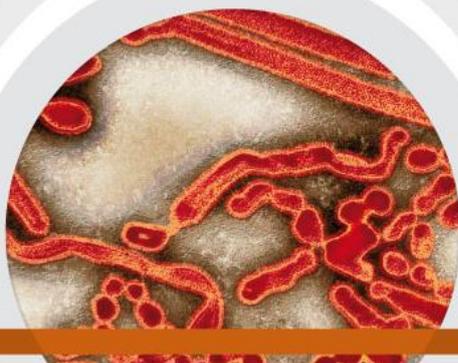


SURVEILLANCE REPORT



Weekly influenza surveillance overview

18 April 2014

Main surveillance developments in week 15/2014 (7–13 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 15/2014:

- Low intensity was reported by all reporting countries, while widespread or regional activity was reported by three countries.
- Of the 303 sentinel specimens tested across 15 countries, 13% were positive for influenza virus. The proportion of positive specimens decreased substantially compared to the previous week.
- Four countries reported 40 hospitalised laboratory-confirmed influenza cases, 11 of which were admitted to intensive care units.

Overall, influenza activity continued to decline but influenza viruses still circulated in some reporting countries.

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

Virological surveillance: Since week 40/2013, of 6 926 sentinel specimens testing positive for influenza virus, 6 766 (98%) were type A and 160 (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 391 fatal cases, 388 (99%) of which 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 15/2014, clinical data were reported by 24 countries and the UK (Northern Ireland, Scotland and Wales). Low intensity was reported by all reporting countries (Table 1, Map 1).

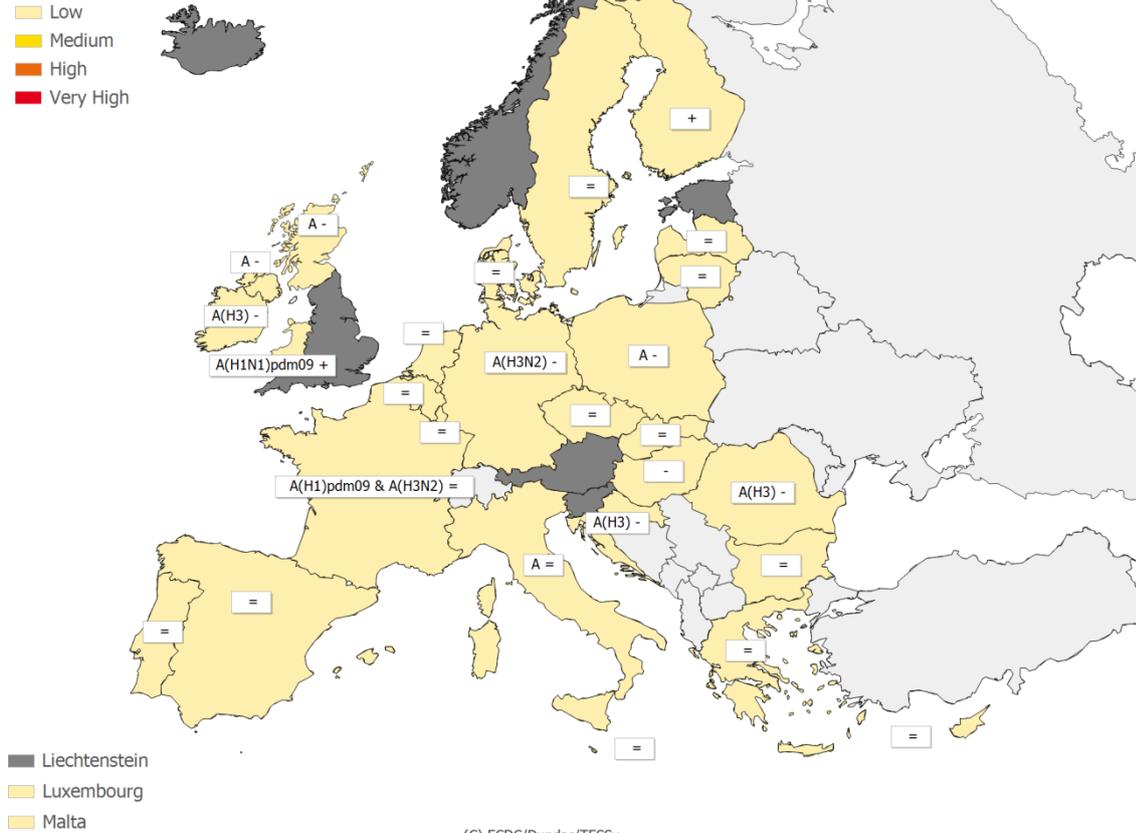
Geographic patterns of influenza activity varied across Europe: widespread activity was reported by Croatia, and regional activity by Greece and the Netherlands. Local or sporadic activity was reported by 17 countries and the UK (Northern Ireland, Scotland and Wales). As for the previous week, Bulgaria, Cyprus, Italy and Malta reported no influenza activity (Table 1, Map 2).

