

SURVEILLANCE REPORT

Weekly influenza surveillance overview

14 February 2014

Main surveillance developments in week 6/2014 (3–9 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 6/2014:

- Of the 27 countries providing clinical data, Greece reported high-intensity influenza activity, eight reported medium intensity and 19 countries reported low-intensity influenza activity.
- Of the 1 495 sentinel specimens tested across 27 countries, 495 (33%) were positive for influenza virus. Since week 40/2013, six countries have reported 1 941 hospitalised, laboratory-confirmed influenza cases, 1 920 (99%) of which were caused by influenza virus type A infection.

For the second consecutive week, the proportion of sentinel specimens testing positive for influenza virus has decreased and influenza activity appears to be declining in some countries. Influenza A(H1)pdm09 and A(H3) viruses are co-circulating in outpatient settings; however, A(H1)pdm09 is predominant in hospitalised cases.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): For week 6/2014, 18 countries reported low-intensity influenza activity. For more information, [click here](#).

Virological surveillance: Of the 495 sentinel specimens positive for influenza virus, 481 (97%) were type A and 14 (3%) were type B. For more information, [click here](#).

Hospital surveillance of laboratory-confirmed influenza cases: Five countries reported 165 hospitalised laboratory-confirmed influenza cases, including 53 cases admitted to intensive care units (ICU). For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly and seasonal analysis

For week 6/2014, clinical data were reported by 27 countries and the UK (Northern Ireland, Scotland and Wales). In terms of influenza activity, Greece reported high intensity, eight countries reported medium intensity and another 19 reported low intensity, the lowest category of reporting (Table 1, Map 1). Bulgaria, Greece, Portugal, and Spain have been reporting medium or high-intensity influenza activity for at least five consecutive weeks.

Geographic patterns of influenza activity were reported as widespread by 11 countries (Table 1, Map 2).

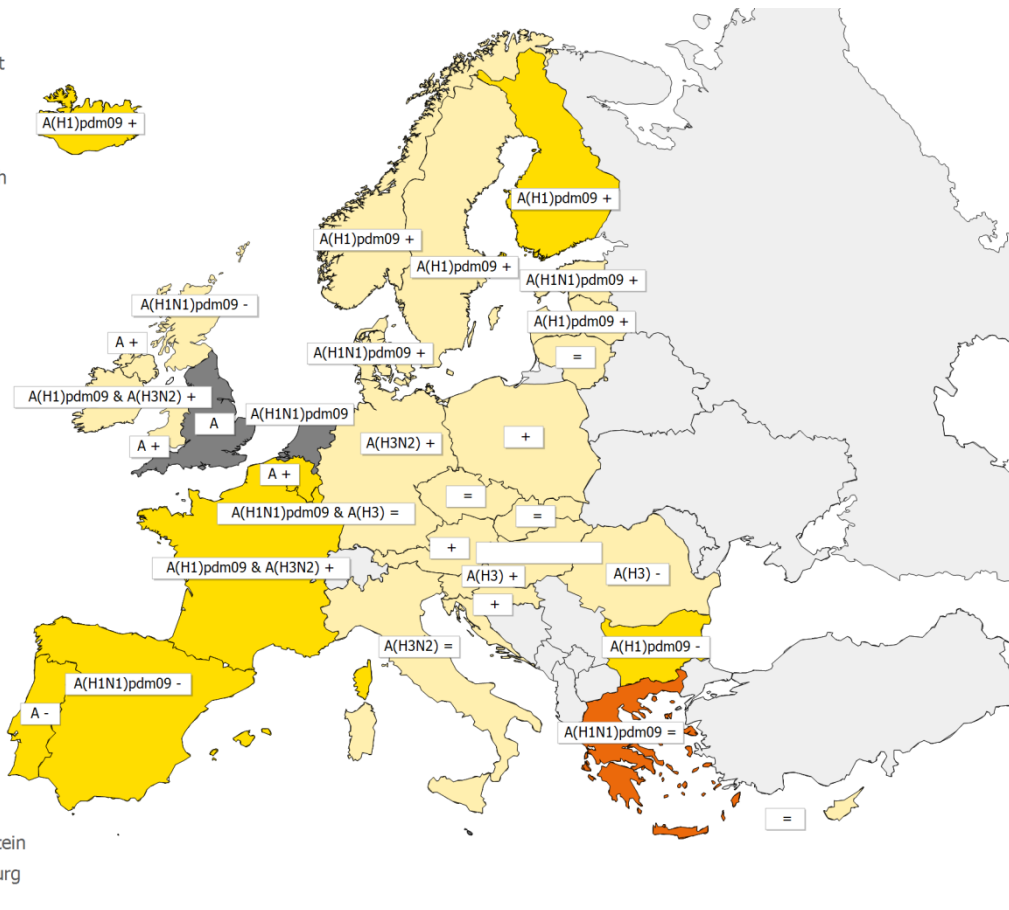
Increasing trends were reported by 16 countries and the UK (Northern Ireland and Wales) (Table 1, Map 2). After seeing increasing trends over the last two weeks, Portugal and Romania reported decreasing trends for the first time this season, while Bulgaria has now been reporting decreasing trends for two consecutive weeks.

