SURVEILLANCE REPORT

Weekly influenza surveillance overview

4 June 2010

Main surveillance developments in week 21/2010 (24 – 30 May 2010)

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

- In many European countries, sentinel surveillance systems have stopped monitoring the rates of influenza-like illness or acute respiratory infection.
- Reports from countries where data are still available indicate that influenza activity in Europe has stabilised at low intensity with an absence of geographic spread.
- Two (3.9%) of the 51 patients presenting with influenza-like illness to a sentinel physician tested positive for influenza.
- Week 21/2010 was the first week since starting SARI surveillance during which no SARI cases were reported.
- Notwithstanding being in pandemic Phase 6 globally, epidemiological and virological indicators are consistent with the 2009/10 influenza season coming to an end in Europe.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): For the 13th consecutive week, all reporting countries experienced low intensity. For more information, **click here.**

Virological surveillance: Sentinel physicians collected 51 specimens, two (3.9%) of which were positive for influenza virus. For more information, **click here.**

Aggregate numbers of 2009 pandemic influenza (H1N1) deaths: During week 21/2010, no 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 21/2010, no SARI cases were reported. For more information, **click here.**

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

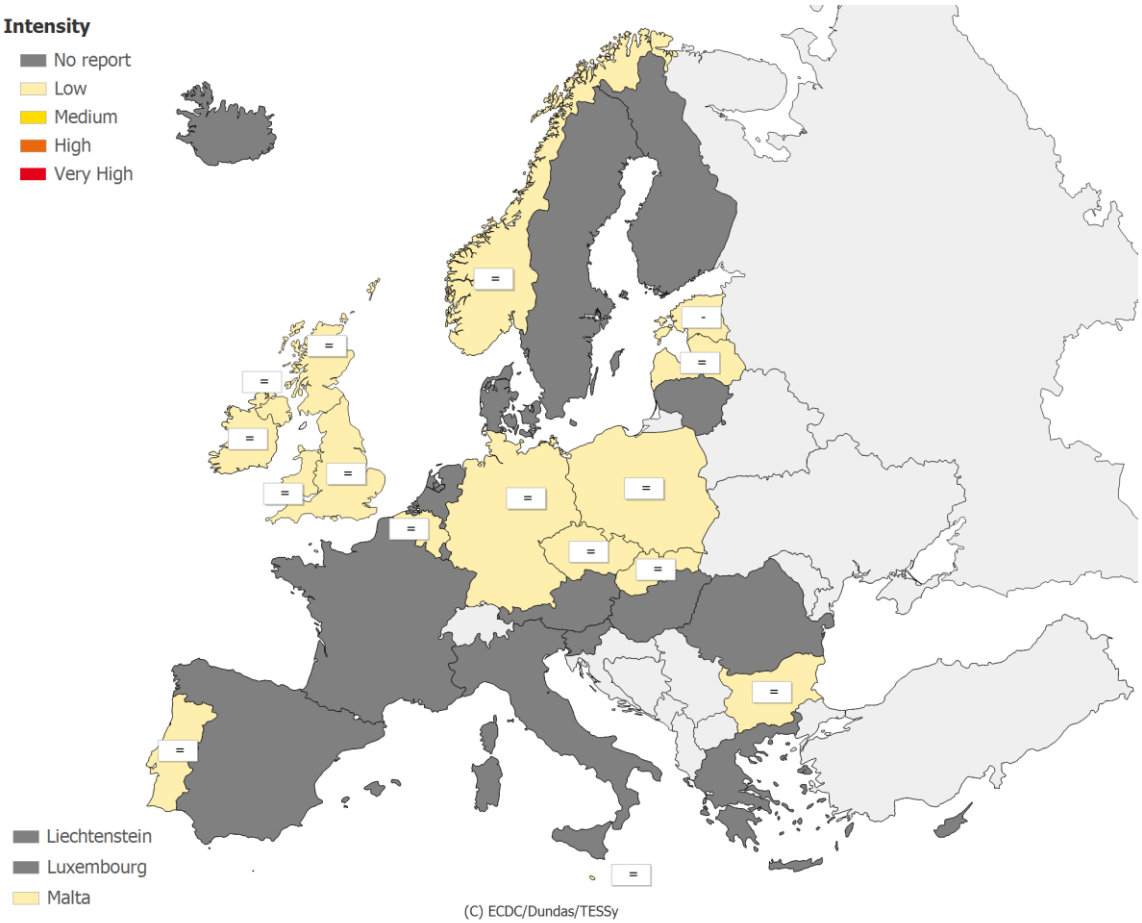
Sentinel surveillance (ILI/ARI)

