

SURVEILLANCE REPORT

Weekly influenza surveillance overview

25 March 2011

Main surveillance developments in week 11/2011 (14 Mar 2011 – 20 Mar 2011)

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

- In week 11/2011, 16 EU countries experienced influenza activity of low intensity and 22 countries reported stable or decreasing trends. Nevertheless, widespread activity was still reported by two countries.
- In week 11/2011, 46.1% of detected influenza viruses were of type A, and 53.9% were of type B. This latter virus was dominant in seven countries and co-dominant with influenza virus A(H1N1) 2009 in five countries. It was the first week of this season that the influenza B virus was overall dominant.
- Six countries notified 71 severe respiratory cases, of which 34 were infected by an influenza virus.

Sentinel surveillance of influenza-like illness (ILI)/acute respiratory infection (ARI): Sixteen countries experienced influenza activity of low intensity and 22 countries reported stable or decreasing trends. For more information, [click here...](#)

Virological surveillance: Of 938 influenza viruses, 46.1% were influenza A and 53.9% were influenza B. Since week 40/2011, 97.4% of subtyped influenza A viruses were A(H1N1) 2009. For more information, [click here...](#)

Hospital surveillance of severe acute respiratory infection (SARI) and severe influenza cases: Of 71 severe respiratory diseases reported by six countries, 25 were infected by an influenza A virus and nine by a B virus. For more information, [click here...](#)

Sentinel surveillance (ILI/ARI)

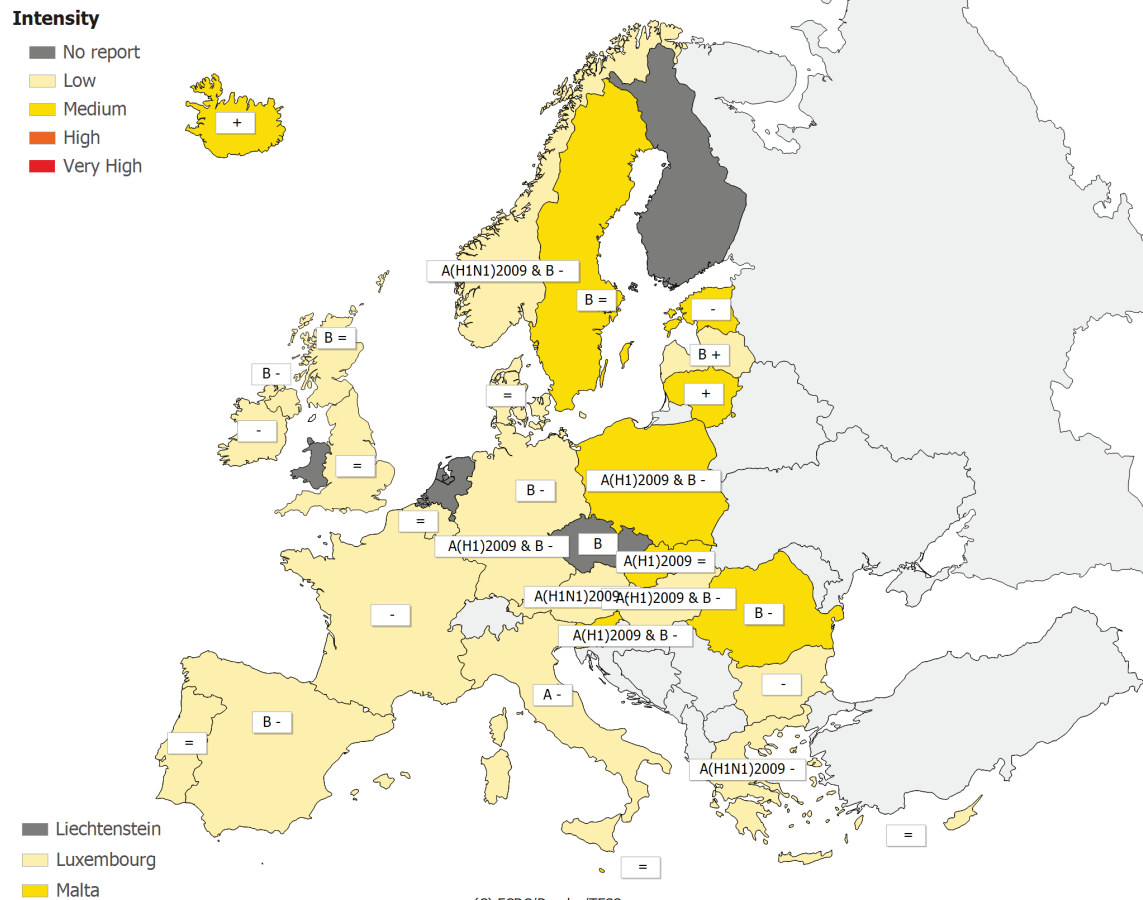
Weekly analysis – epidemiology

During week 11/2011, 16 of the 25 reporting countries and the UK (England, Northern Ireland and Scotland) experienced influenza activity of low intensity, and nine countries reported medium influenza activity (Table 1, Map 1).

