

SURVEILLANCE REPORT

Weekly influenza surveillance overview

13 May 2010

Main surveillance developments in week 18/2010 (03 May 2010 – 09 May 2010)

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

- All reporting countries indicated stable or decreasing trends. Four countries (Belgium, Czech Republic, Estonia and Hungary) reported sporadic activity while all others reported no activity.
- Of the 18 influenza viruses detected during week 18/2010, 15 (83%) were type B viruses and two (11%) were the 2009 pandemic influenza A(H1N1) virus.
- All pandemic viruses tested were resistant to M2 inhibitors. To date, 2.5% of tested viruses were resistant to oseltamivir, and none were resistant to zanamivir.
- In week 18/2010, the one SARI case reported was not due to 2009 pandemic influenza A(H1N1) virus.

Sentinel surveillance of influenza like-illness (ILI)/ acute respiratory infection (ARI): All 19 reporting countries experienced low intensity. For the geographic spread indicator, four countries (Belgium, Czech Republic, Estonia and Hungary) reported sporadic activity while all others reported no activity. For more information, [click here](#).

Virological surveillance: Sentinel physicians collected 89 specimens of which only one was positive for influenza virus. Of the 18 influenza viruses detected by sentinel and non-sentinel sources during week 18/2010, 15 (83%) were type B viruses and two (11%) were the 2009 pandemic influenza A(H1N1) virus. For more information, [click here](#).

Aggregate numbers of 2009 pandemic influenza A(H1N1) deaths: During week 18/2010, no new deaths associated with the 2009 pandemic influenza virus were reported. For more information, [click here](#).

Hospital surveillance of severe acute respiratory infection (SARI): During week 18/2010, the one SARI case reported was not due to confirmed influenza infection. For more information, [click here](#).

Qualitative reporting: For more information, [click here](#).

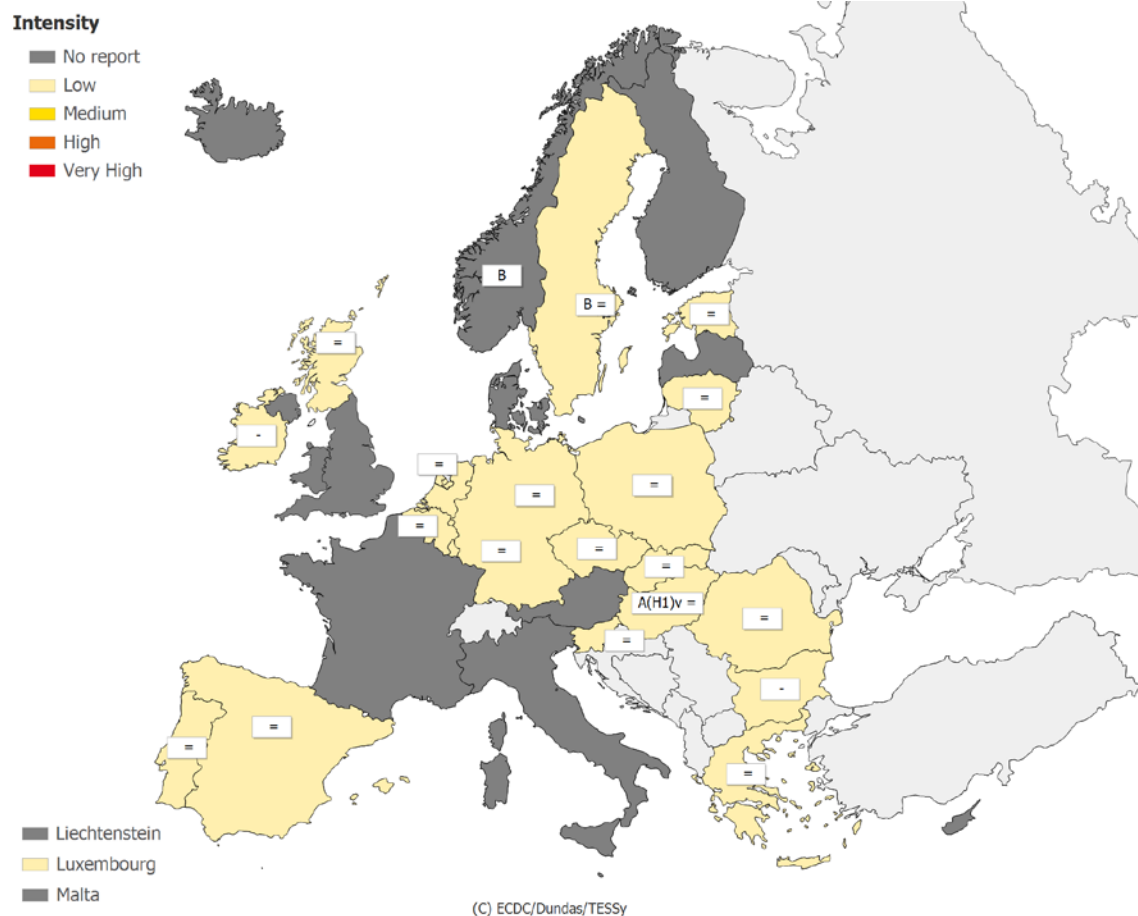
Sentinel surveillance (ILI/ARI)

