

## SURVEILLANCE REPORT

# Weekly influenza surveillance overview

4 April 2014

## Main surveillance developments in week 13/2014 (24–30 March 2014)

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

For week 13/2014:

- Of the 27 countries providing clinical data, Greece and Northern Ireland reported medium intensity and all other countries low intensity.
- A total of 718 sentinel specimens were tested across 25 countries and 121 (17%) were positive for influenza virus. Of these, 117 (97%) were type A, and four (3%) were type B. Of 94 subtyped influenza type A viruses 67 were A(H3) and 27 A(H1)pdm09.
- Five countries reported 92 hospitalised, laboratory-confirmed influenza cases including 51 cases admitted to intensive care units.

Influenza activity is declining towards interseasonal levels. Most of the countries are now reporting low intensity, local or sporadic geographical spread and decreasing trends. The proportion of influenza virus specimens testing positive has substantially decreased this week, with a low level co-circulation of influenza virus subtypes A(H3) and A(H1)pdm09.

**Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI):** Four of the 27 countries reported widespread influenza activity. For more information, [click here](#).

**Virological surveillance:** Since week 40/2013, of 6 690 sentinel specimens testing positive for influenza virus, 6 549 (98%) were type A and 141 (2%) were type B. For more information, [click here](#).

**Hospital surveillance of laboratory-confirmed influenza cases.** Since week 40/2013, five countries have reported a total of 368 fatal cases, 365 (99%) associated with influenza virus type A infection and three (1%) with type B virus. For more information, [click here](#).

# Sentinel surveillance (ILI/ARI)

## Weekly and seasonal analysis

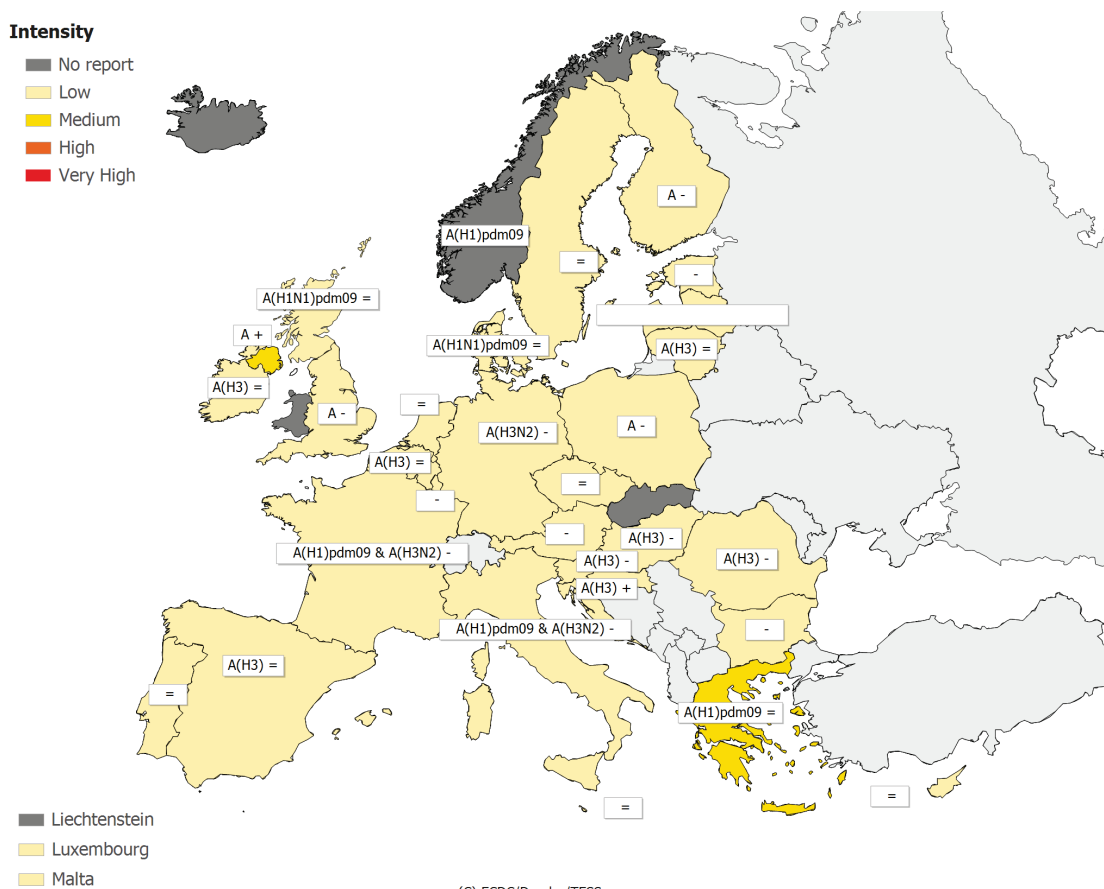
For week 13/2014, clinical data were reported by 27 countries. No country reported high-intensity influenza activity. Greece and the UK (Northern Ireland) reported medium intensity and all other countries low intensity, the lowest category of reporting (Table 1, Map 1).

