

SURVEILLANCE REPORT

Weekly influenza surveillance overview

27 April 2012

Main surveillance developments in week 16/2012 (16–22 April 2012)

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

The 2011–2012 season influenza season started late and has been without any clear geographic progression across Europe. There are indications that transmission has been declining since around week 9/2012. The following points are noteworthy in week 16/2012:

- Almost all reporting countries experienced low-intensity influenza activity and reported decreasing or stable trends.
- During week 16/2012, 24.1% of 315 sentinel specimens tested were positive for influenza virus, thus continuing the downward trend observed since week 8/2012.
- The absolute number of detected influenza viruses is decreasing, but the proportion of B viruses has increased substantially since earlier in the season.
- Of the SARI cases reported during week 16/2012, two were confirmed to be related to type A influenza virus infection, and one was sub-typed as A(H3).

The 2011–2012 season is now drawing to a close. However, although decreasing, the percentage of influenza-positive specimens and the epidemiological trends show that influenza viruses are still circulating in a number of EU countries.

Even decreasing, the percentage of positive specimens for influenza viruses and also epidemiological trends show that influenza viruses are still circulating in EU countries

- **Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI):** Of the 23 reporting countries, 22 experienced low-intensity influenza activity, while Slovakia reported medium intensity activity. For more information, [click here](#).
- **Virological surveillance:** of 315 sentinel specimens tested, 24.1% were positive for influenza virus. The absolute number of detected influenza viruses is decreasing, but the proportion of B viruses is increasing. For more information, [click here](#).
- **Hospital surveillance of severe acute respiratory infection (SARI):** Of the ten SARI cases reported during week 16/2012, two were confirmed to be related to type A influenza infection and one was sub-typed as A(H3). No deaths were reported among SARI cases. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly analysis – epidemiology

During week 16/2012, twenty-three countries reported clinical data. Except for Slovakia which reported medium activity, all reporting countries experienced low-intensity influenza activity (Table 1, Map 1).

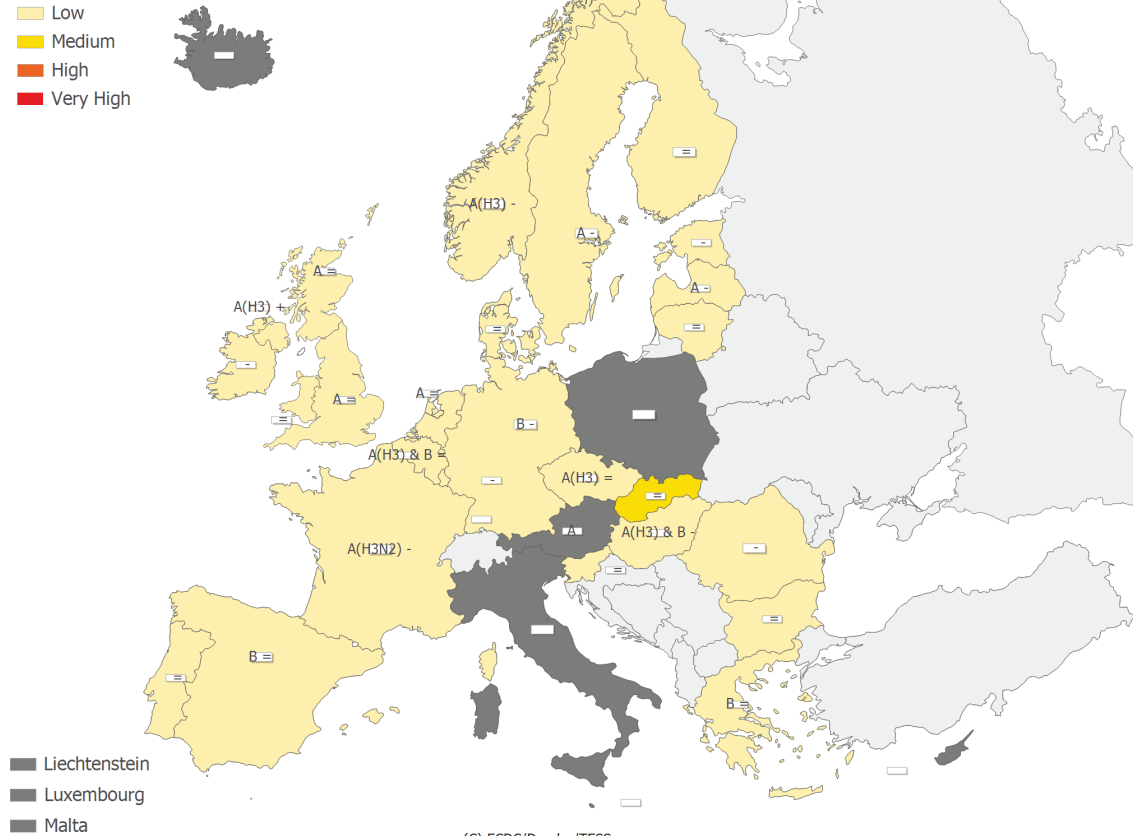
Geographic spread was reported as widespread by the Netherlands and Sweden and as local or regional by eight countries including the UK (Northern Ireland), while sporadic activity was reported by eleven countries including the UK (England and Scotland). No geographic spread was reported by Bulgaria, Denmark, Portugal or the UK (Wales) (Table 1, Map 2).

