



SURVEILLANCE REPORT

Weekly influenza surveillance overview

27 January 2012

Main surveillance developments in week 03/2012 (16 – 22 Jan 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 3/2012, low influenza activity was notified by 23 of the 27 countries reporting while Bulgaria, Iceland, Italy and Spain reported medium activity. Eight countries reported local or regional spread and nine countries reported increasing clinical activity trends relative to the previous week.
- Of 1092 sentinel specimens collected and tested during week 3/2012, 320 (29.3%) were positive for influenza virus. This percentage is higher than in week 2/2012 and continues an upward progression since December, the high percentage in week 52/2011 being an artefact of the Christmas/New Year holiday.
- Of 1468 influenza A viruses subtyped from sentinel and non-sentinel sources since week 40/2011, 1389 (94.6%) were of the H3 subtype. Since week 40/2011, no resistance to neuraminidase inhibitors has been reported.
- Since week 40/2011, 237 severe acute respiratory infection (SARI) cases have been reported by six countries. One hundred and three were laboratory-confirmed influenza cases and of those viruses typed or subtyped, 15 were A(H1N1)pdm09, 48 were A(H3) and six were type B influenza viruses.
- Influenza activity is slowly increasing in countries scattered across Europe and is currently dominated by A(H3N2) viruses though with A(H1N1) also being important in some of the severe cases.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): Influenza activity of low-intensity was notified by 23 countries reporting while Bulgaria, Iceland, Italy and Spain reported medium intensity. Eight countries reported local or regional spread. For more information, [click here](#).

Virological surveillance: Twenty-six countries reported virological data. Sentinel physicians collected 1092 specimens of which 320 (29.3%) were positive for influenza virus and 274 were subtyped as A(H3). For more information, [click here](#).

Hospital surveillance of severe acute respiratory infection (SARI): Since week 40/2011, six countries have reported 237 SARI cases, 103 of which were related to influenza. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly analysis – epidemiology

During week 03/2012, 27 countries reported clinical data. Bulgaria, Iceland, Italy and Spain, reported medium-intensity influenza activity while 23 countries experienced low-intensity influenza activity (Table 1, Map 1).

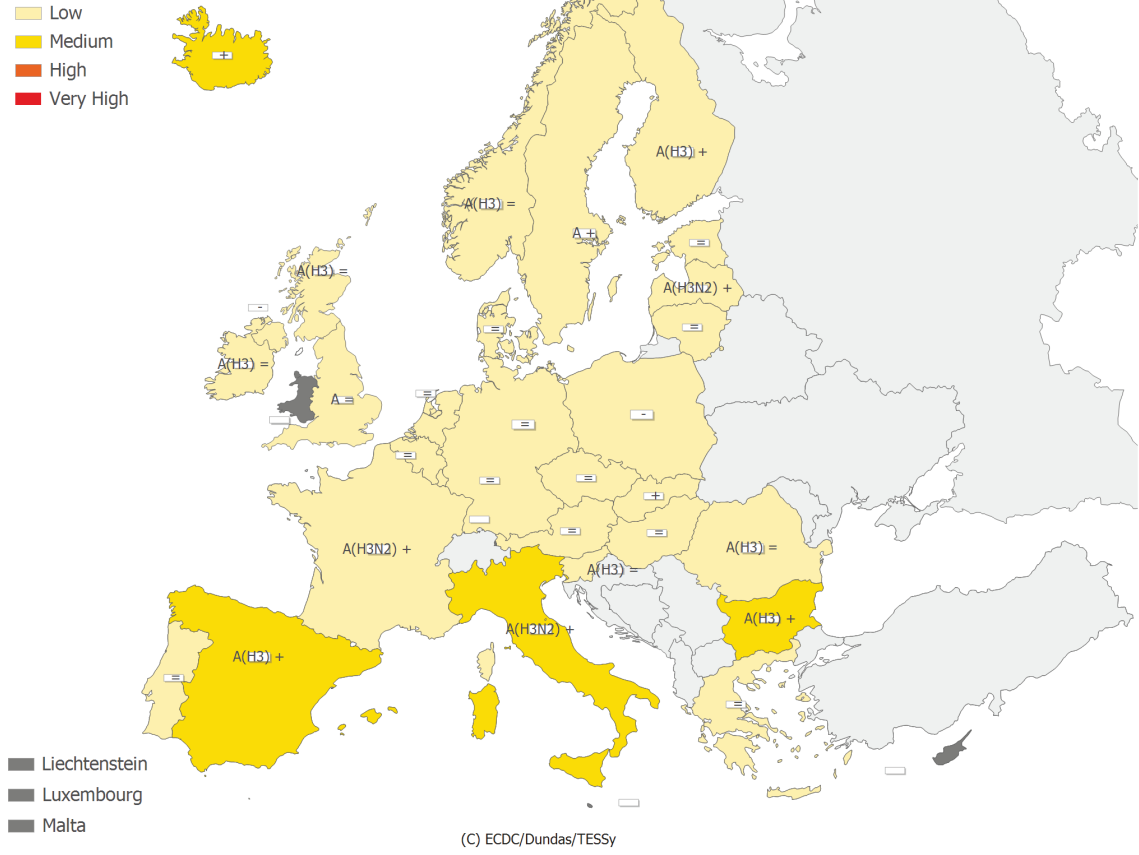
Finland, Iceland, Italy and Spain reported regional spread; Bulgaria, France, the Netherlands and Norway reported local spread. Sporadic activity was reported by 13 countries and the UK (England, Northern Ireland and Scotland). No geographic spread was reported by five countries (Table 1, Map 2).

