

SURVEILLANCE REPORT

Weekly influenza surveillance overview

19 February 2010

Main surveillance developments in week 06/2010 (08 Feb 2010—14 Feb 2010)

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

- The 2009 influenza A(H1N1) pandemic is well past its winter peak in EU/EEA countries. In seven countries (the majority of which are in Eastern Europe), local or regional transmission of the pandemic virus continues at low to medium intensity.
- Sporadic transmission of the pandemic virus was reported in the majority of the countries.
- Of the 684 specimens collected by sentinel physicians, 46 (6.7%) were positive for influenza virus.
- In addition to the 2009 pandemic influenza virus, there is currently no evidence of wide circulation of other influenza A viruses. A few influenza B viruses have been detected.
- The number of reported severe acute respiratory infection (SARI) cases also continues to decline. In week 06/2010, of the 20 SARI cases for whom underlying conditions were documented, six (30%) had no known underlying condition.

Sentinel surveillance of influenza like-illness (ILI)/ acute respiratory illness (ARI): Of the 25 countries reporting, three (Bulgaria, Greece and Slovakia) reported medium ILI/ARI activity, while the remaining countries reported low activity. For more information, [click here](#).

Virological surveillance: Sentinel physicians collected 684 respiratory specimens, 46 (6.7%) of which were positive for influenza virus. Since week 40/2009, 99% of the viruses detected in sentinel specimens were the 2009 pandemic influenza A(H1N1) virus. For more information, [click here](#).

Aggregate numbers of 2009 pandemic influenza (H1N1) deaths: In week 06/2010, five countries reported 13 deaths. For more information, [click here](#).

Hospital surveillance of severe acute respiratory infection (SARI): During week 06/2010, 29 SARI cases were reported. All 15 influenza viruses isolated from SARI patients and subtyped were the pandemic virus. For more information, [click here](#).

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

Sentinel surveillance (ILI/ARI)

Weekly analysis—epidemiology

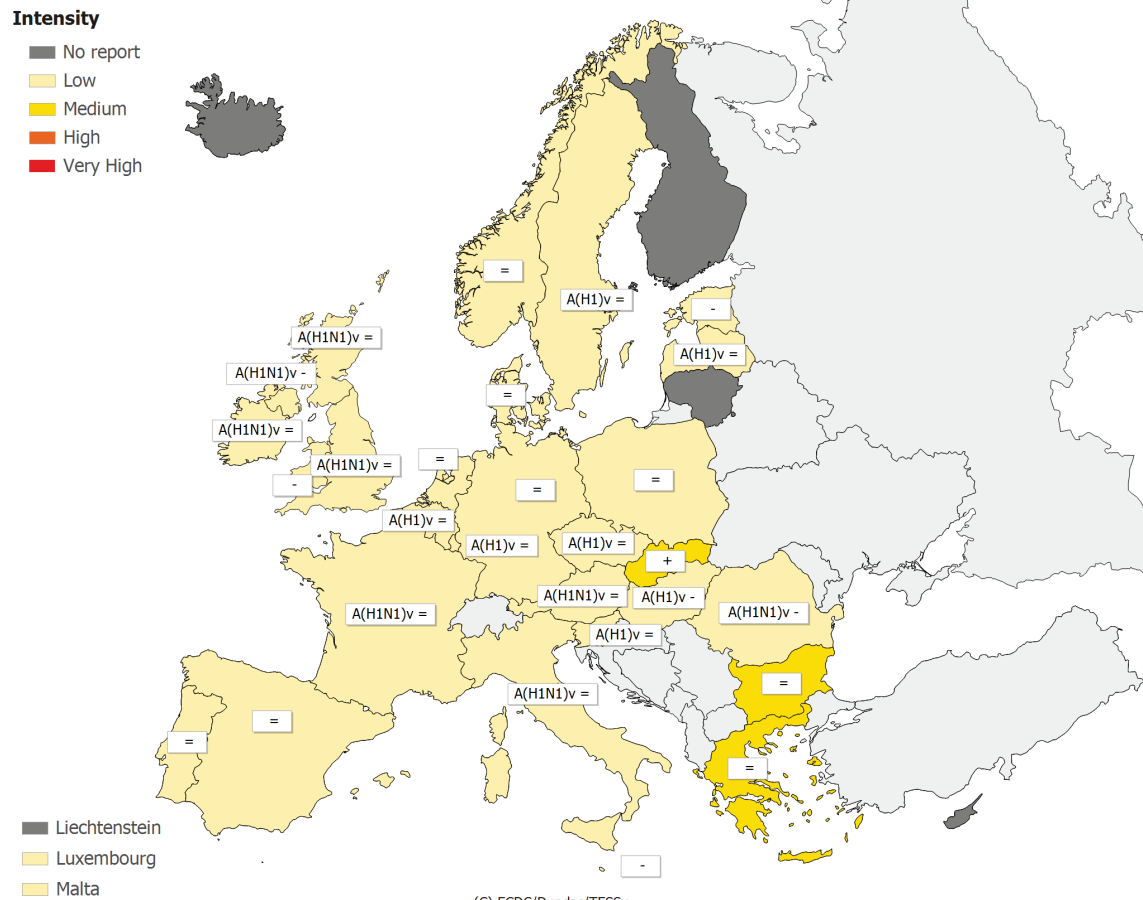
In week 06/2010, 25 of 29 countries reported epidemiological data. For the activity intensity indicator, three countries reported medium intensity (Bulgaria, Greece and Slovakia) while the remaining countries reported low intensity (Map 1 and Table 1).

