



SURVEILLANCE REPORT

Weekly influenza surveillance overview

28 February 2014

Main surveillance developments in week 8/2014 (17–23 Feb 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 8/2014:

- Of the 27 countries providing clinical data, Finland and Greece reported high-intensity influenza activity, ten reported medium intensity and 15 countries reported low-intensity influenza activity.
- Of the 1 355 sentinel specimens tested across 25 countries, 441 (33%) were positive for influenza virus.
- Seven countries reported 213 hospitalised, laboratory-confirmed influenza cases, including 112 cases admitted to intensive care units (ICU).

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

Epidemiological surveillance: Fifteen of the 27 reporting countries reported geographically widespread influenza activity. For more information, [click here](#).

Virological surveillance: Of the 441 sentinel specimens testing positive for influenza virus, 433 (98%) were type A and 8 (2%) were type B. For more information, [click here](#).

Hospital surveillance of laboratory-confirmed influenza cases: Since week 40/2013, seven countries have reported 3 024 hospitalised, laboratory-confirmed influenza cases, 2 997 (99%) of which were caused by influenza virus type A infection. For more information, [click here](#).

Epidemiological surveillance

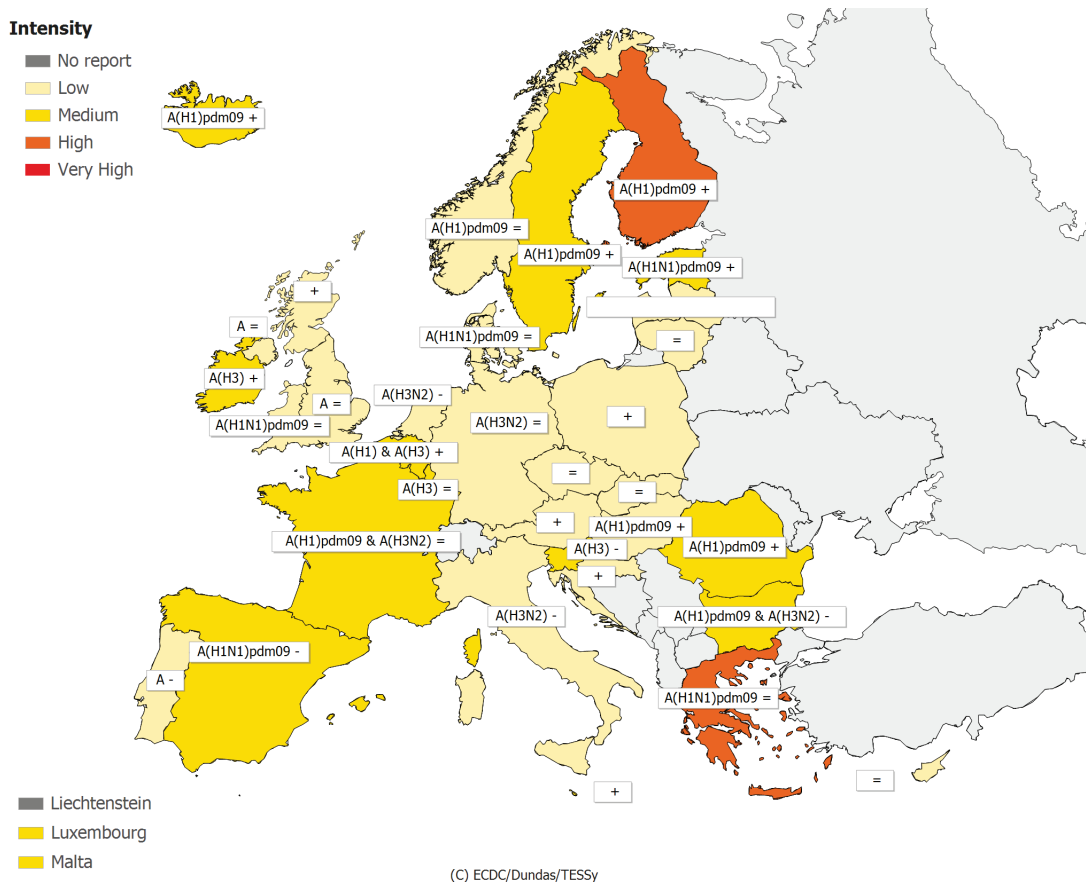
Weekly and seasonal analysis

For week 8/2014, epidemiological data were reported by 27 countries. In terms of influenza activity, Finland and Greece reported high intensity, ten countries reported medium intensity and 15 reported low intensity, the lowest category of reporting (Table 1, Map 1). Bulgaria, Greece and Spain have been reporting medium or high-intensity influenza activity for at least six consecutive weeks; Belgium, Finland, France, Iceland and Malta for at least four consecutive weeks.

Geographic patterns of influenza activity varied across Europe: widespread activity was reported by 14 countries and the UK (England); regional activity by Bulgaria, Germany and the Netherlands; local activity by Norway, Poland and Spain; and sporadic activity by the Czech Republic, Latvia, Lithuania, Malta and the UK (Northern Ireland, Scotland and Wales). Cyprus and Slovakia reported no influenza activity (Table 1, Map 2).

Increasing trends were reported by 11 countries and the UK (Scotland) (Table 1, Map 2). Bulgaria, Portugal and Spain have been reporting decreasing trends for at least three consecutive weeks.

Map 1. Intensity for week 8/2014



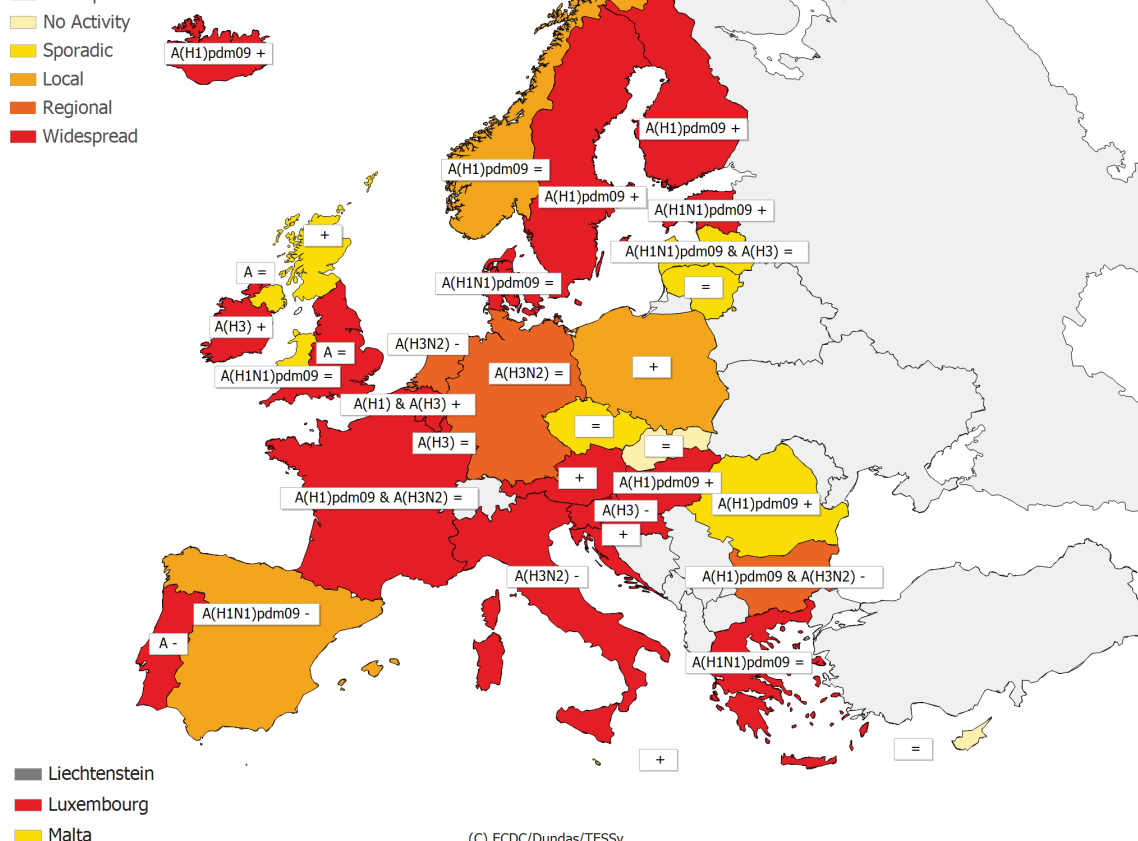
* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.
Legend:

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) & 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 8/2014

Geographic spread

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



* 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 8/2014

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				-	-	0.0	-	-		
Belgium	Medium	Widespread	Increasing	56	A(H1) & A(H3)	53.6	309.0	1 926.1	Graphs	Graphs
Bulgaria	Medium	Regional	Decreasing	9	A(H1)pdm09	11.1	-	1 228.6	Graphs	Graphs
Croatia	Low	Widespread	Increasing	169	None	0.0	-	-	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	19	None	15.8	32.7	947.2	Graphs	Graphs
Denmark	Low	Widespread	Stable	23	A(H1N1)pdm09	43.5	78.9	-	Graphs	Graphs
Estonia	Medium	Widespread	Increasing	63	A(H1N1)pdm09	47.6	15.9	387.6	Graphs	Graphs
Finland	High	Widespread	Increasing	37	A(H1)pdm09	24.3	-	-	Graphs	Graphs
France	Medium	Widespread	Stable	191	A(H1)pdm09 & A(H3N2)	47.6	-	2 165.3	Graphs	Graphs
Germany	Low	Regional	Stable	126	A(H3N2)	19.0	-	1 332.0	Graphs	Graphs
Greece	High	Widespread	Stable	12	A(H1N1)pdm09	50.0	320.1	-	Graphs	Graphs
Hungary	Low	Widespread	Increasing	-	-	0.0	263.8	-	Graphs	Graphs
Iceland	Medium	Widespread	Increasing	0	A(H1)pdm09	0.0	52.5	-	Graphs	Graphs
Ireland	Medium	Widespread	Increasing	28	A(H3)	60.7	48.8	-	Graphs	Graphs
Italy	Low	Widespread	Decreasing	79	A(H3N2)	43.0	494.5	-	Graphs	Graphs
Latvia	Low	Sporadic	Stable	1	A(H1N1)pdm09 & A(H3)	100.0	8.0	1 005.3	Graphs	Graphs
Lithuania	Low	Sporadic	Stable	12	None	25.0	4.2	624.1	Graphs	Graphs
Luxembourg	Medium	Widespread	Stable	16	A(H3)	50.0	-*	-*	Graphs	Graphs
Malta	Medium	Sporadic	Increasing	-	-	0.0	-*	-*	Graphs	Graphs
Netherlands	Low	Regional	Decreasing	15	A(H3N2)	26.7	49.1	-	Graphs	Graphs
Norway	Low	Local	Stable	13	A(H1)pdm09	69.2	59.9	-	Graphs	Graphs
Poland	Low	Local	Increasing	25	None	8.0	407.6	-	Graphs	Graphs
Portugal	Low	Widespread	Decreasing	5	A	40.0	42.7	-	Graphs	Graphs
Romania				-	-	0.0	-	-		
Slovakia	Low	No activity	Stable	6	None	33.3	212.6	1 779.2	Graphs	Graphs
Slovenia				43	A(H3)	83.7	-	-	Graphs	Graphs
Spain	Medium	Local	Decreasing	220	A(H1N1)pdm09	29.1	69.5	-	Graphs	Graphs
Sweden	Medium	Widespread	Increasing	86	A(H1)pdm09	32.6	18.2	-	Graphs	Graphs
UK - England	Low	Widespread	Stable	69	A	26.1	2.0	187.9	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Stable	4	A	25.0	33.9	408.6	Graphs	Graphs
UK - Scotland										
UK - Wales	Low	Sporadic	Increasing	27	None	25.9	21.5	490.8	Graphs	Graphs
Europe				1 355		32.5			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 influenza-like illness (ILI), acute respiratory illness (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, which might include also non-sentinel sources of information.