Geographic patterns of influenza activity varied across Europe: widespread activity was reported by four countries, (Croatia, Estonia, Greece and Ireland) and regional activity by three countries and the UK (England and Scotland). Local or sporadic activity was reported by 16 countries and the UK (Northern Ireland). Cyprus, Malta and Poland reported no influenza activity (Table 1, Map 2).

Increasing trends were reported by Croatia and the UK (Northern Ireland). Thirteen countries and the UK (Scotland) reported stable trends, 12 countries and UK (England) reported decreasing trends (Table 1, Map 2).

The number of countries reporting low intensity and local or sporadic geographical spread has increased over the last four weeks.

**Map 1. Intensity for week 13/2014**



\* 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.

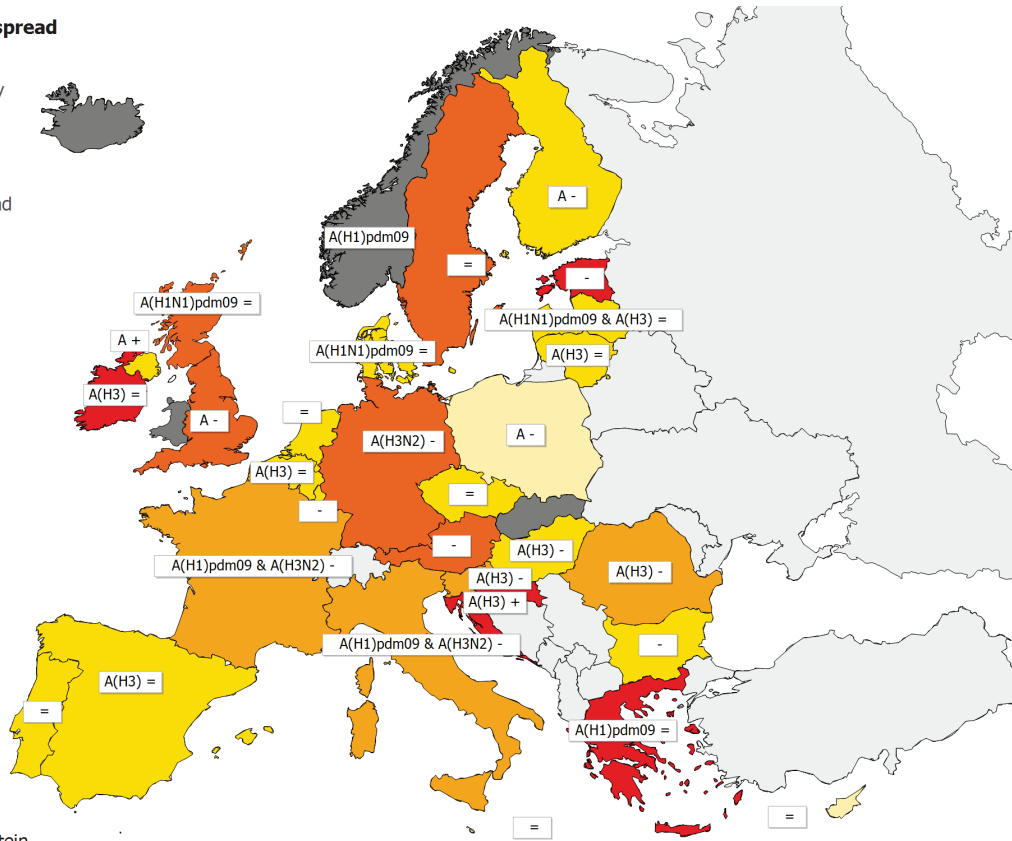
Legend:

