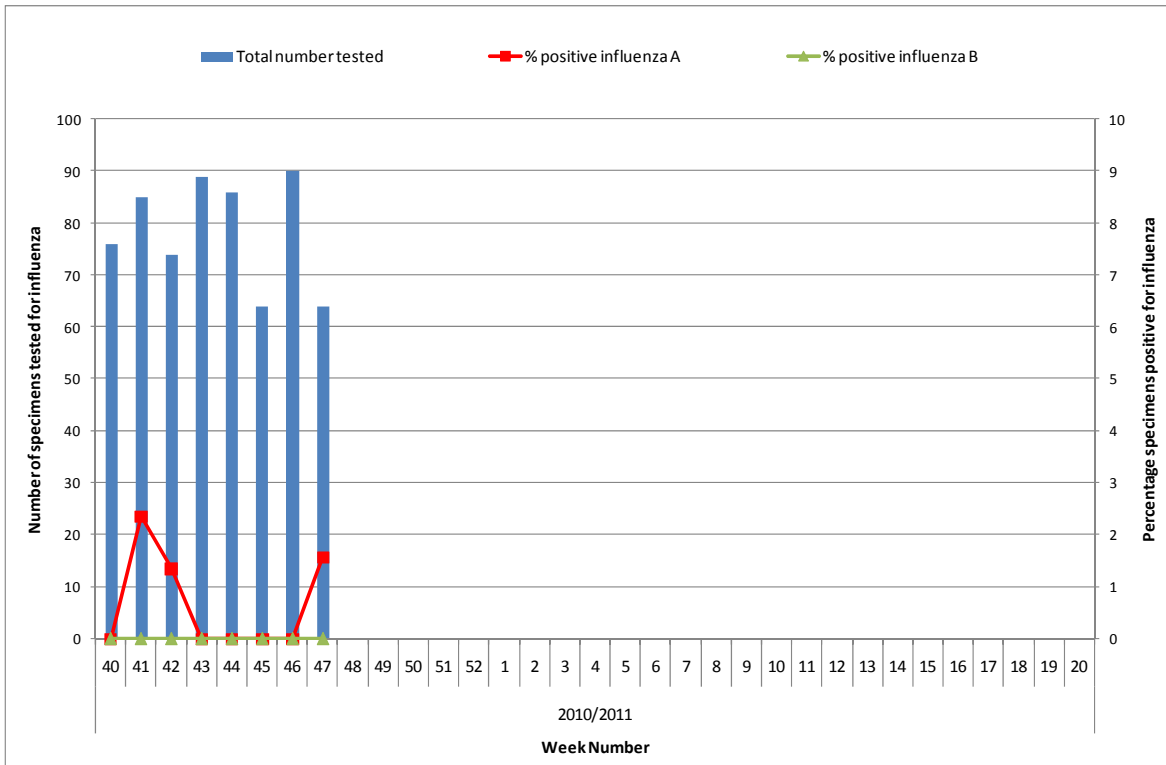


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive
 Source: NVRL[§]

