

SURVEILLANCE REPORT

Weekly influenza surveillance overview

8 February 2013

Main surveillance developments in week 5/2013 (28 January – 3 February 2013)

This first page contains the main developments for this week and can be printed separately or together with the more detailed information that follows.

Weekly reporting on influenza surveillance in Europe for the 2012–13 season started in week 40/2012 and active influenza transmission began around week 49/2012, approximately six weeks earlier than in the 2011/2012 season.

- In week 5/2013, 19 countries reported concomitantly high/medium-intensity transmission and wide geographic spread. Twenty-two countries reported increasing trends in influenza activity.
- In week 5/2013, the proportion of influenza-positive sentinel specimens continued to increase, reaching 55%.
- Since week 40/2012, the proportions of influenza A and B viruses have remained similar (51% vs. 49%), but among type A viruses, the percentage of A(H1N1)pdm09 has continued to increase (64%), compared to 52% in week 2/2012.
- For week 5/2013, of 71 hospitalised laboratory-confirmed influenza cases reported by six countries, 33 (46%) tested positive for influenza A viruses and 38 (54%) for type B viruses.

On 8 February, ECDC published its annual risk assessment for seasonal influenza 2012–2013, based on data up to week 3/2013. The risk assessment is available [here](#).

Influenza activity continued to rise across Europe in week 5/2013. In a few countries, the epidemics seemed to have passed their peaks, although some countries experienced a resurgence of ILI rates.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): Nineteen countries reported concomitantly high/medium-intensity transmission and wide geographic spread. For more information, [click here](#).

Virological surveillance: Fifty–five percent of sentinel specimens were positive for influenza in week 5/2013. Since week 40/2012, the proportions of sentinel influenza A and B viruses have remained similar, 51% and 49% respectively. For more information, [click here](#).

Hospital surveillance of influenza laboratory-confirmed cases: In week 5/2013, 71 hospitalised laboratory-confirmed cases were reported by six countries. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly analysis – epidemiology

For week 5/2013, 27 countries reported clinical data. Of these, Belgium, Germany, Luxembourg and Sweden reported high-intensity transmission while 19 reported medium intensity and four (Bulgaria, Cyprus, Poland and the UK) reported low intensity (Table 1, Map 1).

The geographic pattern of influenza activity was reported as widespread by 19 countries, regional by the UK (England and Scotland), local by Greece, Malta, Romania, Slovakia and the UK (Northern Ireland) and sporadic by Bulgaria and Poland. Nineteen countries reported concomitantly high/medium-intensity transmission and wide geographic spread (Table 1, Map 2).

Increasing trends were reported by 22 countries and the UK (Scotland) (Table 1, Map 2). This compared to 22 countries in week 4/2013 and 26 in week 3/2013. Stable trends were reported by Bulgaria, Cyprus, Norway and the UK (England and Northern Ireland).

Overall, the situation reported for week 5/2013 is very similar to that observed in the two previous weeks, with medium-intensity transmission, wide geographic spread and increasing trends in most countries.

Four countries (Denmark, Greece, Ireland and Luxembourg) that seemed to have peaked during previous weeks, experienced a resurgence of ILI rates.

