

SURVEILLANCE REPORT

Weekly influenza surveillance overview

7 February 2014

Main surveillance developments in week 5/2014 (27 January 2014–2 February 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 5/2014:

- Of 29 countries providing clinical data, Greece reported high-intensity influenza activity, while Bulgaria, Finland, France, Luxembourg, Malta and Spain reported medium intensity and the other 22 countries reported low-intensity influenza activity.
- Bulgaria, Finland, France, Greece, Italy, Malta, Spain and UK (England) experienced influenza activity that was geographically widespread.
- Of 1 513 sentinel specimens tested across 26 countries, 394 (26%) were positive for influenza virus.
- Since week 40/2013, six countries have reported 1 605 hospitalised laboratory-confirmed influenza cases with 124 fatalities occurring in five countries.

Although the proportion of sentinel specimens testing positive for influenza virus has decreased in the last two weeks, the number of countries with regional or widespread geographic spread of influenza activity has increased compared to the previous week. Influenza A(H1)pdm09 and A(H3) viruses are co-circulating at the moment.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): Increasing trends were reported by 17 countries and UK (Scotland and Wales), while Bulgaria, Spain and UK (Northern Ireland) reported decreasing trends. For more information, [click here](#).

Virological surveillance: Influenza A(H1)pdm09 was reported as the dominant virus by Bulgaria, Hungary, Iceland, Latvia, Norway, Spain, Sweden and UK (Scotland), while Italy and Slovenia reported A(H3) as dominant. Both subtypes co-circulated in France, Greece and Ireland. For more information, [click here](#).

Hospital surveillance of laboratory-confirmed influenza cases: Since week 40/2013, of 1 605 hospitalised, laboratory-confirmed influenza cases 1 588 (99%) were related to influenza virus type A infection and 17 (1%) to type B virus. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly and seasonal analysis

For week 5/2014, clinical data were reported by 29 countries; Greece reported high-intensity influenza activity, while Bulgaria, Finland, France, Luxembourg, Malta and Spain reported medium influenza activity and 22 countries experienced low-intensity influenza activity (Table 1, Map1).

Geographical patterns of influenza activity were reported as widespread by eight countries (Bulgaria, Finland, France, Greece, Italy, Malta, Spain and UK (England)). No activity was experienced by Cyprus, Malta or Slovakia, while all other countries reported sporadic, local or regional influenza activity (Table 1, Map 2). The number of countries with regional or widespread influenza activity increased against the previous week.

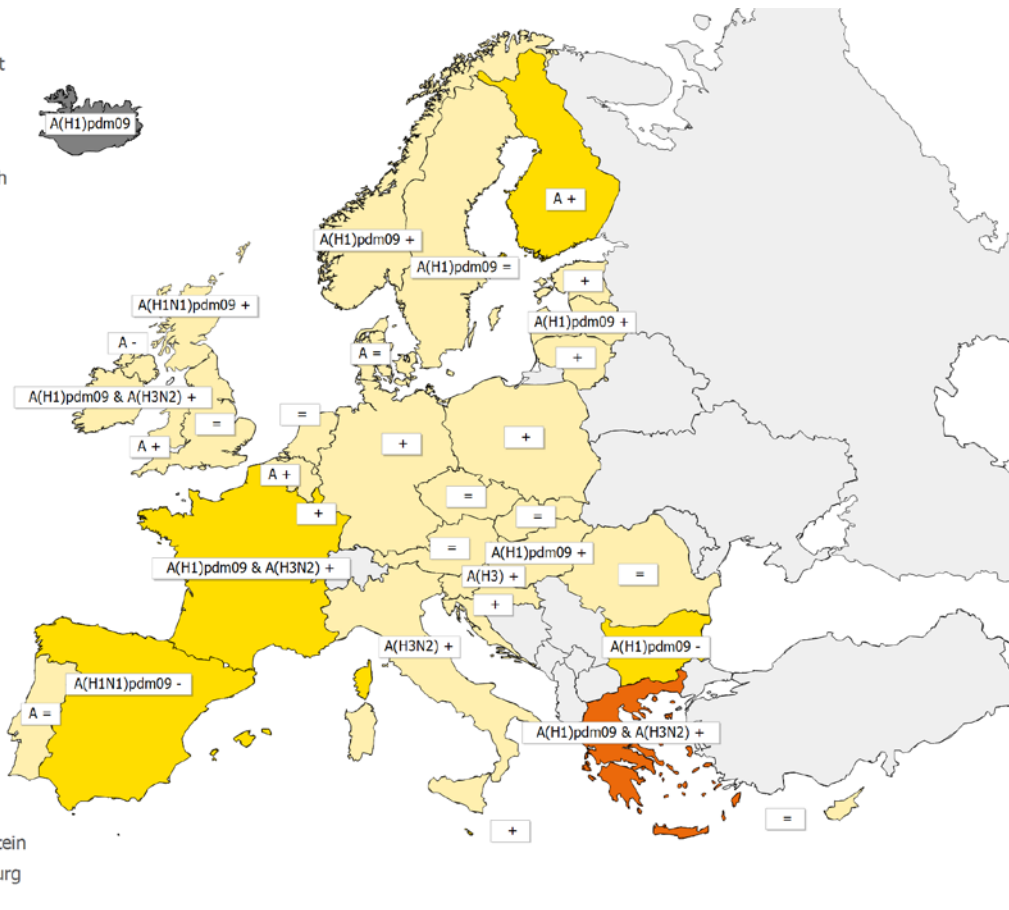
Increasing trends were reported by 17 countries and UK (Scotland and Wales), while Bulgaria, Spain and UK (Northern Ireland) reported decreasing trends. Stable trends were observed in nine countries (Table 1, Map 2).