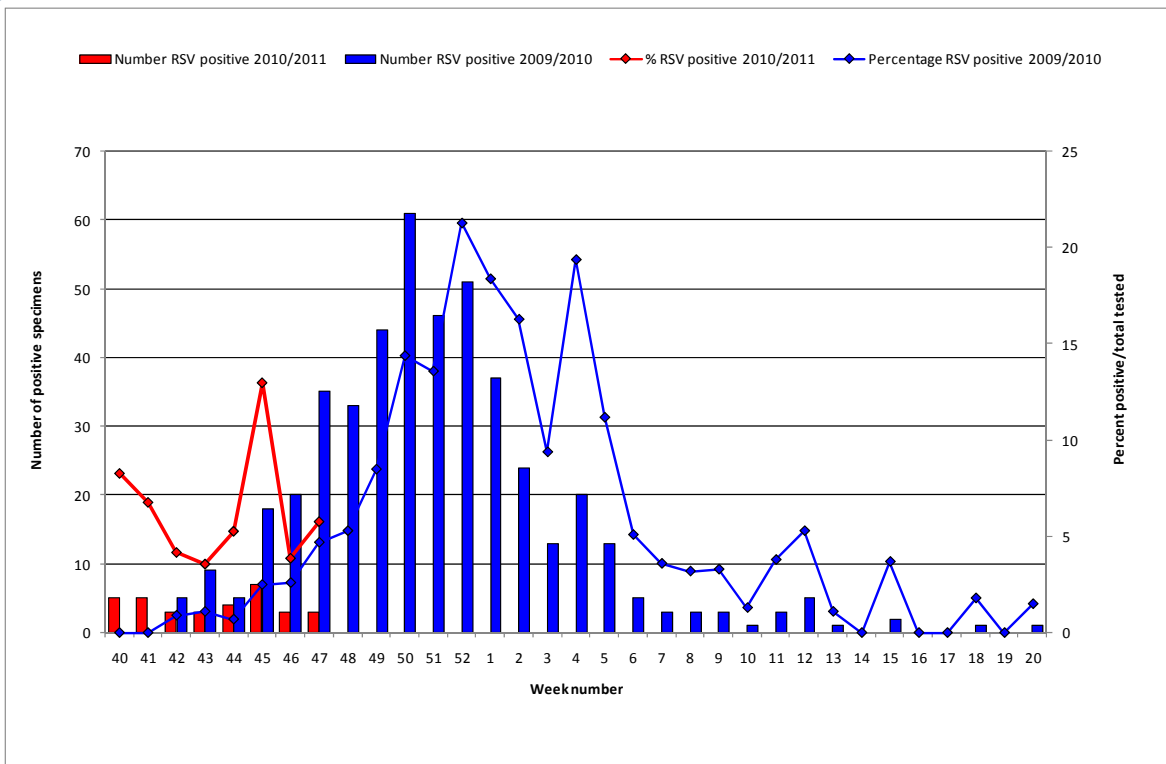


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2010/2011 season, compared to the 2009/2010 season. Source: NVRL

[§] 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 47 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)	
47 2010	Sentinel	12	1	8.3	1	1	0	0	0	0
	Non-sentinel	52	0	0.0	0	0	0	0	0	0
	Total	64	1	1.6	1	1	0	0	0	0
2010/2011 season	Sentinel	81	1	1.2	1	1	0	0	0	0
	Non-sentinel	547	3	0.5	3	1	0	0	2	0
	Total	628	4	0.6	4	2	0	0	2	0

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 47 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
47 2010	52	3	5.8	0	0.0	0	0.0	0	0.0	0	0.0
2010/2011 season	547	33	6.0	5	0.9	5	0.9	2	0.4	1	0.2

** 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.

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 47 2010, sporadic influenza activity (based on sporadic ILI cases and/or positive influenza detections) was reported from five HSE-Areas (HSE-E, -MW, -NE, -NW and -S). All other areas reported no influenza activity during week 47 2010 (figure 5).

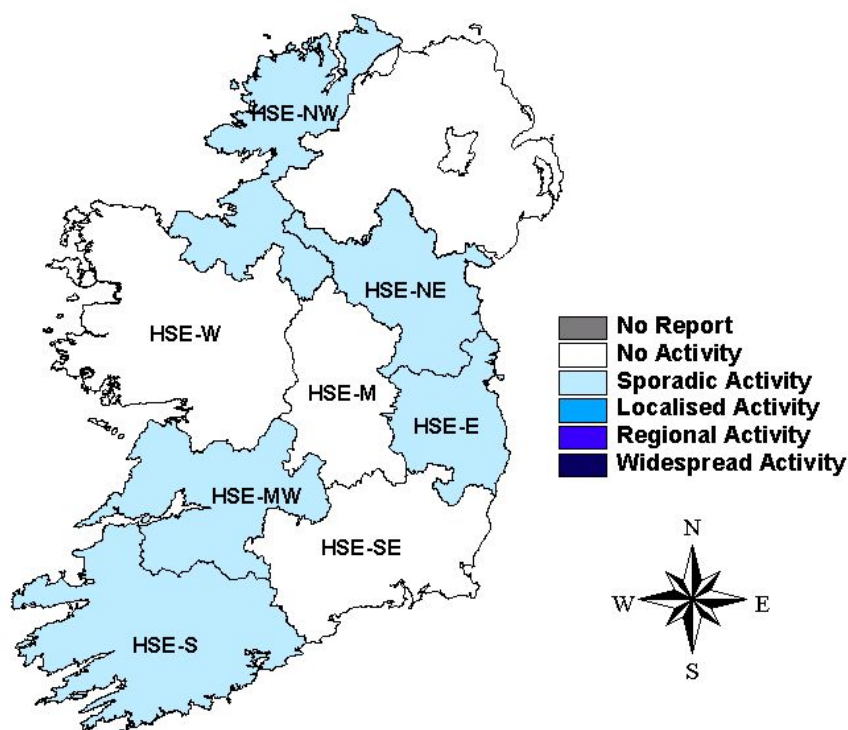


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 47 2010

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.