For the trend indicator, an increasing trend was reported in Slovakia for the fifth consecutive week. However, this is not associated with increase in detection of influenza viruses. A decreasing trend was reported in Estonia, Hungary, Malta, Romania and the UK (Northern Ireland and Wales). The other countries reported a stable trend (Table 1).

For the geographic spread indicator, local or regional spread was reported in seven countries (Austria, Bulgaria, Germany, Greece, Italy, Malta and Slovakia). Sporadic or no spread was reported in the remaining 18 countries (Map 2 and Table 1).

For the majority of countries that reported age specific incidence of ILI and/or ARI, the most affected age group was 0–14 years.

Map 1: Intensity for week 06/2010

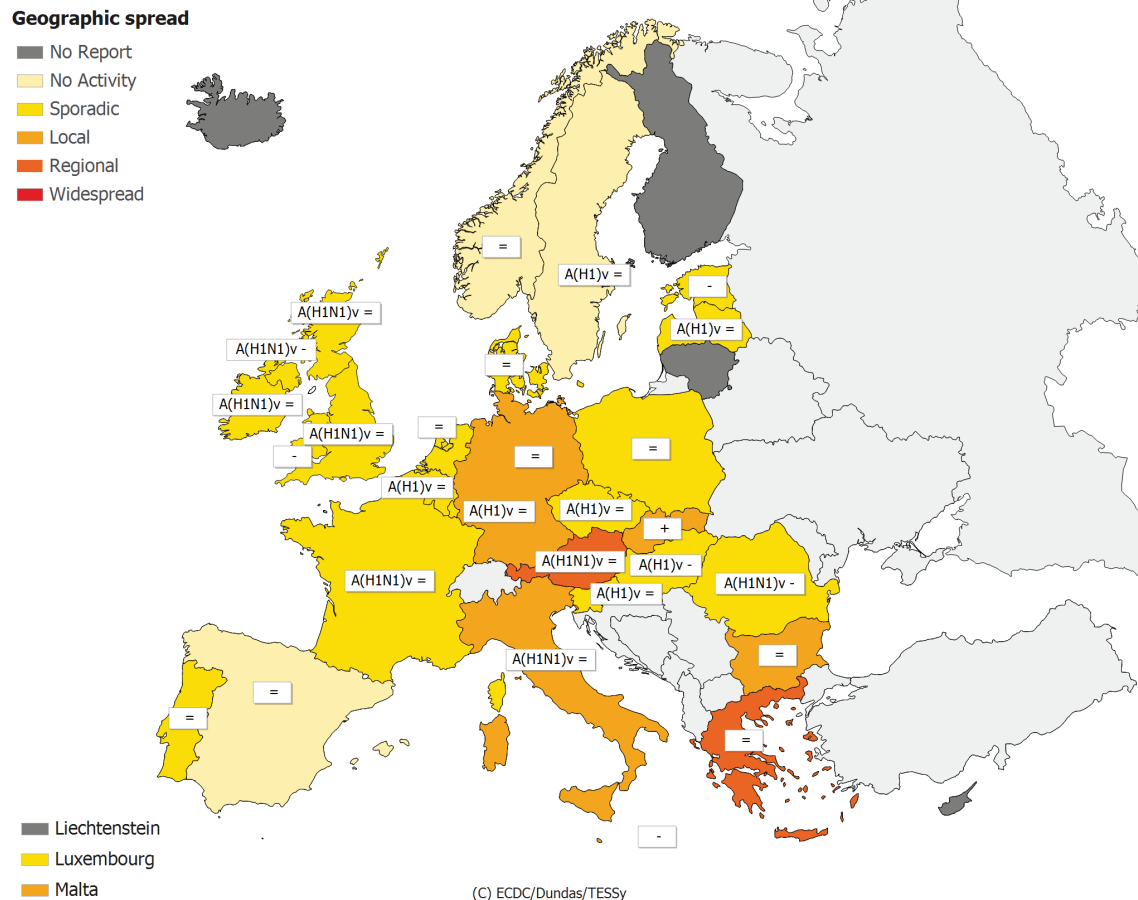


* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

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
		A(H1N1)v	Type A, Subtype H1N1v

Map 2: Geographic spread for week 06/2010



* 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)	A(H1N1)v	Type A, Subtype H1N1v