In week 5/2014, ILI/ARI rates and influenza virus detections in sentinel specimens decreased in Bulgaria, Portugal and Spain, indicating declining influenza activity in these countries Italy and Greece reported increasing ILI rates over the last five weeks, with increasing influenza virus detections in sentinel specimens in Italy and decreasing influenza virus detections in Greece. Other countries reported continuing low ILI/ARI rates and low influenza activity. Influenza activity is very diverse within Europe at the moment. It seems that in some countries activity has already peaked or is increasing, while in other countries baseline levels are still being reported.

Map 1. Intensity for week 5/2014

Intensity

- No report
- Low
- Medium
- High
- Very High



- Liechtenstein
- Luxembourg
- Malta

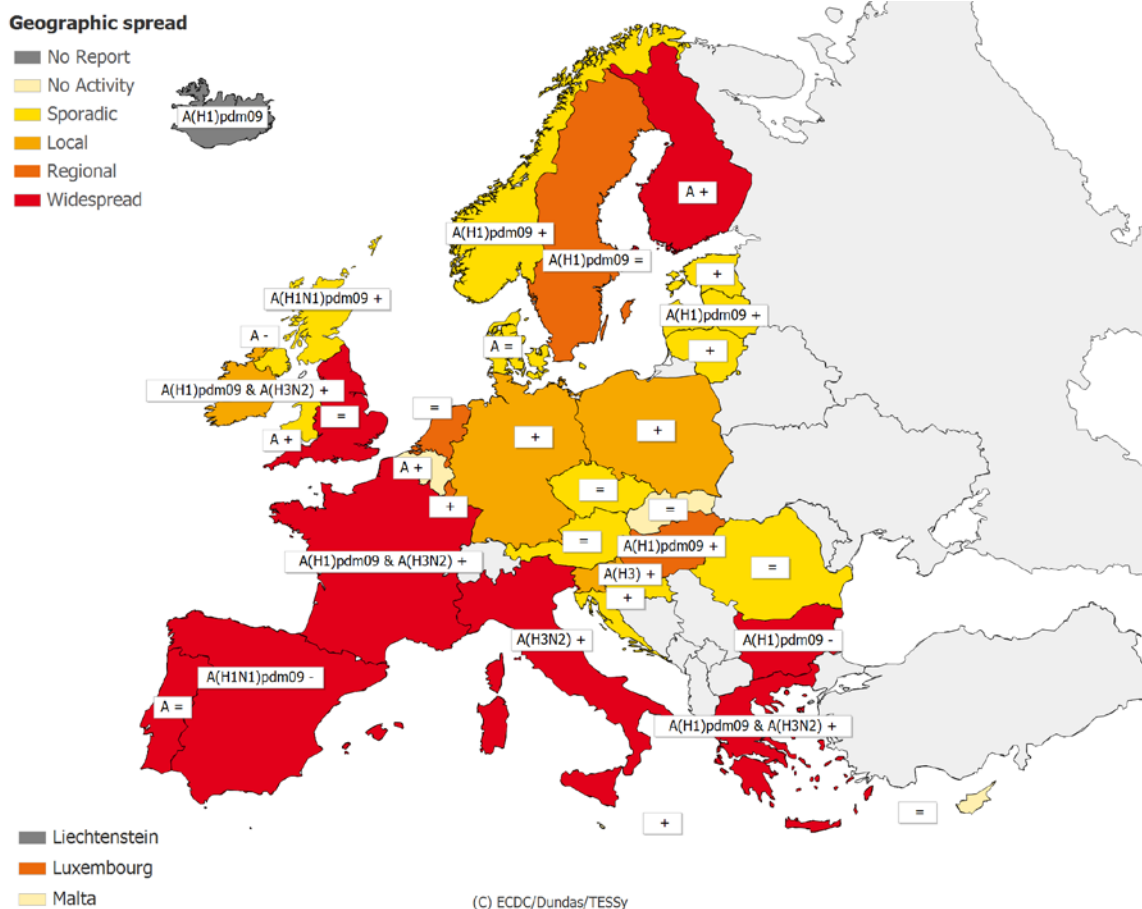
(C) ECDC/Dundas/TESSy

* 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:

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(H1)pdm09 & A(H3N2)	Type A, Subtype (H1)pdm09 and H3N2
		A(H1N1)pdm09	Type A, Subtype (H1N1)pdm09
		A(H3)	Type A, Subtype H3
		A(H3N2)	Type A, Subtype H3N2

Map 2. Geographic spread for week 5/2014



* 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(H1)pdm09 & A(H3N2)	Type A, Subtype (H1)pdm09 and H3N2
		A(H1N1)pdm09	Type A, Subtype (H1N1)pdm09
		A(H3)	Type A, Subtype H3
		A(H3N2)	Type A, Subtype H3N2

Table 1. Epidemiological and virological overview by country, week 5/2014

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	19	None	57.9	1013.0	-	Graphs	Graphs
Belgium	Low	No activity	Increasing	28	A	28.6	82.2	1806.6	Graphs	Graphs
Bulgaria	Medium	Widespread	Decreasing	29	A(H1)pdm09	13.8	-	1855.8	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	12	None	8.3	29.8	948.0	Graphs	Graphs
Denmark	Low	Sporadic	Stable	0	A	0.0	28.0	-	Graphs	Graphs
Estonia	Low	Sporadic	Increasing	12	None	33.3	9.4	339.7	Graphs	Graphs
Finland	Medium	Widespread	Increasing	28	A	17.9	-	-	Graphs	Graphs
France	Medium	Widespread	Increasing	207	A(H1)pdm09 & A(H3N2)	22.7	-	2042.9	Graphs	Graphs
Germany	Low	Local	Increasing	99	None	13.1	-	1209.5	Graphs	Graphs
Greece	High	Widespread	Increasing	4	A(H1)pdm09 & A(H3N2)	50.0	271.7	-	Graphs	Graphs
Hungary	Low	Regional	Increasing	50	A(H1)pdm09	16.0	144.0	-	Graphs	Graphs
Iceland				0	A(H1)pdm09	0.0	-	-	Graphs	Graphs
