

## SURVEILLANCE REPORT

### Weekly influenza surveillance overview

26 February 2010

## Main surveillance developments in week 7/2010 (15 Feb 2010–21 Feb 2010)

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

- Influenza activity caused by the 2009 pandemic A(H1N1) virus is well past its winter peak in EU/EEA countries. Of the 23 countries reporting this week, all but one reported low influenza intensity.
- Sporadic activity and no geographic spread were reported in the majority of countries reporting.
- Of the 466 specimens collected by sentinel physicians, 19 (4.1%) were positive for influenza virus continuing the declining trend seen over the past few weeks.
- Although circulation of 2009 pandemic A(H1N1) influenza virus has diminished, there is still no evidence of wide circulation of other influenza A viruses apart from few influenza A(H3N2) and B viruses.
- The number of reported severe acute respiratory infection (SARI) cases continues to decline. In week 07/2010, of the 16 SARI cases for whom underlying conditions were documented, six (38%) had no known underlying condition.

**Sentinel surveillance of influenza like-illness (ILI)/ acute respiratory illness (ARI):** Of the 23 countries reporting, Bulgaria reported medium influenza activity while the remaining countries reported low activity. For more information, [click here](#).

**Virological surveillance:** Sentinel physicians collected 466 respiratory specimens, 19 (4.1%) of which were positive for influenza virus. Since week 40/2009, more than 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) associated deaths:** In week 07/2010, nine countries reported 18 deaths associated with the 2009 pandemic A(H1N1) virus. For more information, [click here](#).

**Hospital surveillance of severe acute respiratory infection (SARI):** During week 07/2010, 19 SARI cases were reported. Of the 11 influenza viruses isolated from SARI patients and subtyped, four were the 2009 pandemic A(H1N1) virus. For more information, [click here](#).

