SURVEILLANCE REPORT

Weekly influenza surveillance overview

1 April 2010

Main surveillance developments in week 12/2010 (22 Mar 2010 – 28 Mar 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 fourth consecutive week, all 24 reporting countries experienced low intensity of influenza activity.
- Of the 293 specimens collected by sentinel physicians from patient with influenza like illness, only 24 (8.2%) were positive for influenza virus. Although the pandemic virus predominated, influenza B viruses are circulating as well.
- The number of reported SARI cases continued to be low, with only 13 cases reported during week 12/2010.
- 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. Most cases of influenza-like illness in EU/EEA countries are currently not due to influenza virus infection.

Sentinel surveillance of influenza like-illness (ILI)/ acute respiratory infection (ARI): All 24 reporting countries experienced low intensity influenza activity. For the geographic spread indicator, all countries reported sporadic or no activity. For more information, **click here.**

Virological surveillance: Sentinel physicians collected 293 respiratory specimens, 24 (8.2%) of which were positive for influenza virus. Since week 40/2009, 99% of the viruses detected in sentinel specimens were 2009 pandemic influenza A(H1N1) virus. For more information, **click here.**

Aggregate numbers of 2009 pandemic influenza (H1N1) deaths: During week 12/2010, five countries reported a total of five deaths. For more information, **click here.**

Hospital surveillance of severe acute respiratory infection (SARI): During week 12/2010, 13 SARI cases were reported, three of which had symptom onset during the same week. For more information, **click here.**

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

Sentinel surveillance (ILI/ARI)