Table 1: Epidemiological and virological overview by country, week 06/2010

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	Regional	Stable	10	A(H1N1)v	0.0	2.1	15.8	Graphs	Graphs
Belgium	Low	Sporadic	Stable	27	A(H1)v	14.8	54.1	1412.0	Graphs	Graphs
Bulgaria	Medium	Local	Stable	1	None	100.0	-	862.3	Graphs	Graphs
Cyprus				-	-	-	-	-	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	15	A(H1)v	46.7	48.2	965.4	Graphs	Graphs
Denmark	Low	Sporadic	Stable	9	None	11.1	31.6	0.0	Graphs	Graphs
Estonia	Low	Sporadic	Decreasing	17	None	5.9	9.2	230.1	Graphs	Graphs
Finland				-	-	-	-	-	Graphs	Graphs
France	Low	Sporadic	Stable	118	A(H1N1)v	2.5	-	1679.4	Graphs	Graphs
Germany	Low	Local	Stable	48	None	4.2	-	1127.4	Graphs	Graphs
Greece	Medium	Regional	Stable	19	None	40.0	108.5	-	Graphs	Graphs
Hungary	Low	Sporadic	Decreasing	89	A(H1)v	7.9	143.2	-	Graphs	Graphs
Iceland				-	-	-	-	-	Graphs	Graphs
Ireland	Low	Sporadic	Stable	8	A(H1N1)v	0.0	6.2	-	Graphs	Graphs
Italy	Low	Local	Stable	29	A(H1N1)v	0.0	203.8	-	Graphs	Graphs
Latvia	Low	Sporadic	Stable	0	A(H1)v	-	0.0	1000.4	Graphs	Graphs
Lithuania				5	None	20.0	-	-	Graphs	Graphs
Luxembourg	Low	Sporadic	Stable	17	A(H1)v	23.5	-*	-*	Graphs	Graphs
Malta	Low	Local	Decreasing	-	-	-	-*	-*	Graphs	Graphs
Netherlands	Low	Sporadic	Stable	14	None	7.1	44.6	-	Graphs	Graphs
Norway	Low	No activity	Stable	1	None	0.0	26.9	-	Graphs	Graphs
Poland	Low	Sporadic	Stable	10	None	0.0	78.9	-	Graphs	Graphs
Portugal	Low	Sporadic	Stable	-	-	-	5.7	-	Graphs	Graphs
Romania	Low	Sporadic	Decreasing	10	A(H1N1)v	20.0	0.2	667.5	Graphs	Graphs
Slovakia	Medium	Local	Increasing	11	None	0.0	251.2	1805.1	Graphs	Graphs
Slovenia	Low	Sporadic	Stable	5	A(H1)v	0.0	1.6	1031.6	Graphs	Graphs
Spain	Low	No activity	Stable	78	None	1.3	15.7	-	Graphs	Graphs
Sweden	Low	No activity	Stable	5	A(H1)v	0.0	1.4	-	Graphs	Graphs
UK - England	Low	Sporadic	Stable	90	A(H1N1)v	8.7	12.0	411.3	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Decreasing	5	A(H1N1)v	0.0	20.9	348.5	Graphs	Graphs
UK - Scotland	Low	Sporadic	Stable	43	A(H1N1)v	0.0	3.0	227.8	Graphs	Graphs
UK - Wales	Low	Sporadic	Decreasing	-	-	-	3.7	-	Graphs	Graphs
Europe				684		6.7				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 06/2010, 24 countries reported virological data. Sentinel physicians collected 684 specimens, 46 (6.7%) of which were positive for influenza virus (Tables 1 and 2). In addition, 218 non-sentinel source specimens (i.e. specimens collected for diagnostic purpose in hospitals) were reported positive for influenza virus. Of the 16 051 influenza viruses detected by sentinel practices and sub-typed since week 40/2009, 15 996 (99%) were identified as the 2009 pandemic influenza A(H1N1) virus. However, in week 06/2010, the proportion of pandemic viruses was 96% as a few influenza B viruses were reported. Table 2 shows the distribution of both sentinel and non-sentinel specimens by type and sub-type. Figures 1–3 show the trends in virological detections over time. The proportion of positive sentinel samples has decreased since week 46/2009 (Figure 3).

From week 40/2009 to week 06/2010, 1839 influenza viruses from sentinel and non-sentinel specimens were characterised antigenically and reported, 1815 (99%) of which were 2009 pandemic influenza A(H1N1) virus, A/California/7/2009-like (Table 3).

All pandemic viruses tested were resistant to M2 inhibitors. Of the 1451 viruses tested from nine countries, 37 (2.5%) were resistant to oseltamivir and of the 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 in 11 countries has been decreasing (Figure 4). However in Estonia, Latvia and Sweden, the number of RSV positive samples has increased for the last four consecutive weeks.

Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2009–06/2010

Virus type/subtype	Current Week		Season	
	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	44	210	16696	86920
A (pandemic H1N1)	36	186	15996	76331
A (subtyping not performed)	8	23	645	10457
A (not subtypable)	0	1	14	46
A (H3)	0	0	6	37
A (H1)	0	0	35	49
Influenza B	2	8	66	99
Total Influenza	46	218	16762	87019