There were no reported increases in the proportion of respiratory admissions from sentinel hospitals during week 47 2010. Two sentinel primary schools in HSE-NW reported gastrointestinal symptoms and/or colds among students during weeks 46 and 47 2010. There was a slight increase in absenteeism reported from one sentinel secondary school in HSE-S during week 46 2010.

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 47 2010, the proportion of influenza-related calls to GP Out-of-Hours services remained at low levels, at 1.6%, a slight increase from the updated data for week 46 2010 of 1.5% (figure 6). Eight GP Out-of-Hours services reported during week 47 2010.

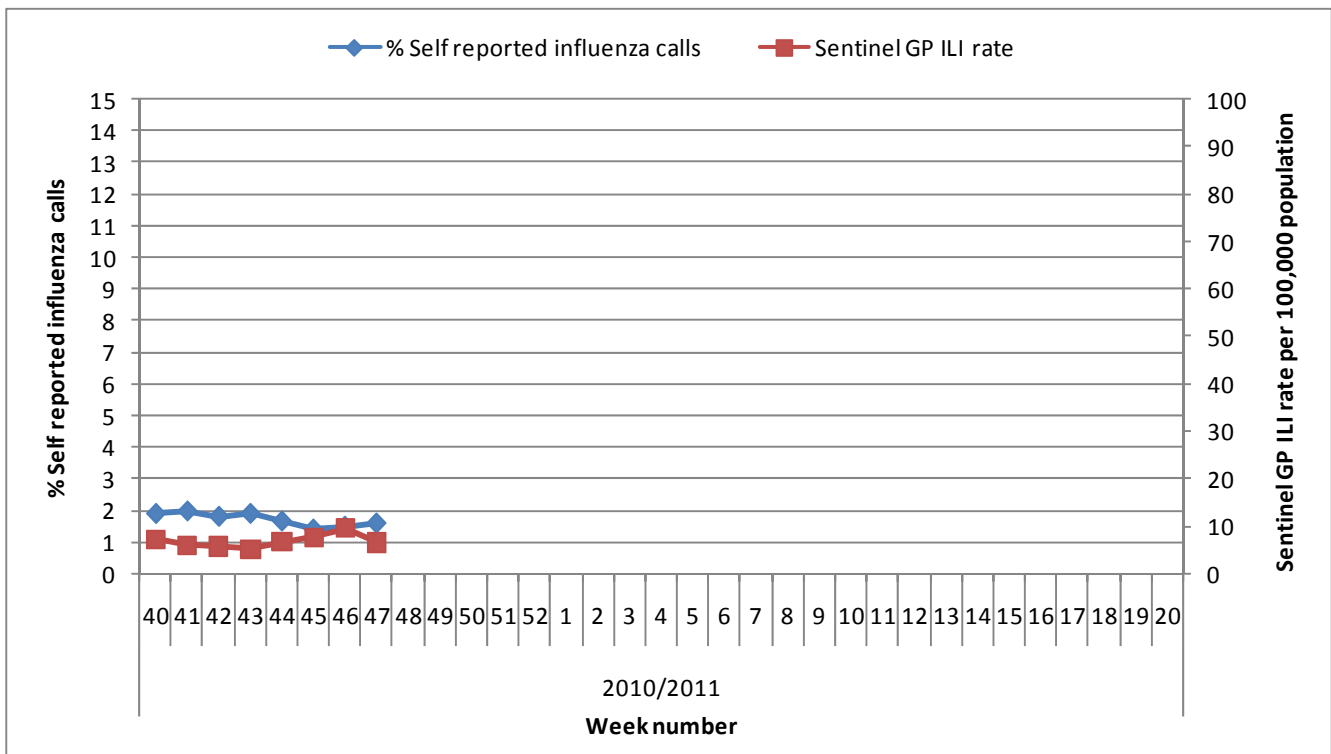


Figure 6: Self reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and national sentinel GP ILI consultation rate per 100,000 population by week for the 2010/2011 season

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

5. Influenza notifications and outbreak surveillance (CIDR)

As of 30th November 2010, no general outbreaks of ILI/influenza/influenza A (H1N1 2009) have been reported to CIDR during the 2010/2011 influenza season. One influenza A (H1N1 2009) case in the 15-64 year age group was notified to CIDR during week 47 2010. To date this season, there have been two confirmed cases of influenza A (H1N1 2009) notified on CIDR.

