SURVEILLANCE REPORT

Weekly influenza surveillance overview

9 April 2010

Main surveillance developments in week 13/2010 (29 Mar 2010 – 04 Apr 2010)

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

- For the fifth consecutive week, all reporting countries experienced low intensity of influenza activity.
- All counties reported no or sporadic activity, except for Italy who reported local activity.
- Of the 49 influenza viruses detected from sentinel and non-sentinel sources during week 13/2010, 27 (55%) were type B viruses.
- Three countries (France, Malta and the Netherlands) reported one SARI case each. Two deaths in SARI cases were reported by Hungary.
- Even though the world remains in pandemic Phase 6, influenza activity caused by the 2009 pandemic influenza A(H1N1) virus is well past its winter peak in EU/EEA countries. However, transmission of the pandemic virus and B influenza viruses continues at low levels. Only some cases of influenza-like illness in EU/EEA countries are currently due to influenza virus.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): Low influenza activity was reported by all 24 reporting countries. For more information, **click here.**

Virological surveillance: Of the 49 influenza viruses identified during week 13/2010, 27 (55%) were type B viruses. In the Netherlands, a new mutation in the pandemic strain with reduced susceptibility to both oseltamivir and zanamivir was detected in an immunocompromised child who died. For more information, **click here.**

Aggregate numbers of 2009 pandemic influenza (H1N1) deaths: During week 13/2010, Hungary reported two deaths. For more information, **click here.**

Hospital surveillance of severe acute respiratory infection (SARI): During week 13/2010, France, Malta and the Netherlands reported one SARI case each. For more information, **click here.**

Qualitative reporting: For more information, **click here.**

Sentinel surveillance (ILI/ARI)

