

SURVEILLANCE REPORT

Weekly influenza surveillance overview

20 January 2012

Main surveillance developments in week 2/2012 (9–15 January 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.

- For week 2/2012, low influenza activity was notified by 25 of the 27 countries reporting, (Italy and Spain reported medium activity) with five countries reporting local or regional spread. This week ten countries reported increasing trends compared with five last week.
- Of 803 sentinel specimens collected and tested during week 2/2012, 137 (17.1%) were positive for influenza viruses. This is higher than in week one and continues an upward progression since December (the high figure in week 52/2011 was an artefact of the Christmas/New Year holiday).
- Of 908 influenza A viruses sub-typed from sentinel and non-sentinel sources since week 40/2011, 851 (93.7%) were of the H3 subtype. Since week 40/2011, no antiviral resistance has been detected.
- Since week 40/2011, 195 severe acute respiratory infection (SARI) cases have been reported by six countries. Seventy-seven were confirmed influenza-positive cases and of those typed or sub-typed, 15 were A(H1N1)pdm09, 30 were A(H3) and five were influenza B viruses.
- Influenza transmission is progressing slowly in Europe this season and is currently dominated by A(H3N2) viruses.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): Influenza activity of low-intensity was notified by 25 reporting countries. Italy and Spain reported medium intensity and five countries are now reporting local or regional spread. For more information, [click here](#).

Virological surveillance: Twenty-six countries reported virological data. Sentinel physicians collected 803 specimens of which 137 (17.1%) were positive for influenza virus and 105 were sub-typed as A(H3). For more information, [click here](#).

Hospital surveillance of severe acute respiratory infection (SARI): Since week 40/2011, six countries have reported 195 SARI cases, 77 of which were related to influenza. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly analysis – epidemiology

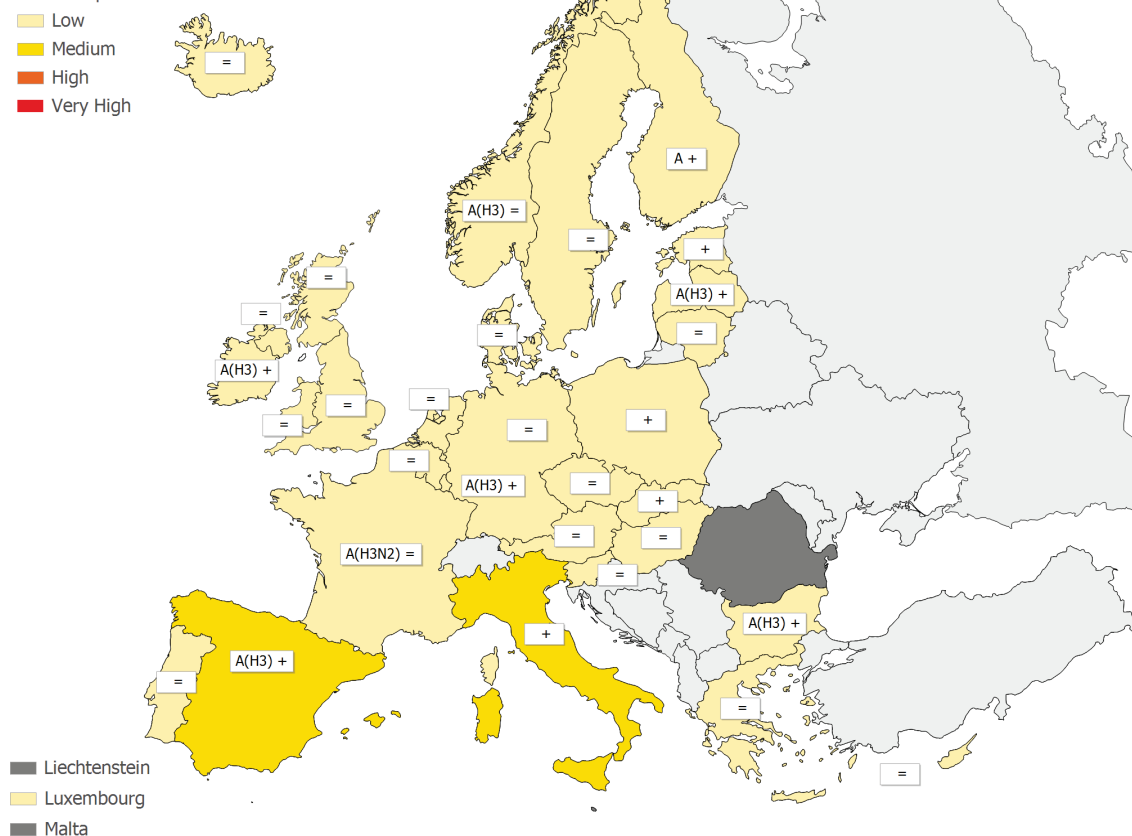
During week 2/2012, 27 countries reported clinical data. Italy and Spain reported medium-intensity influenza activity while 25 countries experienced low-intensity influenza activity (Table 1, Map 1).

