

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 41 2010 (11th – 17th October 2010)



Summary

- All indicators of influenza activity in Ireland are at low levels:
 - ◆ The sentinel GP ILI consultation rate was 6.6 per 100,000 population in week 41 2010, a slight decrease from the updated rate of 7.9 per 100,000 reported during week 40 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 influenza positive case of the 2010/2011 influenza season was reported by the National Virus Reference Laboratory (NVRL) during week 41 2010, a H1N1 (2009) case.
 - ◆ Respiratory syncytial virus (RSV) positive detections have increased slightly in recent weeks.
 - ◆ The proportion of influenza-related calls to GP Out-of-Hours services increased slightly during week 41 2010 compared to the previous week, however 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 41 2010, 51 of 60 (85.0%) sentinel general practices provided data, with 11 practices (18.3%) reporting 15 influenza-like illness (ILI) cases. This corresponds to an ILI consultation rate of 6.6 per 100,000 population, a slight decrease from the updated rate of 7.9 per 100,000 reported during week 40 2010. Forty-nine (81.7%) practices reported no ILI cases during week 41 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 NVRL¹.

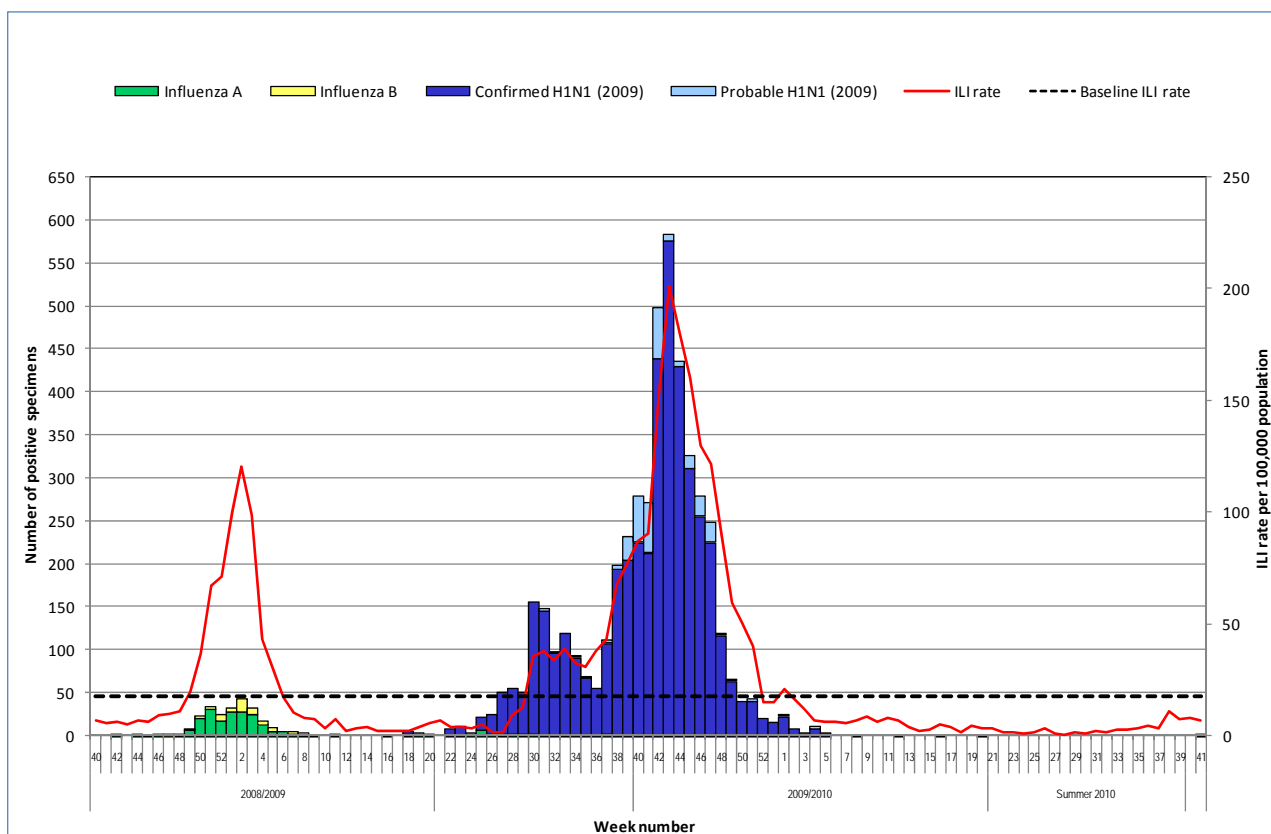


Figure 1. ILI GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza specimens, by influenza week and season

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 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 41 2010. Sentinel GPs reported one ILI case in the 0-4 year age group (6.2 per 100,000 population), two ILI cases in the 5-14 year age group (6.6 per 100,000 population), 10 in the 15-64 year age group (6.4 per 100,000 population) and two ILI cases in the 65+ year age group (8.0 per 100,000 population) (figure 2).

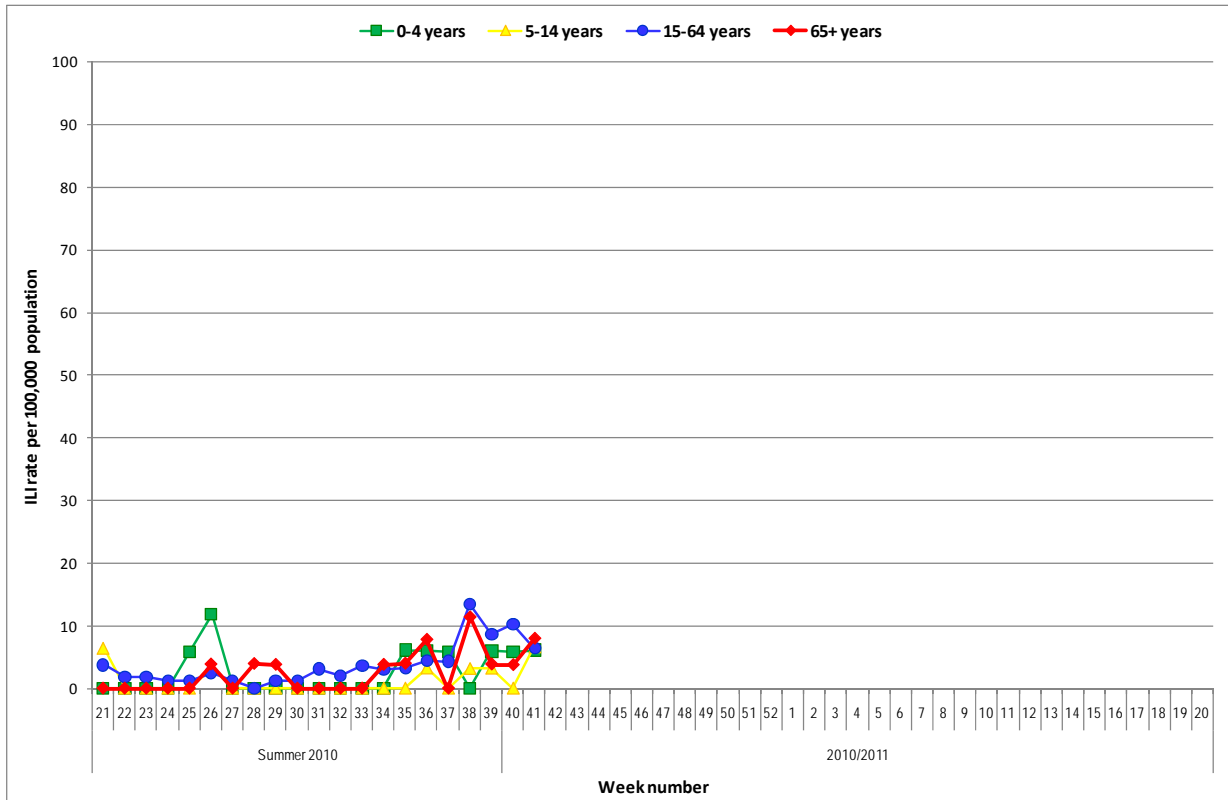


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the Summer of 2010 and the 2010/2011 influenza season to date