Stable trends in clinical activity were reported by 13 countries including the UK (England, Scotland and Wales) while an increasing trend was reported by the UK (Northern Ireland). A decreasing trend was reported by ten countries (Table 1, Map 2). These fluctuations in clinical activity outside the peak period of influenza activity are not unusual and likely reflect other causes of influenza-like illness or acute respiratory infection.

Map 1: Intensity for week 16/2012

Intensity

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



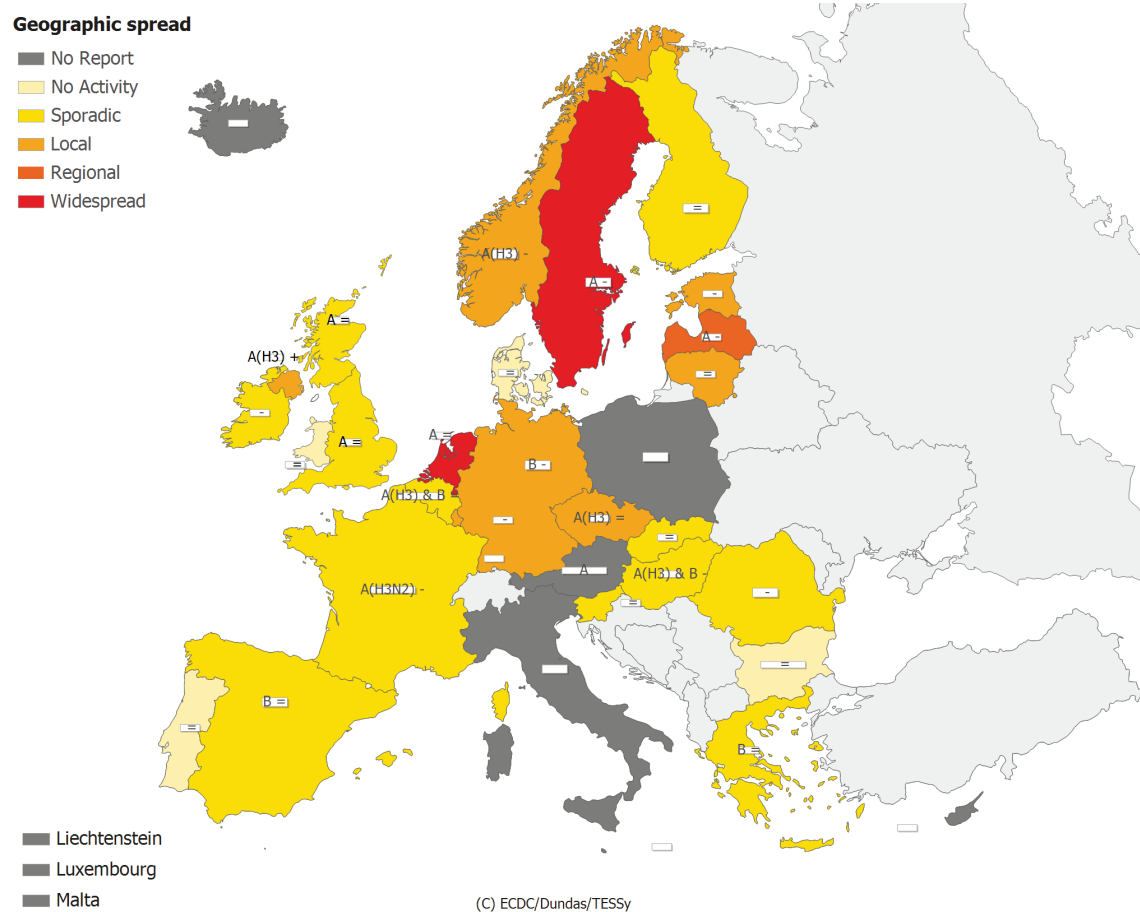
(C) ECDC/Dundas/TESSy

* 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(H3)	Type A, Subtype H3
		A(H3) & B	Type B and Type A, Subtype H3
		A(H3N2)	Type A, Subtype H3N2
		B	Type B

