



SURVEILLANCE REPORT

Weekly influenza surveillance overview

7 March 2014

Main surveillance developments in week 9/2014 (24 Feb – 2 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 9/2014:

- Of the 30 countries providing clinical data, Greece and Finland reported high-intensity influenza activity, 10 reported medium intensity, and 18 countries reported low-intensity influenza activity.
- Of the 1 152 sentinel specimens tested across 24 countries, 394 (34%) were positive for influenza virus, representing a decrease in the proportion of positive specimens for the sixth consecutive week.
- Seven countries reported 227 hospitalised, laboratory-confirmed influenza cases of which 100, mainly infected by A(H1N1)pdm09 virus, were admitted to intensive care units (ICUs).

Based on the various indicators for the influenza season, the status of the season varies considerably between EU/EEA Member States. Some countries are experiencing decreasing influenza activity while six countries still reported increasing and high ILI/ARI rates. Influenza A(H1)pdm09 and A(H3) viruses are co-circulating in outpatient settings; however, A(H1)pdm09 is predominant in hospitalised cases. Influenza B viruses have been detected only rarely.

Epidemiological surveillance: Fifteen of the 30 reporting countries reported widespread geographic patterns of influenza activity. For more information, [click here](#).

Virological surveillance: Of the 394 sentinel specimens testing positive for influenza virus, 383 (97%) were type A and 11 (3%) were type B. For more information, [click here](#).

Hospital surveillance of laboratory-confirmed influenza cases: Since week 40/2013, seven countries have reported 3 400 hospitalised, laboratory-confirmed influenza cases, 3 367 (99%) of which were caused by influenza virus type A infection. For more information, [click here](#).

Epidemiological surveillance

Weekly and seasonal analysis

For week 9/2014, epidemiological data were reported by 30 countries. In terms of influenza activity, Greece and Finland reported high intensity, ten countries reported medium intensity, and another 18 reported low intensity, the lowest category of reporting (Table 1, Map 1). Bulgaria and Greece have been reporting medium or high-intensity influenza activity for at least seven consecutive weeks.

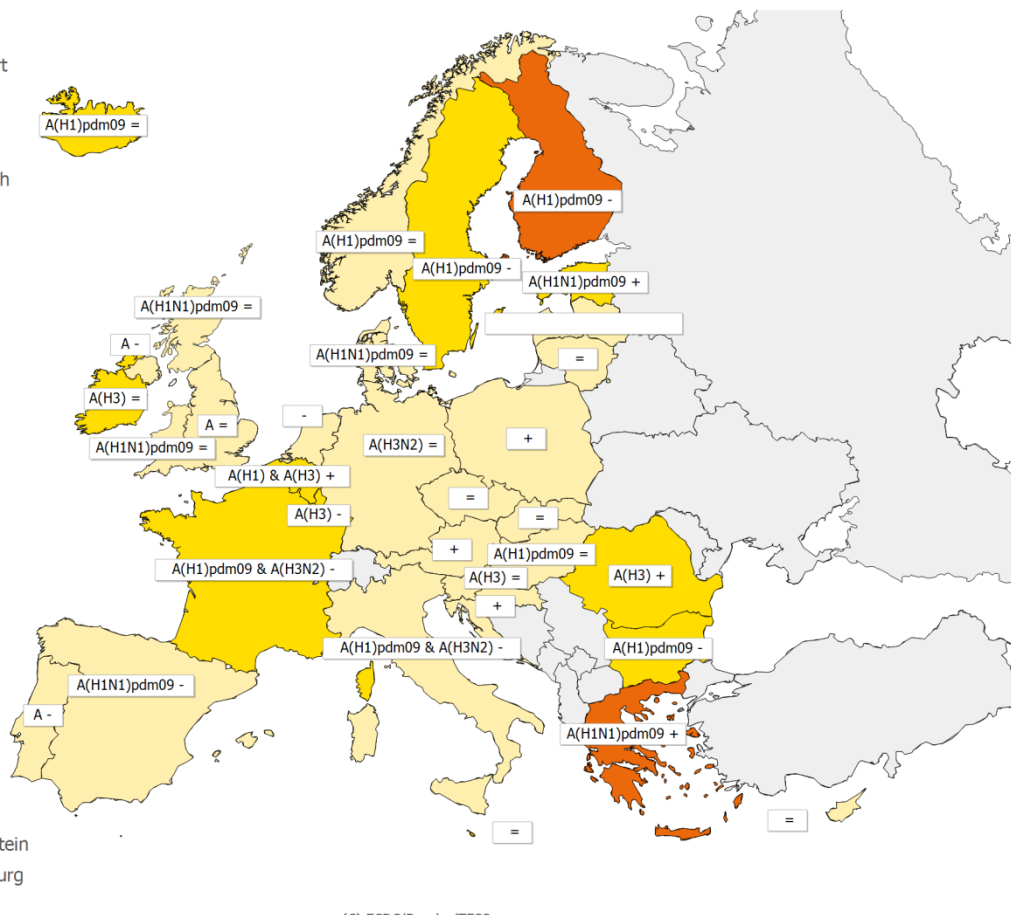
Geographic patterns of influenza activity varied across Europe: the Czech Republic, Latvia, Lithuania, Malta, Portugal and Slovakia reported sporadic influenza activity; Norway and Romania local activity; Bulgaria, Germany, Luxembourg, the Netherlands and Spain regional activity, while widespread activity was reported by the remaining 15 countries (Table 1, Map 2) (Table 1, Map 2).