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

# Sentinel surveillance (ILI/ARI)

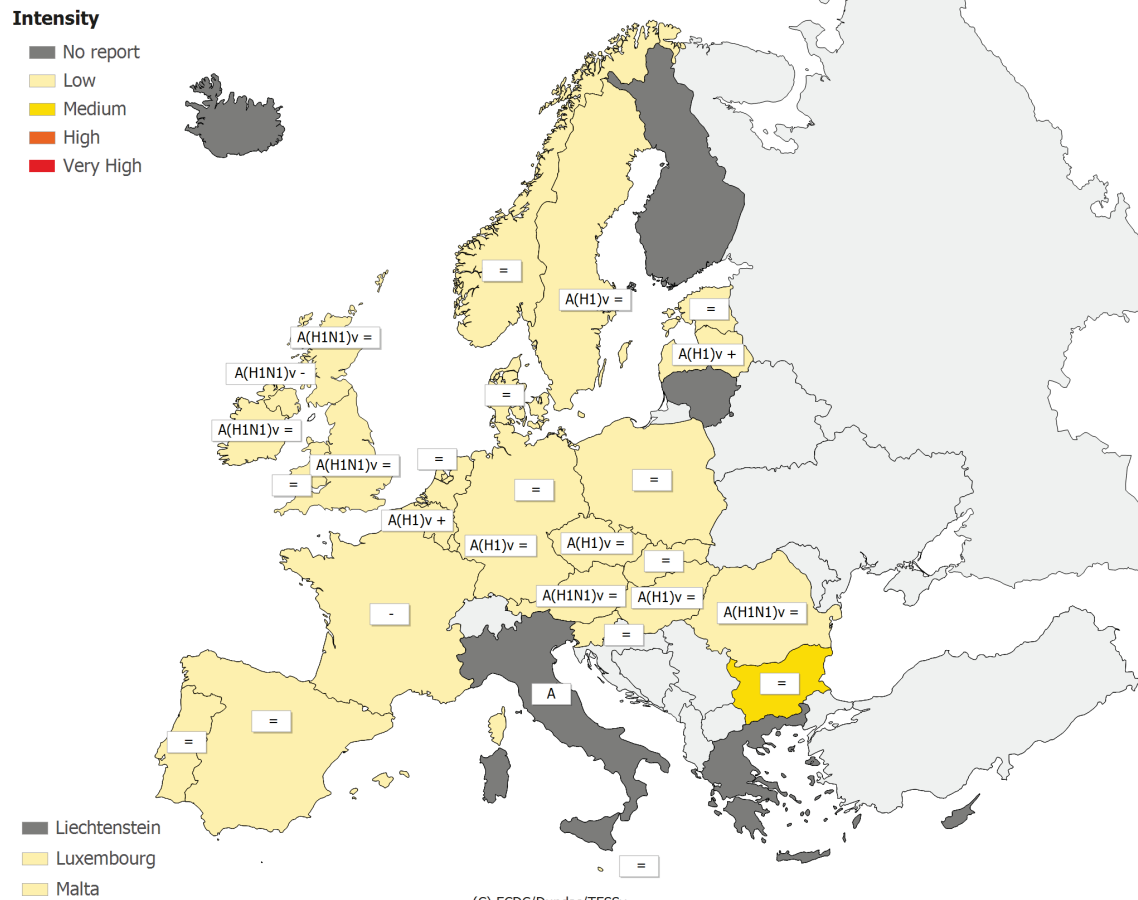
## Weekly analysis—epidemiology

In week 07/2010, 23 out of 29 countries reported epidemiological data. For the activity intensity indicator, Bulgaria reported medium activity while the remaining countries reported low intensity (Map 1 and Table 1). An increasing ILI/ARI trend was reported in Belgium and Latvia. A decreasing trend was reported in France and the UK (Northern Ireland) (Table 1). A stable trend was reported in the remaining countries.

For the geographic spread indicator, local or regional activity was reported in four countries (Austria, Bulgaria, Malta and Slovakia). Sporadic or no activity was reported in the remaining 19 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. Since week 01/2010, the number of ARI consultations has increased in Austria, Czech Republic, Germany, Latvia, Slovakia and Slovenia.

