



SURVEILLANCE REPORT

Fortnightly influenza surveillance overview

23 July 2012

Main surveillance developments in weeks 27–28, 2012 (2–15 July 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 2011/12 influenza season has ended but influenza surveillance will continue during the off-season period; until week 40/2012, the bulletin appears on a fortnightly basis.

- During weeks 27–28/2012, all reporting countries stated they were experiencing no activity or only sporadic activity of influenza-like illness.
- During the same period, only two of 33 sentinel specimens tested were positive. Both were type B influenza viruses. Since week 40/2011, 89.3% of the detected influenza viruses have been type A and 10.7% were of type B. The A(H3) subtype represented 97.2% of influenza A type viruses subtyped during the 2011/12 season.
- Many of the A(H3) viruses reacted poorly with post-infection ferret antisera raised against the A/Perth/16/2009 H3N2 vaccine component, prompting the WHO's decision to recommend a change to the A(H3N2) component for the 2012/13 influenza season (northern hemisphere). The need for change is consistent with an observed low field vaccine effectiveness for the A(H3N2) component in observational studies.

Sentinel surveillance of influenza-like illness (ILI)/acute respiratory infection (ARI):

During weeks 27–28/2012, all reporting countries experienced low-intensity influenza activity and decreasing or stable trends; except Slovakia, which reported an increasing trend for week 28/2012. For more information, [click here](#).

Virological surveillance:

Of 33 sentinel specimens, two were positive for type B influenza virus. For more information, [click here](#).

Hospital surveillance of severe acute respiratory infection (SARI):

During weeks 27–28/2012, no SARI cases were reported. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly analysis – epidemiology

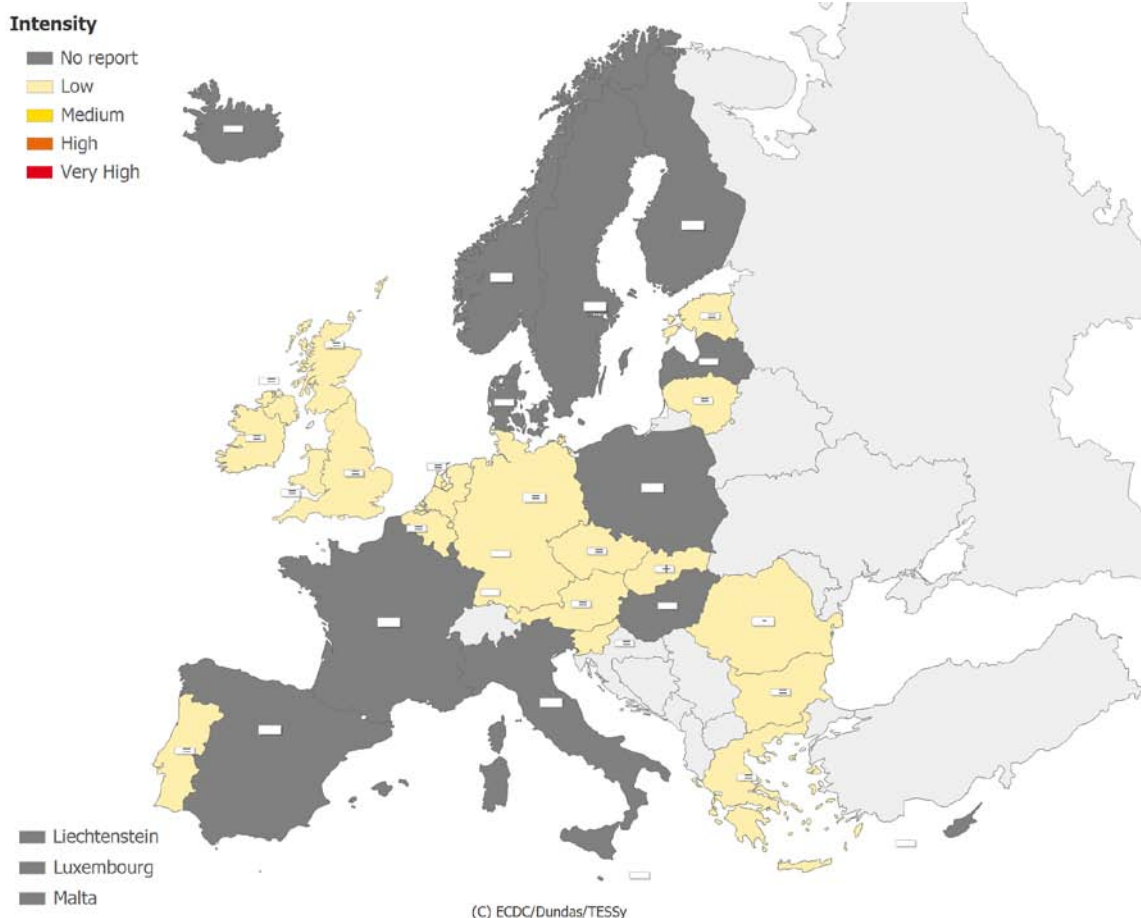
In weeks 27/2012, 15 countries reported clinical data; 14 countries did so in week 28/2012. All reporting countries experienced low-intensity influenza activity during both reporting weeks (Table 1, Map 1).

