

Influenza Surveillance in Ireland – Weekly Report

Influenza Weeks 52 and 53 2015 (21st December 2015 – 3rd January 2016)



Data for weeks 52 and 53 2015 should be interpreted with caution, as reporting levels are affected during the Christmas/New Year Holiday period.

Summary

Influenza activity in Ireland is increasing slowly, however remained at low levels during weeks 52 2015 (week ending December 27, 2015) and 53 2015 (week ending January 3, 2016). Influenza B hospitalisations increased during weeks 52 and 53 2015. Respiratory syncytial virus (RSV) activity remained at high levels during this period.

- **Influenza-like illness (ILI):** The sentinel GP influenza-like illness (ILI) consultation rate was 12.0 per 100,000 population in week 53 2015, remaining low, however increased slightly compared to the rate of 7.3 per 100,000 reported during week 52 2015.
 - ILI rates remain below the Irish baseline ILI threshold (18 per 100,000 population)
 - ILI rates remain at low levels in all age groups
- **GP Out of Hours:** The proportion of influenza-related calls to GP Out-of-Hours services increased significantly during week 53 2015.
- **National Virus Reference Laboratory (NVRL):**
 - Influenza positivity remained low, however increased slightly during weeks 52 and 53 2015, with 33 (7.0%) influenza positive specimens reported from the NVRL: 13 A(H1)pdm09, 1 A (not subtyped) and 19 B. Respiratory syncytial virus (RSV) positivity remained at high levels during weeks 52 and 53 2015.
 - Positive detections of adenovirus, parainfluenza viruses and human metapneumovirus were reported during weeks 52 and 53 2015.
- **Respiratory admissions:** Respiratory admissions reported from a network of sentinel hospitals were at high levels during week 53 2015.
- **Hospitalisations:** 43 confirmed influenza hospitalised cases were notified to HPSC for the 2015/2016 season to date: two associated with influenza A(H3), six with A(H1)pdm09, eight with influenza A (not subtyped) and 27 with influenza B.
- **Critical care admissions:** Seven confirmed influenza cases (one associated with influenza A(H1)pdm09, three with influenza A-not subtyped and three with influenza B) were admitted to critical care units and reported to HPSC for the 2015/2016 season to date.
- **Mortality:** One confirmed influenza B death was reported to HPSC for the 2015/2016 season to date.
- **Outbreaks:** One RSV outbreak in a residential care facility was reported from HSE-NE to HPSC during the week ending January 3, 2016. No acute respiratory/influenza outbreaks were reported to HPSC during the week ending December 27, 2016.
- **International:** Influenza activity remained low in most countries in the European Region, with sporadic influenza viruses detected. The proportion of influenza virus-positive sentinel specimens was over 10% for two consecutive weeks during weeks 50 and 51 2015, confirming the start of the influenza season in Europe in week 51 2015.

1. GP sentinel surveillance system - Clinical Data

- During week 53 2015, 30 influenza-like illness (ILI) cases were reported from sentinel GPs, corresponding to an ILI consultation rate of 12 per 100,000 population, remaining low, however increasing slightly compared to the rate of 7.3 per 100,000 reported during week 52 2015. The ILI rates for the 2015/2016 season to date have remained below the Irish baseline ILI threshold (figure 1).
- HPSC in consultation with the European Centre for Disease Prevention and Control (ECDC) has revised the Irish baseline ILI threshold for the 2015/2016 influenza season to 18 per 100,000 population; this threshold indicates the likelihood that influenza is circulating in the community. The Moving Epidemic Method (MEM) has been adopted by ECDC to calculate thresholds for GP ILI consultations in a standardised approach across Europe.¹
- The baseline ILI threshold, medium (57/100,000 population) and high (114/100,000 population) intensity ILI thresholds are shown in figure 1.
- ILI age specific rates were low in all age groups during weeks 52 and 53 2015 (figure 2).