Increasing trends were reported by Finland and the UK (Wales). Seventeen countries reported stable trends, while decreasing trends were reported by seven countries and the UK (Northern Ireland and Scotland) (Table 1, Map 2).

Map 1. Intensity for week 15/2014

Intensity

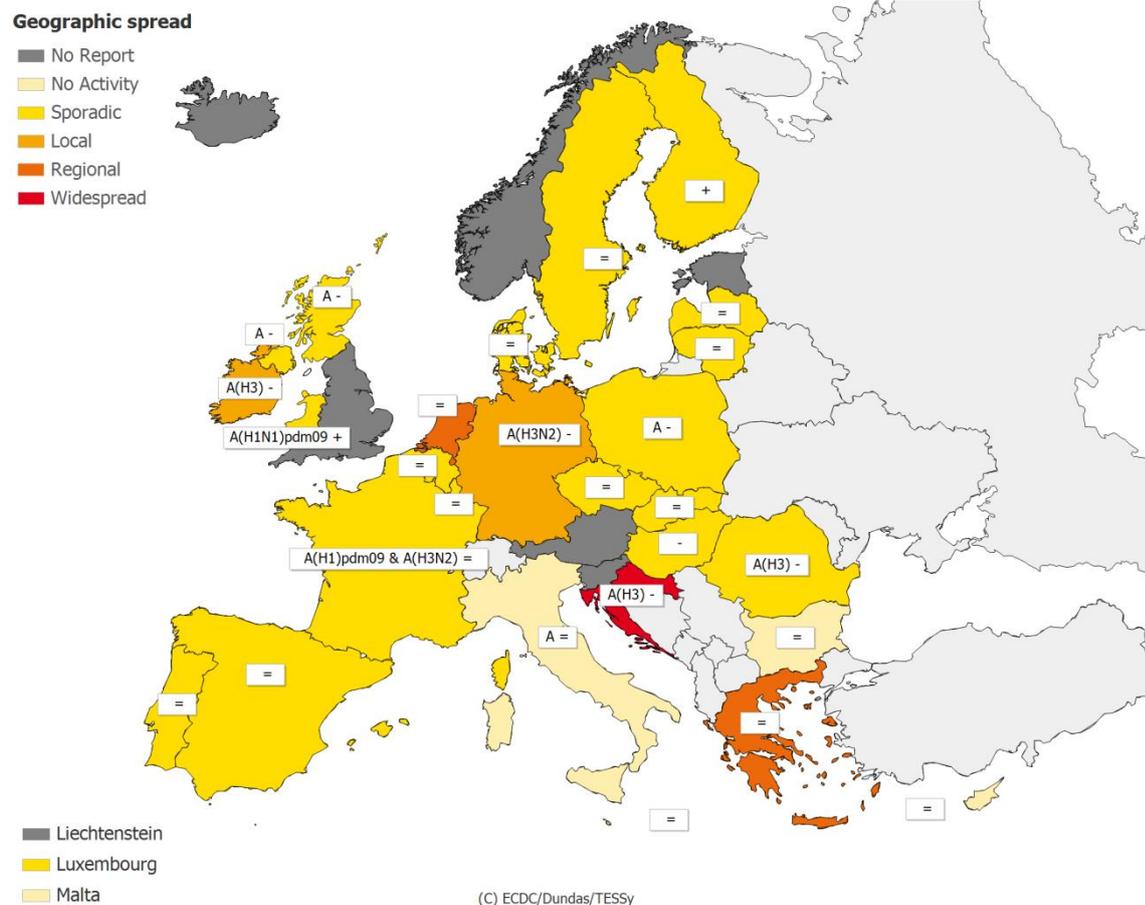
- No report
- Low
- Medium
- High
- Very High