Map 2: Geographic spread for week 16/2012



* 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(H3)	Type A, Subtype 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(H3) & B	Type B and Type A, Subtype H3
		A(H3N2)	Type A, Subtype H3N2
		B	Type B

Table 1: Epidemiological and virological overview by country, week 16/2012

Country	Intensity	Geographic spread	Trend	No. of sentinel swabs	Dominant type	Percentage positive	ILI per 100 000	ARI per 100 000	Epidemiological overview	Virological overview
Austria				0	A	0.0	-	-	Graphs	Graphs
Belgium	Low	Sporadic	Stable	6	A(H3) & B	33.3	30.5	1380.7	Graphs	Graphs
Bulgaria	Low	No activity	Stable	0	None	0.0	-	534.1	Graphs	Graphs
Cyprus				-	-	0.0	-	-		
Czech Republic	Low	Local	Stable	13	A(H3)	46.2	32.7	869.0	Graphs	Graphs
Denmark	Low	No activity	Stable	0	None	0.0	19.1	-	Graphs	Graphs
Estonia	Low	Local	Decreasing	20	-	30.0	8.8	255.7	Graphs	Graphs
Finland	Low	Sporadic	Stable	22	None	4.5	-	-	Graphs	Graphs
France	Low	Sporadic	Decreasing	39	A(H3N2)	25.6	-	-	Graphs	Graphs
Germany	Low	Local	Decreasing	37	B	24.3	-	856.1	Graphs	Graphs
Greece	Low	Sporadic	Stable	3	B	33.3	37.7	-	Graphs	Graphs
Hungary	Low	Sporadic	Decreasing	15	A(H3) & B	46.7	38.9	-	Graphs	Graphs
Iceland				-	-	0.0	-	-		
Ireland	Low	Sporadic	Decreasing	4	None	25.0	6.6	-	Graphs	Graphs
Italy				-	-	0.0	-	-		
Latvia	Low	Regional	Decreasing	0	A	0.0	35.3	956.4	Graphs	Graphs
Lithuania	Low	Local	Stable	0	None	0.0	3.7	390.2	Graphs	Graphs
Luxembourg	Low	Local	Decreasing	5	-	20.0	-*	-*	Graphs	Graphs
Malta				-	-	0.0	-	-		
Netherlands	Low	Widespread	Stable	10	A	50.0	33.6	-	Graphs	Graphs
Norway	Low	Local	Decreasing	2	A(H3)	50.0	35.5	-	Graphs	Graphs
Poland				-	-	0.0	-	-		
Portugal	Low	No activity	Stable	0	None	0.0	8.7	-	Graphs	Graphs
Romania	Low	Sporadic	Decreasing	9	None	11.1	1.8	403.1	Graphs	Graphs
Slovakia	Medium	Sporadic	Stable	2	None	100.0	175.0	1514.2	Graphs	Graphs
Slovenia	Low	Sporadic	Stable	3	None	66.7	4.7	841.8	Graphs	Graphs
Spain	Low	Sporadic	Stable	50	B	30.0	13.1	-	Graphs	Graphs
Sweden	Low	Widespread	Decreasing	12	A	0.0	4.5	-	Graphs	Graphs
UK - England	Low	Sporadic	Stable	33	A	15.2	4.9	343.9	Graphs	Graphs
UK - Northern Ireland	Low	Local	Increasing	5	A(H3)	20.0	20.6	353.0	Graphs	Graphs
UK - Scotland	Low	Sporadic	Stable	25	A	0.0	13.7	472.6	Graphs	Graphs
UK - Wales	Low	No activity	Stable	-	-	0.0	2.1	-	Graphs	Graphs
Europe				315		24.1				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 influenza-like illness (ILI), acute respiratory infection (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 16/2012, 25 countries reported virological data. Of 315 sentinel specimens tested, 76 (24.1%) were positive for influenza virus (Table 1, Figure 1), of which 39 (51.3%) were type A and 37 (48.7%) were type B (Table 2). The proportion of B viruses increased again (34.1% during the previous week) although the absolute number of Influenza A and B viruses detected is decreasing. This is the eighth consecutive week with decreases in both the absolute number of detections and the proportion of influenza-positive sentinel specimens, indicating that the seasonal peak at EU/EEA level has passed and that influenza activity is declining (Figure 1).

Of the 480 influenza virus detections in sentinel and non-sentinel specimens in week 16/2012, 374 (77.9%) were type A, and 106 (22.1%) were type B viruses. Of 73 influenza A viruses sub-typed, 2 (2.7%) were A(H1)pdm09, and 71 (97.3%) were A(H3) viruses (Table 2, Figures 2 & 3).