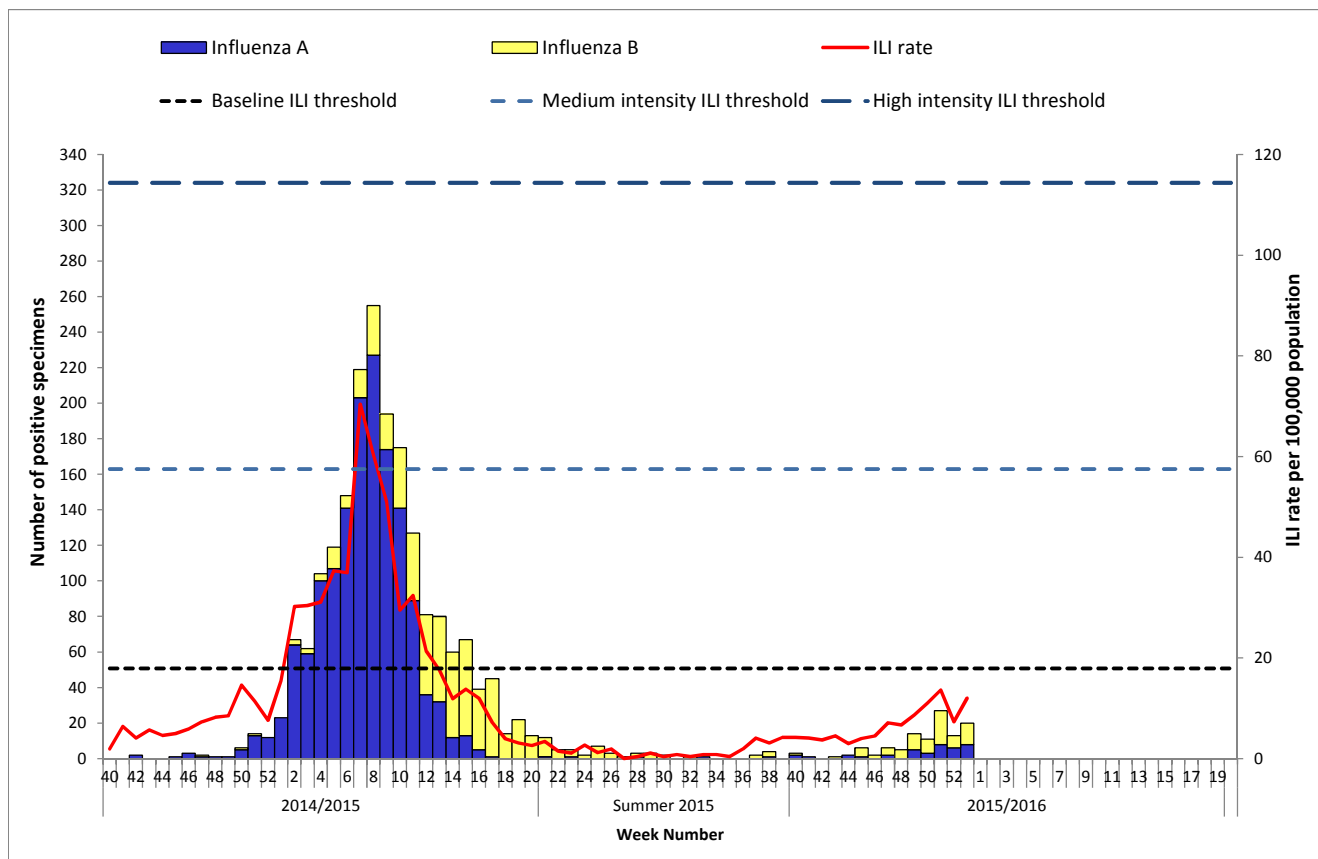


Figure 1. ILI sentinel GP consultation rates per 100,000 population, baseline ILI threshold, medium and high intensity ILI thresholds¹ and number of positive influenza A and B specimens tested by the NVRL, by influenza week and season.
 Source: ICGP and NVRL

¹ For further information on the Moving Epidemic Method (MEM) to calculate ILI thresholds:
<http://www.ncbi.nlm.nih.gov/pubmed/22897919>