Source: ICGP ILI clinical data

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

A total of 82 specimens (8 sentinel and 74 non-sentinel) were tested by the NVRL during week 41 2010. All sentinel specimens tested to date this season were negative for influenza. Two non-sentinel specimens from the same patient tested during week 41 2010 were positive for influenza, one initial specimen tested positive for influenza A (unsubtyped) and a second subsequent specimen tested positive for H1N1 (2009). The patient was a hospitalised case in the 0-4 year age group.

Of the 74 non-sentinel specimens tested during week 41 2010, five (6.8%) were positive for RSV and one (1.4%) was positive for parainfluenza virus type 1 (PIV-1) (Tables 1 & 2 and figure 3). The percentage of positive RSV specimens has been slightly above average for the last four weeks. 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.

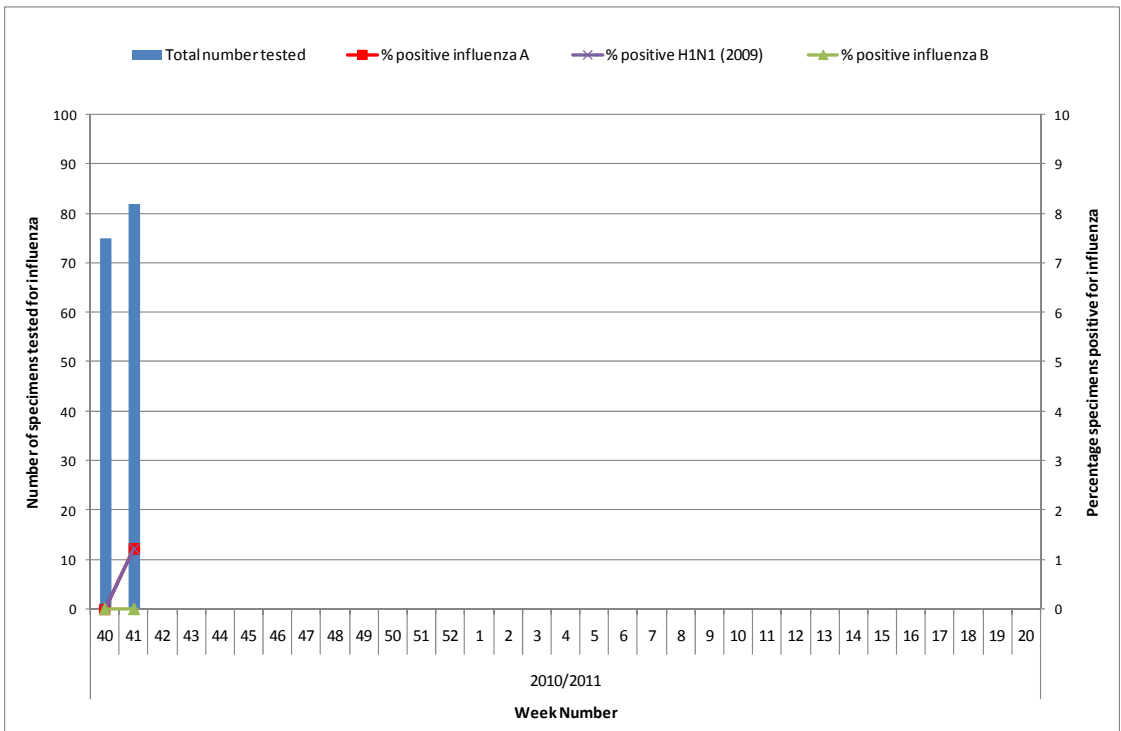


Figure 3: Number of sentinel and non-sentinel specimens tested for influenza and percentage influenza positive
 Source: NVRL[§]