Weekly analysis – epidemiology

During week 18/2010, 18 countries and the UK (Scotland) reported epidemiological data. For the tenth consecutive week, all countries experienced low intensity (Table 1).

Four countries (Belgium, Czech Republic, Estonia and Hungary) reported sporadic activity while all others reported no activity. All reporting countries indicated stable or decreasing trends (Map 1, Table 1).

Map 1: Intensity for week 18/2010

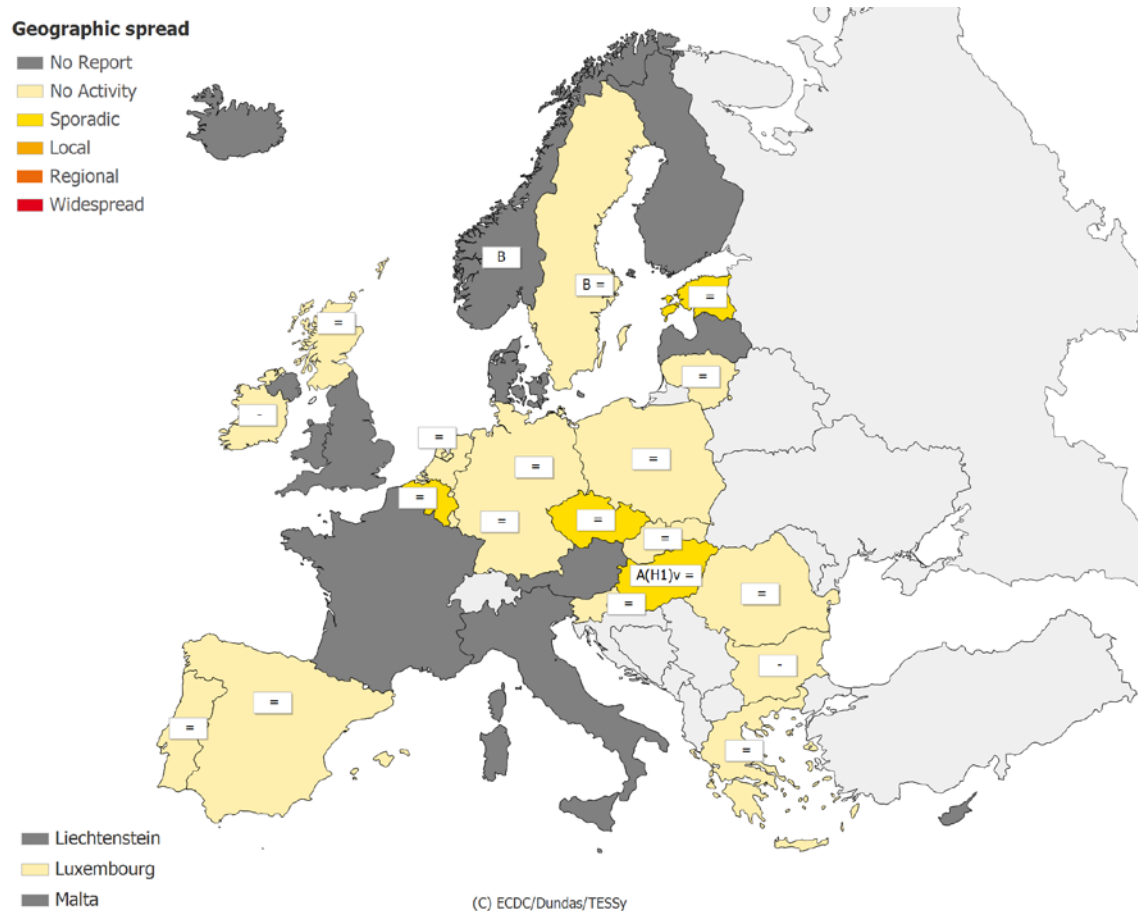


* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

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(H1)v	Type A, Subtype H1v
		B	Type B