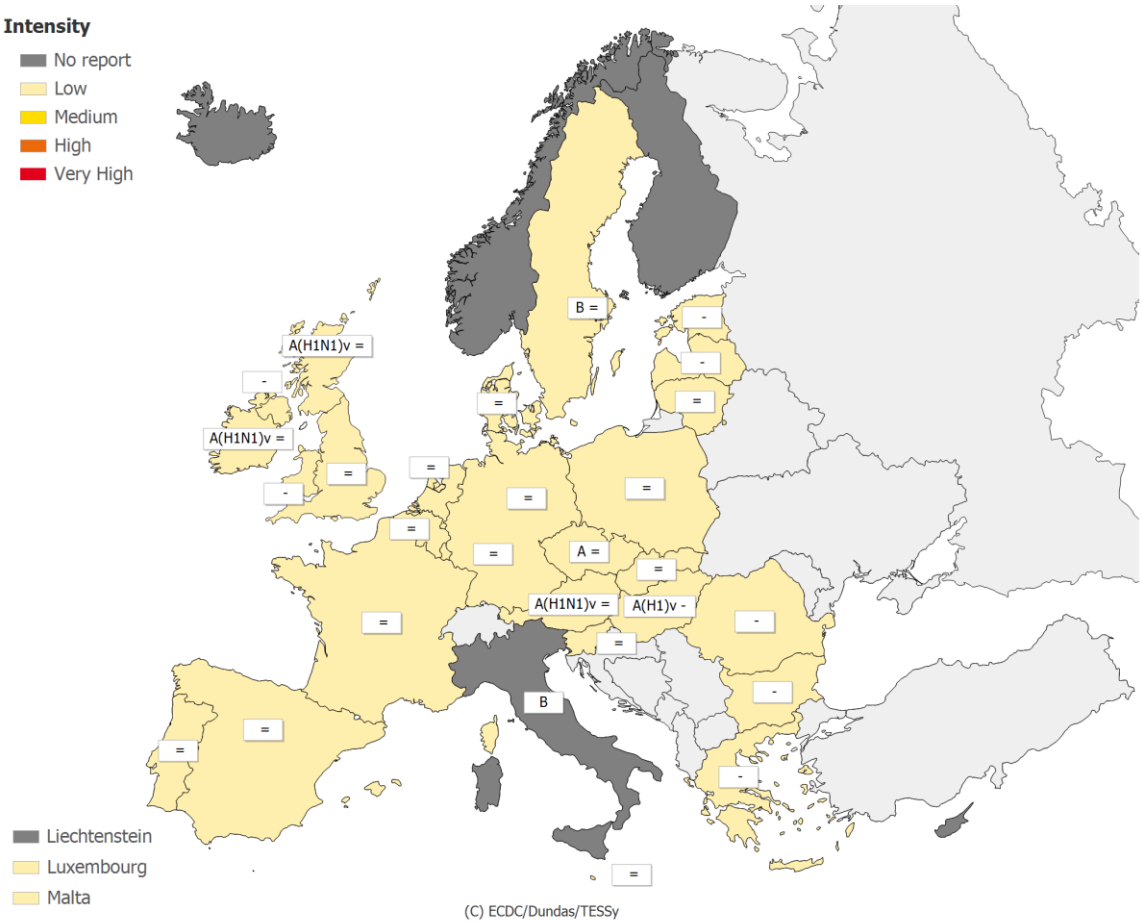
Weekly analysis—epidemiology

In week 12/2010, 24 out of 29 countries reported epidemiological data. For the fourth consecutive week, all countries experienced low intensity of influenza activity.

Seventeen countries and the UK (England and Scotland) reported stable trends, and six countries and the UK (Northern Ireland and Wales) reported decreasing trends of the consultation rate for ILI or ARI (Map 1 and Table 1).

For the geographic spread indicator, all countries reported sporadic or no activity (Map 2 and Table 1).