Virological surveillance

Weekly and seasonal analysis

For week 8/2014, 25 countries tested 1 355 sentinel specimens, 441 (33%) of which were positive for influenza virus (Tables 1–2, Figures 1–2). Of these, 433 (98%) were type A and 8 (2%) were type B (Tables 1–2).

Since week 40/2013, of 4 817 sentinel specimens positive for influenza virus, 4 730 (98%) were type A and 87 (2%) were type B. Of the 4 317 subtyped influenza viruses, 2 487 (58%) were A(H1)pdm09 and 1 830 (42%) 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, 76% A(H1)pdm09 and 24% 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 fourth consecutive week after peaking in weeks 3–4/2014 (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 493 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 [December virus characterisation report](#). WHO recommended that [vaccine viruses for 2014–2015](#) are the same as the vaccine viruses for the 2013–2014 season.

Since week 40/2013, 397 A(H1)pdm09, 102 A(H3) and 25 type B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir by genetic and/or phenotypic methods. Only three viruses showed 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 of these viruses showed phenotypic highly reduced inhibition by oseltamivir and normal inhibition by zanamivir. One A(H3N2) virus carried NA-E119V amino acid substitution and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir.

For week 8/2014, 16 countries reported 676 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 40/2013–8/2014

Virus type/subtype	Current period sentinel	Current period non-sentinel	Season sentinel	Season non-sentinel
Influenza A	460	2262	4757	13331
A(H1)pdm09	182	911	2506	6416
A(H3)	184	295	1838	2068
A(sub-type unknown)	94	1056	413	4847
Influenza B	8	46	87	440
B(Vic) lineage	2	0	5	4
B(Yam) lineage	3	4	24	66
Unknown lineage	3	42	58	370
Total influenza	468	2308	4844	13771

