

## SURVEILLANCE REPORT

### Weekly influenza surveillance overview

23 October 2009

## Main surveillance developments in week 42/2009

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

- Transmission of the pandemic virus is intensifying and becoming more widespread in Europe.
- Nine of the 22 countries reporting described medium to very high intensity activity and 12 of them saw a rising trend.
- Influenza A(H1N1)v virus accounted for 80% of all influenza-positive sentinel and non-sentinel specimens.
- **Technical note:** The influenza season 2009/10 started in week 40/2009. From this WISO issue onwards, week 40/2009 will serve as the point of reference for all cumulative counts except for aggregate influenza A(H1N1)v cases and deaths.

**Sentinel surveillance of influenza like illness (ILI)/ acute respiratory illness (ARI):** This week, Iceland reported very high intensity and Ireland and the UK (Northern Ireland) reported high intensity. Belgium, Bulgaria, the Netherlands, Spain, Sweden and the UK (England) reported medium intensity. Twelve countries reported an increasing trend of influenza activity as compared to week 41/2009. For more information [click here](#).

**Virological surveillance:** Sentinel physicians collected 1580 respiratory specimens, of which 587 (37%) were positive for influenza virus. Influenza A(H1N1)v virus accounted for 80% of all influenza-positive sentinel and non-sentinel specimens. For more information [click here](#).

**Aggregate numbers of influenza A(H1N1)v:** Eight countries reported 1943 newly diagnosed probable and confirmed cases of influenza A(H1N1)v . Four deaths were reported by Hungary and two by Norway. For more information [click here](#).

**Hospital surveillance of severe acute respiratory infection (SARI):** A(H1N1)v influenza accounted for 94% of the 53 SARI cases reported. For more information [click here](#).

**Qualitative reporting:** No qualitative indicator data are available yet. For more information [click here](#).

# Sentinel surveillance (ILI/ARI)

## Weekly analysis – epidemiology

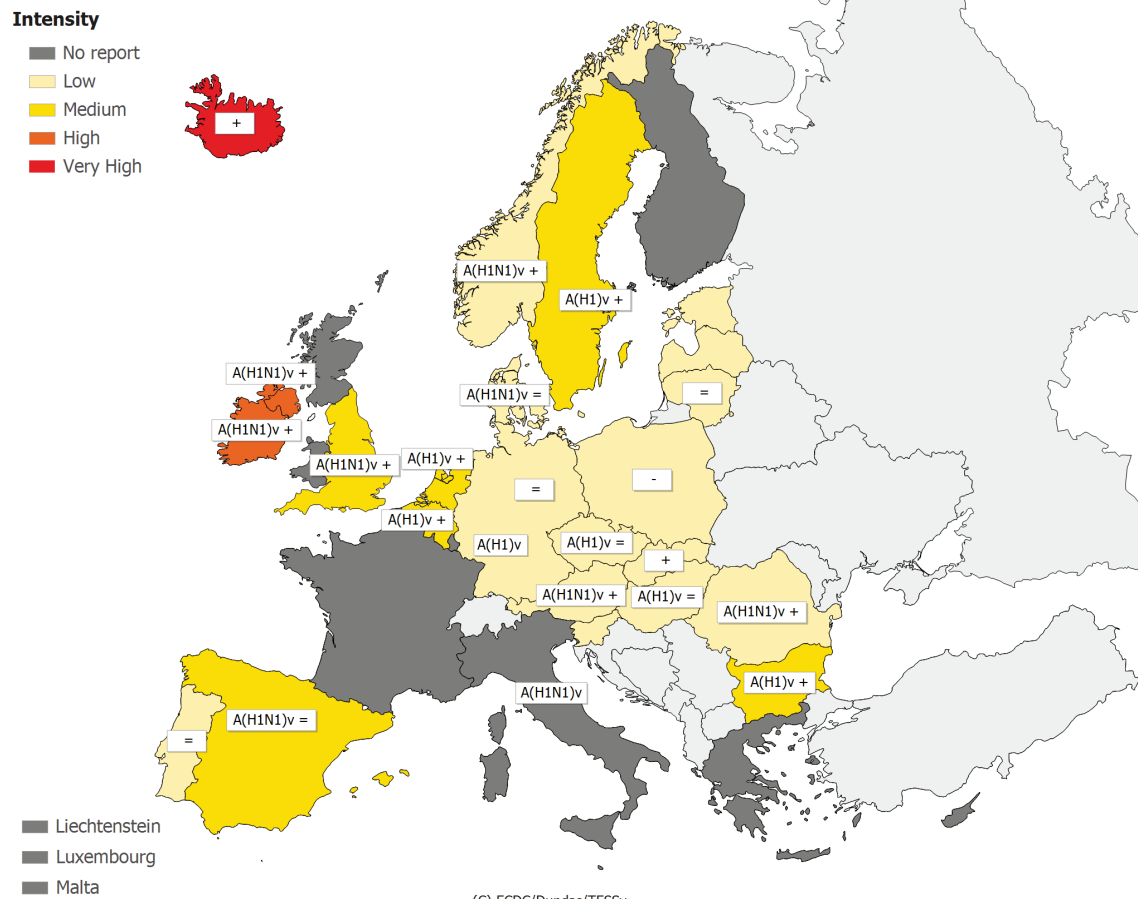
For week 42/2009, 22 countries reported epidemiological data. For the activity intensity indicator—national network levels for ILI and/or ARI— Iceland reported very high intensity, Ireland and the UK (Northern Ireland) high intensity and Belgium, Bulgaria, the Netherlands, Spain, Sweden and the UK (England) reported medium intensity. All other countries reported low intensity.