Increasing trends were reported by seven countries, of which six (Austria, Belgium, Estonia, Greece, Poland and Romania) reported high ILI/ARI rates. Stable trends were reported by 14 countries and decreasing trends by nine (Table 1, Map 2). The decline in influenza activity in Bulgaria, Portugal and Spain, which began in week 5/2014, has continued.

Map 1. Intensity for week 9/2014

Intensity

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



(C) ECDC/Dundas/TESSy

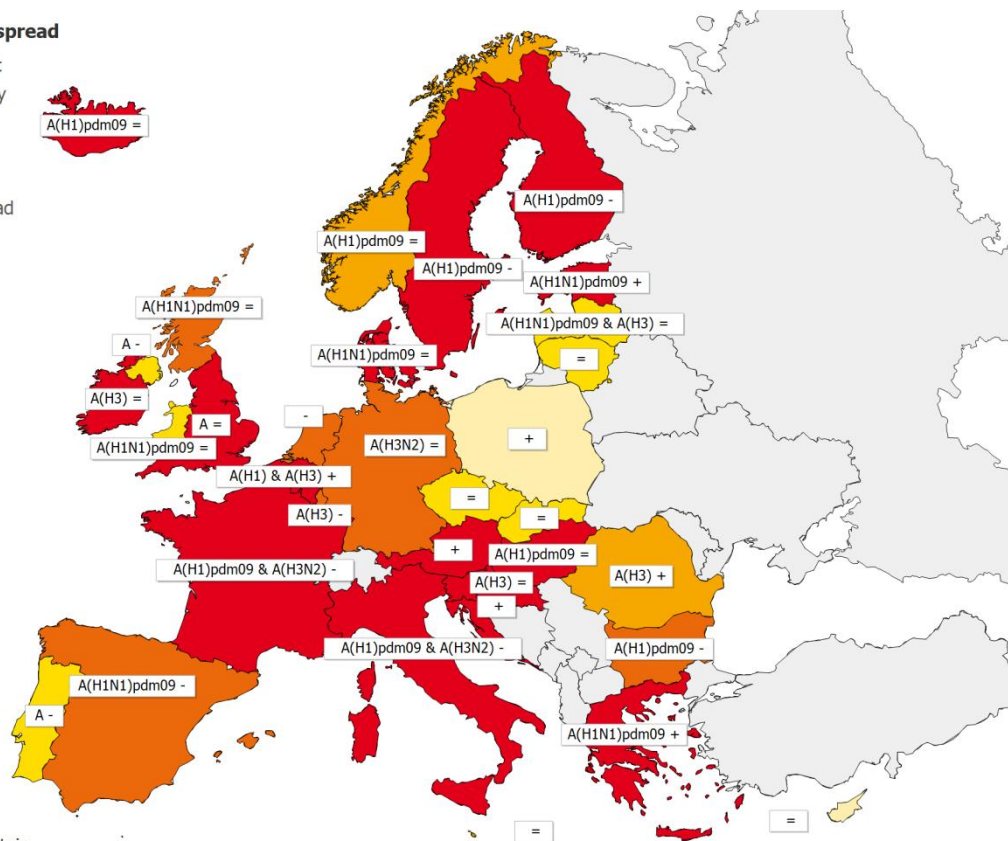
* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.
Legend:

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 9/2014

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) & 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 9/2014

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	25	None	56.0	1005.4	-	Graphs	Graphs
Belgium	Medium	Widespread	Increasing	63	A(H1) & A(H3)	47.6	314.8	1914.5	Graphs	Graphs
Bulgaria	Medium	Regional	Decreasing	0	A(H1)pdm09	0.0	-	1019.5	Graphs	Graphs
Croatia	Low	Widespread	Increasing	132	None	0.0	-	-	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	13	None	7.7	28.4	887.1	Graphs	Graphs
Denmark	Low	Widespread	Stable	18	A(H1N1)pdm09	38.9	77.2	-	Graphs	Graphs
Estonia	Medium	Widespread	Increasing	32	A(H1N1)pdm09	43.8	17.0	456.9	Graphs	Graphs
Finland	High	Widespread	Decreasing	29	A(H1)pdm09	24.1	-	-	Graphs	Graphs
France	Medium	Widespread	Decreasing	159	A(H1)pdm09 & A(H3N2)	57.2	-	1840.8	Graphs	Graphs
Germany	Low	Regional	Stable	108	A(H3N2)	18.5	-	1251.7	Graphs	Graphs
Greece	High	Widespread	Increasing	10	A(H1N1)pdm09	60.0	329.8	-	Graphs	Graphs
Hungary	Low	Widespread	Stable	66	A(H1)pdm09	24.2	254.7	-	Graphs	Graphs
Iceland	Medium	Widespread	Stable	0	A(H1)pdm09	0.0	55.3	-	Graphs	Graphs
Ireland	Medium	Widespread	Stable	32	A(H3)	65.6	53.6	-	Graphs	Graphs
Italy	Low	Widespread	Decreasing	57	A(H1)pdm09 & A(H3N2)	49.1	432.8	-	Graphs	Graphs
Latvia	Low	Sporadic	Stable	0	A(H1N1)pdm09 & A(H3)	0.0	5.4	1027.3	Graphs	Graphs
Lithuania	Low	Sporadic	Stable	10	None	50.0	4.1	745.1	Graphs	Graphs
Luxembourg	Medium	Regional	Decreasing	15	A(H3)	33.3	-*	-*	Graphs	Graphs
Malta	Medium	Sporadic	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Netherlands	Low	Regional	Decreasing	6	None	16.7	21.5	-	Graphs	Graphs
Norway	Low	Local	Stable	7	A(H1)pdm09	57.1	57.6	-	Graphs	Graphs
Poland	Low	No activity	Increasing	39	None	30.8	414.6	-	Graphs	Graphs
Portugal	Low	Sporadic	Decreasing	4	A	25.0	13.0	-	Graphs	Graphs
Romania	Medium	Local	Increasing	11	A(H3)	72.7	4.3	745.6	Graphs	Graphs
Slovakia	Low	Sporadic	Stable	10	None	30.0	166.2	1607.0	Graphs	Graphs
Slovenia	Low	Widespread	Stable	27	A(H3)	55.6	28.6	1134.8	Graphs	Graphs
Spain	Low	Regional	Decreasing	121	A(H1N1)pdm09	36.4	47.2	-	Graphs	Graphs
Sweden	Medium	Widespread	Decreasing	54	A(H1)pdm09	20.4	12.0	-	Graphs	Graphs
UK - England	Low	Widespread	Stable	60	A	31.7	3.7	210.3	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Decreasing	4	A	25.0	24.1	436.7	Graphs	Graphs
UK - Scotland	Low	Regional	Stable	37	A(H1N1)pdm09	21.6	21.3	468.0	Graphs	Graphs
UK - Wales	Low	Sporadic	Stable	3	A(H1N1)pdm09	66.7	6.8	-	Graphs	Graphs
Europe				1152		34.2				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, which might include also non-sentinel sources of information.