Ireland	Low	Local	Increasing	24	A(H1)pdm09 & A(H3N2)	58.3	19.0	-	Graphs	Graphs
Italy	Low	Widespread	Increasing	97	A(H3N2)	46.4	618.0	-	Graphs	Graphs
Latvia	Low	Sporadic	Increasing	0	A(H1)pdm09	0.0	5.3	999.1	Graphs	Graphs
Lithuania	Low	Sporadic	Increasing	2	None	0.0	1.6	682.0	Graphs	Graphs
Luxembourg	Medium	Regional	Increasing	40	-	35.0	-*	-*	Graphs	Graphs
Malta	Medium	No activity	Increasing	1	None	100.0	-*	-*	Graphs	Graphs
Netherlands	Low	Regional	Stable	15	None	6.7	43.7	-	Graphs	Graphs
Norway	Low	Sporadic	Increasing	14	A(H1)pdm09	14.3	44.5	-	Graphs	Graphs
Poland	Low	Local	Increasing	26	None	11.5	376.2	-	Graphs	Graphs
Portugal	Low	Widespread	Stable	6	A	83.3	61.2	-	Graphs	Graphs
Romania	Low	Sporadic	Stable	2	-	50.0	2.8	659.9	Graphs	Graphs
Slovakia	Low	No activity	Stable	3	None	0.0	195.0	1709.9	Graphs	Graphs
Slovenia	Low	Local	Increasing	46	A(H3)	47.8	14.2	1372.9	Graphs	Graphs
Spain	Medium	Widespread	Decreasing	542	A(H1N1)pdm09	28.8	213.5	-	Graphs	Graphs
Sweden	Low	Regional	Stable	45	A(H1)pdm09	28.9	6.4	-	Graphs	Graphs
UK - England	Low	Widespread	Stable	68	None	11.8	5.8	213.3	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Decreasing	6	A	16.7	19.8	390.4	Graphs	Graphs
UK - Scotland	Low	Sporadic	Increasing	21	A(H1N1)pdm09	19.0	12.5	448.3	Graphs	Graphs
UK - Wales	Low	Sporadic	Increasing	5	A	20.0	8.1	-	Graphs	Graphs
Europe				1 513			26.0			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 5/2014, 26 countries tested 1 513 sentinel specimens; 394 (26%) from 23 countries were positive for influenza virus. Influenza A(H1)pdm09 was reported as the dominant virus by Bulgaria, Hungary, Iceland, Latvia, Norway, Spain, Sweden and UK (Scotland), while Italy and Slovenia reported A(H3) as dominant. Both subtypes co-circulated in France, Greece and Ireland. Influenza A virus was detected in 393 specimens, with 157 (49%) subtyped as A(H1)pdm09 and 163 (51%) as A(H3). One influenza B virus of the B/Yamagata/16/88 lineage was reported. In addition, 1 452 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes, mainly in hospitals) were found to be positive for influenza virus; 1 415 (97%) for type A virus and 37 (3%) for type B virus. In contrast to the subtype distribution in the sentinel surveillance, 608 (80%) of 759 subtyped influenza A viruses in the non-sentinel surveillance were of subtype A(H1)pdm09 (Tables 1–2, Figures 1–2).

