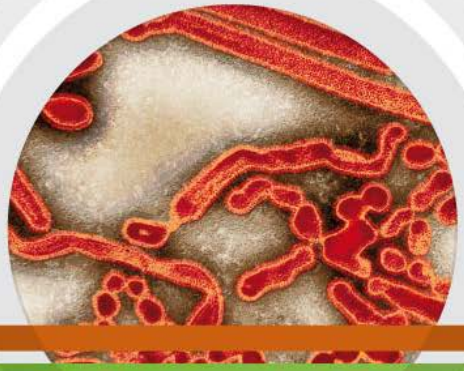


SURVEILLANCE REPORT

Weekly influenza surveillance overview

21 February 2014

Main surveillance developments in week 7/2014 (*10–16 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 7/2014:

- Of the 29 countries providing clinical data, Finland and Greece reported high-intensity influenza activity, eleven reported medium intensity and 16 countries reported low-intensity influenza activity.
- Of the 1 332 sentinel specimens tested across 25 countries, 488 (37%) were positive for influenza virus.
- Six countries reported 221 hospitalised, laboratory-confirmed influenza cases, including 117 cases admitted to intensive care units (ICU).

Based on the various indicators for the influenza season, the status of the season is considerably varied among EU/EEA Member States. Some countries are experiencing decreasing influenza activity while others have not yet reached an epidemic peak. 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 virus has rarely been detected.

Epidemiological surveillance: Sixteen of the 29 reporting countries reported geographically widespread influenza activity. For more information, **click here**.

Virological surveillance: Of the 488 sentinel specimens testing positive for influenza virus, 477 (98%) were type A and 11 (2%) were type B. For more information, **click here**.

Hospital surveillance of laboratory-confirmed influenza cases: Since week 40/2013, seven countries have reported 2 531 hospitalised, laboratory-confirmed influenza cases, 2 508 (99%) of which were caused by influenza virus type A infection. For more information, **click here**.

Epidemiological surveillance

Weekly and seasonal analysis

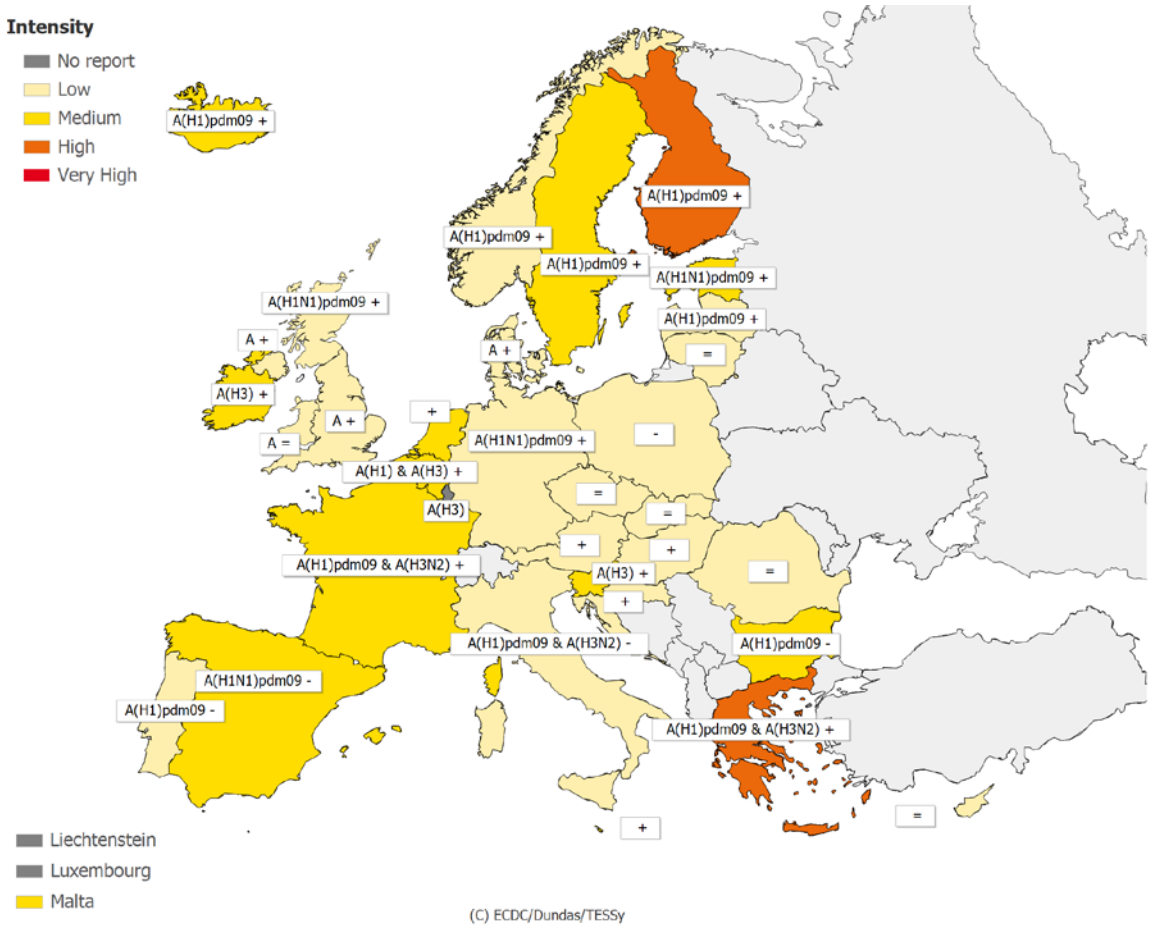
For week 7/2014, epidemiological data were reported by 29 countries. In terms of influenza activity, Finland and Greece reported high intensity, eleven countries reported medium intensity and another 16 reported low intensity, the lowest category of reporting (Table 1, Map 1). Bulgaria, Greece and Spain have been reporting medium or high-intensity influenza activity for at least six consecutive weeks.