<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</b>	Type A
<b>Very high</b>	Particularly severe levels of influenza activity	<b>A(H1)pdm09</b>	Type A, Subtype (H1)pdm09
		<b>A(H1)pdm09 &amp; A(H3N2)</b>	Type A, Subtype (H1)pdm09 and H3N2
		<b>A(H1N1)pdm09</b>	Type A, Subtype (H1N1)pdm09
		<b>A(H1N1)pdm09 &amp; A(H3)</b>	Type A, Subtype (H1N1)pdm09 and H3
		<b>A(H3)</b>	Type A, Subtype H3

**Map 2. Geographic spread for week 13/2014**

**Geographic spread**

- No Report
- No Activity
- Sporadic
- Local
- Regional
- Widespread



- Liechtenstein
- Luxembourg
- Malta

(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</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(H1)pdm09</b>	Type A, Subtype (H1)pdm09
<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)	<b>A(H1)pdm09 &amp; A(H3N2)</b>	Type A, Subtype (H1)pdm09 and H3N2
		<b>A(H1N1)pdm09</b>	Type A, Subtype (H1N1)pdm09
		<b>A(H1N1)pdm09 &amp; A(H3)</b>	Type A, Subtype (H1N1)pdm09 and H3
		<b>A(H3)</b>	Type A, Subtype H3
		<b>A(H3N2)</b>	Type A, Subtype H3N2

**Table 1. Epidemiological and virological overview by country, week 13/2014**

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	Regional	Decreasing	26	None	46.2	873.8	-	Graphs	Graphs
Belgium	Low	Sporadic	Stable	13	A(H3)	53.8	102.3	1654.3	Graphs	Graphs
Bulgaria	Low	Sporadic	Decreasing	0	None	0.0	-	769.1	Graphs	Graphs
Croatia	Low	Widespread	Increasing	129	A(H3)	0.0	-	-	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	12	None	8.3	21.4	790.9	Graphs	Graphs
Denmark	Low	Sporadic	Stable	17	A(H1N1)pdm09	11.8	39.9	-	Graphs	Graphs
Estonia	Low	Widespread	Decreasing	11	-	36.4	14.2	370.4	Graphs	Graphs
Finland	Low	Sporadic	Decreasing	20	A	5.0	-	-	Graphs	Graphs
France	Low	Local	Decreasing	120	A(H1)pdm09 & A(H3N2)	11.7	-	1249.7	Graphs	Graphs
Germany	Low	Regional	Decreasing	84	A(H3N2)	14.3	-	1090.7	Graphs	Graphs
Greece	Medium	Widespread	Stable	5	A(H1)pdm09	40.0	126.7	-	Graphs	Graphs
Hungary	Low	Sporadic	Decreasing	35	A(H3)	17.1	86.5	-	Graphs	Graphs
Iceland				0	-	0.0	-	-	Graphs	Graphs
Ireland	Low	Widespread	Stable	17	A(H3)	41.2	26.6	-	Graphs	Graphs
Italy	Low	Local	Decreasing	24	A(H1)pdm09 & A(H3N2)	16.7	198.2	-	Graphs	Graphs
Latvia	Low	Sporadic	Stable	0	A(H1N1)pdm09 & A(H3)	0.0	0.9	870.1	Graphs	Graphs
Lithuania	Low	Sporadic	Stable	17	A(H3)	47.1	16.0	727.4	Graphs	Graphs
Luxembourg	Low	Sporadic	Decreasing	7	-	28.6	-*	-*	Graphs	Graphs
Malta	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Netherlands	Low	Sporadic	Stable	10	None	30.0	36.0	-	Graphs	Graphs
Norway				4	A(H1)pdm09	50.0	-	-	Graphs	Graphs
Poland	Low	No activity	Decreasing	28	A	17.9	370.7	-	Graphs	Graphs
Portugal	Low	Sporadic	Stable	1	None	0.0	6.5	-	Graphs	Graphs
Romania	Low	Local	Decreasing	6	A(H3)	50.0	4.3	750.0	Graphs	Graphs
Slovakia				6	None	33.3	-	-	Graphs	Graphs
Slovenia	Low	Local	Decreasing	8	A(H3)	37.5	4.9	1006.1	Graphs	Graphs
Spain	Low	Sporadic	Stable	35	A(H3)	14.3	12.8	-	Graphs	Graphs
Sweden	Low	Regional	Stable	12	None	8.3	5.7	-	Graphs	Graphs
UK - England	Low	Regional	Decreasing	45	A	26.7	1.1	190.5	Graphs	Graphs
UK - Northern Ireland	Medium	Sporadic	Increasing	6	A	33.3	32.6	418.8	Graphs	Graphs
UK - Scotland	Low	Regional	Stable	20	A(H1N1)pdm09	5.0	13.1	404.5	Graphs	Graphs
UK - Wales				-	-	0.0	-	-		
<b>Europe</b>				<b>718</b>		<b>16.9</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 and seasonal analysis

