



SURVEILLANCE REPORT

Weekly influenza surveillance overview

17 May 2012

Main surveillance developments in week 19/2012 (7 May 2012 – 13 May 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 influenza season in Europe has been unusual, even among flu seasons. It started late, had no geographical progression, and has varied considerably in its impact from country to country. The features this week are:

- All reporting countries but Slovakia reported low intensity.
- Of 64 sentinel specimens tested by 14 countries, 14.1% were positive for influenza virus.
- Of 7 280 influenza A viruses subtyped in sentinel practices since week 40/2011, 98.7% were A(H3) viruses and 1.3% were A(H1)pdm09 viruses. The lineage of 185 sentinel B viruses has been determined: 61.1% were B-Victoria lineage and 38.9% were B-Yamagata lineage.
- During week 19/2012, no case of SARI or severe influenza was reported.

The 2011–2012 season is coming to its end. The weekly report will be replaced by a fortnightly report during the off-season period (weeks 21–39/2012).

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): All reporting countries but Slovakia reported low intensity. No or only sporadic geographic spread was reported by all reporting countries, except Latvia and Luxembourg, which reported local spread, and the Netherlands (widespread activity). For more information, [click here](#).

Virological surveillance: Of 64 sentinel specimens tested by 14 countries, 14.1% were positive for influenza virus. Of the 9 143 influenza viruses detected in sentinel specimens since week 40/2011, 89.4% were type A and 10.6% were type B. For more information, [click here](#).

Hospital surveillance of severe acute respiratory infection (SARI): During week 19/2012, no case of SARI or hospitalised severe influenza was reported. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