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 40/2009–06/2010

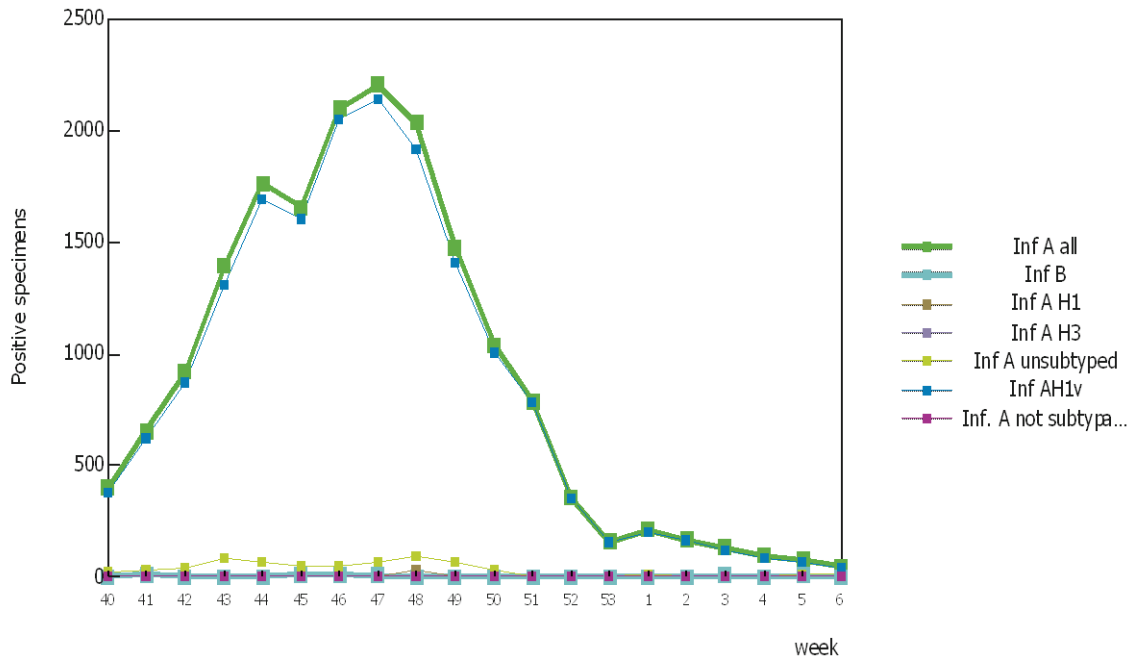


Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2009–06/2010

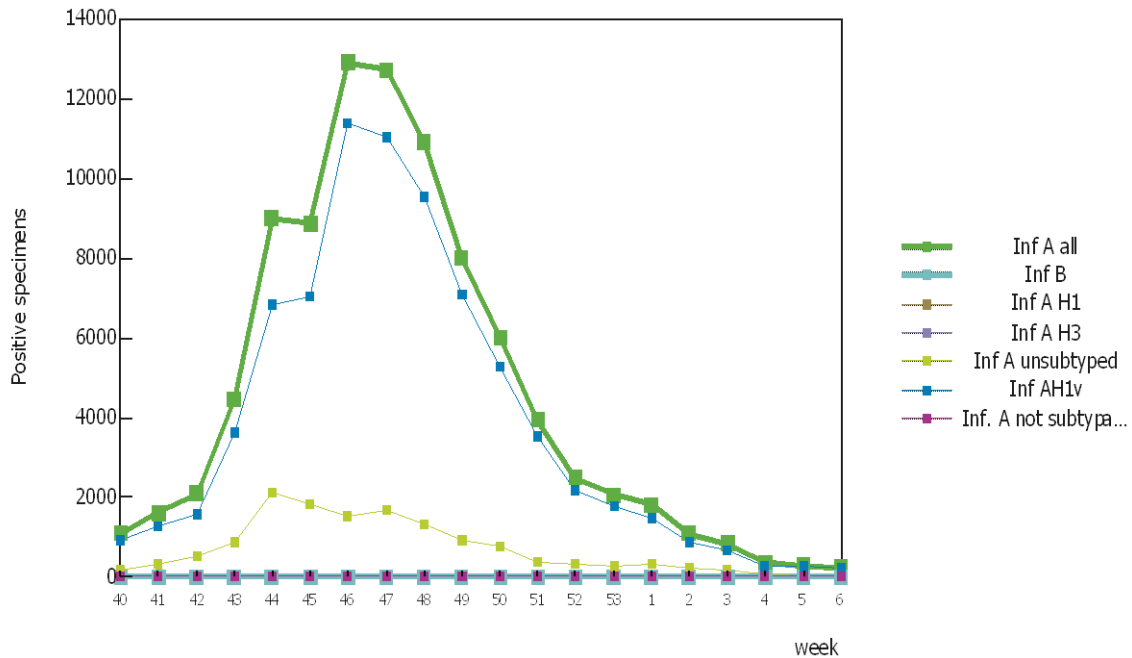


Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2009–06/2010

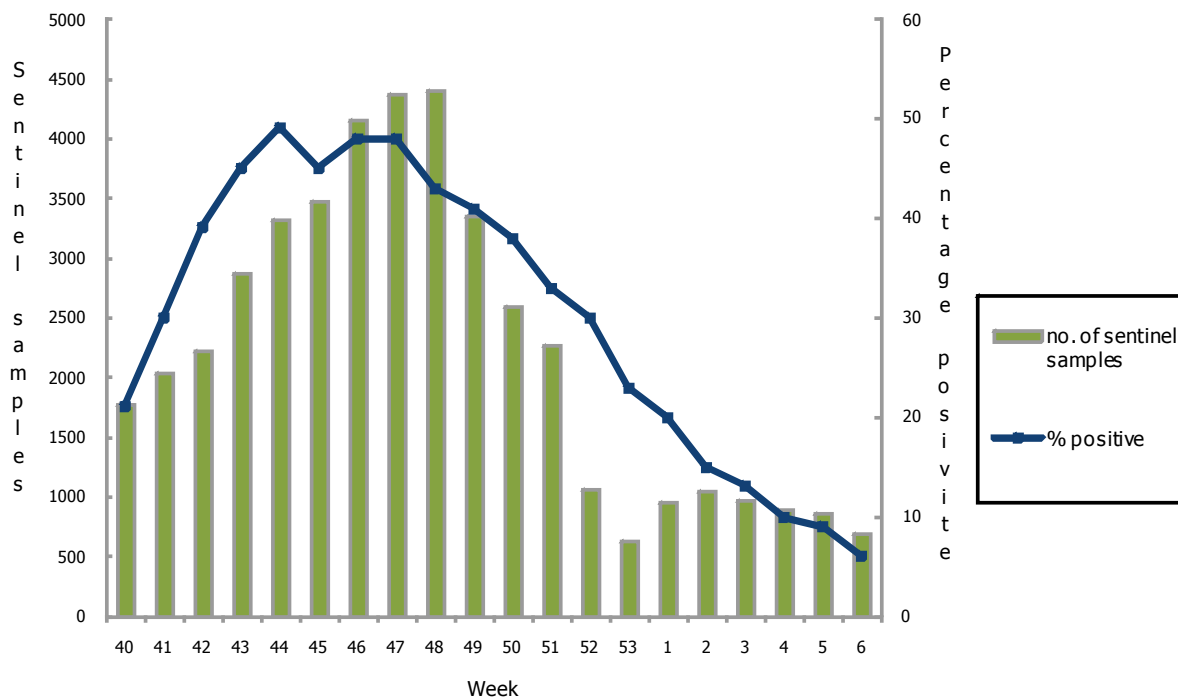


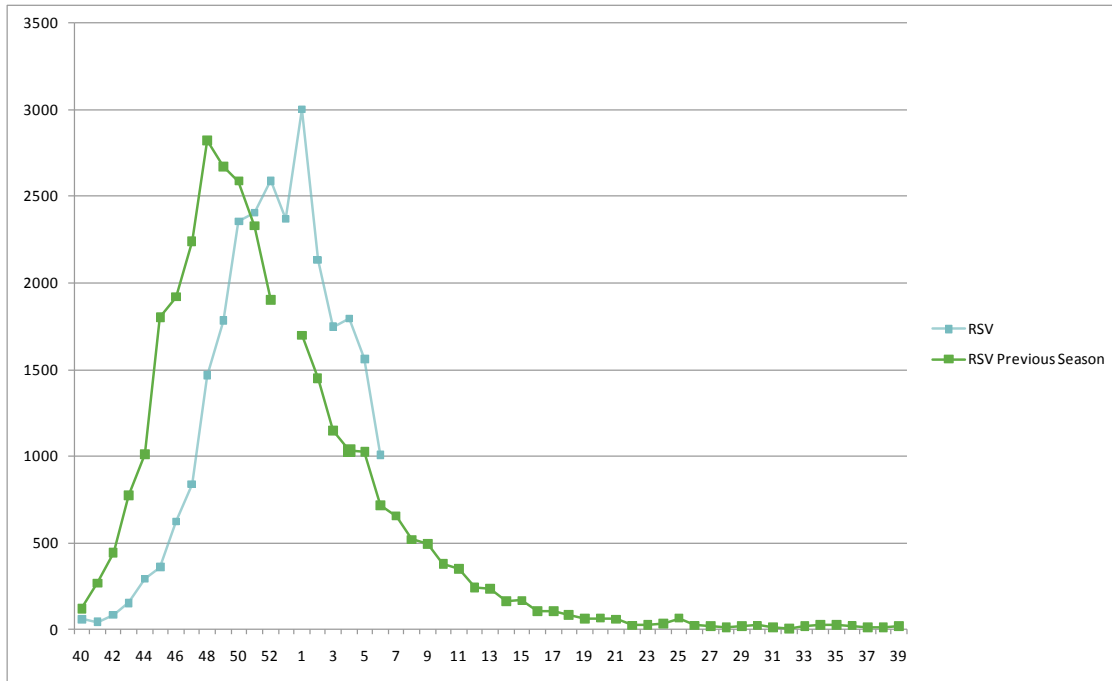
Table 3: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates since week 40/2009

Strain name	Number of strains
A(H1)v California/7/2009-like	1815
A(H3) A/Brisbane/10/2007 (H3N2)-like	5
A(H3) A/Perth/16/2009 (H3N2)-like	17
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	2
B/Florida/4/2006-like (B/Yamagata/16/88 lineage)	0
Total	1839

Table 4: Antiviral resistance by influenza virus type and subtype, weeks 40/2009–06/2010

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	0	0

Figure 4: Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2009–06/2010



