

SURVEILLANCE REPORT



Weekly influenza surveillance overview

14 March 2014

Main surveillance developments in week 10/2014 (03–09 Mar 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 10/2014:

- Of the 28 countries providing clinical data, one country (Greece) reported high-intensity influenza activity, nine reported medium intensity and 18 countries reported low-intensity influenza activity.
- Of the 899 sentinel specimens tested across 22 countries, 288 (32%) were positive for influenza virus. Of these, 279 (97%) were type A and nine (3%) were type B.
- Six countries reported 206 hospitalised, laboratory-confirmed influenza cases, including 93 cases admitted to intensive care units.

Based on the various indicators for the influenza season, the status of the season varied considerably among EU/EEA Member States in terms of the phase of the epidemic, its intensity and the dominant virus subtype.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): Twelve of the 28 reporting countries reported geographically widespread influenza activity. For more information, [click here](#).

Virological surveillance: Of the 288 sentinel specimens testing positive for influenza virus, 279 (97%) were type A and 9 (3%) were type B. For more information, [click here](#).

Hospital surveillance of laboratory-confirmed influenza cases. Since week 40/2013, seven countries have reported 3 707 hospitalised, laboratory-confirmed influenza cases, 3 684 (99%) of which were caused by influenza virus type A infection and 23 (1%) by type B virus infection. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly and seasonal analysis

For week 10/2014, clinical data were reported by 28 countries. In terms of influenza activity, one country (Greece) reported high intensity, nine countries reported medium intensity and 18 reported low intensity, the lowest category of reporting (Table 1, Map 1). Belgium, Estonia, France, Iceland, Ireland and Sweden have been reporting medium intensity influenza activity for at least four consecutive weeks. Thirteen countries have been reporting low intensity throughout the season.

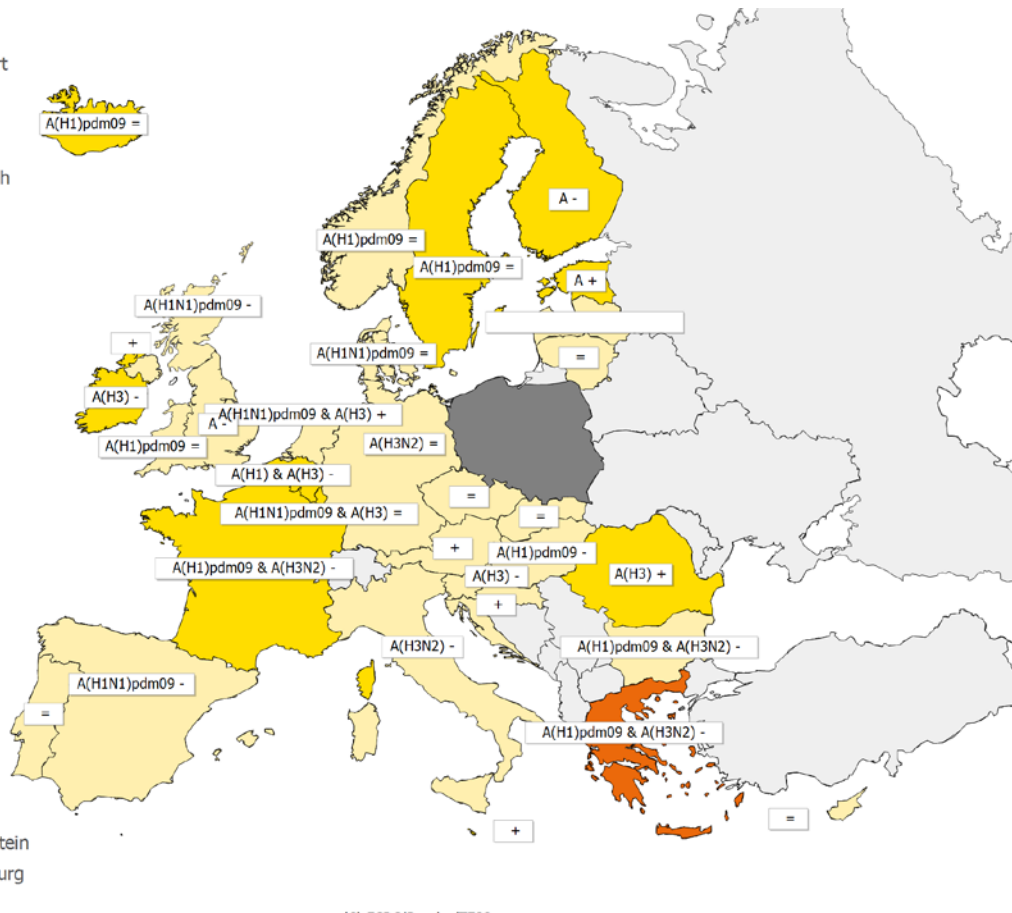
Geographic patterns of influenza activity varied across Europe: widespread activity was reported by 12 countries; regional activity by Finland, Germany, Italy, the Netherlands, Slovenia and the UK (England and Scotland); local activity by Bulgaria, Norway and Romania; and sporadic activity by the Czech Republic, Latvia, Lithuania, Portugal, Slovakia, Spain and the UK (Northern Ireland, and Wales). Cyprus reported no influenza activity (Table 1, Map 2).