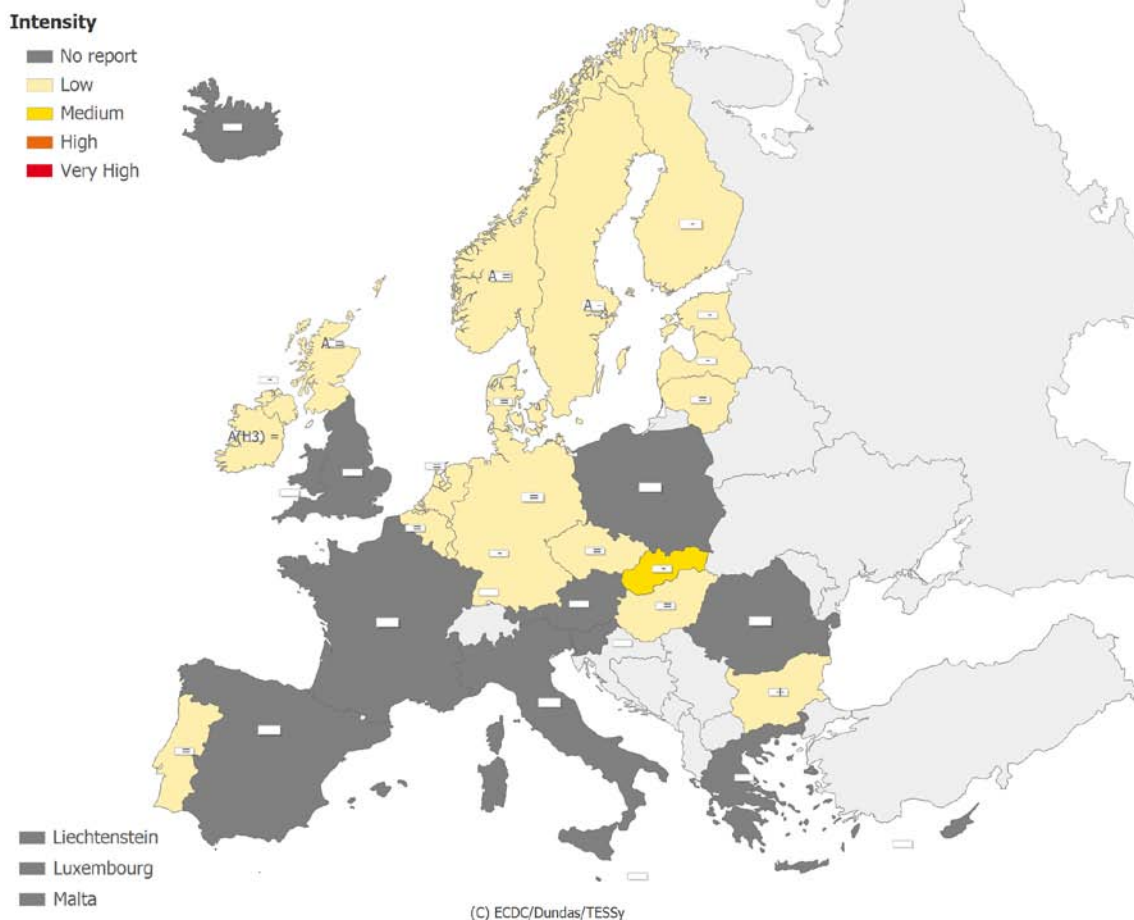
Weekly analysis – epidemiology

During week 19/2012, eighteen countries reported clinical data. Seventeen countries, including the UK (Northern Ireland and Scotland) experienced low-intensity influenza activity and only Slovakia reported medium-intensity activity (Table 1, Map 1).

Fifteen countries, including the UK (Scotland and Northern Ireland) reported no or only sporadic activity, while Latvia and Luxembourg reported local spread. The Netherlands reported widespread activity.

Seventeen countries, including the UK (Northern Ireland and Scotland) reported stable or decreasing activity, except Bulgaria, which reported increasing trends.