Sporadic, regional or local activity was reported by 22 countries and the UK (England, Northern Ireland and Scotland). No activity was reported by Portugal and widespread activity was still reported by Lithuania and Sweden (Table 1, Map 2).

Twenty-two countries and the UK (England, Northern Ireland and Scotland) reported stable or decreasing trends in week 11/2011. Only three countries – Iceland, Latvia and Lithuania – reported increasing trends (Table 1, Map 2).

Map 1: Intensity for week 11/2011



* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

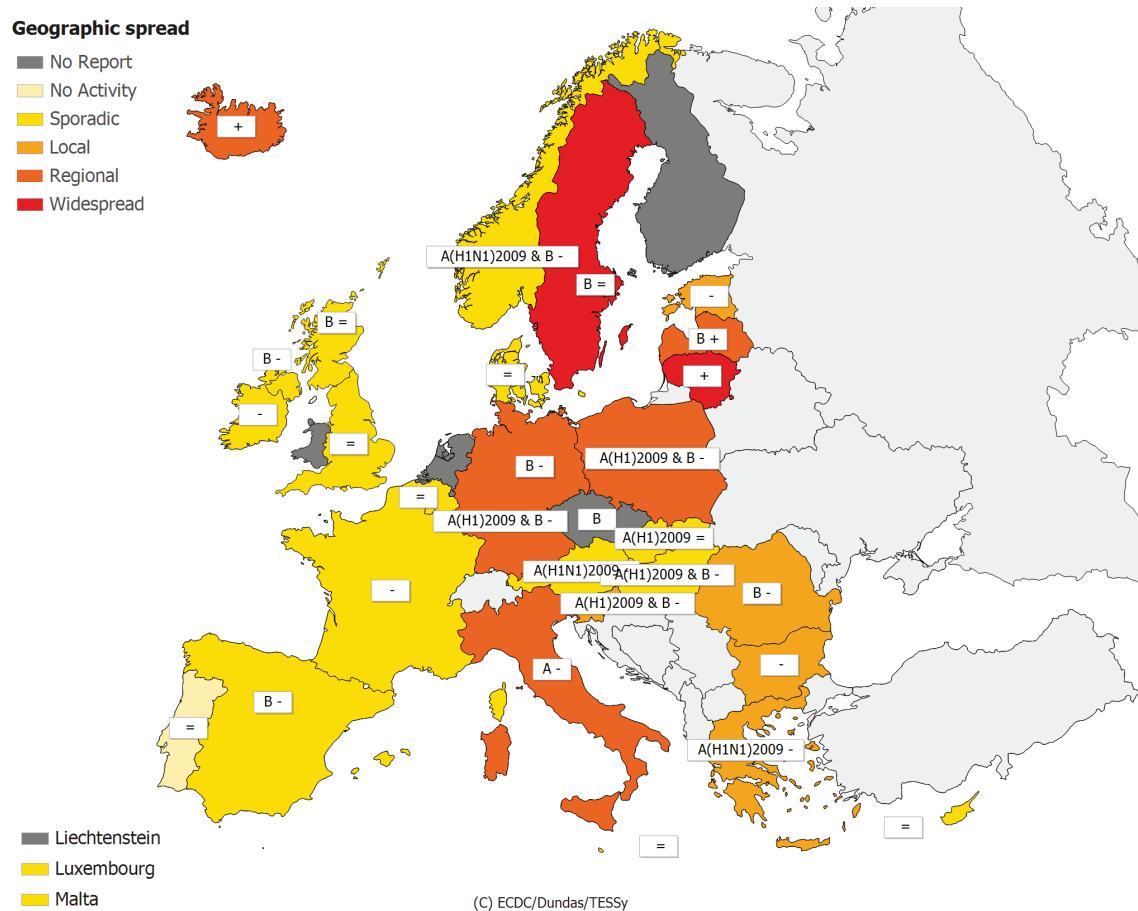
Legend:

No report	Intensity level was not reported	-	Decreasing clinical activity
Low	No influenza activity or influenza at baseline levels	+	Increasing 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(H1)2009	Type A, Subtype (H1)2009
		A(H1)2009 & B	Type B and Type A, Subtype (H1)2009
		A(H1N1)2009	Type A, Subtype (H1N1)2009
		A(H1N1)2009 & B	Type B and Type A, Subtype (H1N1)2009
		B	Type B

Map 2: Geographic spread for week 11/2011

Geographic spread

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



(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	Activity level was not reported	-	Decreasing clinical activity
No activity	No evidence of influenza virus activity (clinical activity remains at baseline levels)	+	Increasing 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(H1)2009	Type A, Subtype (H1)2009
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(H1)2009 & B	Type B and Type A, Subtype (H1)2009
		A(H1N1) 2009	Type A, Subtype (H1N1)2009
		A(H1N1) 2009 & B	Type B and Type A, Subtype (H1N1)2009
		B	Type B