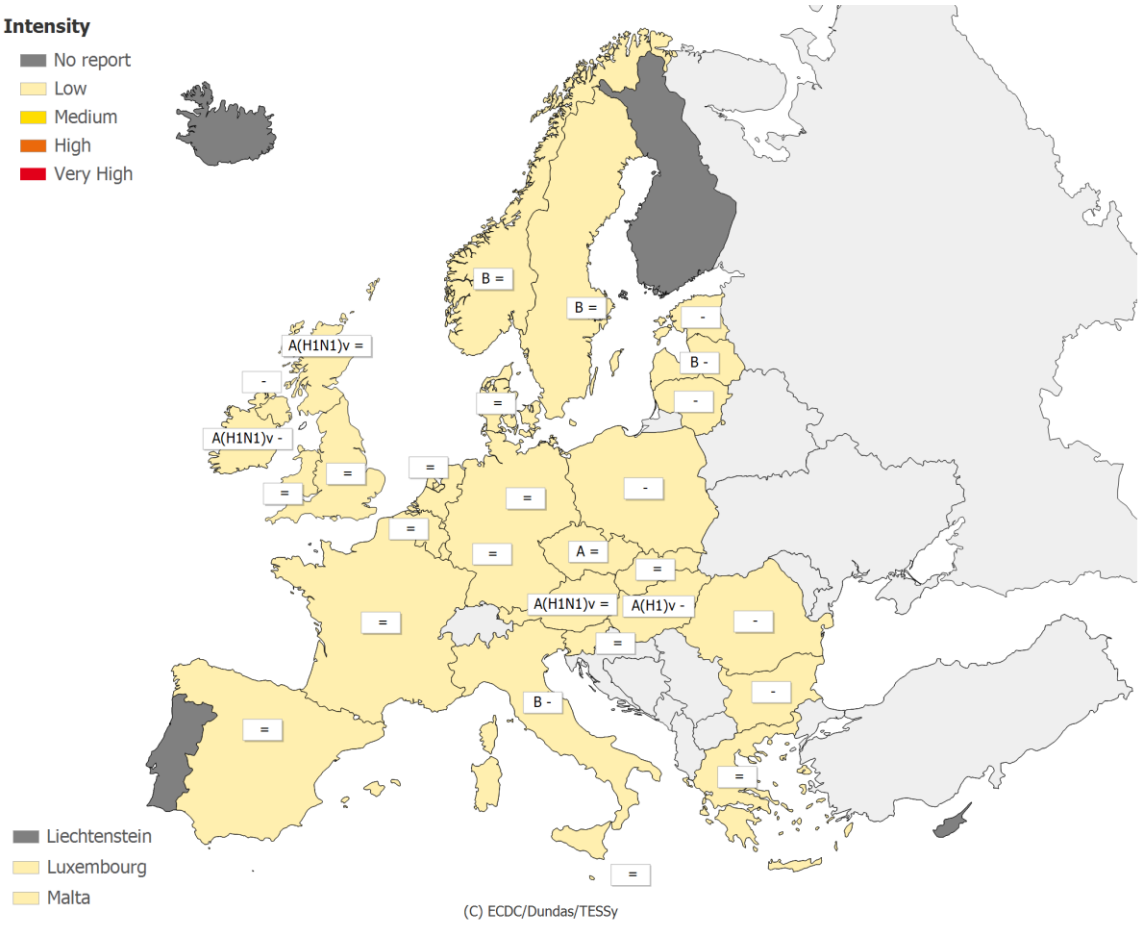
Weekly analysis—epidemiology

During week 13/2010, 24 of 29 countries reported epidemiological data. For the fifth consecutive week, all reporting countries experienced low intensity of influenza activity (Table 1, Map1).

Fifteen countries and the UK (England, Scotland and Wales) reported a stable trend, and nine countries and the UK (Northern Ireland) reported decreasing trends in the consultation rates for ILI and ARI.

For the geographic spread indicator, Italy reported local activity and all other countries reported sporadic or no activity (Map 2).

