

## SURVEILLANCE REPORT

# Weekly influenza surveillance overview

22 December 2011

## Main surveillance developments in week 50/2011 (12 Dec 2011 – 18 Dec 2011)

*This first page contains the main developments for this week and can be printed separately or together with the more detailed information which follows.*

- During week 50/2011, low influenza activity was notified by all 29 countries reporting.
- Of 671 sentinel specimens collected and tested during week 50/2011, 24 (3.6%) were positive for influenza viruses. Of 178 influenza A viruses sub-typed since week 40/2011, 157 (88.2%) were A(H3) viruses.
- Since week 40/2011, 94 SARI cases have been reported by five countries. Twenty of them were confirmed influenza cases.
- With no evidence of sustained transmission in EU/EEA countries at week 50, the annual influenza season in Europe has yet to start.

**Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI):** Influenza activity of low-intensity was notified by all 29 countries reporting, with the majority of them indicating sporadic spread or no activity. For more information, [click here](#).

**Virological surveillance:** The low proportion of sentinel specimens testing positive for influenza viruses (3.6%) suggests that there is currently little influenza virus circulation in Europe, although an increase in the proportion has been noted for the third consecutive week. For more information, [click here](#).

**Hospital surveillance of severe acute respiratory infection (SARI):**

Since week 40/2011, five countries have reported 94 SARI cases, 20 of which were related to influenza infection. For more information, [click here](#).

# Sentinel surveillance (ILI/ARI)

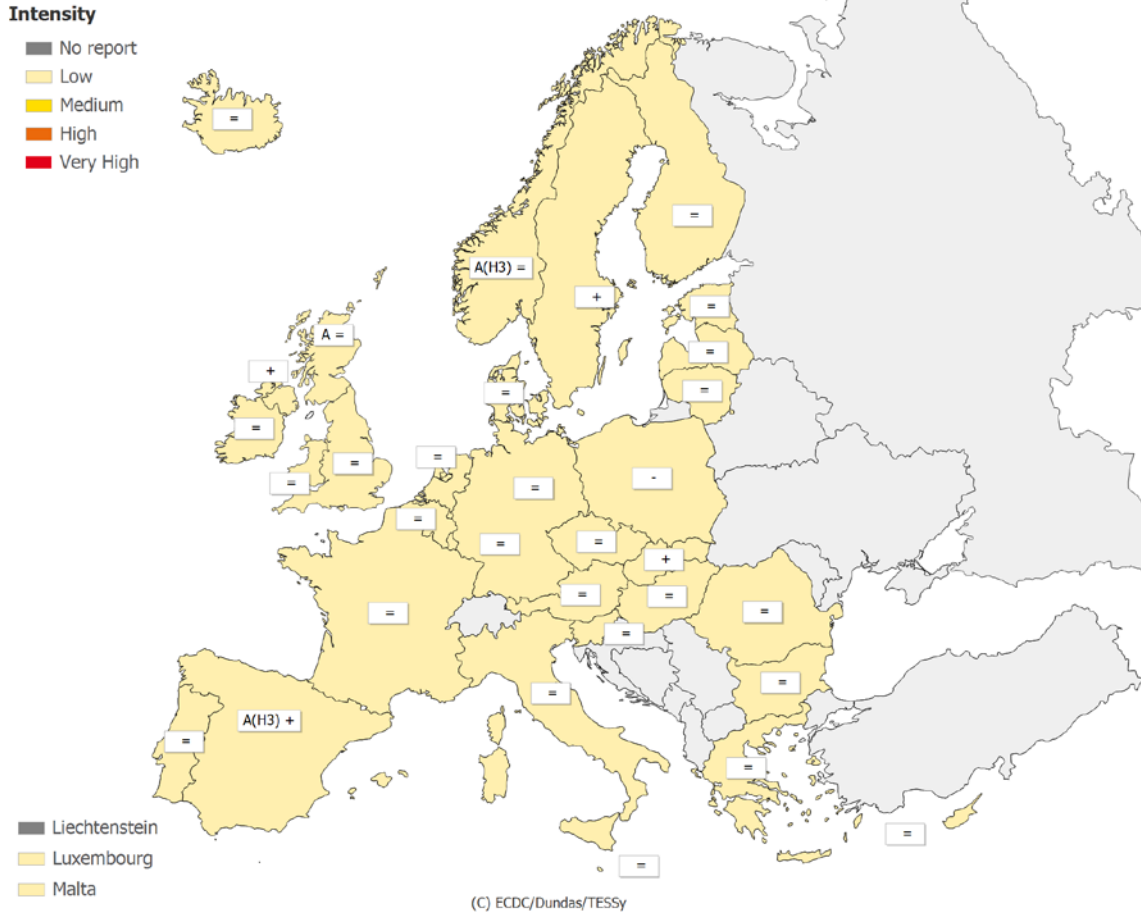
## Weekly analysis – epidemiology

During week 50/2011, all 29 countries reporting experienced low-intensity influenza activity (Table 1, Map 1).