Table 1: Epidemiological and virological overview by country, week 11/2011

Country	Intensity	Geographic spread	Trend	No. of sentinel specimens	Dominant type	% positive*	ILI per 100.000	ARI per 100.000	Epidemiol. overview	Virological overview
Austria	Low	Sporadic	Decreasing	27	A(H1N1)2009	51.9	3.0	17.9	Graphs	Graphs
Belgium	Low	Sporadic	Stable	-	-	0.0	56.9	1486.9	Graphs	Graphs
Bulgaria	Low	Local	Decreasing	2	None	0.0	-	886.1	Graphs	Graphs
Cyprus	Low	Sporadic	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic				26	B	57.7	-	-	Graphs	Graphs
Denmark	Low	Sporadic	Stable	2	None	0.0	66.7	-	Graphs	Graphs
Estonia	Medium	Local	Decreasing	28	None	25.0	12.5	333.6	Graphs	Graphs
Finland				-	-	0.0	-	-		
France	Low	Sporadic	Decreasing	25	None	0.0	-	1213.3	Graphs	Graphs
Germany	Low	Regional	Decreasing	122	B	58.2	-	1085.4	Graphs	Graphs
Greece	Low	Local	Decreasing	13	A(H1N1)2009	30.8	96.6	-	Graphs	Graphs
Hungary	Low	Sporadic	Decreasing	19	A(H1)2009 & B	26.3	102.9	-	Graphs	Graphs
Iceland	Medium	Regional	Increasing	0	-	0.0	56.6	-	Graphs	Graphs
Ireland	Low	Sporadic	Decreasing	9	None	11.1	5.9	-	Graphs	Graphs
Italy	Low	Regional	Decreasing	19	A	26.3	197.9	-	Graphs	Graphs
Latvia	Low	Regional	Increasing	0	B	0.0	-*	-*	Graphs	Graphs
Lithuania	Medium	Widespread	Increasing	10	None	0.0	75.5	777.4	Graphs	Graphs
Luxembourg	Low	Sporadic	Decreasing	14	A(H1)2009 & B	21.4	-*	-*	Graphs	Graphs
Malta	Medium	Sporadic	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Netherlands				17	None	29.4	-	-	Graphs	Graphs
Norway	Low	Sporadic	Decreasing	1	A(H1N1)2009 & B	100.0	51.1	-	Graphs	Graphs
Poland	Medium	Regional	Decreasing	36	A(H1)2009 & B	27.8	99.7	-	Graphs	Graphs
Portugal	Low	No activity	Stable	4	None	0.0	6.7	-	Graphs	Graphs
Romania	Medium	Local	Decreasing	24	B	41.7	22.8	1078.2	Graphs	Graphs
Slovakia	Medium	Sporadic	Stable	5	A(H1)2009	40.0	257.8	1830.7	Graphs	Graphs
Slovenia	Medium	Local	Decreasing	8	A(H1)2009 & B	50.0	8.5	1008.7	Graphs	Graphs
Spain	Low	Sporadic	Decreasing	108	B	16.7	31.0	-	Graphs	Graphs
Sweden	Medium	Widespread	Stable	16	B	0.0	5.7	-	Graphs	Graphs
UK - England	Low	Sporadic	Stable	25	None	16.0	7.4	408.8	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Decreasing	0	B	0.0	14.4	328.7	Graphs	Graphs
UK - Scotland	Low	Sporadic	Stable	25	B	16.0	2.3	242.7	Graphs	Graphs
UK - Wales				-	-	0.0	-	-		
Europe				585		43.4			Graphs	

*Incidence per 100 000 is not calculated for these countries as no population denominator is provided.

Note: Liechtenstein is not reporting 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 1–5% of the population in their countries. All EU/EEA Member States (except Liechtenstein) are participating. 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 11/2011, 23 countries and the UK (England, Northern Ireland and Scotland) reported virological data. Sentinel physicians collected 585 swabs with a substantially increased percentage (43.4%) of specimens testing positive for influenza virus compared to the previous week (33.6%) (Tables 1 and 2, Figure 3).

Of the 938 influenza viruses detected during week 11/2011, 432 (46.1%) were type A and 506 (53.9%) were type B. Eight A(H3) influenza viruses were identified in Sweden and two in France. Influenza B virus was reported as dominant by six countries and the UK (Northern Ireland and Scotland) and co-dominant with A(H1N1) 2009 by five countries. It was the first week of this season that the proportion of influenza B viruses was overall higher than that of A influenza A viruses (Table 1).

Since week 40/2010, of the 55 217 influenza detections in sentinel and non-sentinel specimens, 37 121 (67.2%) were influenza A and 18 096 (32.8 %) were influenza B viruses. Of 26 699 influenza A viruses subtyped, 26 070 (97.6%) were A(H1N1) 2009 virus and 629 (2.4%) were A(H3) viruses (Table 2). Trends of virological detections since week 40/2010 are shown in Figures 1–3.