* 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 & A(H3N2)	Type A, Subtype (H1)pdm09 and H3N2
		A(H1N1)pdm09	Type A, Subtype (H1N1)pdm09
		A(H3)	Type A, Subtype H3
		A(H3N2)	Type A, Subtype H3N2

Map 2. Geographic spread for week 15/2014



* 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
		A(H1)pdm09 & A(H3N2)	Type A, Subtype (H1)pdm09 and H3N2
		A(H1N1)pdm09	Type A, Subtype (H1N1)pdm09
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
		A(H3N2)	Type A, Subtype H3N2
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 15/2014

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	4	None	25.0	29.6	1352.3	Graphs	Graphs
Bulgaria	Low	No activity	Stable	0	None	0.0	-	532.1	Graphs	Graphs
Croatia	Low	Widespread	Decreasing	95	A(H3)	0.0	-	-	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	-	-	0.0	16.9	740.9	Graphs	Graphs
Denmark	Low	Sporadic	Stable	5	None	0.0	18.3	-	Graphs	Graphs
Estonia				-	-	0.0	-	-		
Finland	Low	Sporadic	Increasing	18	None	0.0	-	-	Graphs	Graphs
France	Low	Sporadic	Stable	47	A(H1)pdm09 & A(H3N2)	34.0	-	1141.6	Graphs	Graphs
Germany	Low	Local	Decreasing	58	A(H3N2)	12.1	-	976.2	Graphs	Graphs
Greece	Low	Regional	Stable	-	-	0.0	94.7	-	Graphs	Graphs
Hungary	Low	Sporadic	Decreasing	-	-	0.0	38.8	-	Graphs	Graphs
Iceland				0	-	0.0	-	-	Graphs	Graphs
Ireland	Low	Local	Decreasing	10	A(H3)	10.0	8.9	-	Graphs	Graphs
Italy	Low	No activity	Stable	13	A	0.0	113.6	-	Graphs	Graphs
Latvia	Low	Sporadic	Stable	-	-	0.0	8.2	808.8	Graphs	Graphs
Lithuania	Low	Sporadic	Stable	-	-	0.0	14.4	666.2	Graphs	Graphs
Luxembourg	Low	Sporadic	Stable	4	-	25.0	-*	-*	Graphs	Graphs
Malta	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Netherlands	Low	Regional	Stable	8	None	25.0	52.0	-	Graphs	Graphs
Norway				5	-	60.0	-	-	Graphs	Graphs
Poland	Low	Sporadic	Decreasing	8	A	12.5	236.9	-	Graphs	Graphs
Portugal	Low	Sporadic	Stable	-	-	0.0	0.0	-	Graphs	Graphs
Romania	Low	Sporadic	Decreasing	3	A(H3)	66.7	1.2	593.8	Graphs	Graphs
Slovakia	Low	Sporadic	Stable	5	None	60.0	146.3	1504.3	Graphs	Graphs
Slovenia				-	-	0.0	-	-		
Spain	Low	Sporadic	Stable	25	None	12.0	9.2	-	Graphs	Graphs
Sweden	Low	Sporadic	Stable	-	-	0.0	3.1	-	Graphs	Graphs
UK - England				-	-	0.0	-	-		
UK - Northern Ireland	Low	Sporadic	Decreasing	5	A	0.0	19.3	406.6	Graphs	Graphs
UK - Scotland	Low	Sporadic	Decreasing	16	A	0.0	7.5	348.5	Graphs	Graphs
UK - Wales	Low	Sporadic	Increasing	4	A(H1N1)pdm09	50.0	6.4	-	Graphs	Graphs
Europe				333			12.6		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.

Virological surveillance

Weekly and seasonal analysis

For week 15/2014, 333 sentinel specimens were tested across 15 countries and the UK (Northern Ireland, Scotland and Wales) and 42 (13%) were positive for influenza virus (Tables 1–2, Figures 1–2), a percentage approximately half that of the previous week. Of the positive specimens, 40 (95%) were type A and two (5%) were type B (Tables 1–2). Of 24 type A viruses subtyped, 14 (58%) were A(H3) and 10 (42%) were A(H1)pdm09.