Map 1: Intensity for week 13/2010

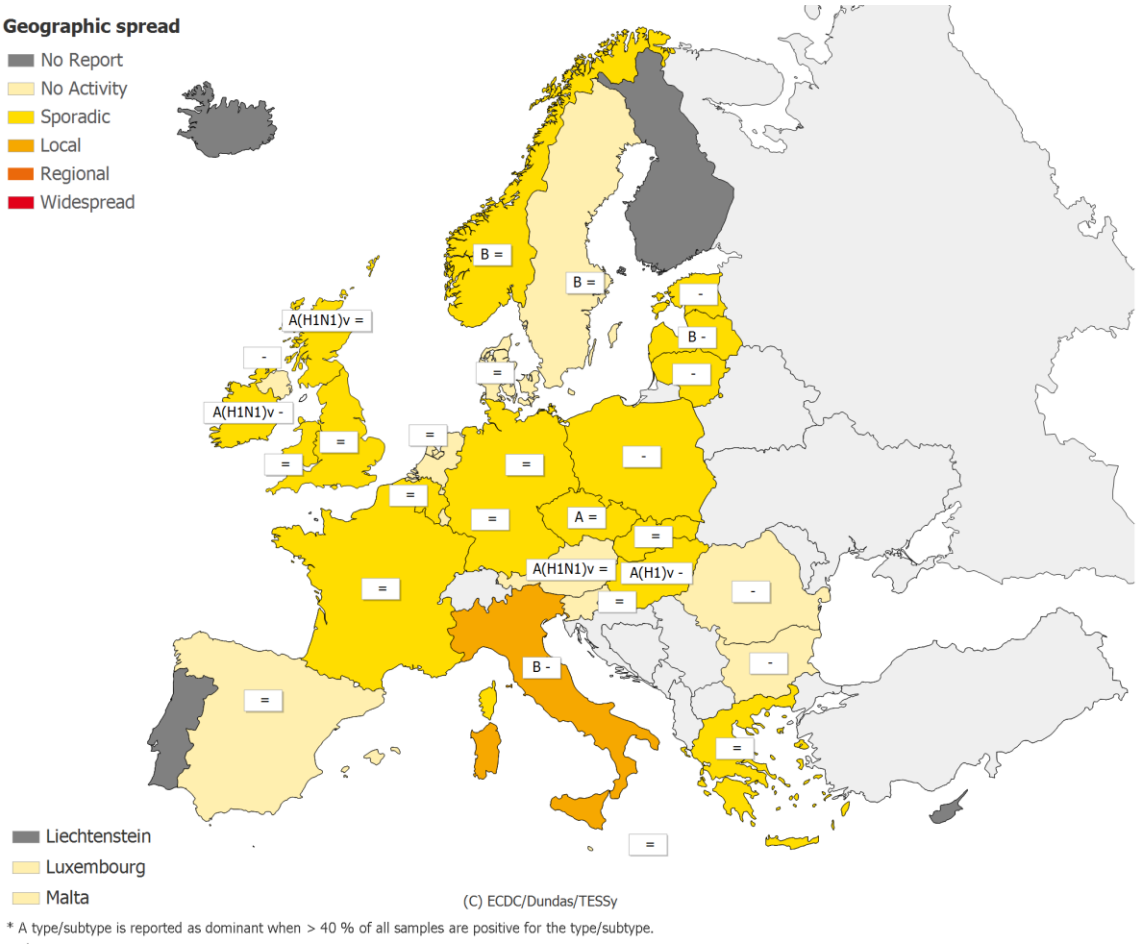


* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

Legend:

Low	No influenza activity or influenza at baseline levels	**-**	Decreasing clinical activity
Medium	Usual levels of influenza activity	**+**	Increasing clinical activity
High	Higher than usual levels of influenza activity	**=**	Stable clinical activity
Very high	Particularly severe levels of influenza activity	**A**	Type A
		A(H1)v	Type A, Subtype H1v
		A(H1N1)v	Type A, Subtype H1N1v
		B	Type B

Map 2: Geographic spread for week 13/2010



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

Legend:

No activity	No evidence of influenza virus activity (clinical activity remains at baseline levels)
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)

-	Decreasing clinical activity
+	Increasing clinical activity
=	Stable clinical activity
A	Type A
A(H1)v	Type A, Subtype H1v
A(H1N1)v	Type A, Subtype H1N1v
B	Type B

Table 1: Epidemiological and virological overview by country

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	1	A(H1N1)v	0.0	-	4.0	Graphs	Graphs
Belgium	Low	Sporadic	Stable	10	None	0.0	40.3	1215.3	Graphs	Graphs
Bulgaria	Low	No activity	Decreasing	0	None	-	-	526.6	Graphs	Graphs
Cyprus				-	-	-	-	-	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	8	A	25.0	20.7	691.8	Graphs	Graphs
Denmark	Low	No activity	Stable	5	None	20.0	28.0	0.0	Graphs	Graphs
Estonia	Low	Sporadic	Decreasing	10	None	0.0	2.2	204.1	Graphs	Graphs
Finland				-	-	-	-	-	Graphs	Graphs
France	Low	Sporadic	Stable	35	None	0.0	-	1170.4	Graphs	Graphs
Germany	Low	Sporadic	Stable	7	None	0.0	-	644.1	Graphs	Graphs
Greece	Low	Sporadic	Stable	1	None	0.0	52.6	-	Graphs	Graphs
Hungary	Low	Sporadic	Decreasing	20	A(H1)v	0.0	36.9	-	Graphs	Graphs
Iceland				-	-	-	-	-	Graphs	Graphs
Ireland	Low	Sporadic	Decreasing	3	A(H1N1)v	0.0	4.2	-	Graphs	Graphs
Italy	Low	Local	Decreasing	14	B	50.0	97.3	-	Graphs	Graphs
Latvia	Low	Sporadic	Decreasing	0	B	-	0.0	720.9	Graphs	Graphs
Lithuania	Low	Sporadic	Decreasing	1	None	0.0	0.3	365.1	Graphs	Graphs
Luxembourg	Low	No activity	Stable	6	-	0.0	-*	-*	Graphs	Graphs
Malta	Low	No activity	Stable	-	-	-	-*	-*	Graphs	Graphs
Netherlands	Low	No activity	Stable	3	None	0.0	17.5	-	Graphs	Graphs
Norway	Low	Sporadic	Stable	0	B	-	11.0	-	Graphs	Graphs
Poland	Low	Sporadic	Decreasing	11	None	0.0	73.4	-	Graphs	Graphs
Portugal				0	None	-	-	-	Graphs	Graphs
Romania	Low	No activity	Decreasing	1	None	0.0	0.0	571.4	Graphs	Graphs
Slovakia	Low	Sporadic	Stable	2	None	0.0	114.9	1101.1	Graphs	Graphs
Slovenia	Low	No activity	Stable	2	None	0.0	0.0	891.1	Graphs	Graphs
Spain	Low	No activity	Stable	17	None	0.0	5.3	-	Graphs	Graphs
Sweden	Low	No activity	Stable	11	B	9.1	0.0	-	Graphs	Graphs
UK - England	Low	Sporadic	Stable	28	None	0.0	4.3	328.3	Graphs	Graphs
UK - Northern Ireland	Low	No activity	Decreasing	2	None	0.0	16.3	365.8	Graphs	Graphs
UK - Scotland	Low	Sporadic	Stable	17	A(H1N1)v	5.9	2.5	189.8	Graphs	Graphs
UK - Wales	Low	Sporadic	Stable	-	-	-	1.8	-	Graphs	Graphs
Europe				215		5.6				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 organized 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 13/2010, 24 countries and the UK (England, Northern Ireland and Scotland) reported virological data. Sentinel physicians collected 215 specimens, 12 (5.6%) of which were positive for influenza virus (Tables 1 and 2). In addition, 37 non-sentinel source specimens (i.e. specimens collected for diagnostic purpose in hospitals) were reported positive for influenza virus. Of the 49 influenza viruses detected from sentinel and non-sentinel sources during week 13/2010, 27 (55%) were type B viruses. These influenza viruses were reported as dominant in Italy, Latvia, Norway and Sweden.