For the geographic spread indicator, Belgium, Iceland, Ireland, the Netherlands and the UK (England) reported widespread activity and Austria, Norway, Spain and Sweden regional activity. All other countries reported sporadic or no activity. Twelve countries reported an increasing trend of influenza activity as compared to week 41; among them four countries with currently low intensity. For the definitions of the intensity and geographic spread indicators, [click here](#).

From week 40/2009 until week 42/2009, influenza activity above baseline levels was reported in 11 countries with eight of them still seeing a rising trend in week 42. Within three weeks in Iceland, ILI consultation rates increased more than six-fold; in Ireland they almost doubled and; in the UK (Northern Ireland) they rose by almost 50%.

In most locations where influenza activity rose above baseline levels so far, the most affected age group includes those aged below 15 years.

**Map 1: Intensity for week 42/2009**



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

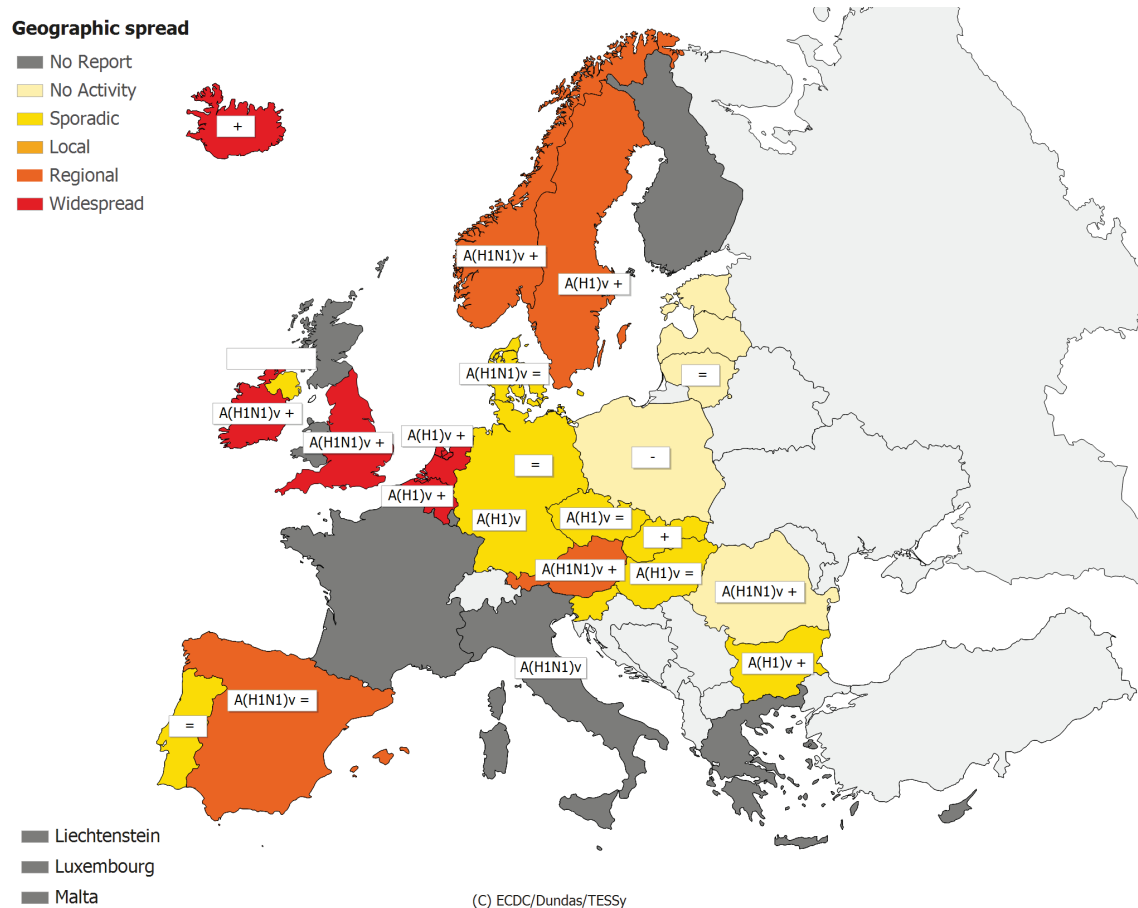
**Legend:**

<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	<b>A(H1)v</b>	Type A, Subtype H1v
		<b>A(H1N1)v</b>	Type A, Subtype H1N1v

**Map 2: Geographic spread for week 42/2009**

**Geographic spread**

- No Report
- No Activity
- Sporadic
- Local
- Regional
- Widespread



(C) ECDC/Dundas/TESSy

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

**Legend:**

<p><b>No activity</b>      No evidence of influenza virus activity (clinical activity remains at baseline levels)</p> <p><b>Sporadic</b>        Isolated cases of laboratory confirmed influenza infection</p> <p><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)</p> <p><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)</p> <p><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)</p>	<p>-                      Decreasing clinical activity</p> <p>+                      Increasing clinical activity</p> <p>=                      Stable clinical activity</p> <p><b>A(H1)v</b>              Type A, Subtype H1v</p> <p><b>A(H1N1)v</b>          Type A, Subtype H1N1v</p>