Of the 31 978 influenza virus detections in sentinel and non-sentinel specimens since week 40/ 2011, 30 038 (93.9%) were type A and 1 940 (6.1%) were type B. Of 14 170 influenza A viruses sub-typed, 13 782 (97.3%) were A(H3) viruses and 388 (2.7%) were A(H1)pdm09 (Table 2, Figures 2 & 3). The lineage of 305 influenza B viruses has been determined: 128 (42.0%) were B-Yamagata and 177 (58.0%) were B-Victoria lineage (Table 2).

Since week 40/2011, 1 618 antigenic characterisations of influenza viruses have been reported, of which 1259 (77.8%) were Perth/16/2009 (H3N2) like.

Since week 40/2011, 1 156 genetic characterisations of influenza viruses have been reported, 1003 (86.8%) of which were A(H3) viruses. Of the latter, 647 (64.5%) fell within the A/Victoria/208/2009 clade, genetic group 3 represented by A/Stockholm /18/2011 (Figure 5). Viruses falling within this genetic group are antigenically diverse, and therefore, there is an imperfect match with the current vaccine A/Perth/16/2009.

More details on the antigenic and genetic characteristics of circulating viruses can be found in the [March](#) report prepared by the Community Network of Reference Laboratories (CNRL) coordination team.

No antiviral susceptibility data were reported to TESSy in week 16/2012. Since week 40/2011, a total of 617 viruses have been tested and reported by Germany, Italy, the Netherlands, Norway, Portugal, Romania, Sweden and the United Kingdom. None of the A(H1N1)pdm09, A(H3N2) and B viruses tested for neuraminidase inhibitor susceptibility showed either resistance or reduced susceptibility. All A(H1N1)pdm09 and A(H3N2) viruses tested for M2 blocker (adamantane) susceptibility were resistant (Table 3).

In week 16/2012, 11 countries reported 198 respiratory syncytial virus detections, representing a continuation of the decline observed since the beginning of the year (Figure 6).

Table 2: Weekly and cumulative influenza virus detections by type, sub-type and surveillance system, weeks 40/2011–16/2012

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	39	335	8125	21913
A(H1)pdm09	0	2	91	297
A(H3)	24	47	7149	6633
A(sub-typing not performed)	15	286	885	14983
Influenza B	37	69	911	1029
B(Vic) lineage	4	6	109	68
B(Yam) lineage	3	0	69	59
Unknown lineage	30	63	733	902
Total influenza	76	404	9036	22942

Note: A(H1)pdm09 and A(H3) include both N-sub-typed and non-N-sub-typed viruses

Figure 1: Proportion of sentinel specimens positive for influenza virus, weeks 40/2011–16/2012

