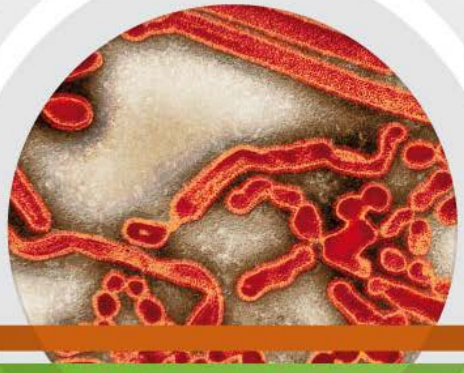


SURVEILLANCE REPORT

Weekly influenza surveillance overview

28 March 2014

Main surveillance developments in week 12/2014 (*17–23 March 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 12/2014:

- Of the 29 countries providing clinical data, Estonia, Greece and Romania reported medium intensity and all other countries low intensity.
- Of the 662 sentinel specimens tested across 23 countries, 207 (31%) were positive for influenza virus. Of these, 198 (96%) were type A, 118 subtyped as A(H3) and 47 A(H1)pdm09, and nine (4%) were type B.
- Six countries reported 117 hospitalised laboratory-confirmed influenza cases including 67 cases admitted to intensive care units.

Influenza activity is declining, with only a few countries reporting medium intensity, wide geographical spread or increasing trends. Influenza is still circulating with a higher proportion of influenza subtype A(H3) detected than A(H1)pdm09. However, the number of specimens testing positive for influenza is declining.

Sentinel surveillance of influenza-like illness (ILI) / acute respiratory infection (ARI): Five of the 29 countries reported widespread influenza activity. For more information, **click here**.

Virological surveillance: Since week 40/2013, of 6 100 sentinel specimens testing positive for influenza virus, 5 970 (98%) were type A and 130 (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 351 fatal cases, and 348 (99%) cases were associated with influenza virus type A infection, three (1%) with type B virus. For more information, **click here**.

Sentinel surveillance (ILI/ARI)

Weekly and seasonal analysis

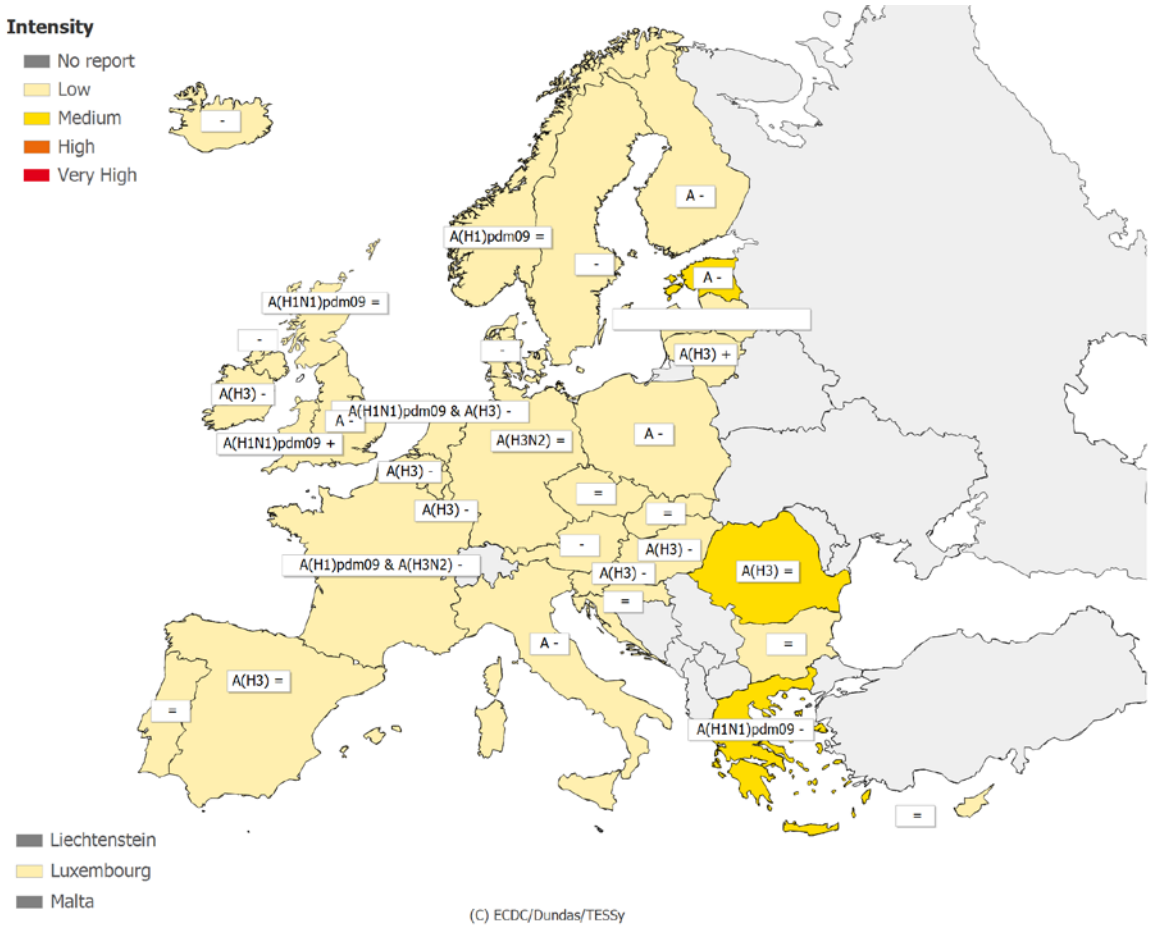
For week 12/2014**,** clinical data were reported by 29 countries. No country reported high intensity of influenza activity. Estonia, Greece and Romania reported medium intensity and all other countries low intensity, the lowest category of reporting (Table 1, Map 1).