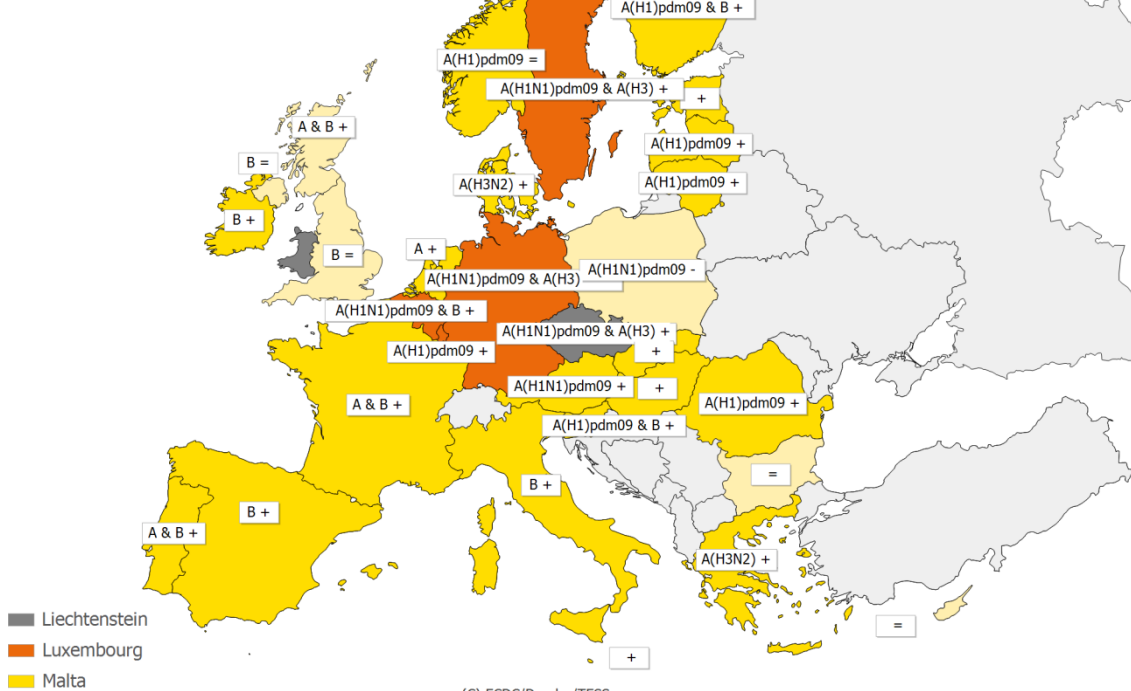
Influenza in Europe at a glance: a [weekly infographic](#)

As ECDC continues to monitor and report influenza activity in Europe on a weekly basis throughout the season, a new [weekly infographic](#) representation of influenza in Europe has been created to visually aid the process. The infographic displays and highlights influenza trends, intensity and the type of viruses circulating. Comments on this are especially welcome and should be sent to influenza@ecdc.europa.eu.

Map 1. Intensity for week 5/2013

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.

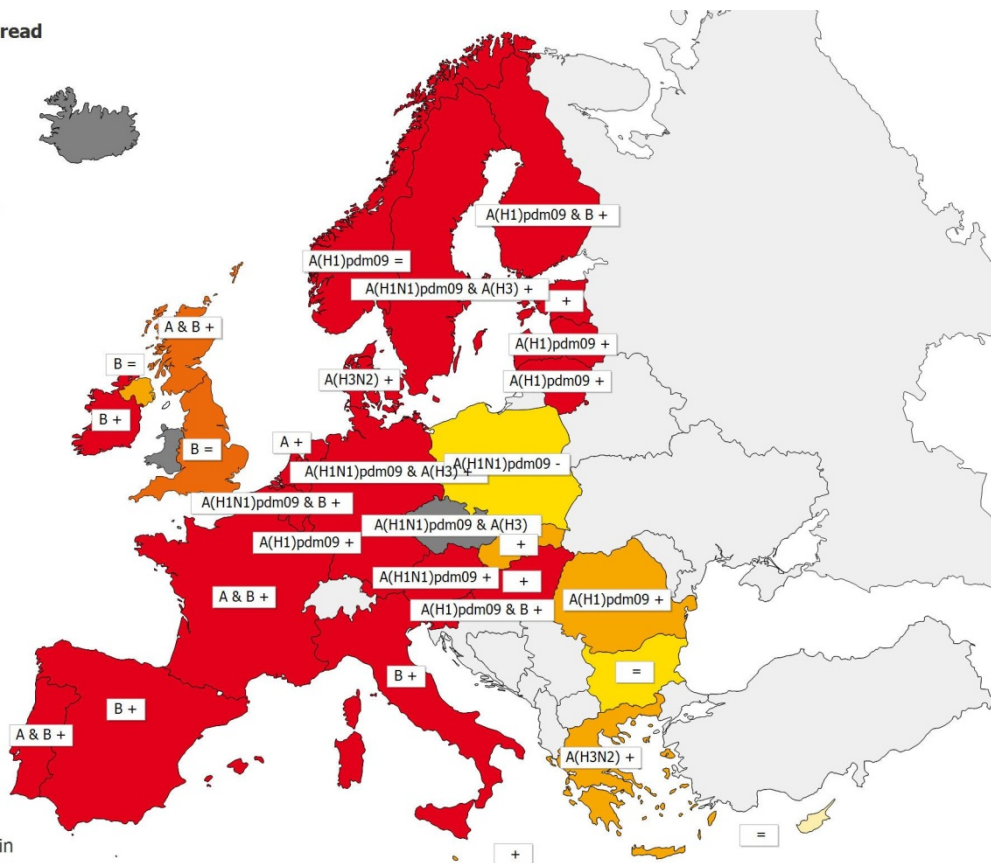
Legend:

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 & B	Type A and B
		A(H1)pdm09	Type A, Subtype (H1)pdm09
		A(H1)pdm09 & B	Type B and Type A, Subtype (H1)pdm09
		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 5/2013

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
		=	Stable clinical activity
Sporadic	Isolated cases of laboratory confirmed influenza infection	A	Type A
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 & B	Type A and B
		A(H1)pdm09	Type A, Subtype (H1)pdm09
		A(H1)pdm09 & B	Type B and Type A, Subtype (H1)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(H1N1)pdm09	Type A, Subtype (H1N1)pdm09
		A(H1N1)pdm09 & A(H3)	Type A, Subtype (H1N1)pdm09 and H3
		A(H1N1)pdm09 & B	Type B and Type A, Subtype (H1N1)pdm09
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(H3N2)	Type A, Subtype H3N2
		B	Type B

Table 1. Epidemiological and virological overview by country, week 5/2013

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	Medium	Widespread	Increasing	80	A(H1N1)pdm09	65.0	1565.7	-	Graphs	Graphs
Belgium	High	Widespread	Increasing	113	A(H1N1)pdm09 & B	83.2	1002.9	2600.1	Graphs	Graphs
Bulgaria	Low	Sporadic	Stable	31	None	32.3	-	1030.2	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic				17	A(H1N1)pdm09 & A(H3)	58.8	-	-	Graphs	Graphs
Denmark	Medium	Widespread	Increasing	12	A(H3N2)	75.0	241.5	-	Graphs	Graphs
Estonia	Medium	Widespread	Increasing	35	None	34.3	25.0	636.0	Graphs	Graphs
Finland	Medium	Widespread	Increasing	59	A(H1)pdm09 & B	55.9	-	-	Graphs	Graphs
France	Medium	Widespread	Increasing	276	A & B	55.8	-	3395.3	Graphs	Graphs
Germany	High	Widespread	Increasing	313	A(H1N1)pdm09 & A(H3)	65.2	-	2062.4	Graphs	Graphs
Greece	Medium	Local	Increasing	14	A(H3N2)	50.0	194.5	-	Graphs	Graphs
Hungary	Medium	Widespread	Increasing	47	None	19.1	167.6	-	Graphs	Graphs
Iceland				0	-	0.0	-	-	Graphs	Graphs
Ireland	Medium	Widespread	Increasing	48	B	66.7	62.7	-	Graphs	Graphs
Italy	Medium	Widespread	Increasing	166	B	71.7	945.4	-	Graphs	Graphs
Latvia	Medium	Widespread	Increasing	7	A(H1)pdm09	71.4	428.1	1714.2	Graphs	Graphs
Lithuania	Medium	Widespread	Increasing	84	A(H1)pdm09	89.3	378.4	1324.0	Graphs	Graphs
Luxembourg	High	Widespread	Increasing	89	A(H1)pdm09	60.7	-*	-*	Graphs	Graphs
Malta	Medium	Local	Increasing	-	-	0.0	-*	-*	Graphs	Graphs
Netherlands	Medium	Widespread	Increasing	45	A	73.3	148.3	-	Graphs	Graphs
Norway	Medium	Widespread	Stable	9	A(H1)pdm09	77.8	184.2	-	Graphs	Graphs
Poland	Low	Sporadic	Decreasing	112	A(H1N1)pdm09	6.3	378.6	-	Graphs	Graphs
Portugal	Medium	Widespread	Increasing	20	A & B	20.0	50.6	-	Graphs	Graphs
Romania	Medium	Local	Increasing	14	A(H1)pdm09	50.0	3.4	777.9	Graphs	Graphs
Slovakia	Medium	Local	Increasing	-	-	0.0	508.7	2812.2	Graphs	Graphs
Slovenia	Medium	Widespread	Increasing	55	A(H1)pdm09 & B	54.5	83.5	1883.4	Graphs	Graphs
Spain	Medium	Widespread	Increasing	414	B	49.5	202.7	-	Graphs	Graphs
Sweden	High	Widespread	Increasing	116	A(H1N1)pdm09 & A(H3)	40.5	16.7	-	Graphs	Graphs
UK - England	Low	Regional	Stable	122	B	41.0	12.7	335.0	Graphs	Graphs
UK - Northern Ireland	Low	Local	Stable	8	B	87.5	48.4	439.4	Graphs	Graphs
UK - Scotland	Low	Regional	Increasing	59	A & B	49.2	44.2	560.0	Graphs	Graphs
UK - Wales				-	-	0.0	-	-		
Europe				2365		55.2				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.