Italy, Malta and the Netherlands reported local spread. Sporadic activity was reported by 13 countries (Belgium, Czech Republic, Estonia, France, Germany, Hungary, Iceland, Luxembourg, Norway, Romania, Slovenia, Spain, and Sweden). No geographic spread was reported by 13 countries (Austria, Bulgaria, Cyprus, Denmark, Finland, Greece, Ireland, Latvia, Lithuania, Poland, Portugal, Slovakia and the UK) (Table 1, Map 2).

Stable trends were reported by 24 countries and the UK (England, Scotland and Wales) while an increasing trend was reported by Slovakia, Spain, Sweden and the UK (Northern Ireland). A decreasing trend was reported by Poland. (Table 1, Map 2)

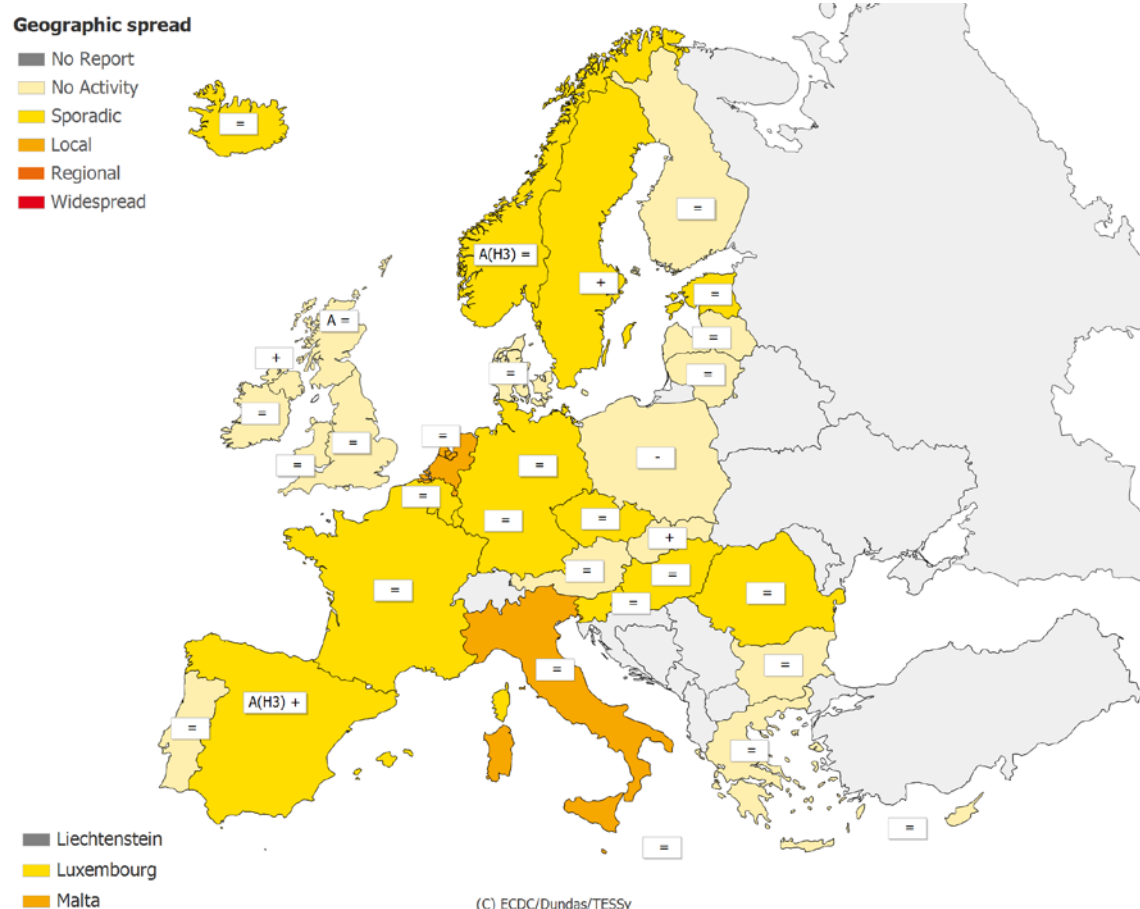
**Map 1: Intensity for week 50/2011**



\* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.