The proportion of specimens testing positive for influenza virus has decreased since week 2/2014 (Figure 1).

Since week 40/2013, of the 2 635 sentinel specimens testing positive for influenza virus, 2 589 (98%) were type A and 46 (2%) were type B. Of the 2 303 influenza A viruses subtyped, 1 301 (56%) were A(H1)pdm09 and 1 002 (44%) were A(H3). Of the 14 influenza B viruses, 13 were of the B/Yamagata/16/88 lineage and one was of the B/Victoria/2/87 lineage. In the last two weeks, the proportion of A(H1)pdm09 viruses among all subtyped sentinel influenza A viruses has decreased and this week was lower than the proportion of A(H3), indicating a circulation of both viruses with varying dominance across Europe at this point in the season (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 225 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, 220 A(H1)pdm09, 65 A(H3) and 21 type B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir by genetic and/or phenotypic methods. All but three viruses showed no genetic or phenotypic (IC₅₀) evidence of reduced inhibition. Two A(H1N1)pdm09 viruses carried the NA-H275Y amino acid substitution associated with highly reduced inhibition by oseltamivir. One A(H3N2) virus carrying the NA-E119V amino acid substitution showed reduced inhibition by oseltamivir by phenotypic test and normal inhibition by zanamivir.

For week 5/2014, 17 countries reported 965 respiratory syncytial virus detections, maintaining the downward trend and indicating a peak for this season in week 1/2014. The number of RSV detections was lower than the number observed during the same period last year (Figure 3).

Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2013–5/2014

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	393	1415	2589	6026
A(H1)pdm09	157	608	1301	2756
A(H3)	163	151	1002	862
A(sub-type unknown)	73	656	286	2408
Influenza B	1	37	46	284
B(Vic) lineage	0	1	1	4
B(Yam) lineage	1	2	13	45
Unknown lineage	0	34	32	235
Total influenza	394	1452	2635	6310