Stable trends in clinical activity were reported by 16 countries and the UK (England and Scotland) while increasing trends were reported by Bulgaria, Finland, France, Iceland, Italy, Latvia, Slovakia, Spain and Sweden (Table 1, Map 2). So far this season, only Bulgaria, Iceland, Italy, Malta and Spain have reported medium intensity, i.e. intensity above the levels seen outside the influenza virus circulation period.

Map 1: Intensity for week 3/2012

Intensity

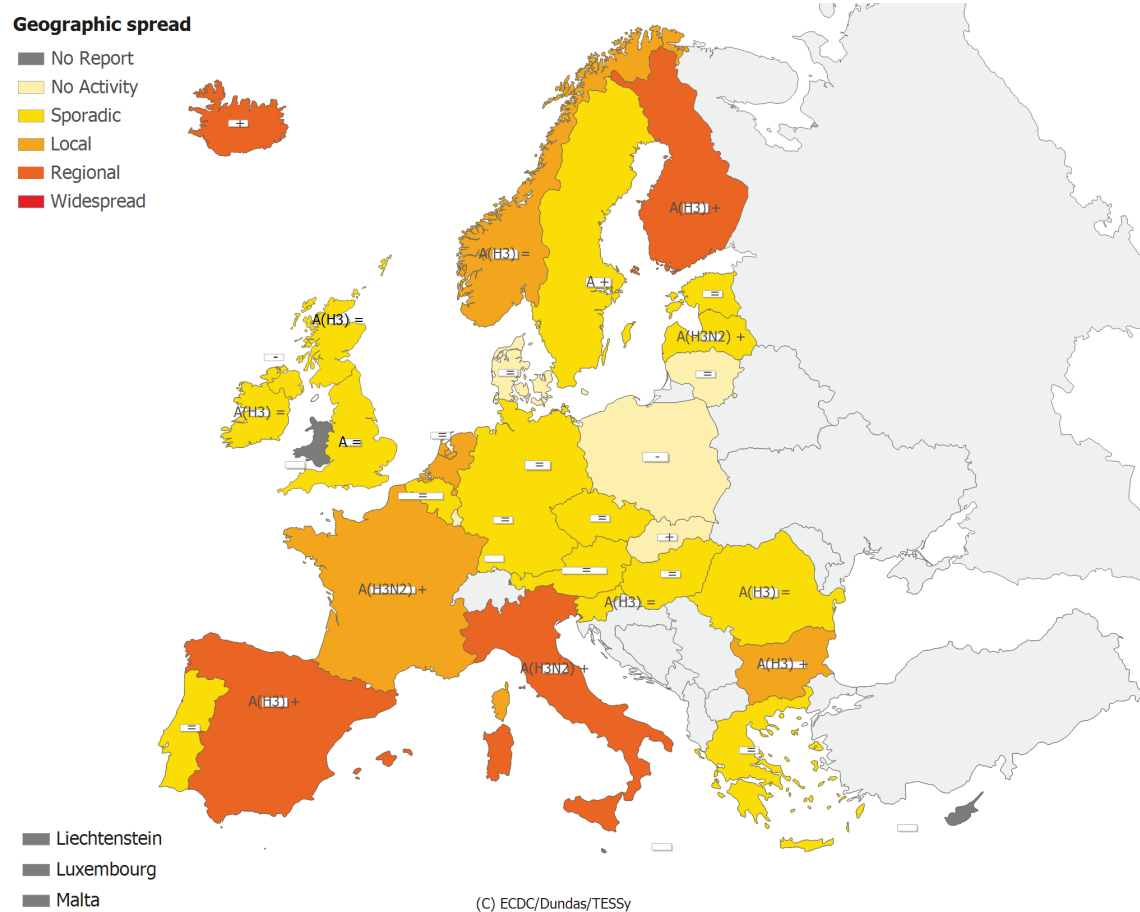
- No report
- Low
- Medium
- High
- Very High