Virological surveillance

Weekly analysis – virology

In week 5/2013, 25 countries tested 2 365 sentinel specimens, of which 1 305 (55%) were positive for influenza virus: 698 (53%) were type A and 607 (47%) type B (Tables 1–2, Figure 1). After a slight decline in the proportion of influenza-positive specimens between weeks 52/2012 and 2/2013, the percentage of influenza-positive cases has risen progressively over the last three weeks.

Of 3 879 influenza-positive non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals), 2 753 (71%) were influenza virus type A and 1 126 (29%) were type B (Table 2).

Of the 5 976 influenza virus detections in sentinel specimens since week 40/2012, 3 062 (51%) were type A and 2 914 (49%) were type B viruses. Of 2 697 influenza A viruses subtyped, 1 729 (64%) were A(H1)pdm09 and 968 (36%) were A(H3) (Table 2, Figure 2). The proportion of A(H1)pdm09 has continued to increase since week 2/2013 (52%). Of the 476 type B viruses ascribed to a lineage, 414 (87%) were Yamagata and 62 (13%) were Victoria (Table 2).

The pattern of virus co-circulation in EU/EEA countries is considerably different from that reported in the United States where 80% have been influenza type A viruses and 20% B viruses, with A(H1N1)pdm09 representing only 2.5% of subtyped A viruses (see [CDC Flu View week 4/2013](#)).

Of the 1 254 antigenic characterisations of influenza viruses reported for sentinel and non-sentinel specimens since week 40/2012, 678 (54%) have been characterised as A/Victoria/361/2011(H3N2) (Table 3).

Of the 432 genetic characterisations of influenza viruses reported for sentinel and non-sentinel specimens since week 40/2012, 166 (38%) were A(H3) clade representative A/Victoria/208/2009, of which 116 (70%) fell within genetic group 3C, represented by A/Victoria/361/2011 (Table 4).

More details on circulating viruses can be found in the December [report](#) prepared by the Community Network of Reference Laboratories (CNRL) coordination team. The viruses circulating this season remain well-matched with the vaccine viruses for the 2012/13 season.

