

SURVEILLANCE REPORT

Weekly influenza surveillance overview

24 January 2014

Main surveillance developments in week 3/2014 (13–19 January 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 3/2014:

- Of the 29 reporting countries, four (Bulgaria, Greece, Portugal and Spain) reported medium-intensity influenza and Portugal, Spain and the UK (England) reported geographically widespread activity.
- Of 1 401 sentinel specimens tested across 27 countries, 447 (32%) were positive for influenza virus.
- Dominant viruses were reported by Bulgaria, Greece, Portugal, Spain, Sweden, the UK (Scotland) (A(H1)pdm09 virus) and Slovenia (A(H3)).
- Since week 40/2013, France and Spain have reported 33 fatal cases related to influenza virus infection, 19 (58%) of them being infected with influenza A(H1)pdm09 virus.

A growing number of countries are reporting an increasing proportion of specimens testing positive for influenza virus. Increasing numbers of hospitalised laboratory-confirmed and fatal influenza cases have been reported in the last few weeks.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI). Increased influenza-like illness rates with increases in influenza virus-positive sentinel specimens have been observed in 15 countries. For more information, [click here](#).

Virological surveillance. Dominant viruses were reported by Bulgaria, Greece, Portugal, Spain, Sweden, the UK (Scotland) (A(H1)pdm09 virus) and Slovenia (A(H3)). For more information, [click here](#).

Hospital surveillance of laboratory-confirmed influenza cases. Since week 40/2013, six countries have reported 759 hospitalised laboratory-confirmed influenza cases with 745 (98%) of the cases related to infection with influenza type A and 14 (2%) to type B. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly and seasonal analysis

For week 3/2014, epidemiological data were reported by 29 countries. As in the previous week, Bulgaria, Greece, Portugal and Spain reported medium-intensity influenza activity, while all other countries experienced low-intensity influenza activity, which is the lowest category of reporting (Table 1, Map1).

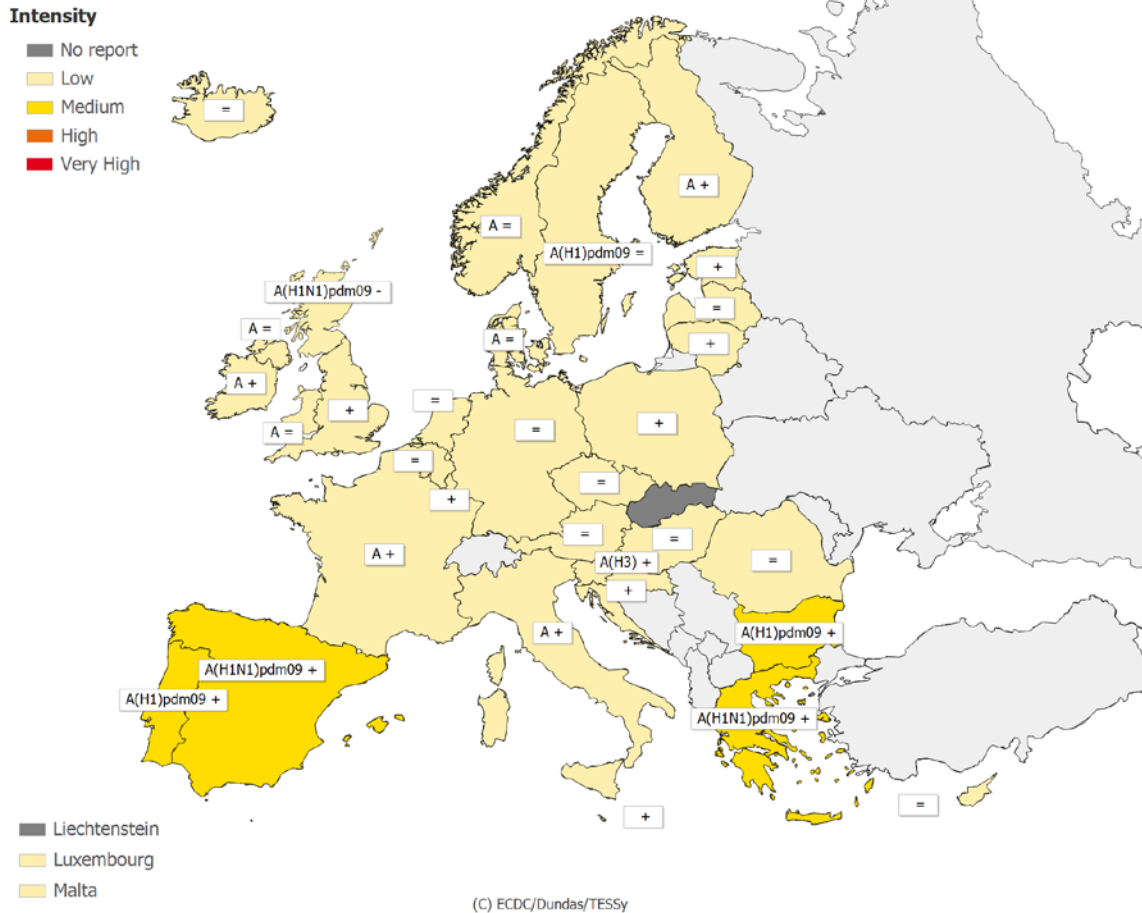
Geographic patterns of influenza activity were reported as widespread by Portugal, Spain and the UK (England) and regional by Bulgaria, Italy and the Netherlands. No activity was seen in Belgium, Cyprus, Malta, Poland and the UK (Wales), all other countries reported local or sporadic occurrence of cases (Table 1, Map 2).