Map 1: Intensity for week 12/2010

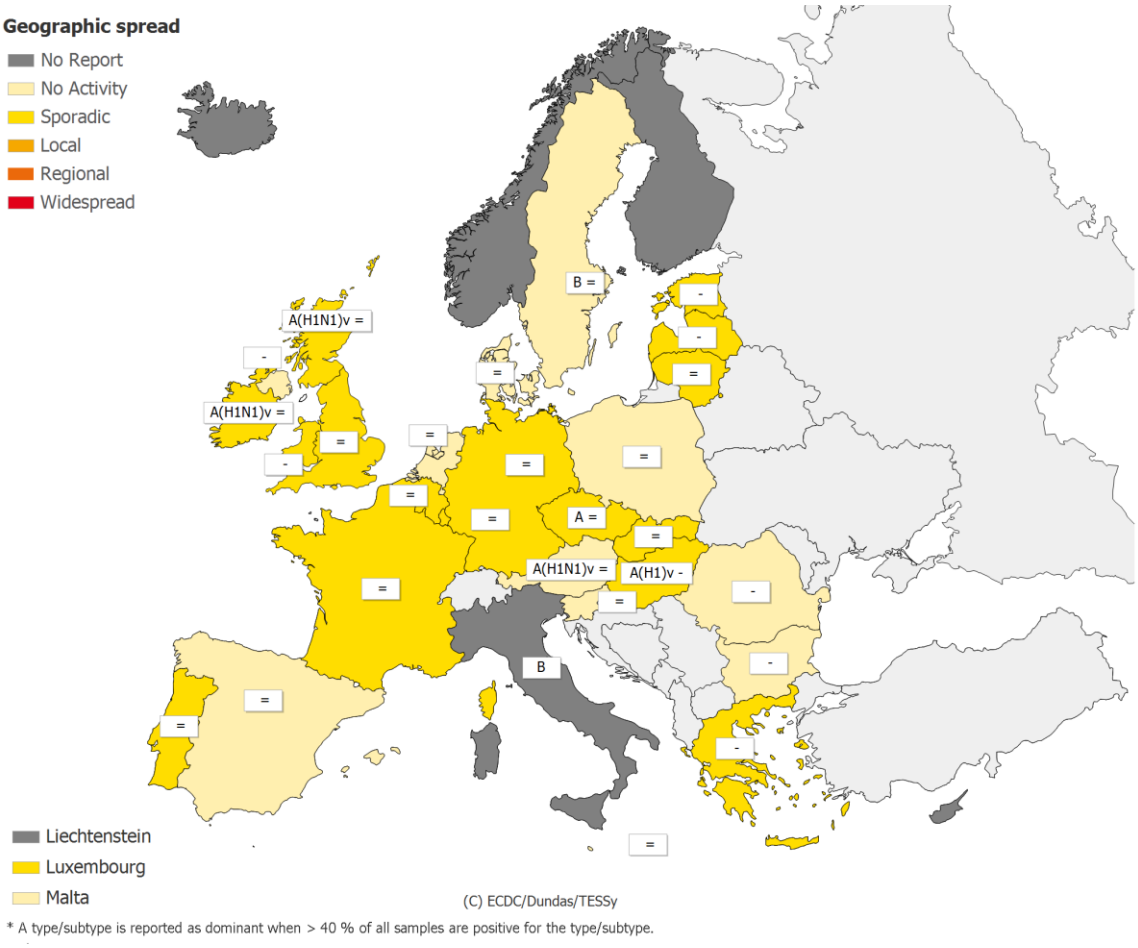


* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

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 12/2010



* 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	-	11.4	Graphs	Graphs
Belgium	Low	Sporadic	Stable	12	None	8.3	56.0	1388.2	Graphs	Graphs
Bulgaria	Low	No activity	Decreasing	0	None	-	-	700.8	Graphs	Graphs
Cyprus				-	-	-	-	-	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	13	A	23.1	20.0	754.5	Graphs	Graphs
Denmark	Low	No activity	Stable	4	None	25.0	42.7	0.0	Graphs	Graphs
Estonia	Low	Sporadic	Decreasing	16	None	0.0	4.3	235.9	Graphs	Graphs
Finland				-	-	-	-	-	Graphs	Graphs
France	Low	Sporadic	Stable	-	-	-	-	1276.1	Graphs	Graphs
Germany	Low	Sporadic	Stable	17	None	23.5	-	845.7	Graphs	Graphs
Greece	Low	Sporadic	Decreasing	2	None	0.0	52.0	-	Graphs	Graphs
Hungary	Low	Sporadic	Decreasing	18	A(H1)v	0.0	57.3	-	Graphs	Graphs
Iceland				-	-	-	-	-	Graphs	Graphs
Ireland	Low	Sporadic	Stable	7	A(H1N1)v	0.0	7.1	-	Graphs	Graphs
Italy				29	B	31.0	-	-	Graphs	Graphs
Latvia	Low	Sporadic	Decreasing	0	None	-	0.0	1106.4	Graphs	Graphs
Lithuania	Low	Sporadic	Stable	2	None	0.0	1.6	452.0	Graphs	Graphs
Luxembourg	Low	Sporadic	Stable	10	None	10.0	-*	-*	Graphs	Graphs
Malta	Low	No activity	Stable	-	-	-	-*	-*	Graphs	Graphs
Netherlands	Low	No activity	Stable	2	None	0.0	17.1	-	Graphs	Graphs
Norway				-	-	-	-	-	Graphs	Graphs
Poland	Low	No activity	Stable	9	None	0.0	85.5	-	Graphs	Graphs
Portugal	Low	Sporadic	Stable	3	None	0.0	3.8	-	Graphs	Graphs
Romania	Low	No activity	Decreasing	19	None	0.0	0.7	746.9	Graphs	Graphs
Slovakia	Low	Sporadic	Stable	-	-	-	141.6	1307.3	Graphs	Graphs
Slovenia	Low	No activity	Stable	3	None	0.0	1.4	1040.6	Graphs	Graphs
Spain	Low	No activity	Stable	43	None	4.7	8.5	-	Graphs	Graphs
Sweden	Low	No activity	Stable	8	B	12.5	1.4	-	Graphs	Graphs
UK - England	Low	Sporadic	Stable	61	None	20.0	6.2	414.3	Graphs	Graphs
UK - Northern Ireland	Low	No activity	Decreasing	0	None	-	15.9	394.4	Graphs	Graphs
UK - Scotland	Low	Sporadic	Stable	14	A(H1N1)v	0.0	1.6	240.6	Graphs	Graphs
UK - Wales	Low	Sporadic	Decreasing	-	-	-	1.0	-	Graphs	Graphs
Europe				293		8.2				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 12/2010, 21 countries reported virological data. Sentinel physicians collected 293 specimens, 24 (8.2%) of which were positive for influenza virus (Tables 1 and 2). In addition, 69 non-sentinel source specimens (i.e. specimens collected for diagnostic purpose in hospitals) were reported positive for influenza virus. Of the 93 influenza viruses detected from sentinel and non-sentinel sources during week 12/2010, 24 (26 %) were type B viruses. During week 12/2010, the influenza B virus was detected in various countries across Europe and was the dominant type in Italy and Sweden.

Of the 17 015 type A influenza viruses detected by sentinel practices and on which sub-typing was performed since week 40/2009, 16 958 (>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 from week 46/2009 to week 09/2010 when a slight increase was observed (Figure 3).