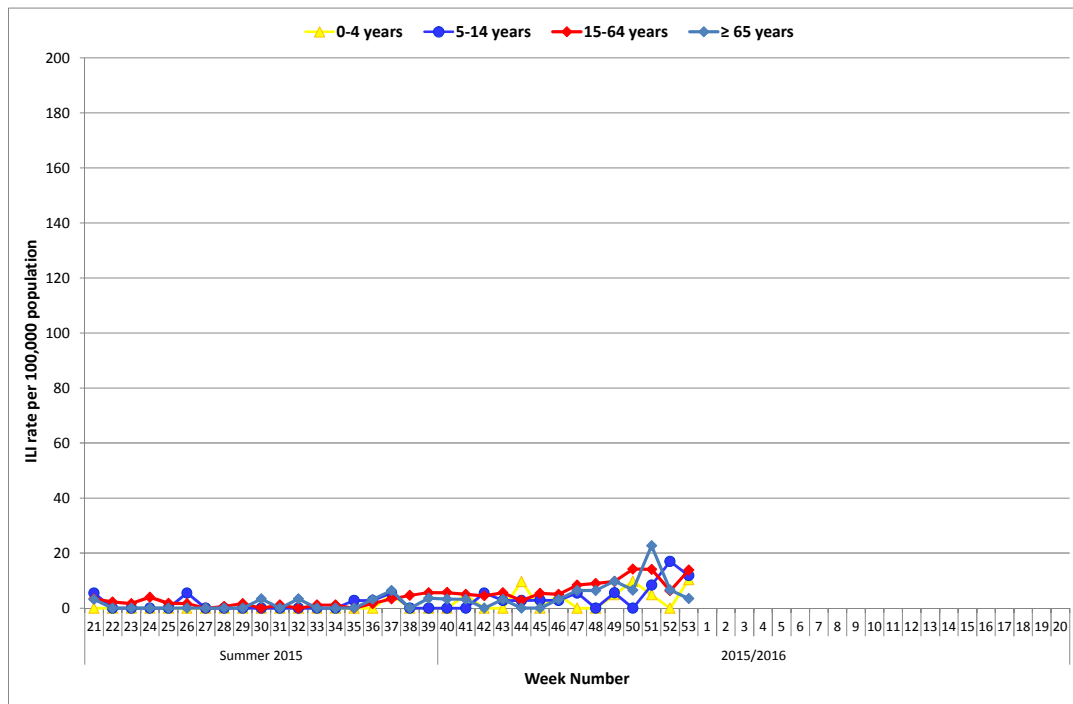


Figure 2: Age specific sentinel GP ILI consultation rate per 100,000 population by week during the summer of 2015 and the 2015/2016 influenza season to date. Source: ICGP.

2. Influenza and Other Respiratory Virus Detections - NVRL

The data reported in this section for the 2015/2016 influenza season refers to sentinel and non-sentinel respiratory specimens routinely 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 remained low, however increased slightly during weeks 52 and 53 2015, with 33 (7.0%) influenza positive specimens reported from the NVRL: 13 A(H1)pdm09, 1 A (not subtyped) and 19 B. To date this season, of the 111 confirmed influenza positive specimens reported by the NVRL, 66% (n=73) were positive for influenza B, 26% (n=29) for influenza A(H1)pdm09 and 5.4% (n=6) were positive for influenza A(H3).
- Week 52 2015:
 - 1 of 3 (33.3%) sentinel specimens were influenza positive: 1 B.
 - 12 of 237 (5.1%) non-sentinel specimens were influenza positive: 5 A(H1)pdm09, 1 A (not subtyped) and 6 B.
- Week 53 2015:
 - No sentinel specimens were reported by the NVRL for week 53 2015.
 - 20 of 230 (8.7%) non-sentinel specimens were influenza positive: 8 A(H1)pdm09 and 12 B.
- Sixty-one (61/230; 26.5%) respiratory syncytial virus (RSV) positive sentinel and non-sentinel specimens were reported during week 53 2015, compared to 27.5% during week 52 2015. RSV positivity has remained at high levels, decreasing slightly in recent weeks. Figure 3 shows the number and percentage of non-sentinel RSV positive specimens detected by the NVRL during the 2015/2016 season, compared to the 2014/2015 season.
- Nineteen human metapneumovirus (hMPV), nine parainfluenza viruses and three adenovirus positive sentinel and non-sentinel specimens were reported by the NVRL during weeks 52 and 53 2015 (table 2).
- The overall proportion of non-sentinel specimens positive for seasonal respiratory viruses* remained high, at 40.1% and 40.9% during weeks 52 and 53 2015, respectively. * Seasonal respiratory viruses tested by the NVRL are detailed above.