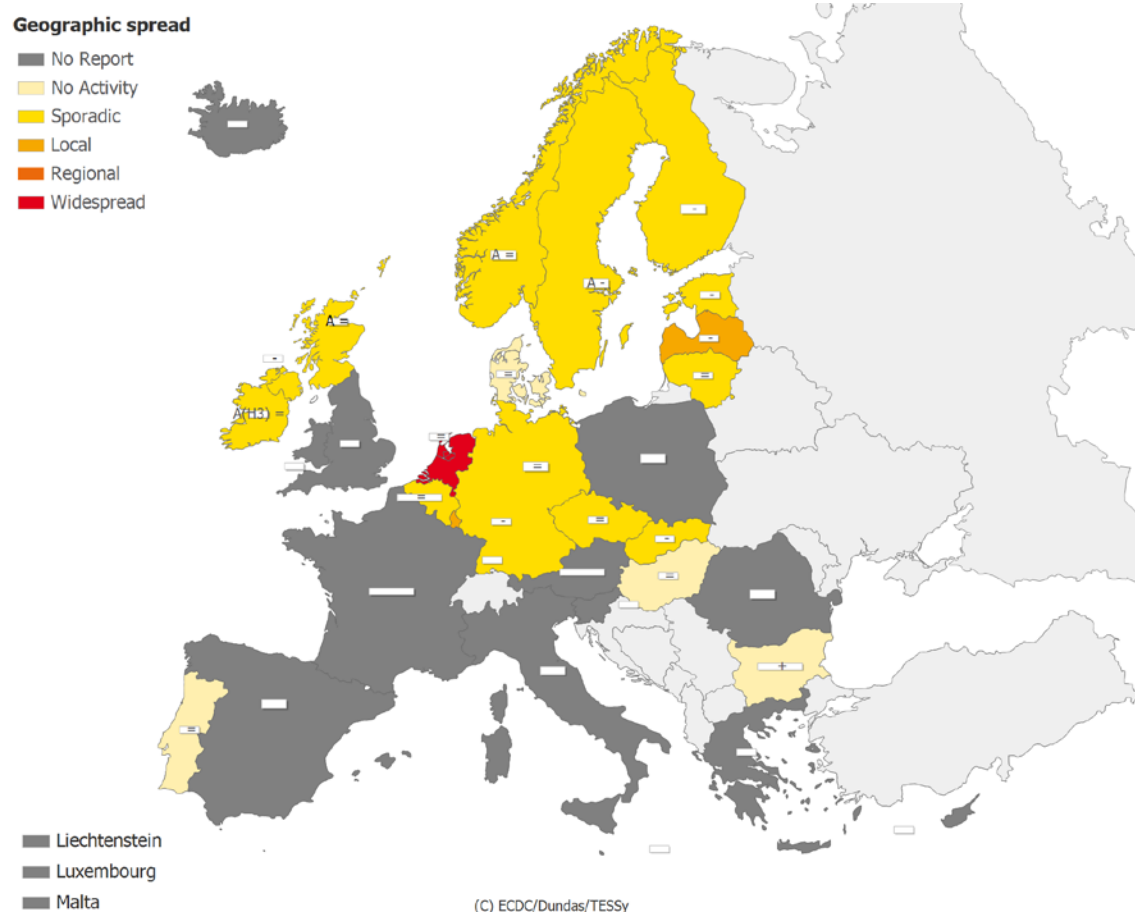
Map 1: Intensity for week 19/2012



* 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	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

Map 2: Geographic spread for week 19/2012



* 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)		

Table 1: Epidemiological and virological overview by country, week 19/2012

Country	Intensity	Geographic spread	Trend	Number of sentinel swabs	Dominant type	Percentage positive	ILI per 100 000	ARI per 100 000	Epidemiological overview	Virological overview
Austria				-	-	0.0	-	-		
Belgium	Low	Sporadic	Stable	0	None	0.0	33.1	1587.5	Graphs	Graphs
Bulgaria	Low	No activity	Increasing	0	None	0.0	-	480.5	Graphs	Graphs
Cyprus				-	-	0.0	-	-		
Czech Republic	Low	Sporadic	Stable	-	-	0.0	16.3	610.2	Graphs	Graphs
Denmark	Low	No activity	Stable	-	-	0.0	16.4	-	Graphs	Graphs
Estonia	Low	Sporadic	Decreasing	6	None	33.3	4.0	200.2	Graphs	Graphs
Finland	Low	Sporadic	Decreasing	21	None	4.8	-	-	Graphs	Graphs
France				-	-	0.0	-	-		
Germany	Low	Sporadic	Stable	10	None	10.0	-	656.7	Graphs	Graphs
Greece				0	-	0.0	-	-	Graphs	Graphs
Hungary	Low	No activity	Stable	-	-	0.0	12.6	-	Graphs	Graphs
Iceland				-	-	0.0	-	-		
Ireland	Low	Sporadic	Stable	3	A(H3)	0.0	3.0	-	Graphs	Graphs
Italy				-	-	0.0	-	-		
Latvia	Low	Local	Decreasing	-	-	0.0	2.9	708.6	Graphs	Graphs
Lithuania	Low	Sporadic	Stable	-	-	0.0	0.6	360.1	Graphs	Graphs
Luxembourg	Low	Local	Decreasing	4	-	25.0	-*	-*	Graphs	Graphs
Malta				-	-	0.0	-	-		
Netherlands	Low	Widespread	Stable	3	None	66.7	35.8	-	Graphs	Graphs
Norway	Low	Sporadic	Stable	2	A	50.0	25.7	-	Graphs	Graphs
Poland				-	-	0.0	-	-		
Portugal	Low	No activity	Stable	0	None	0.0	0.0	-	Graphs	Graphs
Romania				-	-	0.0	-	-		
Slovakia	Medium	Sporadic	Decreasing	2	None	50.0	93.7	1075.1	Graphs	Graphs
Slovenia				0	None	0.0	-	-	Graphs	Graphs
Spain				-	-	0.0	-	-		
Sweden	Low	Sporadic	Decreasing	5	A	0.0	5.7	-	Graphs	Graphs
UK – England				-	-	0.0	-	-		
UK – Northern Ireland	Low	Sporadic	Decreasing	0	-	0.0	8.6	299.1	Graphs	Graphs
UK – Scotland	Low	Sporadic	Stable	8	A	0.0	5.9	523.1	Graphs	Graphs
UK –Wales				-	-	0.0	-	-		
Europe				64		14.1				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 19/2012, 15 countries reported virological data. Of 64 sentinel specimens tested, nine (14.1%) were positive for influenza virus (Table 1, Figure 1), of which five were type A (55.6%) and four were type B (44.4%) (Table 2). Both the absolute number of influenza viruses detections and the percentage of specimens positive for influenza have decreased for 11 weeks, indicating that the influenza season is coming to an end in Europe. All the five sentinel subtyped influenza A viruses were A(H3) viruses.