During week 27/2012, sporadic geographic spread was reported by Norway; all other reporting countries reported no activity.

During week 28/2012, all 14 reporting countries indicated no activity.

Stable trends in clinical activity were reported by 13 countries for week 27/2012, and by 12 countries for week 28/2012, while a decreasing trend was reported by Romania (both weeks) and Slovakia (week 27/2012). Slovakia reported an increasing trend for week 28/2012 (Table 1, Map 2).

Map 1: Intensity for weeks 27–28/2012



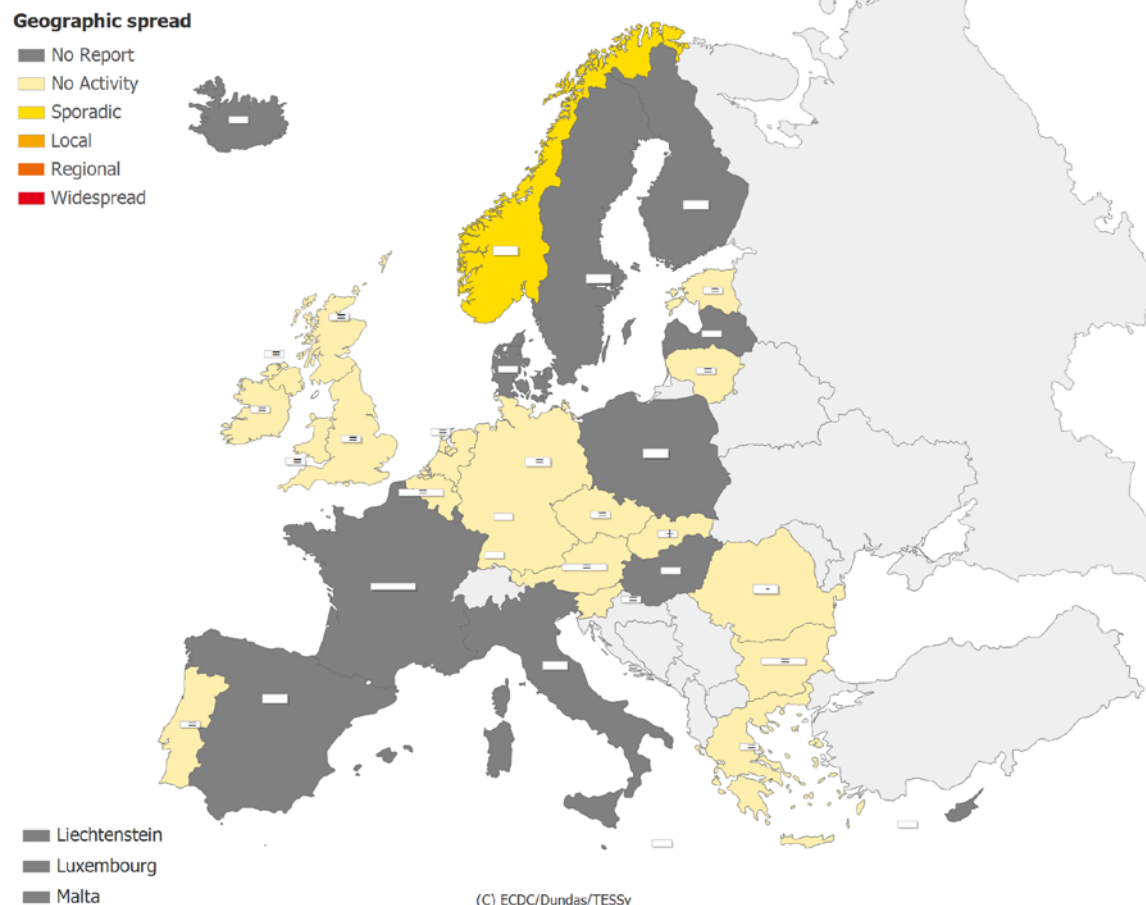
* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.