Virological surveillance

Weekly and seasonal analysis

For week 9/2014, 25 countries tested 1 152 sentinel specimens, 394 (34%) of which were positive for influenza virus (Tables 1–2, Figures 1–2). Of these, 383 (97%) were type A and 11 (3%) were type B.

Since week 40/2013, of 5 488 sentinel specimens testing positive for influenza virus, 5 382 (98%) were type A and 106 (2%) were type B. Of the 4 902 subtyped influenza viruses, 2 792 (57%) were A(H1)pdm09 and 2 110 (43%) were A(H3). Countries have reported variable patterns of dominance and co-dominance involving A(H1)pdm09 and A(H3) subtypes (Table 1).

The proportion of sentinel specimens testing positive for influenza virus in reporting countries decreased for the sixth consecutive week after peaking in weeks 3/2014 (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 511 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 [WHO CC Report, February 2014](#).

Since week 40/2013, 584 A(H1)pdm09, 109 A(H3) and 29 type B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir by genetic and/or phenotypic methods (IC₅₀). Five A(H1)pdm09 and one A(H3) viruses showed evidence for highly reduced inhibition and reduced inhibition, respectively.

For week 9/2014, 18 countries reported 583 respiratory syncytial virus detections, maintaining the downward trend and indicating that the epidemic peak for the reporting countries appears to have occurred in week 1/2014 for this season.

Table 2. Week 7/2014 and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2013–9/2014

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	383	1873	5382	15856
A(H1)pdm09	137	711	2792	7413
A(H3)	147	258	2110	2458
A(subtype unknown)	99	904	480	5985
Influenza B	11	53	106	506
B(Vic) lineage	0	0	5	5
B(Yam) lineage	3	2	29	69
Unknown lineage	8	51	72	432
Total influenza	394	1926	5488	16362