Since week 40/2012, a total of 283 viruses have been tested and reported on by Denmark, Germany, Greece, the Netherlands, Norway, Spain, Sweden and the UK. One A(H1N1)pdm09 tested for NA1 susceptibility showed the H275Y amino acid substitution associated with oseltamivir highly reduced inhibition. None of the other 106 A(H1N1)pdm09 viruses, the 96 A(H3N2) and 74 B viruses tested for neuraminidase inhibitor susceptibility showed genetic (markers) or phenotypic (IC50) evidence for (highly) reduced inhibition. Ten A(H1N1)pdm09 and 14 A(H3N2) viruses screened for M2-blocker susceptibility carried the S31N amino acid substitution in the M2 protein associated with M2-blocker resistance.

In week 5/2013, 15 countries reported 1 145 respiratory syncytial virus detections, continuing the decline observed since week 52/2012 (Figure 4).

Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2012–5/2013

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	698	2753	3062	14733
A(H1)pdm09	396	1126	1729	5825
A(H3)	204	218	968	1919
A(sub-type unknown)	98	1409	365	6989
Influenza B	607	1126	2914	5392
B(Vic) lineage	6	3	62	67
B(Yam) lineage	56	11	414	600
Unknown lineage	545	1112	2438	4725
Total influenza	1305	3879	5976	20125