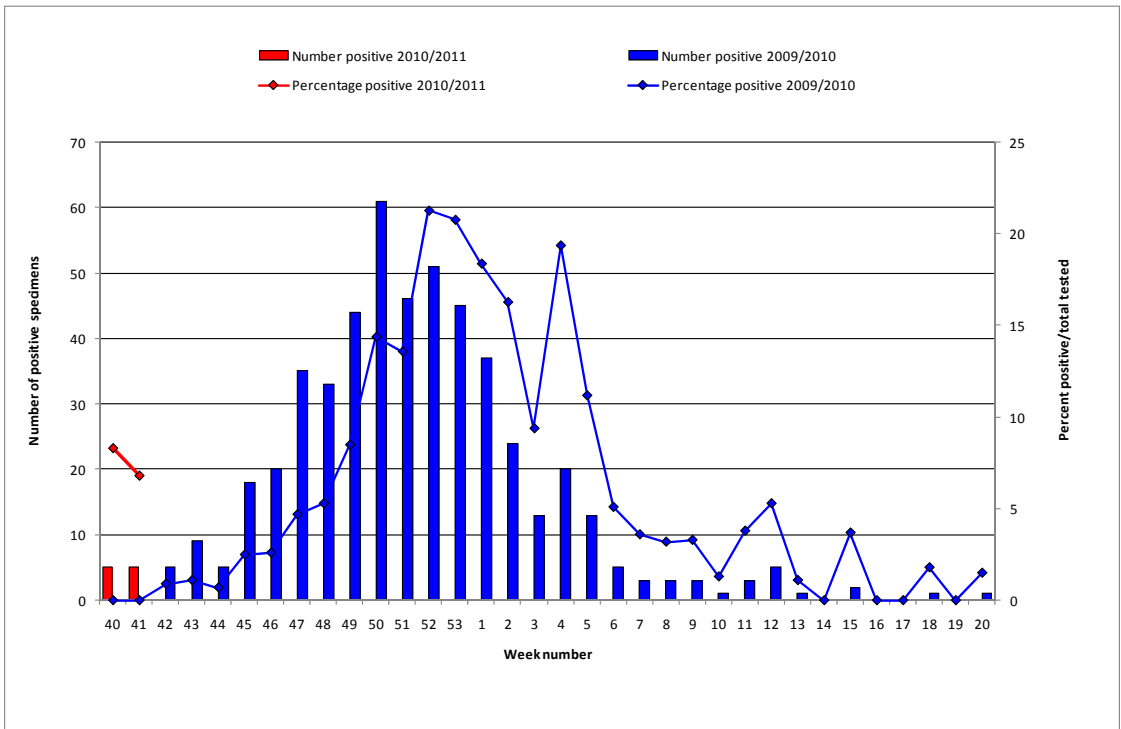


Figure 4: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2010/2011 season, compared to the 2009/2010 season. Source: NVRL

[§] 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 the current report week and season to date**

Source: NVRL

Week number	Specimen type	Total Specimens tested	Number Influenza Positive	% Influenza Positive	Total Influenza A	H1N1 (2009)	Influenza A(H3)	Influenza A(H1)	Influenza A (unsubtyped)	Influenza B
41 2010	Sentinel	8	0	0.0	0	0	0	0	0	0
	Non-sentinel	74	2	2.7	2	1	0	0	1	0
	Total	82	2	2.4	2	1	0	0	1	0
2010/2011 season	Sentinel	23	0	0.0	0	0	0	0	0	0
	Non-sentinel	134	2	1.5	2	1	0	0	1	0
	Total	157	2	1.3	2	1	0	0	1	0

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for the current report week and 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
41 2010	74	5	6.8	0	0.0	1	1.4	0	0.0	0	0.0
2010/2011 season	134	10	7.5	0	0.0	2	1.5	0	0.0	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 41 2010, sporadic influenza activity (based on sporadic ILI cases and/or positive influenza detections) was reported from four HSE-Areas (HSE-E, -NE, -MW and -S). All other areas reported no influenza activity during week 41 2010 (figure 5).