* 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 3/2012



* 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(H3N2)	Type A, Subtype H3N2

Table 1: Epidemiological and virological overview by country, week 3/2012

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	12	None	8.3	19.9	-	Graphs	Graphs
Belgium	Low	Sporadic	Stable	23	A(H3)	26.1	112.0	1726.3	Graphs	Graphs
Bulgaria	Medium	Local	Increasing	12	A(H3)	50.0	-	1282.4	Graphs	Graphs
Cyprus				-	-	0.0	-	-		
Czech Republic	Low	Sporadic	Stable	16	None	0.0	30.9	920.5	Graphs	Graphs
Denmark	Low	No activity	Stable	5	None	0.0	49.8	-	Graphs	Graphs
Estonia	Low	Sporadic	Stable	10	-	0.0	6.6	228.2	Graphs	Graphs
Finland	Low	Regional	Increasing	44	A(H3)	38.6	-	-	Graphs	Graphs
France	Low	Local	Increasing	146	A(H3N2)	26.0	-	1892.2	Graphs	Graphs
Germany	Low	Sporadic	Stable	55	None	7.3	-	1088.5	Graphs	Graphs
Greece	Low	Sporadic	Stable	0	None	0.0	72.3	-	Graphs	Graphs
Hungary	Low	Sporadic	Stable	32	None	3.1	80.0	-	Graphs	Graphs
Iceland	Medium	Regional	Increasing	0	-	0.0	22.0	-	Graphs	Graphs
Ireland	Low	Sporadic	Stable	16	A(H3)	37.5	11.9	-	Graphs	Graphs
Italy	Medium	Regional	Increasing	128	A(H3N2)	36.7	626.8	-	Graphs	Graphs
Latvia	Low	Sporadic	Increasing	2	A(H3N2)	50.0	3.8	1239.6	Graphs	Graphs
Lithuania	Low	No activity	Stable	3	None	0.0	0.9	460.0	Graphs	Graphs
Luxembourg	Low	No activity	Stable	9	None	0.0	-*	-*	Graphs	Graphs
Malta				-	-	0.0	-	-		
Netherlands	Low	Local	Stable	9	None	0.0	29.5	-	Graphs	Graphs
Norway	Low	Local	Stable	10	A(H3)	60.0	60.4	-	Graphs	Graphs
Poland	Low	No activity	Decreasing	5	None	0.0	112.0	-	Graphs	Graphs
Portugal	Low	Sporadic	Stable	6	None	50.0	8.5	-	Graphs	Graphs
Romania	Low	Sporadic	Stable	25	A(H3)	16.0	3.8	532.1	Graphs	Graphs
Slovakia	Low	No activity	Increasing	0	None	0.0	143.6	1369.8	Graphs	Graphs
Slovenia	Low	Sporadic	Stable	17	A(H3)	47.1	2.7	1019.8	Graphs	Graphs
Spain	Medium	Regional	Increasing	371	A(H3)	42.9	139.7	-	Graphs	Graphs
Sweden	Low	Sporadic	Increasing	34	A	23.5	4.2	-	Graphs	Graphs
UK - England	Low	Sporadic	Stable	74	A	6.8	6.2	364.7	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Decreasing	-	-	0.0	16.5	426.2	Graphs	Graphs
UK - Scotland	Low	Sporadic	Stable	28	A(H3)	0.0	12.3	523.7	Graphs	Graphs
UK - Wales				-	-	0.0	-	-		
Europe				1092		29.3				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

This 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 3/2012, 26 countries and the UK (England and Scotland) reported virological data. Of 1092 sentinel specimens tested, 320 (29.3 %) were positive for influenza virus (Table 1, Figure 1). In addition, 449 non-sentinel source specimens, e.g. specimens collected for diagnostic purposes in hospitals, were found to be positive for influenza virus.