**Map 1: Intensity for week 07/2010**

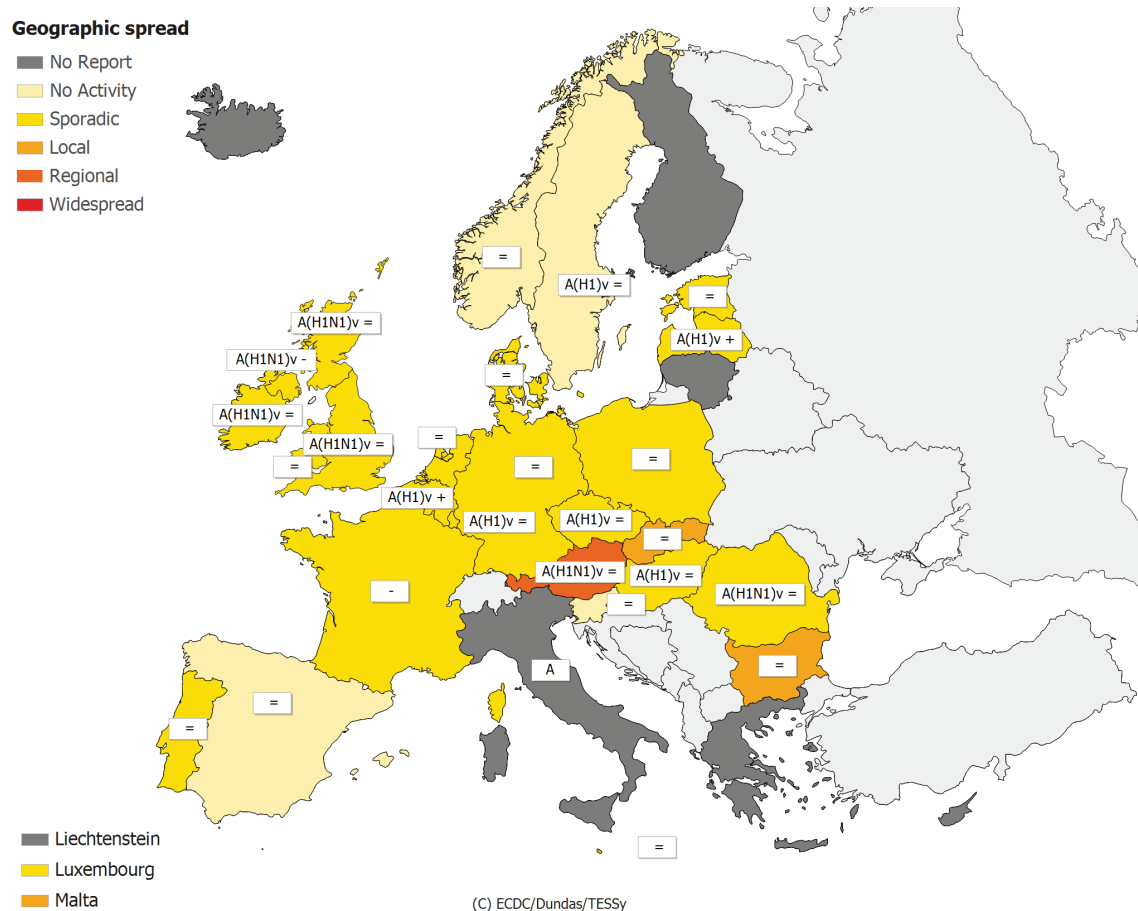


\* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

Legend:

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

**Map 2: Geographic spread for week 07/2010**



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

**Legend:**

<b>No activity</b>	No evidence of influenza virus activity (clinical activity remains at baseline levels)	-	Decreasing clinical activity
<b>Sporadic</b>	Isolated cases of laboratory confirmed influenza infection	+	Increasing clinical activity
<b>Local outbreak</b>	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
<b>Regional activity</b>	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	Type A
<b>Widespread</b>	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(H1)v	Type A, Subtype H1v
		A(H1N1)v	Type A, Subtype H1N1v

**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	Regional	Stable	1	A(H1N1)v	0.0	0.0	22.7	Graphs	Graphs
Belgium	Low	Sporadic	Increasing	20	A(H1)v	10.0	76.1	1406.2	Graphs	Graphs
Bulgaria	Medium	Local	Stable	1	None	0.0	-	811.3	Graphs	Graphs
Cyprus				-	-	-	-	-	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	17	A(H1)v	5.9	41.9	959.4	Graphs	Graphs
Denmark	Low	Sporadic	Stable	15	None	6.7	35.7	0.0	Graphs	Graphs
Estonia	Low	Sporadic	Stable	14	None	0.0	9.0	264.1	Graphs	Graphs
Finland				-	-	-	-	-	Graphs	Graphs
France	Low	Sporadic	Decreasing	-	-	-	-	1521.9	Graphs	Graphs
Germany	Low	Sporadic	Stable	46	None	4.4	-	1151.9	Graphs	Graphs
Greece				9	None	66.7	-	-	Graphs	Graphs
Hungary	Low	Sporadic	Stable	79	A(H1)v	2.5	141.7	-	Graphs	Graphs
Iceland				-	-	-	-	-	Graphs	Graphs
Ireland	Low	Sporadic	Stable	3	A(H1N1)v	0.0	6.1	-	Graphs	Graphs
Italy				26	A	0.0	-	-	Graphs	Graphs
Latvia	Low	Sporadic	Increasing	0	A(H1)v	-	0.0	1047.0	Graphs	Graphs
Lithuania				1	None	0.0	-	-	Graphs	Graphs
Luxembourg	Low	Sporadic	Stable	6	A(H1)v	33.3	-*	-*	Graphs	Graphs
Malta	Low	Local	Stable	-	-	-	-*	-*	Graphs	Graphs
Netherlands	Low	Sporadic	Stable	14	None	0.0	37.5	-	Graphs	Graphs
Norway	Low	No activity	Stable	2	None	0.0	28.3	-	Graphs	Graphs
Poland	Low	Sporadic	Stable	10	None	0.0	82.5	-	Graphs	Graphs
Portugal	Low	Sporadic	Stable	-	-	-	12.9	-	Graphs	Graphs
Romania	Low	Sporadic	Stable	17	A(H1N1)v	17.7	0.8	677.1	Graphs	Graphs
Slovakia	Low	Local	Stable	11	None	0.0	238.0	1786.2	Graphs	Graphs
Slovenia	Low	No activity	Stable	7	None	0.0	6.1	1162.2	Graphs	Graphs
Spain	Low	No activity	Stable	64	None	0.0	14.4	-	Graphs	Graphs
Sweden	Low	No activity	Stable	13	A(H1)v	7.7	3.0	-	Graphs	Graphs
UK - England	Low	Sporadic	Stable	54	A(H1N1)v	7.1	8.0	358.3	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Decreasing	6	A(H1N1)v	0.0	17.2	363.4	Graphs	Graphs
UK - Scotland	Low	Sporadic	Stable	30	A(H1N1)v	3.3	3.7	208.0	Graphs	Graphs
UK - Wales	Low	Sporadic	Stable	-	-	-	3.4	-	Graphs	Graphs
Europe				466		4.1				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 07/2010, 22 countries and the UK (England, Northern Ireland and Scotland) reported virological data. Sentinel physicians collected 466 specimens, 19 (4.1%) of which were positive for influenza virus (Tables 1 and 2). In addition, 126 non-sentinel source specimens (i.e. specimens collected for diagnostic purpose in hospitals) were reported positive for influenza virus. Of the 16 074 influenza viruses detected by sentinel practices and sub-typed since week 40/2009, 16 017 (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 sub-type. Figures 1–3 show the trend of virological detections over time. The proportion of positive sentinel samples has decreased continuously since week 46/2009 (Figure 3).