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**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	Increasing	3	A(H1N1)v	33.3	-	8.4	Graphs	Graphs
Belgium	Medium	Widespread	Increasing	315	A(H1)v	47.9	377.9	1971.0	Graphs	Graphs
Bulgaria	Medium	Sporadic	Increasing	0	A(H1)v	-	-	823.1	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	19	A(H1)v	0.0	28.4	898.3	Graphs	Graphs
Denmark	Low	Sporadic	Stable	1	A(H1N1)v	100.0	73.2	0.0	Graphs	Graphs
Estonia	Low	No activity	Stable	2	None	0.0	1.9	262.5	Graphs	Graphs
Germany	Low	Sporadic	Stable	0	-	-	-	1022.5	Graphs	Graphs
Greece				15	None	25.0	-	-	Graphs	Graphs
Hungary	Low	Sporadic	Stable	29	A(H1)v	17.2	166.8	-	Graphs	Graphs
Iceland	Very High	Widespread	Increasing	0	-	-	527.5	-	Graphs	Graphs
Ireland	High	Widespread	Increasing	162	A(H1N1)v	52.5	158.8	-	Graphs	Graphs
Italy				14	A(H1N1)v	92.9	-	-	Graphs	Graphs
Latvia	Low	No activity	Decreasing	0	None	-	0.0	881.6	Graphs	Graphs
Lithuania	Low	No activity	Stable	0	-	-	0.3	465.2	Graphs	Graphs
Luxembourg				105	A(H1)v	29.5	-	-	Graphs	Graphs
Netherlands	Medium	Widespread	Increasing	40	A(H1)v	32.5	-	-	Graphs	Graphs
Norway	Low	Regional	Increasing	26	A(H1N1)v	15.4	98.1	-	Graphs	Graphs
Poland	Low	No activity	Decreasing	0	-	-	46.4	0.0	Graphs	Graphs
Portugal	Low	Sporadic	Stable	0	-	-	15.0	-	Graphs	Graphs
Romania	Low	No activity	Increasing	57	A(H1N1)v	0.0	0.5	603.4	Graphs	Graphs
Slovakia	Low	Sporadic	Increasing	0	-	-	199.7	1578.1	Graphs	Graphs
Slovenia	Low	Sporadic	Stable	17	None	17.7	5.7	936.8	Graphs	Graphs
Spain	Medium	Regional	Stable	364	A(H1N1)v	43.1	100.2	-	Graphs	Graphs
Sweden	Medium	Regional	Increasing	97	A(H1)v	19.6	7.8	-	Graphs	Graphs
UK - England	Medium	Widespread	Increasing	268	A(H1N1)v	28.9	39.1	470.2	Graphs	Graphs
UK - Northern Ireland	High	Sporadic	Increasing	46	A(H1N1)v	63.0	241.1	398.1	Graphs	Graphs
Europe				1580		37.1				Graphs

## 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 Cyprus and 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 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 national level are also reported.