Geographic patterns of influenza activity varied across Europe: widespread activity was reported by five countries, (Austria, Croatia, Estonia, Greece and Ireland) and regional activity by eight countries and the UK (England and Scotland). Local activity was reported by Finland, France, Lithuania, Luxemburg and Norway, sporadic activity from nine countries and the UK (Northern Ireland and Wales). Cyprus reported no influenza activity (Table 1, Map 2).

Increasing trends were reported by Lithuania and the UK (Wales). Eleven countries and the UK (Scotland) reported stable trends, 16 countries and the UK (England and Northern Ireland) decreasing trends. (Table 1, Map 2).
The number of countries reporting low intensity, local or sporadic spread and decreasing trends has increased substantially over the previous three weeks.

ILI and ARI rates are low or decreasing in the countries reporting.

Map 1. Intensity for week 12/2014

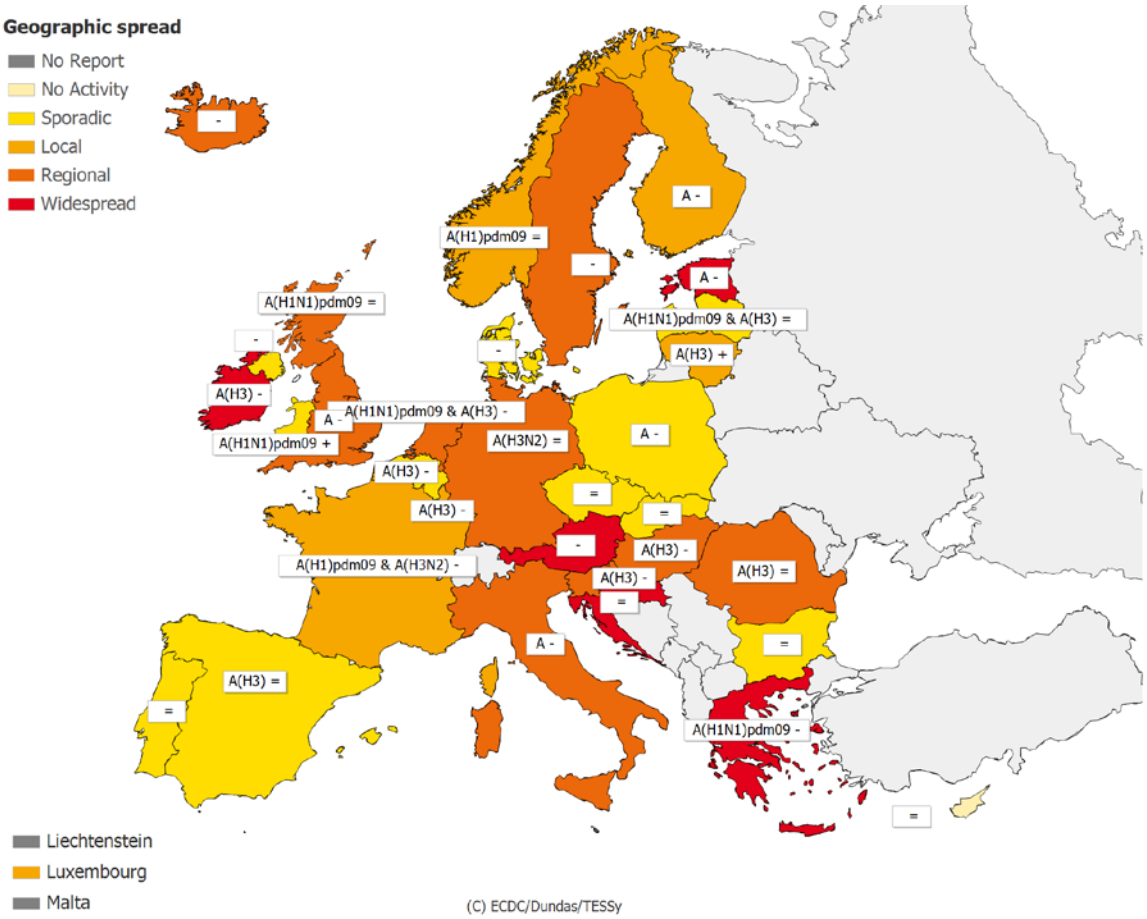


* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.

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)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 12/2014



* 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
No activity	No evidence of influenza virus activity (clinical activity remains at baseline levels)
Sporadic	Isolated cases of laboratory confirmed influenza infection
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)
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)
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)

+	Increasing clinical activity
-	Decreasing clinical activity
=	Stable clinical activity
A	Type A
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 12/2014

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	Decreasing	26	None	34.6	955.5	-	Graphs	Graphs
Belgium	Low	Sporadic	Decreasing	23	A(H3)	65.2	125.4	1574.0	Graphs	Graphs
Bulgaria	Low	Sporadic	Stable	0	None	0.0	-	831.3	Graphs	Graphs
Croatia	Low	Widespread	Stable	-	-	0.0	-	-	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	-	-	0.0	23.7	817.3	Graphs	Graphs
Denmark	Low	Sporadic	Decreasing	2	None	50.0	50.7	-	Graphs	Graphs