Italy reported regional spread, while Finland, Netherlands, Norway and Spain reported local spread. Sporadic activity was reported by 16 countries and the UK (England, Northern Ireland and Scotland). No geographic spread was reported by five countries and the UK (Wales) (Table 1, Map 2).

Stable trends in clinical activity were reported by 17 countries while increasing trends were reported by Bulgaria, Estonia, Finland, Ireland, Italy, Latvia, Luxembourg, Poland, Slovakia and Spain. (Table 1, Map 2). So far this season only Malta, Spain and Italy have reported medium intensity – i.e. above the levels seen outside the influenza virus circulation period.

Map 1: Intensity for week 02/2012**Intensity**

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



(C) ECDC/Dundas/TESSy

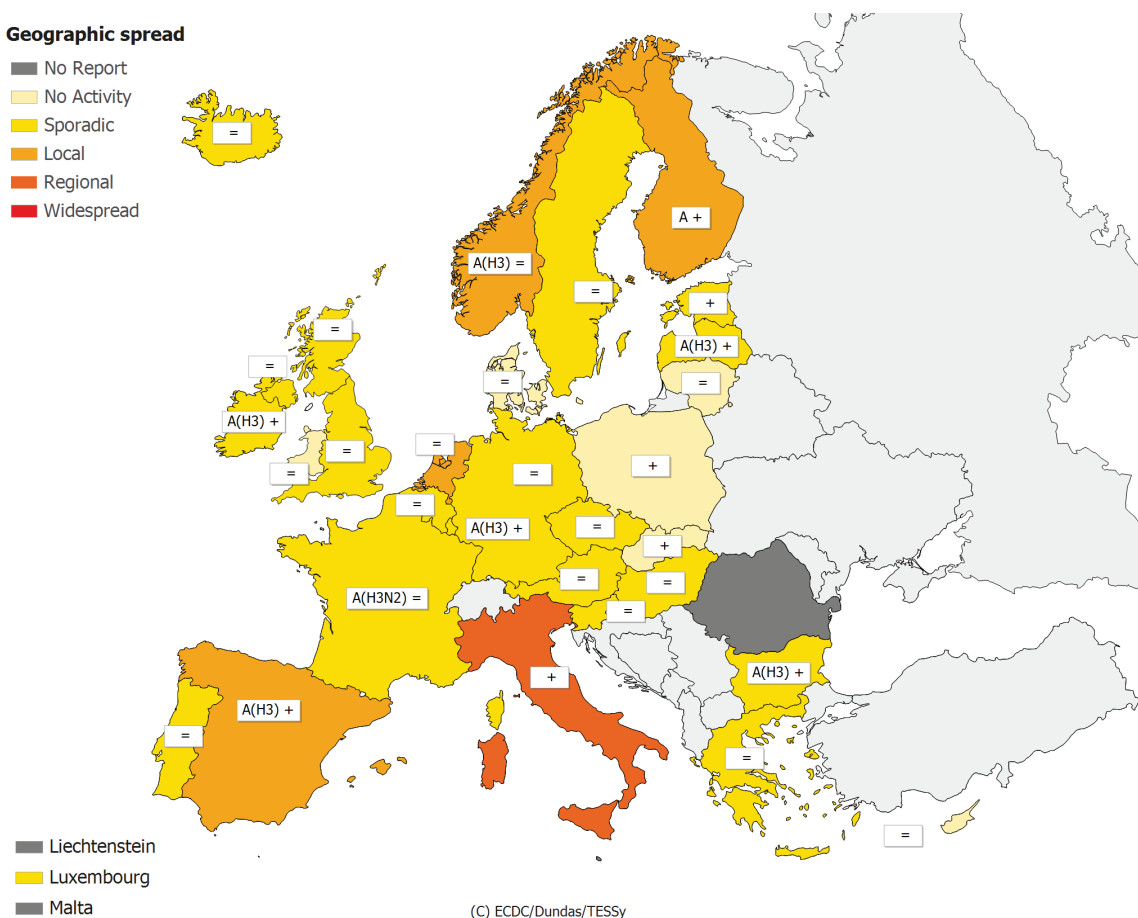
* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.