Map 2: Geographic spread for week 18/2010



* 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)	-	Decreasing clinical activity
Sporadic	Isolated cases of laboratory confirmed influenza infection	+	Increasing 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)	=	Stable clinical activity
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)v	Type A, Subtype H1v
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)	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				0	None	-	-	-	Graphs	Graphs
Belgium	Low	Sporadic	Stable	8	None	12.5	27.1	743.5	Graphs	Graphs
Bulgaria	Low	No activity	Decreasing	0	None	-	-	340.9	Graphs	Graphs
Cyprus				-	-	-	-	-		
Czech Republic	Low	Sporadic	Stable	-	-	-	15.0	714.4	Graphs	Graphs
Denmark				3	None	0.0	-	-	Graphs	Graphs
Estonia	Low	Sporadic	Stable	3	None	0.0	2.8	182.2	Graphs	Graphs
Finland				-	-	-	-	-		
France				-	-	-	-	-		
Germany	Low	No activity	Stable	2	None	0.0	-	609.6	Graphs	Graphs
Greece	Low	No activity	Stable	2	None	0.0	51.4	-	Graphs	Graphs
Hungary	Low	Sporadic	Stable	3	A(H1)v	0.0	30.9	-	Graphs	Graphs
Iceland				-	-	-	-	-		
Ireland	Low	No activity	Decreasing	1	None	0.0	1.4	-	Graphs	Graphs
Italy				0	None	-	-	-	Graphs	Graphs
Latvia				0	None	-	-	-	Graphs	Graphs
Lithuania	Low	No activity	Stable	2	None	0.0	0.3	448.9	Graphs	Graphs
Luxembourg	Low	No activity	Stable	3	None	0.0	.*	.*	Graphs	Graphs
Malta				-	-	-	-	-		
Netherlands	Low	No activity	Stable	2	None	0.0	10.4	-	Graphs	Graphs
Norway				0	B	-	-	-	Graphs	Graphs
Poland	Low	No activity	Stable	0	None	-	59.4	-	Graphs	Graphs
Portugal	Low	No activity	Stable	0	None	-	0.0	-	Graphs	Graphs
Romania	Low	No activity	Stable	0	None	-	0.0	593.6	Graphs	Graphs
Slovakia	Low	No activity	Stable	0	-	-	116.3	1300.0	Graphs	Graphs
Slovenia	Low	No activity	Stable	0	None	-	0.0	595.0	Graphs	Graphs
Spain	Low	No activity	Stable	26	None	0.0	5.9	-	Graphs	Graphs
Sweden	Low	No activity	Stable	2	B	0.0	0.4	-	Graphs	Graphs
UK - England				27	None	0.0	-	-	Graphs	Graphs
UK - Northern Ireland				-	-	-	-	-		
UK - Scotland	Low	No activity	Stable	5	None	0.0	1.5	158.8	Graphs	Graphs
UK - Wales				-	-	-	-	-		
Europe				89		1.1				Graphs

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

** 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.

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 18/2010, 23 countries and the UK (England and Scotland) reported virological data. Sentinel physicians collected 89 specimens of which only one was positive for influenza virus (Tables 1 and 2). In addition, 17 non-sentinel source specimens (i.e. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus. Of the 18 influenza viruses detected from sentinel and non-sentinel sources during week 18/2010, 15 (83%) were type B viruses and three were type A, of which two (11%) were the 2009 pandemic influenza A(H1N1) virus.

Of the 19 969 type A influenza viruses detected by sentinel practices and sub-typed since week 40/2009, 19 727 (98.8%) 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 specimens decreased between week 46/2009 and week 07/2010 and has since stabilised towards the baseline level (Figure 3).