<b>No report</b>	Intensity level was not reported	+	Increasing clinical activity
<b>Low</b>	No influenza activity or influenza at baseline levels	-	Decreasing clinical activity
<b>Medium</b>	Usual levels of influenza activity	=	Stable clinical activity
<b>High</b>	Higher than usual levels of influenza activity	<b>A</b>	Type A
<b>Very high</b>	Particularly severe levels of influenza activity	<b>A(H3)</b>	Type A, Subtype H3

Map 2: Geographic spread for week 50/2011



\* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.

Legend:

<b>No report</b>	Activity level was not reported	+	Increasing clinical activity
<b>No activity</b>	No evidence of influenza virus activity (clinical activity remains at baseline levels)	-	Decreasing clinical activity
<b>Sporadic</b>	Isolated cases of laboratory confirmed influenza infection	=	Stable clinical activity
<b>Local outbreak</b>	Increased influenza activity in local areas (e.g. a city) within a region, or outbreaks in two or more institutions (e.g. schools) within a region (laboratory confirmed)	<b>A</b>	Type A
<b>Regional activity</b>	Influenza activity above baseline levels in one or more regions with a population comprising less than 50% of the country's total population (laboratory confirmed)	<b>A(H3)</b>	Type A, Subtype H3
<b>Widespread</b>	Influenza activity above baseline levels in one or more regions with a population comprising 50% or more of the country's population (laboratory confirmed)		

**Table 1: Epidemiological and virological overview by country, week 50/2011**

Country	Intensity	Geographic spread	Trend	No. of sentinel swabs	Dominant type	Percentage positive*	ILI per 100 000	ARI per 100 000	Epidemiological overview	Virological overview
Austria	Low	No activity	Stable	9	None	0.0	22.0	-	Graphs	Graphs
Belgium	Low	Sporadic	Stable	21	None	0.0	99.6	2076.9	Graphs	Graphs
Bulgaria	Low	No activity	Stable	7	None	0.0	-	1071.7	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	25	None	0.0	39.3	1079.0	Graphs	Graphs
Denmark	Low	No activity	Stable	7	None	0.0	59.5	-	Graphs	Graphs
Estonia	Low	Sporadic	Stable	4	-	0.0	5.7	241.0	Graphs	Graphs
Finland	Low	No activity	Stable	23	None	0.0	-	-	Graphs	Graphs
France	Low	Sporadic	Stable	81	None	3.7	-	2260.7	Graphs	Graphs
Germany	Low	Sporadic	Stable	76	None	2.6	-	1333.8	Graphs	Graphs
Greece	Low	No activity	Stable	0	None	0.0	72.6	-	Graphs	Graphs
Hungary	Low	Sporadic	Stable	26	None	3.8	69.9	-	Graphs	Graphs
Iceland	Low	Sporadic	Stable	0	-	0.0	5.3	-	Graphs	Graphs
Ireland	Low	No activity	Stable	9	None	11.1	11.9	-	Graphs	Graphs
Italy	Low	Local	Stable	5	None	0.0	162.8	-	Graphs	Graphs
Latvia	Low	No activity	Stable	0	None	0.0	0.0	1197.6	Graphs	Graphs
Lithuania	Low	No activity	Stable	4	None	0.0	1.4	543.8	Graphs	Graphs
Luxembourg	Low	Sporadic	Stable	6	-	16.7	-*	-*	Graphs	Graphs
Malta	Low	Local	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Netherlands	Low	Local	Stable	5	None	0.0	21.0	-	Graphs	Graphs
Norway	Low	Sporadic	Stable	9	A(H3)	11.1	46.4	-	Graphs	Graphs
Poland	Low	No activity	Decreasing	19	None	0.0	73.4	-	Graphs	Graphs
Portugal	Low	No activity	Stable	5	None	0.0	4.8	-	Graphs	Graphs
Romania	Low	Sporadic	Stable	22	None	4.5	3.0	740.6	Graphs	Graphs
Slovakia	Low	No activity	Increasing	7	None	0.0	174.3	1614.6	Graphs	Graphs
Slovenia	Low	Sporadic	Stable	10	None	0.0	2.9	990.6	Graphs	Graphs
Spain	Low	Sporadic	Increasing	98	A(H3)	12.2	26.5	-	Graphs	Graphs
Sweden	Low	Sporadic	Increasing	52	None	3.8	11.6	-	Graphs	Graphs
UK - England	Low	No activity	Stable	105	None	0.0	5.8	465.5	Graphs	Graphs
UK - Northern Ireland	Low	No activity	Increasing	8	-	0.0	18.2	395.2	Graphs	Graphs
UK - Scotland	Low	No activity	Stable	24	A	0.0	13.3	536.1	Graphs	Graphs
UK - Wales	Low	No activity	Stable	4	-	0.0	9.1	-	Graphs	Graphs
Europe				671		3.6				Graphs

\*Incidence per 100 000 is not calculated for these countries as no population denominator is provided. Liechtenstein does not report to the European Influenza Surveillance Network.

