

SURVEILLANCE REPORT

Weekly influenza surveillance overview

25 April 2014

Main surveillance developments in week 16/2014 (14–20 April 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 16/2014:

- Low intensity was reported by all 27 reporting countries and local or sporadic activity was reported by 19 countries.
- Of 161 sentinel specimens tested across 18 countries, 32 (20%) were positive for influenza virus. Twenty-seven (84%) of them were influenza A viruses.
- Four countries reported twenty-three hospitalised, laboratory-confirmed influenza cases, nine (39%) of which were admitted to intensive care units.

Overall, both influenza activity and circulation of influenza viruses in reporting countries are declining.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): Although low intensity was reported by all reporting countries, sporadic to local activity was reported by 19 countries. For more information, [click here](#).

Virological surveillance: Since week 40/2013, of 6 997 sentinel specimens testing positive for influenza virus, 6 828 (98%) were type A and 169 (2%) were type B. For more information, [click here](#).

Hospital surveillance of laboratory-confirmed influenza cases: Since week 40/2013, five countries reported a total of 394 fatal cases, of which 391 (99%) were associated with influenza virus type A infection and three (1%) with type B virus infection. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

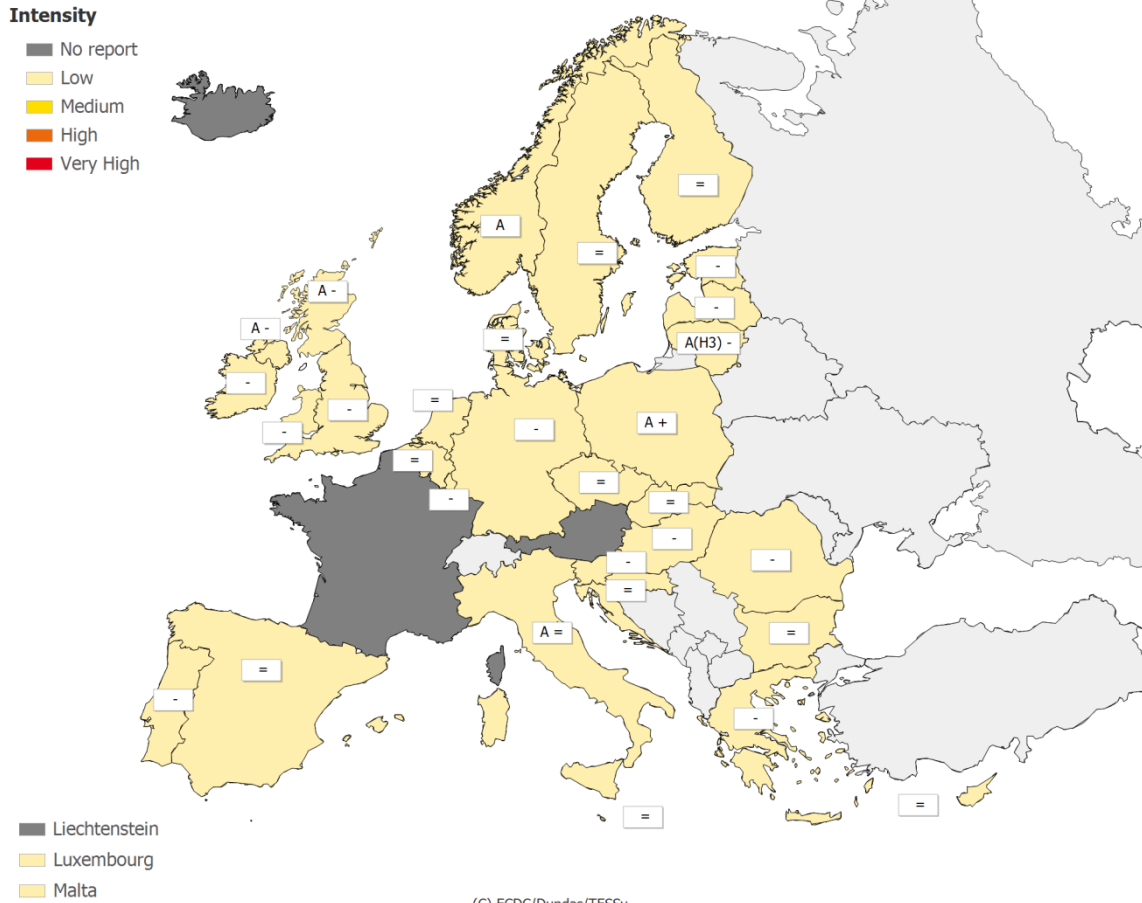
Weekly and seasonal analysis

For week 16/2014, clinical data were reported by 27 countries and all reported low intensity of influenza activity (Table 1, Map 1).

Geographic patterns of influenza activity varied across Europe: regional activity was reported by the Netherlands, local or sporadic activity was reported by 19 countries while seven countries (Bulgaria, Cyprus, Italy, Luxembourg, Malta, Portugal and Romania) reported no activity (Table 1, Map 2).

Increasing trends were reported by Poland and stable or decreasing trends were reported by 25 countries (Table 1, Map 2).

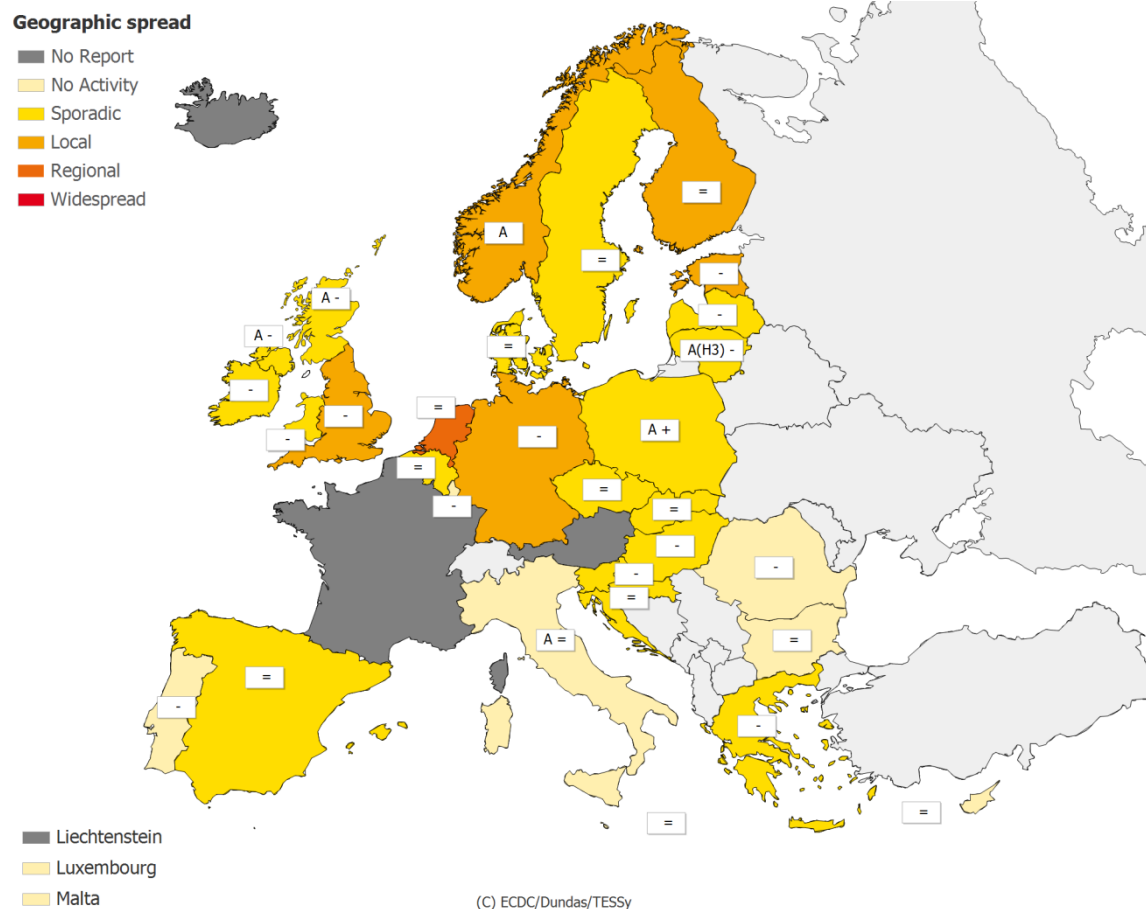
Map 1. Intensity for week 16/2014



* 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(H3)	Type A, Subtype H3

Map 2. Geographic spread for week 16/2014



* 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(H3)	Type A, Subtype 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)		