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 40/2012–5/2013

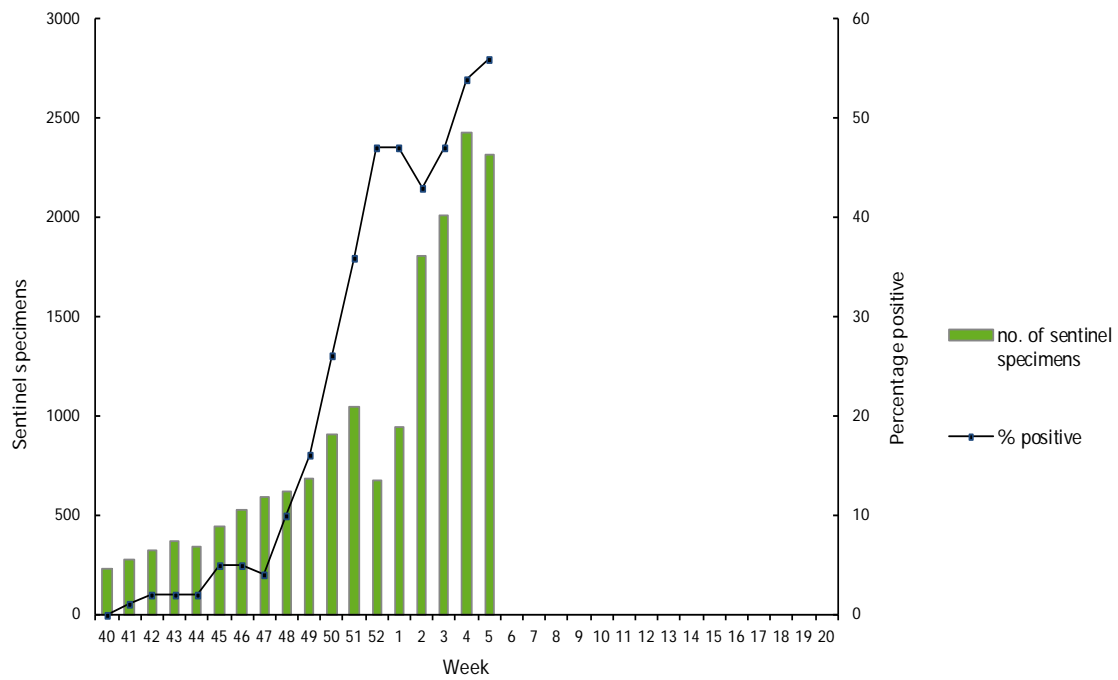


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2012–5/2013

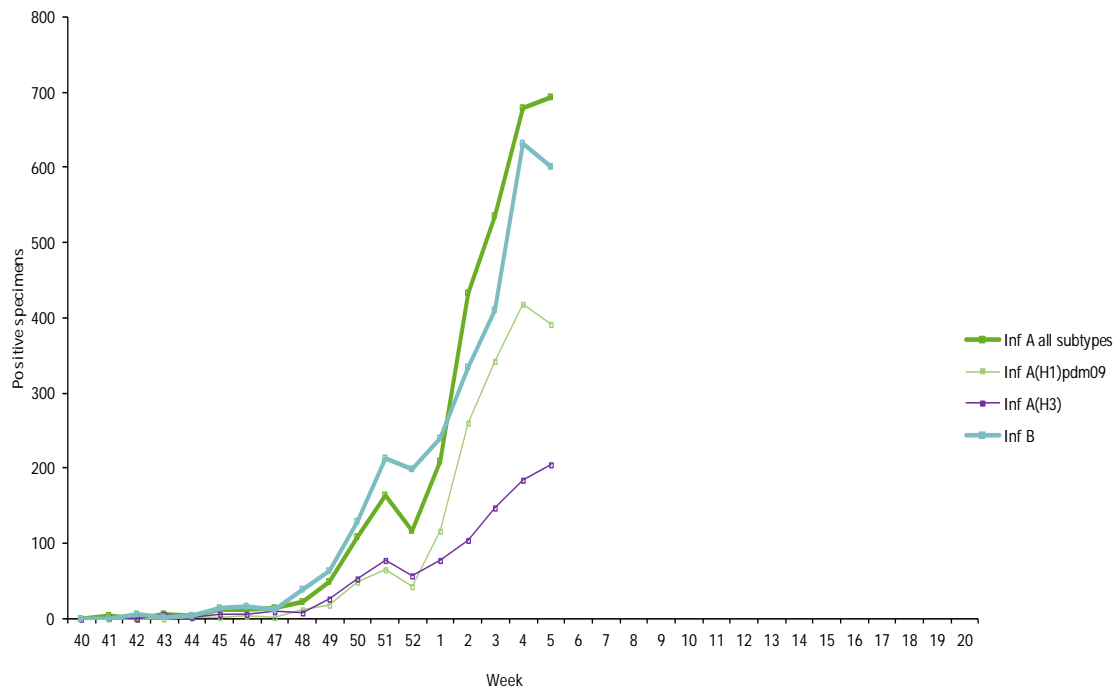


Figure 3. Number of non-sentinel specimens positive for influenza virus by type, subtype and week of report, weeks 40/2012–5/2013

