

## SURVEILLANCE REPORT

# Weekly influenza surveillance overview

7 December 2012

## Main surveillance developments in week 48/2012 (26 Nov–2 Dec 2012)

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

Weekly reporting on influenza surveillance in Europe for the 2012–13 season started in week 40/2012.

- In week 48/2012, all 28 countries reporting experienced low-intensity activity of influenza-like illness or acute respiratory infection.
- Of 520 sentinel specimens tested across 21 countries, 46 (8.8%) were positive for influenza virus. This is an increase compared with week 47/2012 when 3.1% of specimens were positive.
- Of the influenza virus detections in sentinel specimens since week 40/2012, 46% were type A and 54% were type B viruses. Of the A viruses subtyped, two thirds were A(H3) and one third were A(H1).
- The number of RSV detections continued to increase in week 48.
- No hospitalised laboratory-confirmed influenza cases were reported in week 48.

The proportion of sentinel specimens positive for influenza virus has increased since the early weeks of the season, but there is still little epidemiological evidence of sustained influenza virus transmission in EU/EEA countries.

**Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI):** Clinical influenza activity of low intensity was notified by all 28 countries reporting, with 14 of them indicating sporadic, one local, and 13 no geographic spread. For more information, [click here](#).

**Virological surveillance:** Twenty-four countries reported virological data. Sentinel physicians collected 520 specimens, of which 46 (8.8%) tested positive for influenza virus. For more information, [click here](#).

**Hospital surveillance of laboratory-confirmed influenza cases:** In week 48/2012, no hospitalised laboratory-confirmed influenza cases were reported. For more information, [click here](#).

# Sentinel surveillance (ILI/ARI)

## Weekly analysis – epidemiology

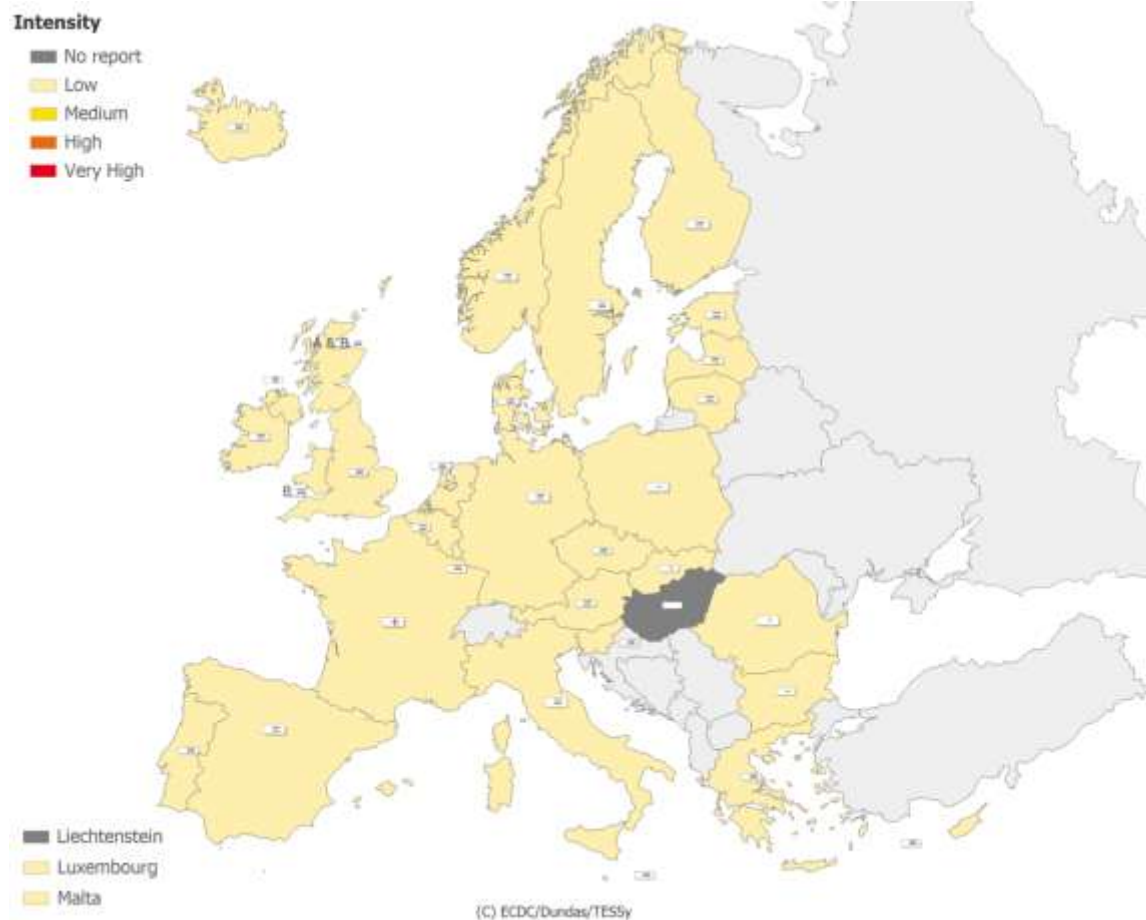
During week 48/2012, all 28 countries reporting clinical data experienced low-intensity influenza activity (Table 1, Map 1).