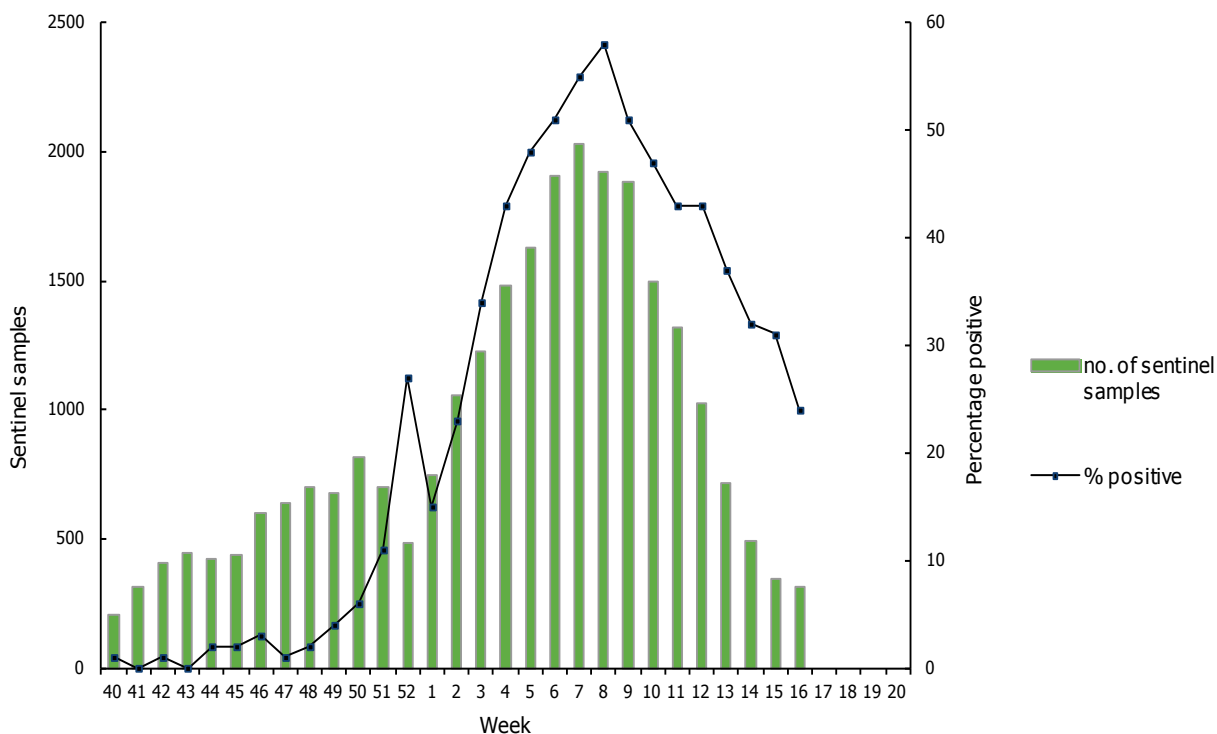


Figure 2: Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2011–16/2012

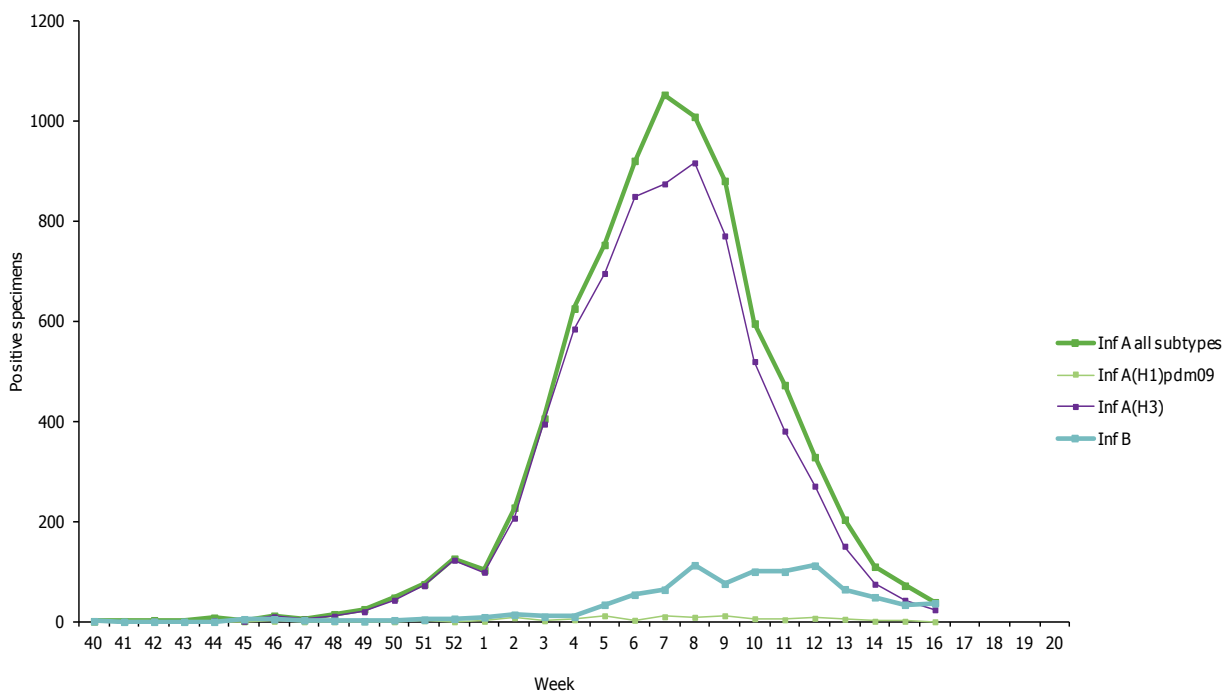


Figure 3: Number of non-sentinel specimens positive for influenza virus by type, subtype and week of report, weeks 40/2011–16/2012