6. International summary

United Kingdom

Influenza activity remains low across the UK. In week 46 2010, the weekly influenza/ILI consultation rates increased slightly in England (8.3 per 100,000), whilst decreasing in Scotland (37.3 per 100,000), Wales (8.1 per 100,000) and Northern Ireland (18.9 per 100,000). All GP consultation rates were well below baseline levels. Consultation rates for acute bronchitis increased and the pneumonia consultation rate decreased slightly. Five acute respiratory disease outbreaks in primary schools in England were reported during week 46. Influenza B has been detected in three of these outbreaks, A (H1N1 2009) from the third and the fourth is still under investigation. Five sentinel GP specimens were reported as influenza positive in week 46 in England: 1 A (H1N1 2009), 1 A (unsubtyped) and 3 B. The proportion of RSV positive detections is increasing, while for rhinovirus it is decreasing. All influenza B viruses characterised belong to the B-Victoria lineage, similar to the current vaccine strain B/Brisbane/60/2008.

<http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/>

Europe

Almost all countries reporting to the European Influenza Surveillance Network (EISN) continue to experience low consultation rates for ILI and acute respiratory infection (ARI). There is currently very little influenza virus circulating in Europe, with only 2.5% of sentinel specimens positive for influenza virus during week 46 2010. Twenty-five influenza viruses were detected from sentinel and non-sentinel sources during week 46 2010: 8 A (H1N1 2009), 1 A (H3), 6 A (unsubtyped) and 10 B. To date this season, there have been 192 influenza detections from sentinel and non-sentinel sources: 133 (69%) influenza A and 59 (31%) influenza B. Of the 84 subtyped influenza A viruses, 65 (77%) were A (H1N1 2009) and 19 (23%) were A (H3). To date, 29 influenza viruses have been antigenically characterised: 17 as A/California/7/2009 (H1N1)-like; four as A/Perth/16/2009 (H3N2)-like; seven as B/Brisbane/60/2008-like (Victoria lineage); all of which are components of the 2010/2011 influenza vaccine and one as B/Florida/4/2006-like (Yamagata lineage). Rare detections of influenza virus along with steadily increasing detections of RSV in a number of European countries suggest that the low ILI and ARI activity currently observed is most likely due to other respiratory pathogens rather than influenza virus.

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

USA

During week 46 2010, influenza activity in the United States remained relatively low overall, but increased slightly in the Southeast. The proportion of outpatient ILI visits was below the national baseline. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold. No influenza-associated paediatric deaths were reported. Of the 2,896 specimens tested : 284 (9.8%) were positive for influenza: 9 A (H1N1 2009), 21 A (H3), 85 A (unsubtyped) and 169 B. CDC has antigenically characterised four A (H1N1 2009) viruses as A/California/7/2009-like, three A (H3N2) viruses as A/Perth/16/2009-like and six B viruses as B/Brisbane/60/2008-like, all of which are components of the 2010/2011 influenza vaccine.

<http://www.cdc.gov/flu/weekly/>

Canada

During week 46 2010, overall influenza activity in Canada has slightly increased. The proportion of positive influenza specimens reported during week 46 increased, with 53 specimens out of 2,021 (2.62%) testing positive: 17 A (H3N2), 30 A (unsubtyped), 1 A (H1N1 2009) and 5 B. To date this season, influenza A (H3N2) has

been the predominant subtype circulating in Canada, representing 96% of subtyped influenza A specimens. <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 November 22nd 2010, influenza activity remained low worldwide, except in limited areas of tropical Asia and temperate South America. Although the winter influenza season in the temperate zone of the Southern Hemisphere formally concluded during early October 2010 and generally transmission has been negligible since then, there have been recent reports of localised, late season epidemic influenza activity in Argentina. These outbreaks have been associated with the circulation of influenza A viruses (some isolates have been characterised as seasonal influenza A (H3N2) but most have not been subtyped). As the temperate zone of the Northern Hemisphere enters the late autumn and winter months, influenza activity remains at or below seasonal baseline in most countries of Europe, North America, and temperate Asia. Seasonal influenza B and A (H3N2) viruses continue to co-circulate worldwide, with the latter slightly predominant; influenza A (H1N1 2009) virus circulation continues to be detected at low to moderate levels across Asia, and sporadically in other parts of the world. <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

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