Weekly analysis – epidemiology

During week 21/2010, 14 of 29 countries reported epidemiological data. For the 13th consecutive week, all countries experienced low intensity (Map 1, Table 1).

Norway and the UK (Wales) reported sporadic activity, while all other countries reported no activity (Map 2, Table 1). All countries reported a stable or decreasing trend (Table 1).

Map 1: Intensity for week 21/2010

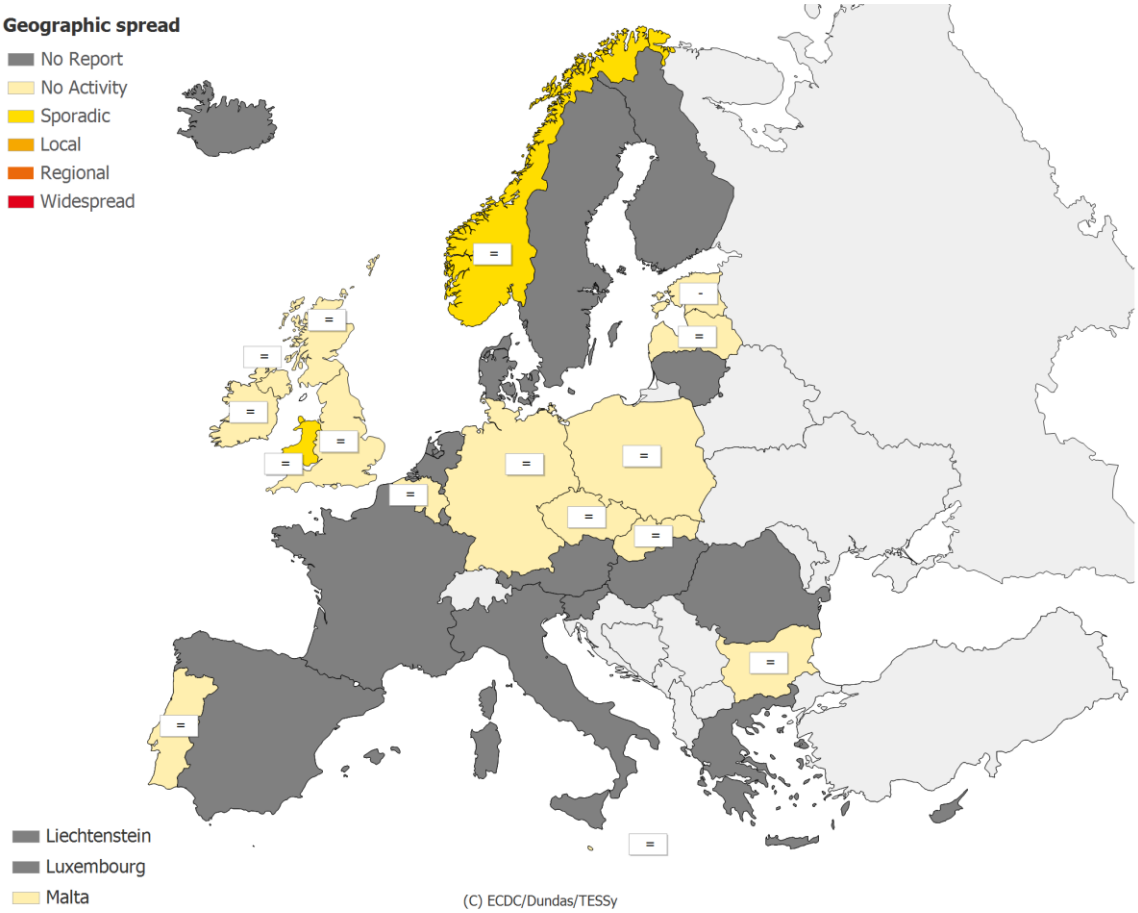


* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

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		

Map 2: Geographic spread for week 21/2010



* 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

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				-	-	-	-	-		
Belgium	Low	No activity	Stable	-	-	-	12.4	641.9	Graphs	Graphs
Bulgaria	Low	No activity	Stable	0	None	-	-	407.6	Graphs	Graphs
Cyprus				-	-	-	-	-		
Czech Republic	Low	No activity	Stable	-	-	-	11.7	683.6	Graphs	Graphs
Denmark				0	None	-	-	-	Graphs	Graphs
Estonia	Low	No activity	Decreasing	0	None	-	1.9	151.3	Graphs	Graphs
Finland				-	-	-	-	-		
France				-	-	-	-	-		
Germany	Low	No activity	Stable	9	None	0.0	-	570.0	Graphs	Graphs
Greece				-	-	-	-	-		
Hungary				-	-	-	-	-		
Iceland				-	-	-	-	-		
Ireland	Low	No activity	Stable	3	None	0.0	3.9	-	Graphs	Graphs
Italy				-	None	-	-	-	Graphs	Graphs
Latvia	Low	No activity	Stable	-	-	-	-	562.8	Graphs	Graphs
Lithuania				3	None	0.0	-	-	Graphs	Graphs
Luxembourg				-	-	-	-	-		
Malta	Low	No activity	Stable	-	-	-	-*	-*	Graphs	Graphs
Netherlands				4	None	0.0	-	-	Graphs	Graphs
Norway	Low	Sporadic	Stable	-	-	-	14.1	-	Graphs	Graphs
Poland	Low	No activity	Stable	2	None	100	16.9	0.0	Graphs	Graphs
Portugal	Low	No activity	Stable	0	None	-	4.7	-	Graphs	Graphs
Romania				-	-	-	-	-		
Slovakia	Low	No activity	Stable	0	None	-	114.4	1207.3	Graphs	Graphs
Slovenia				2	None	0.0	-	-	Graphs	Graphs