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 40/2013–8/2014

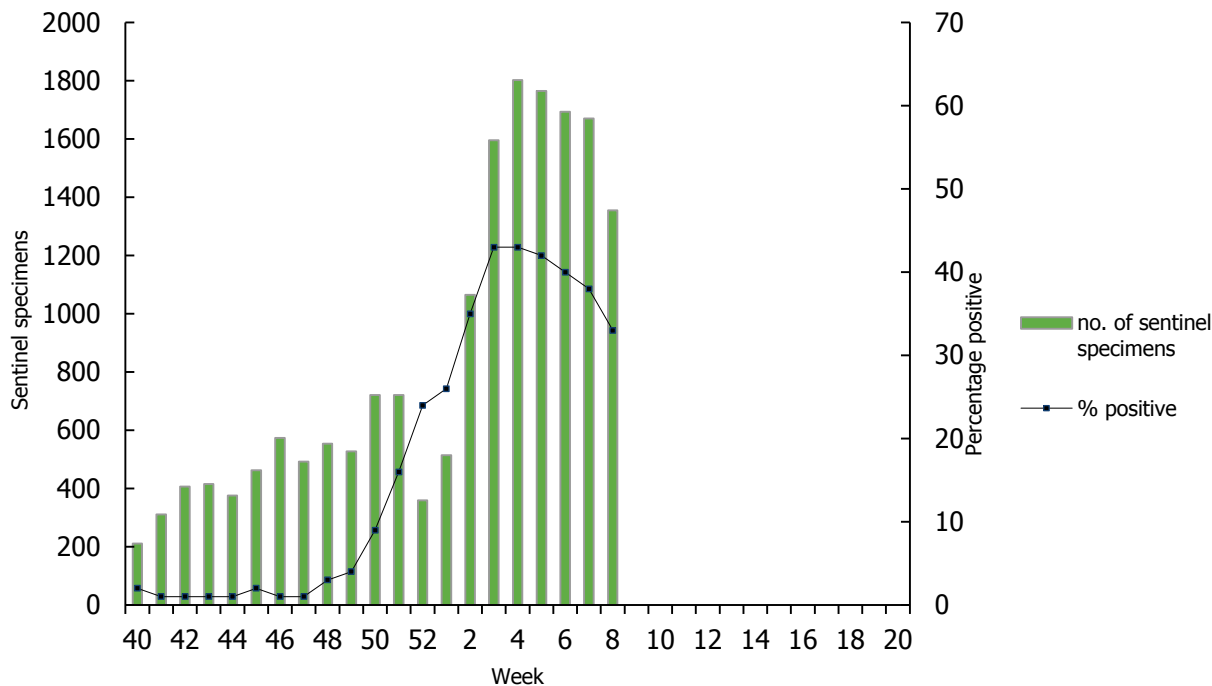


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–8/2014

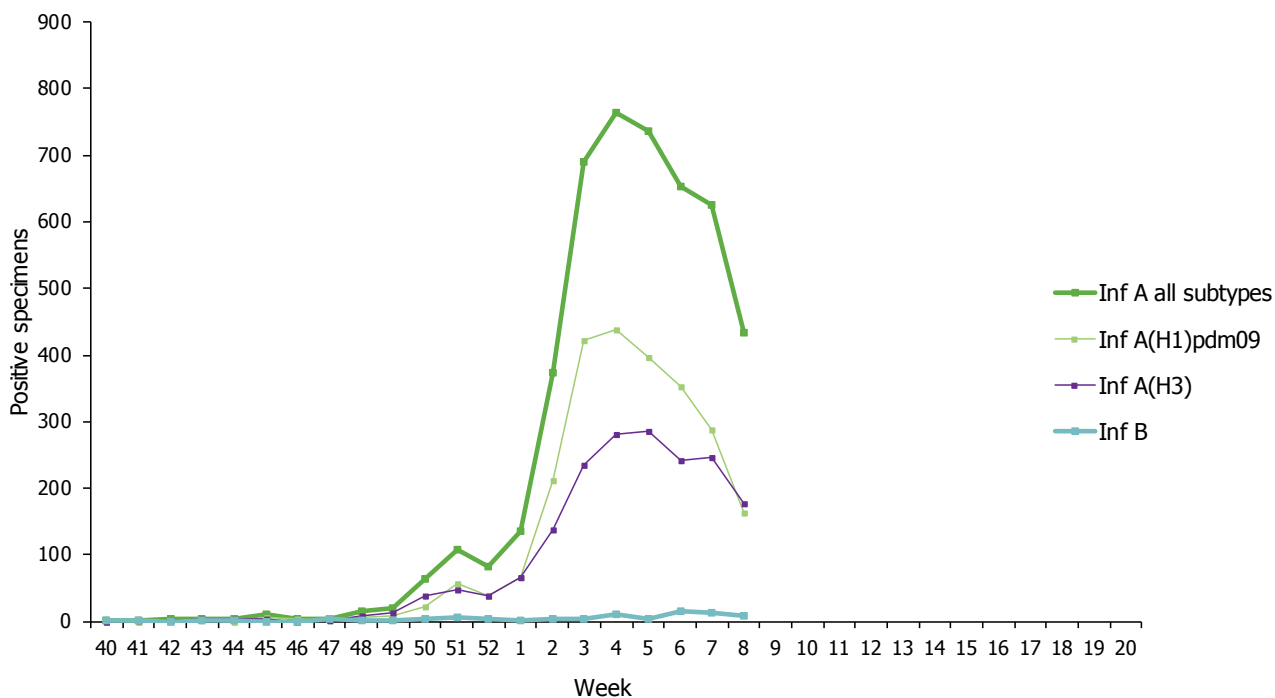


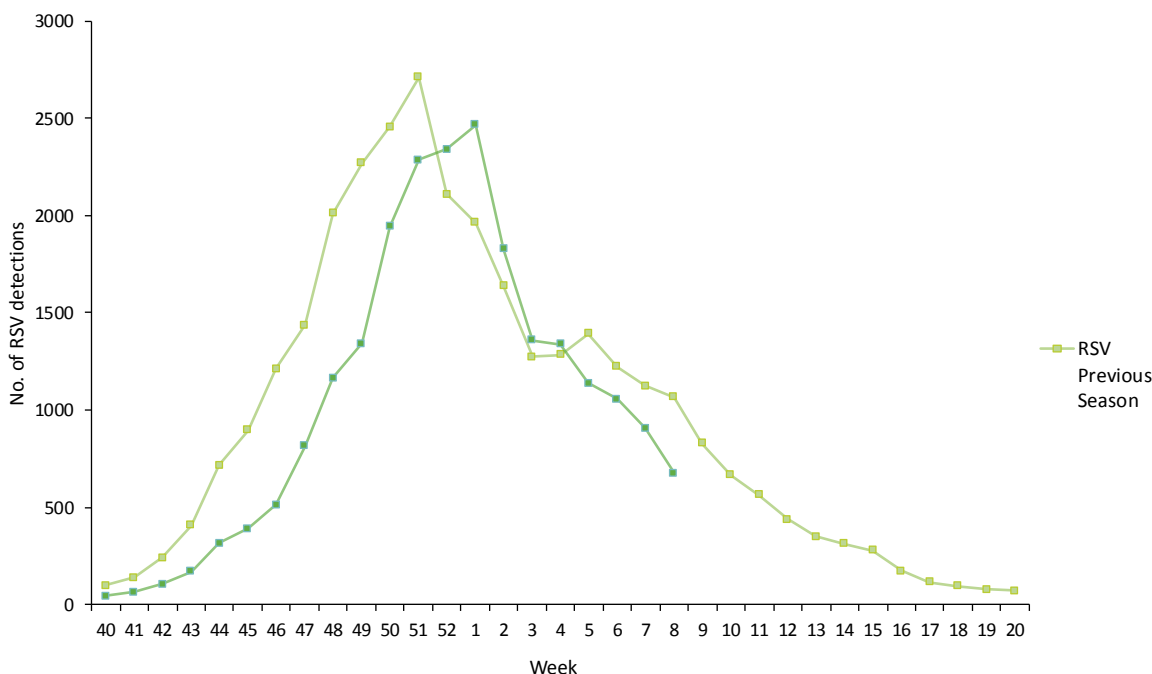
Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–8/2014

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	317
A(H3) A/Texas/50/2012 (H3N2)-like	170
A(H3) not attributed to category	2
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	10
B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage)	10
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 40/2013–8/2014

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6)	250
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	193
B(Vic)-lineage clade 1A representative B/Brisbane/60/2008	4
B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012	11
B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010	14

Figure 3. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2013–8/2014



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 8/2014, 213 hospitalised, laboratory-confirmed influenza cases were reported by seven countries (Finland, France, Ireland, Romania, Spain, Sweden and the UK), including 112 cases admitted to intensive care units (ICU) (Table 5).