Based on the antigenic and/or genetic characterisation of 2820 influenza viruses from week 40/2009 to week 07/2010, 2771 (98%) were characterised as A/California/7/2009(H1N1)-like, 37 as A/Perth/16/2009(H3N2)-like, six as A/Brisbane/10/207(H3N2)-like, one as A/Brisbane/59/2007-like and five as B/Brisbane/60/2008-like. Table 3 shows the results of the antigenic characterisation of sentinel and non-sentinel influenza virus isolates since week 40/2009. Currently, the predominating virus strains in Europe are the same as those recommended by the WHO for inclusion in the vaccine for the northern hemisphere 2010-2011 influenza season (A/California/7/2009 (H1N1)-like, A/Perth/16/2009(H3N2)-like and B/Brisbane/60/2008-like).

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 analysed, none were resistant to zanamivir (Table 4).

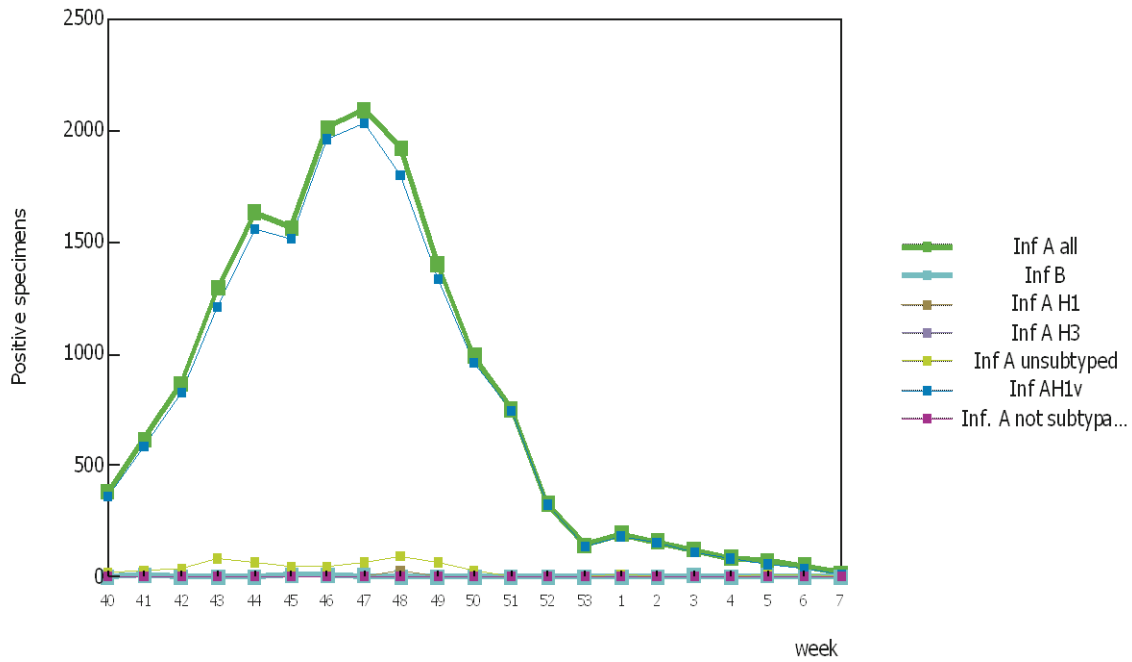
Since the peak in week 01/2010, the total number of respiratory syncytial virus (RSV) detections in 11 countries has been decreasing (Figure 4). However in Austria, Denmark, Germany, Latvia and Sweden, the number of RSV positive samples has increased since the last report in week 06/2010. In Sweden this number has increased for the fifth consecutive week.

**Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2009–07/2010**

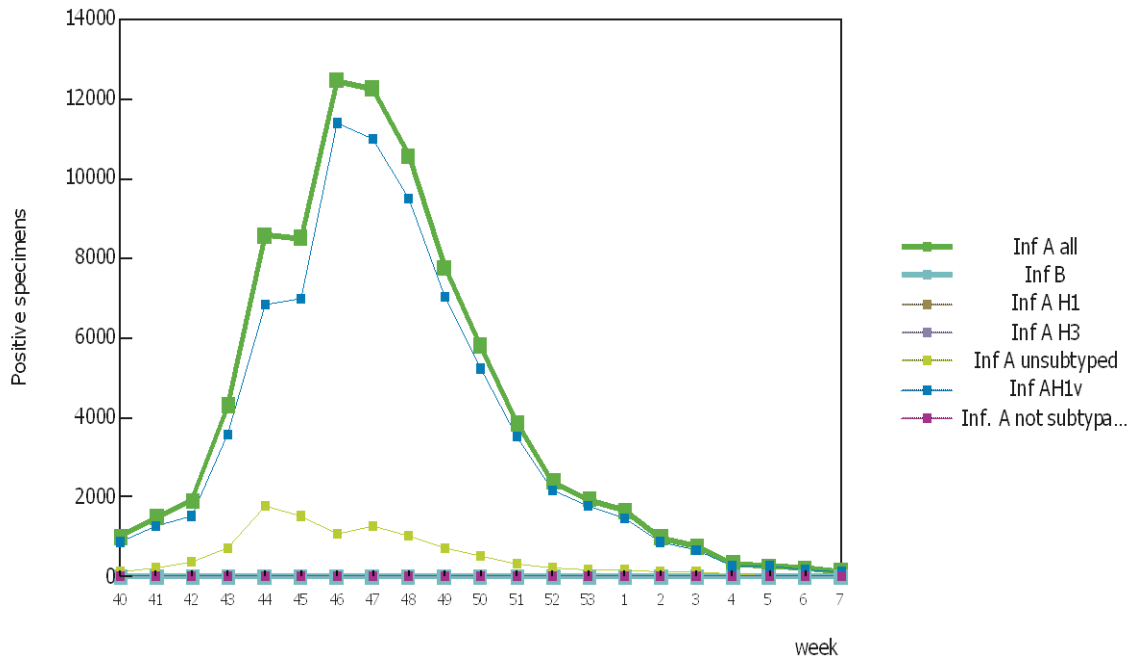
Virus type/subtype	Current Week		Season	
	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	17	120	16721	87091
A (pandemic H1N1)	16	98	16017	76472
A (subtyping not performed)	1	21	647	10482
A (not subtypable)	0	1	14	47
A (H3)	0	0	8	41
A (H1)	0	0	35	49
Influenza B	2	6	68	115
<b>Total Influenza</b>	<b>19</b>	<b>126</b>	<b>16789</b>	<b>87206</b>