Spain				-	-	-	-	-		
Sweden				0	None	-	-	-	Graphs	Graphs
UK - England	Low	No activity	Stable	26	None	0.0	2.4	361.9	Graphs	Graphs
UK - Northern Ireland	Low	No activity	Stable	2	None	0.0	8.9	256.4	Graphs	Graphs
UK - Scotland	Low	No activity	Stable	-	-	-	2.1	170.5	Graphs	Graphs
UK - Wales	Low	Sporadic	Stable	-	-	-	1.3	-	Graphs	Graphs
Europe				51		3.9				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 21/2010, 14 countries reported virological data. Sentinel physicians collected 51 specimens, two (3.9%) of which (both from Poland) were positive for influenza virus (Tables 1 and 2). In addition, eight non-sentinel source specimens (i.e., specimens collected for diagnostic purpose in hospitals) were reported positive for influenza virus. Of the 12 influenza viruses detected from sentinel and non-sentinel sources during week 21/2010, eight (66.7%) were influenza type A viruses and four (33.3%) were type B viruses (Table 2).

Of the 16 197 type A influenza viruses detected by sentinel practices for which subtyping was performed since week 40/2009, 16 139 (99.6%) 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 subtype. Figures 1—3 show the trends of virological detections over time. The proportion of positive sentinel samples 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 21/2010, 3222 influenza viruses from sentinel and non-sentinel specimens were characterised antigenically (Table 3), and 1271 were characterised genetically. Of the former, 3170 (98.4%) were antigenically pandemic A/California/7/2009(H1N1)-like, and of the latter, 1229 (96.7%) belonged to the phylogenetic cluster represented by A/California/7/2009. Fifteen (75%) of the 20 influenza type B viruses antigenically characterised up to week 21/2010 were of the B/Victoria/2/87 lineage, while the remaining five (25%) 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 14/2010.

Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2009–21/2010

	Current Week		Season	
Virus type/subtype	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	2	6	16879	89683
A (pandemic H1N1)	1	4	16139	78302
A (subtyping not performed)	1	0	682	11231
A (not subtypable)	0	2	14	50
A (H3)	0	0	8	49
A (H1)	0	0	36	51
Influenza B	0	4	162	364
Total Influenza	**2**	**10**	**17041**	**90047**

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 40/2009–21/2010

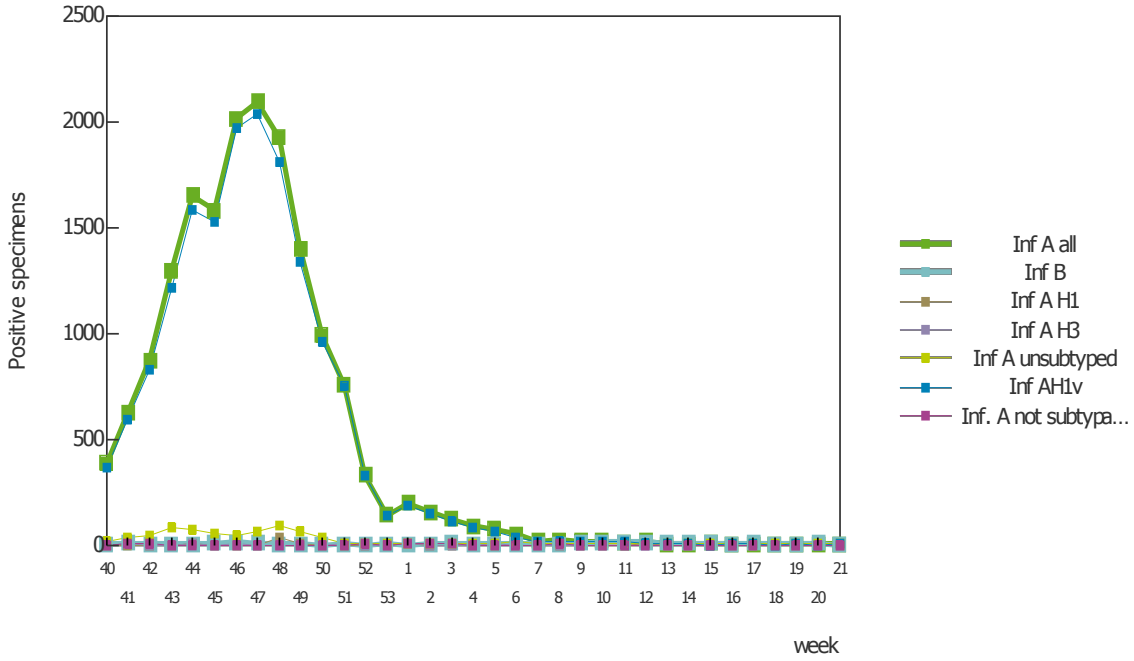


Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2009–21/2010

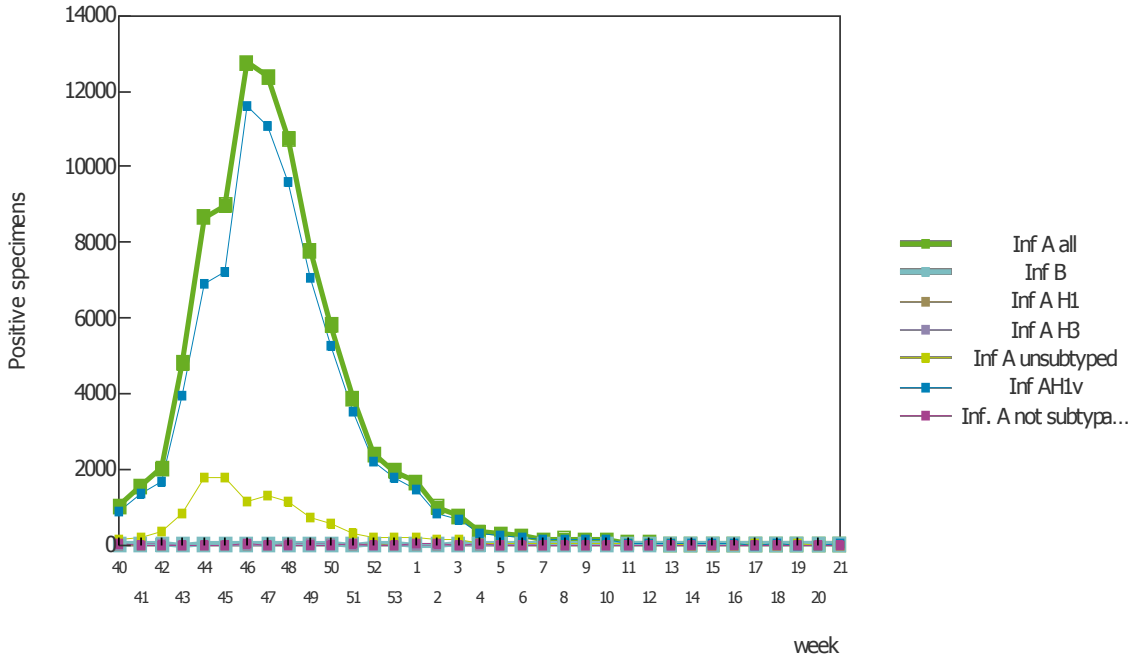


Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2009–21/2010

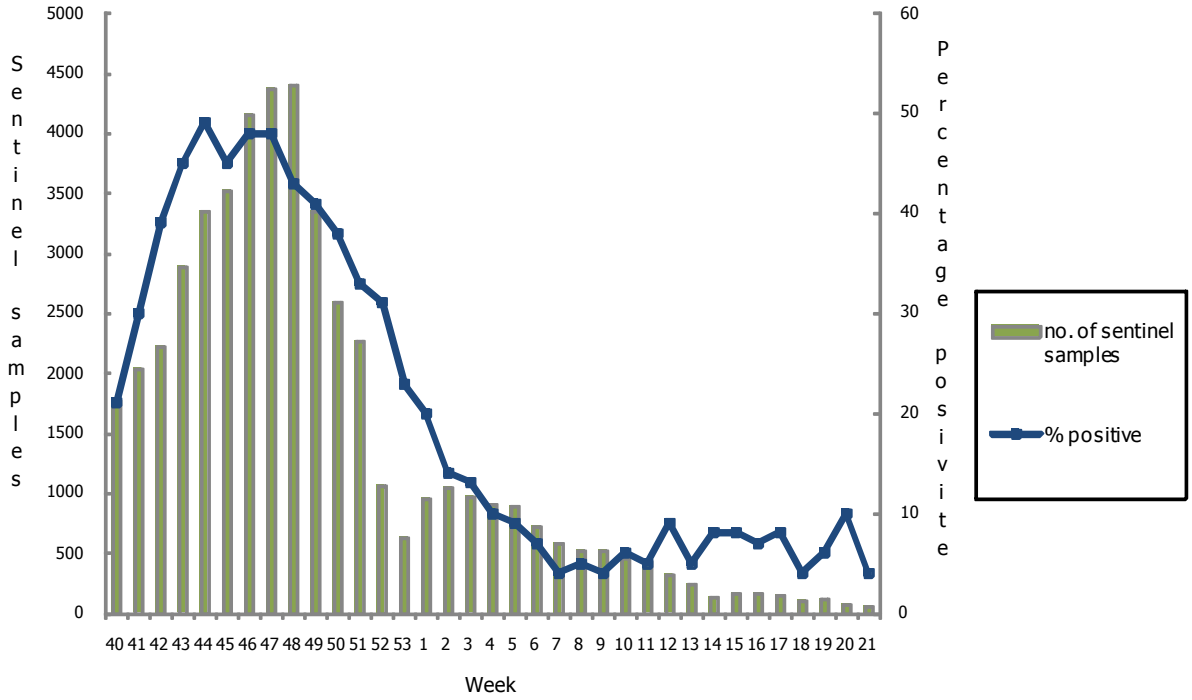


Table 3: Results of antigenically characterised sentinel and non-sentinel influenza virus isolates since week 40/2009