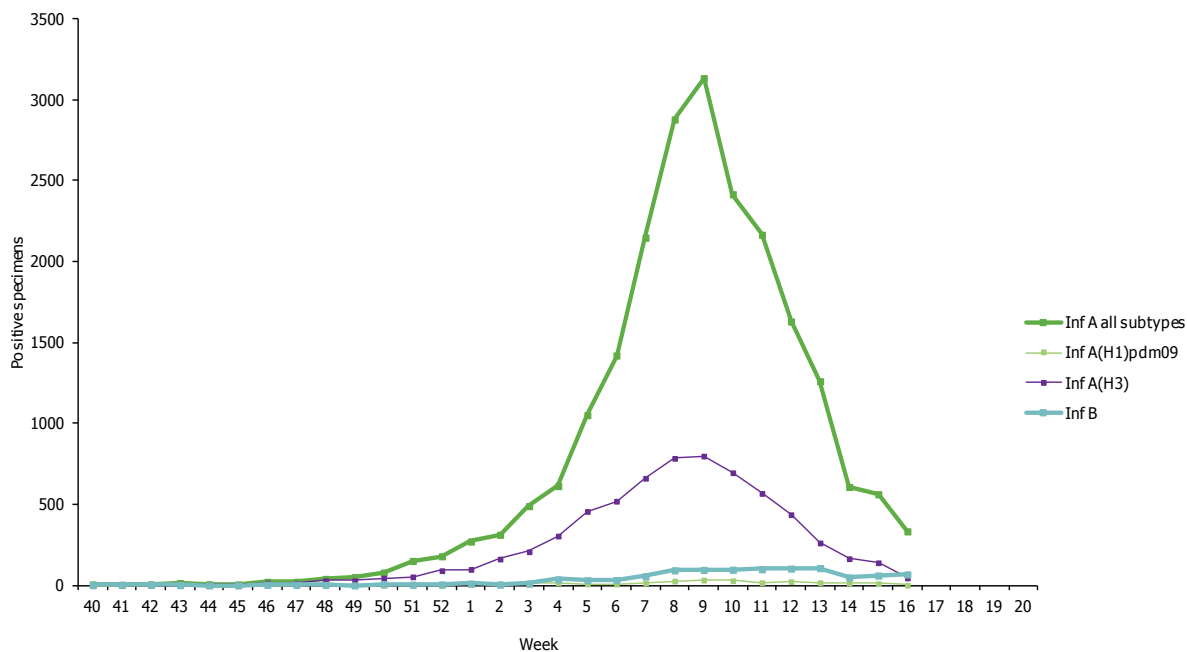


Figure 4: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–16/2012

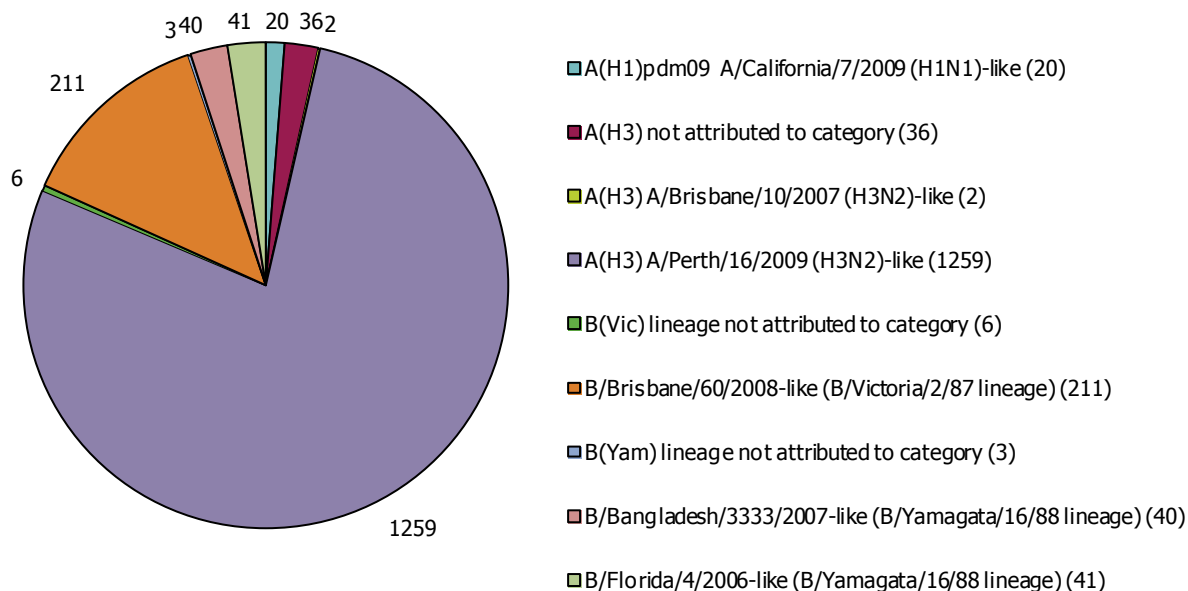


Figure 5: Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–16/2012

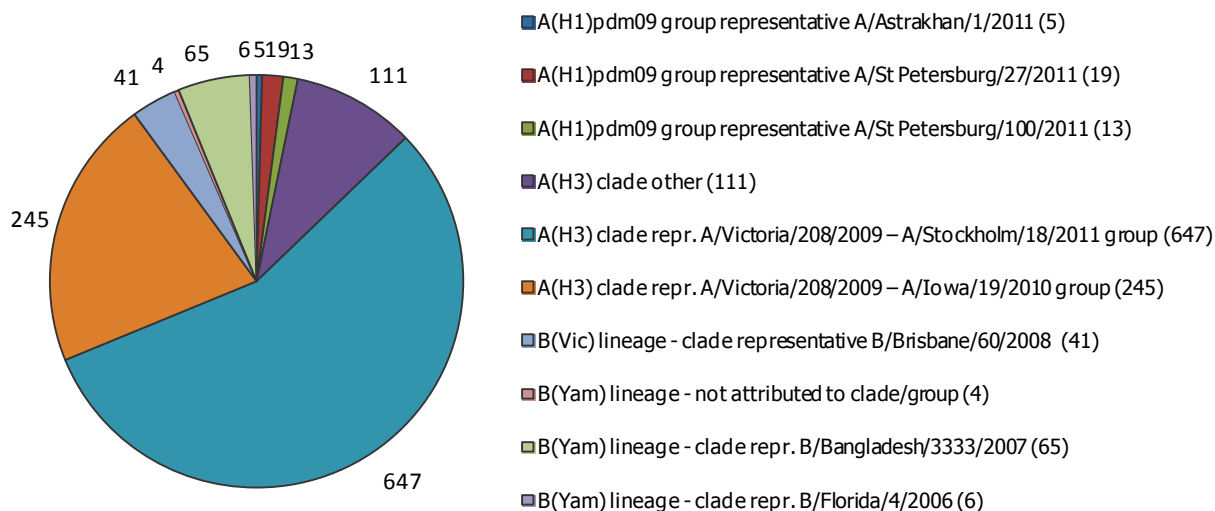
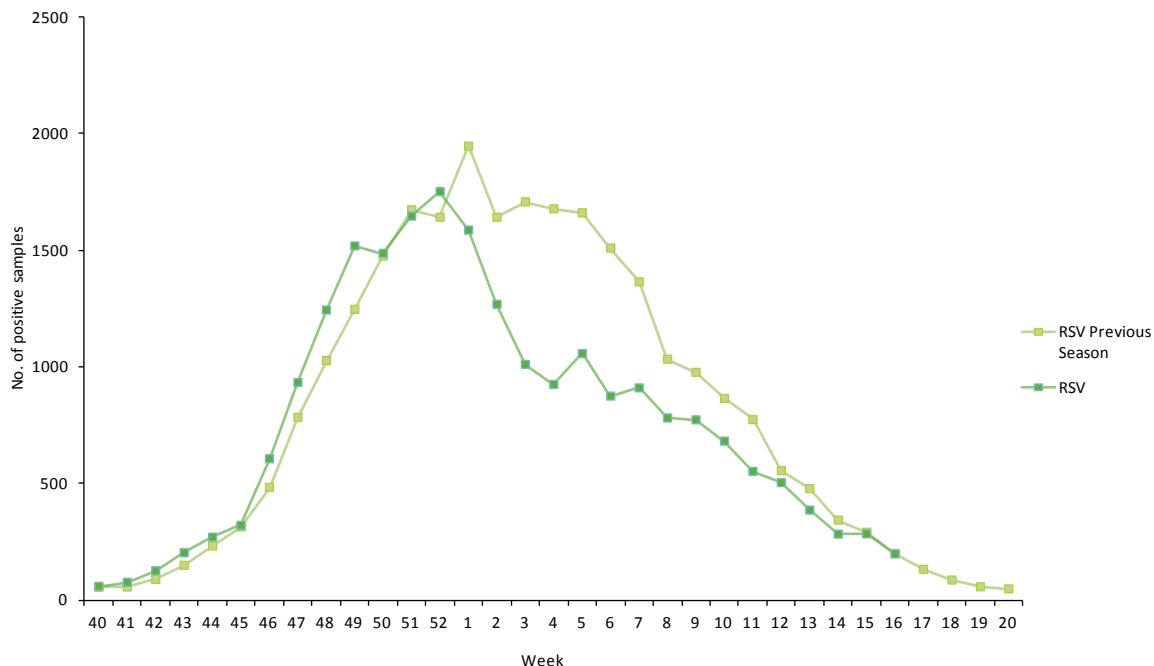


Table 3: Antiviral resistance by influenza virus type and subtype, weeks 40/2011–16/2012

Virus type and sub-type	Resistance to neuraminidase inhibitors				Resistance to M2 inhibitors	
	Oseltamivir		Zanamivir		Isolates tested	Resistant n (%)
	Isolates tested	Resistant n (%)	Isolates tested	Resistant n (%)		
A(H3N2)	494	0	486	0	108	108 (100%)
A(H1N1)2009	38	0	38	0	7	7 (100%)
B	38	0	37	0	NA*	NA*

* NA - not applicable, as M2 inhibitors do not act against influenza B viruses. Data are from single location (e.g. H275Y only) or multiple location mutation analysis (full sequencing) and/or phenotypic characterisation (IC50 determination). Therefore, data should be interpreted in this context.