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(H3N2)	Type A, Subtype H3N2

Map 2: Geographic spread for week 02/2012**Geographic spread**

- No Report
- No Activity
- Sporadic
- Local
- Regional
- Widespread



* 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(H3)	Type A, Subtype H3
		A(H3N2)	Type A, Subtype H3N2
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)		

Table 1: Epidemiological and virological overview by country, week 02/2012

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	Sporadic	Stable	10	None	20.0	21.0	-	Graphs	Graphs
Belgium	Low	Sporadic	Stable	17	None	17.6	93.8	1687.0	Graphs	Graphs
Bulgaria	Low	Sporadic	Increasing	18	A(H3)	5.6	-	1079.8	Graphs	Graphs
Cyprus	Low	No activity	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	22	None	0.0	31.8	923.3	Graphs	Graphs
Denmark	Low	No activity	Stable	6	None	0.0	130.7	-	Graphs	Graphs
Estonia	Low	Sporadic	Increasing	9	None	0.0	6.7	216.7	Graphs	Graphs
Finland	Low	Local	Increasing	33	A	12.1	-	-	Graphs	Graphs
France	Low	Sporadic	Stable	81	A(H3N2)	22.2	-	1638.4	Graphs	Graphs
Germany	Low	Sporadic	Stable	42	None	14.3	-	1137.6	Graphs	Graphs
Greece	Low	Sporadic	Stable	1	None	100.0	54.7	-	Graphs	Graphs
Hungary	Low	Sporadic	Stable	-	-	0.0	73.7	-	Graphs	Graphs
Iceland	Low	Sporadic	Stable	0	-	0.0	12.2	-	Graphs	Graphs
Ireland	Low	Sporadic	Increasing	11	A(H3)	18.2	15.0	-	Graphs	Graphs
Italy	Medium	Regional	Increasing	47	-	38.3	383.1	-	Graphs	Graphs
Latvia	Low	Sporadic	Increasing	3	A(H3)	33.3	2.8	1114.8	Graphs	Graphs
Lithuania	Low	No activity	Stable	1	-	0.0	0.9	411.4	Graphs	Graphs
Luxembourg	Low	Sporadic	Increasing	15	A(H3)	20.0	-*	-*	Graphs	Graphs
Malta				-	-	0.0	-	-		
Netherlands	Low	Local	Stable	10	None	10.0	32.3	-	Graphs	Graphs
Norway	Low	Local	Stable	4	A(H3)	0.0	61.0	-	Graphs	Graphs
Poland	Low	No activity	Increasing	15	None	0.0	127.9	-	Graphs	Graphs
Portugal	Low	Sporadic	Stable	5	None	0.0	16.2	-	Graphs	Graphs
Romania				23	None	4.3	-	-	Graphs	Graphs
Slovakia	Low	No activity	Increasing	0	None	0.0	141.6	1316.7	Graphs	Graphs
Slovenia	Low	Sporadic	Stable	14	None	21.4	5.1	1036.6	Graphs	Graphs
Spain	Medium	Local	Increasing	226	A(H3)	27.0	97.4	-	Graphs	Graphs
Sweden	Low	Sporadic	Stable	40	-	17.5	4.3	-	Graphs	Graphs
UK - England	Low	Sporadic	Stable	124	None	4.0	7.8	409.5	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Stable	1	-	0.0	25.4	395.3	Graphs	Graphs
UK - Scotland	Low	Sporadic	Stable	22	None	0.0	14.1	558.2	Graphs	Graphs
UK - Wales	Low	No activity	Stable	3	-	0.0	7.2	-	Graphs	Graphs
Europe				803		17.1			Graphs	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.

Country comments

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 2/2012, 26 countries reported virological data. Of 803 sentinel specimens tested, 137 (17.1%) were positive for influenza virus (Table 1, Figure 1). In addition, 287 non-sentinel source specimens, e.g. specimens collected for diagnostic purposes in hospitals, were found to be positive for influenza virus.

Of the 424 influenza viruses detected from sentinel and non-sentinel sources during week 2/2012, 415 (97.9%) were type A, and nine (2.1%) were type B. Of 207 influenza A viruses sub-typed, 12 (5.8%) were A(H1)pdm09 and 195 (94.2%) were A(H3) (Table 2).