Since week 40/2010, 3 336 influenza viruses from sentinel and non-sentinel specimens have been characterised antigenically (Figure 4): 1 814 as A/California/7/2009 (H1N1)-like, 1 594 as B/Brisbane/60/2008-like (Victoria lineage), 123 as B/Florida/4/2006-like (Yamagata lineage) and 105 as A/Perth/16/2009 (H3N2)-like (Figure 4).

Since week 40/2010, Germany, Ireland, Italy, the Netherlands, Norway, Spain and the UK have reported antiviral resistance data to TESSy. Sixty-four (3.3%) of influenza A(H1) 2009 viruses were resistant to oseltamivir but remained sensitive for zanamivir. All the resistant viruses carried the H275Y mutation. Sixteen of 53 resistant viruses, from patients for whom exposure to antivirals was known, were from patients who had not been treated with oseltamivir.

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

In week 11/2011, respiratory syncytial virus detections continued to decline in 13 reporting countries (Figure 5).

Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2010–11/2011

Virus type/subtype	Current period		Season	
	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	112	320	8 340	28 781
A (pandemic H1N1)	38	213	7 350	18 720
A (subtyping not performed)	74	97	775	9647
A (not subtypable)	0	0	0	0
A (H3)	0	10	215	414
A (H1)	0	0	0	0
Influenza B	142	364	5 198	12 898
Total Influenza	254	684	13 538	41 679

Note: A(H1)2009, A(H3) and A(H1) includes both N-subtyped and non-N-subtyped viruses

Figure 1: Number of sentinel specimens positive for influenza, by type, subtype and by week of report, weeks 40/2010–11/2011