From week 40/2009 to week 12/2010, 2087 influenza viruses from sentinel and non-sentinel specimens have been characterised antigenically (Table 3), and 1131 were characterised genetically. Of the former, 2048 (98.1%) were antigenically pandemic A/California/7/2009(H1N1)-like and of the latter, 1104 (97.6%) pandemic A(H1N1). The nine influenza B viruses characterized antigenically by week 12/2010 were of the B/Victoria/2/87 lineage.

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

All pandemic viruses tested were resistant to M2 inhibitors. Of the 1453 viruses tested from nine countries, 37(2.5%) were resistant to oseltamivir, and of 1447 viruses tested, none were resistant to zanamivir (Table 4).

Since the peak in week 01/2010, the total number of respiratory syncytial virus (RSV) detections has been decreasing in 11 countries (Figure 4).

Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2009–12/2010

	Current Week		Season	
Virus type/subtype	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	12	57	17670	92354
A (pandemic H1N1)	9	39	16958	78779
A (subtyping not performed)	3	18	655	13426
A (not subtypable)	0	0	14	48
A (H3)	0	0	8	49
A (H1)	0	0	35	52
Influenza B	12	12	115	194
Total Influenza	**24**	**69**	**17785**	**92548**

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 40/2009–12/2010

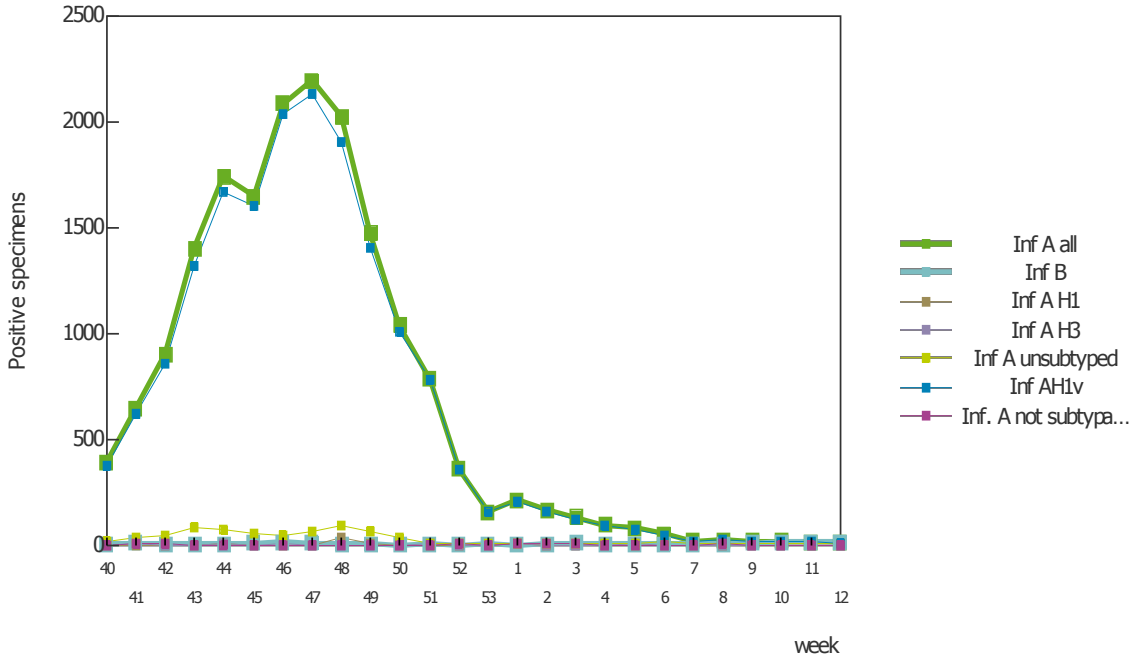


Figure 2: **Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2009–12/2010**

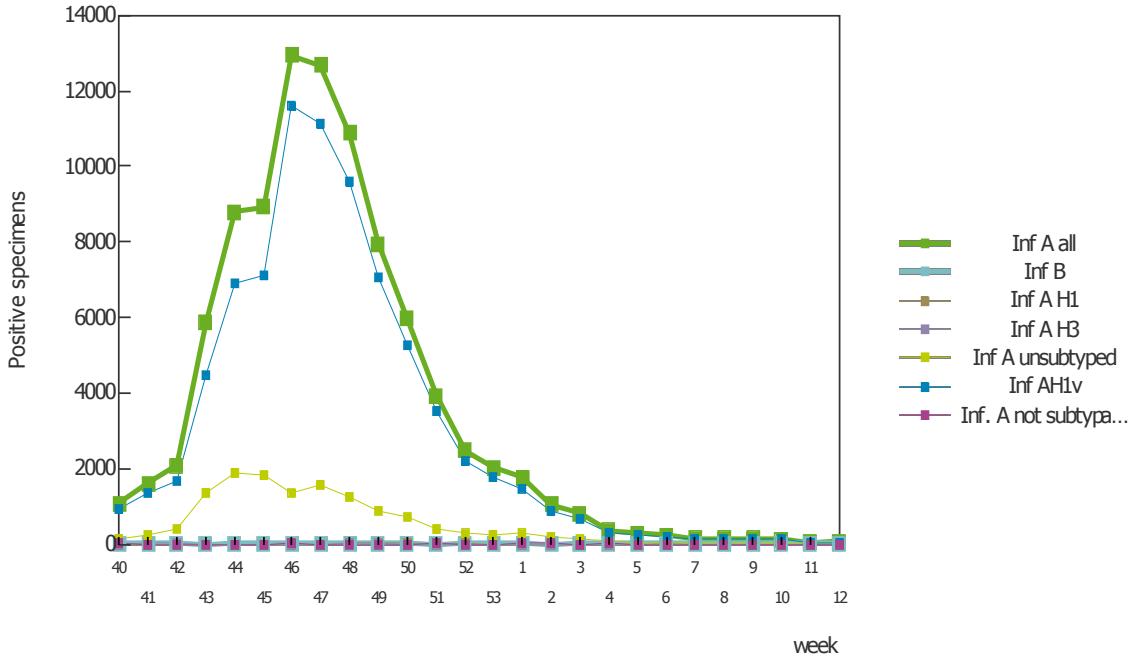


Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2009–12/2010

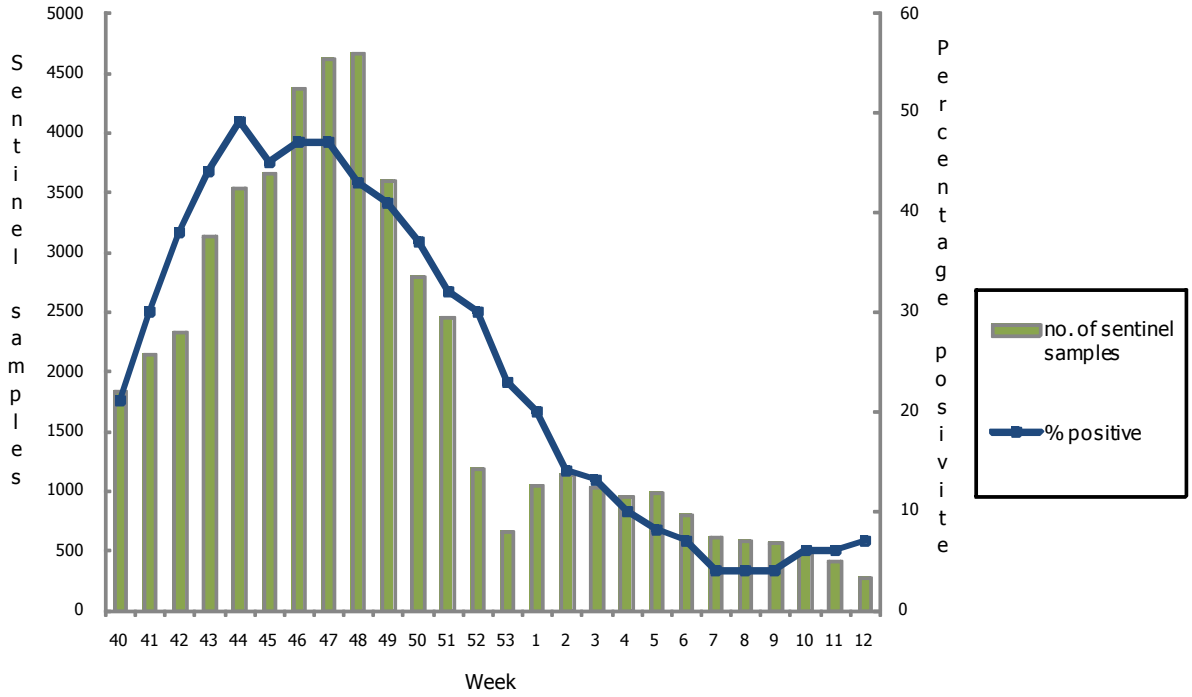


Table 3: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates since week 40/2009