## Description of the system

Surveillance is based on nationally organised sentinel networks of physicians, mostly general practitioners (GPs), covering at least 1 to 5% of the population in their countries. All EU/EEA Member States (except Liechtenstein) participate. Depending on their country's choice, each sentinel physician reports the weekly number of patients seen with influenza-like illness (ILI), acute respiratory infection (ARI), or both to a national focal point. From the national level, both numerator and denominator data are then reported to the European Surveillance System (TESSy) database. Additional semi-quantitative indicators of intensity, geographic spread, and trend of influenza activity at the national level are also reported.

# Virological surveillance

## Weekly analysis – virology

In week 50/2011, 27 countries reported virological data. Of 667 sentinel specimens tested, 24 (3.6%) were positive for influenza virus (Table 2, Figure 1). In addition, 55 non-sentinel source specimens, e.g. specimens collected for diagnostic purposes in hospitals, were positive for influenza virus.

Of the 79 influenza viruses detected from sentinel and non-sentinel sources during week 50/2011, 73 (92.4%) were type A and six (7.6%) were type B. Twenty-seven of the influenza A viruses were sub-typed as A(H3) and one as A(H1)pdm09 (Table 2).

Of the 374 influenza virus detections in sentinel and non-sentinel specimens since week 40/2011, 318 (85.0%) were type A, and 56 (15.0%) were type B viruses. Of 178 influenza A viruses sub-typed, 21 (11.8%) were A(H1)pdm09, and 157 (88.2%) were A(H3) viruses (Figures 2 & 3). The lineage of 11 influenza B viruses has been determined: seven (63.6%) were B Yamagata and four (36.4%) B Victoria lineage viruses (Table 2).

More details on circulating viruses can be found in the [August–September](#) report prepared by the Community Network of Reference Laboratories (CNRL) coordination team.

Since week 40/2011 ten antigenic characterisations have been reported: five as A/Perth/16/2009 (H3N2)-like; two as A/California/7/2009 (H1N1)-like; one as B/Brisbane/60/2008-like (Victoria lineage); two as B/Florida/4/2006-like (Yamagata lineage) (Figure 4).

Since week 40/2011 four genetic characterisations have been reported: one B(Vic) lineage-clade representative B/Brisbane/60/2008 and three B(Yam) lineage-clade representatives B/Bangladesh/3333/2007 (data not shown).

Since week 40/2011, Norway, Sweden and the Netherlands have reported antiviral resistance data to TESSy concerning 16 influenza viruses. All nine viruses tested for sensitivity to neuraminidase inhibitors were susceptible, whilst the 13 viruses tested for sensitivity to M2 inhibitors were resistant (Table 3).

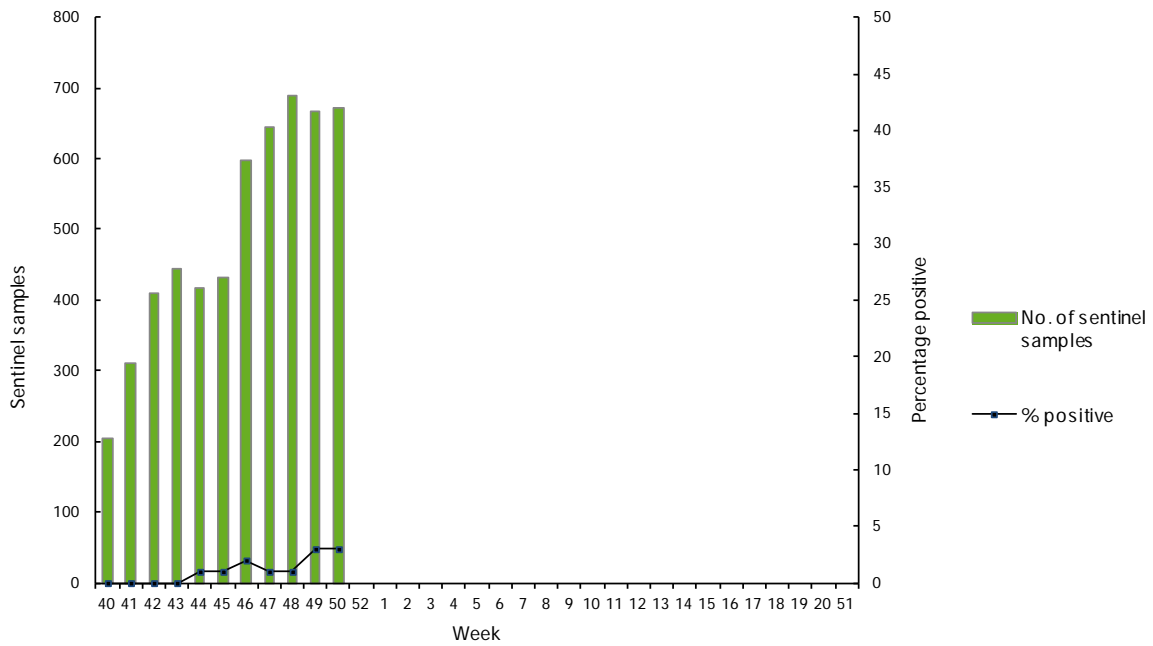
In week 50/2011 nineteen countries reported 988 respiratory syncytial virus detections (Figure 5).