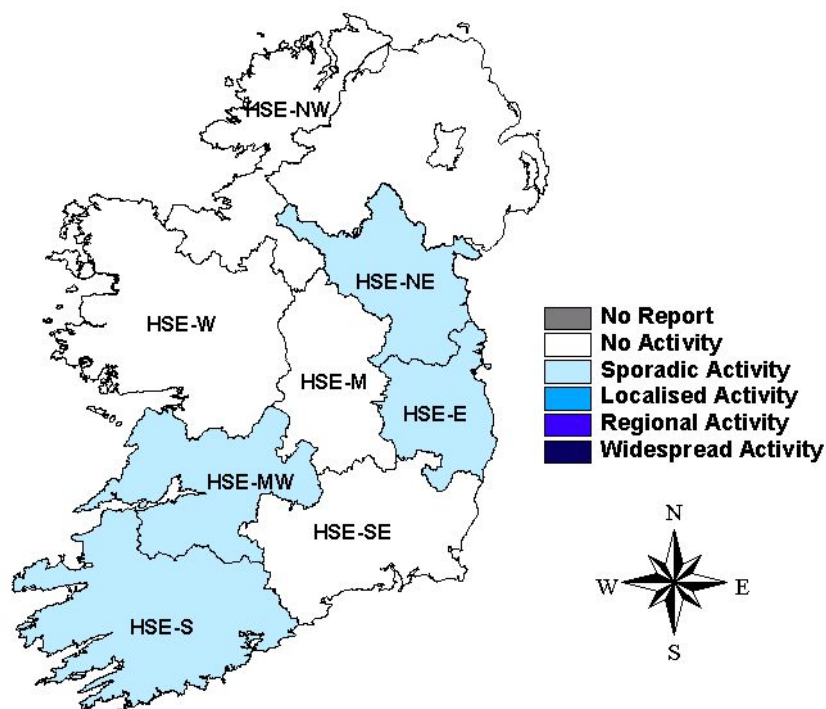


Figure 5: Map of provisional influenza activity by HSE-Area during influenza week 41 2010

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.

During week 40 2010, the proportion of respiratory admissions from a sentinel hospital in HSE-M increased above average levels for this period, 63% of respiratory admissions in this hospital were in the 65+ year age group. This increase was followed by a decrease in week 41 2010. During week 40 2010, one sentinel secondary school in HSE-E reported increased absenteeism in week 40 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 41 2010, 2.0% of all calls received were influenza-related calls, a slight increase from the updated data for week 40 2010 at 1.9% (figure 6). Eight GP Out-of-Hours services reported during week 41 2010.