Table 1. Epidemiological and virological overview by country, week 16/2014

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	Low	Sporadic	Stable	7	None	42.9	24.0	1235.1	Graphs	Graphs
Bulgaria	Low	No activity	Stable	0	None	0.0	-	470.6	Graphs	Graphs
Croatia	Low	Sporadic	Stable	-	-	0.0	-	-	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	8	None	0.0	16.4	692.5	Graphs	Graphs
Denmark	Low	Sporadic	Stable	0	None	0.0	3.2	-	Graphs	Graphs
Estonia	Low	Local	Decreasing	4	None	75.0	10.4	230.3	Graphs	Graphs
Finland	Low	Local	Stable	14	None	0.0	-	-	Graphs	Graphs
France				-	-	0.0	-	-		
Germany	Low	Local	Decreasing	27	None	14.8	-	706.4	Graphs	Graphs
Greece	Low	Sporadic	Decreasing	1	None	0.0	63.3	-	Graphs	Graphs
Hungary	Low	Sporadic	Decreasing	2	None	0.0	24.8	-	Graphs	Graphs
Iceland				0	-	0.0	-	-	Graphs	Graphs
Ireland	Low	Sporadic	Decreasing	5	None	40.0	4.9	-	Graphs	Graphs
Italy	Low	No activity	Stable	5	A	20.0	81.1	-	Graphs	Graphs
Latvia	Low	Sporadic	Decreasing	-	-	0.0	1.8	641.9	Graphs	Graphs
Lithuania	Low	Sporadic	Decreasing	12	A(H3)	58.3	8.2	485.6	Graphs	Graphs
Luxembourg	Low	No activity	Decreasing	1	None	0.0	-*	-*	Graphs	Graphs
Malta	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Netherlands	Low	Regional	Stable	13	None	23.1	54.0	-	Graphs	Graphs
Norway	Low	Local	NA	0	A	0.0	18.6	-	Graphs	Graphs
Poland	Low	Sporadic	Increasing	5	A	20.0	265.8	-	Graphs	Graphs
Portugal	Low	No activity	Decreasing	0	None	0.0	6.3	-	Graphs	Graphs
Romania	Low	No activity	Decreasing	-	None	0.0	0.9	466.5	Graphs	Graphs
Slovakia	Low	Sporadic	Stable	3	None	66.7	107.8	1286.2	Graphs	Graphs
Slovenia	Low	Sporadic	Decreasing	6	None	0.0	0.0	810.5	Graphs	Graphs
Spain	Low	Sporadic	Stable	11	None	18.2	4.6	-	Graphs	Graphs
Sweden	Low	Sporadic	Stable	5	None	0.0	5.2	-	Graphs	Graphs
UK - England	Low	Local	Decreasing	15	None	20.0	0.6	168.4	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Decreasing	4	A	0.0	14.8	329.8	Graphs	Graphs
UK - Scotland	Low	Sporadic	Decreasing	12	A	8.3	5.2	329.4	Graphs	Graphs
UK - Wales	Low	Sporadic	Decreasing	1	-	0.0	2.1	-	Graphs	Graphs
Europe				161		19.9				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 16/2014, 161 sentinel specimens were tested across 18 countries and 32 (20%) were positive for influenza virus (Tables 1–2, Figures 1–2), a percentage similar to the previous week but with three times fewer samples tested (Figure 1). Of the positive specimens, 27 (84%) were type A and five (16%) were type B. Of type A viruses subtyped, 11 were A(H3) and nine were A(H1)pdm09 (Table 2).