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		
Very high	Particularly severe levels of influenza activity		

* The map displays only data for the most recent week. For the first week of the two-week surveillance period, please consult the weekly 'influenza activity maps' [here](#).

Map 2: Geographic spread for weeks 27–28/2012



* 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
		=	Stable clinical activity
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)		

* The map displays only data for the most recent week. For the first week of the two-week surveillance period, please consult the weekly 'influenza activity maps' [here](#).

Table 1: Epidemiological and virological overview by country, weeks 27–28/2012

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	Low	No activity	Stable	0	None	0.0	-	-	Graphs	Graphs
Belgium	Low	No activity	Stable	-	-	0.0	29.5	1041.1	Graphs	Graphs
Bulgaria	Low	No activity	Stable	0	None	0.0	-	258.5	Graphs	Graphs
Cyprus				-	-	0.0	-	-		
Czech Republic	Low	No activity	Stable	-	-	0.0	4.2	320.5	Graphs	Graphs
Denmark				0	None	0.0	-	-	Graphs	Graphs
Estonia	Low	No activity	Stable	-	-	0.0	1.4	72.2	Graphs	Graphs
Finland				-	-	0.0	-	-		
France				-	-	0.0	-	-		
Germany	Low	No activity	Stable	9	None	0.0	-	554.3	Graphs	Graphs
Greece	Low	No activity	Stable	0	None	0.0	12.7	-	Graphs	Graphs
Hungary				-	-	0.0	-	-		
Iceland				0	-	0.0	-	-	Graphs	Graphs
Ireland	Low	No activity	Stable	4	None	50.0	2.8	-	Graphs	Graphs
Italy				-	-	0.0	-	-		
Latvia				0	None	0.0	-	-	Graphs	Graphs
Lithuania	Low	No activity	Stable	0	None	0.0	0.0	125.9	Graphs	Graphs
Luxembourg				-	-	0.0	-	-		
Malta				-	-	0.0	-	-		
Netherlands	Low	No activity	Stable	6	None	0.0	16.6	-	Graphs	Graphs
Norway	-	Sporadic	-	0	None	0.0	-	-	Graphs	Graphs
Poland				-	-	0.0	-	-		
Portugal	Low	No activity	Stable	0	None	0.0	0.0	-	Graphs	Graphs
Romania	Low	No activity	Decreasing	0	None	0.0	0.0	311.1	Graphs	Graphs
Slovakia	Low	No activity	Increasing	0	None	0.0	35.8	565.5	Graphs	Graphs
Slovenia	Low	No activity	Stable	0	None	0.0	0.0	620.6	Graphs	Graphs
Spain				0	None	0.0	-	-	Graphs	Graphs
Sweden				0	-	0.0	-	-	Graphs	Graphs
UK – England	Low	No activity	Stable	12	None	0.0	3.4	308.9	Graphs	Graphs
UK – Northern Ireland	Low	No activity	Stable	0	-	0.0	4.5	226.1	Graphs	Graphs
UK – Scotland	Low	No activity	Stable	-	None	0.0	4.2	329.5	Graphs	Graphs
UK – Wales	Low	No activity	Stable	2	-	0.0	2.3	-	Graphs	Graphs
Europe				33		6.1				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.