Increasing trends were reported by Austria, Croatia, Estonia, the Netherlands, Romania and the UK (Northern Ireland) (Table 1, Map 2). Ten countries and the UK (England and Scotland) reported decreasing trends. Belgium, Italy and Spain have been reporting decreasing trends for at least four consecutive weeks. The incidence of ILI rates has returned below epidemic threshold in Spain.

Map 1. Intensity for week 10/2014

Intensity

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



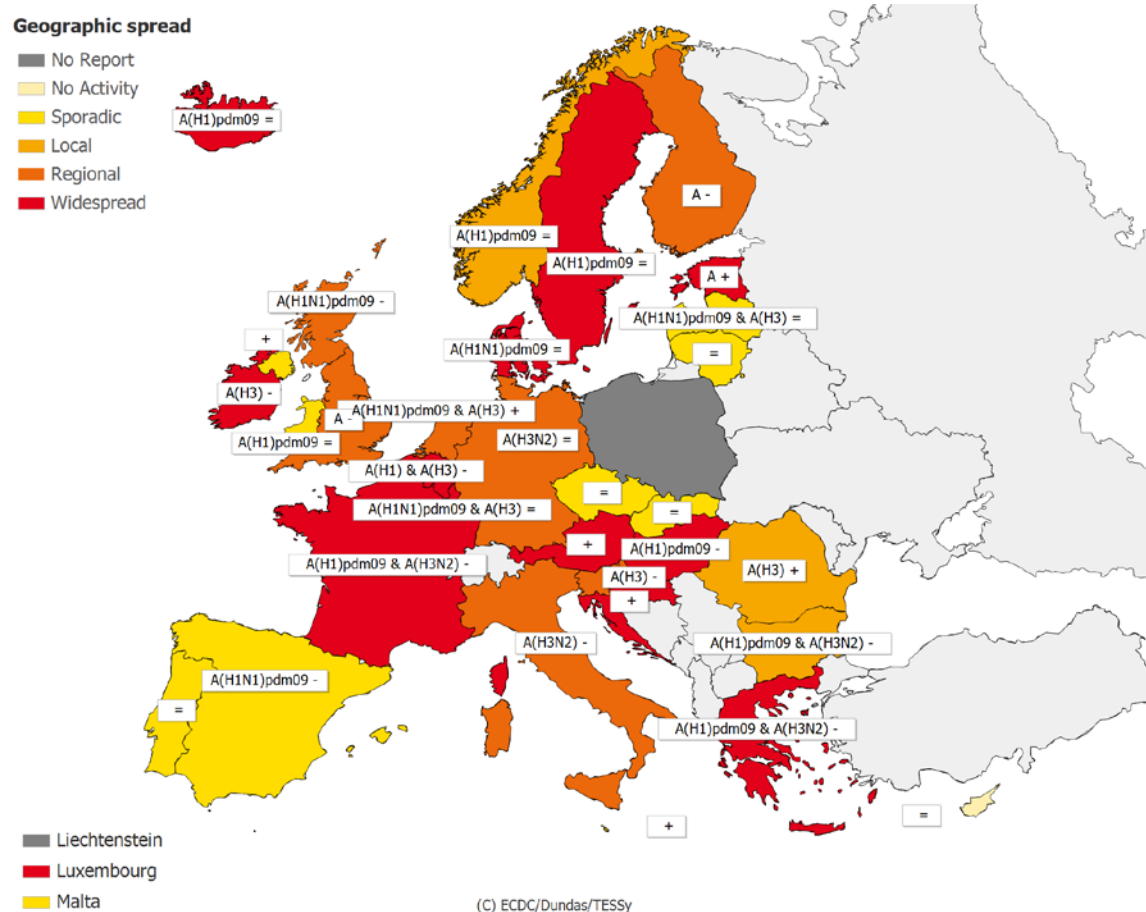
(C) ECDC/Dundas/TESSy

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

Map 2. Geographic spread for week 10/2014



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

Table 1. Epidemiological and virological overview by country, week 10/2014

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	Widespread	Increasing	37	None	43.2	1037.0	-	Graphs	Graphs
Belgium	Medium	Widespread	Decreasing	36	A(H1) & A(H3)	58.3	247.1	1654.1	Graphs	Graphs
Bulgaria	Low	Local	Decreasing	0	A(H1)pdm09 & A(H3N2)	0.0	-	834.5	Graphs	Graphs
Croatia	Low	Widespread	Increasing	-	-	0.0	-	-	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	-	-	0.0	26.6	880.6	Graphs	Graphs
Denmark	Low	Widespread	Stable	13	A(H1N1)pdm09	46.2	76.2	-	Graphs	Graphs
Estonia	Medium	Widespread	Increasing	30	A	36.7	18.4	394.8	Graphs	Graphs
Finland	Medium	Regional	Decreasing	20	A	15.0	-	-	Graphs	Graphs
France	Medium	Widespread	Decreasing	118	A(H1)pdm09 & A(H3N2)	36.4	-	1579.1	Graphs	Graphs
Germany	Low	Regional	Stable	112	A(H3N2)	20.5	-	1127.0	Graphs	Graphs
Greece	High	Widespread	Decreasing	9	A(H1)pdm09 & A(H3N2)	22.2	249.5	-	Graphs	Graphs
Hungary	Low	Widespread	Decreasing	69	A(H1)pdm09	29.0	220.4	-	Graphs	Graphs
