

Influenza Surveillance in Ireland – Weekly Report

Influenza Week 2 2014 (6th – 12th January 2014)



Summary

- Influenza activity in Ireland remained at low levels during week 2 2014. Respiratory syncytial virus (RSV) activity appears to have peaked during week 1 2014; however levels remain high and widespread throughout Ireland.
- The sentinel GP influenza-like illness (ILI) consultation rate was 11.6 per 100,000 population during week 2 2014, remaining stable compared to the updated rate of 12.2/100,000 during week 1 2014.
 - ♦ ILI rates remained below the Irish baseline threshold (21.0 per 100,000 population)
 - ♦ ILI rates remained at low levels in all age groups
- Influenza positivity was at low levels during week 2 2014, with 7 (3.0%) influenza positive specimens reported from the National Virus Reference Laboratory (NVRL): 4 influenza A(H3), 2 influenza A(H1)pdm09 & 1 influenza A (not subtyped)
- Respiratory syncytial virus (RSV) positivity remained at moderately high levels during week 2 2014, with 36 (16.0%) RSV positive specimens reported from the NVRL.
- Sporadic detections of adenovirus and parainfluenza viruses have been reported from the NVRL for the 2013/2014 season to date. Human metapneumovirus (hMPV) positive detections from non-sentinel sources increased during week 2 2014 to 4.9%.
- The number of reported confirmed influenza hospitalised cases increased to 11 during week 2 2014, bringing the total number of hospitalised cases reported this season to 15.
- Three confirmed influenza cases were admitted to ICU and reported to HPSC to date this season, two associated with influenza A(H1)pdm09 and one with A(H3).
- There were no reports of any confirmed influenza-associated deaths occurring during this period.
- Three acute respiratory outbreaks in residential care facilities/community hospitals were reported during week 2 2014 to HPSC (via Ireland's Computerised Infectious Disease Reporting System).
- The 2013/2014 influenza season appears to be slowly getting started in European countries. In North America influenza activity has sharply increased over recent weeks, with influenza A(H1N1)pdm09 predominating.

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 ICU patients with confirmed influenza and enhanced surveillance of all severe acute respiratory infections (SARI) in one adult and one paediatric ICU sites.
7. Outbreak reporting on CIDR
8. Network of sentinel hospitals reporting hospital admission data

1. GP sentinel surveillance system - Clinical Data

During week 2 2014, 27 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 11.6 per 100,000 population, remaining low. The updated rate for week 1 2014 was 12.2 per 100,000 population. To date this season, ILI rates have remained below the Irish baseline threshold (21/100,000 population). ILI age specific rates were low in all age groups during week 1 2014 (figures 1 & 2).