*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 40/2009–7/2010**

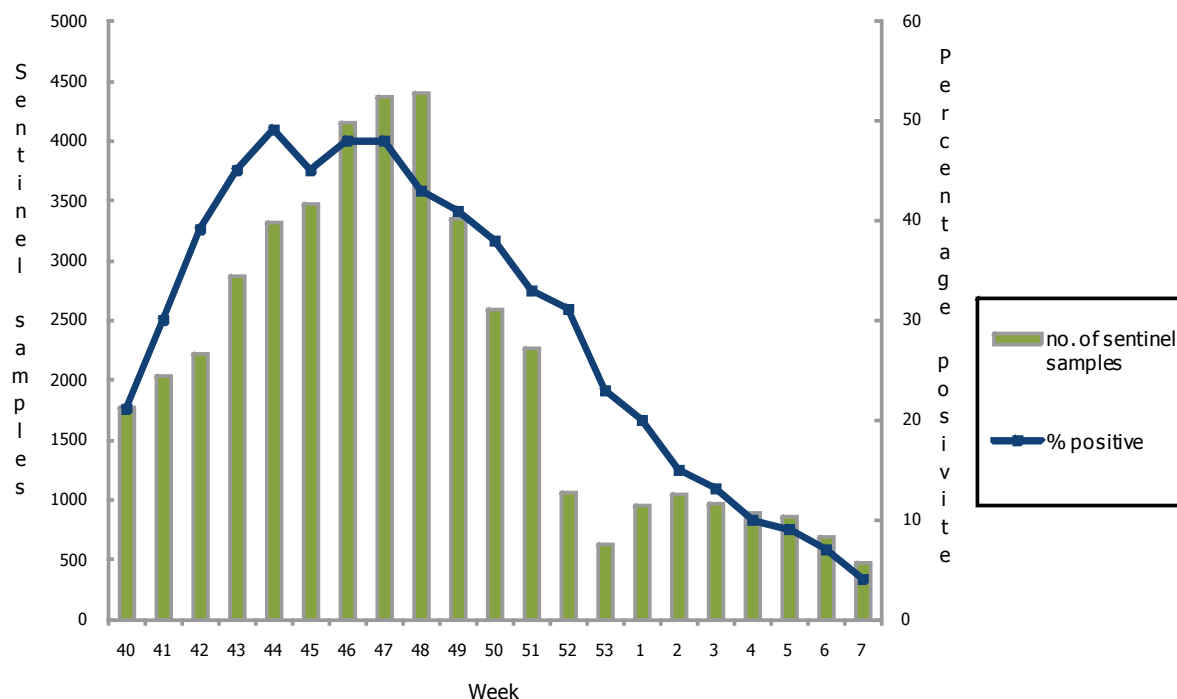


**Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2009–07/2010**





**Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2009–07/2010**



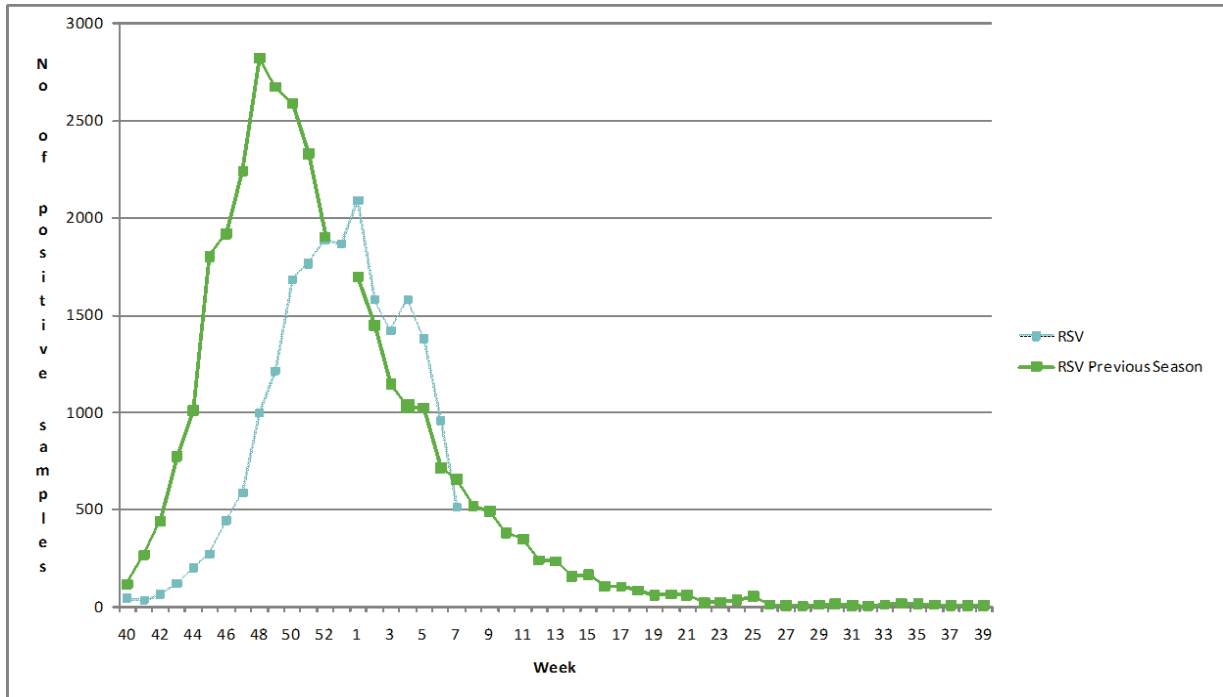
**Table 3: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates since week 40/2009**

Strain name	Number of strains
A(H1)v California/7/2009-like	1860
A(H3) A/Perth/16/2009 (H3N2)-like	22
A(H3) A/Brisbane/10/2007 (H3N2)-like	5
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	2
B/Florida/4/2006-like (B/Yamagata/16/88 lineage)	0

**Table 4: Antiviral resistance by influenza virus type and subtype, weeks 40/2009–07/2010**

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 40/2009–07/2010**



### 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 07/2010, nine countries reported 18 deaths. Since the beginning of the pandemic, 1574 deaths have been notified to ECDC through TESSy (Table 5).