From week 40/2009 to week 18/2010, 3251 influenza viruses from sentinel and non-sentinel specimens have been characterised antigenically (Table 3), and 1184 were characterised genetically. Of the former, 3197 (98.3%) were antigenically pandemic A/California/7/2009(H1N1)-like and of the latter, 1163 (98.2%) belonged to the phylogenetic cluster A/California/7/2009. Fourteen (73.7%) of the 19 influenza type B viruses antigenically characterised up to week 18/2010 were of the B/Victoria/2/87 lineage while the remaining five (26.3%) were of the B/Yamagata/16/88 lineage.

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

The latest antiviral resistance data are from week 09/2010. 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). However, the Netherlands reported a virus with reduced sensitivity to oseltamivir and zanamivir in week 14 (WISO week 14/2010).

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 40/2009–18/2010

Virus type/subtype	Current Week		Season	
	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	0	3	20531	93627
A (pandemic H1N1)	0	2	19727	81681
A (subtyping not performed)	0	1	742	11786
A (not subtypable)	0	0	14	48
A (H3)	0	0	11	59
A (H1)	0	0	37	53
Influenza B	1	14	180	348
Total Influenza	1	17	20711	93975

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 40/2009–18/2010

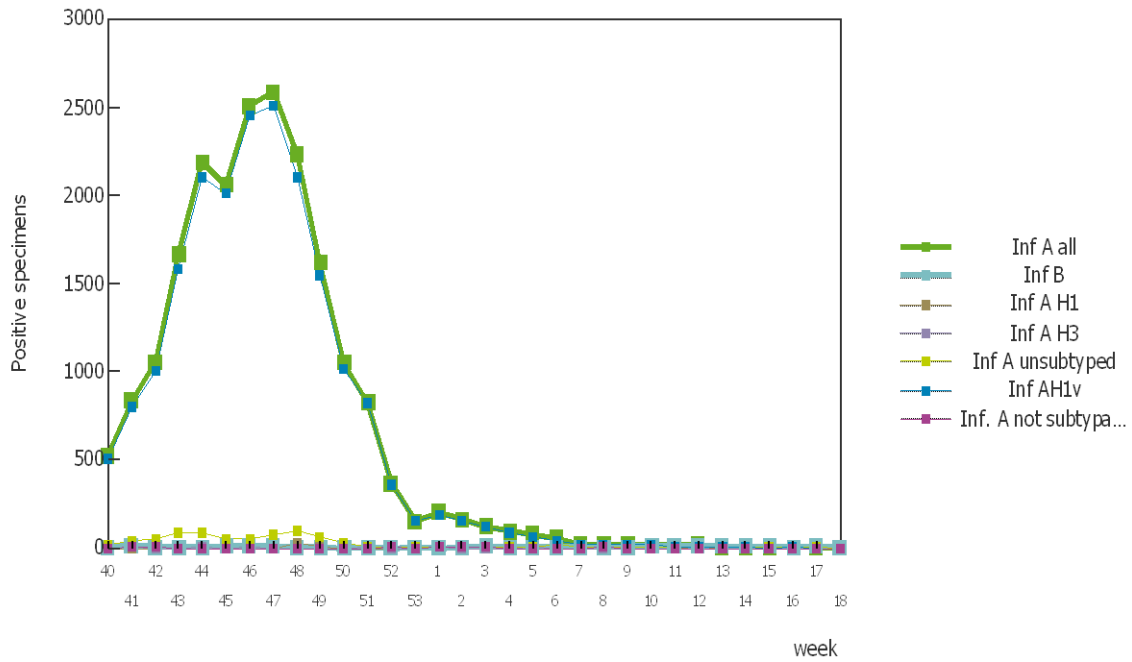


Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2009–18/2010

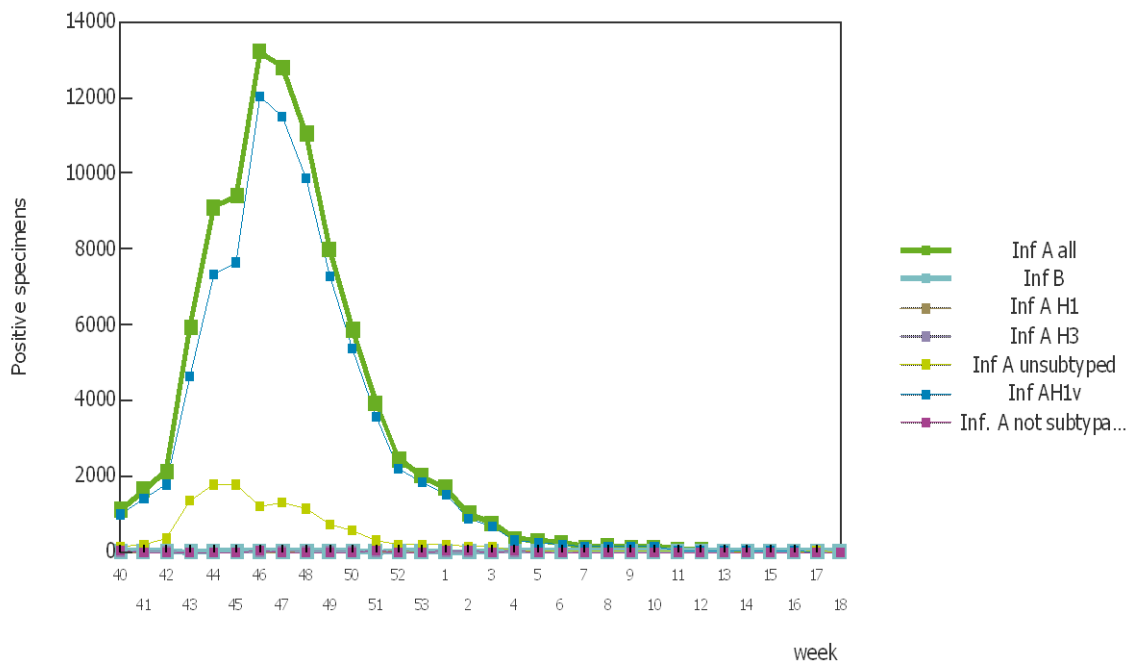


Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2009–18/2010

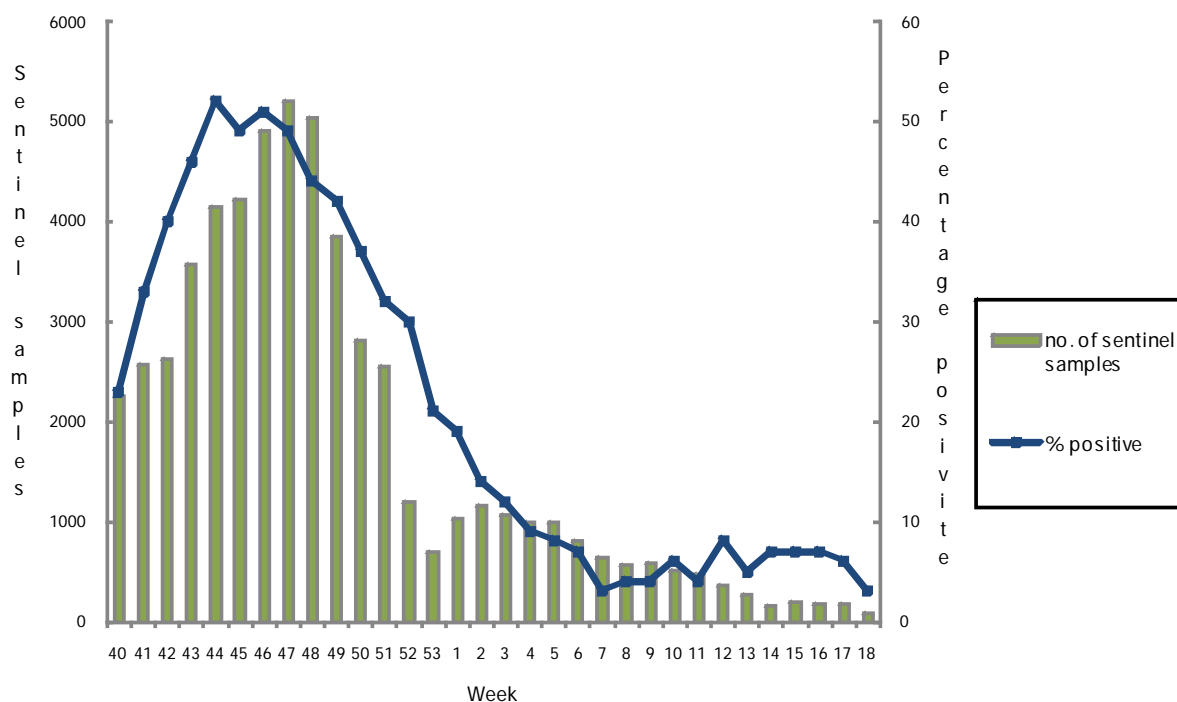


Table 3: Results of antigenically characterised sentinel and non-sentinel influenza virus isolates since week 40/2009