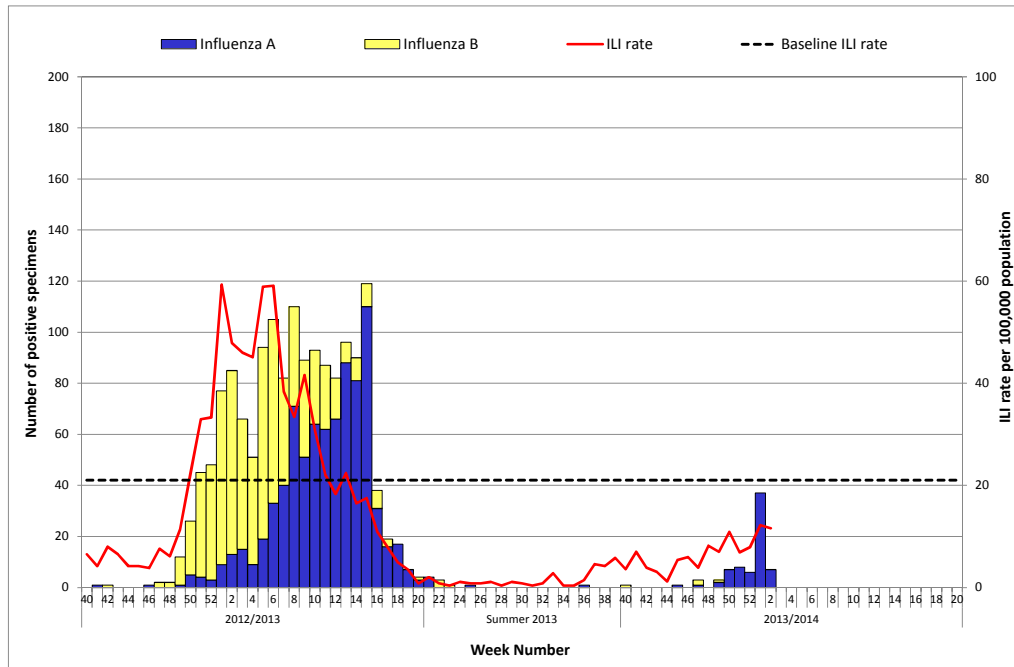


Figure 1. ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold rate, and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season. *Source: ICGP and NVRL*

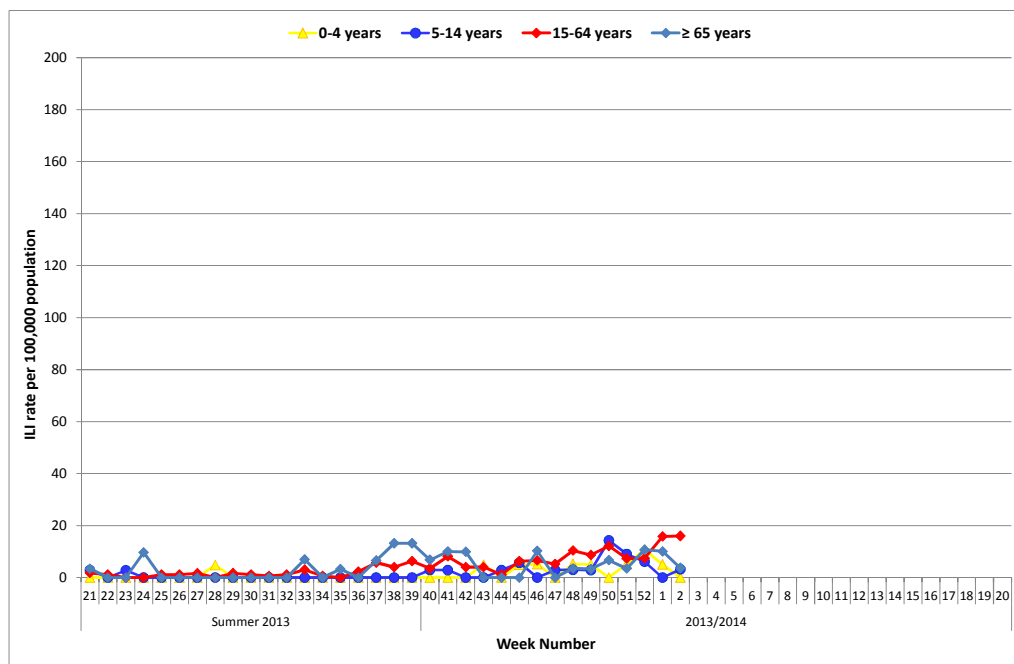


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2013 and the 2013/2014 influenza season to date. *Source: ICGP*

2. Influenza and Other Respiratory Viruses – National Virus Reference Laboratory

The data reported in this section for the 2013/2014 influenza season refer to sentinel and non-sentinel specimens tested for influenza, respiratory syncytial virus (RSV), adenovirus, parainfluenza viruses types 1, 2, 3 & 4 (PIV-1, -2, -3 & -4) and human metapneumovirus (hMPV) by the National Virus Reference Laboratory (NVRL) (figure 3, tables 1 & 2).