**Table 5: Aggregate numbers of 2009 pandemic A(H1N1) associated deaths, week 07/2010**

Country	Deaths reported in week 7/2010	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	1	97	2010-w07
Denmark		0	2009-w36
Estonia	1	16	2010-w07
Finland		0	2009-w36
France	2	302	2010-w07
Germany	2	239	2010-w07
Greece	5	135	2010-w07
Hungary	3	124	2010-w07
Iceland		2	2009-w52
Ireland	0	22	2010-w07
Italy		1	2009-w52
Latvia		34	2010-w05
Lithuania	1	23	2010-w07
Luxembourg		3	2009-w52
Malta		5	2010-w06
Netherlands	0	58	2010-w07
Norway	0	29	2010-w07
Poland		9	2009-w47
Portugal		0	2009-w36
Romania	1	122	2010-w07
Slovakia	2	51	2010-w07
Slovenia	0	19	2010-w07
Spain		4	2009-w29
Sweden	0	24	2010-w07
United Kingdom		215	2010-w01
Total	18	1574	

## 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 07/2010, 19 SARI cases were reported, eleven of which (58 %) 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 11 110 cases, including 520 fatalities (Table 6).

Of the eleven influenza viruses isolated from SARI cases in week 07/2010, four were the 2009 pandemic influenza A(H1N1) virus (Table 8).

Of the 19 SARI cases reported during week 07/2010, four were known to have received antiviral prophylaxis, and 12 were known to have received antiviral therapy (Table 9).

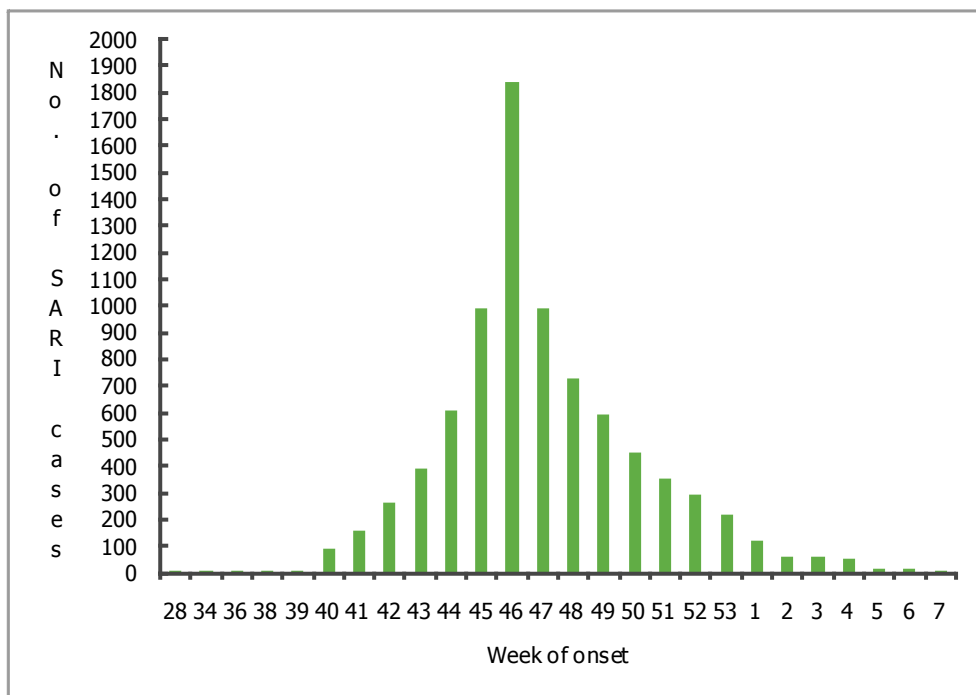
Of those 19 SARI cases, three (16%) were known to have required ICU admission and three (16%) needed ventilator support (Table 10).