For week 13/2014, 718 sentinel specimens were tested across 25 countries and 121 (17%) were positive for influenza virus (Tables 1–2, Figures 1–2). Of these, 117 (97%) were type A, with 67 subtyped as A(H3) and 27 as A(H1)pdm09, and four (3%) were type B (Tables 1–2).

Since week 40/2013, of 6 690 sentinel specimens testing positive for influenza virus, 6 549 (98%) were type A and 141 (2%) were type B. Of the 6 072 subtyped influenza A viruses, 3 303 (54%) were A(H1)pdm09 and 2 769 (46%) were A(H3). Countries have reported varying patterns of A(H1)pdm09 and A(H3) as the dominant subtype (Table 1 and Map 2). Non-sentinel virus detections are summarised in Table 2.

The proportion of sentinel specimens testing positive for influenza virus has been decreasing substantially compared to the previous week (Figure 1).

The results of antigenic and genetic characterisation of sentinel and non-sentinel viruses are displayed in Tables 3 and 4. Since week 40/2013, none of the 1 184 antigenically characterised viruses have differed significantly from the [current vaccine viruses recommended by WHO](#). Nine were reported to be unattributable to a category (Table 3). More details on viruses circulating since September 2013 can be found in the [WHO CC Report, February 2014](#).

Since week 40/2013, 970 A(H1)pdm09, 248 A(H3) and 42 type B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir by genetic and/or phenotypic methods. Fifteen A(H1N1)pdm09 viruses carried the NA-H275Y amino acid substitution associated with highly reduced inhibition by oseltamivir. One of these viruses showed highly reduced inhibition by oseltamivir and normal inhibition by zanamivir. However, in 11 of the 15 cases, virus carrying the NA-H275Y substitution was detected, mixed with 275H oseltamivir normal inhibited wildtype virus in the clinical specimen; NA-H275Y median 5% (range 18–80%). One A(H3N2) virus carrying the NA-E119V amino acid substitution showed reduced inhibition by oseltamivir in phenotypic testing and normal inhibition by zanamivir.