Iceland	Medium	Widespread	Stable	0	A(H1)pdm09	0.0	55.9	-	Graphs	Graphs
Ireland	Medium	Widespread	Decreasing	29	A(H3)	55.2	49.1	-	Graphs	Graphs
Italy	Low	Regional	Decreasing	55	A(H3N2)	29.1	353.4	-	Graphs	Graphs
Latvia	Low	Sporadic	Stable	0	A(H1N1)pdm09 & A(H3)	0.0	3.7	984.2	Graphs	Graphs
Lithuania	Low	Sporadic	Stable	26	None	7.7	6.7	686.3	Graphs	Graphs
Luxembourg	Medium	Widespread	Stable	28	A(H1N1)pdm09 & A(H3)	42.9	-*	-*	Graphs	Graphs
Malta				-	-	0.0	-	-		
Netherlands	Low	Regional	Increasing	17	A(H1N1)pdm09 & A(H3)	29.4	39.0	-	Graphs	Graphs
Norway	Low	Local	Stable	9	A(H1)pdm09	55.6	60.0	-	Graphs	Graphs
Poland				-	-	0.0	-	-		
Portugal	Low	Sporadic	Stable	2	None	50.0	18.6	-	Graphs	Graphs
Romania	Medium	Local	Increasing	10	A(H3)	60.0	3.9	797.4	Graphs	Graphs
Slovakia	Low	Sporadic	Stable	15	None	26.7	164.1	1512.4	Graphs	Graphs
Slovenia	Low	Regional	Decreasing	32	A(H3)	50.0	23.3	1097.4	Graphs	Graphs
Spain	Low	Sporadic	Decreasing	92	A(H1N1)pdm09	21.7	35.1	-	Graphs	Graphs
Sweden	Medium	Widespread	Stable	49	A(H1)pdm09	18.4	10.4	-	Graphs	Graphs
UK - England	Low	Regional	Decreasing	55	A	34.5	2.9	203.0	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Increasing	-	-	0.0	35.0	423.2	Graphs	Graphs
UK - Scotland	Low	Regional	Decreasing	34	A(H1N1)pdm09	32.4	14.4	439.1	Graphs	Graphs
UK - Wales	Low	Sporadic	Stable	2	A(H1)pdm09	50.0	5.5	-	Graphs	Graphs
Europe				899		32.0			Graphs	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 10/2014, 899 sentinel specimens were tested across 22 countries, 288 (32 %) were positive for influenza virus (Tables 1–2, Figures 1–2). Of these, 279 (97%) were type A and nine (3%) were type B (Tables 1–2).