# Virological surveillance

## Weekly analysis – virology

In week 42/2009, 20 countries reported virological data. Sentinel physicians collected 1580 respiratory specimens, of which 587 (37%) were positive for influenza virus (Table 1). In addition, 1526 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus. Influenza A(H1N1)v virus accounted for 80% of all influenza-positive sentinel and non-sentinel specimens in week 42 and for 85% since week 40. Table 2 shows the distribution of sentinel and non-sentinel specimens by type and subtype; figures 1–3 show the temporal trends. The proportion of positive sentinel specimens increased for the third week in a row (by 60% since week 40/2009).

No antiviral resistance data is available yet for season 2009/10.

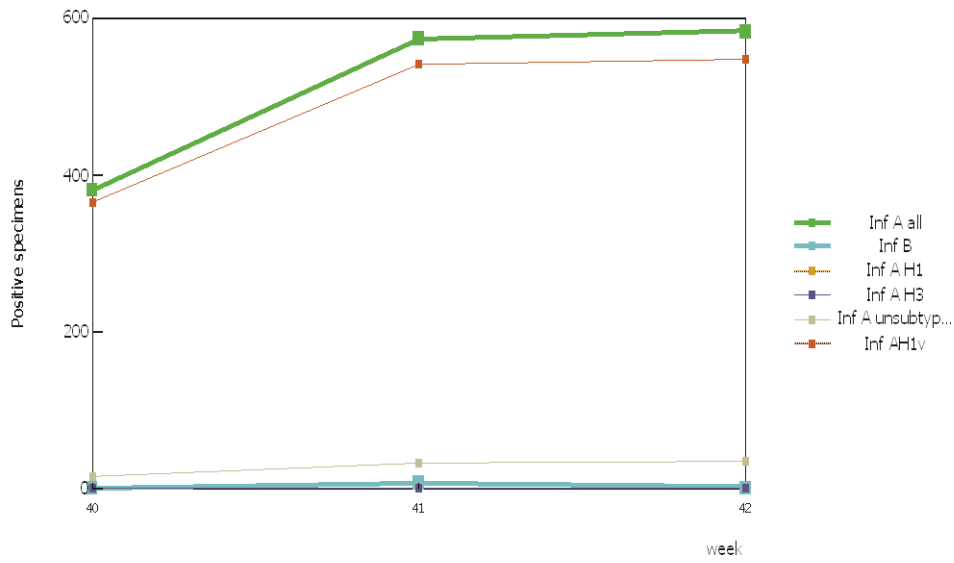
**Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2009-42/2009**

Virus type/subtype	Current Week		Season	
	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	585	1521	1543	4165
A (pandemic H1N1)	549	1134	1456	3416
A (subtyping not performed)	35	382	83	726
A (not subtypable)	1	1	3	7
A (H3)	0	4	1	15
A (H1)	0	0	0	1
Influenza B	2	5	11	14
<b>Total Influenza</b>	<b>587</b>	<b>1526</b>	<b>1554</b>	<b>4179</b>

*Note:* A(pandemic H1N1, A(H3) and A(H1) includes both N-subtyped and not N-subtyped viruses

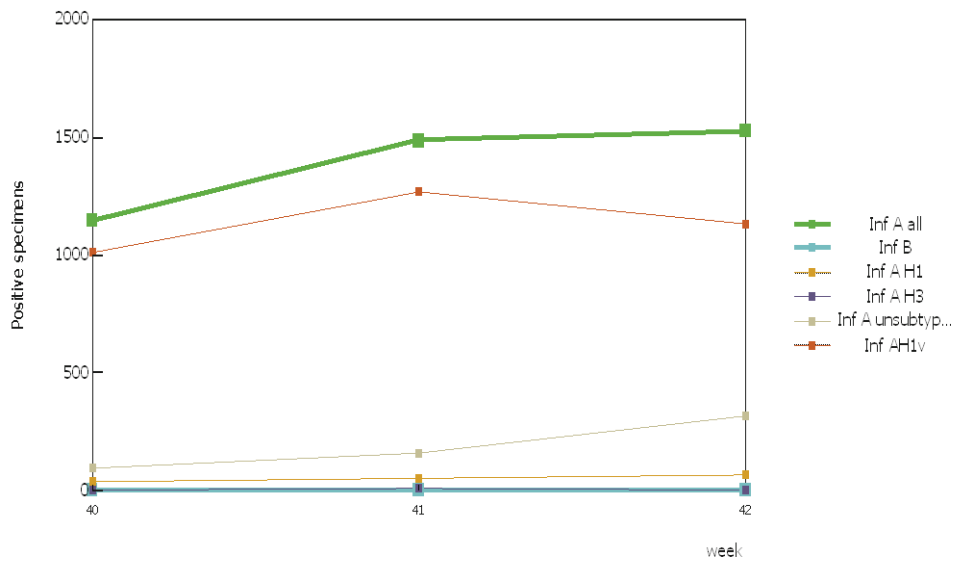
**Figure 1: Number of sentinel specimens positive for influenza, by type, subtype and week of report, weeks 40/2009–42/2009**