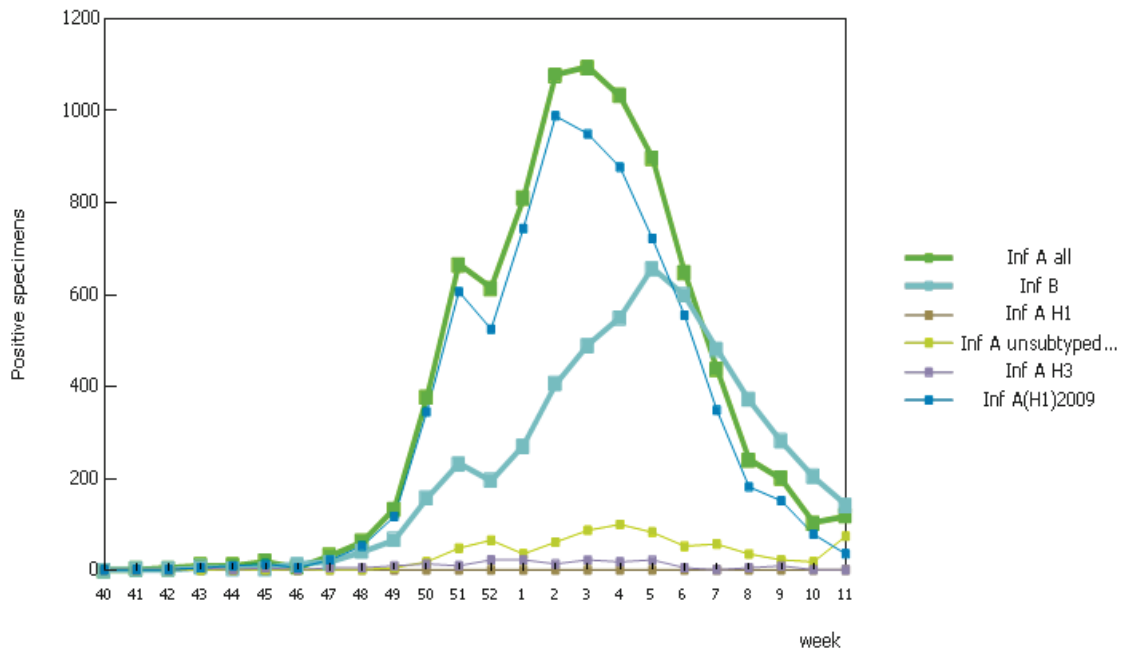


Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2010–11/2011

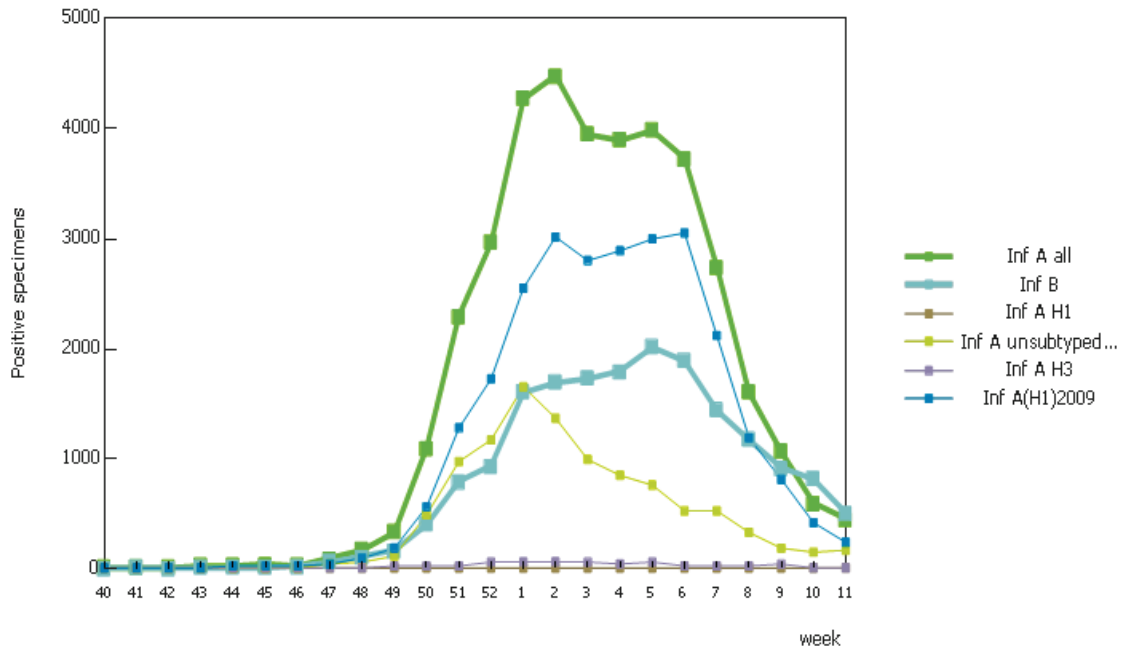


Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2010–11/2011

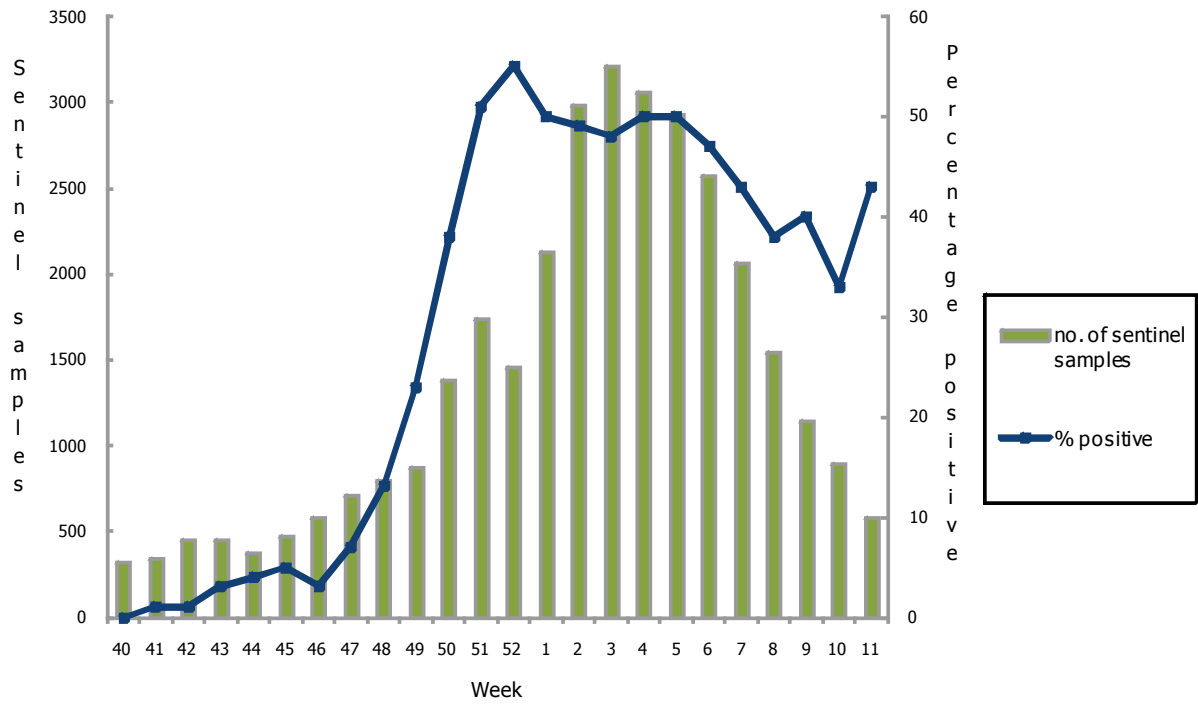


Figure 4: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2010–11/2011

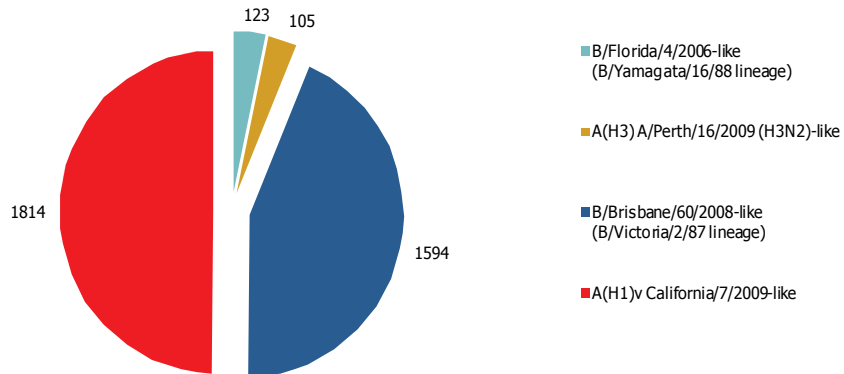
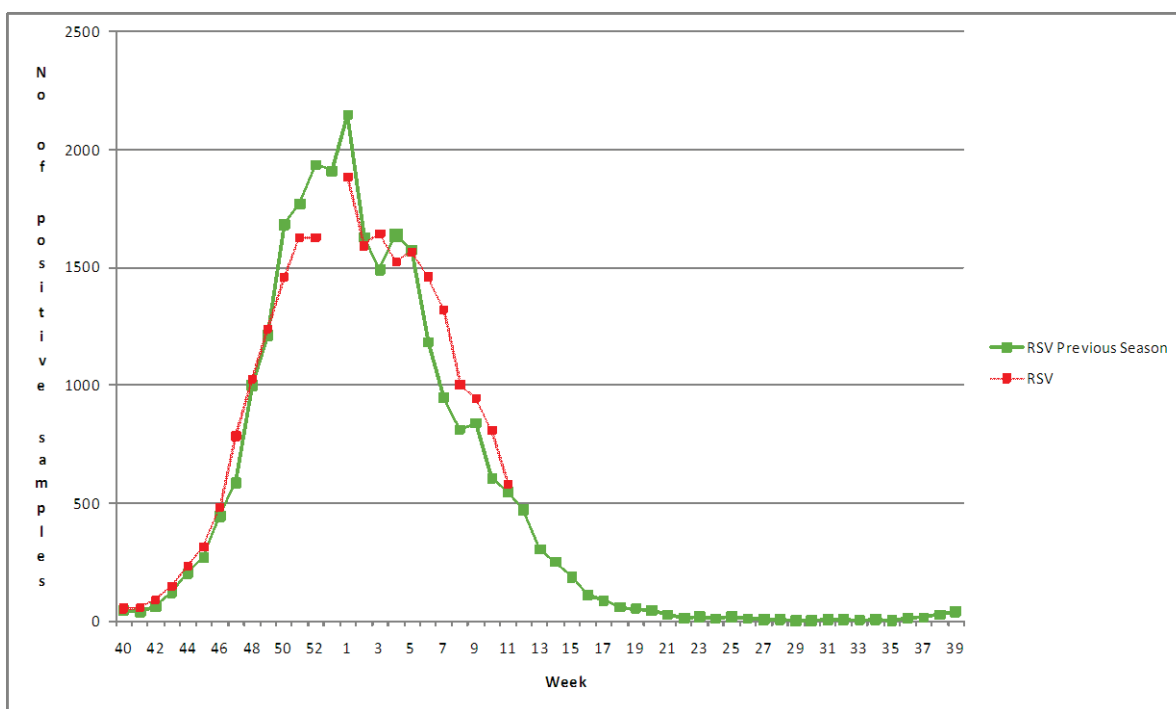


Table 3: Antiviral resistance by influenza virus type and subtype, weeks 40/2010–11/2011

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(H3)	4	0	4	0	2	2 (100)
A(H1)	0	0	0	0	0	0
A(H1)2009	1967	64 (3.3)	1967	0	178	178 (100)
B	332	0	322	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), and therefore data should be interpreted in this context.*

Figure 5: Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2010–11/2011



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 acute respiratory infection (SARI)

Weekly analysis – SARI

During week 11/2011, a total of 71 SARI cases were reported to TESSy by Austria, Belgium, Malta, Romania, Spain and Slovakia. Of these 71 severe respiratory cases, 25 were infected by A(H1N1) 2009 influenza virus and nine by an influenza B virus.

Since week 40/2010, 4 558 severe hospitalised respiratory cases were notified, of which 3 057 (67.1%) were due to an influenza infection. Of 2 899 typed specimens, 2 712 (93.5%) were influenza A and 187 (6.5%) were of type B. Of 2 712 subtyped influenza A viruses, 2 691 (99.2%) were influenza A(H1N1) 2009 (Table 6).

Since week 40/2010, 1 858 admissions to ICU were reported, 996 (53.6%) of whom required ventilation (Table 8).