Geographic patterns of influenza activity varied across Europe: Czech Republic, Latvia, Lithuania, Malta, Romania, Slovakia and the UK (Northern Ireland, Scotland, Wales) reported sporadic influenza activity, Germany and Poland local activity, Austria, Bulgaria, the Netherlands and Norway regional activity. Widespread activity was reported by 15 countries and the UK (England) (Table 1, Map 2).

Increasing trends were reported by 18 countries and the UK (England, Northern Ireland and Scotland) (Table 1, Map 2). Bulgaria, Portugal and Spain have now been reporting decreasing trends for at least two consecutive weeks.

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

Map 1. Intensity for week 7/2014



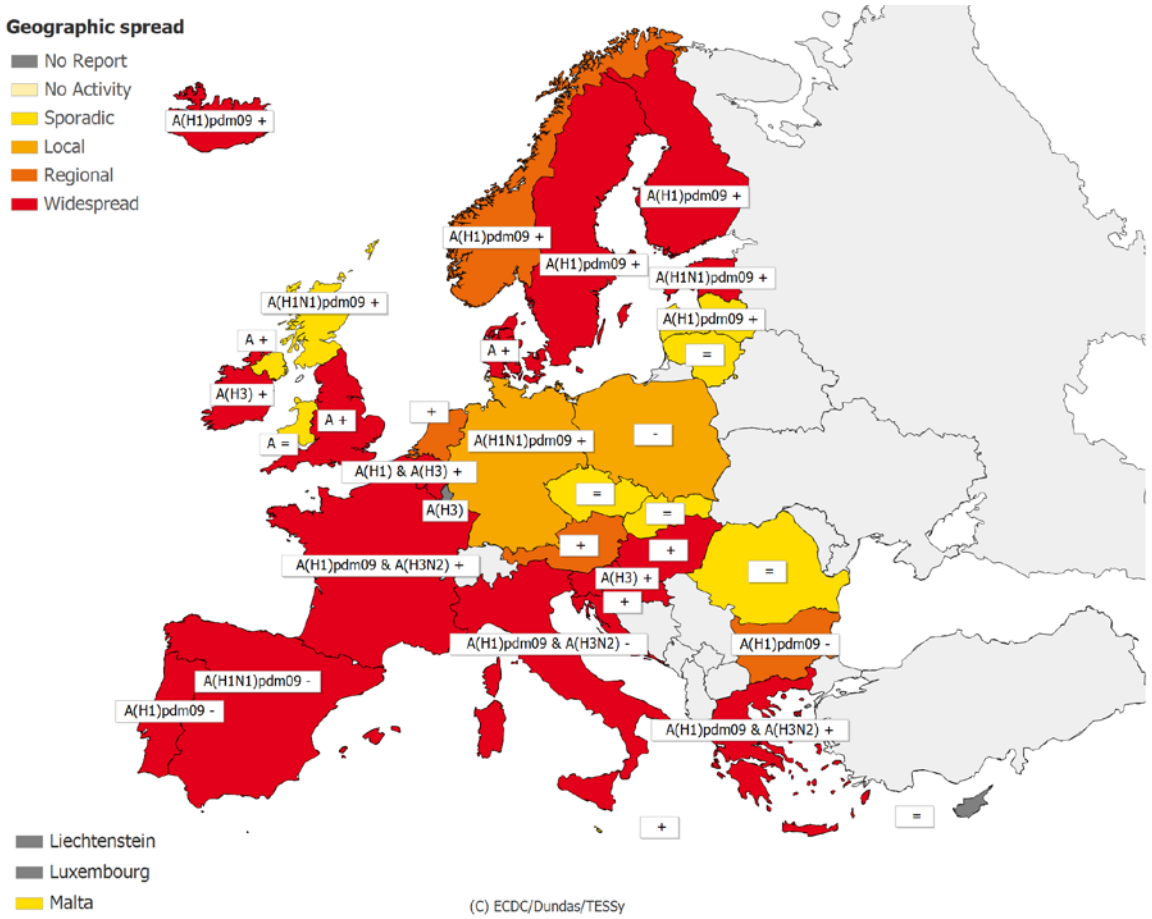
* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.