Geographic spread was reported as local by Malta and sporadic by 14 countries. The remaining 13 countries reported no activity (Table 1, Map 2).

Stable trends in clinical activity were reported by 23 countries, while an increasing trend was reported by France. Decreasing trends were reported by Bulgaria, Poland, Romania and Slovakia (Table 1, Map 2).

There is still little epidemiological evidence of sustained influenza virus transmission in EU/EEA countries.

**Map 1. Intensity for week 48/2012**

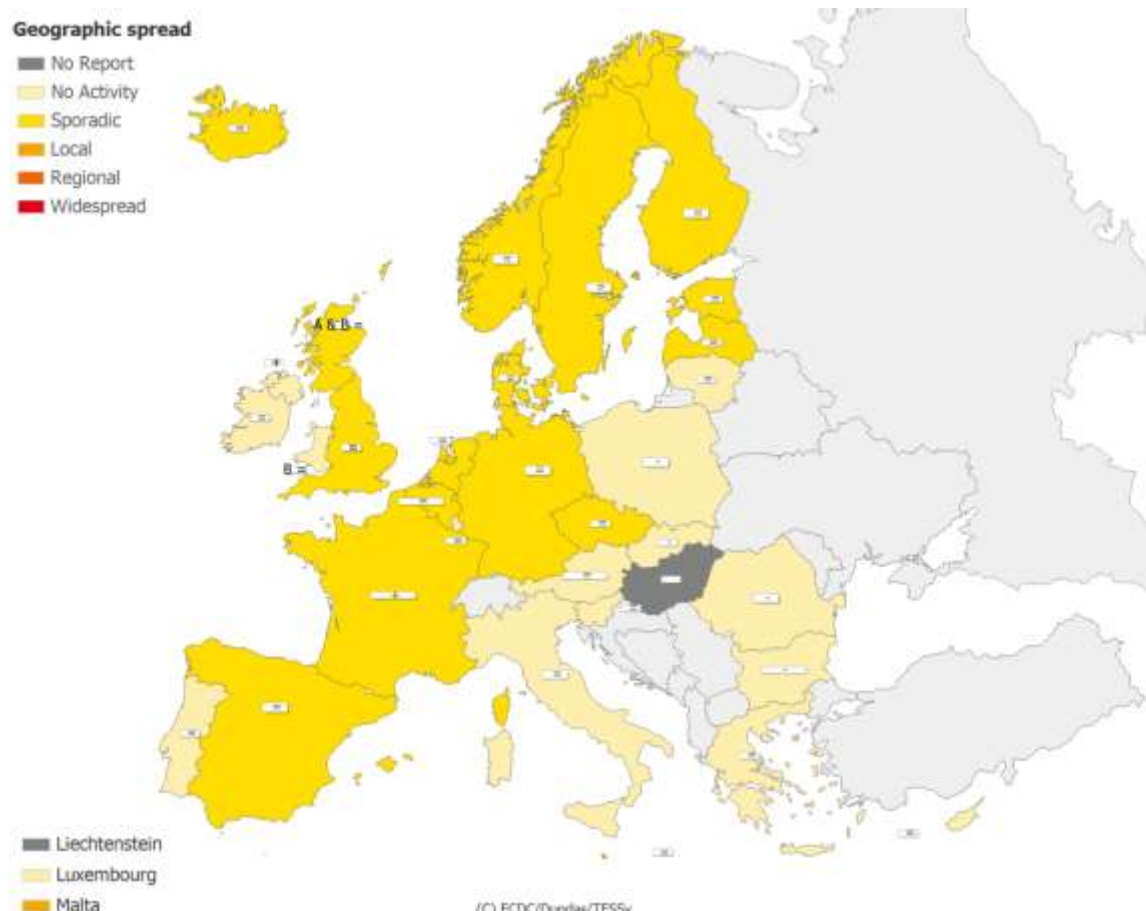


\* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.