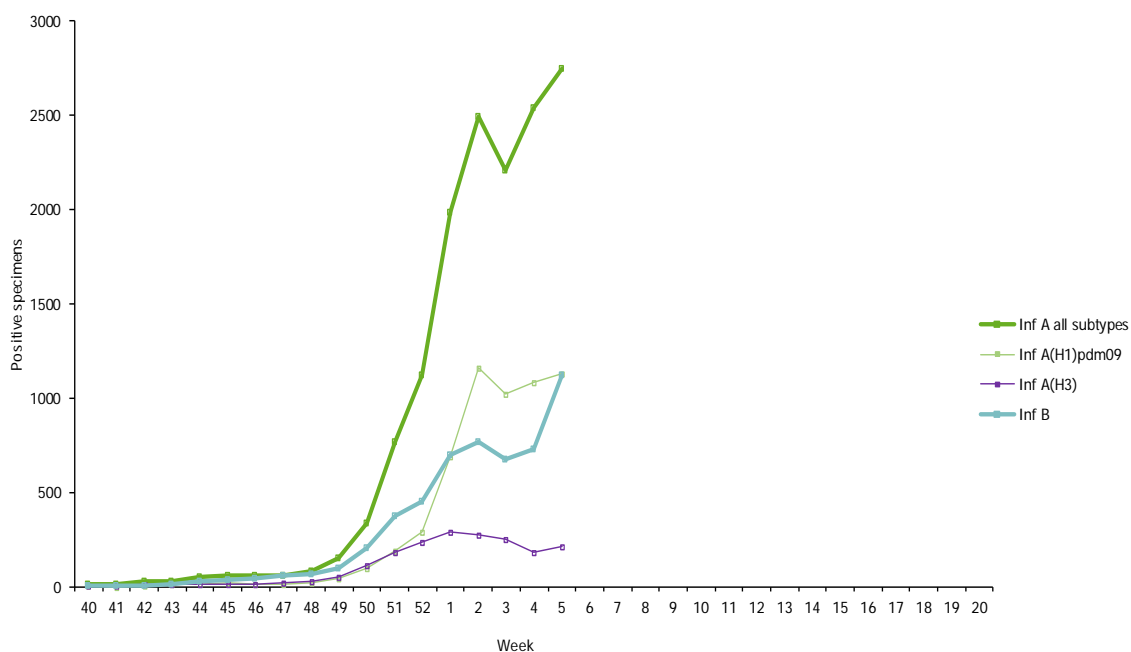
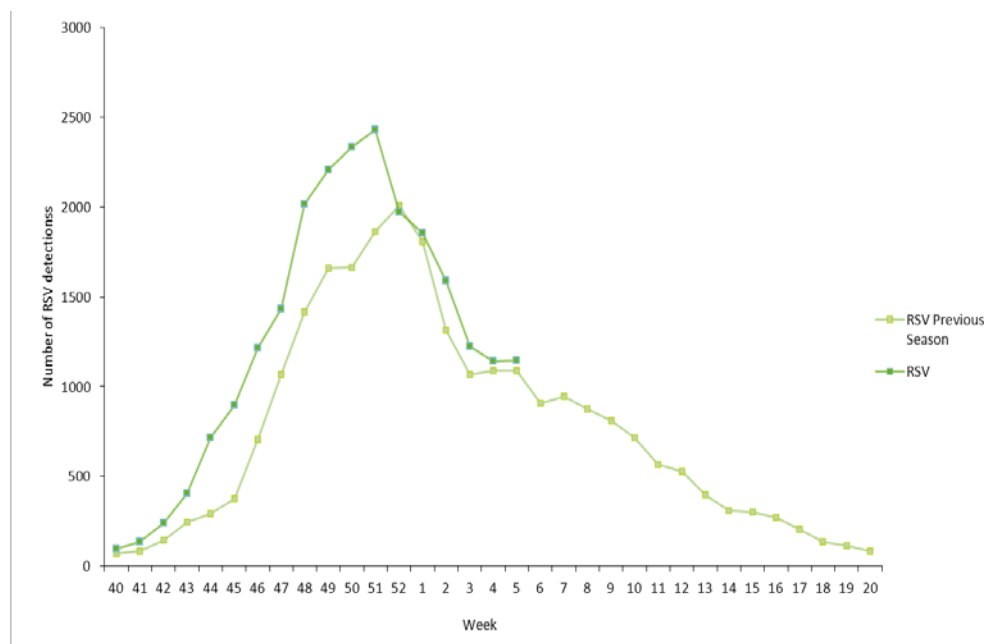


Table3: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2012–5/2013

Antigenic group	Number of viruses
A(H1)pdm09 A/California/7/2009 (H1N1)-like	133
A(H1)pdm09 not attributed to category	1
A(H3) A/Perth/16/2009 (H3N2)-like	1
A(H3) A/Victoria/361/2011 (H3N2)-like	678
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	67
B/Estonia/55669/2011-like (B/Yamagata/16/88-lineage)	163
B/Florida/4/2006-like (B/Yamagata/16/88 lineage)	4
B/Wisconsin/1/2010-like (B/Yamagata/16/88-lineage)	118
B/Bangladesh/3333/2007-like (B/Yamagata/16/88 lineage)	88
B(Yam) lineage not attributed to category	1