**Table 2: Weekly and cumulative influenza virus detections by type, sub-type and surveillance system, weeks 40/2011–50/2011**

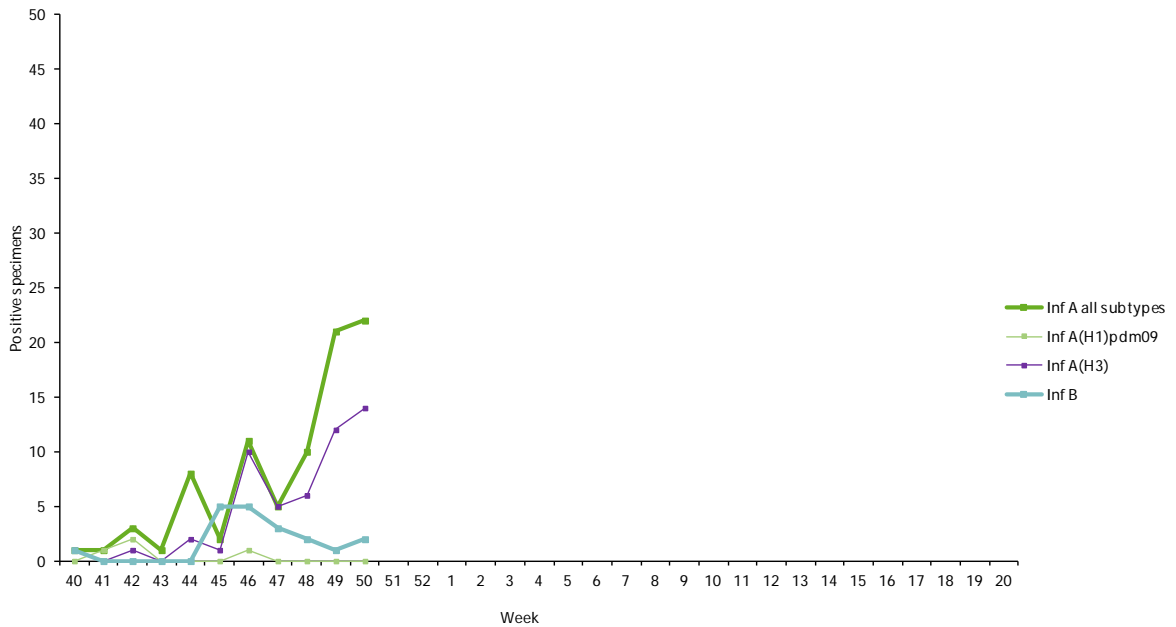
Virus type/subtype	Current period		Season	
	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	22	51	85	233
A (H1)pdm09	0	1	4	17
A (H3)	14	13	52	105
A (sub typing not performed)	8	37	29	111
Influenza B	2	4	19	37
B(Vic) lineage	0	0	0	4
B(Yam) lineage	0	0	5	2
Unknown lineage	2	4	14	31
<b>Total Influenza</b>	<b>24</b>	<b>55</b>	<b>104</b>	<b>270</b>