Estonia	Medium	Widespread	Decreasing	14	A	14.3	16.0	335.1	Graphs	Graphs
Finland	Low	Local	Decreasing	21	A	4.8	-	-	Graphs	Graphs
France	Low	Local	Decreasing	61	A(H1)pdm09 & A(H3N2)	32.8	-	1259.7	Graphs	Graphs
Germany	Low	Regional	Stable	103	A(H3N2)	29.1	-	1134.1	Graphs	Graphs
Greece	Medium	Widespread	Decreasing	8	A(H1N1)pdm09	37.5	158.7	-	Graphs	Graphs
Hungary	Low	Regional	Decreasing	47	A(H3)	21.3	113.1	-	Graphs	Graphs
Iceland	Low	Regional	Decreasing	0	-	0.0	31.7	-	Graphs	Graphs
Ireland	Low	Widespread	Decreasing	15	A(H3)	86.7	23.3	-	Graphs	Graphs
Italy	Low	Regional	Decreasing	25	A	28.0	251.7	-	Graphs	Graphs
Latvia	Low	Sporadic	Stable	0	A(H1N1)pdm09 & A(H3)	0.0	1.8	924.8	Graphs	Graphs
Lithuania	Low	Local	Increasing	23	A(H3)	60.9	14.5	726.1	Graphs	Graphs
Luxembourg	Low	Local	Decreasing	22	A(H3)	31.8	-*	-*	Graphs	Graphs
Malta				-	-	0.0	-	-		
Netherlands	Low	Regional	Decreasing	9	A(H1N1)pdm09 & A(H3)	11.1	34.5	-	Graphs	Graphs
Norway	Low	Local	Stable	13	A(H1)pdm09	23.1	61.8	-	Graphs	Graphs
Poland	Low	Sporadic	Decreasing	43	A	34.9	402.9	-	Graphs	Graphs
Portugal	Low	Sporadic	Stable	1	None	100.0	7.5	-	Graphs	Graphs
Romania	Medium	Regional	Stable	12	A(H3)	41.7	5.0	811.7	Graphs	Graphs
Slovakia	Low	Sporadic	Stable	8	None	62.5	150.3	1524.5	Graphs	Graphs
Slovenia	Low	Regional	Decreasing	22	A(H3)	54.5	18.0	1043.2	Graphs	Graphs
Spain	Low	Sporadic	Stable	55	A(H3)	20.0	17.2	-	Graphs	Graphs
Sweden	Low	Regional	Decreasing	32	None	15.6	4.1	-	Graphs	Graphs
UK - England	Low	Regional	Decreasing	51	A	25.5	1.2	163.7	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Decreasing	-	-	0.0	20.6	335.8	Graphs	Graphs
UK - Scotland	Low	Regional	Stable	24	A(H1N1)pdm09	16.7	13.7	416.5	Graphs	Graphs
UK - Wales	Low	Sporadic	Increasing	2	A(H1N1)pdm09	0.0	7.9	-	Graphs	Graphs
Europe				**662**		**31.3**				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 12/2014, 662 sentinel specimens were tested across 23 countries, 207 (31%) were positive for influenza virus (Tables 1–2, Figures 1–2). Of these, 198 (96%) were type A, 118 subtyped as A(H3) and 47 A(H1)pdm09, and nine (4%) were type B (Tables 1–2).