Of the 769 influenza viruses detected from sentinel and non-sentinel sources during week 3/2012, 750 (97.5%) were type A, and 19 (2.5%) were type B. Of 411 influenza A viruses subtyped, 16 (3.9%) were A(H1)pdm09 and 395 (96.1%) were A(H3) (Table 2).

Of the 2617 influenza virus detections from sentinel and non-sentinel specimens since week 40/2011, 2481 (94.8%) were type A and 136 (5.2%) were type B viruses. Of 1468 influenza A viruses subtyped, 79 (5.4%) were A(H1)pdm09, and 1389 (94.6%) were A(H3) viruses (Table 2, Figures 2 and 3). The lineage of 20 influenza B viruses has been determined: 10 (50.0%) were B-Yamagata and 10 (50.0%) were B-Victoria lineage (Table 2). The proportion of sentinel specimens positive for influenza virus has risen since week 01/2012, continuing the steady increase since week 48/2011 (Figure 3). This rise suggests an intensification of influenza virus circulation.

Since week 40/2011, 55 antigenic characterisations of viruses have been reported: 46 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 two as B/Bangladesh/3333/2007-like (Yamagata lineage) (Figure 4).

Since week 40/2011, 101 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).

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 Portugal and Sweden have reported antiviral resistance data to TESSy concerning 53 influenza viruses. All 35 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).

No zoonotic influenza infections of humans (i.e. viruses not usually infecting and circulating among humans) within EU/EEA 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 3/2012, 18 countries reported 879 respiratory syncytial virus (RSV) detections (Figure 6). Starting week 01/2012, this is the third week the number of RSV detections has decreased compared to the previous week, suggesting that RSV circulation has passed its peak.

Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2011–3/2012

Virus type/subtype	Current Period Sentinel	Current Period Non-Sentinel	Season Sentinel	Season Non-Sentinel
Influenza A	312	438	898	1583
A(H1)pdm09	3	13	15	64
A(H3)	274	121	793	596
A(subtyping not performed)	35	304	90	923
Influenza B	8	11	55	81
B(Vic) lineage	0	1	1	9
B(Yam) lineage	0	0	7	3
Unknown lineage	8	10	47	69
Total Influenza	320	449	953	1664