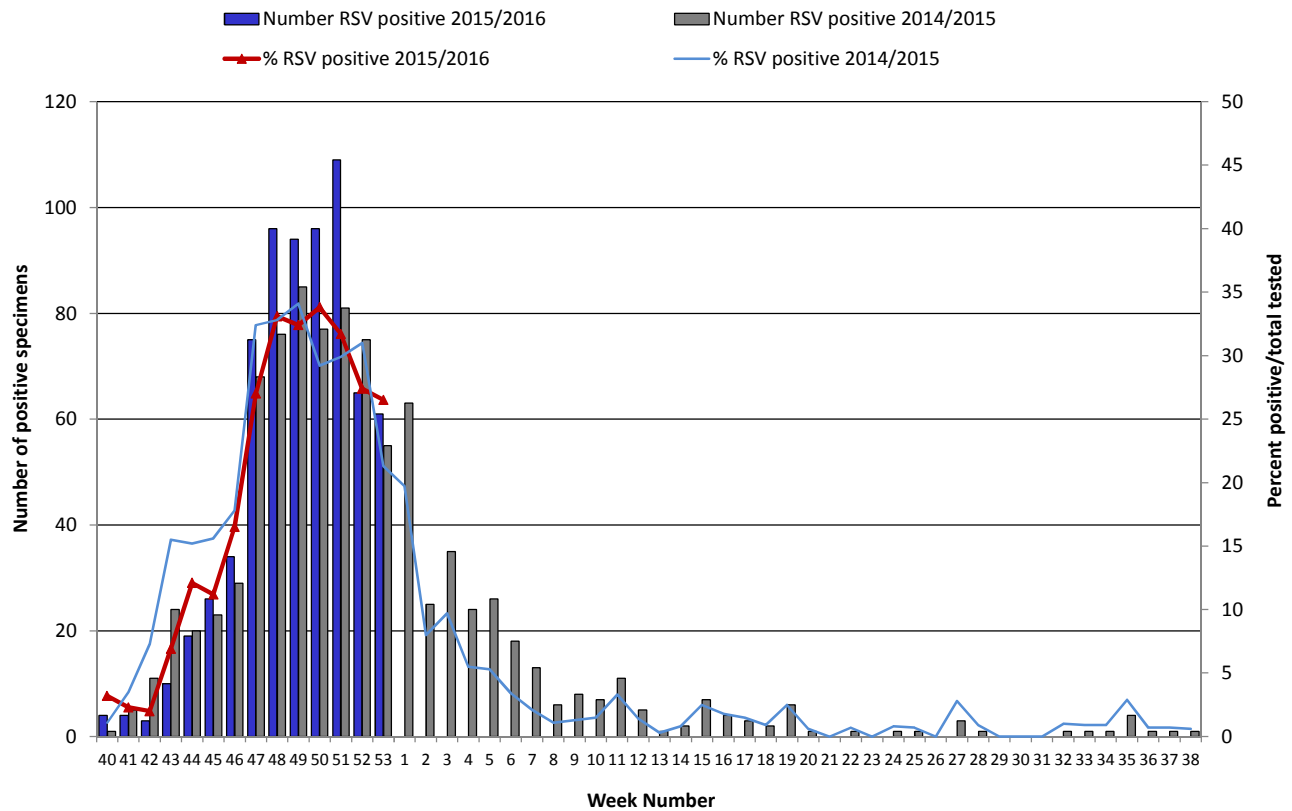


Figure 3: Number and percentage of non-sentinel RSV positive specimens detected by the NVRL by week during the 2015/2016 season, compared to the 2014/2015 season. Source: NVRL.