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 40/2013–9/2014

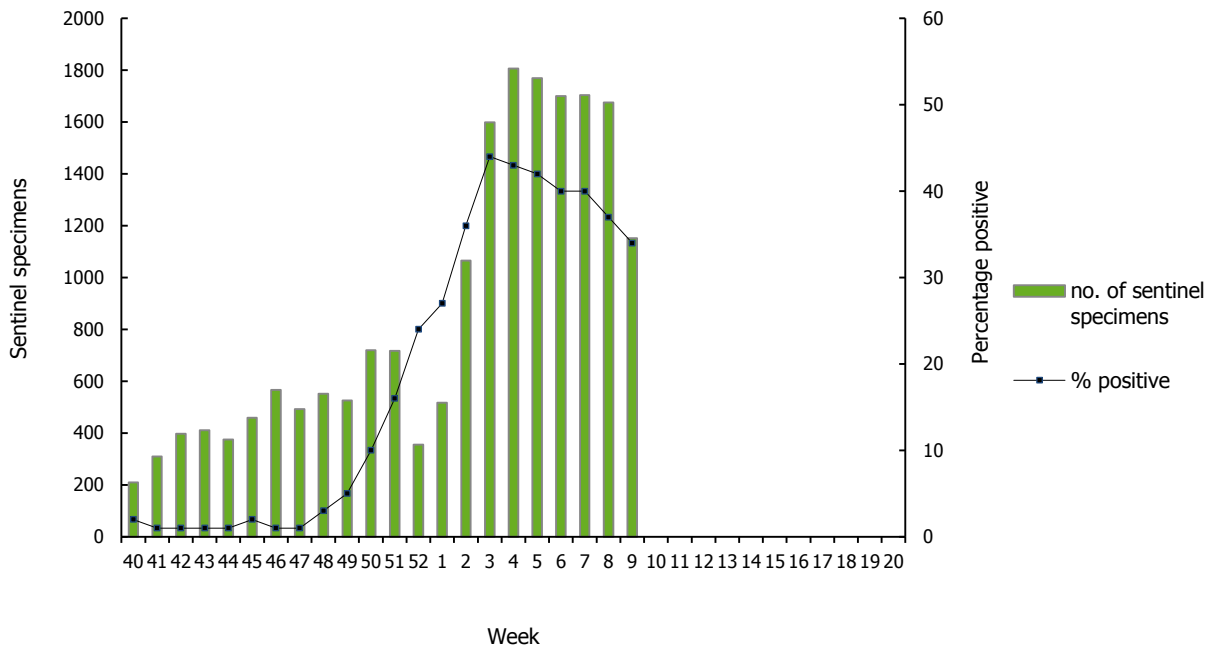


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–9/2014

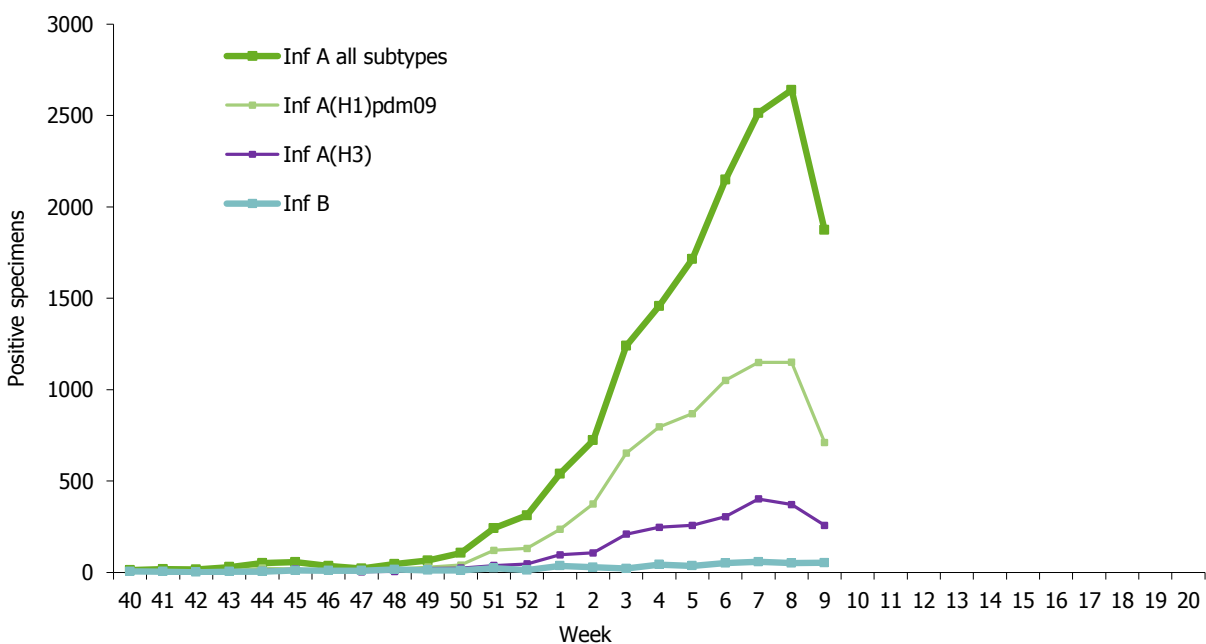


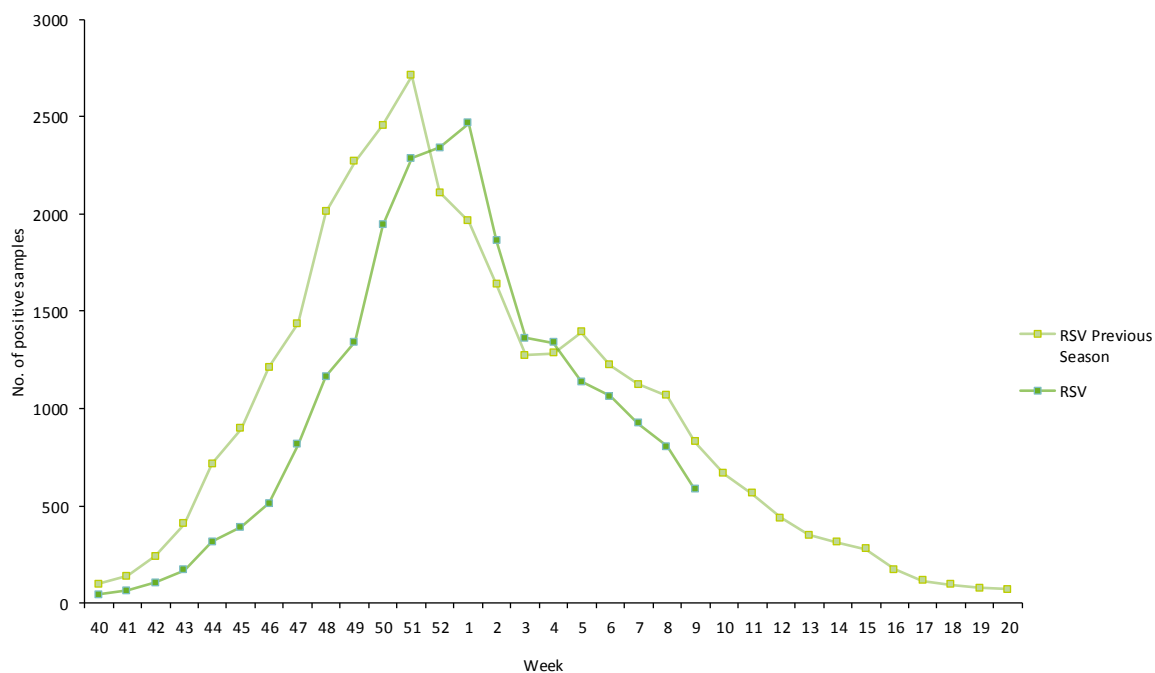
Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–9/2014

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	438
A(H3) A/Texas/50/2012 (H3N2)-like	242
A(H3) not attributed to category	2
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	14
B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage)	11
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 40/2013–9/2014

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6)	307
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	215
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 40/2013–9/2014



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 9/2014, 217 hospitalised, laboratory-confirmed influenza cases were reported by seven countries (Finland, France, Ireland, Romania, Spain, Sweden and the UK), of which 100 were admitted to intensive care units (ICU) (Table 5).

Since week 40/2013, seven countries have reported 3 400 hospitalised, laboratory-confirmed influenza cases: 3 367 (99%) were related to influenza virus type A infection and 33 (1%) to type B virus infection (Tables 5 and 6). A total of 2 275 influenza A viruses have been subtyped, 1 758 (77%) were A(H1)pdm09 and 517 (23%) were A(H3) (Table 5).