Of the 9 143 influenza viruses detected in sentinel specimens since week 40/2011, 8 174 (89.4%) were type A and 969 were type B (10.6%). Of 7 280 influenza A viruses subtyped in sentinel practices, 7 183 (98.7%) were A(H3) viruses and 97 (1.3%) were A(H1)pdm09 viruses (Table 2, Figure 2). The lineage of 185 B viruses has been determined: 113 (61.1%) were B-Victoria lineage and 72 (38.9%) were B-Yamagata lineage (Table 2). However, the proportion of lineages varied by reporting countries.

Since week 40/2012, 1 754 antigenic characterisations of viruses have been reported of which 1 316 (75.0%) were A/Perth/16/2009 (H3N2)-like viruses (Figure 4). Since week 40/2012, 1 268 genetic characterisations of influenza viruses have been reported, 1 096 (86.4%) of which have been A(H3) viruses. Of the latter, 659 (60.1%) fell within the A/Victoria/208/2009 clade, genetic group 3 represented by A/Stockholm/18/2011 (Figure 5).

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. Important findings include the fact that many of the recently circulating A(H3N2) viruses yielded low titres with post-infection ferret antisera raised against the A/Perth/16/2009 vaccine virus. This is consistent with the decision of WHO to recommend a change to an A/Victoria/361/2011-like virus in the trivalent influenza vaccines for the northern hemisphere 2012–13 influenza season. Influenza B viruses of both the B/Victoria/2/87 and B/Yamagata/16/88 lineages have been detected this season. The B/Victoria lineage has been more prevalent based on reporting to TESSy, while for specimens received at the WHO Collaborating Centre in London, the more prevalent lineage has been B/Yamagata. This represents a considerable increase in the relative circulation of influenza B/Yamagata lineage viruses compared with recent seasons.

Since week 40/2011, a total of 775 viruses have been tested for antiviral susceptibility and reported by Denmark, 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 inhibitors susceptibility were resistant or reduced susceptible. All A(H1N1)pdm09 and A(H3N2) viruses tested for M2 blocker susceptibility were resistant.

Table 2: Weekly and cumulative influenza virus detections by type, sub-type and surveillance system, weeks 40/2011–19/2012

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	5	47	8174	22403
A(H1)pdm09	0	1	97	301
A(H3)	5	14	7183	6830
A(sub-typing not performed)	0	32	894	15272
Influenza B	4	15	969	1158
B(Vic) lineage	1	0	113	70
B(Yam) lineage	1	0	72	68
Unknown lineage	2	15	784	1020
Total influenza	9	62	9143	23561