Table 1: Number of sentinel and non-sentinel[†] respiratory specimens tested by the NVRL and positive influenza results, for weeks 52 and 53 2015 and the 2015/2016 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	
52 2015	Sentinel	3	1	33.3	0	0	0	0	1
	Non-sentinel	237	12	5.1	5	0	1	6	6
	Total	240	13	5.4	5	0	1	6	7
53 2015	Sentinel	0	0	0.0	0	0	0	0	0
	Non-sentinel	230	20	8.7	8	0	0	8	12
	Total	230	20	8.7	8	0	0	8	12
2015/2016	Sentinel	159	24	15.1	5	1	1	7	17
	Non-sentinel	3144	87	2.8	24	5	2	31	56
	Total	3303	111	3.4	29	6	3	38	73

Table 2: Number of non-sentinel specimens tested by the NVRL for other respiratory viruses and positive results, for weeks 52 and 53 2015 and the 2015/2016 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
52 2015	Sentinel	3	1	33.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	237	65	27.4	2	0.8	1	0.4	3	1.3	3	1.3	0	0.0	9	3.8
	Total	240	66	27.5	2	0.8	1	0.4	3	1.3	3	1.3	0	0.0	9	3.8
53 2015	Sentinel	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Non-sentinel	230	61	26.5	1	0.4	0	0.0	1	0.4	0	0.0	1	0.4	10	4.3
	Total	230	61	26.5	1	0.4	0	0.0	1	0.4	0	0.0	1	0.4	10	4.3
2015/2016	Sentinel	159	10	6.3	1	0.6	6	3.8	0	0.0	0	0.0	0	0.0	4	2.5
	Non-sentinel	3144	696	22.1	24	0.8	62	2.0	21	0.7	25	0.8	0	0.0	79	2.5
	Total	3303	706	21.4	25	0.8	68	2.1	21	0.6	25	0.8	0	0.0	83	2.5

[†] 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 confirmed influenza cases and/or ILI cases) was reported in HSE-E, -M, -MW, -NE, -SE and -S and no influenza activity was reported in HSE-W and -NW during week 52 2015. During week 53 2015, localised influenza activity was reported in HSE-E, sporadic influenza activity was reported in HSE-M, -MW, -NE, -SE and -S and no influenza activity was reported in HSE-W and -NW (figure 4).