Increasing trends of influenza activity were reported by 15 countries and the UK (England), while all other countries had stable trends and the UK (Scotland) reported a decreasing trend (Table 1, Map 2).

Increases in influenza-like illness rates were observed in 15 countries associated with increased numbers of influenza virus-positive sentinel specimens. In Bulgaria, ARI rates sharply increased over the last three weeks, with increased numbers of influenza-virus-positive sentinel specimens.

Influenza transmission increased across the EU/EEA region in week 3/2014, with more countries reporting local or regional spread in addition to those reporting widespread influenza activity. (Table 1, Map 1).

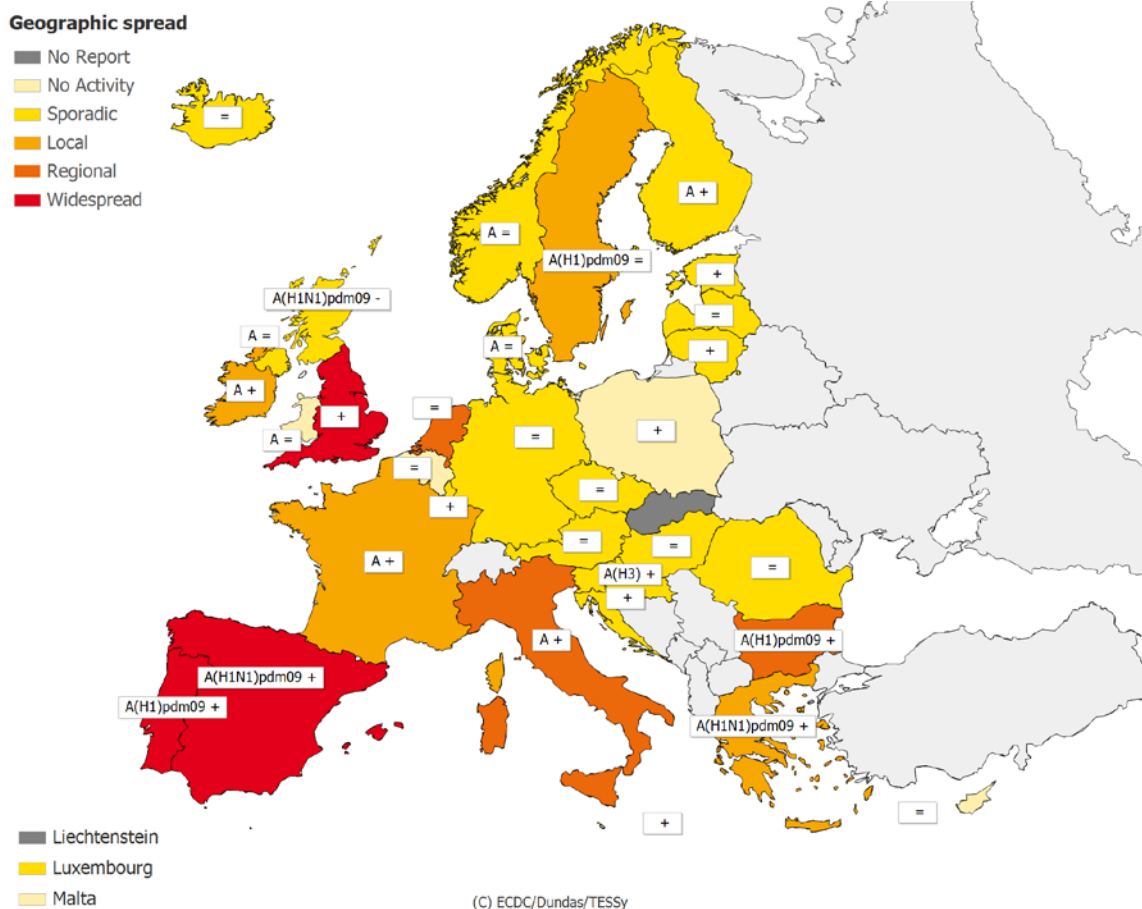
Map 1. Intensity for week 3/2014



* 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:

No report	Intensity level was not reported	+	Increasing clinical activity
Low	No influenza activity or influenza at baseline levels	-	Decreasing clinical activity
Medium	Usual levels of influenza activity	=	Stable clinical activity
High	Higher than usual levels of influenza activity	A	Type A
Very high	Particularly severe levels of influenza activity	A(H1)pdm09	Type A, Subtype (H1)pdm09
		A(H1N1)pdm09	Type A, Subtype (H1N1)pdm09
		A(H3)	Type A, Subtype H3

Map 2. Geographic spread for week 3/2014



* 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:

No report	Activity level was not reported	+	Increasing clinical activity
No activity	No evidence of influenza virus activity (clinical activity remains at baseline levels)	-	Decreasing clinical activity
Sporadic	Isolated cases of laboratory confirmed influenza infection	=	Stable clinical activity
Local outbreak	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)	A	Type A
Regional activity	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)	A(H1)pdm09	Type A, Subtype (H1)pdm09
Widespread	Influenza activity above baseline levels in one or more regions with a population comprising 50% or more of the country's population (laboratory confirmed)	A(H1N1)pdm09	Type A, Subtype (H1N1)pdm09
		A(H3)	Type A, Subtype H3