Legend:

<b>No report</b>	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 &amp; B</b>	Type A and B
<b>Very high</b>	Particularly severe levels of influenza activity	<b>B</b>	Type B

**Map 2. Geographic spread for week 48/2012**



(C) ECDC/Dundas/TESSy  
 \* 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 &amp; B</b>	Type A and B
<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>B</b>	Type B
<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 48/2012**

Country	Intensity	Geographic spread	Trend	No. of sentinel specimens	Dominant type	Percentage positive	ILI per 100 000	ARI per 100 000	Epidemiological overview	Virological overview
Austria	Low	No activity	Stable	8	None	0.0	19.9	-	Graphs	Graphs
Belgium	Low	Sporadic	Stable	10	None	10.0	84.9	2100.7	Graphs	Graphs
Bulgaria	Low	No activity	Decreasing	0	None	0.0	-	962.9	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	-	-	0.0	31.4	949.2	Graphs	Graphs
Denmark	Low	Sporadic	Stable	4	None	50.0	31.5	-	Graphs	Graphs
Estonia	Low	Sporadic	Stable	2	None	0.0	6.0	272.9	Graphs	Graphs
Finland	Low	Sporadic	Stable	12	None	0.0	-	-	Graphs	Graphs
France	Low	Sporadic	Increasing	97	None	11.3	-	1871.3	Graphs	Graphs
Germany	Low	Sporadic	Stable	88	None	6.8	-	1105.7	Graphs	Graphs
Greece	Low	No activity	Stable	0	None	0.0	69.9	-	Graphs	Graphs
Hungary				15	None	0.0	-	-	Graphs	Graphs
Iceland	Low	Sporadic	Stable	-	-	0.0	2.2	-	Graphs	Graphs
Ireland	Low	No activity	Stable	9	None	11.1	6.6	-	Graphs	Graphs
Italy	Low	No activity	Stable	19	None	10.5	104.7	-	Graphs	Graphs
Latvia	Low	Sporadic	Stable	-	-	0.0	0.0	1031.0	Graphs	Graphs
Lithuania	Low	No activity	Stable	3	None	0.0	1.9	511.4	Graphs	Graphs
Luxembourg	Low	No activity	Stable	8	None	0.0	-*	-*	Graphs	Graphs
Malta	Low	Local	Stable	0	None	0.0	-*	-*	Graphs	Graphs
Netherlands	Low	Sporadic	Stable	-	-	0.0	32.4	-	Graphs	Graphs
Norway	Low	Sporadic	Stable	8	None	25.0	29.6	-	Graphs	Graphs
Poland	Low	No activity	Decreasing	11	None	0.0	91.6	-	Graphs	Graphs
Portugal	Low	No activity	Stable	3	None	0.0	16.0	-	Graphs	Graphs
Romania	Low	No activity	Decreasing	11	-	0.0	1.9	550.9	Graphs	Graphs
Slovakia	Low	No activity	Decreasing	5	None	0.0	124.0	1400.4	Graphs	Graphs
Slovenia	Low	No activity	Stable	6	None	0.0	0.0	1013.5	Graphs	Graphs
Spain	Low	Sporadic	Stable	61	None	6.6	17.0	-	Graphs	Graphs
Sweden	Low	Sporadic	Stable	26	None	0.0	1.2	-	Graphs	Graphs
UK - England	Low	Sporadic	Stable	69	None	21.7	9.5	389.3	Graphs	Graphs
UK - Northern Ireland	Low	No activity	Increasing	3	None	0.0	12.1	466.1	Graphs	Graphs
UK - Scotland	Low	Sporadic	Stable	38	A & B	5.3	8.1	448.0	Graphs	Graphs
UK - Wales	Low	No activity	Stable	4	B	0.0	4.7	-	Graphs	Graphs
<b>Europe</b>				<b>520</b>		<b>8.8</b>				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 ILI, 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 48/2012, 24 countries reported virological data. Of 520 sentinel specimens tested, 46 (8.8%) were positive for influenza virus (Tables 1–2, Figure 1). This is an increase compared with week 47/2012 when 3.1% of specimens were positive for influenza virus. In addition, 127 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were found to be positive for influenza virus (Table 2).