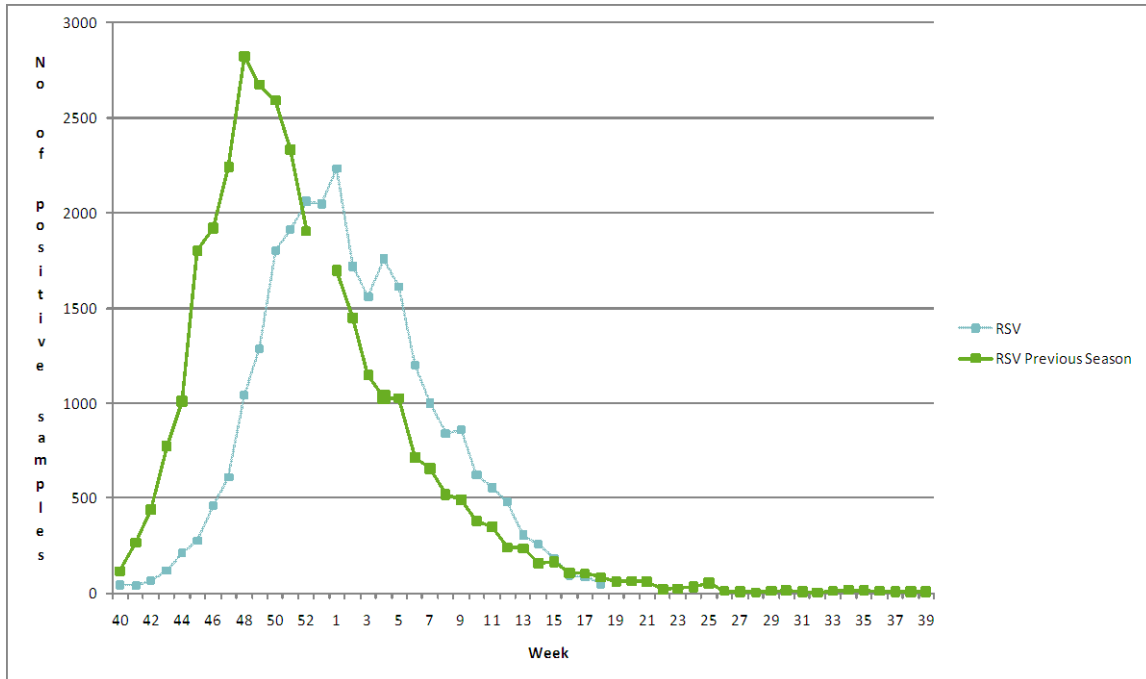
Strain name	Number of strains
A(H1)v California/7/2009-like	3197
A(H3) A/Brisbane/10/2007 (H3N2)-like	11
A(H3) A/Perth/16/2009 (H3N2)-like	24
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	14
B/Florida/4/2006-like (B/Yamagata/16/88 lineage)	5

Table 4: Antiviral resistance by influenza virus type and subtype, weeks 40/2009–18/2010

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	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 40/2009–18/2010



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 18/2010, no new deaths associated with the 2009 pandemic influenza virus were reported. Since the beginning of the pandemic, 1908 deaths have been notified to ECDC through TESSy (Table 5).

Table 5: Aggregate numbers of 2009 pandemic A(H1N1) associated deaths, week 18/2010

Country	Cumulative deaths reported since the start of season	Last reported week	Deaths reported in week
Austria	0	2009-w36	
Belgium	0	2009-w29	
Bulgaria	40	2009-w53	
Cyprus	0	2009-w29	
Czech Republic	102	2010-w17	
Denmark	0	2009-w36	
Estonia	19	2010-w18	0
Finland	44	2010-w18	0
France	312	2010-w15	
Germany	254	2010-w18	0
Greece	149	2010-w18	0
Hungary	134	2010-w18	0
Iceland	2	2009-w52	
Ireland	26	2010-w18	0
Italy	1	2010-w14	
Latvia	34	2010-w09	
Lithuania	23	2010-w18	0
Luxembourg	3	2009-w52	
Malta	5	2010-w12	
Netherlands	62	2010-w16	
Norway	29	2010-w17	
Poland	148	2009-w53	
Portugal	0	2009-w36	
Romania	122	2010-w18	0
Slovakia	56	2010-w18	0
Slovenia	19	2010-w17	
Spain	4	2009-w29	
Sweden	24	2010-w18	0
United Kingdom	296	2010-w09	
Total	1908		0