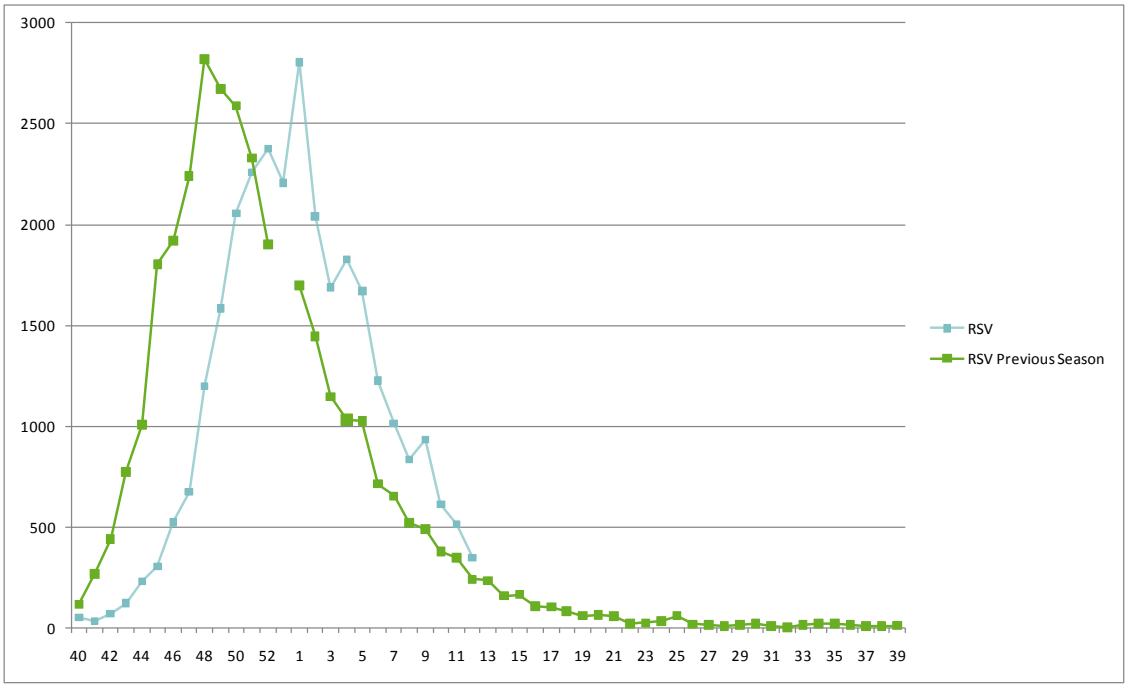
Strain name	Number of strains
A(H1)v California/7/2009-like	2048
A(H1) A/Brisbane/59/2007 (H1N1)-like	1
A(H3) A/Brisbane/10/2007 (H3N2)-like	7
A(H3) A/Perth/16/2009 (H3N2)-like	22
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	9
B/Florida/4/2006-like (B/Yamagata/16/88 lineage)	0

Table 4: Antiviral resistance by influenza virus type and subtype, weeks 40/2009–12/2010

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)	0	0	0	0	0	0
A(H1N1)	0	0	0	0	0	0
A(H1N1)v	1453	37 (2.5%)	1447	0 (0%)	205	205 (100%)
B	0	0	0	0	NA	NA

NA: not applicable, as M2 inhibitors do not act against influenza B viruses.

Figure 4: Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2009–12/2010



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 influenza A(H1N1) associated deaths

Weekly analysis—deaths

During week 12/2010, five countries reported a total of five deaths. Since the beginning of the pandemic, 1841 deaths have been notified to ECDC through TESSy (Table 5).