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 40/2011–19/2012

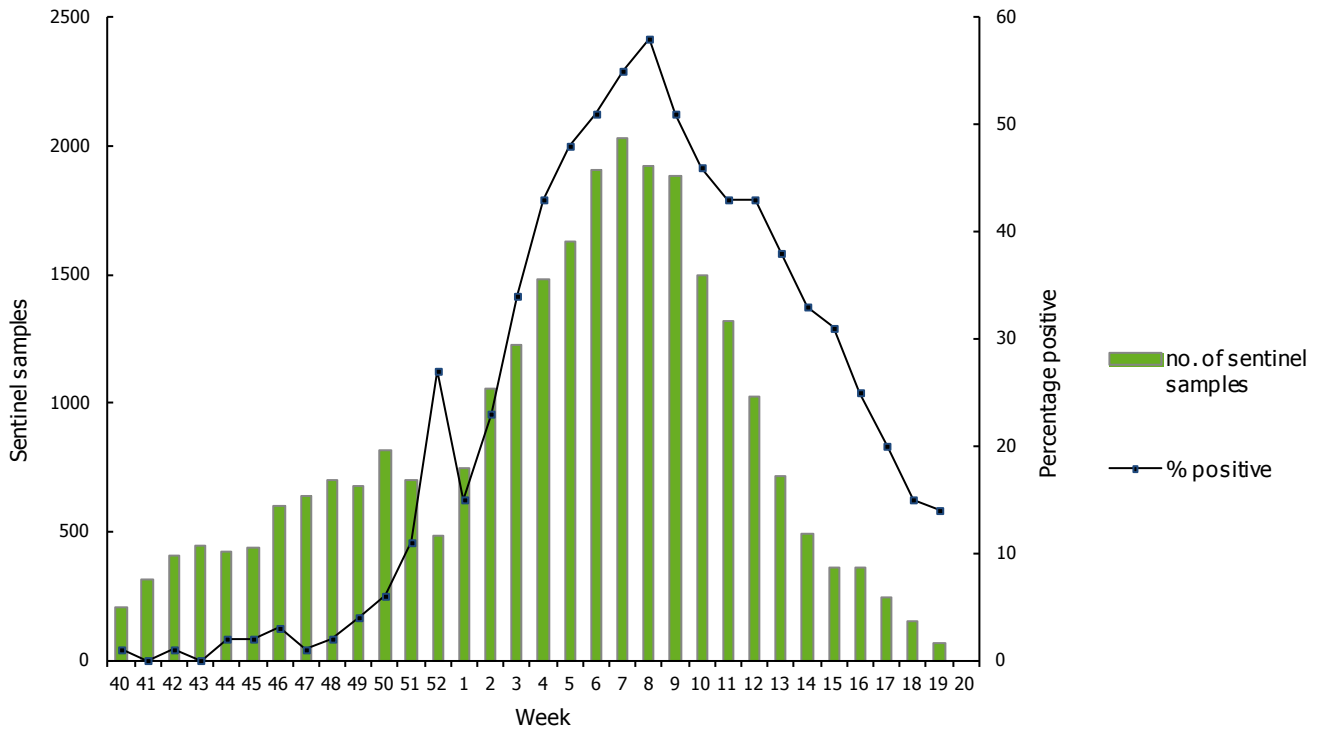


Figure 2: Number of sentinel specimens positive for influenza virus, by type, sub-type and by week of report, weeks 40/2011–19/2012