The decline in influenza activity in Bulgaria, Portugal and Spain which began in week 5/2014, is continuing.

Map 1. Intensity for week 6/2014

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.

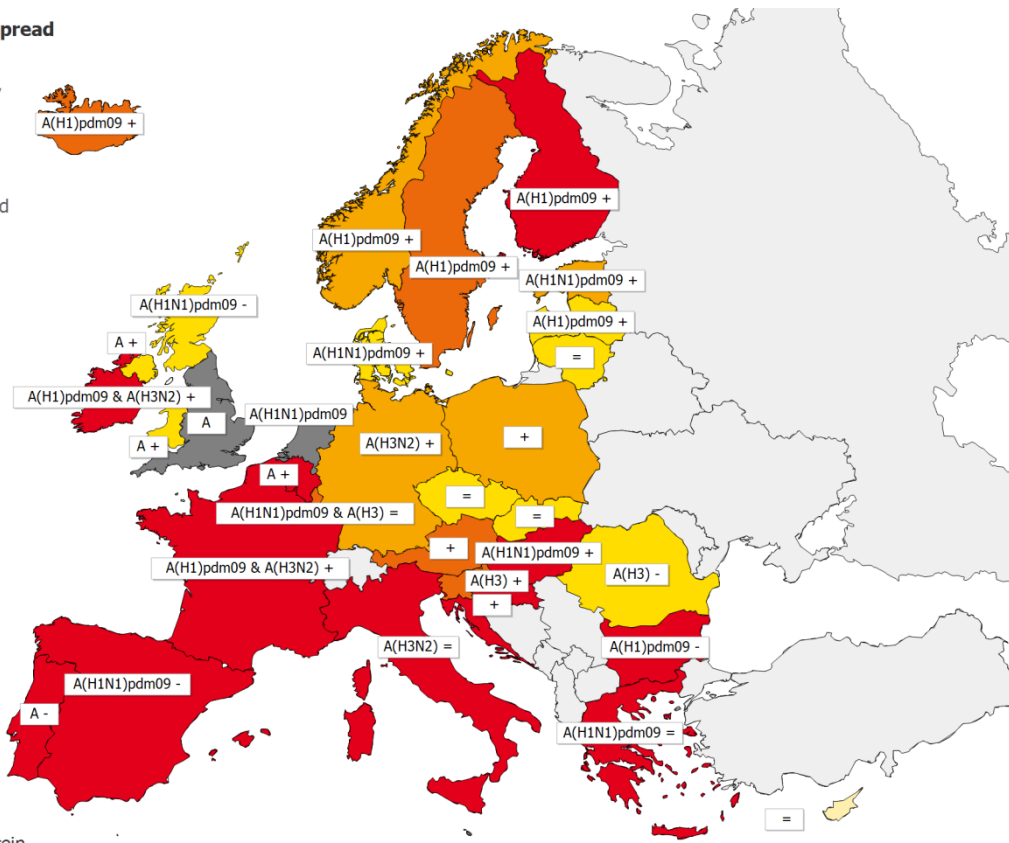
Legend:

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)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

Map 2. Geographic spread for week 6/2014

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:

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(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 6/2014

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	Increasing	22	None	31.8	1014.8	-	Graphs	Graphs
Belgium	Medium	Widespread	Increasing	21	A	47.6	164.9	2080.2	Graphs	Graphs
Bulgaria	Medium	Widespread	Decreasing	41	A(H1)pdm09	48.8	-	1600.2	Graphs	Graphs
Croatia	Low	Widespread	Increasing	83	None	0.0	-	-	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	8	None	0.0	30.6	949.6	Graphs	Graphs
Denmark	Low	Sporadic	Increasing	15	A(H1N1)pdm09	60.0	53.4	-	Graphs	Graphs
Estonia	Low	Local	Increasing	27	A(H1N1)pdm09	40.7	10.8	323.4	Graphs	Graphs
Finland	Medium	Widespread	Increasing	21	A(H1)pdm09	42.9	-	-	Graphs	Graphs
France	Medium	Widespread	Increasing	200	A(H1)pdm09 & A(H3N2)	51.5	-	2263.0	Graphs	Graphs
Germany	Low	Local	Increasing	131	A(H3N2)	13.7	-	1264.8	Graphs	Graphs
Greece	High	Widespread	Stable	23	A(H1N1)pdm09	56.5	263.3	-	Graphs	Graphs
Hungary	Low	Widespread	Increasing	42	A(H1N1)pdm09	9.5	171.9	-	Graphs	Graphs
Iceland	Medium	Regional	Increasing	0	A(H1)pdm09	0.0	27.3	-	Graphs	Graphs
Ireland	Low	Widespread	Increasing	26	A(H1)pdm09 & A(H3N2)	57.7	32.4	-	Graphs	Graphs
Italy	Low	Widespread	Stable	103	A(H3N2)	38.8	610.4	-	Graphs	Graphs
Latvia	Low	Sporadic	Increasing	0	A(H1)pdm09	0.0	12.8	1066.2	Graphs	Graphs
Lithuania	Low	Sporadic	Stable	8	None	12.5	2.1	672.0	Graphs	Graphs
Luxembourg	Medium	Regional	Stable	24	A(H1N1)pdm09 & A(H3)	20.8	-*	-*	Graphs	Graphs
Malta				3	None	0.0	-*	-*	Graphs	Graphs
Netherlands				21	A(H1N1)pdm09	23.8	-	-	Graphs	Graphs
Norway	Low	Local	Increasing	12	A(H1)pdm09	16.7	51.4	-	Graphs	Graphs
Poland	Low	Local	Increasing	19	None	15.8	412.8	-	Graphs	Graphs
Portugal	Medium	Widespread	Decreasing	7	A	57.1	58.5	-	Graphs	Graphs
Romania	Low	Sporadic	Decreasing	6	A(H3)	50.0	4.2	580.8	Graphs	Graphs
Slovakia	Low	Sporadic	Stable	6	None	16.7	197.7	1698.6	Graphs	Graphs
Slovenia	Low	Regional	Increasing	53	A(H3)	62.3	21.0	1635.3	Graphs	Graphs
Spain	Medium	Widespread	Decreasing	398	A(H1N1)pdm09	33.9	150.8	-	Graphs	Graphs
Sweden	Low	Regional	Increasing	51	A(H1)pdm09	21.6	8.5	-	Graphs	Graphs
UK - England				87	A	32.2	-	-	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Increasing	3	A	0.0	25.0	472.3	Graphs	Graphs
UK - Scotland	Low	Sporadic	Decreasing	23	A(H1N1)pdm09	13.0	8.0	500.0	Graphs	Graphs
UK - Wales	Low	Sporadic	Increasing	11	A	18.2	9.1	-	Graphs	Graphs
Europe				1495		33.1				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 6/2014, 27 countries tested 1 495 sentinel specimens, 495 (33%) of which were positive for influenza virus (Tables 1–2, Figures 1–2). Of these, 481 (97%) were type A and 14 (3%) were type B.