Seven countries reported a total of 284 fatal cases (Table 6), and 282 (99%) were associated with influenza virus type A infection and two (1%) with type B virus. Of 218 influenza A viruses subtyped for fatal cases, 182 (83%) were A(H1)pdm09 and 36 (17%) were A(H3). Of the 281 fatal cases with known age, 151 (54%) were over 65 years old.

Table 5. Number of hospitalised, laboratory-confirmed influenza cases by influenza type and subtype, week 9/2014 and cumulative since week 40/2013

Pathogen	Number of cases admitted to ICU during current week	Cumulative number of cases admitted to ICU since week40/2013	Number of cases admitted to other wards during current week	Cumulative number of cases admitted to other wards since week40/2013
Influenza A	99	1688	116	1679
A(H1)pdm09	52	943	36	815
A(H3)	1	153	46	364
A (subtyping not performed)	46	592	34	500
Influenza B	1	19	1	14
Total	100	1707	117	1693

Table 6. Cumulative number of hospitalised, laboratory-confirmed influenza cases, weeks 40/2013–9/2014

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	402	36	0	0
Ireland	34	6	251	2
Romania	11	2	19	1
Spain	718	144	1423	89
Sweden	37	4	0	0
United Kingdom	482	0	0	0
Total	1707	192	1693	92

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 9/2014, all-cause mortality has been within the normal range for all 15 reporting countries.

Further details are available on <http://www.euromomo.eu/>

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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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