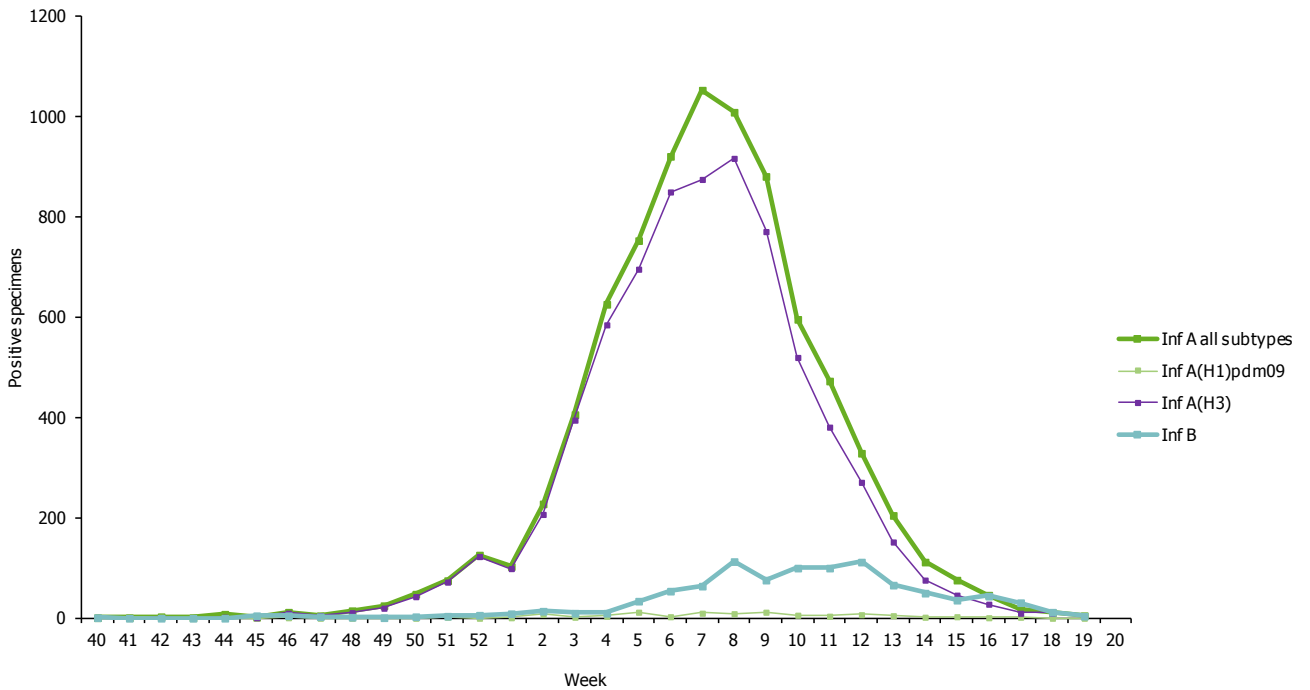


Figure 3: Number of non-sentinel specimens positive for influenza virus by type, sub-type and week of report, weeks 40/2011–19/2012