Since week 40/2013, seven countries have reported 3 024 hospitalised, laboratory-confirmed influenza cases: 2 997 (99%) were related to influenza virus type A infection and 27 (1%) to type B virus infection (Tables 5 and 6). A total of 2 013 influenza A viruses have been subtyped, 1 573 (78%) were A(H1)pdm09 and 440 (22%) were A(H3) (Table 5). Among cases with known subtype, infections with A(H1)pdm09 accounted for 85% of those admitted to ICU and 71% of those in other wards.

Seven countries reported a total of 254 fatal cases (Table 6). All fatal cases were associated with influenza virus type A infection and 191 of them were subtyped: 157 (82%) as A(H1)pdm09 and 34 (18%) as A(H3). Of the 251 fatal cases with known age, 136 (54%) were ≥ 65 years.

Table 5. Number of hospitalised, laboratory-confirmed influenza cases by influenza type and subtype, week 8/2014 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	111	1494	100	1503
A(H1)pdm09	56	827	31	746
A(H3)	7	139	28	301
A(subtyping not performed)	48	528	41	456
Influenza B	1	16	1	11
Total	112	1510	101	1514

Table 6. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40/2013–8/2014

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	21	0	0	0
France	322	24	0	0
Ireland	25	4	162	2
Romania	7	2	11	0
Spain	676	134	1341	84
Sweden	35	4	0	0
United Kingdom	424	0	0	0
Total	1510	168	1514	86

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 8/2014, 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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