**Sentinel data of number of specimens positive for influenza viruses A and B**

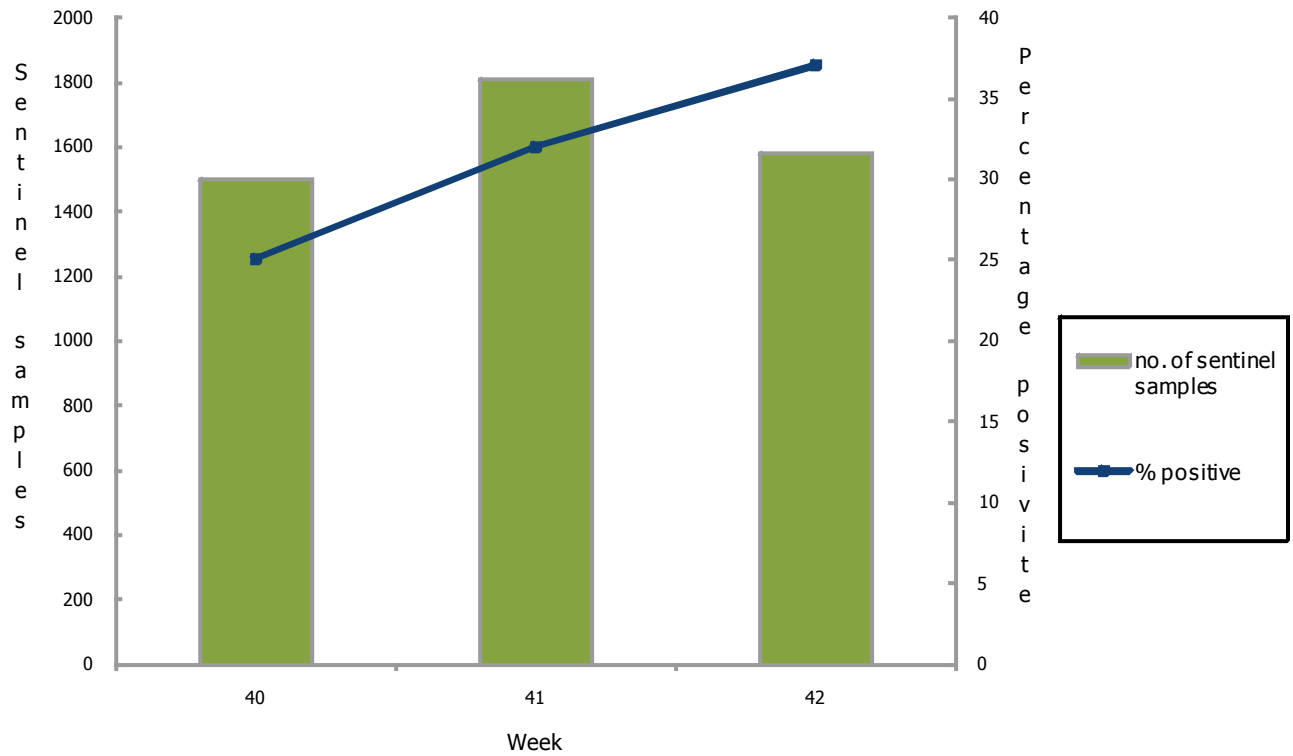


**Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2009–42/2009**

**Non-sentinel data of number of specimens positive for influenza viruses A and B**



**Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2009–42/2009**



### 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 influenza A(H1N1)v cases and deaths

## Weekly analysis — cases and deaths

During week 42/2009, eight countries reported 3211 newly diagnosed probable and confirmed cases of influenza A(H1N1)v. Four deaths were reported by Hungary and two by Norway. The cumulative number of reported cases since April 2009 in EU/EEA Member States totals 50277, of which 77 are known to have died (Table 3).