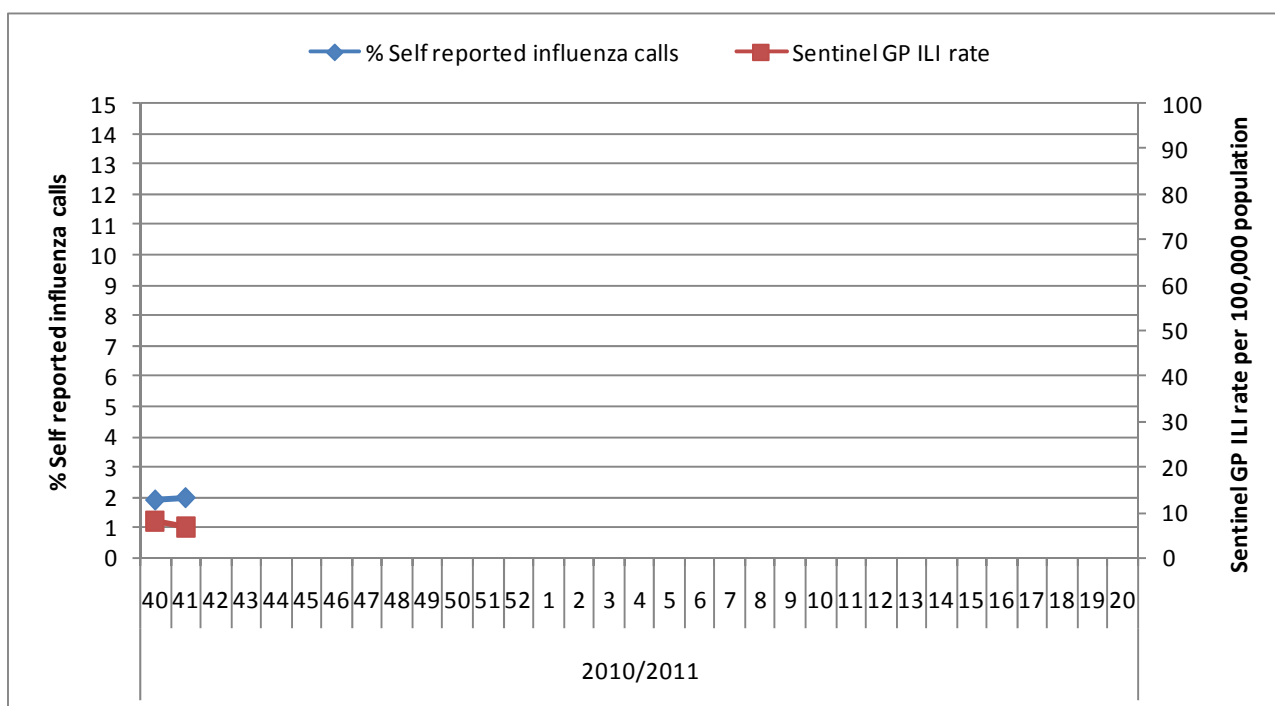


Figure 6: Self reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and national sentinel GP ILI consultation rate per 100,000 population by week for the 2010/2011 season

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

5. Influenza notifications and outbreak surveillance (CIDR)

As of 21st October 2010, no influenza notifications or general outbreaks of ILI/influenza/pandemic (H1N1) 2009 have been reported to CIDR during 2010/2011 influenza season to date.

6. International summary

United Kingdom

Influenza activity remains very low across the UK. In week 40 2010, the weekly influenza/ILI consultation rate increased slightly in England and Wales while it decreased or remained stable in Northern Ireland and Scotland. All GP consultation rates are well below baseline levels. Consultation rates for acute bronchitis have increased slightly and those for pneumonia remain low. There has been no acute respiratory disease outbreaks reported since week 40 2010. No specimens have been reported as positive for influenza through sentinel GP surveillance across the UK, to date this season. Six non-sentinel samples positive for influenza (three H1N1 (2009) and 3 influenza B) were reported from English laboratories during week 40 2010. The number of RSV detections is low while the proportion of specimens positive for rhinovirus is increasing.

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

Europe

The large majority of EU/EEA Member States reported low rates and unchanging trends of sentinel physician consultations for ILI and acute respiratory infection (ARI) during week 40 2010. Eight sentinel and non-sentinel detections of influenza viruses were reported during week 40 2010: 7 influenza A (1 H1N1 2009, 1 A H3 and 5 A untyped) and 1 B. No SARI cases were reported for week 40 2010. Few detections of influenza virus, along with detections of RSV and adenovirus in a number of European countries suggest that the low ILI and ARI activity currently observed is likely due to respiratory pathogens other than influenza.