Since week 40/2013, of 5 779 sentinel specimens testing positive for influenza virus, 5 659 (98%) were type A and 120 (2%) were type B. Of the 5 231 subtyped influenza viruses, 2 961 (57%) were A(H1)pdm09 and 2 270 (43%) were A(H3). Countries have reported variable patterns of A(H1)pdm09 and A(H3) as the dominant subtype (Table 1). Non-sentinel virus detections are summarised in Table 2. The subtype distribution in non-sentinel type A virus detections, 75% A(H1)pdm09 and 25% A(H3), reflects the distribution seen in hospitalised laboratory-confirmed influenza cases (Table 5).

The proportion of sentinel specimens testing positive for influenza virus has decreased for the seventh consecutive week after peaking in week 3/2014 (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 803 antigenically characterised viruses have differed significantly from the [current vaccine viruses recommended by WHO](#) (Table 3). More details on viruses circulating since September 2013 can be found in the [WHO CC Report, February 2014](#).

Since week 40/2013, 622 A(H1)pdm09, 133 A(H3) and 35 type B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir by genetic and/or phenotypic methods. Eight A(H1N1)pdm09 viruses carried the NA-H275Y amino acid substitution associated with highly reduced inhibition by oseltamivir. One of these viruses showed phenotypic highly-reduced inhibition by oseltamivir and normal inhibition by zanamivir. One A(H3N2) virus carried the NA-E119V amino acid substitution and showed reduced inhibition by oseltamivir and normal inhibition by zanamivir.

For week 8/2014, 16 countries reported 460 respiratory syncytial virus detections, maintaining the downward trend and indicating that the epidemic peak for the reporting countries occurred in week 1/2014.

Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2013–10/2014

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	279	1594	5659	18070
A(H1)pdm09	125	521	2961	8281
A(H3)	114	222	2270	2828
A(sub-type unknown)	40	851	428	6961
Influenza B	9	48	120	575
B(Vic) lineage	0	0	6	5
B(Yam) lineage	4	3	36	81
Unknown lineage	5	45	78	489
Total influenza	288	1642	5779	18645