Table 1. Epidemiological and virological overview by country, week 3/2014

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	Sporadic	Stable	8	None	25.0	755.7	-	Graphs	Graphs
Belgium	Low	No activity	Stable	8	None	12.5	32.1	1416.0	Graphs	Graphs
Bulgaria	Medium	Regional	Increasing	64	A(H1)pdm09	45.3	-	1695.8	Graphs	Graphs
Croatia	Low	Sporadic	Increasing	62	None	0.0	-	-	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	17	None	0.0	24.2	832.3	Graphs	Graphs
Denmark	Low	Sporadic	Stable	3	A	33.3	40.6	-	Graphs	Graphs
Estonia	Low	Sporadic	Increasing	9	None	11.1	7.1	216.7	Graphs	Graphs
Finland	Low	Sporadic	Increasing	6	A	16.7	-	-	Graphs	Graphs
France	Low	Local	Increasing	139	A	31.7	-	1666.7	Graphs	Graphs
Germany	Low	Sporadic	Stable	81	None	4.9	-	964.4	Graphs	Graphs
Greece	Medium	Local	Increasing	13	A(H1N1)pdm09	38.5	175.0	-	Graphs	Graphs
Hungary	Low	Sporadic	Stable	32	None	3.1	104.9	-	Graphs	Graphs
Iceland	Low	Sporadic	Stable	0	-	0.0	6.8	-	Graphs	Graphs
Ireland	Low	Local	Increasing	16	A	43.8	13.7	-	Graphs	Graphs
Italy	Low	Regional	Increasing	56	A	28.6	454.0	-	Graphs	Graphs
Latvia	Low	Sporadic	Stable	0	None	0.0	1.8	812.2	Graphs	Graphs
Lithuania	Low	Sporadic	Increasing	2	None	0.0	1.1	511.3	Graphs	Graphs
Luxembourg	Low	Sporadic	Increasing	8	-	25.0	-*	-*	Graphs	Graphs
Malta	Low	No activity	Increasing	2	None	0.0	-*	-*	Graphs	Graphs
Netherlands	Low	Regional	Stable	17	None	5.9	41.1	-	Graphs	Graphs
Norway	Low	Sporadic	Stable	16	A	25.0	35.2	-	Graphs	Graphs
Poland	Low	No activity	Increasing	7	None	0.0	270.9	-	Graphs	Graphs
Portugal	Medium	Widespread	Increasing	10	A(H1)pdm09	70.0	60.5	-	Graphs	Graphs
Romania	Low	Sporadic	Stable	7	-	14.3	2.5	660.7	Graphs	Graphs
Slovakia				1	None	0.0	-	-	Graphs	Graphs
Slovenia	Low	Sporadic	Increasing	29	A(H3)	31.0	8.4	1267.8	Graphs	Graphs
Spain	Medium	Widespread	Increasing	669	A(H1N1)pdm09	43.6	282.9	-	Graphs	Graphs
Sweden	Low	Local	Stable	39	A(H1)pdm09	10.3	5.2	-	Graphs	Graphs
UK - England	Low	Widespread	Increasing	58	None	17.2	8.7	216.3	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Stable	8	A	50.0	23.6	400.7	Graphs	Graphs
UK - Scotland	Low	Sporadic	Decreasing	14	A(H1N1)pdm09	7.1	7.9	437.4	Graphs	Graphs
UK - Wales	Low	No activity	Stable	0	A	0.0	6.8	-	Graphs	Graphs
Europe					1401		31.9			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 3/2014, 27 countries tested 1 401 sentinel specimens, of which 447 (32%) from 21 countries (with a range of 3–70%) were positive for influenza virus. Bulgaria, Greece, Portugal, Spain, Sweden and the UK (Scotland) reported influenza A(H1)pdm09 virus and Slovenia A(H3) as their dominant viruses (Table 1). In total, 442 were type A influenza viruses and five were type B. Of the 311 influenza A viruses subtyped, 188 (60%) were A(H1)pdm09 and 123 (40%) were A(H3) (Tables 1–2, Figures 1–2). The proportion of specimens testing positive for influenza virus has steadily increased since week 47/2014, but was slightly lower for week 3/2014 than the previous week (Figure 1).

Since week 40/2013, of the 1 274 sentinel specimens testing positive for influenza virus, 1 238 (97%) were type A and 36 (3%) were type B. Of the 1 018 influenza A viruses subtyped, 579 (57%) were A(H1)pdm09 and 439 (43%) were A(H3). In the last two weeks, the proportion of A(H1)pdm09 viruses among all subtyped influenza A viruses was higher than A(H3) (60% vs. 40%), indicating a dominance of A(H1)pdm09 viruses at this point in the season. However, this is still lower than the situation observed in North America where more than 90% of influenza A viruses are A(H1N1)pdm09 (see [FluWatch](#) and [FluView](#)).

Non-sentinel virus detections are summarised in Table 2.

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 118 antigenically characterised viruses have differed substantially from the [current vaccine viruses recommended by WHO](#) (Table 3). More details on viruses circulating since September 2013 can be found in the [December virus characterisation report](#).

Since week 40/2013, 126 A(H1)pdm09, 56 A(H3) and 13 type B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir; none showed genetic or phenotypic (IC₅₀) evidence of reduced inhibition.

For week 3/2014, 14 countries reported 1 154 respiratory syncytial virus (RSV) detections. As in the previous week, the number of RSV detections decreased substantially, indicating a peak for this season in week 1/2014. The number of RSV detections was slightly lower than those observed during the same period last year (Figure 3).

Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2013–3/2014

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	442	839	1238	2985
A(H1)pdm09	188	357	579	1319
A(H3)	123	102	439	468
A(subtype unknown)	131	380	220	1198
Influenza B	5	21	36	210
B(Vic) lineage	0	1	1	3
B(Yam) lineage	1	2	8	33
Unknown lineage	4	18	27	174
Total influenza	447	860	1274	3195