Since week 40/2013, of 6 926 sentinel specimens testing positive for influenza virus, 6 766 (98%) were type A and 160 (2%) were type B. Of the 6 271 subtyped influenza viruses, 3 381 (54%) were A(H1)pdm09 and 2 890 (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 presented in Tables 3 and 4. Since week 40/2013, none of the 1 455 antigenically characterised viruses have differed significantly from the [current vaccine viruses recommended by WHO](#). A total of 10 were reported to be non-attributable to a category (Table 3).

Since week 40/2013, 1 000 A(H1N1)pdm09 viruses, 299 A(H3N2) and 43 influenza B viruses have been tested for susceptibility to neuraminidase inhibitors (NAIs) by genetic and/or phenotypic methods, and reported on by 10 countries.

Since week 40/2013, 1 000 A(H1)pdm09, 299 A(H3) 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 carried the NA-H275Y amino acid substitution associated with highly reduced inhibition by oseltamivir. One of these viruses showed highly reduced inhibition by oseltamivir and normal inhibition by zanamivir. However, in 11 of the 15 cases, virus carrying the NA-H275Y substitution was detected, mixed with NA-H275H oseltamivir normal inhibited wildtype virus in the clinical specimen. The median proportion of NA-H275Y was 35% (range 18–80%). 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 15/2014, eight countries and the UK (Northern Ireland, Scotland and Wales) reported 85 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 40/2013–15/2014

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	40	521	6766	24935
A(H1)pdm09	10	120	3381	10732
A(H3)	14	80	2890	4228
A(subtype unknown)	16	321	495	9975
Influenza B	2	53	160	954
B(Vic) lineage	1	0	11	10
B(Yam) lineage	1	3	54	133
Unknown lineage	0	50	95	811
Total influenza	42	574	6926	25889