Since week 40/2013, of 3 523 sentinel specimens positive for influenza virus, 3 461 (98%) were type A and 62 (2%) were type B. Of the 3 151 subtyped influenza viruses, 1 859 (59%) were A(H1)pdm09 and 1 292 (41%) were A(H3).

The proportion of sentinel specimens testing positive for influenza virus decreased for the second consecutive week after peaking in weeks 3-4/2014 (Figure 1).

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 295 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, 327 A(H1)pdm09, 85 A(H3) and 23 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 (IC_{50}) evidence of reduced inhibition. Two A(H1N1)pdm09 viruses carried the NA-H275Y amino acid substitution associated with highly-reduced inhibition by oseltamivir.

For week 6/2014, 14 countries reported 907 respiratory syncytial virus detections, maintaining the downward trend and indicating that the peak for Europe as a whole this season appears to have occurred in week 1/2014.

Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2013–6/2014

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	481	1725	3461	8169
A(H1)pdm09	220	729	1859	3994
A(H3)	154	175	1292	1192
A(subtype unknown)	107	821	310	2983
Influenza B	14	41	62	325
B(Vic) lineage	1	0	2	4
B(Yam) lineage	3	0	16	53
Unknown lineage	10	41	44	268
Total influenza	495	1766	3523	8494

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 40/2013–6/2014

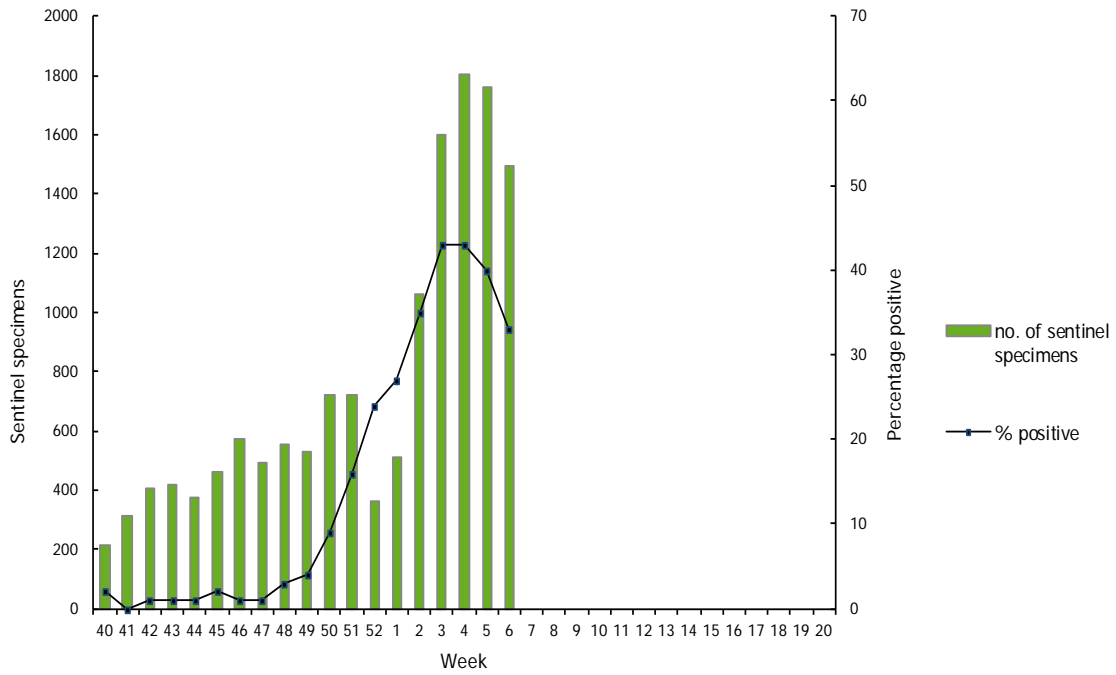


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–6/2014