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 40/2013–3/2014

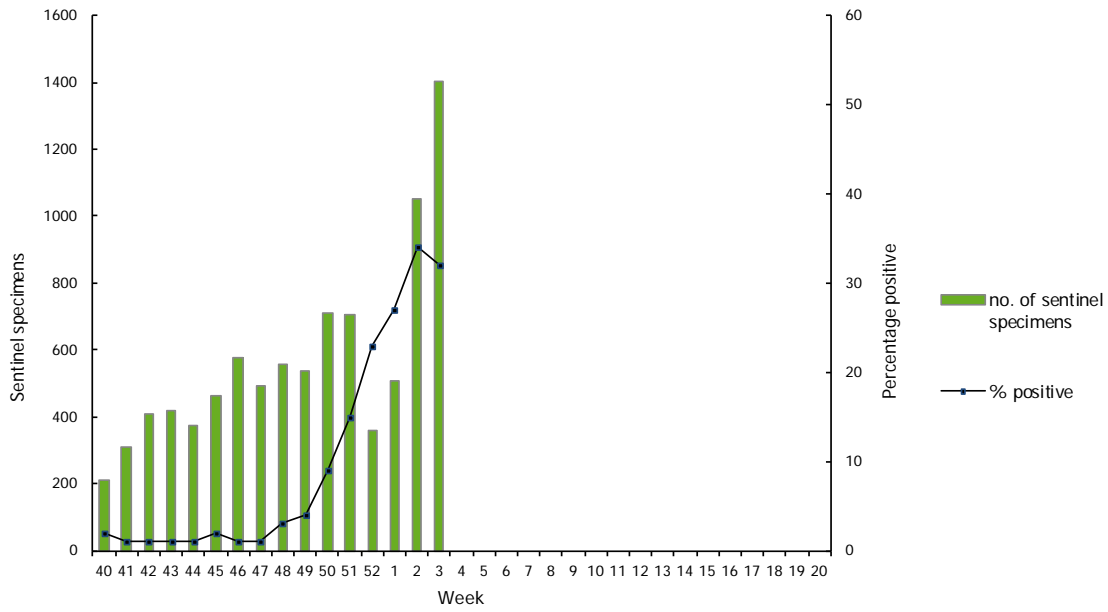


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