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 40/2013–15/2014

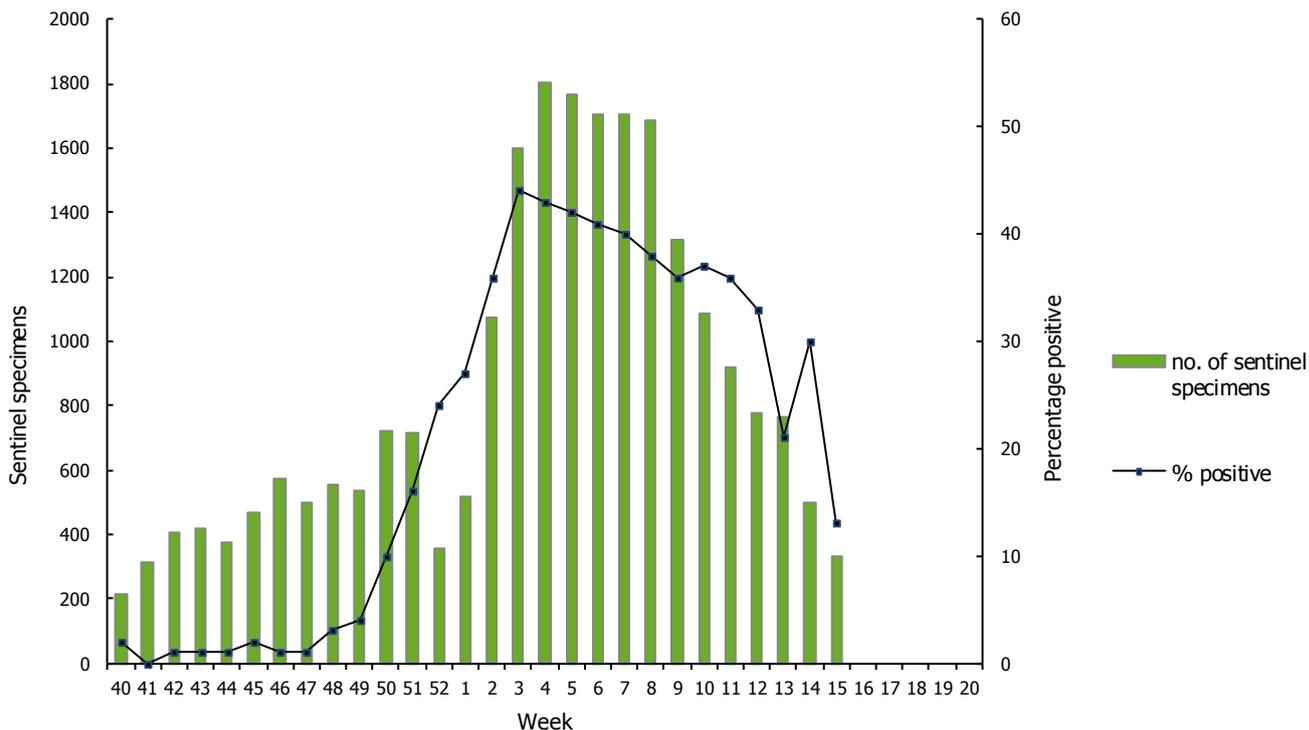


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–15/2014

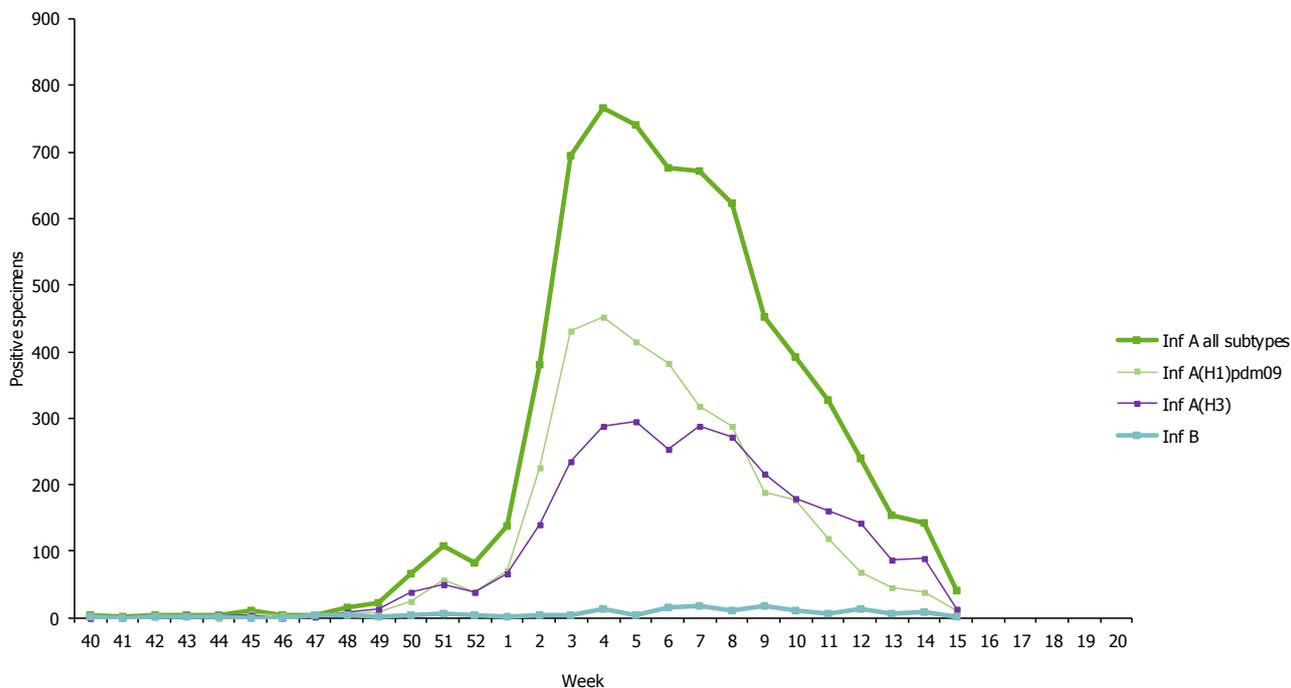


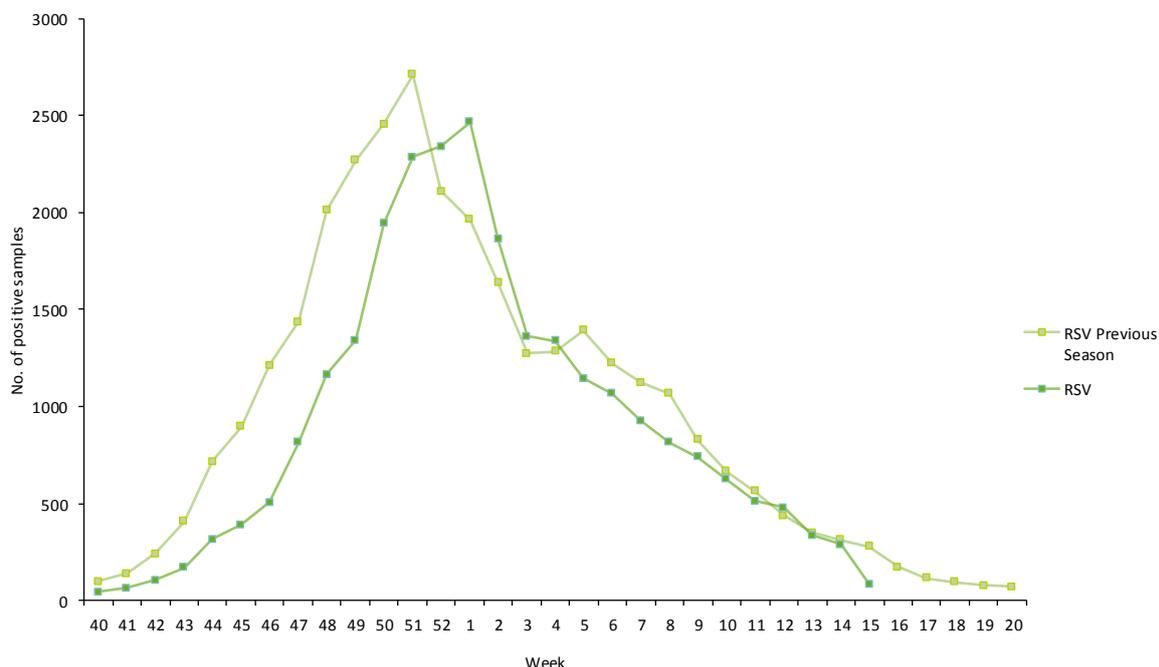
Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–15/2014

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	838
A(H1)pdm09 not attributed to category	6
A(H3) A/Texas/50/2012 (H3N2)-like	563
A(H3) not attributed to category	4
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	19
B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage)	22
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 40/2013–15/2014

Phylogenetic group	Number of viruses
A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6)	416
A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C)	378
B(Vic)-lineage clade 1A representative B/Brisbane/60/2008	8
B(Vic) lineage not attributed to clade	2
B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012	14
B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010	19

Figure 3. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2013–15/2014



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 15/2014, 40 hospitalised laboratory-confirmed influenza cases were reported by four countries (France, Ireland, Spain and Sweden). Influenza A virus was detected in 39 cases and influenza B virus in one patient. Of 40 hospitalised cases, 11 were admitted to intensive care units (ICUs) (Table 5).