Of the 16 191 type A influenza viruses detected by sentinel practices and on which sub-typing was performed since week 40/2009, 16 134 (>99%) were identified as the 2009 pandemic influenza A(H1N1) virus. Table 2 shows the distribution of both sentinel and non-sentinel specimens by type and sub-type. Figures 1—3 show the trends of virological detections over time. The proportion of positive sentinel samples has decreased since week 46/2009 and has remained at a consistently low level since week 07/2010 (Figure 3).

In the Netherlands, a case of 2009 pandemic influenza A(H1N1) developed in an immunocompromised child with reduced susceptibility to zanamivir and oseltamivir due to an amino-acid mutation at position 223 in the neuraminidase. The child, who had an underlying condition that rendered him susceptible to infection, died due to deterioration of pulmonary problems. No onward transmission of this variant was detected. Previously, amino-acid mutations at the 223 (n1 numbering) or 222 (n2 numbering) position in the neuraminidase have been reported in A(H5N1) and seasonal influenza viruses associated with reduced susceptibility or an enhanced level of resistance in combination with other resistance mutations (e.g. H275Y), for oseltamivir only or for both oseltamivir and zanamivir. Therefore, inclusion of screening for variation of amino-acids at this position is warranted. The clinical implications of this 2009 A(H1N1) variant are being assessed and a publication is expected.

Since their peak in week 01/2010, the total number of respiratory syncytial virus (RSV) detections in all reporting countries has been in decline (Figure 4).

Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2009–13/2010

	Current Week		Season	
Virus type/subtype	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	4	18	16848	90055
A (pandemic H1N1)	2	14	16134	78473
A (subtyping not performed)	2	4	657	11440
A (not subtypable)	0	0	14	48
A (H3)	0	0	8	44
A (H1)	0	0	35	50
Influenza B	8	19	120	204
Total Influenza	**12**	**37**	**16968**	**90259**

Note: A(pandemic H1N1), A(H3) and A(H1) includes both N-subtyped and not N-subtyped viruses.

Figure 1: Number of sentinel specimens positive for influenza, by type, subtype and by week of report, weeks 40/2009–13/2010