In 3 172 severe respiratory cases with available information, 1 266 (39.9%) had no prior underlying conditions. The two first associated underlying conditions were respectively obesity (10.0%) and chronic lung condition (8.2%) (Figure 9).

Table 4: Cumulative number of SARI cases, weeks 40/2010–11/2011

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
Austria	367		11		
Belgium	851				
Spain	1340		148		
Finland	76		13		
France	781		132		
Ireland	122		23		
Malta	55		1		
Portugal	403		43		
Romania	387	6.03	27	0.42	6413821
Slovakia	176	3.24	20	0.37	5433385
Total	4558		418		

Figure 6: Number of SARI cases by week of onset, weeks 40/2010–11/2011

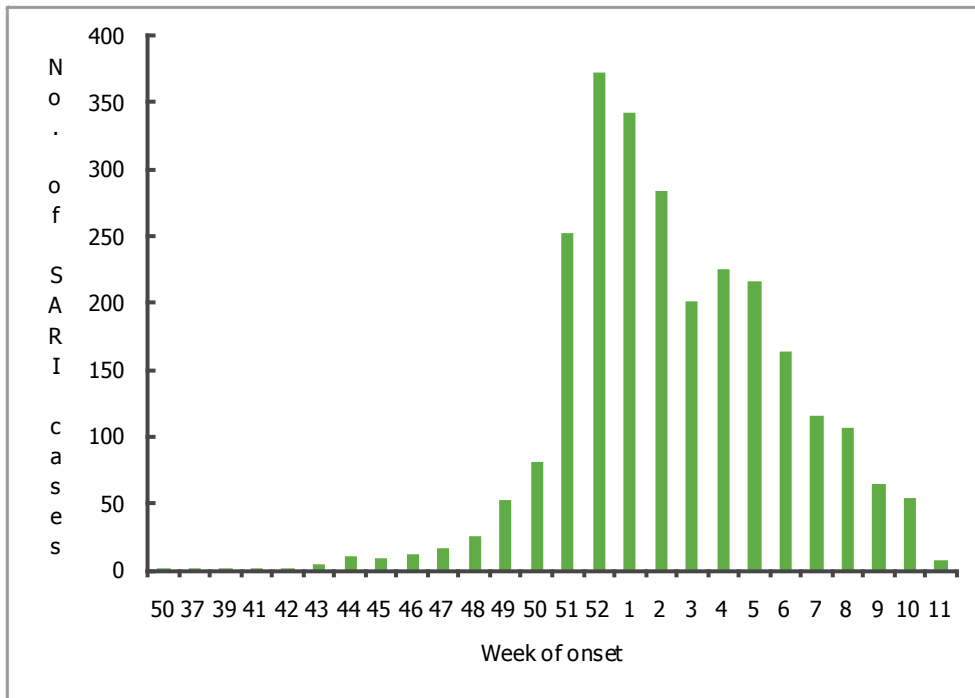


Table 5: Number of SARI cases by age and gender, weeks 40/2010–11/2011

Age groups	Male	Female
Under 2	332	245
2-17	353	314
18-44	585	546
45-59	659	466
>=60	559	433
Unknown	32	12
Total	2520	2016

Table 6: Number of SARI cases by influenza type and subtype, week 11/2011

Virus type/subtype	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	25	2870
A(H1)2009	25	2691
A(subtyping not performed)		158
A(H3)		21
Influenza B	9	187
Other Pathogen		34
Unknown	37	1467
Total	71	4558

Table 7: Number of SARI cases by antiviral treatment, weeks 40/2010–11/2011

Antiviral treatment	Number of patients who received prophylaxis	Number of patients who received anti-viral treatment
Oseltamivir	52	1680
Zanamivir	1	21
Oseltamivir and Zanamivir		10
Other (or combinations with other)	108	113
Unknown	3181	2426
None	1216	308
Total	4558	4558