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 40/2013–10/2014

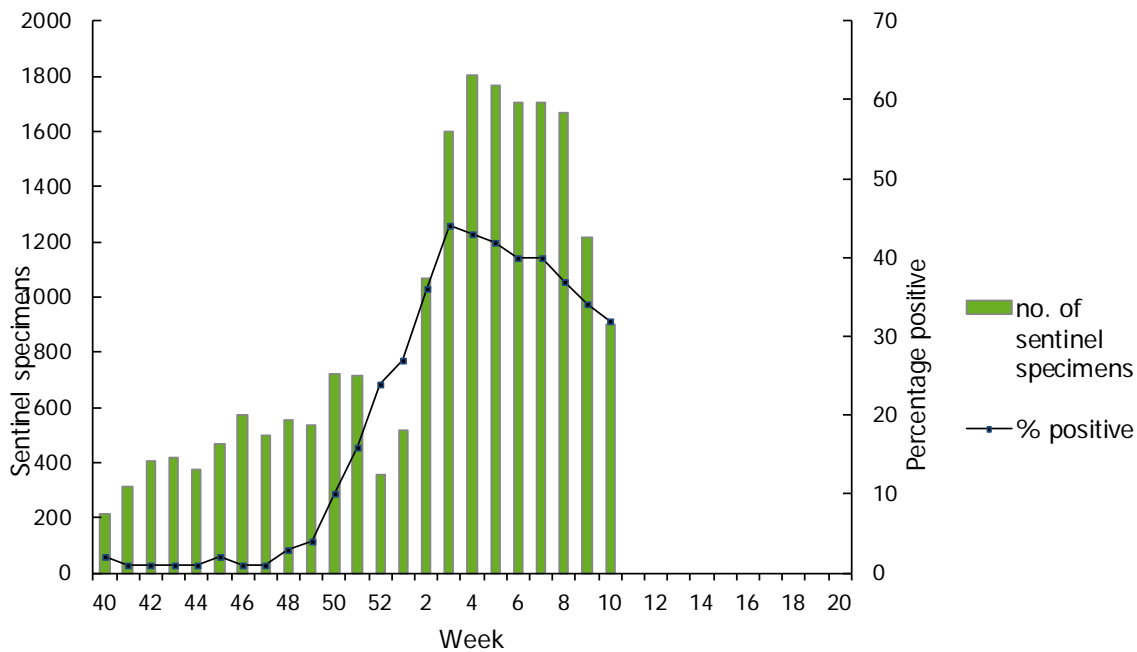


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–10/2014

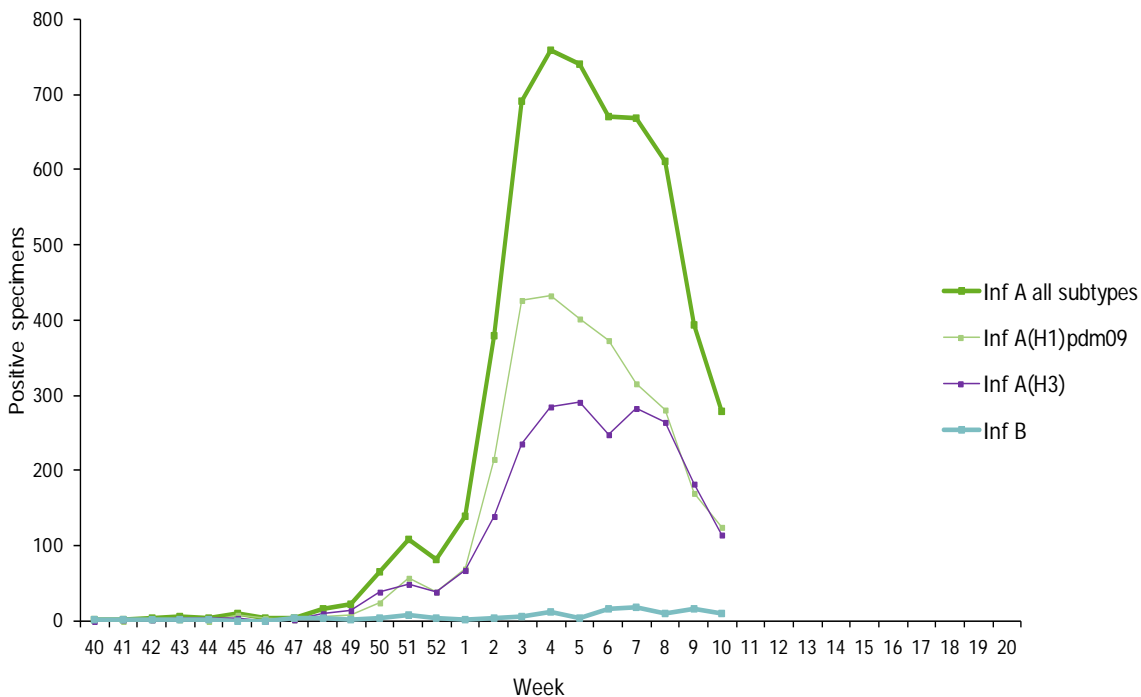
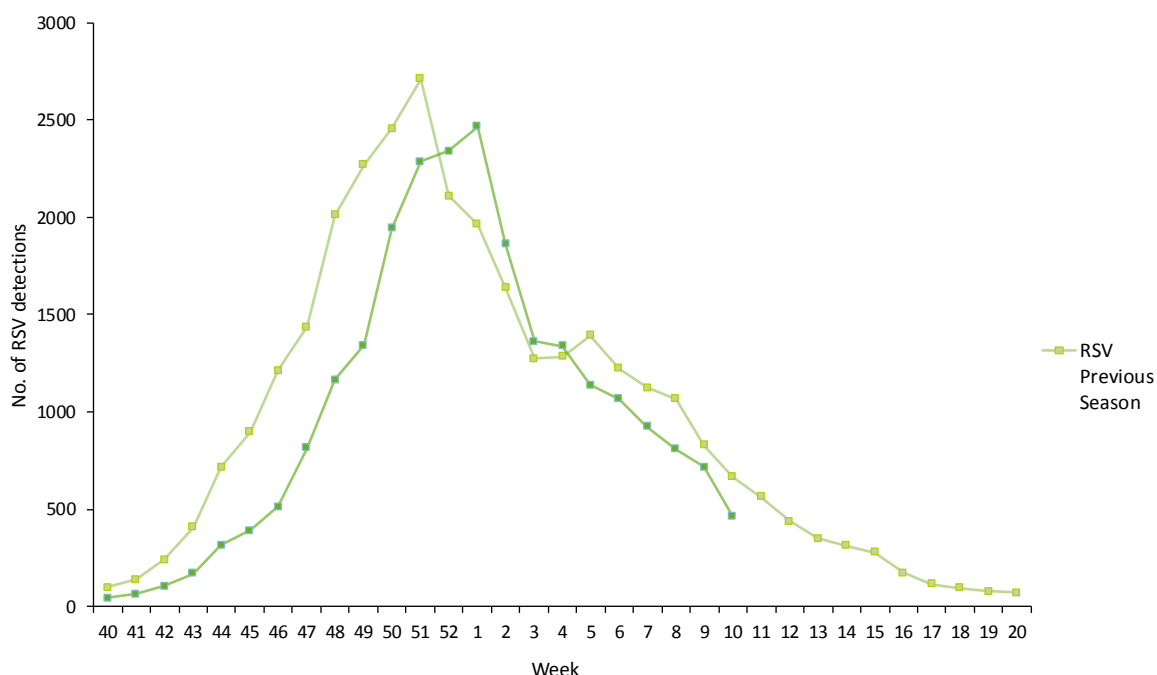


Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–10/2014

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	519
A(H3) A/Texas/50/2012 (H3N2)-like	253
A(H3) not attributed to category	2
B/Brisbane/60/2008-like (B/Yamagata/16/88-lineage)	14
B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage)	13
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 40/2013–10/2014

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 – A/St Petersburg/27/2011 group (6)	338
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	263
B(Vic)-lineage clade 1A representative B/Brisbane/60/2008	6
B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012	11
B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010	18

Figure 3. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2013–10/2014

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 10/2014, 206 hospitalised laboratory-confirmed influenza cases were reported by six countries (France, Ireland, Romania, Spain, Sweden and the UK) (Table 5). Two hundred and four cases tested positive for influenza A virus and two for influenza B virus (Table 5). Ninety-three cases were admitted to intensive care units (ICU).

Since week 40/2013, seven countries have reported 3 707 hospitalised, laboratory-confirmed influenza cases: 3 684 (99%) were related to influenza virus type A infection and 23 (1%) to type B virus infection (Tables 5 and 6). Of 2 496 subtyped influenza A viruses, 1 887 (76%) were A(H1)pdm09 and 609 (24%) were A(H3) (Table 5). Higher proportion of A(H1)pdm09 viruses has been detected in patients in ICU (1038 out of 1214 subtyped, 86%) than in patients in other wards (849 out of 1282 subtyped, 66%). The reasons behind the different distribution of (sub)types in different types of wards are currently unknown.

Of the 3 141 hospitalised cases with reported age, 1 197 (38%) were 40–64 years old and 1 125 (36%) were over 60 years of age.

Five countries reported a total of 306 fatal cases (Table 6), and 303 (99%) cases were associated with influenza virus type A infection and three (1%) with type B virus. Of 237 influenza A viruses subtyped for fatal cases, 194 (82%) were A(H1)pdm09 and 43 (18%) were A(H3). The age was reported for 303 of the fatal cases: 166 (55%) were over 65 years of age.

Table 5. Number of hospitalised, laboratory-confirmed influenza cases by influenza type and subtype, week 10/2014 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	91	1867	113	1817
A(H1)pdm09	40	1038	25	849
A(H3)	13	176	58	433
A (subtyping not performed)	38	653	30	535
Influenza B	2	23	0	0
Total	93	1890	113	1817

Table 6. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40/2013–10/2014

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	462	45	0	0
Ireland	51	7	358	3
Romania	15	3	21	1
Spain	737	151	1452	92
Sweden	40	4	0	0
UK	562	0	0	0
Total	1890	210	1831	96

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

For week 10/2014, 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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