Since week 40/2013, of 6 100 sentinel specimens testing positive for influenza virus, 5 970 (98%) were type A and 130 (2%) were type B. Of the 5 590 subtyped influenza viruses, 3 133 (56%) were A(H1)pdm09 and 2 457 (44%) 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 proportion of sentinel specimens testing positive for influenza virus is decreasing (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 1 015 antigenically characterised viruses have differed significantly from the current vaccine viruses recommended by WHO. Nine were reported to be unattributable 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, 721 A(H1)pdm09, 196 A(H3) and 38 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 carrying the NA-E119V amino acid substitution showed reduced inhibition by oseltamivir in phenotypic testing and normal inhibition by zanamivir. None of the test results of the other viruses showed evidence for reduced or highly reduced inhibition by NAIs.

For week 12/2014, 16 countries reported 400 respiratory syncytial virus detections, maintaining the downward trend since week 1/2014.

Please note: due to problems with the TESSy warehouse the reported numbers for two countries are incomplete.

Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2013–12/2014

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	198	1282	5970	20971
A(H1)pdm09	47	377	3133	9261
A(H3)	118	159	2457	3242
A(subtype unknown)	33	746	380	8468
Influenza B	9	67	130	704
B(Vic) lineage	0	0	8	6
B(Yam) lineage	5	6	44	105
Unknown lineage	4	61	78	593
Total influenza	**207**	**1349**	**6100**	**21675**