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 40/2011–3/2012

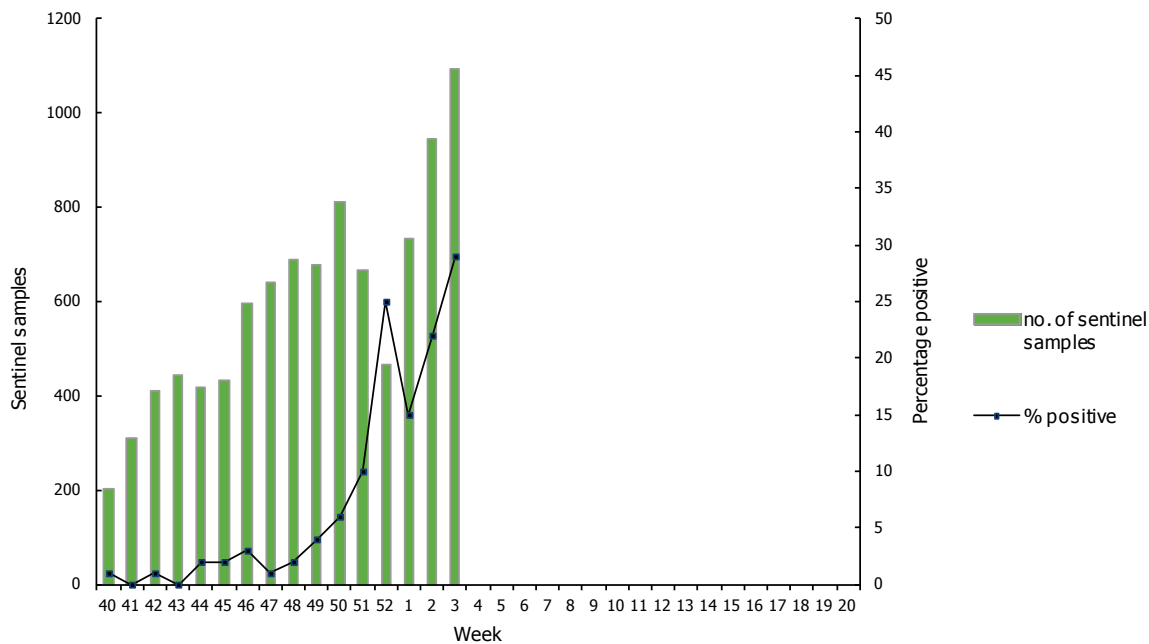


Figure 2: Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2011–3/2012

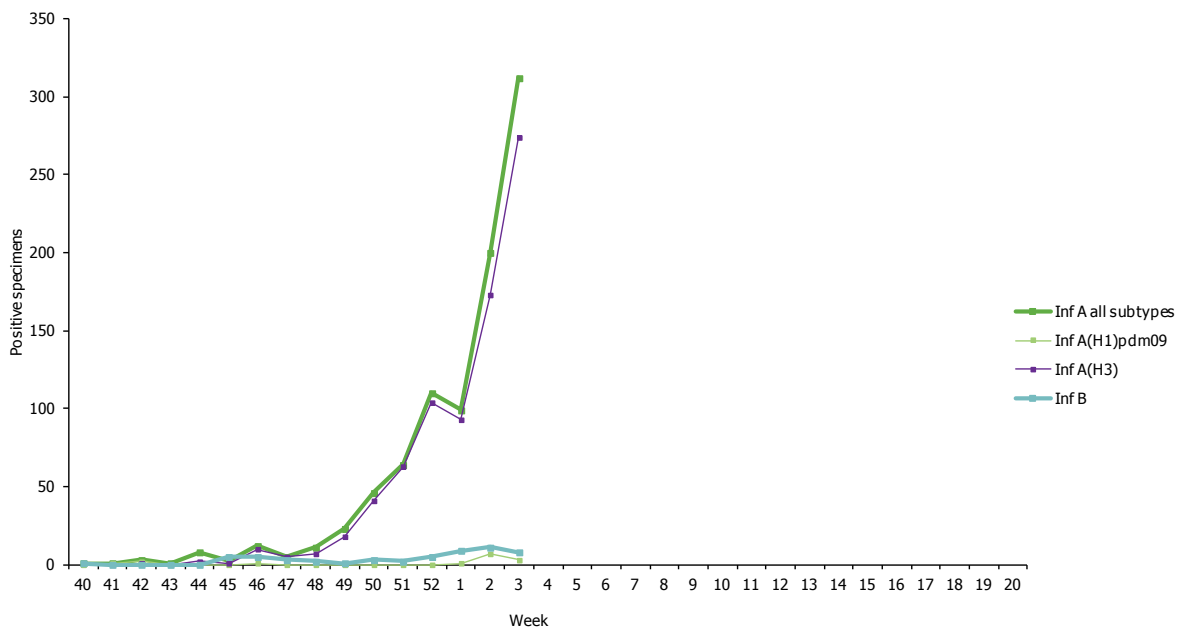


Figure 3: Number of non-sentinel specimens positive for influenza virus by type, subtype and week of report, weeks 40/2011–3/2012