Of the 1 752 influenza virus detections in sentinel and non-sentinel specimens since week 40/2011, 1 644 (93.8%) were type A, and 108 (6.2%) were type B viruses. Of 908 influenza A viruses sub-typed, 57 (6.3%) were A(H1)pdm09, and 851 (93.7%) were A(H3) viruses (Table 2, Figures 2 and 3). The lineage of 15 influenza B viruses has been determined: nine (60.0%) were B-Yamagata and six (40.0%) were B-Victoria lineage (Table 2). The proportion of sentinel specimens positive for influenza virus has risen since the previous week, continuing the steady increase since week 48 (Figure 3). It is probable that the changes in the percent positive during weeks 52/2011 and 1/2012 were due to the reduced number of patients consulting a physician over Christmas and the New Year holiday period.

Since week 40/2011, 69 antigenic characterisations of viruses have been reported: 39 as A/Perth/16/2009 (H3N2)-like; two as A/California/7/2009 (H1N1)-like; three as B/Brisbane/60/2008-like (Victoria lineage); two as B/Florida/4/2006-like (Yamagata lineage); and one as B/Bangladesh/3333/2007-like (Yamagata lineage) (Figure 4).

Since week 40/2011, 52 genetic characterisations of viruses have been reported, of which the majority were A(H3) viruses falling in the A/Victoria/208/2009 clade within genetic group 3 represented by A/Stockholm/18/2011, which is antigenically diverse and not easily distinguishable from A/Perth/16/2009 clade A(H3N2) viruses (Figure 5).

Since week 40/2011, Germany, the Netherlands, Norway and Sweden have reported antiviral resistance data to TESSy concerning 52 influenza viruses. All 34 viruses (including A (H3), A(H1)pdm09 and B) tested for sensitivity to neuraminidase inhibitors were susceptible, while the 39 viruses (all A) tested for sensitivity to M2 inhibitors were resistant (Table 3).

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

Since week 40/2011, Germany, the Netherlands, Norway and Sweden have reported antiviral resistance data to TESSy relating to 52 influenza viruses. All 34 viruses tested for sensitivity to neuraminidase inhibitors were susceptible, while the 39 viruses tested for sensitivity to M2 inhibitors were resistant (Table 3).

No zoonotic influenza infections of humans (i.e. viruses not usually infecting and circulating among humans) within EU/EAA countries have been reported to ECDC this week. Such reporting is recommended by WHO: http://www.who.int/influenza/human_animal_interface/avian_influenza/h5n1-2011_12_19/en/index.html

In week 2/2012, 18 countries reported 1 049 respiratory syncytial virus detections (Figure 5).

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

Virus type/subtype	Current period		Season	
	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	133	282	511	1133
A (H1)pdm09	1	11	6	51
A (H3)	105	90	444	407
A (subtyping not performed)	27	181	61	675
Influenza B	4	5	40	68
B(Vic) lineage	0	0	0	6
B(Yam) lineage	0	0	6	3
Unknown lineage	4	5	34	59
Total influenza	137	287	551	1201