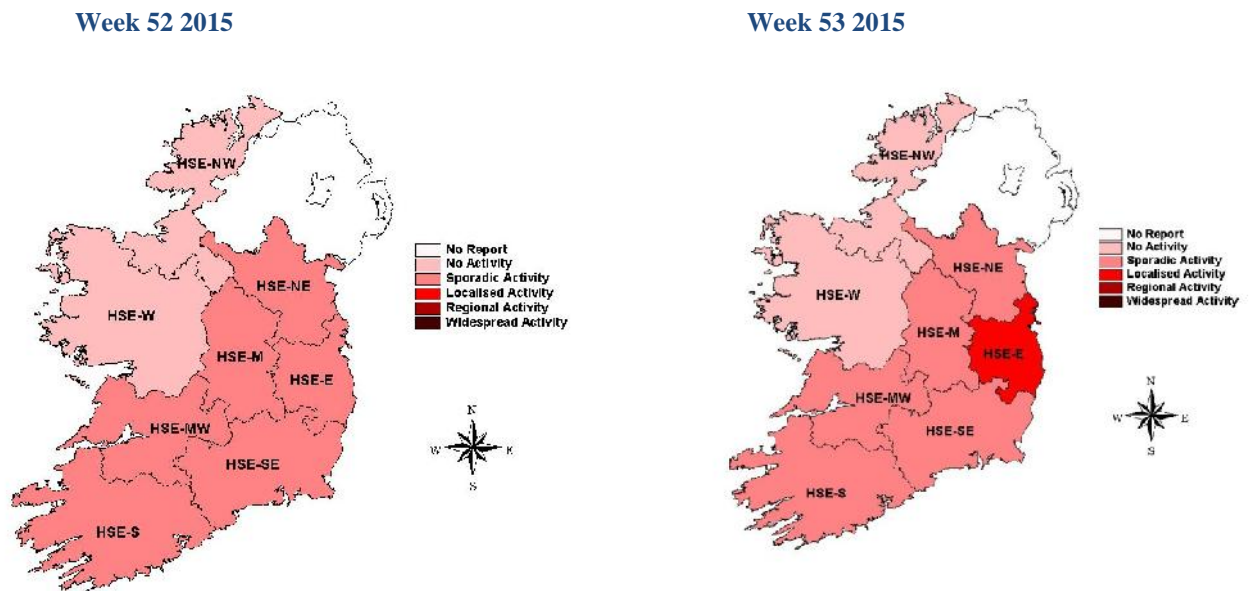


Figure 4: Map of provisional influenza activity by HSE-Area during influenza weeks 52 and 53 2015

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. For the 2015/2016 influenza season, eight sentinel hospitals are regularly reporting respiratory admissions data.

Respiratory admissions reported from a network of sentinel hospitals were at high levels during week 53 2015 at 437, compared to 383 during week 52 2015. It should be noted that data were incomplete at the time of publication; with data missing from one sentinel hospital for weeks 50-53 2015 (figure 5).