Note: A(H1)pdm09 and A(H3) include both N-sub-typed and non-N-sub-typed viruses

**Figure 1: Proportion of sentinel samples positive for influenza, weeks 40/2011–50/2011**

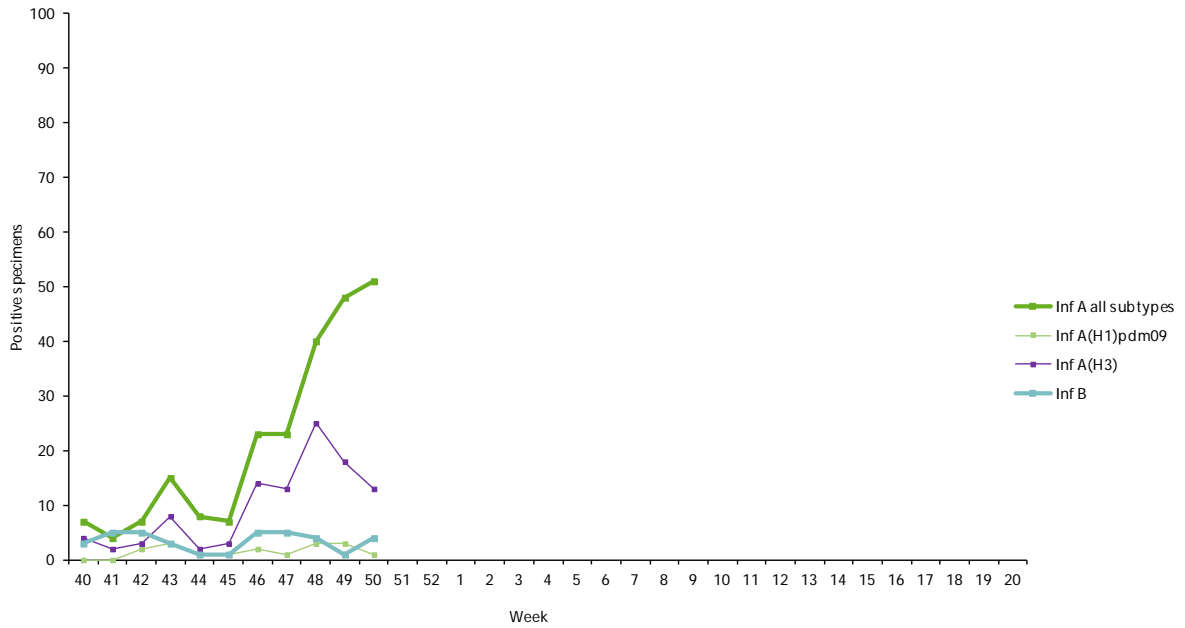


**Figure 2: Number of sentinel specimens positive for influenza, by type, sub-type and week of report, weeks 40/2011–50/2011**

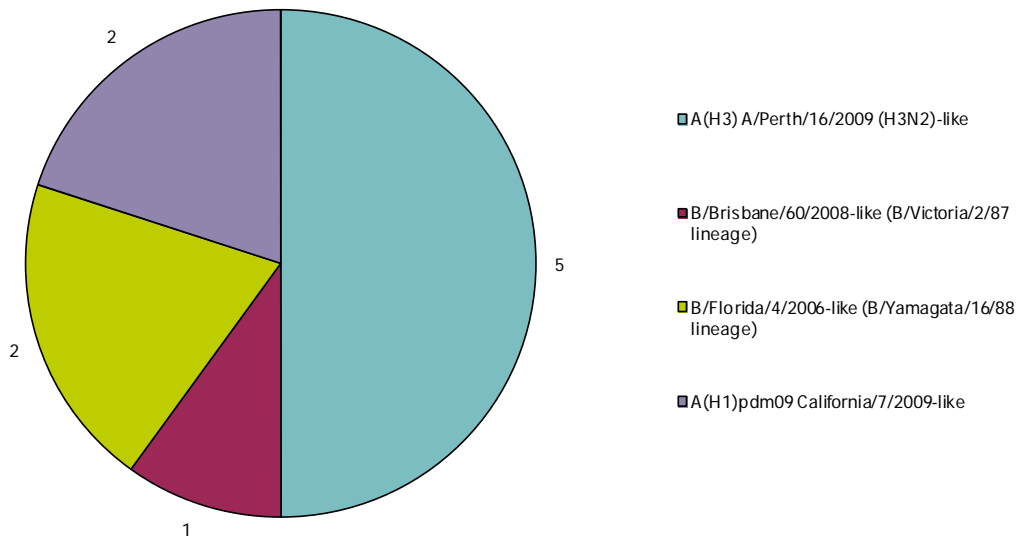




**Figure 3: Number of non-sentinel specimens positive for influenza by type, sub-type and week of report, weeks 40/2011–50/2011**