The table displays only data for the most recent reported week of the two-week surveillance period (qualitative indicators: intensity, geographic spread, trend and dominant type. With regard to the number of sentinel swabs, the table displays a sum of both weeks; 'percentage positive' is calculated based on both weeks' data. For the ILI and ARI rates, the average rate of two weeks is shown.

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

During weeks 27/2012 and 28/2012, 16 and 14 countries, respectively, reported virological data. Of 33 sentinel specimens tested, 2 (6.1%) were positive for influenza virus (Tables 1 and 2, Figure 1).

Of the 23 influenza viruses detected from sentinel and non-sentinel sources during weeks 27–28/2012, 10 (43.5%) were of type A and 13 (56.5%) were of type B (Table 2). Of the 9 479 influenza virus detections in sentinel specimens since week 40/2011, 8 464 (89.3%) were type A and 1 015 (10.7%) were type B. Of the 7 796 sentinel influenza A viruses subtyped, 7 679 (98.5%) were A(H3) viruses and 117 (1.5%) were A(H1)pdm09 (Table 2, Figure 2). Of 189 sentinel influenza B viruses which were analysed to determine genetic lineage, 114 (60.3%) were of the B/Victoria/2/87 lineage and 75 (39.7%) were of the B/Yamagata/16/88 lineage.

Since week 40/2011, 1 891 antigenic characterisations of viruses have been reported of which 1 368 (72.3%) were A/Perth/16/2009 (H3N2)-like viruses (Figure 4). Seventy-eight viruses were reported without being assigned to an antigenic group: 50 were A(H3), 19 B (Yamagata lineage) and nine B (Victoria lineage), possibly reflecting changes in antigenicity compared to the previous seasons' reference viruses.

Since week 40/2011, 1 490 genetic characterisations of influenza viruses have been reported, 1 250 (83.9%) of which have been A(H3) viruses (Figure 5). Of the latter, 455 (36.4 %) fell within the A/Victoria/208/2009 clade, genetic group 3 represented by A/Stockholm/18/2011. Viruses falling in this genetic clade are antigenically diverse, and many display a reduced reactivity with ferret serum raised against the vaccine strain A/Perth/16/2009 used for the 2011/2012 influenza season.

More details on the antigenic and genetic characteristics of circulating viruses can be found in the [June report](#) prepared by the Community Network of Reference Laboratories (CNRL) coordination team. AS pointed out above, 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 WHO's decision to recommend a change to an A/Victoria/361/2011-like virus in the trivalent influenza vaccines for the 2012/13 influenza season (northern hemisphere).

Since week 40/2011, none of the A(H1N1)pdm09, A(H3N2) and B viruses tested for susceptibility to neuraminidase inhibitors were resistant (Table 3). All A(H1N1)pdm09 and A(H3N2) viruses assessed for M2 blocker susceptibility were resistant.

Table 2: Weekly and cumulative influenza virus detections by type, sub-type and surveillance system, weeks 40/2011–28/2012

Virus type/subtype	Current period Sentinel	Current period Non-sentinel	Season Sentinel	Season Non-sentinel
Influenza A	0	10	8464	24490
A(H1)pdm09	0	1	117	323
A(H3)	0	1	7679	7858
A(sub-type unknown)	0	8	668	16309
Influenza B	2	11	1015	1504
B(Vic) lineage	0	0	114	81
B(Yam) lineage	0	0	75	87
Unknown lineage	2	11	826	1336
Total influenza	2	21	9479	25994