Legend:

No report	Intensity level was not reported
Low	No influenza activity or influenza at baseline levels
Medium	Usual levels of influenza activity
High	Higher than usual levels of influenza activity
Very high	Particularly severe levels of influenza activity

+	Increasing clinical activity
-	Decreasing clinical activity
=	Stable clinical activity
A	Type A
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(H3)	Type A, Subtype H3

Map 2. Geographic spread for week 7/2014



* 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) & 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(H3)	Type A, Subtype H3

Table 1. Epidemiological and virological overview by country, week 7/2014

Country	Intensity	Geographic spread	Trend	No. of sentinel specimens	Dominant type	Percentage positive	ILI per 100 000	ARI per 100 000	Epidemio-logical overview	Virological overview
Austria	Low	Regional	Increasing	33	None	39.4	1087.6	-	Graphs	Graphs
Belgium	Medium	Widespread	Increasing	57	A(H1) & A(H3)	50.9	226.9	1907.2	Graphs	Graphs
Bulgaria	Medium	Regional	Decreasing	2	A(H1)pdm09	50.0	-	1360.5	Graphs	Graphs
Croatia	Low	Widespread	Increasing	-	-	0.0	-	-	Graphs	Graphs
Cyprus	Low		Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	-	-	0.0	32.6	960.1	Graphs	Graphs
Denmark	Low	Widespread	Increasing	10	A	40.0	95.0	-	Graphs	Graphs
Estonia	Medium	Widespread	Increasing	40	A(H1N1)pdm09	57.5	13.9	380.8	Graphs	Graphs
Finland	High	Widespread	Increasing	31	A(H1)pdm09	32.3	-	-	Graphs	Graphs
France	Medium	Widespread	Increasing	237	A(H1)pdm09 & A(H3N2)	42.2	-	2263.1	Graphs	Graphs
Germany	Low	Local	Increasing	135	A(H1N1)pdm09	11.9	-	1343.9	Graphs	Graphs
Greece	High	Widespread	Increasing	8	A(H1)pdm09 & A(H3N2)	62.5	300.6	-	Graphs	Graphs
Hungary	Low	Widespread	Increasing	-	-	0.0	224.4	-	Graphs	Graphs
Iceland	Medium	Widespread	Increasing	0	A(H1)pdm09	0.0	41.6	-	Graphs	Graphs
Ireland	Medium	Widespread	Increasing	28	A(H3)	64.3	42.5	-	Graphs	Graphs
Italy	Low	Widespread	Decreasing	77	A(H1)pdm09 & A(H3N2)	37.7	575.5	-	Graphs	Graphs
Latvia	Low	Sporadic	Increasing	1	A(H1)pdm09	100.0	9.9	1064.2	Graphs	Graphs
Lithuania	Low	Sporadic	Stable	13	None	15.4	2.9	649.4	Graphs	Graphs
Luxembourg				28	A(H3)	21.4	-*	-*	Graphs	Graphs
Malta	Medium	Sporadic	Increasing	13	None	38.5	-*	-*	Graphs	Graphs
Netherlands	Medium	Regional	Increasing	16	None	0.0	69.2	-	Graphs	Graphs
Norway	Low	Regional	Increasing	9	A(H1)pdm09	55.6	66.2	-	Graphs	Graphs
Poland	Low	Local	Decreasing	28	None	10.7	394.2	-	Graphs	Graphs
Portugal	Low	Widespread	Decreasing	10	A(H1)pdm09	40.0	42.5	-	Graphs	Graphs
Romania	Low	Sporadic	Stable	-	-	0.0	2.2	552.0	Graphs	Graphs
Slovakia	Low	Sporadic	Stable	9	None	11.1	212.3	1782.2	Graphs	Graphs
Slovenia	Medium	Widespread	Increasing	67	A(H3)	76.1	58.3	1681.1	Graphs	Graphs
Spain	Medium	Widespread	Decreasing	282	A(H1N1)pdm09	36.2	101.2	-	Graphs	Graphs
Sweden	Medium	Widespread	Increasing	80	A(H1)pdm09	28.8	13.3	-	Graphs	Graphs
UK - England	Low	Widespread	Increasing	69	A	42.0	3.4	227.8	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Increasing	5	A	20.0	35.3	430.5	Graphs	Graphs
UK - Scotland	Low	Sporadic	Increasing	39	A(H1N1)pdm09	15.4	15.2	479.6	Graphs	Graphs
UK - Wales	Low	Sporadic	Stable	5	A	20.0	9.2	-	Graphs	Graphs
Europe				**1332**		**36.6**				**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 7/2014, 25 countries tested 1 332 sentinel specimens, 488 (37%) of which were positive for influenza virus (Tables 1–2, Figures 1–2). Of these, 477 (98%) were type A and 11 (2%) were type B.