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 40/2013–12/2014

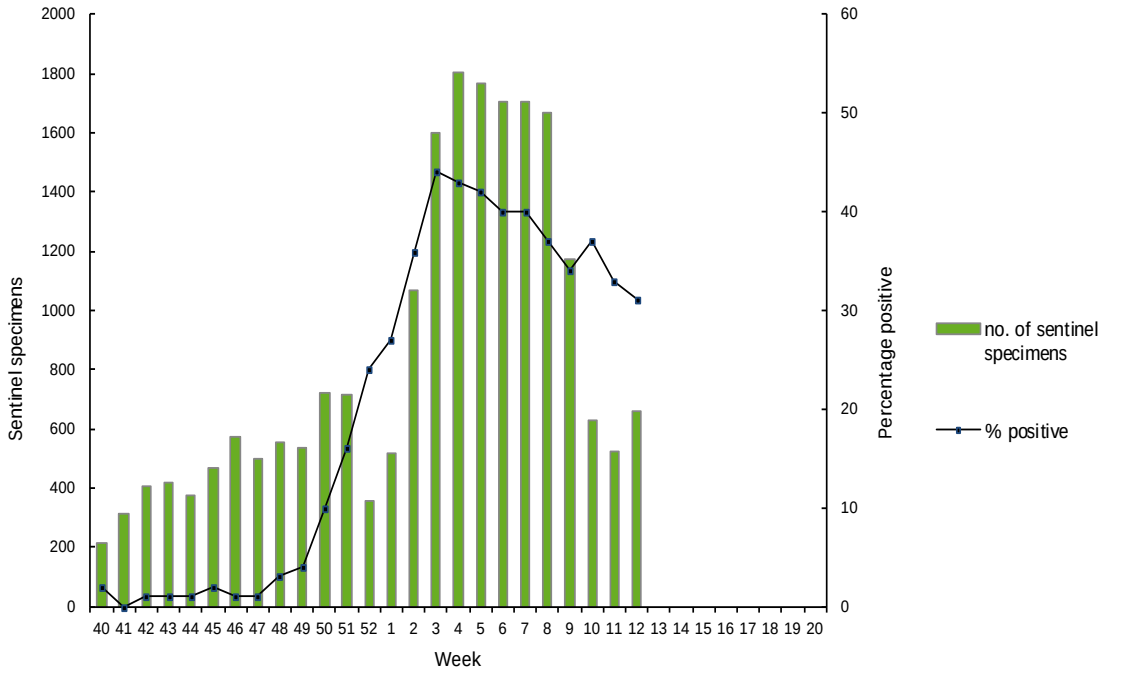


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–12/2014

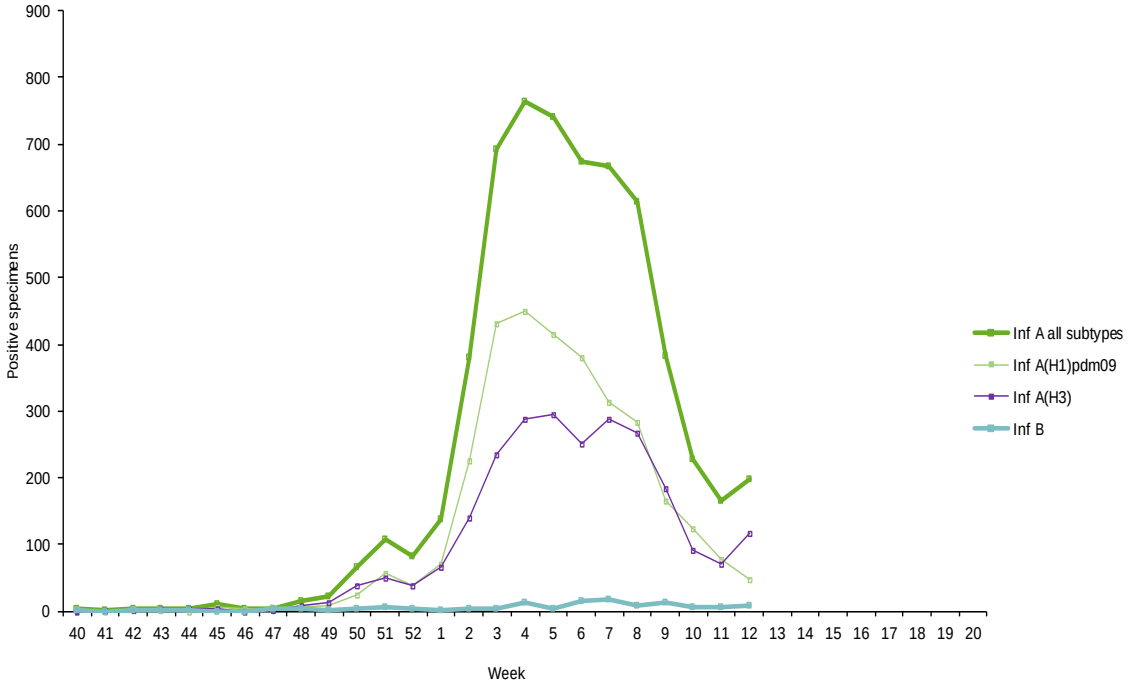


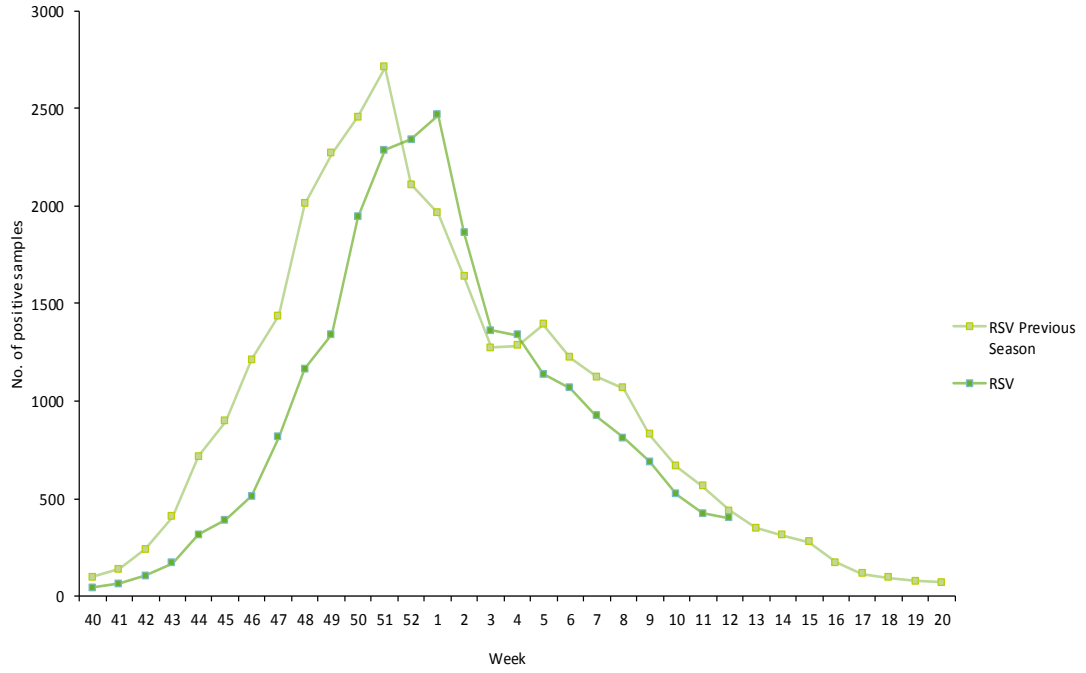
Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–12/2014

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	639
A(H1)pdm09 not attributed to category	6
A(H3) A/Texas/50/2012 (H3N2)-like	330
A(H3) not attributed to category	3
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	15
B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage)	20
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 40/2013–12/2014

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6)	367
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	305
B(Vic)-lineage clade 1A representative B/Brisbane/60/2008	8
B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012	13
B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010	19

Figure 3. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2013–12/2014



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 12/2014, 117 hospitalised laboratory-confirmed influenza cases were reported by six countries (France, Ireland, Romania, Spain, Sweden and the UK) (Table 5). Influenza A virus was detected in 113 cases and influenza B virus in four patients (Table 5). Of those hospitalised cases, 67 were admitted to intensive care units (ICU).