Since week 40/2013, of 6 997 sentinel specimens testing positive for influenza virus, 6 828 (98%) were type A and 169 (2%) were type B. Of the 6 322 subtyped influenza viruses, 3 400 (54%) were A(H1)pdm09 and 2 922 (46%) were A(H3). Countries have reported variable patterns of A(H1)pdm09 and A(H3) as the dominant subtype (Table 1 and Map 2). 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 1 522 antigenically characterised viruses have differed significantly from the [current vaccine viruses recommended by WHO](#), but 10 were reported to be non-attributable to a category (Table 3). More details on viruses circulating since September 2013 can be found in the [WHO CC Report, February 2014](#).

Since week 40/2013, 1 000 A(H1N1)pdm09, 299 A(H3N2) and 43 type B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir by genetic and/or phenotypic methods. Fifteen A(H1N1)pdm09 viruses, detected in clinical specimens, carried the NA-H275Y amino acid substitution associated with highly-reduced inhibition by oseltamivir. However, in 11 of the 15 cases, mixtures of wild type viruses (NA-275H) and those carrying the NA-H275Y substitution were detected. The median proportion of NA-H275Y viruses was 35% (range 18–80%). A single virus isolate showed highly-reduced inhibition by oseltamivir and normal inhibition by zanamivir in phenotypic assays. One A(H3N2) virus carrying the NA-E119V amino acid substitution showed reduced inhibition by oseltamivir in phenotypic testing and normal inhibition by zanamivir.

For week 16/2014, 13 countries reported 194 respiratory syncytial virus detections, just above the baseline level for detections (Figure 3).

Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2013–16/2014

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	27	287	6828	25530
A(H1)pdm09	9	61	3400	10879
A(H3)	11	33	2922	4307
A(subtype unknown)	7	193	506	10344
Influenza B	5	29	169	1026
B(Vic) lineage	0	0	11	10
B(Yam) lineage	0	0	57	135
Unknown lineage	5	29	101	881
Total influenza	32	316	6997	26556