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 40/2013–5/2014

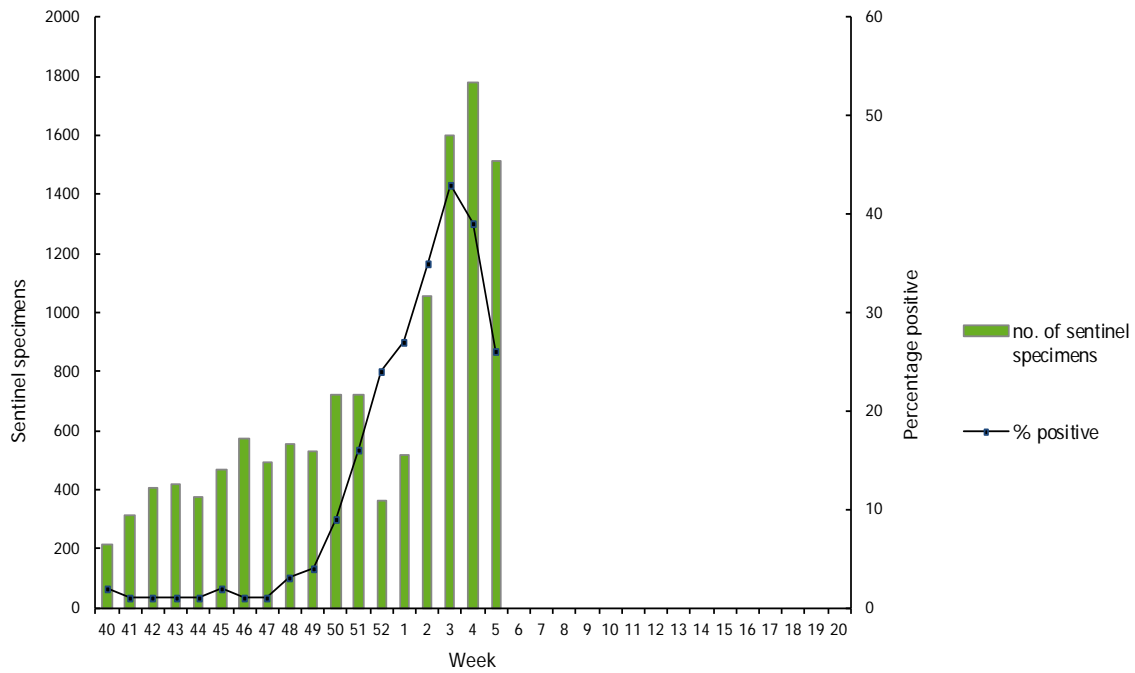


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–5/2014

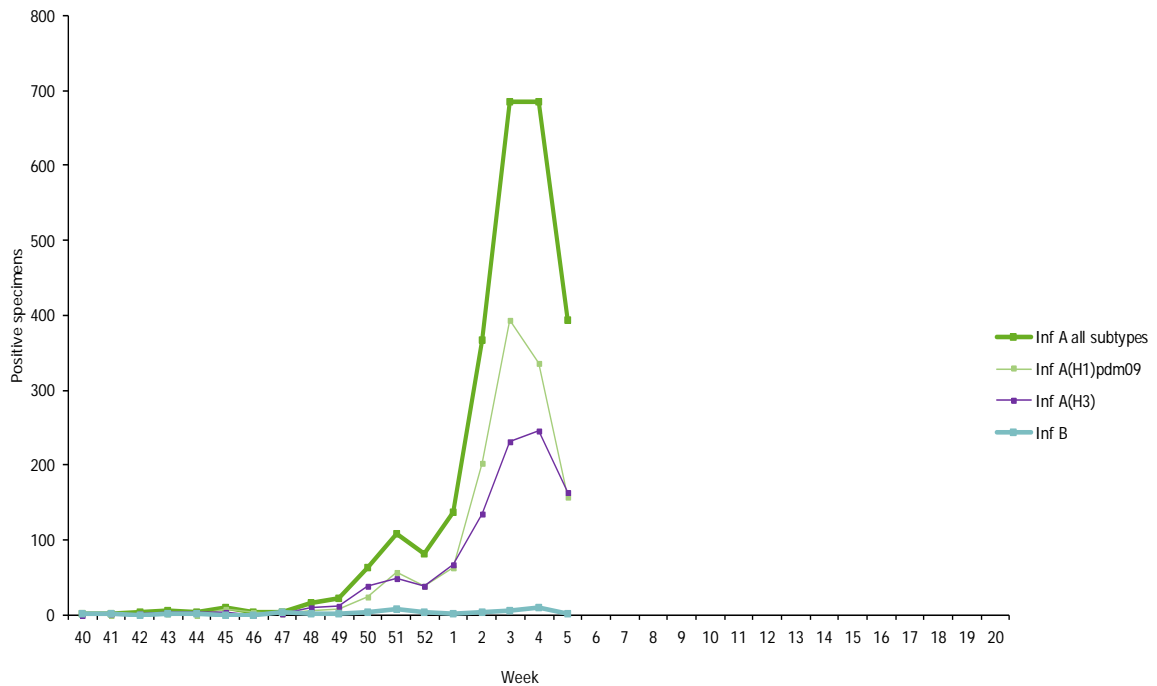


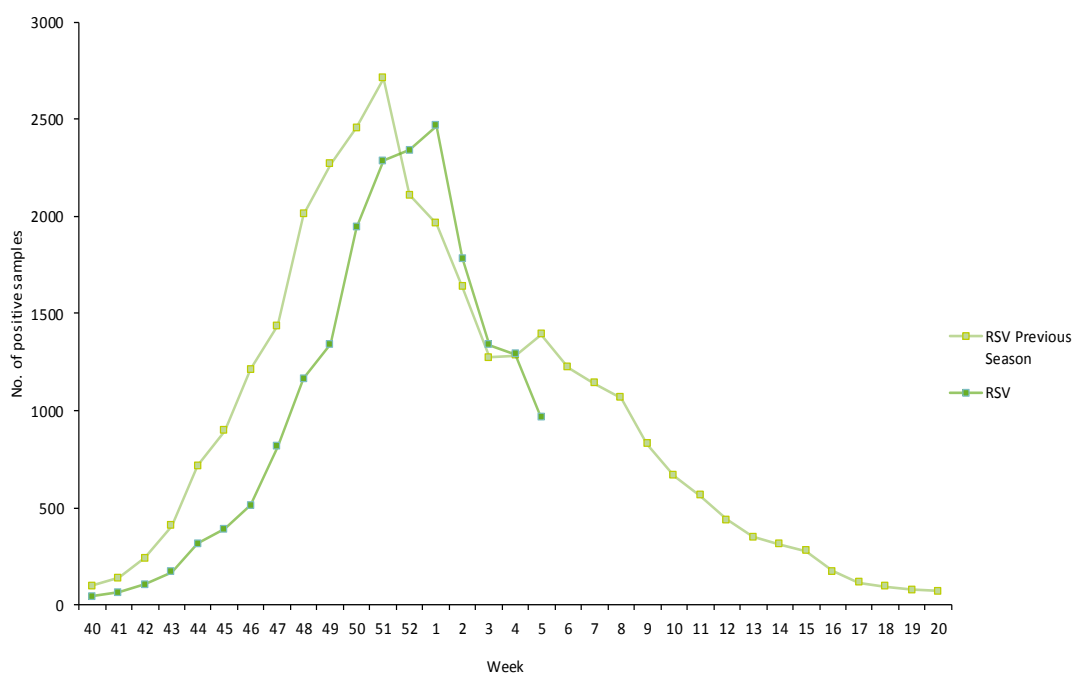
Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–5/2014

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	130
A(H3) A/Texas/50/2012 (H3N2)-like	84
A(H3) not attributed to category	1
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	3
B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage)	6
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 40/2013–5/2014

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6)	162
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	131
B(Vic)-lineage clade 1A representative B/Brisbane/60/2008	2
B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012	10
B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010	12

Figure 3. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2013–5/2014



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 5/2014, 182 hospitalised, laboratory-confirmed influenza cases were reported by five countries (France, Ireland, Romania, Spain and UK) (Table 5). Of the subtyped influenza A viruses, 85 (80%) were related to A(H1)pdm09 and 21 (20%) to A(H3), which is in accordance with the non-sentinel virological surveillance results displayed in Table 2.