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 40/2011–28/2012

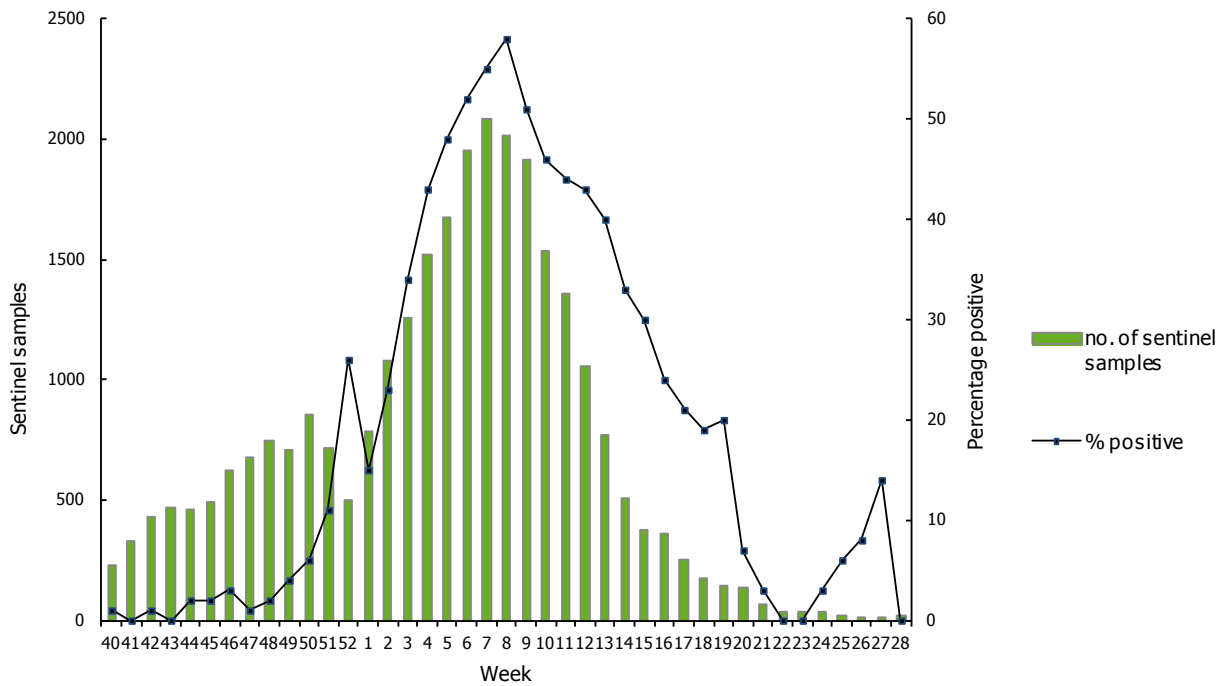


Figure 2: Number of sentinel specimens positive for influenza virus, by type, sub-type and by week of report, weeks 40/2011–28/2012