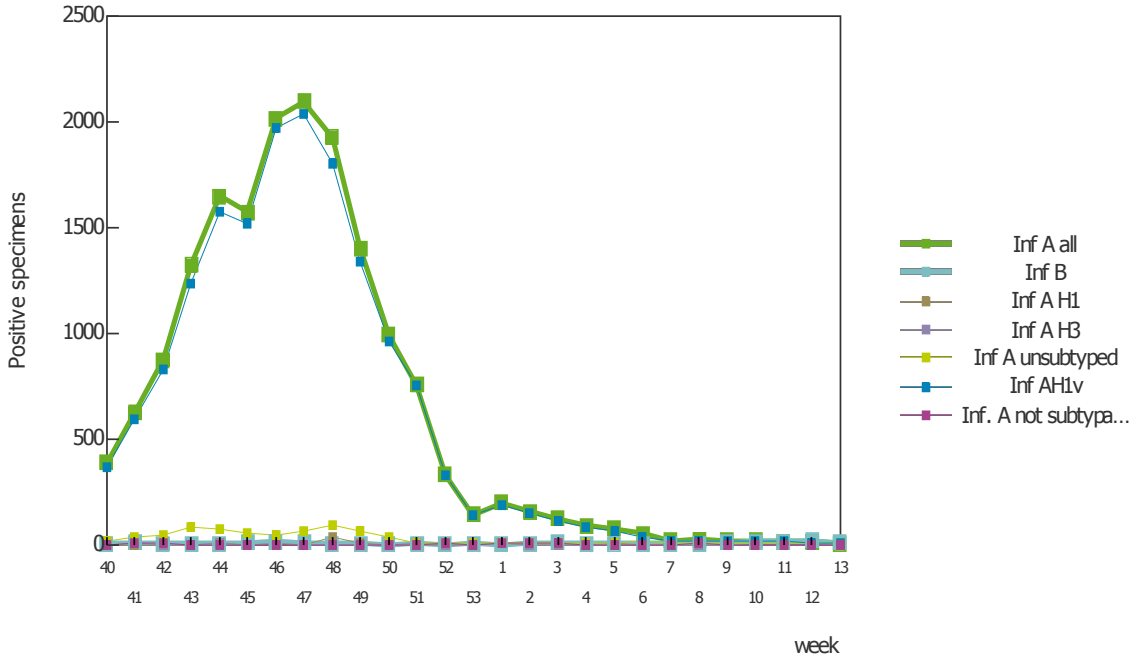


Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2009–13/2010

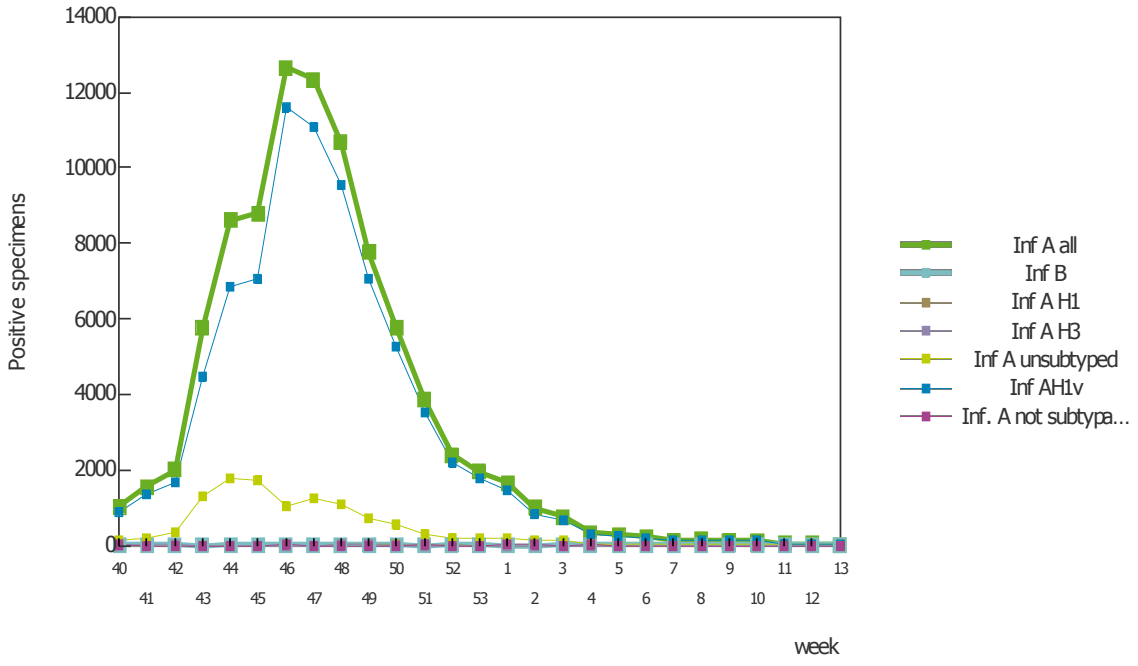


Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2009–13/2010

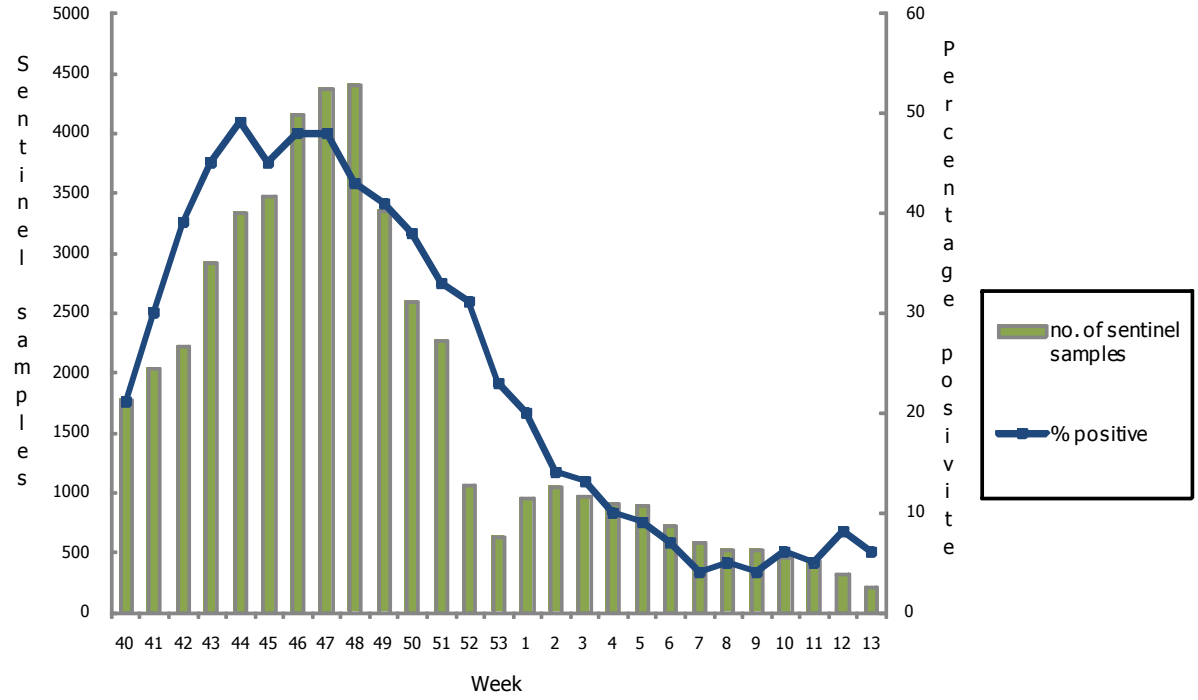
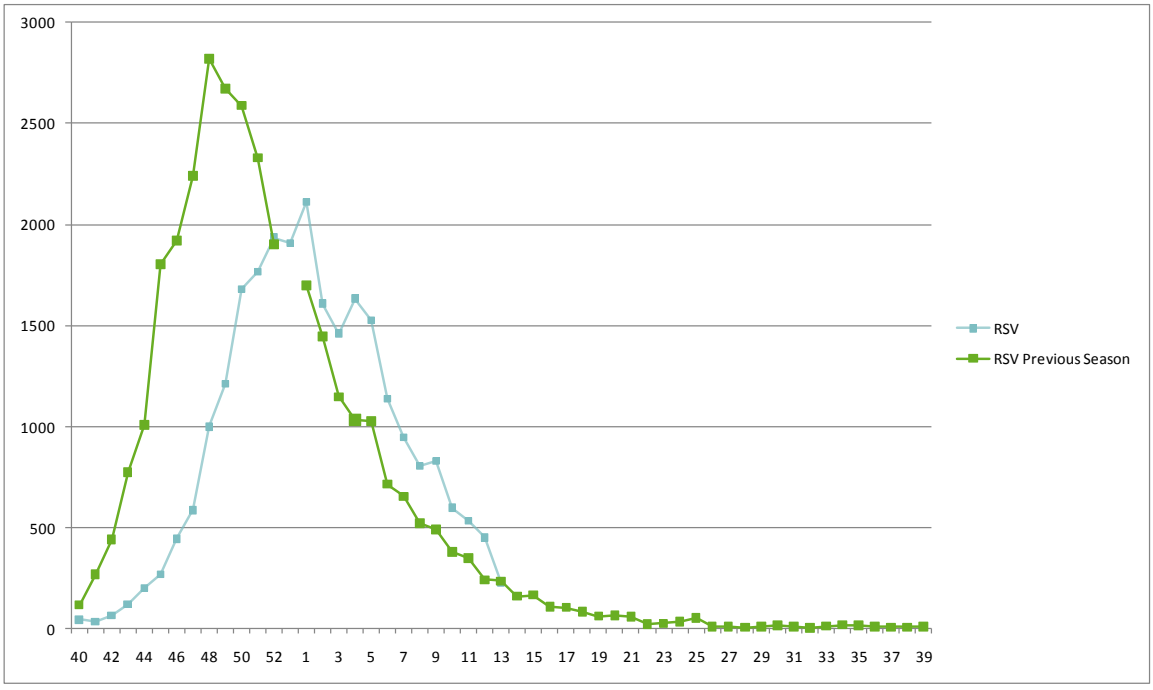