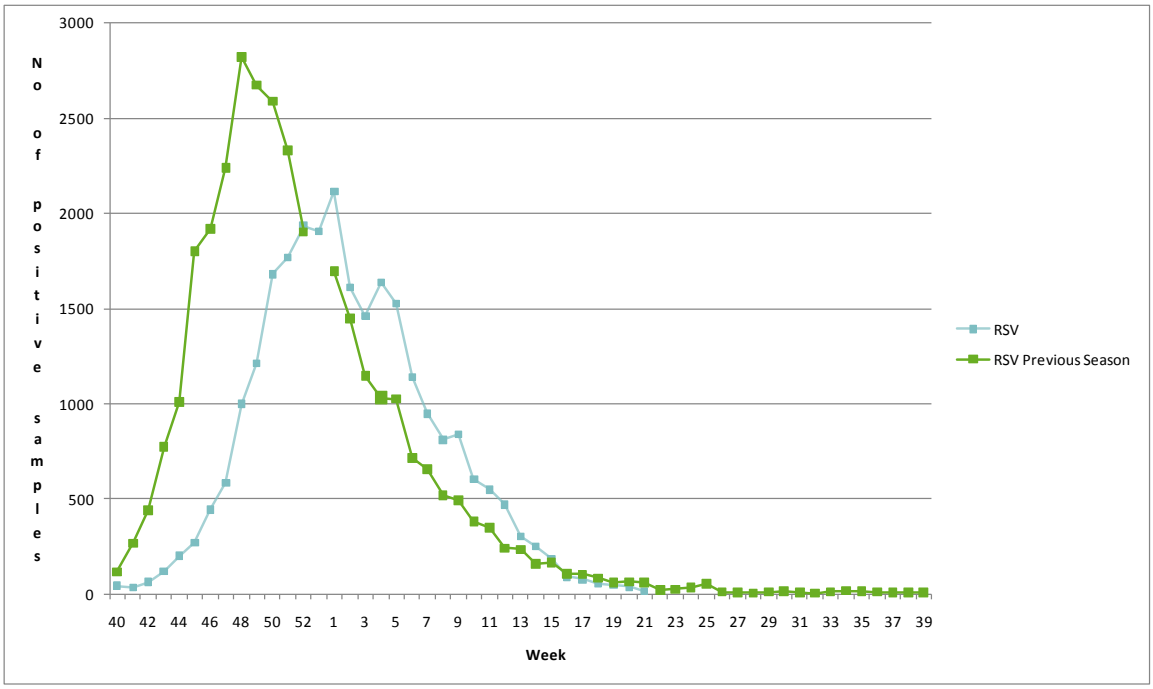
Strain name	Number of strains
A(H1)v California/7/2009-like	3170
A(H3) A/Brisbane/10/2007 (H3N2)-like	6
A(H3) A/Perth/16/2009 (H3N2)-like	26
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	15
B/Florida/4/2006-like (B/Yamagata/16/88 lineage)	5

Table 4: Antiviral resistance by influenza virus type and subtype, weeks 40/2009–9/2010

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 40/2009–21/2010



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 21/2010, no deaths associated with the 2009 pandemic influenza virus were reported. Since the beginning of the pandemic, 1910 deaths have been notified to ECDC through TESSy (Table 5).

Table 5: Aggregate numbers of 2009 pandemic A(H1N1) associated deaths, week 21/2010

Country	Cumulative deaths since start of season	Last reported week	Deaths reported in week 21/2010
Austria	0	2009-w36	
Belgium	0	2009-w29	
Bulgaria	40	2009-w53	
Cyprus	0	2009-w29	
Czech Republic	102	2010-w20	
Denmark	0	2009-w36	
Estonia	19	2010-w21	0
Finland	44	2010-w20	
France	312	2010-w15	
Germany	255	2010-w21	0
Greece	149	2010-w20	
Hungary	134	2010-w20	
Iceland	2	2009-w52	
Ireland	26	2010-w21	0
Italy	1	2010-w14	
Latvia	34	2010-w09	
Lithuania	23	2010-w21	0
Luxembourg	3	2009-w52	
Malta	5	2010-w12	
Netherlands	63	2010-w16	
Norway	29	2010-w21	0
Poland	148	2009-w53	
Portugal	0	2009-w36	
Romania	122	2010-w20	
Slovakia	56	2010-w21	0
Slovenia	19	2010-w19	
Spain	4	2009-w29	
Sweden	24	2010-w21	0
United Kingdom	296	2010-w09	
Total	1910		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