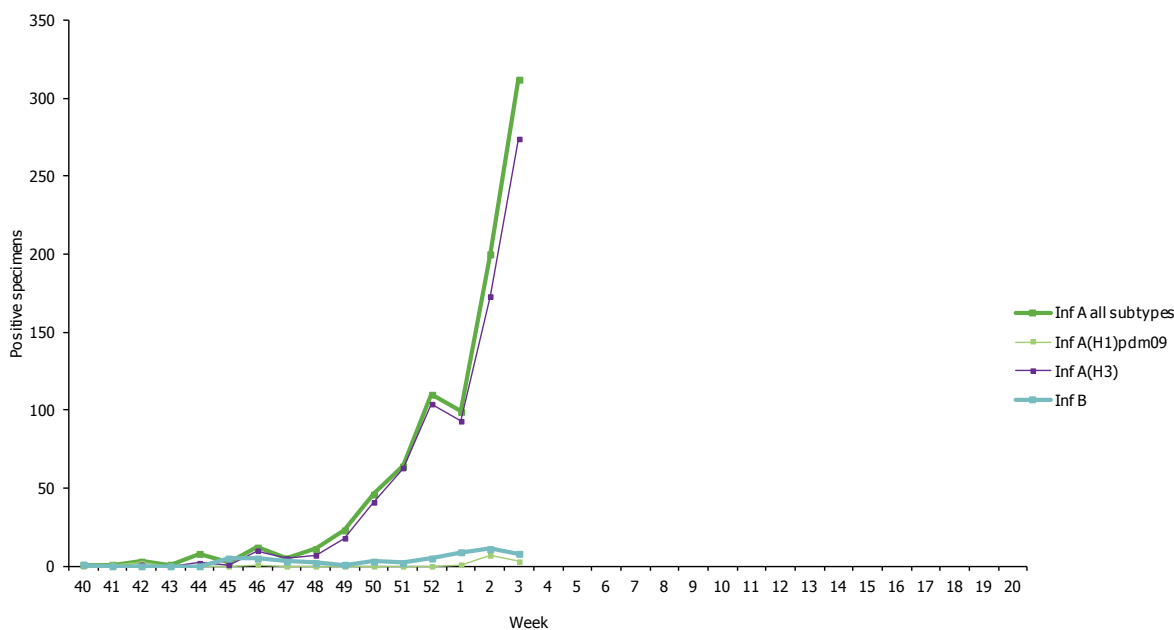


Figure 4: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–3/2012

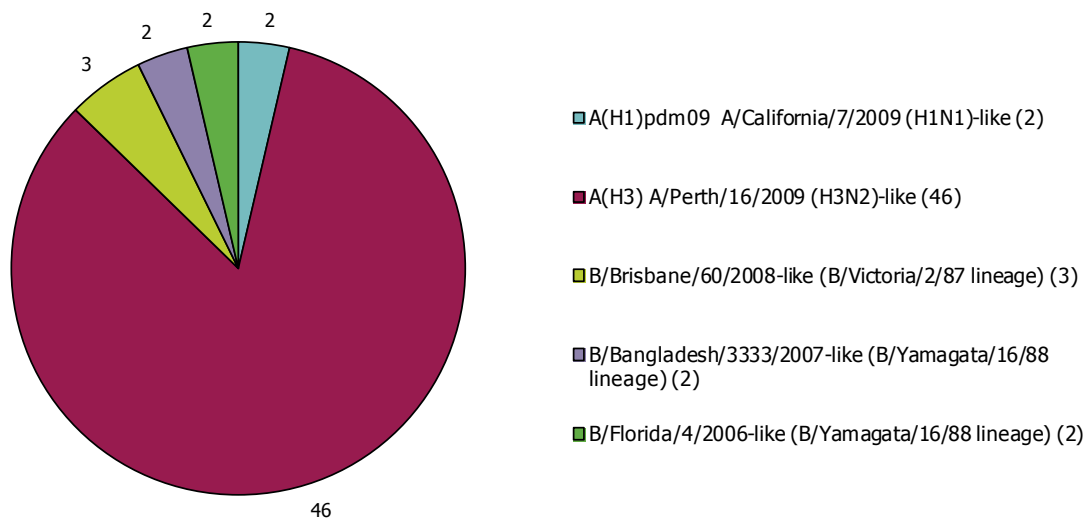


Figure 5: Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2011–03/2012

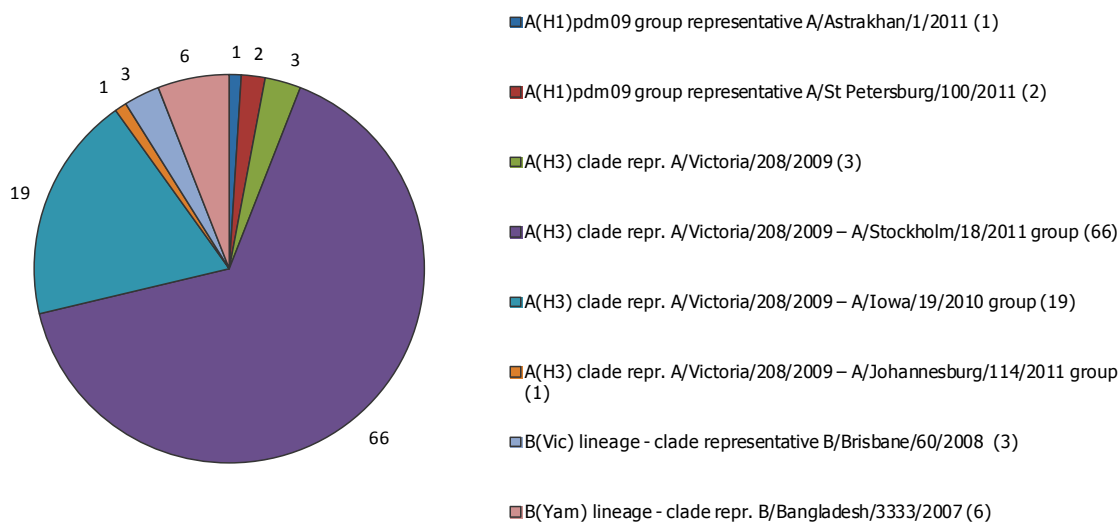
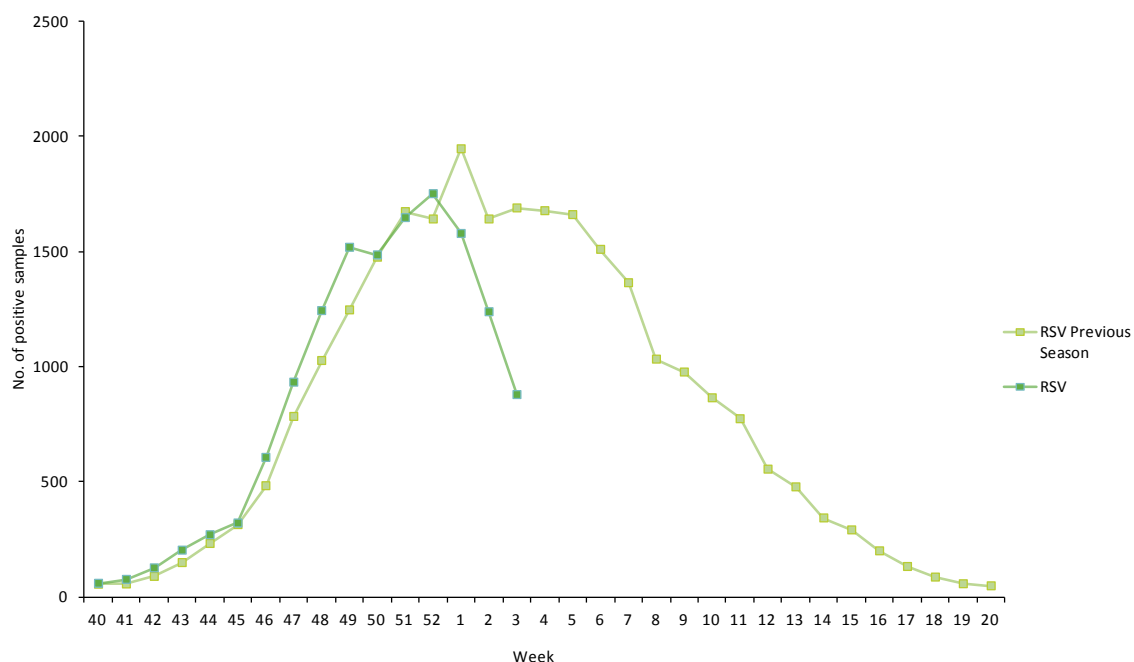


Table 3: Antiviral resistance by influenza virus type and subtype, weeks 40/2011–3/2012

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	4	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 40/2011–3/2012



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 237 SARI cases and 10 fatalities have been reported to TESSy by six countries (Table 4). One hundred and fourteen (57.0 %) of 200 patients for whom gender information was available were male (Table 5). Of the 25 cases reported during week 03/2012, nine (36.0%) were confirmed to be related to influenza type A virus infection, seven viruses were subtyped as A(H3) (Table 6). Of the 237 cumulative cases since week 40/2011, 103 (43.5%) have had influenza virus infection confirmed and of those where typing and subtyping has been completed, 15 were due to A(H1)pdm09, 48 were A(H3) and six were influenza B viruses (Table 6).

Since week 40/2011, of 82 SARI cases admitted to ICU, at least 21 (25.6%) required ventilation (Table 7).