**Figure 4: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–50/2011**

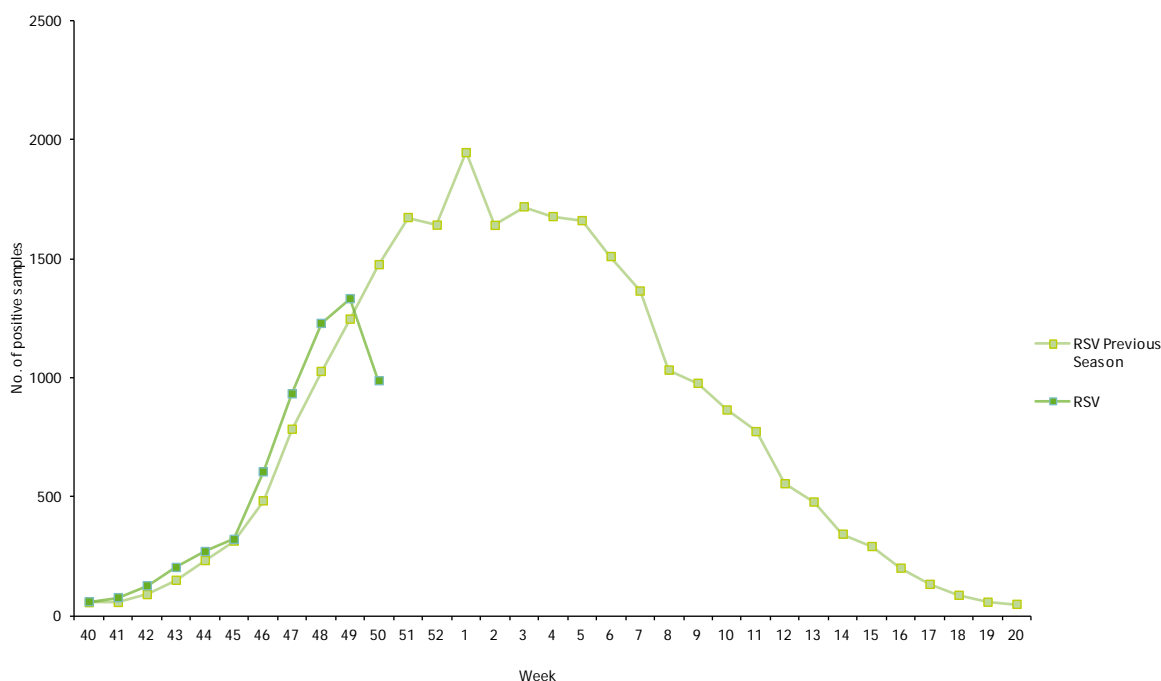


**Table 3: Antiviral resistance by influenza virus type and sub-type, weeks 40/2011–50/2011**

Virus type and subtype	Resistance to neuraminidase inhibitors				Resistance to M2 inhibitors	
	Oseltamivir		Zanamivir		Isolates tested	Resistant no. (%)
	Isolates tested	Resistant no. (%)	Isolates tested	Resistant no. (%)		
A(H3)	6	0	6	0	11	11 (100%)
A(H1)pdm09	2	0	2	0	2	2 (100%)
B	1	0	1	0	NA*	NA*

\* NA - not applicable, as M2 inhibitors do not act against influenza B viruses. Data are from single location (e.g. H275Y only) or multiple location mutation analysis (full sequencing) and/or phenotypic characterisation (IC50 determination). Therefore, data should be interpreted in this context.

**Figure 5: Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2011–50/2011**



## Country comments

**Norway:** Whereas the number of influenza virus detections in Norway remains low, there has been an increase in number of influenza A detections in weeks 48 through 50. All except one of 35 influenza A viruses sub-typed in Norway so far this season have been of H3 sub-type.

## Description of the system

According to the nationally defined sampling strategy, sentinel physicians take nasal or pharyngeal swabs from patients with influenza-like illness (ILI), acute respiratory infection (ARI) or both and send the specimens to influenza-specific reference laboratories for virus detection, (sub-)typing, antigenic or genetic characterisation and antiviral susceptibility testing.

For details on the current virus strains recommended by WHO for vaccine preparation [click here](#).