Since week 40/2013, seven countries have reported 4 232 hospitalised, laboratory-confirmed influenza cases: 4 184 (99%) were related to influenza virus type A infection and 48 (1%) to type B virus infection (Tables 5 and 6). Of 2 853 subtyped influenza A viruses, 2 138 (75%) were A(H1)pdm09 and 715 (25%) were A(H3) (Table 5). A higher proportion of A(H1)pdm09 viruses has been detected in patients in ICU (1 212 out of 1 420 subtyped, 85%) than in patients in other wards (926 out of 1 433 subtyped, 65%). The reasons behind the different distribution of (sub)types in different ward types are currently unknown.

Of the 3 511 hospitalised cases with reported age, 1 318 (38%) were 40–64 years old and 1 288 (37%) were over 64 years of age.

Five countries reported a total of 351 fatal cases (Table 6), with 348 (99%) cases associated with influenza virus type A infection and three (1%) with type B virus. Of 258 influenza A viruses subtyped from fatal cases, 209 (81%) were A(H1)pdm09 and 49 (19%) were A(H3). The age was reported for 347 of the fatal cases: 192 (55%) were over 65 years of age.

Table 5. Number of hospitalised, laboratory-confirmed influenza cases by influenza type and subtype, week 12/2014 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	65	2 178	48	2 006
A(H1)pdm09	25	1 212	17	926
A(H3)	4	208	19	507
A (subtyping not performed)	36	758	12	573
Influenza B	2	29	2	19
Total	**67**	**2 207**	**50**	**2 025**

Table 6. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40/2013–12/2014

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	566	68	0	0
Ireland	67	9	462	3
Romania	22	5	30	1
Spain	778	163	1 533	97
Sweden	51	5	0	0
UK	700	0	0	0
Total	**2 207**	**250**	**2 025**	**101**

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

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.