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

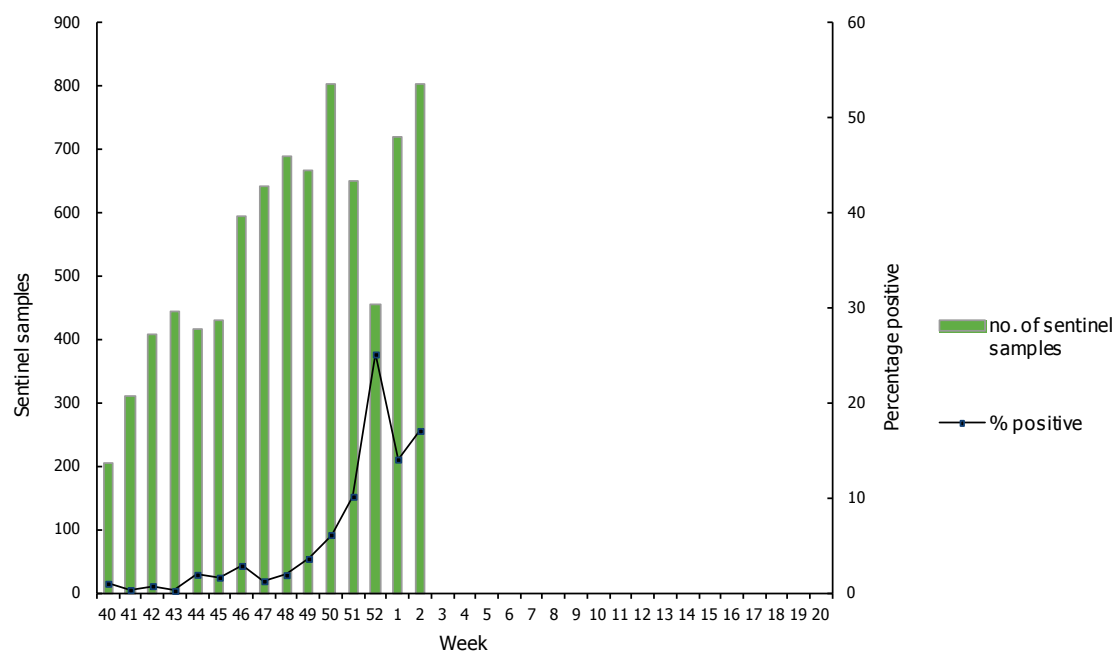
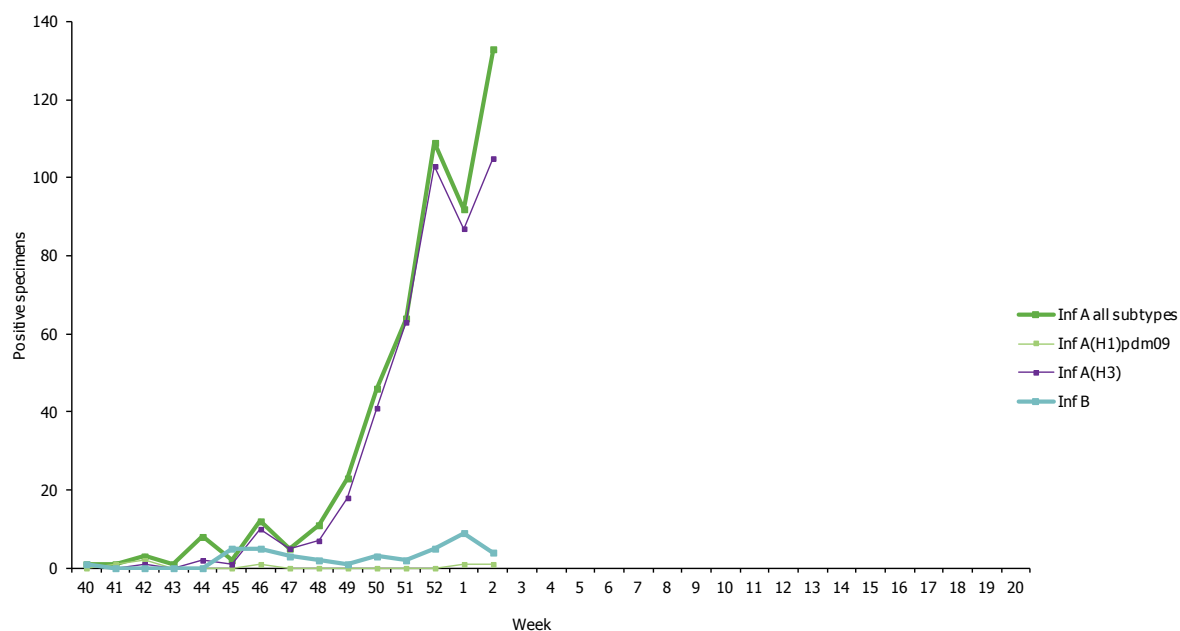
Figure 1: Proportion of sentinel specimens positive for influenza virus, weeks 40/2011–2/2012**Figure 2: Number of sentinel specimens positive for influenza virus, by type, sub-type and week of report, weeks 40/2011–2/2012**

Figure 3: Number of non-sentinel specimens positive for influenza virus by type, sub-type and week of report, weeks 40/2011–2/2012