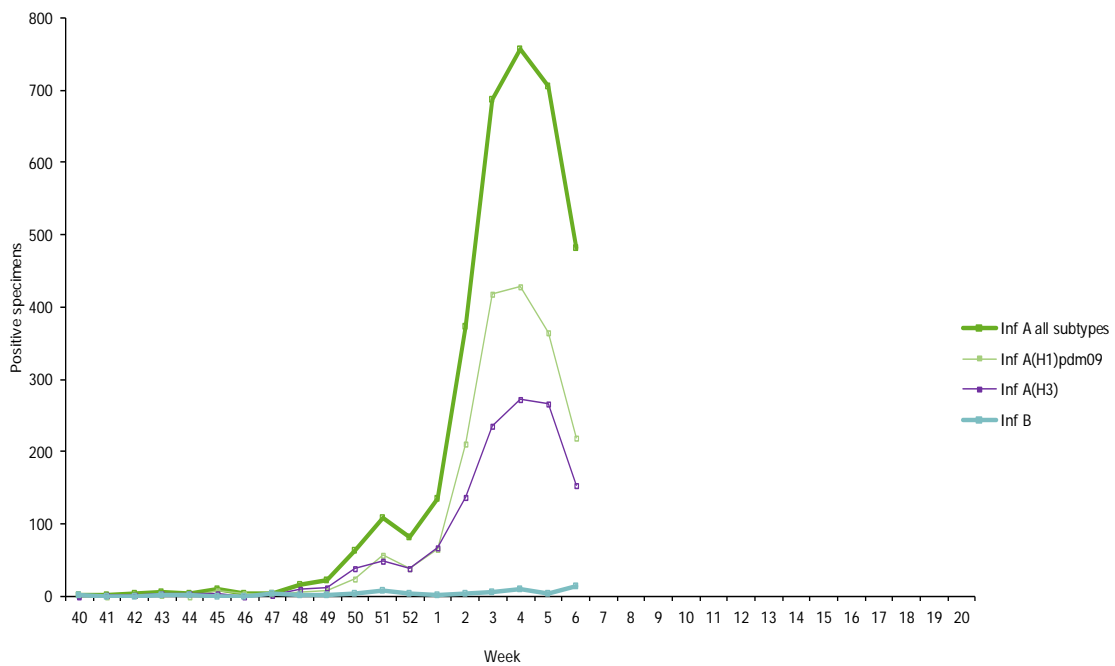


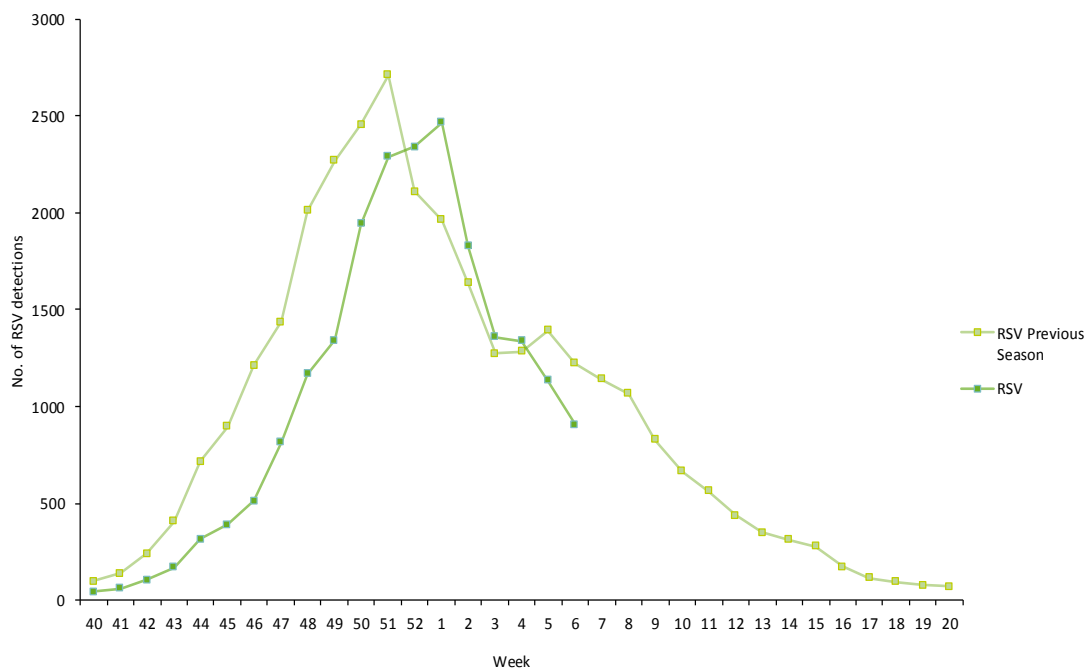
Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–6/2014

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	173
A(H3) A/Texas/50/2012 (H3N2)-like	109
A(H3) not attributed to category	2
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	4
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 40/2013–6/2014

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 – A/St Petersburg/27/2011 group (6)	190
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	145
B(Yam)-lineage clade 1A representative B/Brisbane/60/2008	3
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 40/2013–6/2014



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 6/2014, 165 hospitalised, laboratory-confirmed influenza cases were reported by five countries (France, Ireland, Romania, Spain and Sweden) including 53 cases admitted to intensive care units (ICU) (Table 5).

Since week 40/2013, six countries have reported 1 941 hospitalised, laboratory-confirmed influenza cases: 1 920 (99%) were related to influenza virus type A infection and 21 (1%) to type B virus infection (Tables 5 and 6). A total of 1 322 influenza A viruses have been subtyped, 1 054 (80%) were A(H1)pdm09 and 268 (20%) were A(H3) (Table 5). This distribution was similar in cases admitted to ICU and cases admitted to other wards.

Five countries reported a total of 158 fatal cases (Table 6). All fatal cases were associated with influenza virus type A infection and 117 of them were subtyped: 94 (80%) as A(H1)pdm09 and 23 (20%) as A(H3). Of the 156 fatal cases with known age, 88 (56%) were over 65 years.

Table 5. Number of hospitalised laboratory-confirmed influenza cases by influenza type and subtype, week 6/2014 and cumulative for the season

Pathogen	Number of cases admitted to ICU during current week	Cumulative number of cases admitted to ICU since the start of the season	Number of cases admitted to other wards during current week	Cumulative number of cases admitted to other wards since the start of the season
Influenza A	52	842	112	1078
A(H1)pdm09	24	483	39	571
A(H3)	1	76	32	192
A(subtyping not performed)	27	283	41	315
Influenza B	1	13	0	8
Total	53	855	112	1086

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

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
France	153	11		
Ireland	17	1	67	1
Romania	4	1	3	
Spain	497	84	1016	57
Sweden	26	3		
United Kingdom	158			
Total	855	100	1086	58

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 the WISO.

Table 7. Main characteristics of severe influenza surveillance systems

Country	Case definition	Population under surveillance	Type of surveillance	Data format
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 6/2014, 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), 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 (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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