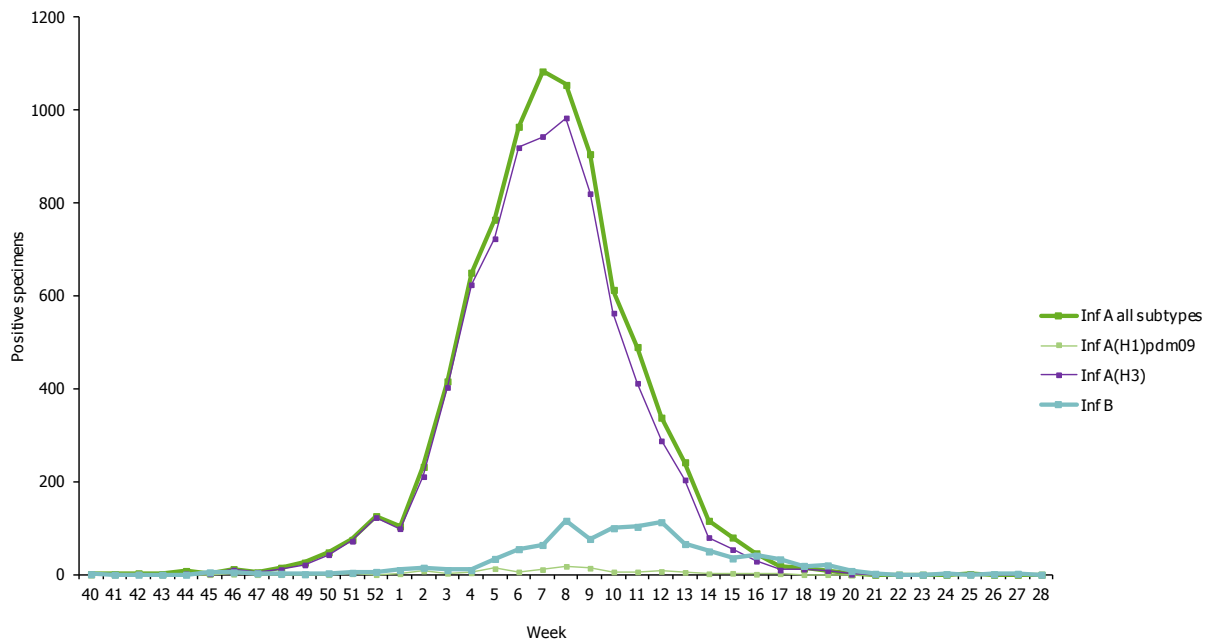


Figure 3: Number of non-sentinel specimens positive for influenza virus by type, sub-type and week of report, weeks 40/2011–28/2012