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 40/2013–16/2014

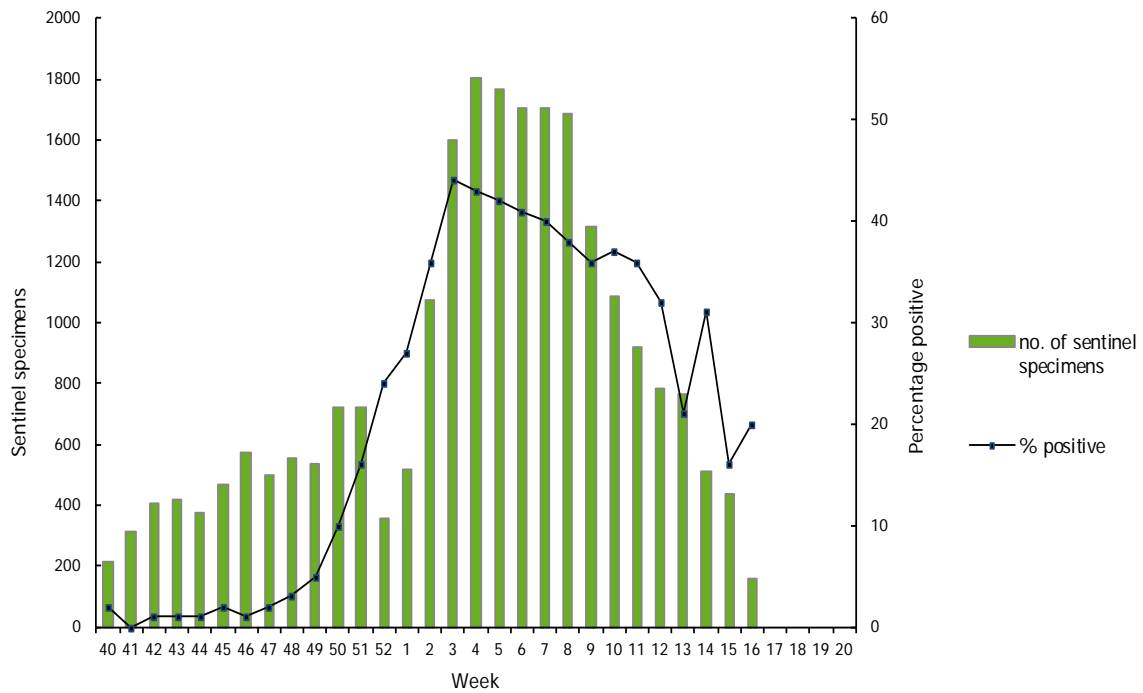


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–16/2014

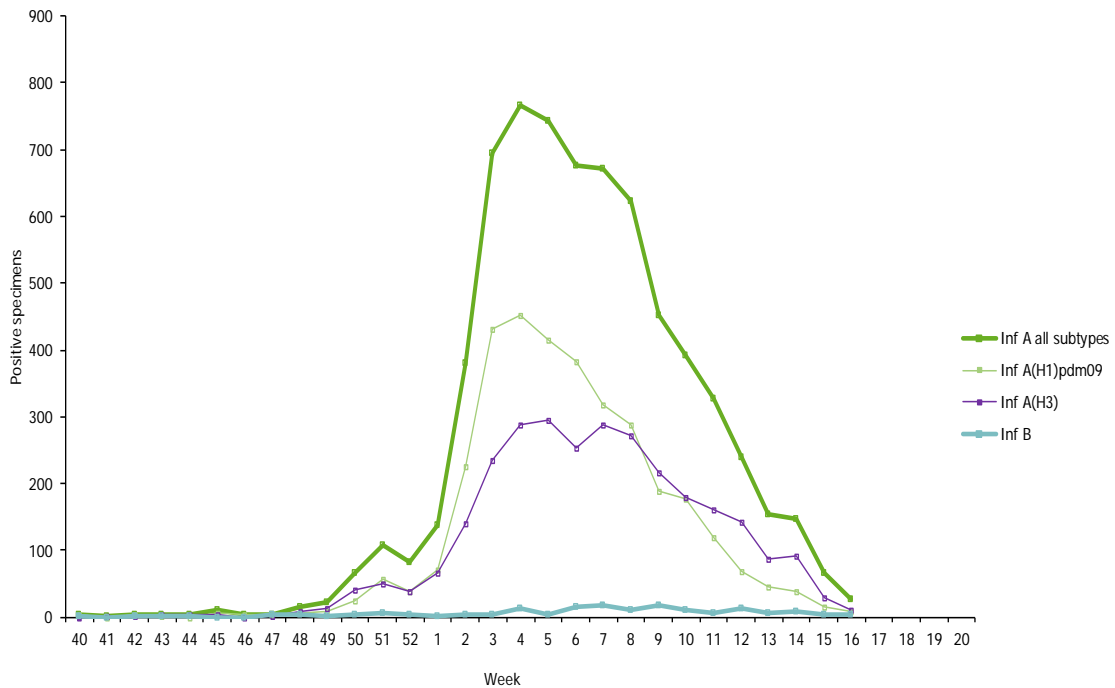
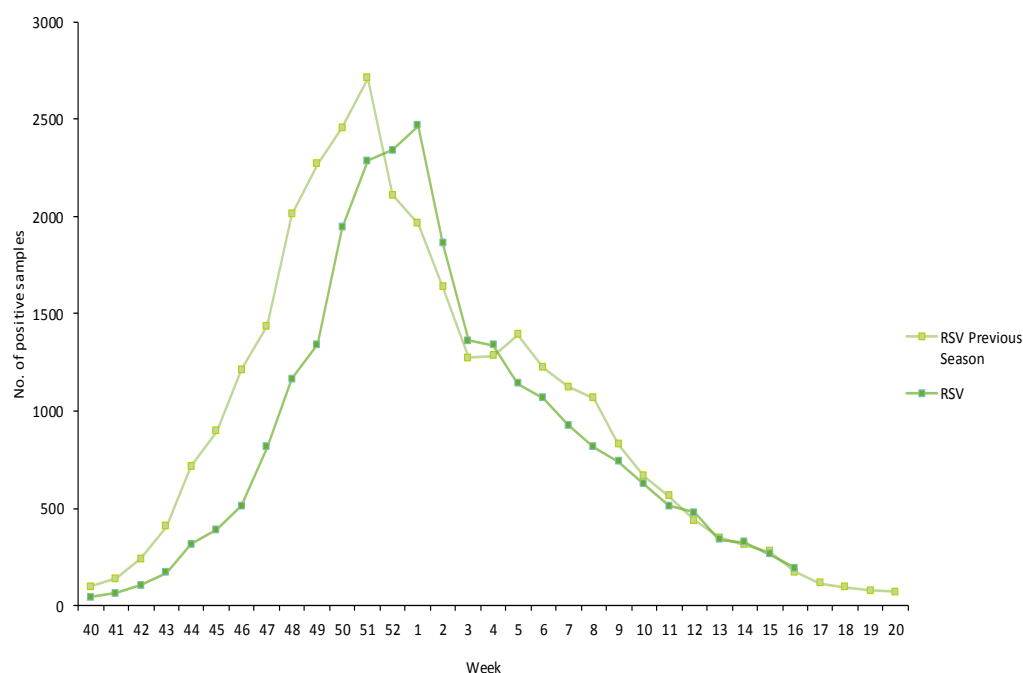


Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–16/2014

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	875
A(H1)pdm09 not attributed to category	6
A(H3) A/Texas/50/2012 (H3N2)-like	590
A(H3) not attributed to category	4
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	20
B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage)	24
B/Wisconsin/1/2010-like (B/Yamagata/16/88-lineage)	3

Table 4. Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–16/2014

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6)	420
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	404
B(Vic)-lineage clade 1A representative B/Brisbane/60/2008	8
B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012	15
B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010	24

Figure 3. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2013–16/2014

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 16/2014, 23 hospitalised, laboratory-confirmed influenza cases were reported by four countries (Ireland, Romania, Spain and the UK). All 23 patients were infected by influenza A viruses and nine were admitted to intensive care units (ICU) (Table 5).

Since week 40/2013, eight countries have reported 4 658 hospitalised, laboratory-confirmed influenza cases: 4 603 (99%) were related to influenza virus type A infection and 55 (1%) to type B virus infection (Table 5). Of 3 155 subtyped influenza A viruses, 2 334 (74%) were A(H1)pdm09 and 821 (26%) were A(H3). A higher proportion of A(H1)pdm09 viruses has been detected in patients in ICUs (1 357 of 1 587 subtyped, 86%) than in patients in regular wards (977 of 1 568 subtyped, 62%).

Of the 3 793 hospitalised cases with reported age, 1 409 (37%) were 40–64 years old and 1 403 (37%) were over 64 years of age, proportions that have been seen throughout the season.

Five countries reported a total of 394 fatal cases (Table 6), 391 (99%) were associated with influenza virus type A infection and three (1%) with type B infection. Of 285 influenza A viruses subtyped from fatal cases, 230 (81%) were A(H1)pdm09 and 55 (19%) were A(H3). Patient age was reported for 390 of the fatal cases: 208 (53%) were 65 years or older.

Table 5. Number of hospitalised, laboratory-confirmed influenza cases by influenza type and subtype, week 16/2014 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	9	2 433	14	2 170
A(H1)pdm09	4	1 357	3	977
A(H3)	0	230	11	591
A (subtyping not performed)	5	846	0	602
Influenza B	0	32	0	23
Total	9	2 465	14	2 193

Table 6. Cumulative number of hospitalised, laboratory-confirmed influenza cases, weeks 40/2013–16/2014

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	-*	-	-
France	632	87	-	-
Ireland	78	14	580	3
Romania	30	10	33	1
Slovakia	-	-	4	-
Spain	800	172	1 576	102
Sweden	60	5	-	-
UK	842	-	-	-
Total	2 465	288	2 193	106

*Not reported

Description of the system

A subset of EU countries reports 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 16/2014, 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 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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