Since week 40/2013, six countries have reported 1 605 hospitalised, laboratory-confirmed influenza cases: 1 588 (99%) were related to influenza virus type A infection and 17 (1%) to type B virus infection (Tables 5 and 6). Of 1 078 subtyped influenza A viruses, 878 (81%) were A(H1)pdm09 and 200 (19%) were A(H3) (Table 5). Of the 1 443 hospitalised cases with reported age, 554 (38%) were 40–64 years and 494 (34%) were over 60 years. Five countries reported a total of 124 fatal cases (Table 6). All fatal cases were associated with influenza virus type A infection and 86 of them were subtyped: 70 (81%) as A(H1)pdm09 and 16 (19%) as A(H3). The age was reported for 122 of the fatal cases: 68 (56%) were over 65 years.

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

Pathogen	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	182	1588
A(H1)pdm09	85	878
A(H3)	21	200
A(sub-typing not performed)	76	510
Influenza B		17
Total	182	1605

Table 6. Cumulative number of hospitalised, laboratory-confirmed influenza cases, weeks 40/2013–5/2014

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	109		8		
Ireland	56		1		
Romania	5	0.09	1	0.02	5813728
Spain	1254		112		
Sweden	23		2		
United Kingdom	158	0.25			63705030
Total	1605		124		

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 Adlhoeh, 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), 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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