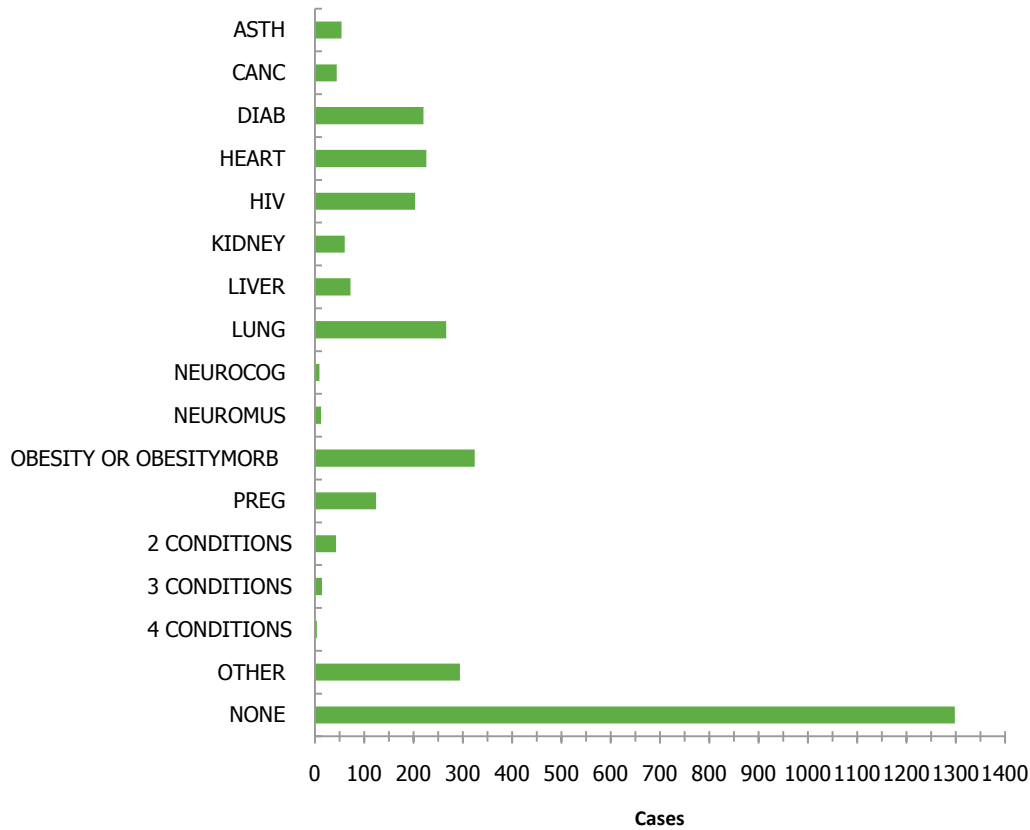
Table 8: Number of SARI cases by level of care and respiratory support, weeks 40/2010–11/2011

Respiratory support	ICU	Inpatient ward	Other	Unknown
No respiratory support available			1	
No respiratory support necessary	173	446	409	
Oxygen therapy	120	182	347	
Respiratory support given unknown	569	303	720	223
Ventilator	996	17	6	46

Table 9: Number of SARI cases by vaccination status, weeks 40/2010–11/2011

Vaccination Status	Number Of Cases	Percentage of cases
Both, monovalent 2009 pandemic H1N1 and seasonal 2010 vaccination	122	2.7
Monovalent 2009 pandemic H1N1 vaccination	48	1
Not vaccinated	2093	45.9
Seasonal 2010 vaccination	225	5
Unknown	2070	45.4
TOTAL	4558	

Figure 7: Number of SARI cases by underlying condition, weeks 40/2010–11/2011



Note: OTHER represents any other underlying condition than: asthma (ASTH), cancer (CANC), diabetes (DIAB), chronic heart disease (HEART), HIV/other immune deficiency (HIV), kidney-related conditions (KIDNEY), liver-related conditions (LIVER), chronic lung disease (LUNG), neurocognitive disorder (including seizure) (NEUROCOG), neuromuscular disorder (NEUROMUS), obesity (BMI between 30 and 40) (OBESITY), morbid obesity (BMI above 40) (OBESITYMORB), pregnancy (PREG). NONE is reported if there were no underlying conditions and UNK when the underling conditions where unknown.

Country comments

Denmark: Up to 21 March (week 11/2011), a cumulative total of 144 influenza patients have been reported by intensive care units (ICUs) in Denmark with a median age of 54 years (range 1 week to 83 years). One patient was admitted to an ICU in week 11/2011 compared with two new admissions in week 10. The pressure on the wards, reflected by the proportion of ICU beds used for influenza patients, decreased. On Monday 21 March 2011 at 8am, three influenza patients were in ICUs, corresponding with 0.9% of the total number of occupied ICU beds in the country, compared to 2.5% in the week before. Up to week 11/2011, 109 of the ICU patients were diagnosed with influenza A, 42 of whom were reported to be further subtyped as subtype H1N1. Thirty-five patients had an influenza B infection. Nine patients with influenza A and two patients with influenza B received extracorporeal membrane oxygenation (ECMO). Eighteen patients with confirmed influenza A and seven with influenza B died. Twenty-three patients were reported to be previously healthy and for another 37 patients no underlying condition was reported. For 84 patients one or more underlying conditions were described. One influenza patient was reported to be pregnant. Initial alignment with the Danish Vaccination Registry showed that 27 of the 144 patients had received the 2010/2011 seasonal influenza vaccine between weeks 39 and 50 of 2010. The other 117 patients were probably not vaccinated with the 2010/2011 seasonal influenza vaccine.

The report text was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC): Eeva Broberg, Flaviu Plata, Phillip Zucs 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 Bianca Snijders (RIVM Bilthoven, The Netherlands) and Thedi Ziegler (National Institute for Health and Welfare, Finland)

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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 numbers in the database.

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