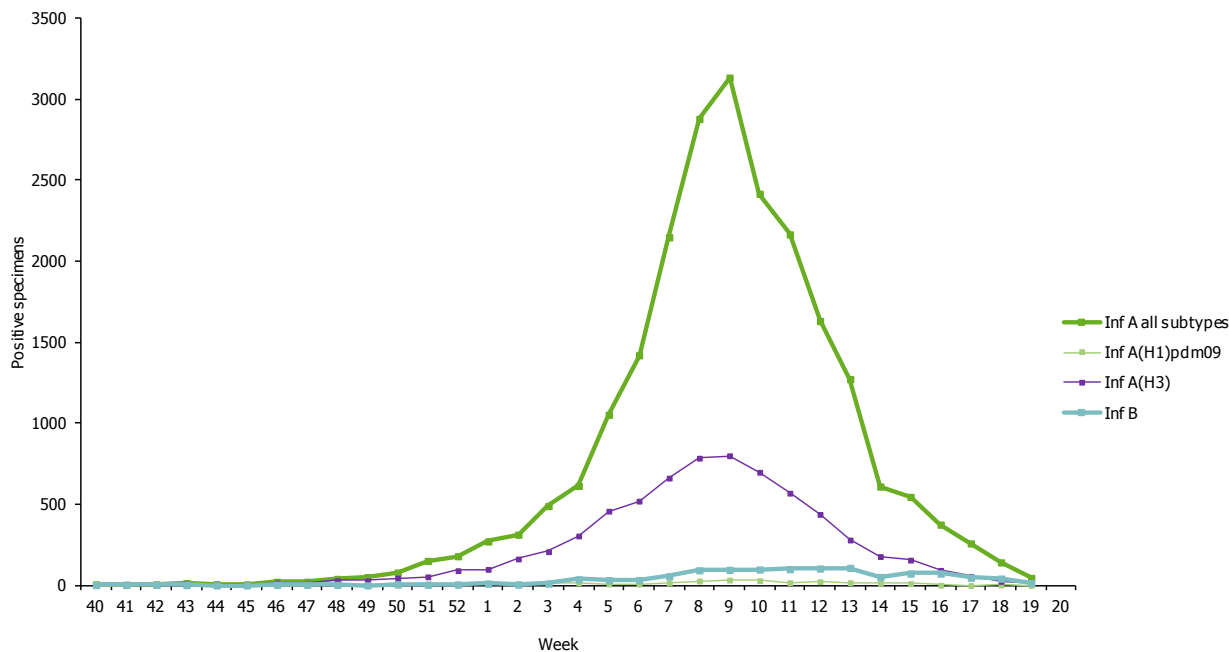


Figure 4: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–19/2012

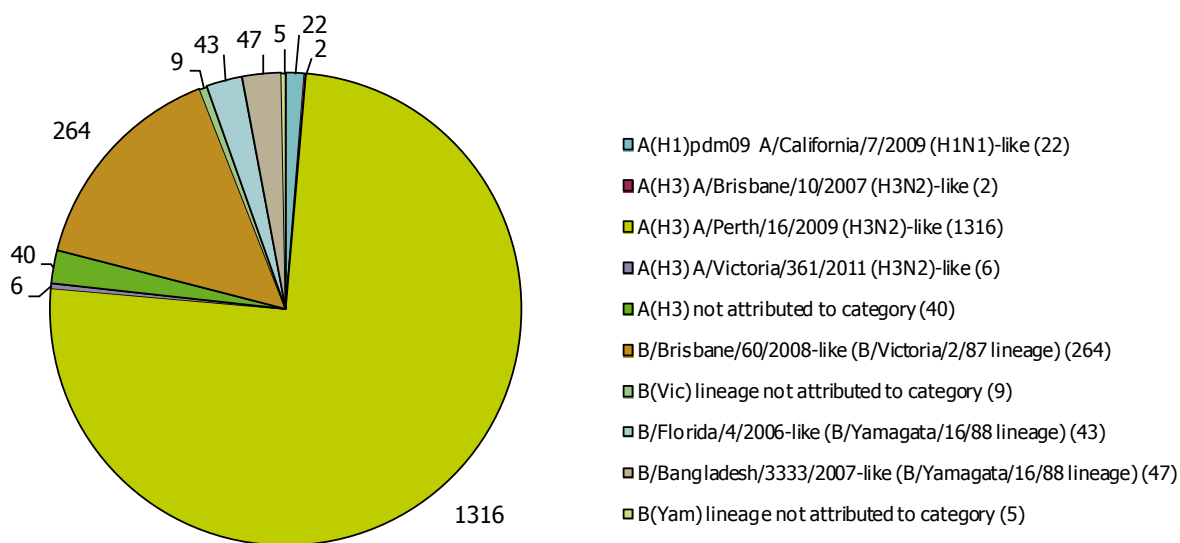


Figure 5: Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–19/2012

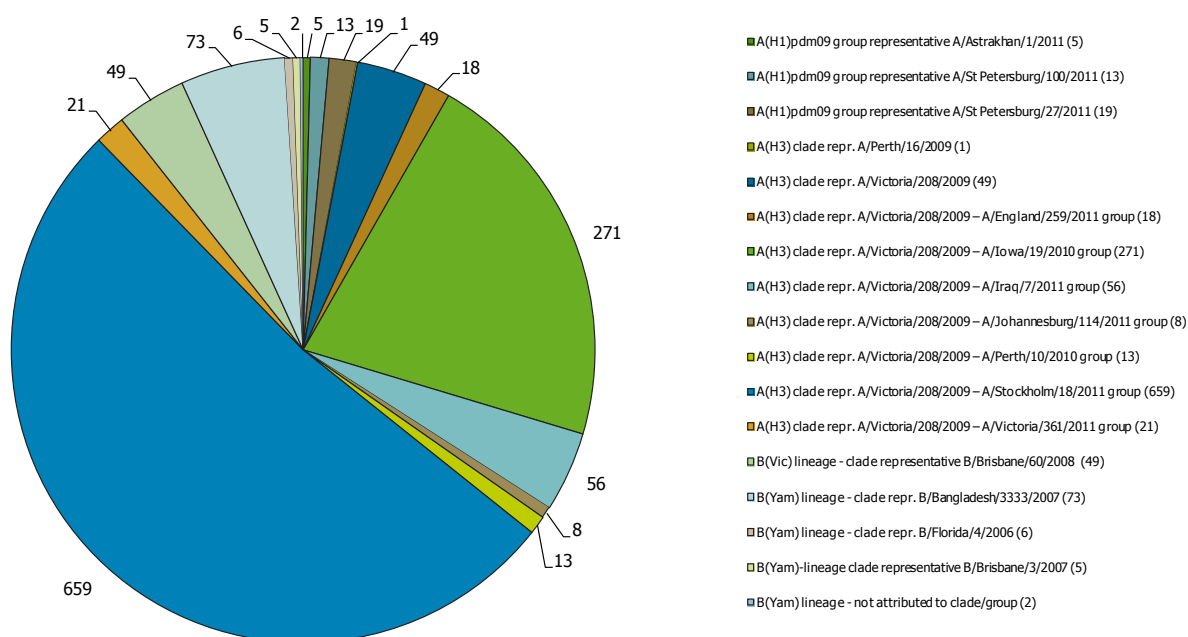


Table 3: Antiviral resistance by influenza virus type and sub-type, weeks 40/2011–19/2012

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)	638	0	630	0	153	153 (100%)
A(H1N1)2009	49	0	49	0	7	7 (100%)
B	41	0	40	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.