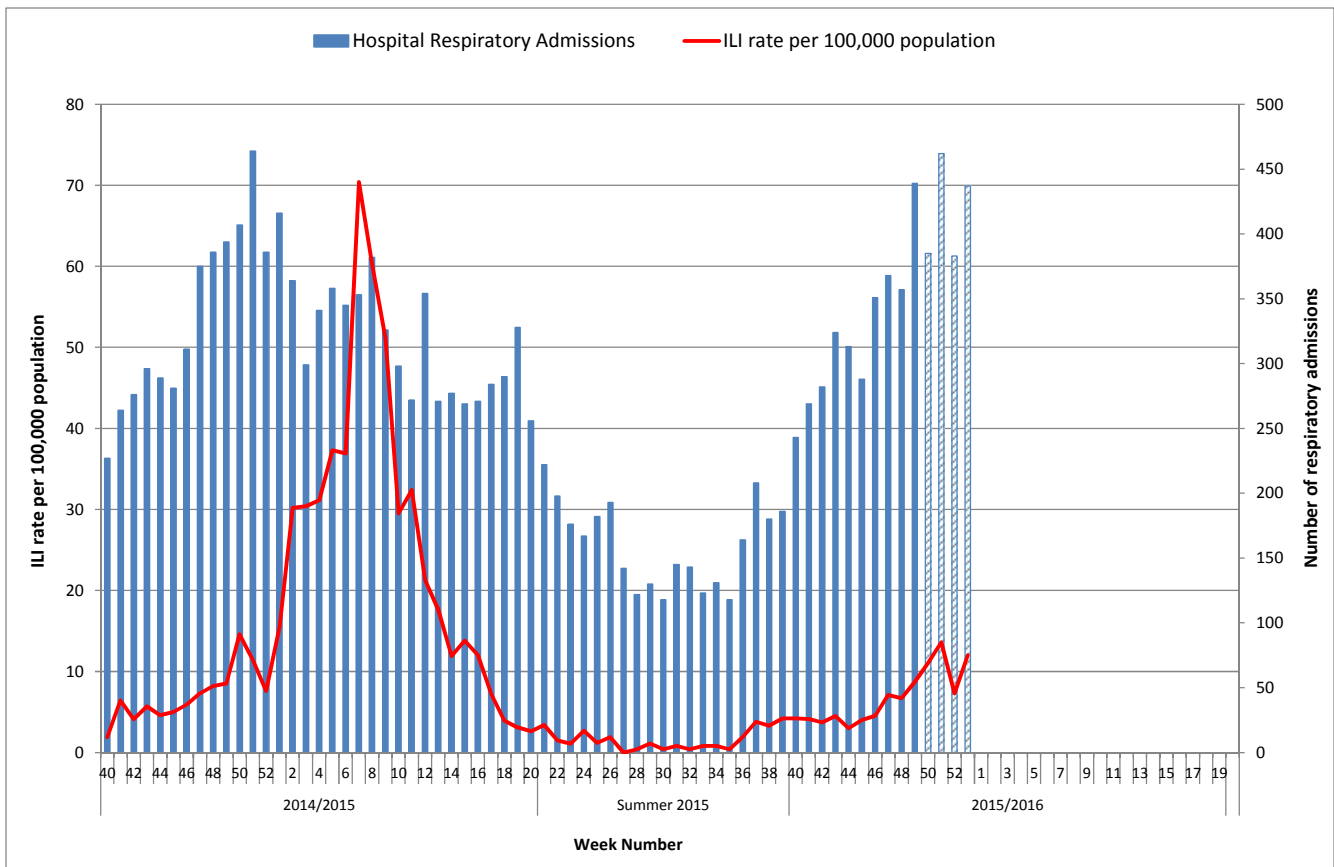


Figure 5: Number of respiratory admissions reported from sentinel hospitals and ILI sentinel GP consultation rate per 100,000 population by week and season. Source: Departments of Public Health - Sentinel Hospitals & ICGP. Data was missing from one sentinel hospital for weeks 50 - 53 2015; hatched area.

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 increased significantly during week 53 2015 to 4.5%, compared to 3.1% during week 52 2015 (figure 6). Data for weeks 52 and 53 2015 need to be interpreted with caution, as reporting levels are affected during the Christmas/New Year Holiday period.