Table 5: Aggregate numbers of pandemic (H1N1) 2009 deaths, week 12/2010

country	Deaths reported in week	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-w12
Denmark		0	2009-w36
Estonia	0	19	2010-w12
Finland		0	2009-w36
France	1	311	2010-w12
Germany	1	252	2010-w12
Greece	1	140	2010-w12
Hungary	0	130	2010-w12
Iceland		2	2009-w52
Ireland	0	25	2010-w12
Italy		1	2009-w52
Latvia		34	2010-w09
Lithuania	0	23	2010-w12
Luxembourg		3	2009-w52
Malta	0	5	2010-w12
Netherlands	1	61	2010-w12
Norway		29	2010-w11
Poland		148	2009-w53
Portugal		0	2009-w36
Romania	0	122	2010-w12
Slovakia	1	55	2010-w12
Slovenia	0	19	2010-w12
Spain		4	2009-w29
Sweden	0	24	2010-w12
United Kingdom		296	2010-w09
Total	5	1841	

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 this 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 12/2010, 13 SARI cases were reported, three of which had symptom onset during the same week. The number of SARI cases by week of onset has been in decline since the peak in week 46/2009 (Figure 5). Since the beginning of SARI surveillance, 11 countries have reported 11 359 cases, including 559 fatalities (Table 6).

More than 99% of the influenza viruses detected in SARI cases since the start of the season were the 2009 pandemic A(H1N1) influenza virus (Table 8).

Table 6: Cumulative number of SARI cases, weeks 40/2009–12/2010

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	1343		295		
United Kingdom	1598	4.05	64	0.16	39503332
Ireland	903		17		
Malta	191	46.18	1	0.24	413609
Netherlands	646	3.91	29	0.18	16521505
Romania	200	15.77	12	0.95	1268418
Slovakia	346		40		
Total	11359		559		73701844

Figure 5: Number of SARI cases by week of onset, week 12/2010

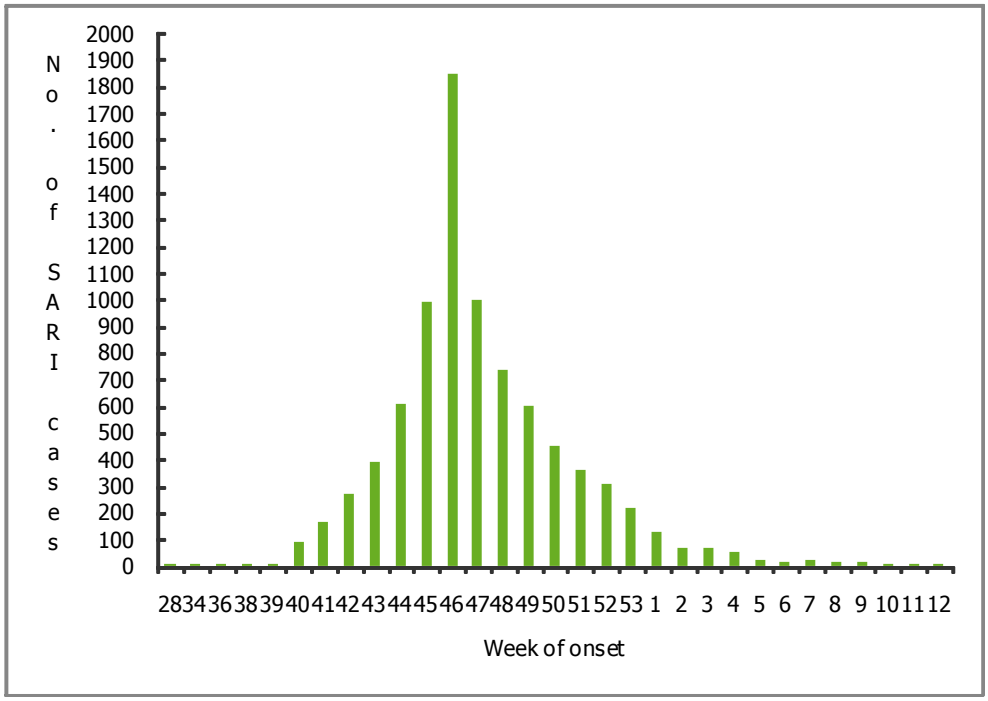


Table 7: Number of SARI cases by age and gender, week 12/2010

Age groups	Male	Female
Under 2	1	3
2-17	1	
18-44		2
45-59		2
>=60	2	2
Total	4	9

Table 8: Number of SARI cases by influenza type and subtype, week 12/2010

Virus type/subtype	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	2	9022
A (pandemic H1N1)	2	8990
A(subtyping not performed)		25
A(H3)		
A(H1)		7
A(H5)		
Influenza B		
Unknown	11	2337
Total	13	11359

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, Alan Hay 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).