# Hospital surveillance – severe influenza disease

## Weekly analysis of severe acute respiratory infection – SARI

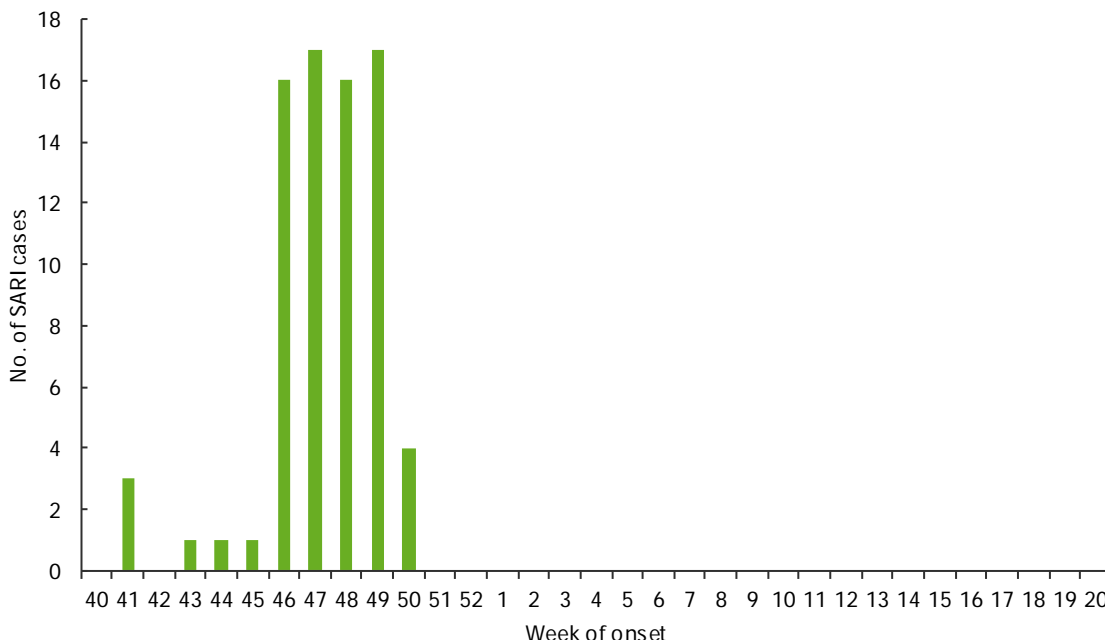
Since week 40/2011, a total of 94 SARI cases and three fatalities have been reported to TESSy by five countries (Table 4). Forty-three (54.4 %) of 79 patients for whom information was available were males (Table 5). Of the cases reported during week 50/2011, one was confirmed to be related to influenza infection. Of the cumulative cases since week 40/2011, 20 have had influenza virus infection confirmed (Table 6). Of the 74 patients with documented vaccination status, 71 (96%) were not vaccinated (Table 7).

**Table 4: Cumulative number of SARI cases, weeks 40/2011- 50/2011**

Country	Number of cases	Incidence of SARI cases per 100,000 population	Number of fatal cases reported	Incidence of fatal cases per 100,000 population	Estimated population covered
Spain	1				
France	3				
Romania	69	1.19	3	0.05	5813728
Slovakia	6	0.11			5440078
United Kingdom	15	0.03			59255492
<b>Total</b>	<b>94</b>		<b>3</b>		

*Note: United Kingdom does not include Wales.*

**Figure 6: Number of SARI cases by week of onset, weeks 40/2011–50/2011**



**Table 5: Number of SARI cases by age and gender, weeks 40/2011–50/2011**

Age groups	Male	Female	Unknown
Under 2	16	10	
2-17	10	12	
18-44	4	9	
45-59	5	1	
>=60	8	4	
Unknown			15
<b>Total</b>	<b>43</b>	<b>36</b>	<b>15</b>

**Table 6: Number of SARI cases by influenza type and sub-type and other pathogens, week 50/2011 and cumulative for the season**

Pathogen	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	2	18
A(H1)pdm09		9
A(subtyping not performed)	2	8
A(H3)		1
Influenza B		2
Other Pathogen		
Unknown	15	74
<b>Total</b>	<b>17</b>	<b>94</b>

**Table 7: Number of SARI cases by vaccination status, weeks 40/2011–50/2011**

Vaccination Status	Number Of Cases	percentage of case
Both, monovalent 2009 pandemic H1N1 and seasonal vaccination	1	1.1
Not vaccinated	71	76
Seasonal vaccination	2	2.2
Unknown	19	20
<b>TOTAL</b>	<b>93</b>	

## Country comments

**Romania:** Laboratory investigations have been performed for 86% of SARI cases. Detected pathogens were: ten parainfluenza virus type 1; one parainfluenza virus type.

*This report was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC): Eeva Broberg, Flaviu Plata, Julien Beauté and René Snacken. The bulletin text was reviewed by the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL) coordination team: Adam Meijer, Rod Daniels, John McCauley and Maria Zambon. On behalf of the EISN members, the bulletin text was reviewed by Amparo Larrauri Cámara (Instituto de Salud Carlos III, Spain) and Suzie Coughlan (UCD National Virus Reference Laboratory, Ireland). In addition, the report is reviewed by experts of WHO Regional Office for Europe.*

*Maps and commentary published in this Weekly Influenza Surveillance Overview (WISO) do not represent a statement on the part of ECDC or its partners on the legal or border status of the countries and territories shown.*

*All data published in the WISO are up-to-date on the day of publication. Past this date, however, published data should not be used for longitudinal comparisons as countries tend to retrospectively update their database.*

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