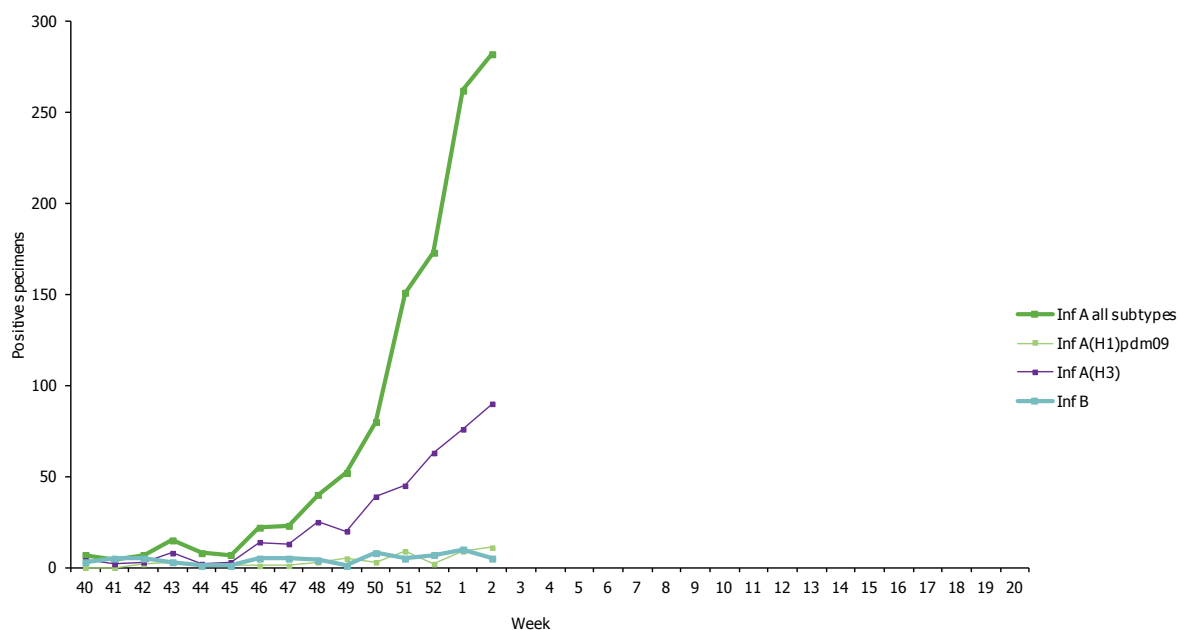


Figure 4: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–2/2012