Of the 173 influenza viruses detected from sentinel and non-sentinel sources during week 48/2012, 82 (47.4%) were type A and 91 (52.6%) were type B. Of the 34 influenza A viruses subtyped, 21 (61.8%) were A(H1)pdm09 and 13 (38.2%) were A(H3). Thirteen B viruses were characterised further: nine (69.2%) were of B-Yamagata lineage and four (30.8%) of B-Victoria lineage (Table 2, Figures 2 and 3).

Of the 132 influenza virus detections in sentinel specimens since week 40/2012, 61 (46.2%) were type A, and 71 (53.8%) were type B viruses. Of 51 influenza A viruses subtyped, 34 (66.7%) were A(H3) and 17 (33.3%) were A(H1)pdm09. Eight B viruses were characterised further: six (75.0%) were of B-Yamagata lineage and two (25.0%) were Victoria (Table 2, Figure 2).

Of the 614 influenza viruses detected from non-sentinel sources since week 40/2012, 369 (60.1%) were type A, and 245 (39.9%) were type B. Of 187 type A viruses subtyped, 97 (51.9%) were A(H1)pdm09 and 90 (48.1%) A(H3). Sixty-five B viruses were characterised further: 57 (87.7%) were of B-Yamagata lineage and eight (12.3%) were Victoria (Table 2, Figure 3).

Since week 40/2012, 33 antigenic characterisations of influenza viruses have been reported. Twenty-seven (81.8%) have been characterised as A/Victoria/361/2011 (H3N2)-like; one as A(H1)pdm09 A/California/7/2009 (H1N1)-like; two as B/Brisbane/60/2008-like (Victoria lineage); and two as B/Wisconsin/1/2010-like (Yamagata lineage). One A(H3) virus was not attributed to any category (Table 3).

Since week 40/2012, 50 genetic characterisations of influenza viruses have been reported for sentinel and non-sentinel specimens: eight A(H1) viruses belonged to two genetic groups, 19 A(H3) to three groups, four B (Victoria lineage) to one group and 19 B (Yamagata lineage) viruses to three different genetic groups. Most of the viruses fell in either the A(H3) clade representative A/Victoria/208/2009 – A/Alabama/05/2010 group 5 or in the B (Yamagata) lineage clade representative B/Estonia/55669/2011 group (Table 4).

More details on circulating viruses can be found in the [October report](#) prepared by the Community Network of Reference Laboratories (CNRL) coordination team. The viruses circulating this season remain well-matched with the 2012/13 seasonal vaccine viruses.

Since week 40/2012, a total of 34 viruses have been tested for antiviral drug susceptibility. None of the 21 A(H1N1)pdm09, nine A(H3N2) and four B viruses tested for neuraminidase inhibitor susceptibility showed genetic or phenotypic evidence for (highly) reduced inhibition. Two A(H1N1)pdm09 and seven A(H3N2) viruses tested for M2 blocker susceptibility carried the S31N amino acid substitution in the M2 protein associated with M2 blocker resistance.