- Influenza positivity was at low levels during week 2 2014, with 7 (3.0%) influenza positive specimens reported from the National Virus Reference Laboratory (NVRL): 4 influenza A(H3), 2 influenza A(H1)pdm09 & 1 influenza A (not subtyped).
 - Four influenza A(H3) and one A(H1)pdm09 positive specimens were reported from sentinel GP sources. One influenza A(H1)pdm09 and one influenza A (not subtyped) positive specimens were reported from non-sentinel sources.
- Respiratory syncytial virus (RSV) activity appears to have peaked during week 1 2014; however levels remain high and widespread throughout Ireland. Positivity remained at moderately high levels during week 2 2014, with 36 (16.0%) RSV positive specimens reported from the NVRL (figure 3).
- Human metapneumovirus (hMPV) positive detections from non-sentinel sources increased to 4.9% during week 2 2014.
- Sporadic detections of adenovirus and parainfluenza viruses have been reported from the NVRL for the 2013/2014 season to date.

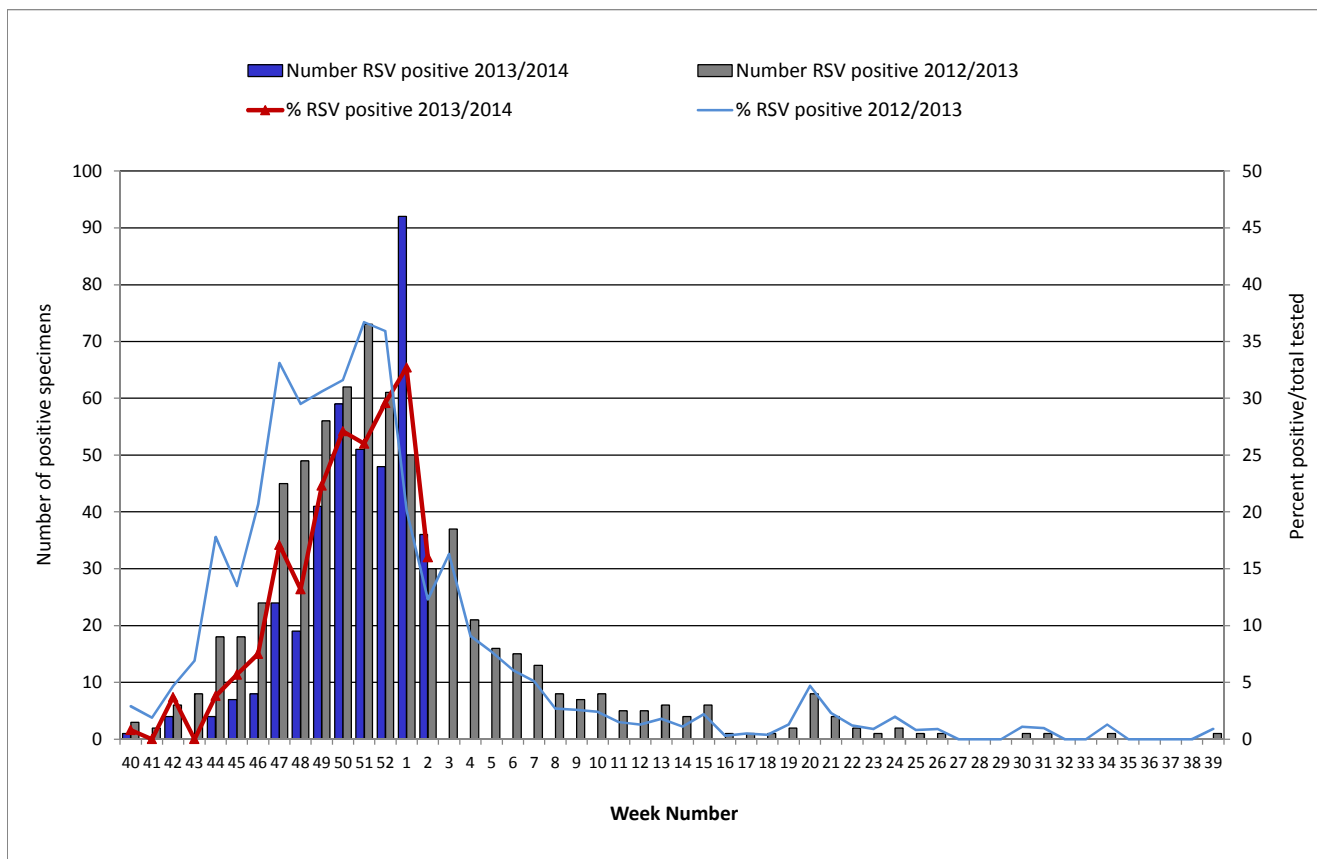


Figure 3: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2013/2014 season, compared to the 2012/2013 season. Source: NVRL.