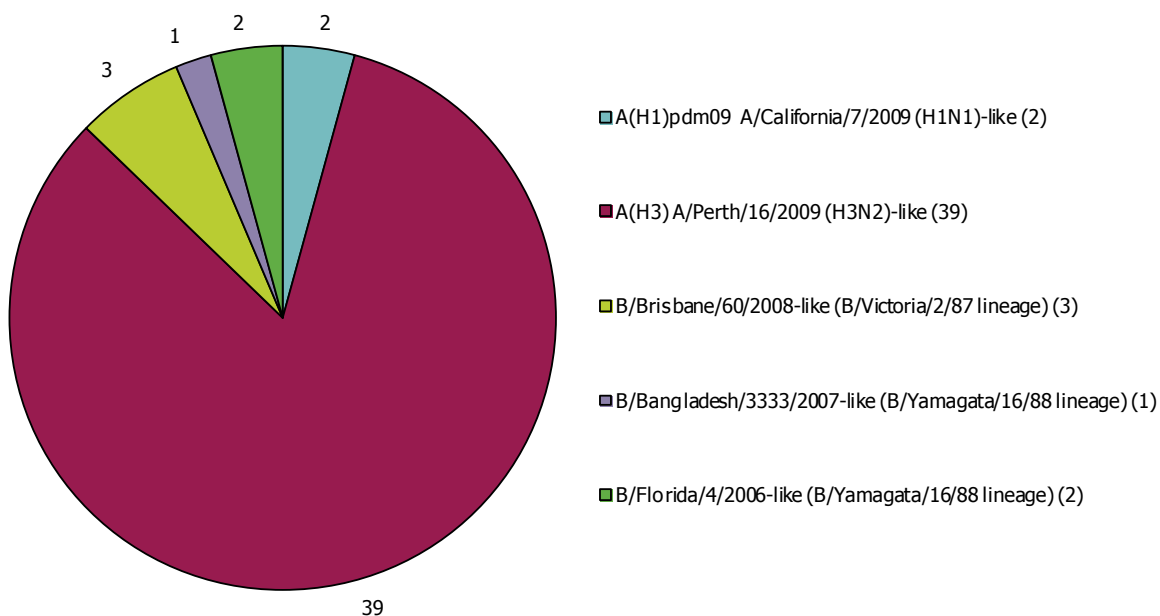
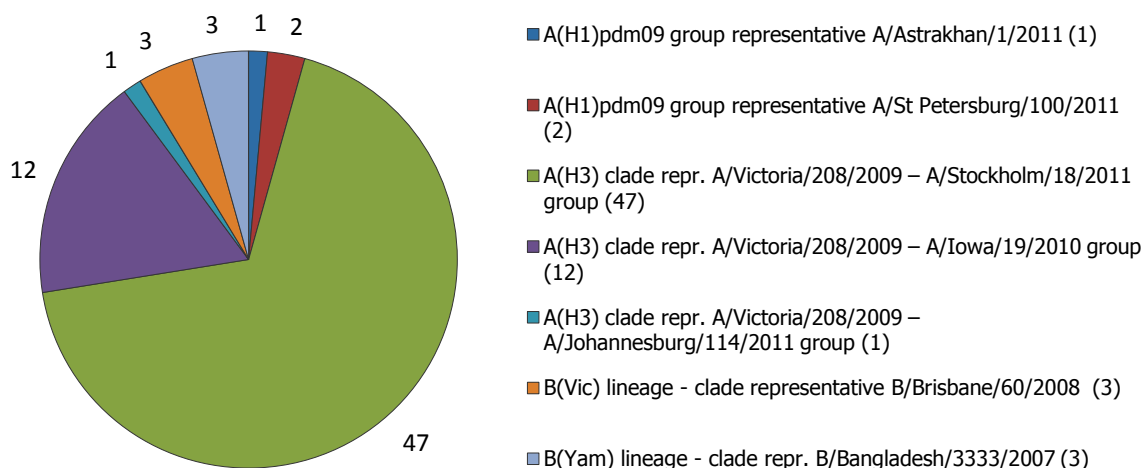
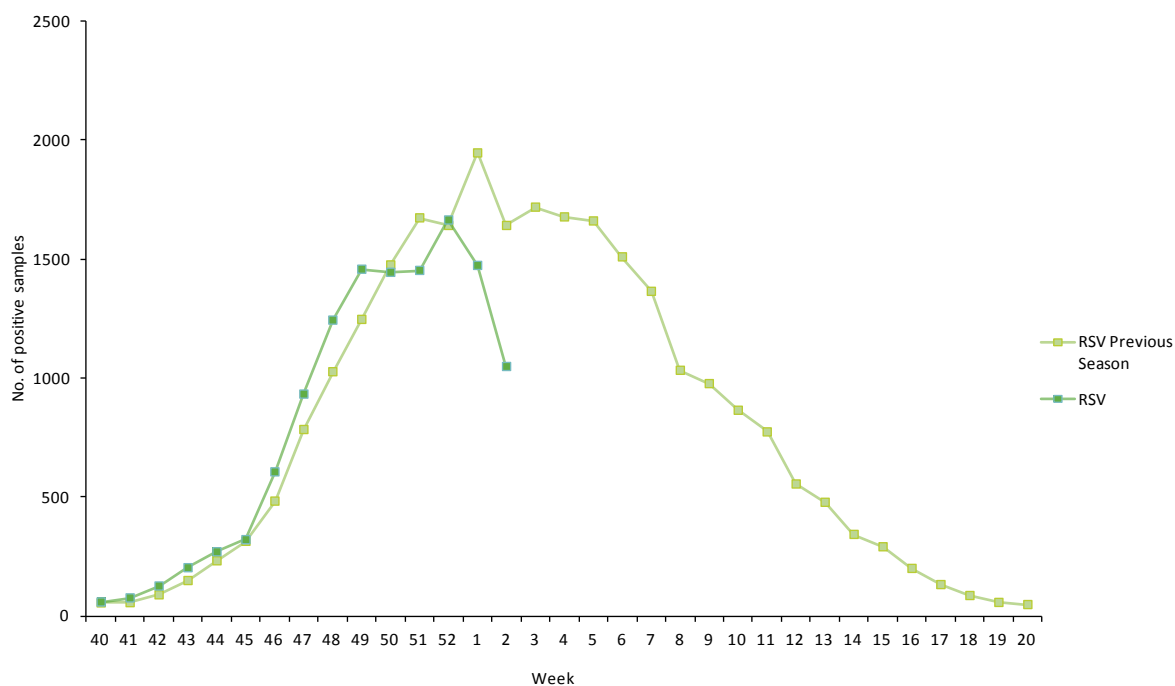