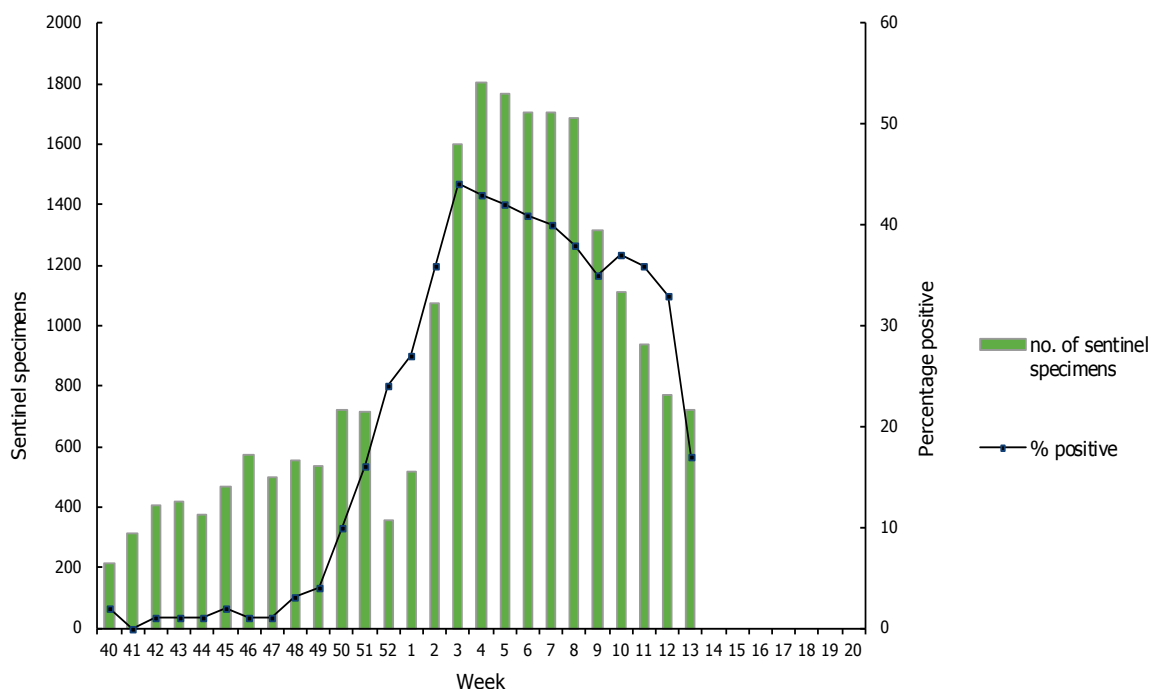
For week 13/2014, 17 countries reported 287 respiratory syncytial virus detections, maintaining the downward trend observed since week 1/2014.

**Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2013–13/2014**

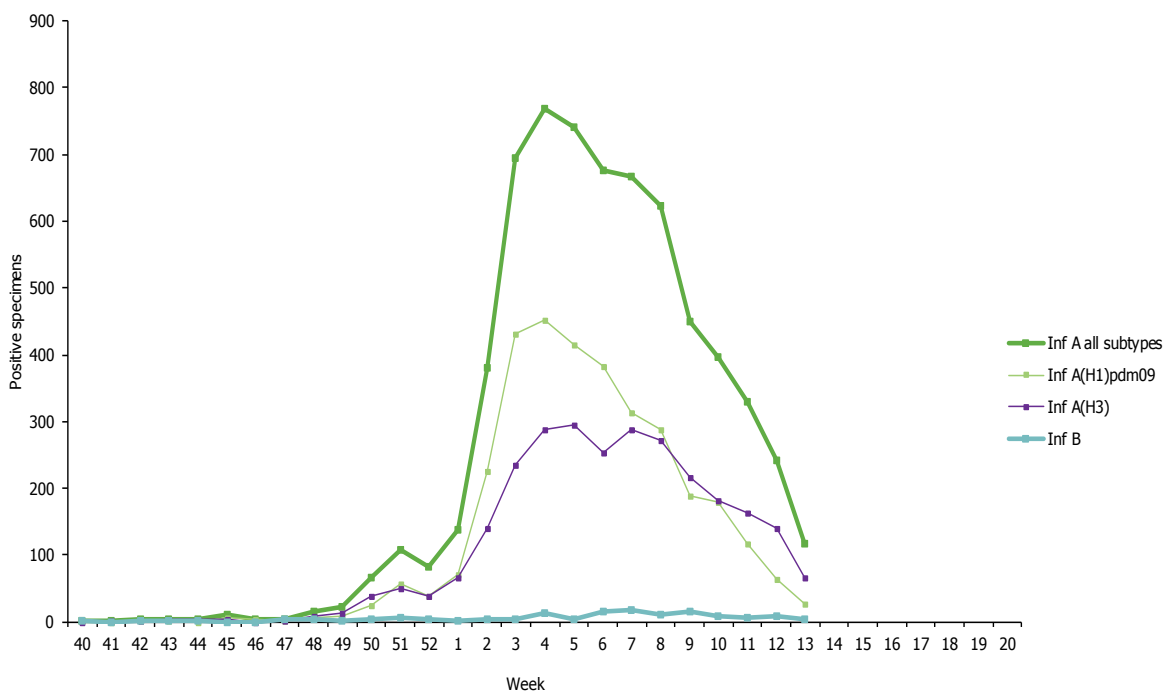
Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	117	880	6549	23132
A(H1)pdm09	27	240	3303	10036
A(H3)	67	139	2769	3799
A(subtype unknown)	23	501	477	9297
Influenza B	4	73	141	818
B(Vic) lineage	1	0	9	5
B(Yam) lineage	1	1	46	110
Unknown lineage	2	72	86	703
<b>Total influenza</b>	<b>121</b>	<b>953</b>	<b>6690</b>	<b>23950</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 40/2013–13/2014**



**Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–13/2014**



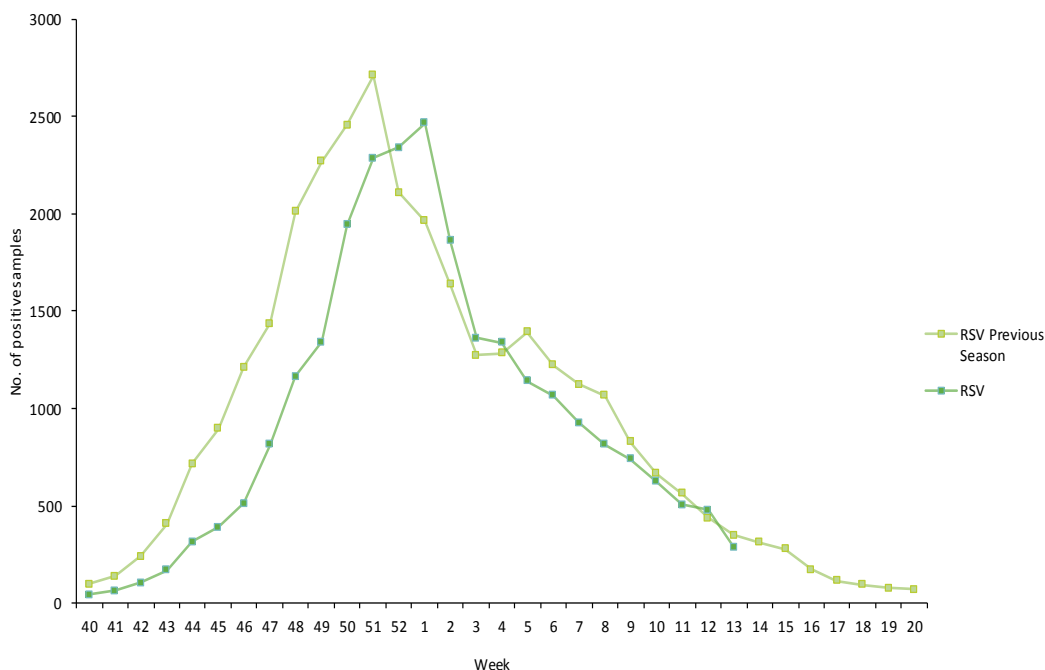
**Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–13/2014**

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	712
A(H1)pdm09 not attributed to category	6
A(H3) A/Texas/50/2012 (H3N2)-like	423
A(H3) not attributed to category	3
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	16
B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage)	22
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 40/2013–13/2014**

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6)	399
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	299
B(Vic)-lineage clade 1A representative B/Brisbane/60/2008	8
B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012	12
B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010	17

**Figure 3. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2013–13/2014**



## 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. The non-sentinel part of the surveillance system comprises viruses submitted from hospital and peripheral diagnostic laboratories to the influenza-specific reference laboratories for (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 13/2014, 92 hospitalised, laboratory-confirmed influenza cases were reported by five countries (France, Ireland, Romania, Spain and the UK) (Table 5). Influenza A virus was detected in 89 cases and influenza B virus in three patients (Table 5). Of those hospitalised cases, 51 were admitted to intensive care units (ICU).