Since week 40/2013, of 4 217 sentinel specimens positive for influenza virus, 4 141 (98%) were type A and 76 (2%) were type B. Of the 3 832 subtyped influenza viruses, 2 253 (59%) were A(H1)pdm09 and 1 579 (41%) were A(H3). Countries have reported variable patterns of A(H1)pdm09 and A(H3) as the dominant subtypes (Table 1).

The proportion of sentinel specimens testing positive for influenza virus has decreased for the third 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 393 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, 385 A(H1)pdm09, 88 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. Only three viruses showed 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 7/2014, 14 countries reported 731 respiratory syncytial virus detections, maintaining the downward trend and indicating that the epidemic peak for the reporting countries this season has occurred in week 1/2014.

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

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	477	1793	4141	10402
A(H1)pdm09	223	709	2253	5050
A(H3)	182	220	1579	1536
A(sub-type unknown)	72	864	309	3816
Influenza B	11	44	76	386
B(Vic) lineage	1	0	3	4
B(Yam) lineage	5	0	21	54
Unknown lineage	5	44	52	328
Total influenza	**488**	**1837**	**4217**	**10788**

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 40/2013–7/2014

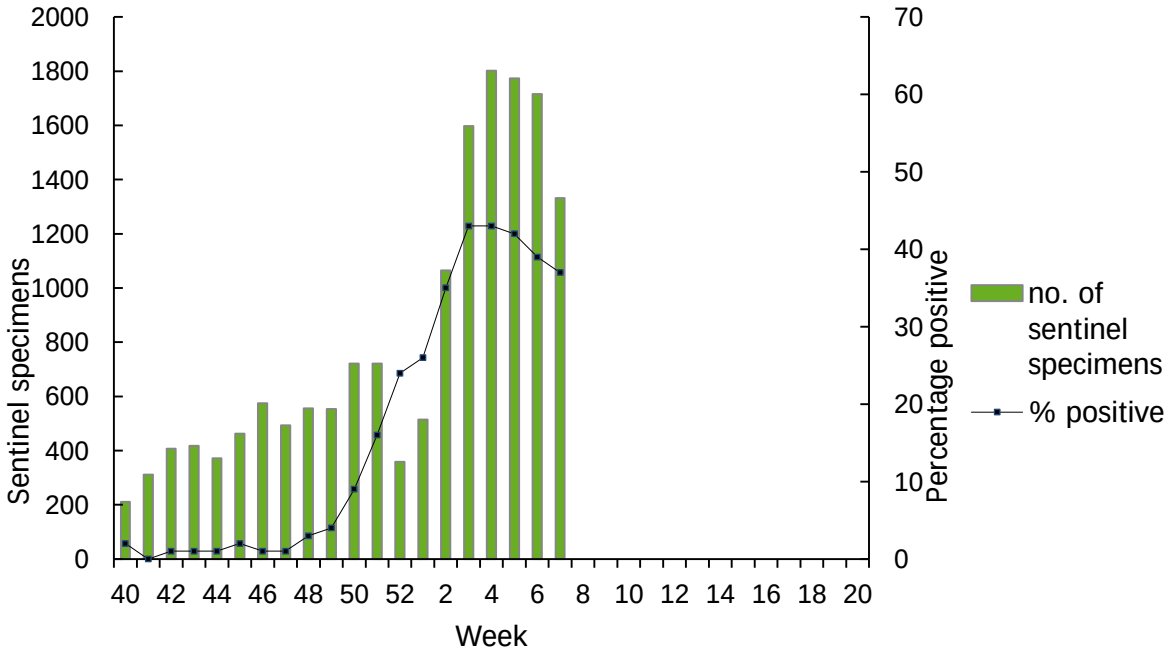


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–7/2014

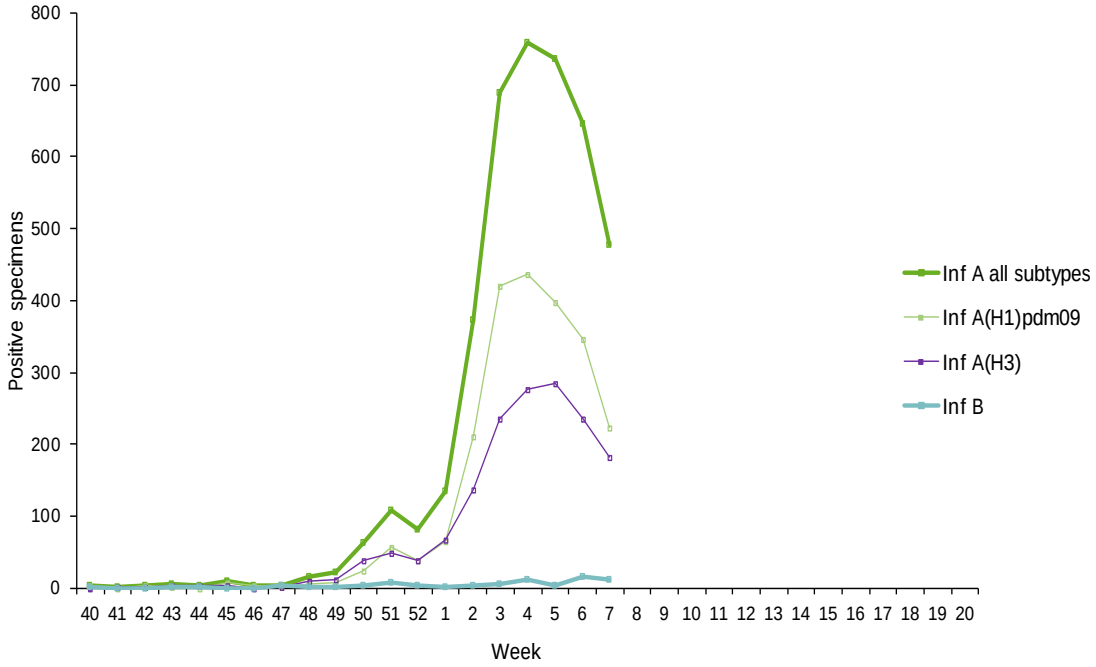


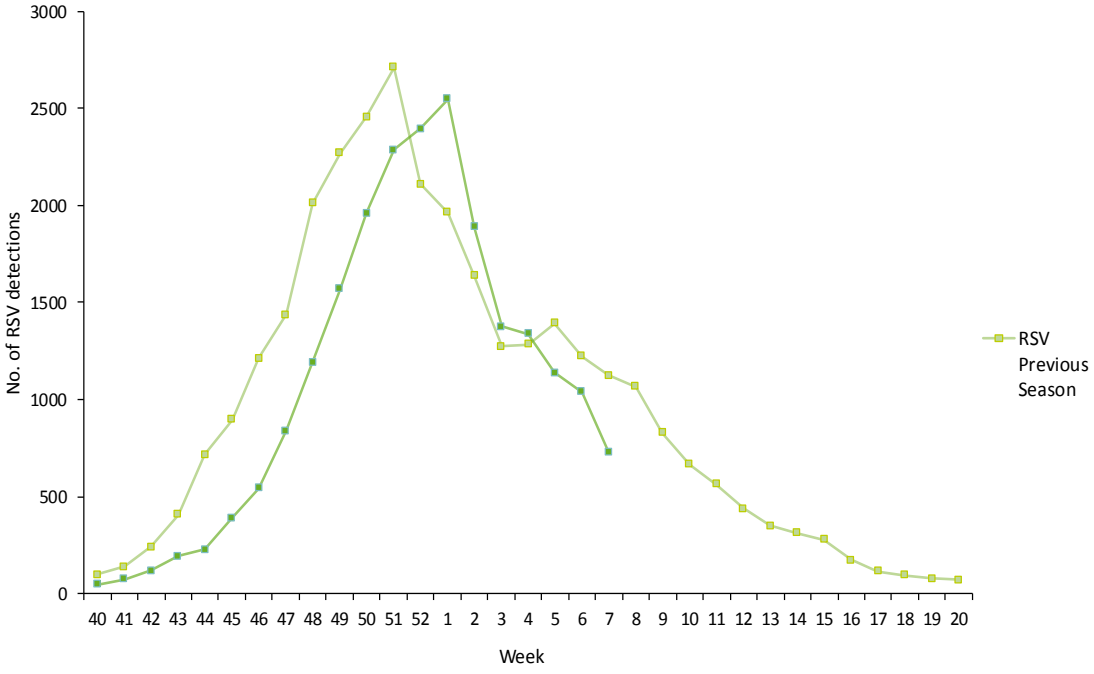
Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–7/2014

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	234
A(H3) A/Texas/50/2012 (H3N2)-like	137
A(H3) not attributed to category	2
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage	9
B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage	9
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 40/2013–7/2014

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 – A/St Petersburg/27/2011 group (6)	224
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	184
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 40/2013–7/2014



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 7/2014, 221 hospitalised, laboratory-confirmed influenza cases were reported by six countries (Finland, Ireland, Romania, Spain, Sweden and UK), including 117 cases admitted to intensive care units (ICU) (Table 5).

Since week 40/2013, seven countries have reported 2 531 hospitalised, laboratory-confirmed influenza cases: 2 508 (99%) were related to influenza virus type A infection and 23 (1%) to type B virus infection (Tables 5 and 6). A total of 1 695 influenza A viruses have been subtyped, 1 339 (79%) were A(H1)pdm09 and 356 (21%) were A(H3) (Table 5). Among cases with known subtype, infections with A(H1)pdm09 accounted for 86% in ICU and 73% in other wards.

Seven countries reported a total of 209 fatal cases (Table 6). All fatal cases were associated with influenza virus type A infection and 154 of them were subtyped: 125 (81%) as A(H1)pdm09 and 29 (19%) as A(H3). Of the 207 fatal cases with known age, 115 (56%) were ≥ 65 years.

Table 5. Number of hospitalised, laboratory-confirmed influenza cases by influenza type and subtype, week 7/2014 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	116	1175	104	1333
A(H1)pdm09	53	657	37	682
A(H3)	9	110	30	246
A (subtyping not performed)	54	408	37	405
Influenza B	1	14	0	9
Total	**117**	**1189**	**104**	**1342**

Table 6. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40/2013–7/2014

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	17	0	0	0
France	153	11	0	0
Ireland	19	2	102	2
Romania	6	2	7	0
Spain	611	115	1233	74
Sweden	28	3	0	0
United Kingdom	355	0	0	0
Total	**1189**	**133**	**1342**	**76**

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
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 7/2014, 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.