Table 1: Number of sentinel and non-sentinel* respiratory specimens tested by the NVRL and positive influenza results, for week 2 2014 and the 2013/2014 influenza 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 (not subtyped)	Total influenza A	
2 2014	Sentinel	12	5	41.7	1	4	0	5	0
	Non-sentinel	225	2	0.9	1	0	1	2	0
	Total	237	7	3.0	2	4	1	7	0
2013/2014	Sentinel	148	24	16.2	4	15	2	21	3
	Non-sentinel	2345	49	2.1	20	22	6	48	1
	Total	2493	73	2.9	24	37	8	69	4

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for week 2 2014 and the 2013/2014 influenza 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	PIV-4	% PIV-4	hMPV	% hMPV
2 2014	Sentinel	12	1	8.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	8.3
	Non-sentinel	225	36	16.0	0	0.0	1	0.4	2	0.9	0	0.0	1	0.4	11	4.9
	Total	237	37	15.6	0	0.0	1	0.4	2	0.8	0	0.0	1	0.4	12	5.1
2013/2014	Sentinel	148	4	2.7	2	1.4	2	1.4	3	2.0	1	0.7	0	0.0	4	2.7
	Non-sentinel	2345	394	16.8	24	1.0	44	1.9	21	0.9	5	0.2	1	0.04	47	2.0
	Total	2493	398	16.0	26	1.0	46	1.8	24	1.0	6	0.2	1	0.04	51	2.0

* 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

Influenza activity is based on sentinel GP ILI consultation rates, laboratory data and outbreaks. Sporadic influenza activity (based on ILI cases and/or confirmed influenza cases) was reported from all HSE-Areas during week 2 2014 (figure 4).

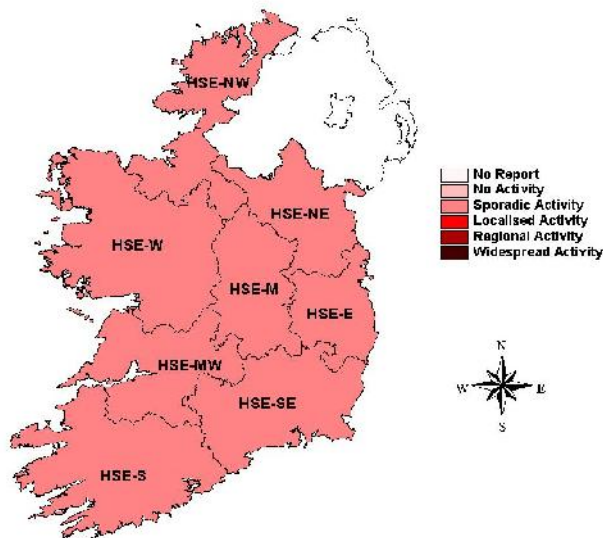


Figure 4: Map of provisional influenza activity by HSE-Area during week 2 2014

Sentinel hospitals

The Departments of Public Health have established at least one sentinel hospital in each HSE-Area, to report data on total, emergency and respiratory admissions on a weekly basis.

During week 2 2014, 322 respiratory admissions were reported from sentinel hospitals, compared to 372 during week 1. Data for week 2 2014 were incomplete; with only 6 of 8 sentinel hospitals reporting (fig 5).