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 06/2010, five countries reported 13 deaths. Since the beginning of the pandemic, 1549 deaths have been notified to ECDC through TESSy (Table 5).

Table 5: Aggregate numbers of pandemic (H1N1) 2009 deaths, from start of pandemic to 06/2010

country	Deaths reported in week 6	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	2	96	2010-w06
Denmark		0	2009-w36
Estonia	0	15	2010-w06
Finland		0	2009-w36
France	0	296	2010-w06
Germany	1	235	2010-w06
Greece	7	130	2010-w06
Hungary	2	121	2010-w06
Iceland		2	2009-w52
Ireland	0	22	2010-w06
Italy		1	2009-w52
Latvia		34	2010-w05
Lithuania	0	22	2010-w06
Luxembourg		3	2009-w52
Malta	0	5	2010-w06
Netherlands	0	57	2010-w06
Norway	0	29	2010-w06
Poland		9	2009-w47
Portugal		0	2009-w36
Romania	1	121	2010-w06
Slovakia		49	2010-w05
Slovenia		19	2010-w05
Spain		4	2009-w29
Sweden	0	24	2010-w06
United Kingdom		215	2010-w01
Total	13	1549	

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 06/2010, 29 SARI cases were reported, six of which (21%) had symptom onset during the same week. 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 11030 cases, including 513 fatalities (Table 6).

All 15 influenza viruses isolated from SARI cases in week 06/2010 were the 2009 pandemic influenza A(H1N1) virus (Table 8).

Of the 29 SARI cases reported during week 06/2010, five were known to have received antiviral prophylaxis, and nine were known to have received antiviral therapy. Just one of the cases was reported to have been vaccinated with the pandemic vaccine (Table 11).

Of the 29 reported SARI cases, nine (31%) were known to have required ICU admission and four needed ventilator support (Table 10).

Of the 20 SARI cases for whom underlying conditions were reported, six (30%) had no known underlying condition.