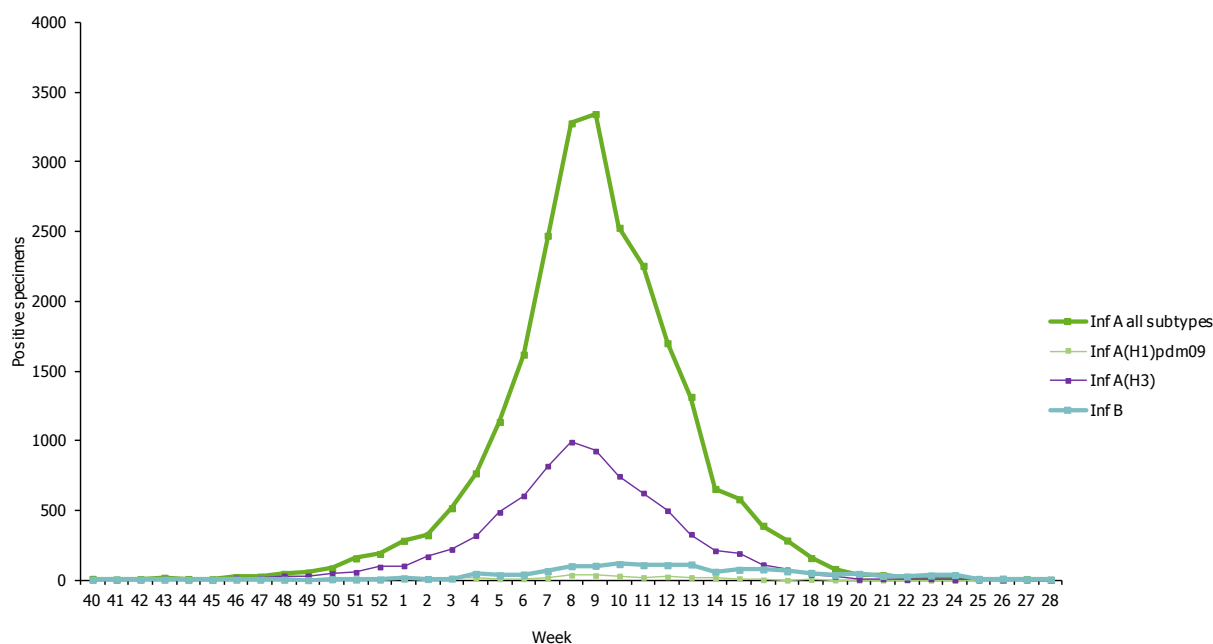


Figure 4: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–28/2012

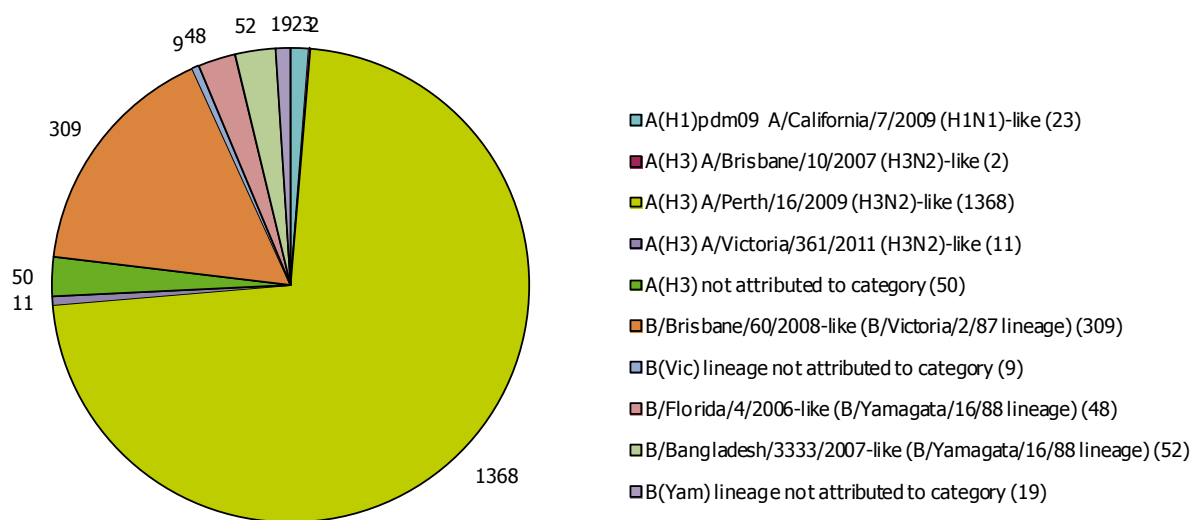


Figure 5: Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–28/2012

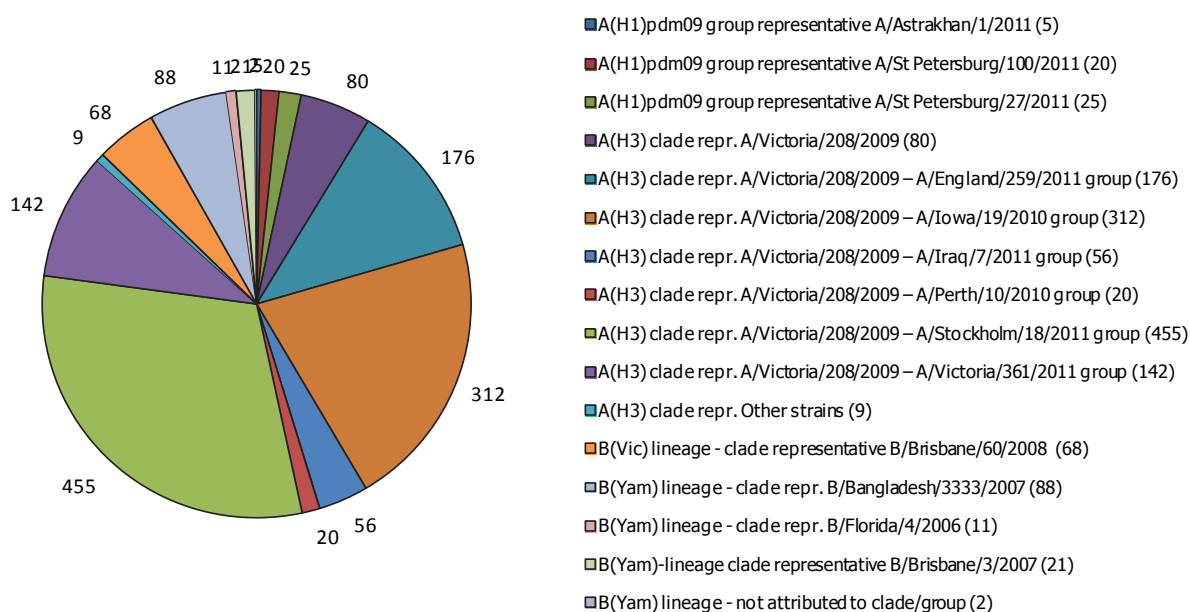


Table 3: Antiviral resistance by influenza virus type and sub-type, weeks 40/2011–28/2012

Virus type and subtype	Resistance to neuraminidase inhibitors				Resistance to M2 inhibitors	
	Oseltamivir		Zanamivir		Isolates tested	Resistant n (%)
	Isolates tested	Resistant n (%)	Isolates tested	Resistant n (%)		
A(H3N2)	778	0	765	0	179	179 (100%)
A(H1)pdm09	66	0	66	0	11	11 (100%)
B	68	0	63	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). Data should therefore be interpreted in this context.