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

USA

Influenza A (H3N2), pandemic (H1N1) 2009 and influenza B viruses co-circulated at low levels in the United States during the summer months. During week 40 2010, influenza activity was low in the U.S. The proportion of outpatient ILI visits was below the national baseline. All 10 regions reported ILI below region-specific baseline levels and all 48 states with sufficient data experienced minimal ILI activity. Forty-five (3.3%) specimens tested positive for influenza: 31 influenza A (4 H1N1 2009, 5 A H3 and 22 A untyped) and 14 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 slightly increased during weeks 39 and 40 2010, but remained relatively low with most influenza surveillance regions reporting no activity. While the number of regions reporting localised influenza activity and the ILI consultations rates remained similar to recent weeks, the proportion of positive influenza specimens reported during the 2-week period has increased slightly. Twenty-three positive specimens (out of 3105) in weeks 39 and 40 2010 have been reported: seven specimens were reported as influenza A (H3N2), one as H1N1 (2009) and 15 as influenza A (untyped).

<http://www.phac-aspc.gc.ca/fluwatch/index-eng.php>

Worldwide (WHO)

There has been no further update from WHO since October 8th 2010. As of October 8th 2010, influenza activity is decreasing in most parts of the temperate Southern Hemisphere and the season does not yet appear to have definitively started in the temperate areas of the Northern Hemisphere. Influenza A (H3N2) is now the predominant influenza virus world wide after several weeks of increasing detections in much of the world, but

many areas still have active transmission of pandemic H1N1 (2009) influenza. Most of the influenza A (H3N2) viruses detected are A/Perth/16/2009-like, which is the strain included in the seasonal vaccine for the Northern and Southern Hemispheres.

The most common virus types associated with the influenza season of 2010 in the temperate southern hemisphere have varied greatly depending on the location. In Australia, ILI activity, hospital, and intensive care unit admissions related to influenza have all decreased in the past week. The H1N1 (2009) influenza virus is still the most frequently detected virus in Australia, with a lower number of influenza type B and A (H3N2) viruses. ILI rates in New Zealand are below baseline levels for the second week, with a low rate of influenza virus detection. The most common influenza virus detected in New Zealand this season is H1N1 (2009), with very few other subtypes detected. In South America, overall respiratory disease activity is decreasing, with a mixed picture of influenza viruses. In Chile the seasonal outbreak arrived later than normal and respiratory disease activity is still high but decreasing, indicating that the peak activity has passed. Reported cases of severe acute respiratory infections caused by influenza have decreased and emergency consultations for pneumonia have also declined. Although some regions of the country have experienced higher ILI activity this year than during last year's outbreak of H1N1 (2009), at a national level overall activity has been much lower. The most frequently detected virus in Chile this season has been A (H3N2), with co-circulation of smaller numbers of H1N1 (2009) and type B viruses. The influenza season in South Africa has peaked and is declining; influenza type B was the predominant virus co-circulating with H1N1 (2009) and A(H3N2). The median age of influenza cases in South Africa was lower for those with H1N1 (2009) and influenza B infections than for those with influenza A (H3N2).

Influenza activity in the tropical areas of the world has been varied and discordant in time. While most tropical areas experienced recent peaks in transmission that are now decreasing, Southeast Asia is currently experiencing increasing levels of influenza activity. The viruses identified in tropical areas have varied and co-circulation of multiple types has been observed. Mexico has detected an increase in ILI and acute respiratory disease since August. This activity has coincided with an increased proportion of samples testing positive for influenza, but during September this proportion has again decreased. The majority of positive influenza samples have been influenza A (H3N2) viruses and a subset that was further characterised was all the A/Perth/16/2009-like strain, which is included in both the 2010/2011 Northern Hemisphere and the 2010 Southern Hemisphere influenza vaccine. <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

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

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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