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

In week 18/2010, the one SARI case reported was not due to confirmed influenza infection. 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 11 601 cases, including 575 fatalities (Table 6). More than 99% of the influenza viruses detected in SARI cases since the start of the season were the 2009 pandemic influenza virus (Table 8).

Table 6: Cumulative number of SARI cases, week 40/2009 – week 18/2010

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	2915		40		
Belgium	1880	17.62			10668666
Cyprus	26		9		
Finland	1422	26.7	56	1.05	5326314
France	1357		302		
United Kingdom	1670	4.23	68	0.17	39503332
Ireland	903		17		
Malta	212	51.26	1	0.24	413609
Netherlands	652	3.95	29	0.18	16521505
Romania	208	16.4	13	1.02	1268418
Slovakia	356		40		
Total	11601		575		73701844

Figure 5: Number of SARI cases by week of onset, week 18/2010

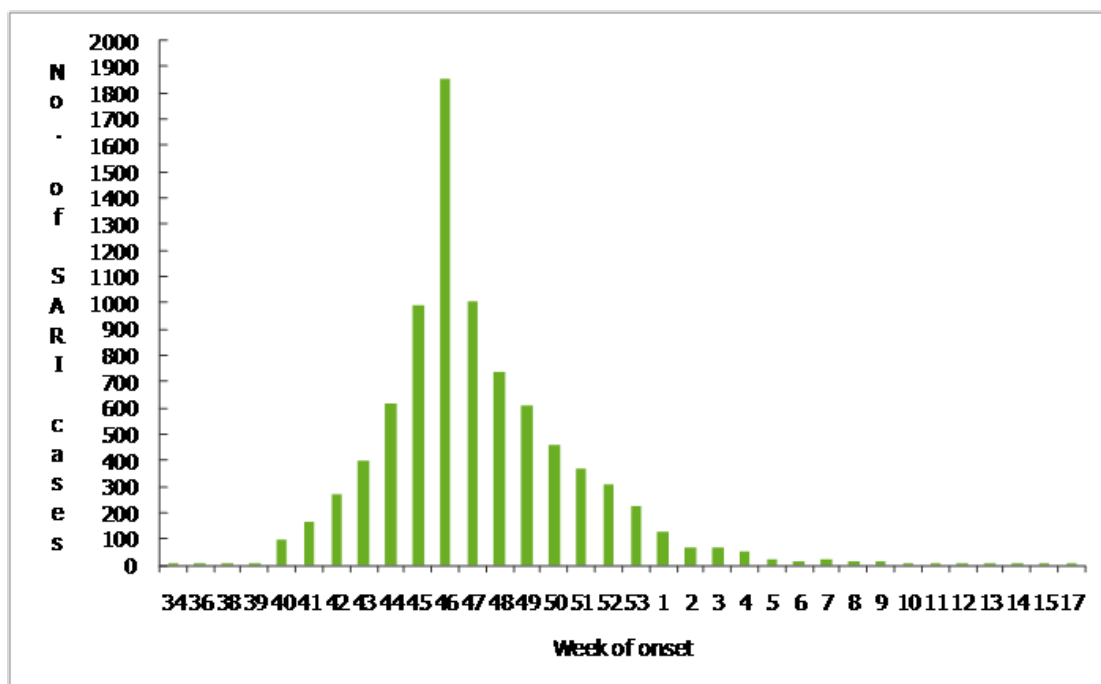


Table 7: Number of SARI cases by influenza type and subtype, week 18/2010

Virus type/subtype	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A		9093
A (pandemic H1N1)		9061
A(subtyping not performed)		25
A(H3)		
A(H1)		7
A(H5)		
Influenza B		
Unknown	1	2369
Total	1	11462

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 healthcare 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).

Maps and commentary used in this Weekly Influenza Surveillance Overview (WISO) do not imply any opinions whatsoever of ECDC or its partners on the legal status of the countries and territories shown or concerning their borders.

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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