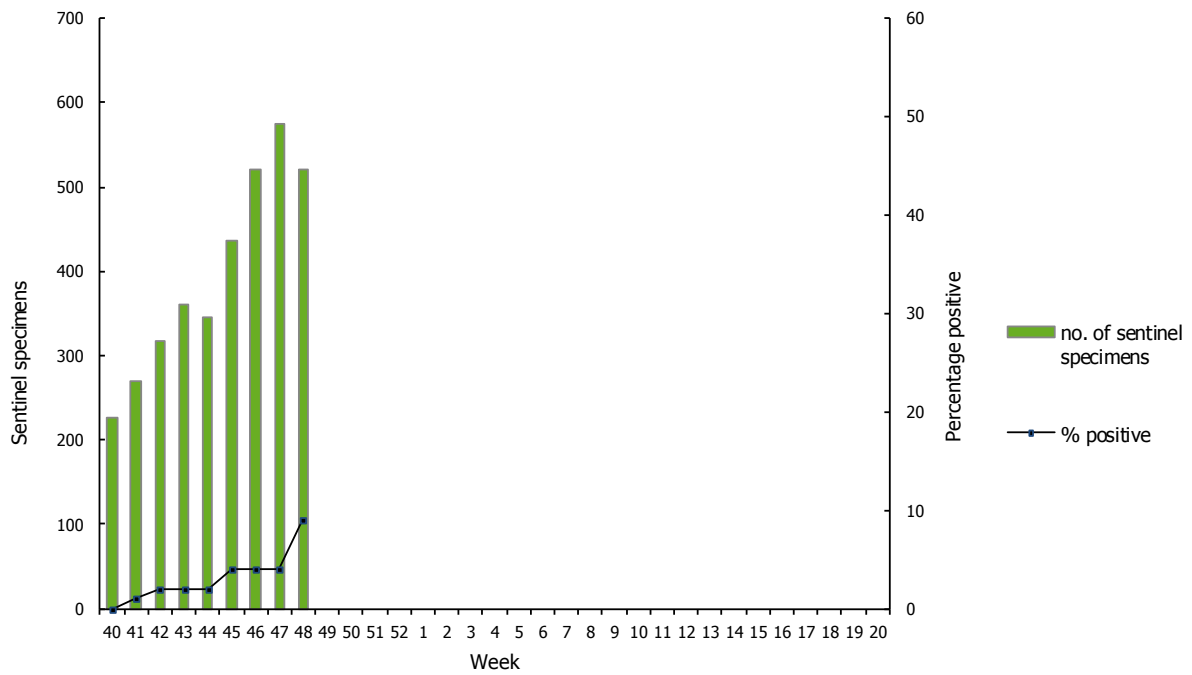
In week 48/2012, 10 countries reported 1 444 respiratory syncytial virus detections. The number of RSV detections has continued to increase since week 40/2012, following the trend in the number of RSV detections observed during the same period last year (Figure 4).

**Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40–48/2012**

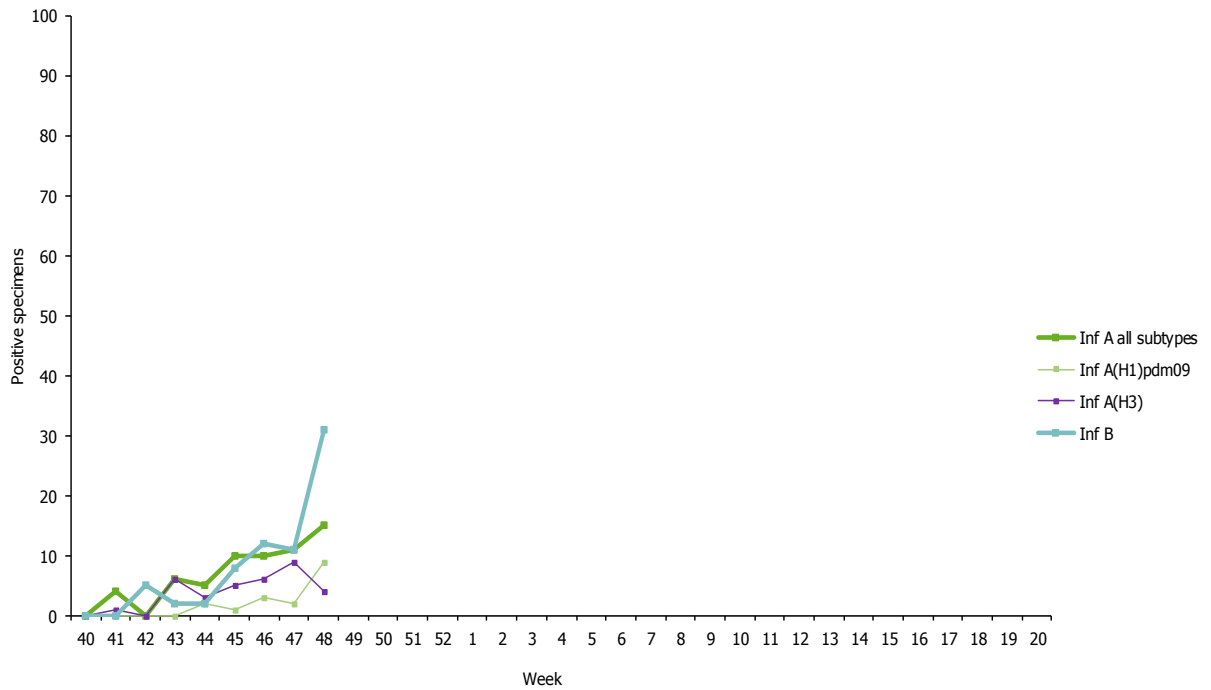
Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	15	67	61	369
A(H1)pdm09	9	12	17	97
A(H3)	4	9	34	90
A(sub-type unknown)	2	46	10	182
Influenza B	31	60	71	245
B(Vic) lineage	0	4	2	8
B(Yam) lineage	3	6	6	57
Unknown lineage	28	50	63	180
<b>Total influenza</b>	<b>46</b>	<b>127</b>	<b>132</b>	<b>614</b>