Of the 188 patients with documented influenza vaccination status, 166 (88.3%) had not been vaccinated (Table 8).

Table 4: Cumulative number of SARI cases, weeks 40/2011–3/2012

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
Ireland	2		1		
Spain	45		4		
France	11		1		
Slovakia	8	0.15			5440078
United Kingdom	35	0.06			59255492
Romania	136	2.34	4	0.07	5813728
Total	237		10		

Figure 7: Number of SARI cases by week of onset, weeks 40/2011–3/2012

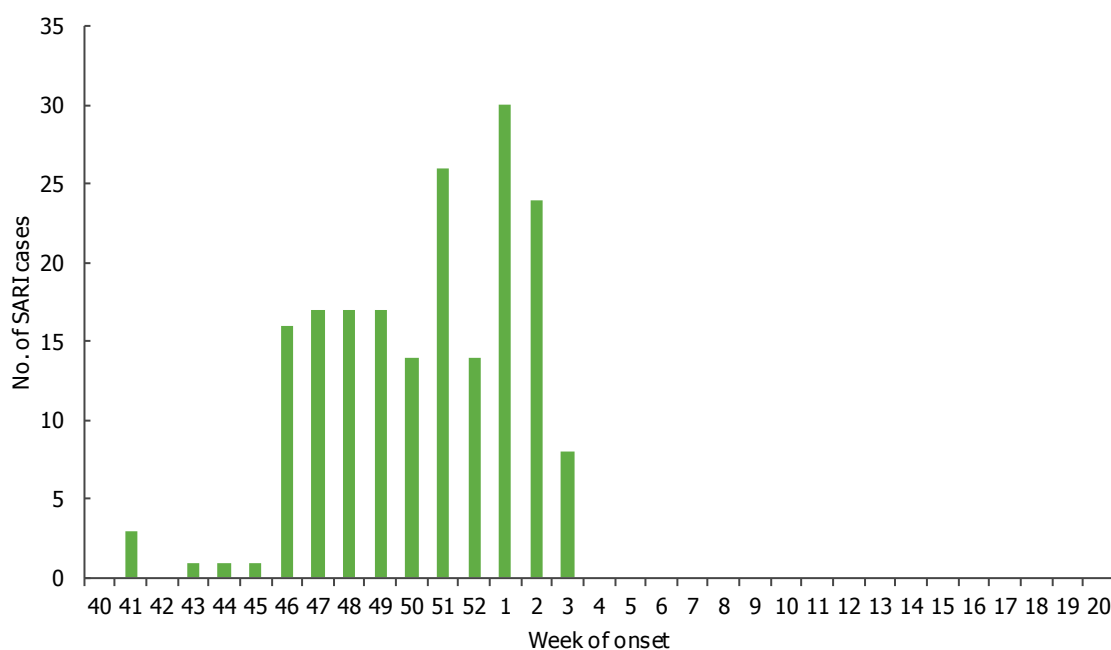


Table 5: Number of SARI cases by age and gender, weeks 40/2011–3/2012

Age groups	Male	Female	Unknown
Under 2	37	20	
2-17	29	26	1
18-44	13	17	
45-59	13	5	
>=60	22	18	1
Unknown			35
Total	114	86	37

Table 6: Number of SARI cases by influenza type and subtype and other pathogens, week 3/2012 and cumulative for the season

Pathogen	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	9	97
A(H1)pdm09		15
A(subtyping not performed)	2	34
A(H3)	7	48
Influenza B		6
Other Pathogen		1
Unknown	16	133
Total	25	237

Table 7: Number of SARI cases by level of care and respiratory support, weeks 40/2011–3/2012

Respiratory support	ICU	Inpatient ward	Other	Unknown
No respiratory support necessary	5	68		
Oxygen therapy	11	44		
Respiratory support given unknown	45	3	35	5
Ventilator	21			

Table 8: Number of SARI cases by influenza vaccination status, weeks 40/2011–3/2012

Vaccination Status	Number Of Cases	Percentage of cases
Had received seasonal vaccine in 2011	10	4.2
Had received pandemic vaccine in 2009/2010	2	0.8
Had received both seasonal and pandemic vaccine	10	4.2
Not vaccinated	166	70.0
Unknown	49	20.7
TOTAL	237	

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.

© European Centre for Disease Prevention and Control, Stockholm, 2012