Figure 4: Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2009–13/2010



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**.

Aggregate numbers of 2009 pandemic A(H1N1) associated deaths

Weekly analysis—deaths

During week 13/2010, Hungary reported two deaths. Since the beginning of the influenza pandemic, 1846 deaths have been notified to ECDC through TESSy (Table 3).

Table 3: Aggregate numbers of 2009 pandemic A(H1N1) associated deaths, week 13/2010

Country	Deaths reported in week 13	Cumulative deaths since start of season	Last reported week
Austria		0	2009-w36
Belgium		0	2009-w29
Bulgaria		40	2009-w53
Cyprus		0	2009-w29
Czech Republic	0	98	2010-w13
Denmark		0	2009-w36
Estonia	0	19	2010-w13
Finland		0	2009-w36
France	0	312	2010-w13
Germany	0	254	2010-w13
Greece	0	140	2010-w13
Hungary	2	132	2010-w13
Iceland		2	2009-w52
Ireland	0	24	2010-w13
Italy		1	2009-w52
Latvia		34	2010-w09
Lithuania	0	23	2010-w13
Luxembourg		3	2009-w52
Malta		5	2010-w12
Netherlands	0	62	2010-w13
Norway	0	29	2010-w13
Poland		148	2009-w53
Portugal		0	2009-w36
Romania	0	122	2010-w13
Slovakia	0	55	2010-w13
Slovenia	0	19	2010-w13
Spain		4	2009-w29
Sweden	0	24	2010-w13
United Kingdom		296	2010-w09
Total	2	1846	

Note: Blank = no reporting

Description of the system

Aggregate numbers of both probable and laboratory-confirmed cases of pandemic influenza and deaths due to pandemic influenza are reported by countries still collecting these data. As countries are retrospectively updating their weekly numbers of deaths and the system calculates the cumulative values based on the current status, weekly numbers of deaths published in previous WISO editions may not always add up to the cumulative totals.

Hospital surveillance – severe acute respiratory infection (SARI)

Weekly analysis—SARI

During week 13/2010, three SARI cases were reported by France, Malta and the Netherlands respectively. The number of SARI cases by week of onset has been declining since the peak in week 46/2009 (Figure 5). Since the beginning of SARI surveillance, 11 countries have reported 11 366 cases, including 560 fatalities (Table 4).

More than 99% of the influenza viruses detected in SARI cases since the start of the influenza season were the 2009 pandemic influenza A(H1N1) virus (Table 6).