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

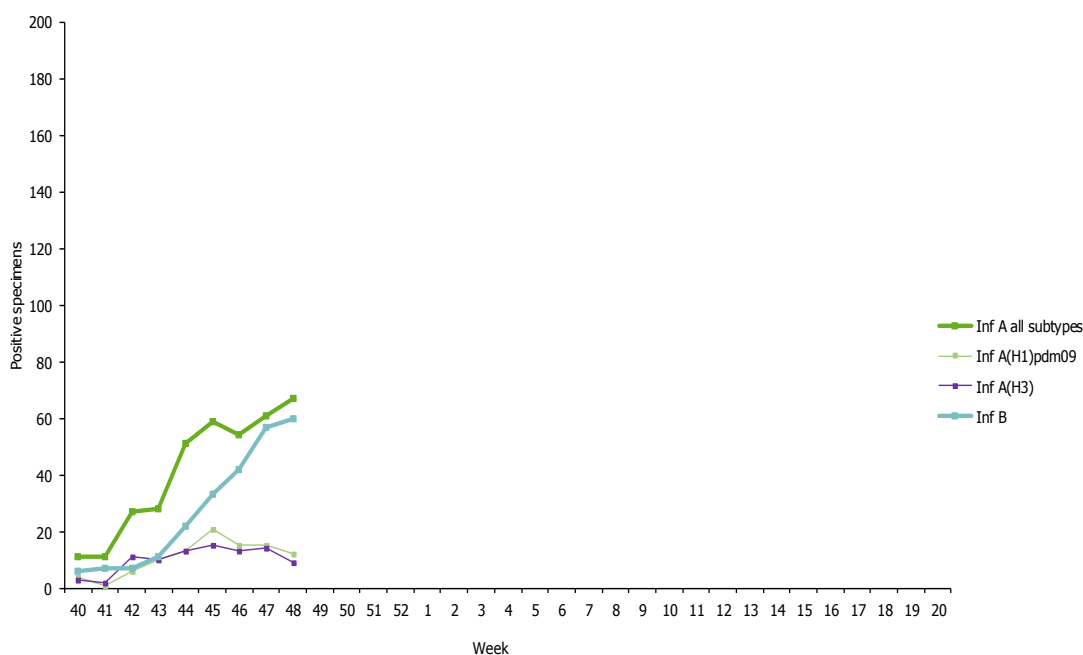
**Figure 1. Proportion of sentinel specimens positive for influenza virus, weeks 40–48/2012**



**Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40–48/2012**



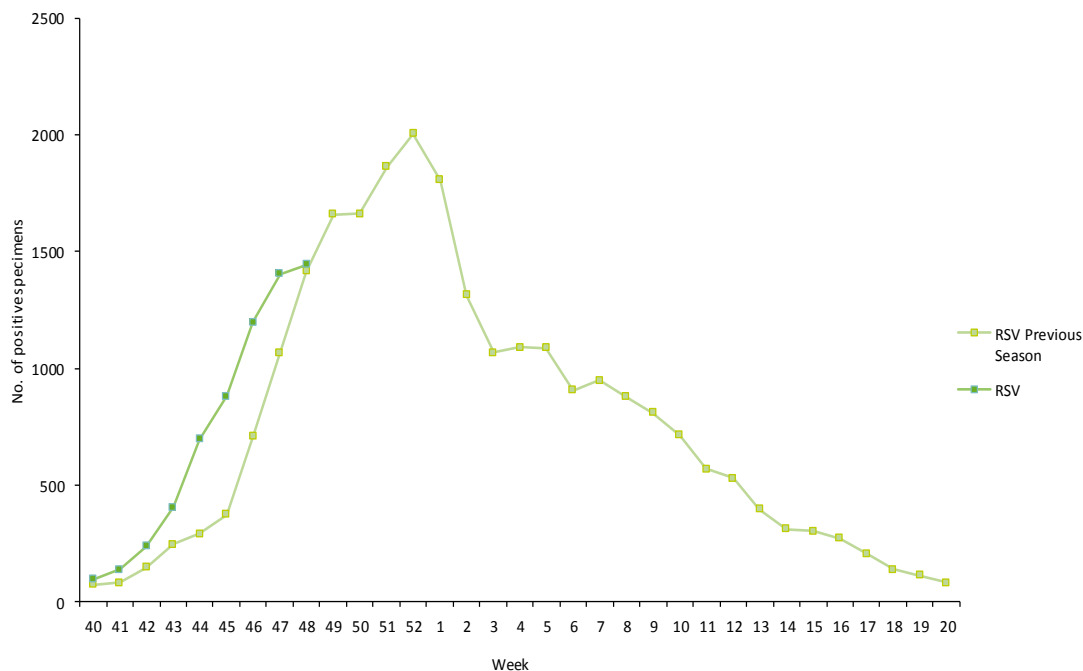


**Figure 3. Number of non-sentinel specimens positive for influenza virus by type, subtype and week of report, weeks 40–48/2012****Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40–48/2012**

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	1
A(H3) A/Victoria/361/2011 (H3N2)-like	27
A(H3) not attributed to category	1
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	2
B/Wisconsin/1/2010-like (B/Yamagata/16/88-lineage)	2

**Table 4. Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40–48/2012**

Phylogenetic group	Number of viruses
A(H1)pdm09 group 6 representative A/St Petersburg/27/2011	6
A(H1)pdm09 group 7 representative A/St Petersburg/100/2011	2
A(H3) clade repr. A/Victoria/208/2009 – A/Alabama/05/2010 group 5	10
A(H3) clade repr. A/Victoria/208/2009 – A/Stockholm/18/2011 group 3A	1
A(H3) clade repr. A/Victoria/208/2009 – A/Victoria/361/2011 group 3C	8
B(Vic) lineage - clade representative B/Brisbane/60/2008	4
B(Yam) lineage - clade repr. B/Bangladesh/3333/2007	2
B(Yam)-lineage clade repr. B/Wisconsin/1/2010	6
B(Yam)-lineage clade repr. B/Estonia/55669/2011	11

**Figure 4. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40–48/2012**

## Country comments

**Norway:** Moderate and increasing number of influenza virus detections. A(H1)pdm09, A(H3) and B Yamagata lineage viruses are circulating sporadically, with influenza B (Yamagata lineage) slightly more predominant than the others.

**Spain:** Since week 40/2012, 520 sentinel specimens have been tested for influenza; 15 of them were positive for influenza B virus and one for influenza C. No A viruses have been identified so far in Spain. There is a sporadic circulation of B influenza virus and seven of them have been genetically characterised as B Yamagata lineage virus (six belonged to B/Estonia/55669/2011 and one belonged to B/Wisconsin/1/2010).

## Description of the system

According to the nationally defined sampling strategy, sentinel physicians take nasal or pharyngeal swabs from patients with ILI, 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 of the current virus strains recommended by WHO for vaccine preparation [click here](#).

# Hospital surveillance – severe influenza disease

## Weekly analysis of hospitalised laboratory-confirmed influenza cases

In week 48/2012, no hospitalised laboratory-confirmed influenza cases were reported.

Since week 40/2012, seven hospitalised laboratory-confirmed influenza cases have been reported by France, Ireland, Slovakia, Spain and Sweden. One case involved an influenza B virus, and of six type A viruses detected in the other patients, two were A(H1)pdm09, two A(H3) and two not subtyped (Tables 5 and 6).

**Table 5. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40–48/2012**

Country	Number of cases	Incidence of cases per 100 000 population	Number of fatal cases reported	Incidence of fatal cases per 100 000 population	Estimated population covered
France	1				
Ireland	1				
Slovakia	1	0.02			5435273
Spain	3				
Sweden	1				
Total	7		0		

**Table 6. Number of hospitalised laboratory-confirmed influenza cases by influenza type and subtype, week 48/2012 and cumulative for the season**

Pathogen	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	0	6
A(H1)pdm09	0	2
A(H3)	0	2
A(sub-typing not performed)	0	2
Influenza B	0	1
Total	0	7

*This report was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC): Eeva Broberg, 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), Vincent Enouf (Institut Pasteur, France) and Anne Mazick (Statens Serum Institut, Copenhagen). 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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