Table 6: Cumulative number of SARI cases, weeks 40/2009—week 06/2010

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	2819		38		
Belgium	1775	16.64			10668666
Cyprus	20		5		
Finland	1390		41		
France	1333		281		
United Kingdom	1513	3.83	64	0.16	39503332
Ireland	888		17		
Malta	164	39.65	1	0.24	413609
Netherlands	642	3.89	27	0.16	16521505
Romania	190	1.5	12	0.09	12684180
Slovakia	296		27		
Total	11030		513		

Figure 5: Number of SARI cases by week of onset, weeks 28/2009–06/2010

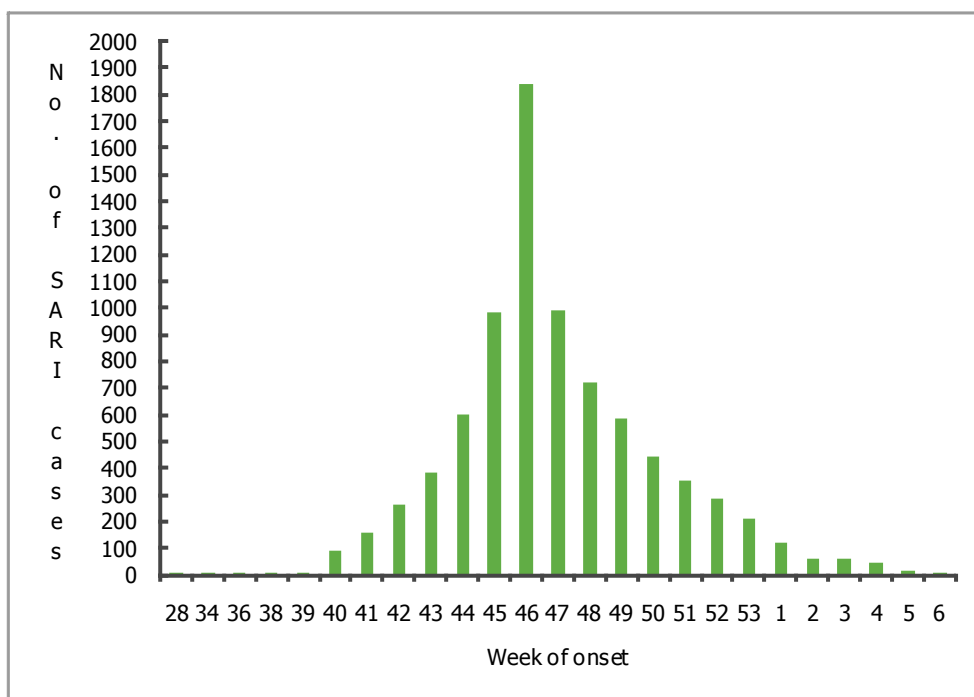


Table 7: Number of SARI cases by age and gender, week 06/2010

Age groups	Male	Female
Under 2	1	
2-17	1	1
18-44	3	8
45-59	6	4
>=60	3	2
Total	14	15

Table 8: Number of SARI cases by influenza type and subtype, weeks 28/2009–06/2010

Virus type/subtype	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	15	8815
A (pandemic H1N1)	15	8760
A(subtyping not performed)		27
A(H3)		
A(H1)		28
A(H5)		
Influenza B		
Unknown	14	2215
Total	29	11030

Table 9: Number of SARI cases by level of care and respiratory support, week 06/2010

Respiratory support	ICU	Inpatient ward	Other	Unknown
Oxygen therapy	3	8		
Respiratory support given unknown	2	3		8
Ventilator	4			1

Table 10: Number of SARI cases by vaccination status, week 06/2010

Vaccination Status	Number Of Cases	Percentage of cases
Both, seasonal and pandemic vaccination	1	3.4
Not vaccinated	16	55
Seasonal vaccination	2	6.9
Unknown	10	35
TOTAL	29	

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 was deemed an acceptable replacement for the quantitative monitoring in case reliable numbers were no longer available for the routine reporting due to overburdened surveillance systems. However this did not happen during the 2009 Influenza A(H1N1) pandemic and qualitative reporting was not implemented.

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).

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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