Since week 40/2013, seven countries have reported 4 582 hospitalised, laboratory-confirmed influenza cases: 4 527 (99%) were related to influenza virus type A infection and 55 (1%) to type B virus infection (Tables 5). Of 3 100 subtyped influenza A viruses, 2 299 (74%) were A(H1)pdm09 and 801 (26%) were A(H3). A higher proportion of A(H1)pdm09 viruses has been detected in patients in ICU (1 326 out of 1 550 subtyped, 86%) than in patients in regular wards (973 out of 1 550 subtyped, 63%).

Of the 3 767 hospitalised cases with reported age, 1 404 (37%) were 40–64 years old and 1 392 (37%) were over 64 years of age.

Five countries have reported a total of 391 fatal cases since week 40/2013 (Table 6): 388 (99%) were associated with influenza virus type A infection and three (1%) with type B virus. 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 387 of the fatal cases: 205 (53%) were 65 years or older.

Table 5. Number of hospitalised laboratory-confirmed influenza cases by influenza type and subtype, week 15/2014 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	10	2 353	29	2 149
A(H1)pdm09	5	1 326	7	973
A(H3)	1	224	15	577
A (subtyping not performed)	4	828	7	599
Influenza B	1	32	0	23
Total	11	2 410	29	2 172

Table 6. Cumulative number of hospitalised laboratory-confirmed influenza cases, by country, weeks 40/2013–15/2014

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	75	13	570	4
Romania	29	10	32	1
Slovakia	-	-	1	-
Spain	800	172	1 569	99
Sweden	59	5	-	-
UK	792	-	-	-
Total	2 410	287	2 172	104

- : 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

SARI: Severe acute respiratory infection

ICU: Intensive care unit

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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