Figure 5: Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–2/2012**Table 3: Antiviral resistance by influenza virus type and subtype, weeks 40/2011–2/2012**

Virus type and subtype	Resistance to neuraminidase inhibitors				Resistance to M2 inhibitors	
	Oseltamivir		Zanamivir		Isolates tested	Resistant no. (%)
	Isolates tested	Resistant no. (%)	Isolates tested	Resistant no. (%)		
A(H3)	27	0	27	0	35	35 (100%)
A(H1)pdm09	4	0	4	0	4	4 (100%)
B	3	0	3	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 40/2011–02/2012



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

Weekly analysis of severe acute respiratory infection – SARI

Since week 40/2011, a total of 195 SARI cases and eight fatalities have been reported to TESSy by six countries (Table 4). Ninety-five (60.1 %) of 158 patients for whom information was available were male (Table 5). Of the 23 cases reported during week 2/2012, seven (30.4%) were confirmed to be related to influenza virus infection, six type A and one type B (Table 6). Of the 195 cumulative cases since week 40/2011, 77 (39.5%) have had influenza virus infection confirmed and of those where typing and subtyping has been completed, 15 were due to A(H1N1)pdm09, 30 were A(H3) and five were influenza B viruses (Table 6).

Of the 149 patients with documented influenza vaccination status, 132 (88.6%) had not been vaccinated (Table 7).

Table 4: Cumulative number of SARI cases, weeks 40/2011–2/2012

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
France	6				
United Kingdom	35	0.06			59255492
Romania	116	2	4	0.07	5813728
Spain	28		3		
Slovakia	8	0.15			5440078
Ireland	2		1		
Total	195		8		

Figure 7: Number of SARI cases by week of onset, weeks 40/2011–2/2012

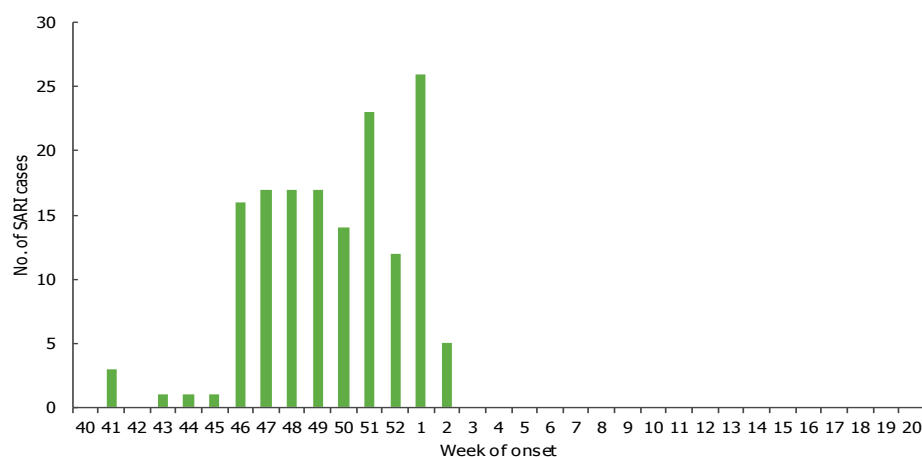


Table 5: Number of SARI cases by age and gender, weeks 40/2011–2/2012

Age groups	Male	Female	Unknown
Under 2	31	16	
2-17	23	17	1
18-44	11	15	
45-59	12	3	
>=60	18	12	1
Unknown			35
Total	95	63	37

Table 6: Number of SARI cases by influenza type and subtype and other pathogens, week 2/2012 and cumulative for the season

Pathogen	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	6	72
A(H1)pdm09		15
A(sub-typing not performed)	1	27
A(H3)	5	30
Influenza B	1	5
Other pathogen		1
Unknown	16	117
Total	23	195

Table 7: Number of SARI cases by level of care and respiratory support, weeks 40/2011–2/2012

Respiratory support	ICU	Inpatient ward	Other	Unknown
No respiratory support necessary	4	58		
Oxygen therapy	11	35		
Respiratory support given unknown	43	3	21	4
Ventilator	16			

Table 8: Number of SARI cases by influenza vaccination status, weeks 40/2011–2/2012

Vaccination Status	Number Of Cases	Percentage of cases
Seasonal vaccination	7	3.6
Vaccinated for A(H1N1)2009	1	0.5
Fully vaccinated for seasonal and A(H1N1)2009	9	4.6
Not vaccinated	132	67.7
Unknown	46	23.6
TOTAL	195	

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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