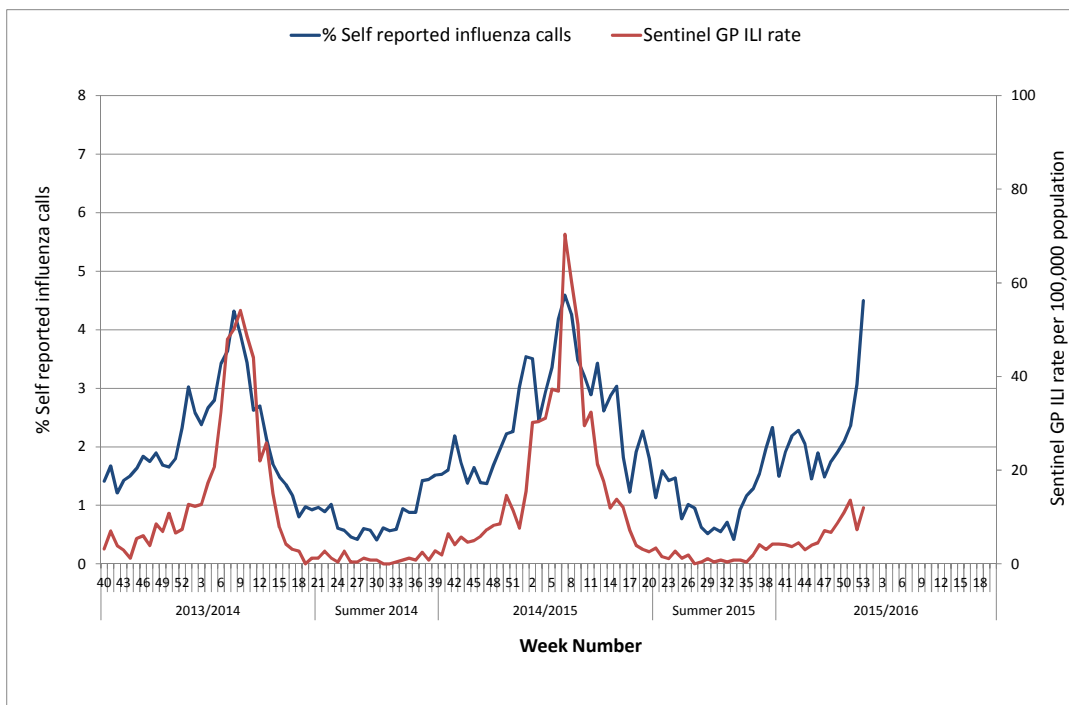


Figure 6: Self-reported influenza-related calls as a proportion of total calls to Out-of-Hours GP Co-ops and sentinel GP ILI consultation rate per 100,000 population by week and season. Source: GP Out-Of-Hours services in Ireland (collated by HSE-NE) & ICGP.

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](#). RSV notifications remained at high levels during the week ending January 2, 2016, with 166 cases notified, compared to 88 during the previous week.

6. Influenza Hospitalisations

Forty-three confirmed influenza hospitalised cases were notified to HPSC for the 2015/2016 season to date: two associated with influenza A(H3), six with A(H1)pdm09, eight with influenza A (not subtyped) and 27 with influenza B. The median age of hospitalised cases for the season to date is 8 years (ranging from 0-71 years).

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. HPSC process and report on this information on behalf of the regional Directors of Public Health/Medical Officers of Health.

Seven confirmed influenza cases (one associated with influenza A(H1)pdm09, three with influenza A-not subtyped and three with influenza B) were admitted to critical care units and reported to HPSC for the 2015/2016 season to date.

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/>

- One influenza B associated death was reported to HPSC for the 2015/2016 season to date.
- No excess all-cause mortality was reported in Ireland for the 2015/2016 season to date, after correcting GRO data for reporting delays with the standardised EuroMOMO algorithm.

9. Outbreak Surveillance

One RSV outbreak in a residential care facility was reported from HSE-NE to HPSC during the week ending January 3, 2016. No acute respiratory/influenza outbreaks were reported to HPSC during the week ending December 27, 2016. To date this season (up to the week ending January 3, 2016), eight acute respiratory/influenza outbreaks have been reported to HPSC, one outbreak was associated with influenza B, two with parainfluenza type 1, three with RSV and two with unidentified pathogens. Seven outbreaks were in community hospital/residential care facilities and one was in a school. It should be noted that family outbreaks are not included in this report. *All outbreaks notified to HPSC are reported in the [HPSC Outbreak Weekly Report](#).*

10. International Summary

Influenza activity remained low in most countries in the European Region, with sporadic influenza viruses detected. The proportion of influenza virus-positive sentinel specimens was over 10% for two consecutive weeks, confirming the start of the influenza season in week 51 2015. As of December 28 2015, globally, influenza activity generally remained low in both hemispheres. In a few countries in Central and Northern Asia, as well as in Eastern and Northern Europe, there were slight increases in influenza detections in recent weeks. In Eastern Asia, the rest of Europe, North Africa and North America, influenza activity continued at low, inter-seasonal levels. See [ECDC](#) and [WHO](#) influenza surveillance reports for further information.

- Further information is available on the following websites:
 - Northern Ireland <http://www.fluawareni.info/>
 - Europe – ECDC <http://ecdc.europa.eu/>
 - Public Health England <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/>
 - United States CDC <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>
 - Public Health Agency of Canada <http://www.phac-aspc.gc.ca/fluwatch/index-eng.php>
- Information on Middle Eastern Respiratory Syndrome Coronavirus (MERS), 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.
- Further information on avian influenza is available on the [ECDC website](#). The latest ECDC rapid risk assessment on highly pathogenic avian influenza A of H5 type is also available on the [ECDC website](#).

11. WHO recommendations on the composition of influenza virus vaccines

The WHO vaccine strain selection committee recommended that vaccines for use in the 2015/2016 influenza season (northern hemisphere winter) contain the following: an A/California/7/2009 (H1N1)pdm09-like virus; an A/Switzerland/9715293/2013 (H3N2)-like virus; a B/Phuket/3073/2013-like virus.

<http://www.who.int/influenza/vaccines/virus/recommendations/en/>

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

Acknowledgements

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