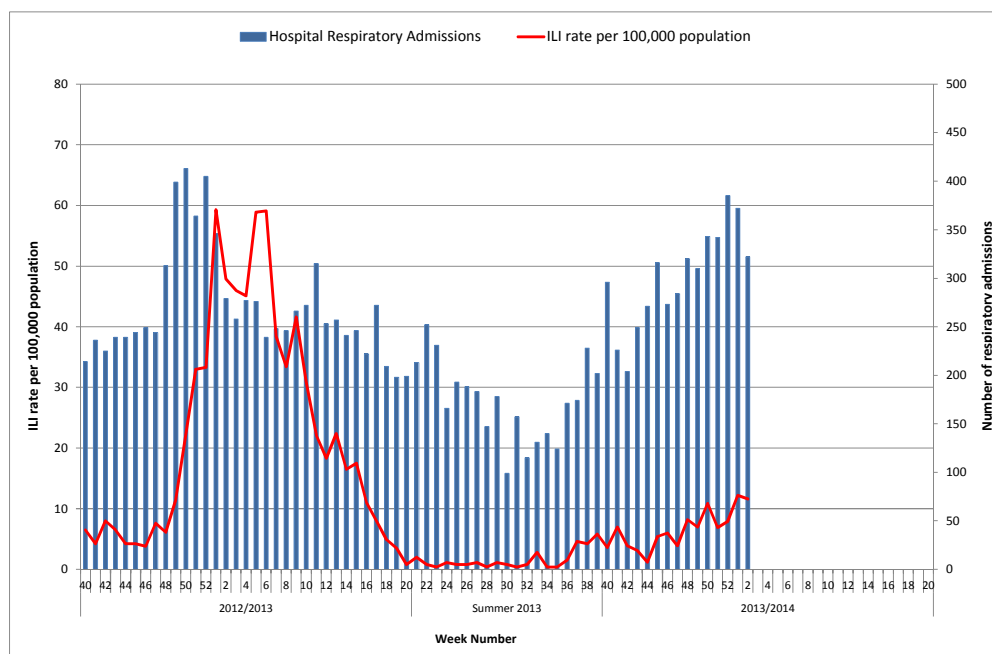


Figure 5: Number of respiratory admissions reported from sentinel hospitals and ILI sentinel GP consultation rate per 100,000 population by week and season. Source: Departments of Public Health - Sentinel Hospitals & ICGP.

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. 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 remained low at 2.5% during week 2 2014 (figure 6).

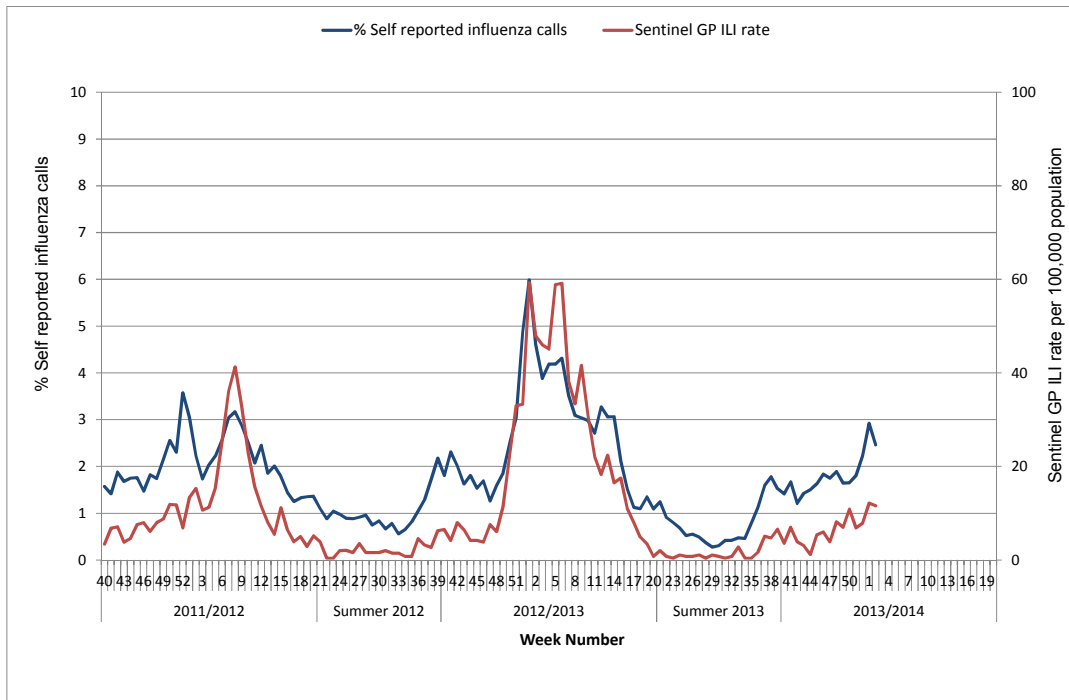


Figure 6: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

5. Influenza & RSV notifications

Influenza and RSV cases notifications are reported on Ireland's Computerised Infectious Disease Reporting System (CIDR), including all positive influenza/RSV specimens reported from all laboratories testing for influenza/RSV and reporting to CIDR.