Of the 16 SARI cases for whom underlying conditions were reported, six (38%) had no known underlying condition. Asthma and other chronic lung diseases alone or associated with other conditions were reported in eight (50%) cases (Figure 6).

**Table 6: Cumulative number of SARI cases, weeks 40/2009–week 07/2010**

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	1779	16.67			10668666
Cyprus	20		5		
Finland	1390		41		
France	1335		287		
United Kingdom	1567	3.97	64	0.16	39503332
Ireland	888		17		
Malta	174	42.07	1	0.24	413609
Netherlands	644	3.9	27	0.16	16521505
Romania	192	1.51	12	0.09	12684180
Slovakia	302		28		
Total	11110		520		79791292

**Figure 5: Number of SARI cases by week of onset, week 07/2010**



**Table 7: Number of SARI cases by age and gender, week 07/2010**

Age groups	Male	Female
Under 2	1	1
2-17	3	
18-44	3	1
45-59	3	1
>=60	2	4
Total	12	7

**Table 8: Number of SARI cases by influenza type and subtype, week 07/2010**

Virus type/subtype	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	11	8881
A (pandemic H1N1)	4	8819
A(subtyping not performed)	4	31
A(H3)		
A(H1)	3	31
A(H5)		
Influenza B		
Unknown	8	2229
Total	19	11110

**Table 9: Number of SARI cases by antiviral treatment, week 07/2010**

Antiviral treatment	Number of patients who received prophylaxis	Number of patients who received anti-viral treatment
Oseltamivir		7
Other (or any other combination)	4	4
Unknown	3	1
None	12	7
Total	19	19

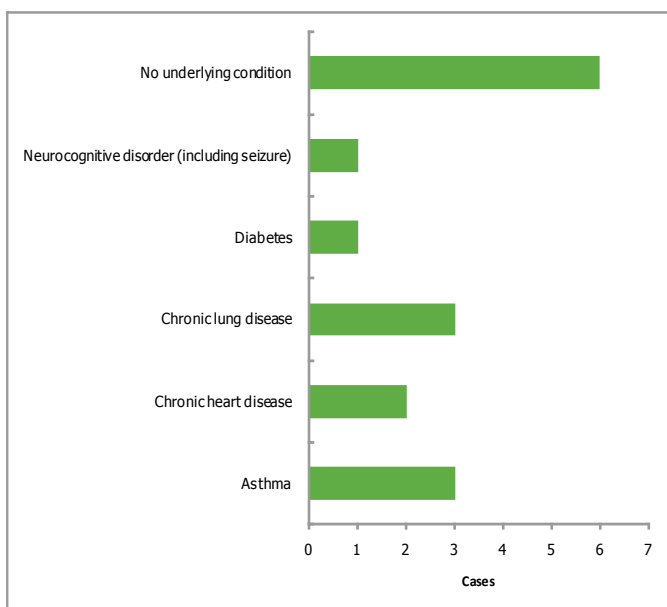
**Table 10: Number of SARI cases by level of care and respiratory support, week 07/2010**

Respiratory support	ICU	Inpatient ward	Other	Unknown
No respiratory support necessary		2		
Oxygen therapy	1	8		
Respiratory support given unknown		4		1
Ventilator	2	1		

**Table 11: Number of SARI cases by vaccination status, week 07/2010**

Vaccination Status	Number Of Cases	Percentage of cases
Both, seasonal and pandemic vaccination	4	21.1
Not full pandemic vaccination	0	0
Not vaccinated	11	57.9
Pandemic vaccination	1	5
Seasonal vaccination	1	5.3
Unknown	2	11
TOTAL	19	

**Figure 6: Number of SARI cases by underlying condition, week 07/2010**



**Table 12: Number of underlying conditions in SARI cases by age group, week 07/2010**

Underlying condition/risk factor	Infant below 2 years	2-17 years	18-44 years	45-59 years	>=60 years
Asthma			1		2
Diabetes				1	
Chronic heart disease					2
Chronic lung disease			1	1	1
Neurocognitive disorder (including seizure)			1		
No underlying condition	2	2	1	1	
Underlying condition unknown		1		1	1

*Note: Obesity is considered an underlying condition only if any other underlying conditions are not present. One case can have more than one underlying condition.*

### 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.

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*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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