Country comments

Spain: During weeks 21–39/2012, only virological influenza surveillance will be active in Spain. Qualitative activity indicators (intensity level and geographic spread) are not provided by sentinel sites. Weekly virological influenza detections, mainly from non-sentinel sources, are being notified.

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 1 839 SARI cases, including 113 fatalities, have been reported to TESSy by seven countries (Table 4). Where patient information was available, the male/female ratio was 1.2 (Table 5).

During weeks 27–28/2012, no SARI cases were reported.

Since week 40/2011, 1 325 cases have been confirmed as being associated with influenza virus infection; of these, 1 276 (96.3%) were type A and 49 (3.7%) were type B. Of 851 subtyped influenza A viruses, 804 (94.5%) were A(H3) and 47 (5.5%) were A(H1)pdm09 (Table 6).

Table 4: Cumulative number of SARI cases, weeks 40/2011–28/2012

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
Belgium	272		8		
France	310		43		
Ireland	20		5		
Romania	346	5.95	6	0.1	5813728
Slovakia	29	0.53	1	0.02	5440078
Spain	610		50		
United Kingdom	252	0.43			59255492
Total	1839		113		

Figure 6: Number of SARI cases by week of onset, weeks 40/2011–28/2012

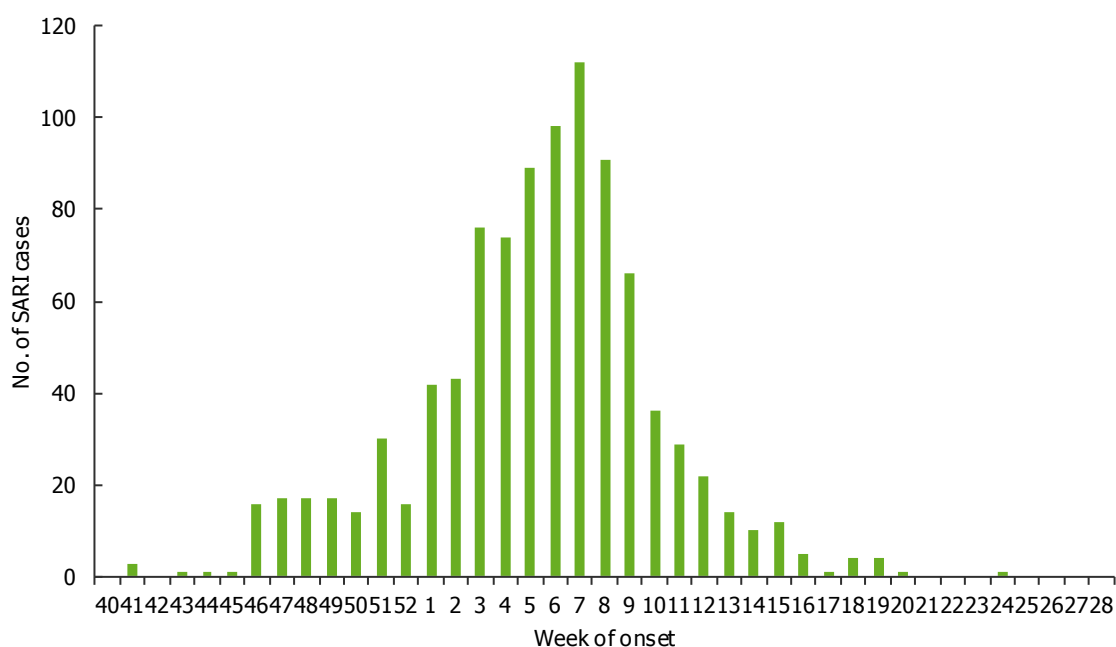


Table 5: Number of SARI cases by age and gender, weeks 40/2011–28/2012

Age groups	Male	Female	Unknown
Under 2	180	123	1
2-17	162	117	4
18-44	75	79	1
45-59	105	89	
>=60	333	304	2
Unknown	8	3	253
Total	863	715	261

Table 6: Number of SARI cases by influenza type and sub-type and other pathogens, weeks 27-28 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		1276
A(H1)pdm09		47
A(H3)		804
A(sub-typing not performed)		425
Influenza B		49
Other pathogen		6
Unknown		508
Total		1839

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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