and week of report, weeks 40/2013–3/2014

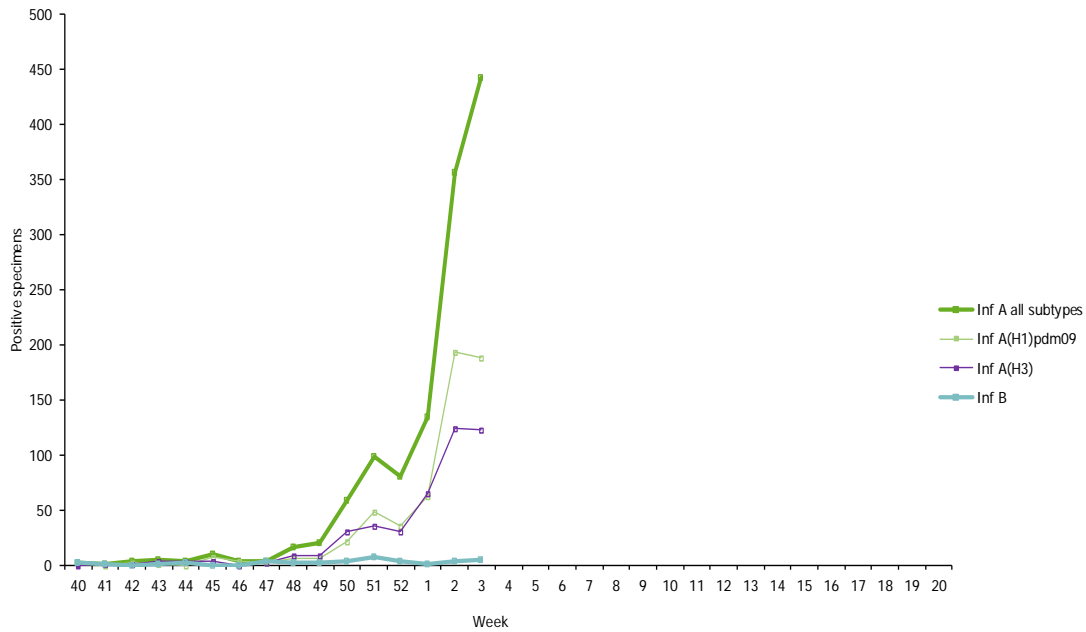
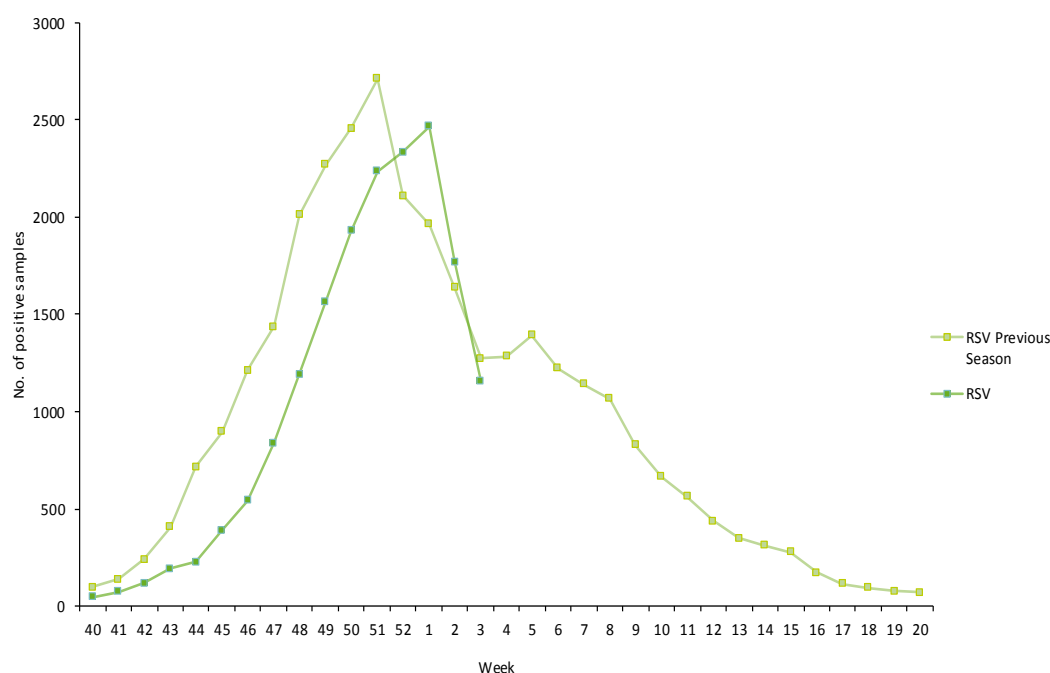


Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–3/2014

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	58
A(H3) A/Texas/50/2012 (H3N2)-like	56
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	1
B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage)	2
B/Wisconsin/1/2010-like (B/Yamagata/16/88-lineage)	1

Table 4. Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–3/2014

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6)	90
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	68
B(Vic)-lineage clade 1A representative B/Brisbane/60/2008	1
B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012	8
B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010	6

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

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

For week 3/2014, 205 hospitalised, laboratory-confirmed influenza cases were reported by five countries (France, Ireland, Romania, Spain and the UK) (Table 5). Of these, 97 (47%) were related to A(H1)pdm09, 14 (7%) to A(H3) and 94 (46%) to non-subtyped influenza A viruses.

Since week 40/2013, six countries have reported 759 hospitalised laboratory-confirmed influenza cases: 745 (98%) were related to influenza type A and 14 (2%) to type B (Tables 5 and 6). Of 484 subtyped influenza A viruses, 388 (80%) were A(H1)pdm09 and 96 (20%) were A(H3) viruses (Table 5). In addition, of 641 hospitalised cases with reported age, 261 (41%) were over 60 years old. France and Spain reported 33 fatal cases (Table 6), 58% (19/33) of them male. All fatal cases were associated with influenza type A infection and 25 were subtyped: 19 (58%) as A(H1)pdm09 and six as A(H3). Twenty-one of 31 fatal cases with known age were at least 60 years old.

Media stories in US and Spain have focused on severe and fatal cases among previously healthy individuals. These cases among unvaccinated individuals are to be expected in light of the dominant H1N1pdm09 strain. However there are no indications of increasing mortality or an unusually high number of severe cases in EU Member States at this time.

Table 5. Number of hospitalised laboratory-confirmed influenza cases by influenza type and subtype, week 3/2014 and cumulative for the season

Pathogen	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	205	745
A(H1)pdm09	97	388
A(H3)	14	96
A(sub-typing not performed)	94	261
Influenza B		14
Total	205	759

Table 6. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40/2013–3/2014

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	67		4		
Ireland	28				
Romania	2	0.03			5813728
Spain	540		29		
Sweden	6				
United Kingdom	116	0.18			63705030
Total	759		33		

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 (Inštitut za varovanje zdravja), 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.

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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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