Since week 40/2013, seven countries have reported 4 390 hospitalised, laboratory-confirmed influenza cases: 4 339 (99%) were related to influenza virus type A infection and 51 (1%) to type B virus infection (Tables 5 and 6). Of 2 956 subtyped influenza A viruses, 2 209 (75%) were A(H1)pdm09 and 747 (25%) were A(H3) (Table 5). A higher proportion of A(H1)pdm09 viruses has been detected in ICU patients (1 265 of 1 481 subtyped, 85%) than in patients on other wards (944 of 1 475 subtyped, 64%).

Of the 3 612 hospitalised cases with reported age, 1 361 (38%) were 40–64 years old and 1 319 (37%) were over 64 years of age, the same distribution as in the previous week.

Five countries reported a total of 368 fatal cases (Table 6): 365 (99%) cases were associated with influenza virus type A infection and three (1%) with type B virus. Of 269 influenza A viruses subtyped from fatal cases, 218 (81%) were A(H1)pdm09 and 51 (19%) were A(H3). The age was reported for 364 of the fatal cases: 196 (54%) were 65 years or older.

**Table 5. Number of hospitalised, laboratory-confirmed influenza cases by influenza type and subtype, week 13/2014 and cumulative since week 40/2013**

Pathogen	Number of cases admitted to ICU during current week	Cumulative number of cases admitted to ICU since week 40/2013	Number of cases admitted to other wards during current week	Cumulative number of cases admitted to other wards since week 40/2013
Influenza A	50	2 284	39	2 055
A(H1)pdm09	21	1 265	8	944
A(H3)	4	216	20	531
A (subtyping not performed)	25	803	11	580
Influenza B	1	30	2	21
<b>Total</b>	<b>51</b>	<b>2 314</b>	<b>41</b>	<b>2 076</b>

**Table 6. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40/2013–13/2014**

Country	Number of cases admitted to ICU	Number of fatal cases reported in ICU	Number of cases admitted to other wards	Number of fatal cases reported in other wards
Finland	23	0	0	0
France	600	75	0	0
Ireland	69	9	499	3
Romania	28	9	31	1
Spain	785	168	1 546	98
Sweden	54	5	0	0
UK	755	0	0	0
<b>Total</b>	<b>2 314</b>	<b>266</b>	<b>2 076</b>	<b>102</b>



## Description of the system

A subset of EU countries report case-based severe influenza data to ECDC every week. Case definitions, populations under surveillance and data formats differ among these countries (Table 7). In order to make the data more comparable and pool them at EU level, only hospitalised, laboratory-confirmed influenza cases are included in the weekly data analysis and displayed in this report.

**Table 7. Main characteristics of severe influenza surveillance systems**

Country	Case definition	Population under surveillance	Type of surveillance	Data format
Finland	Lab-confirmed, hospitalised	ICU**	Comprehensive	Case-based
France	Lab-confirmed, hospitalised	ICU	Comprehensive	Case-based
Ireland	Lab-confirmed, hospitalised	All wards	Comprehensive	Case-based
Romania	SARI*, hospitalised	All wards	Sentinel	Case-based
Spain	Lab-confirmed, hospitalised	All wards	Sentinel	Case-based
Sweden	Lab-confirmed, hospitalised	ICU	Comprehensive	Case-based
United Kingdom	Lab-confirmed, hospitalised	ICU	Comprehensive	Aggregated

\*Severe acute respiratory infection

\*\*Intensive care unit

## The EuroMOMO mortality monitoring system

All-cause mortality has been within the normal range for all reporting countries.

Further details are available on <http://www.euromomo.eu/>

*This report was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC): Cornelia Adlhoch, Eeva Broberg, Julien Beauté and René Snacken. The bulletin text was reviewed by European Reference Laboratory Network for Human Influenza (ERLI-Net) coordination team: Adam Meijer, Rod Daniels, John McCauley and Maria Zambon. On behalf of the EISN members, the bulletin text was reviewed by Maja Sočan (Nacionalni inštitut za javno zdravje, Ljubljana), Allison Waters (University College Dublin) and Tyra Grove Krause (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 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 Weekly Influenza Surveillance Overview 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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