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

Weekly analysis of severe acute respiratory infection – SARI

Since week 40/2011, a total of 1 820 SARI cases, including 108 fatalities, has been reported to TESSy by seven countries (Table 4). When patient information was available, the male/female ratio was 1.2 (Table 5).

During week 19/2012, no case of SARI or severe influenza was reported (Figure 7).

Of the 1 313 cases reported since week 40/2012, 1 265 (96.3%) were type A, and 48 (3.7%) were type B. Of the 817 influenza A subtyped, 770 (94.2%) were of the H3 sub-type and 47 (5.8%) of the H1pdm09 subtype (table 6).

Table 4: Cumulative number of SARI cases, weeks 40/2011–19/2012

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	340	5.85	6	0.1	5813728
Slovakia	28	0.51	1	0.02	5440078
Ireland	18		3		
France	310		43		
United Kingdom	252	0.43			59255492
Spain	600		47		
Belgium	272		8		
Total	1820		108		

Figure 7: Number of SARI cases by week of onset, weeks 40/2011–19/2012

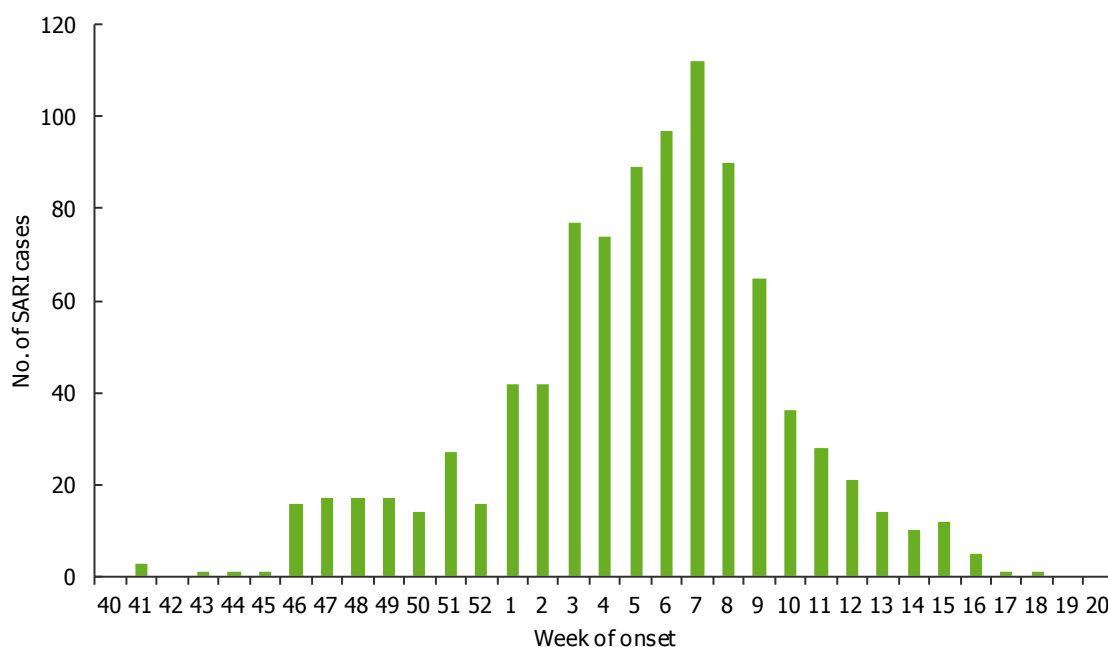


Table 5: Number of SARI cases by age and gender, weeks 40/2011–19/2012

Age groups	Male	Female	Unknown
Under 2	174	121	1
2-17	158	117	4
18-44	75	77	1
45-59	105	88	
>=60	329	304	2
Unknown	8	3	253
Total	849	710	261

Table 6: Number of SARI cases by influenza type and sub-type and other pathogens, week 19/2012 and cumulative for the season

Pathogen	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A		1265
A(H1)pdm09		47
A(H1)		
A(H3)		770
A(sub-typing not performed)		448
Influenza B		48
Other pathogen		6
Unknown		501
Total		1820

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 at the 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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