During week 21/2010, no SARI cases were reported. Since the beginning of SARI surveillance, 11 countries have reported 11 577 cases, including 573 fatalities (Table 6). The number of SARI cases by week of onset has been declining since the peak in week 46/2009 (Figure 5).

More than 99% of the influenza viruses detected in SARI cases since the start of the season were the 2009 pandemic influenza virus (Table 7).

Table 6: Cumulative number of SARI cases, weeks 40/2009 - week 21/2010

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	2916		41		
Belgium	1880	17.62			10668666
Cyprus	26		9		
Finland	1422	26.7	56	1.05	5326314
France	1357		302		
United Kingdom	1639	4.15	65	0.16	39503332
Ireland	903		17		
Malta	213	51.5	1	0.24	413609
Netherlands	652	3.95	29	0.18	16521505
Romania	210	16.56	13	1.02	1268418
Slovakia	359		40		
Total	11577		573		73701844

Figure 5: Number of SARI cases by week of onset, week 21/2010

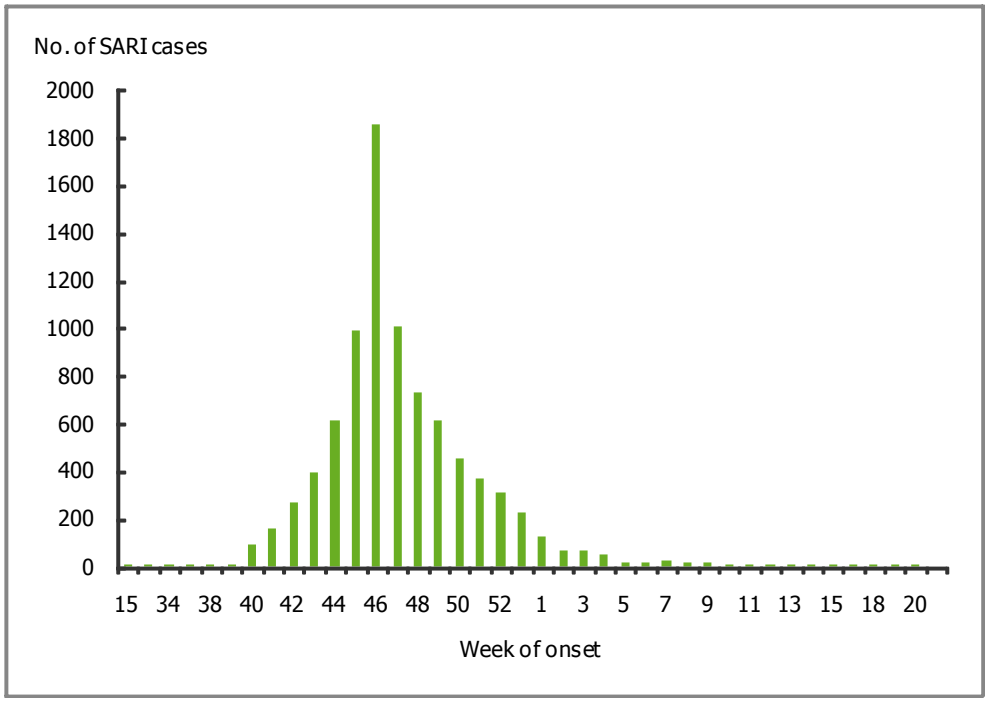


Table 7: Number of SARI cases by influenza type and subtype, week 21/2010

Virus type/subtype	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A		9061
A (pandemic H1N1)		9029
A(subtyping not performed)		25
A(H3)		
A(H1)		7
A(H5)		
Influenza B		
Unknown		2375
Total		11436

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).