Influenza and RSV notifications are reported in the [Weekly Infectious Disease Report for Ireland](#).

6. Influenza Hospitalisations

Eleven confirmed influenza hospitalised cases were reported to HPSC during week 2 2014: 4 cases associated with influenza A (H1)pdm09 and seven with influenza A (not subtyped). To date this season, 15 confirmed influenza hospitalised cases were reported to HPSC: four cases were associated with influenza A(H1)pdm09, one with A(H3), seven with A (not subtyped) and three with influenza B.

7. 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 ICU sites, one adult and one paediatric, will also continue during the 2013/2014 season. HPSC process and report on this information on behalf of the regional Directors of Public Health/Medical Officers of Health.

- To date this season, three confirmed influenza cases were admitted to ICU and reported to HPSC, two associated with influenza A(H1N1)pdm09 and one with influenza A(H3N2). One case was in the 15-64 year age group and two cases were over 65 years of age.
- Eleven paediatric cases with severe acute respiratory infections (SARI) have been admitted to ICU and reported to HPSC this season: two cases associated with adenovirus, four with parainfluenza 1 and five with RSV.

8. Mortality Surveillance

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. These data are provisional due to the time delay in deaths' registration in Ireland. <http://www.euromomo.eu/>

- There were no reports of any confirmed influenza-associated deaths occurring during week 2 2014.
- No excess all-cause mortality was reported in Ireland after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm during week 2 2014.

9. Outbreak Surveillance

Three acute respiratory outbreaks in residential care facilities/community hospitals were reported to HPSC (via Ireland's Computerised Infectious Disease Reporting System) during week 2 2014: one outbreak associated with influenza A in HSE-E and two acute respiratory outbreaks (influenza negative) in HSE-S.

10. International Summary

In North America influenza activity has sharply increased over recent weeks, with influenza A(H1N1)pdm09 predominating. In China influenza activity has been increasing with influenza A(H1N1)pdm09, A(H3N2) and B circulating. For the rest of the northern hemisphere as well as in the southern hemisphere influenza activity remained low. The 2013/2014 influenza season appears to be slowly getting started in EU/EEA countries. See [WHO](#) and [ECDC](#) influenza surveillance reports for further information.

- Further information is available on the following websites:
 - Northern Ireland <http://www.fluawareni.info/>
 - Public Health England <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/>
 - Europe – ECDC <http://ecdc.europa.eu/>
 - United States CDC <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>
 - Public Health Agency of Canada <http://www.phac-aspc.gc.ca/fluwatch/12-13/index-eng.php>

- For up to date information on human infection with avian influenza A(H7N9) virus in China including the current case numbers and the WHO assessment of the situation please see [here](#).
- Information on Middle Eastern Respiratory Syndrome Coronavirus (MERS-CoV), including the latest ECDC rapid risk assessment is available on the [ECDC website](#). Further information and guidance documents are also available on the [HPSC](#) and [WHO](#) websites.
- For information on Flusurvey.ie, Ireland's first online influenza surveillance survey, please see the [here](#).

WHO recommendations on the composition of influenza virus vaccines

The WHO vaccine strain selection committee recommended that vaccines for use in the 2013/2014 influenza season (northern hemisphere winter) contain the following: an A/California/7/2009 (H1N1)pdm09-like virus; an A(H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011; a B/Massachusetts/2/2012-like virus.

Further information on influenza is available at www.hpsc.ie

Acknowledgements

This report was prepared by Lisa Domegan and Joan O'Donnell, HPSC. HPSC wishes to thank the sentinel GPs, the ICGP, NVRL, Departments of Public Health, ICSI and HSE-NE for providing data for this report.