Table 4: Cumulative number of SARI cases, weeks 40/2009 - week 13/2010

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	2821		38		
Belgium	1865	17.48			10668666
Cyprus	25		8		
Finland	1421	26.68	55	1.03	5326314
France	1345		296		
United Kingdom	1598	4.05	64	0.16	39503332
Ireland	903		17		
Malta	194	46.9	1	0.24	413609
Netherlands	648	3.92	29	0.18	16521505
Romania	200	15.77	12	0.95	1268418
Slovakia	346		40		
Total	11366		560		73701844

Figure 5: Number of SARI cases by week of onset, week 13/2010

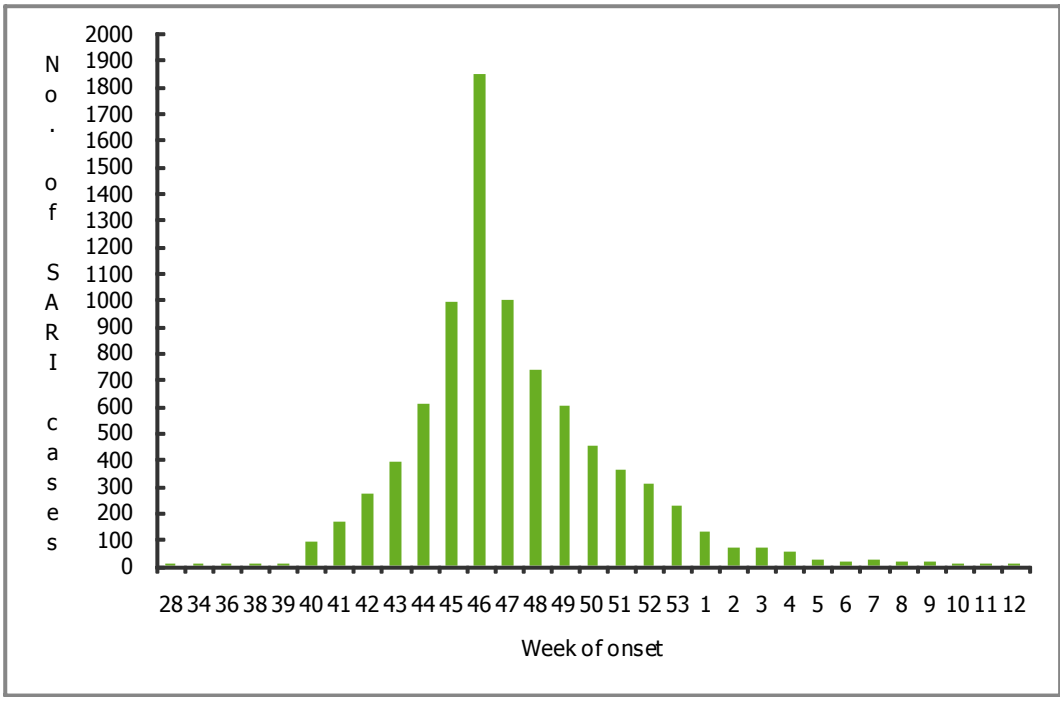


Table 5: Number of SARI cases by age and gender, week 13/2010

Age groups	Male	Female	Other (e.g., transsexual)	Unknown
2-17	1			
18-44	1			
45-59	1			
Total	3			

Table 6: Number of SARI cases by influenza type and subtype, week 13/2010

Virus type/subtype	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	2	9026
A (pandemic H1N1)	2	8994
A(subtyping not performed)		25
A(H3)		
A(H1)		7
A(H5)		
Influenza B		
Unknown	1	2340
Total	3	11366

Description of the system

A number of Member States carry out hospital-based surveillance of severe acute respiratory infection (SARI) exhaustively or at selected sentinel sites. SARI surveillance serves to monitor the trends in the severity of influenza and potential risk factors for severe disease to help guide preventive measures and health care resource allocation.

Qualitative reporting

Qualitative monitoring will be an acceptable replacement for the quantitative monitoring when reliable numbers are no longer available for reporting due to overburdened surveillance systems. The qualitative components will give some indication of influenza intensity, geographic spread, trend and impact.

The report text was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC): Flaviu Plata, Phillip Zucs, Bruno Ciancio, Rene Snacken and Eeva Broberg. 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 Joan O'Donnell (Health Protection Surveillance Centre, Ireland) and Katarina Prosenc (National Institute of Public Health, Slovenia).