Figure 6: Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2011–16/2012



Description of the system

According to the nationally defined sampling strategy, sentinel physicians take nasal or pharyngeal swabs from patients with influenza-like illness (ILI), acute respiratory infection (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 on the current virus strains recommended by WHO for vaccine preparation [click here](#).

Hospital surveillance – severe influenza disease and SARI cases

Weekly analysis

Since week 40/2011, a total of 1 747 SARI cases and 106 fatalities (all causes) have been reported to TESSy by seven countries (Table 4, Figure 7). Eight hundred and eight (52.7 %) of 1 533 patients for whom information was available were male (Table 5).

Of the ten cases reported during week 16/2012, two were confirmed to be related to type A influenza infection and one was sub-typed as A(H3) (Table 6). For these ten SARI cases, no fatal outcomes were reported.

Of the cumulative SARI cases since week 40/2011, 1 249 have had influenza virus infection confirmed, and of those where typing and sub-typing has been completed, 44 were due to A(H1)pdm09, 735 to A(H3) and 44 to influenza B viruses (Table 6).

Table 4: Cumulative number of SARI cases, weeks 40/2011–16/2012

Country	Number of cases	Incidence of SARI cases per 100 000 population	Number of fatal cases reported	Incidence of fatal cases per 100 000 population	Estimated population covered
Romania	336	5.78	6	0.1	5813728
Ireland	18		3		
Slovakia	27	0.5			5440078
France	310		43		
United Kingdom	194	0.33			59255492
Spain	599		47		
Belgium	263		7		
Total	1747		106		

Figure 7: Number of SARI cases by week of onset, weeks 40/2011–16/2012

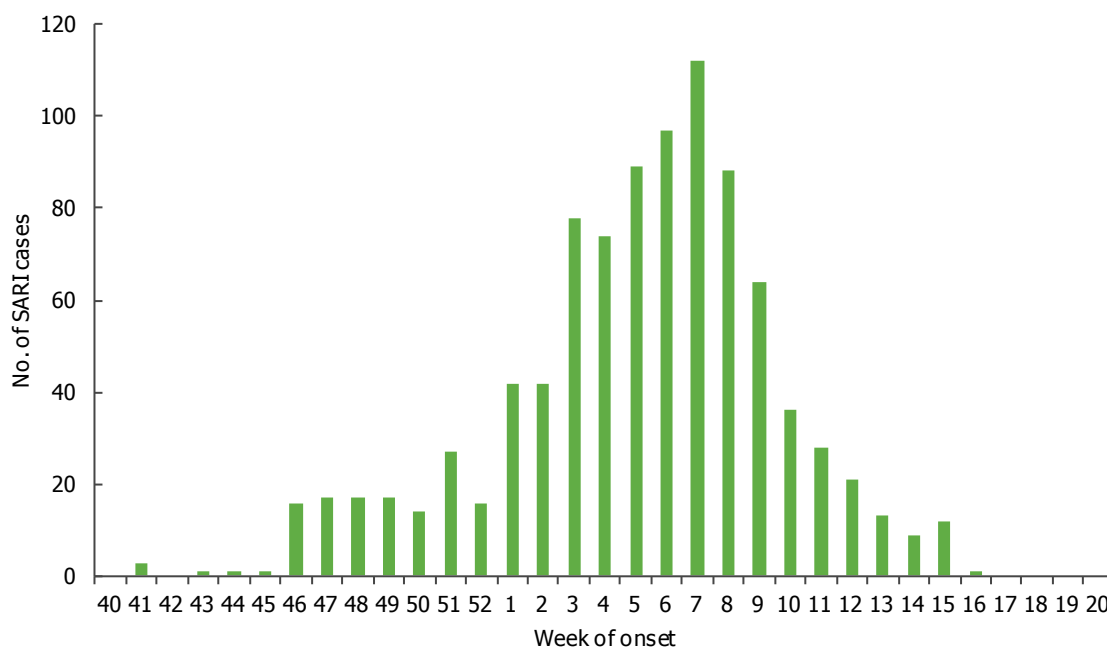


Table 5: Number of SARI cases by age and gender, weeks 40/2011–16/2012

Age groups	Male	Female	Unknown
Under 2	173	117	1
2-17	155	114	3
18-44	73	76	3
45-59	104	85	3
>=60	325	299	3
Unknown	8	4	195
Total	838	695	208

Table 6: Number of SARI cases by influenza type and subtype and other pathogens, week 16/2012 and cumulative for the season

Pathogen	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	2	1205
A(H1)pdm09		44
A(H1)		
A(H3)	1	735
A(sub-typing not performed)	1	426
Influenza B		44
Other pathogen		6
Unknown	8	492
Total	10	1747

This report was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC): Eeva Broberg, Flaviu Plata, 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) and Suzie Coughlan (UCD National Virus Reference Laboratory, Ireland). 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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