Table 4: Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2012–5/2013

Phylogenetic group	Number of viruses
A(H1)pdm09 group 6 representative A/St Petersburg/27/2011	68
A(H1)pdm09 group 7 representative A/St Petersburg/100/2011	23
A(H1)pdm09 not attributed to clade/group	5
A(H3) clade repr. A/Victoria/208/2009	30
A(H3) clade repr. A/Victoria/208/2009 – A/Alabama/05/2010 group 5	19
A(H3) clade repr. A/Victoria/208/2009 – A/Stockholm/18/2011 group 3A	1
A(H3) clade repr. A/Victoria/208/2009 – A/Victoria/361/2011 group 3C	116
B(Vic) lineage - clade representative B/Brisbane/60/2008	47
B(Yam) lineage - clade repr. B/Bangladesh/3333/2007	53
B(Yam)-lineage clade repr. B/Wisconsin/1/2010	33
B(Yam)-lineage clade repr. B/Estonia/55669/2011	35
B(Yam)-lineage clade representative B/Brisbane/3/2007	2

Figure 4. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2012–5/2013

Country comments

Denmark: A peak of ILI rates was observed in week 1/2013 and in week 5, there was an increase in diagnostic samples tested for influenza and in the amount of influenza A and B positives. Influenza A(H3N2) was still the dominant subtype when looking at all samples, but influenza B (Yamagata) was increasing. In sentinel specimens the distribution between influenza A and B positives was 50/50 and the amount of influenza B positives was increasing.

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.

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

Since week 40/2012, 912 hospitalised laboratory-confirmed influenza cases have been reported by eight countries (Table 5): 502 (55%) cases were related to influenza type A and 409 (45%) to type B (Table 6). Of 254 subtyped influenza A viruses, 165 (65%) were A(H1)pdm09 and 89 (35%) were A(H3) viruses.

In the course of week 5/2013, of the 71 hospitalised laboratory-confirmed influenza cases reported by six countries, 33 (46%) tested positive for influenza A viruses and 38 (54%) for type B (Table 6).

Since week 40/2012, 35 fatalities have been reported, 25 of which occurred in France where only cases admitted to intensive care units are reported.

Table 5. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40/2012–5/2013

Country	Number of cases	Incidence of cases per 100 000 population	Number of fatal cases reported	Incidence of fatal cases per 100 000 population	Estimated population covered
Belgium	105		1		
France	238		25		
Ireland	98				
Romania	14	0.24	1	0.02	5813728
Slovakia	9	0.17	2	0.04	5404555
Spain	63		3		
Sweden	24		3		
United Kingdom	361	0.61			59255492
Total	912		35		

Table 6. Number of hospitalised laboratory-confirmed influenza cases by influenza type and subtype, week 5/2013 and cumulative for the season

Pathogen	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	33	502
A(H1)pdm09	11	165
A(H3)		89
A(sub-typing not performed)	22	248
Influenza B	38	409
Total	71	911

The EUROMOMO mortality monitoring system

Pooled analysis of week 5/2013, based on 12 countries or regions, shows no substantial excess of all-cause mortality as yet this season. Further details are available at <http://www.euromomo.eu/results/pooled.html>.

An analysis of mortality in individual countries showed an increase of mortality in people aged 65 years and above in four of the 16 reporting countries or regions within countries: Denmark, UK (England, Northern Ireland and Scotland) starting around weeks 51 and 52/2012. The increase was particularly clear in Denmark, where H3N2 transmission was predominant.

Excess all-cause mortality cannot be attributed to specific causes with certainty. Known determinants for excess mortality among older people during the winter season are influenza, cold weather and increased mortality around Christmas.

This report was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC): Eeva Broberg, Julien Beauté and René Snacken. The bulletin text was reviewed by the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL) coordination team: Adam Meijer, Rod Daniels, John McCauley and Maria Zambon. On behalf of the EISN members, the bulletin text was reviewed by Amparo Larrauri Cámara (Instituto de Salud Carlos III, Spain), Vincent Enouf (Institut Pasteur, France) and Anne Mazick (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 (WISO) 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 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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