Discrepancies with the ECDC daily pandemic A(H1N1) 2009 update are due to unsynchronized reporting related to the ongoing transition to TESSy.

**Table 3: Aggregate numbers of influenza A(H1N1)v cases and deaths**

Country	Current week		Cumulate	
	Cases	Death	Cases	Death
Austria	-	-	330	0
Belgium	-	-	126	0
Bulgaria	-	-	72	0
Cyprus	-	-	297	0
Czech Republic	5	0	283	0
Denmark	-	-	562	0
Estonia	0	0	68	0
Finland	-	-	222	0
France	-	-	464	0
Germany	-	-	16835	0
Greece	-	-	1839	1
Hungary	297	4	448	5
Iceland	479	0	896	0
Ireland	296	0	2188	5
Italy	1268	0	3097	0
Latvia	-	-	30	0
Lithuania	-	-	51	0
Luxembourg	-	-	0	0
Malta	-	-	718	5
Netherlands	-	-	1121	4
Norway	329	2	1552	4
Poland	4	0	170	0
Portugal	-	-	2624	0
Romania	24	0	375	0
Slovakia	-	-	125	0
Slovenia	-	-	217	0
Spain	-	-	1308	4
Sweden	198	0	1782	2
United Kingdom	311	0	12477	47
<b>Total</b>	<b>3211</b>	<b>6</b>	<b>50277</b>	<b>77</b>

Countries shaded with grey are not recommending laboratory tests for all suspect cases, therefore comparisons in time or between these countries should not be made at present. Fatal cases are reported in the country where the death occurred.

## 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.

# Hospital surveillance (SARI)

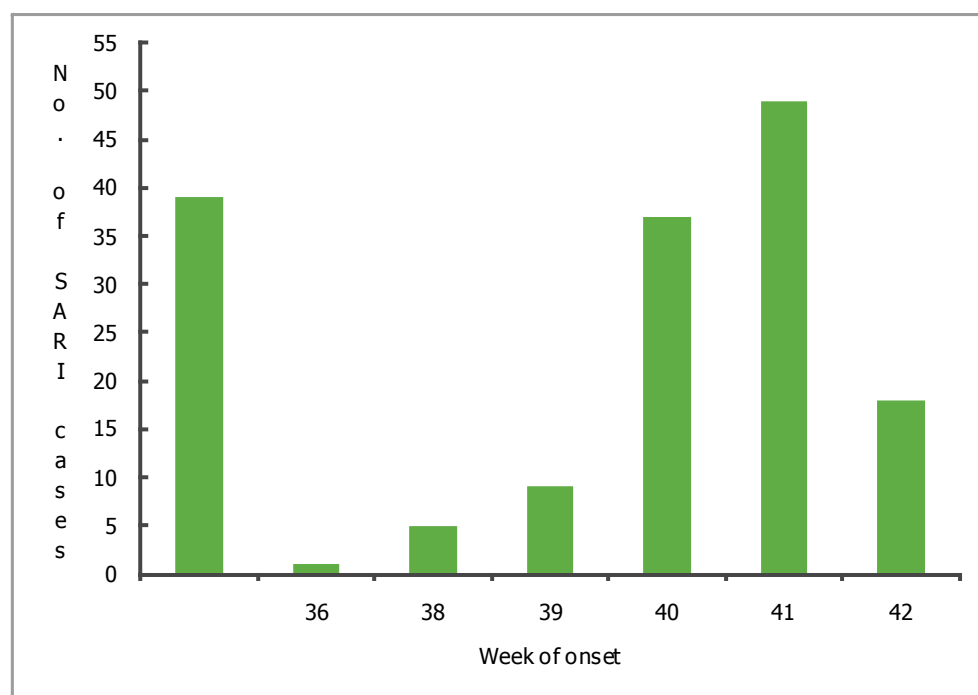
## Weekly analysis – SARI

Between weeks 40/2009 and 42/2009, Cyprus, France, Malta and the Netherlands reported 148 cases of SARI including two deaths (Table 4). In week 42, 53 cases were reported. Their sex ratio was fairly even (Table 5). Influenza A(H1N1)v accounted for 94% of the cases (Table 6). There were very few complications reported: mainly pneumonia, sepsis and acute respiratory distress syndrome (Table 8).

**Table 4: Cumulative number of SARI cases, reported between week 40/2009 and 42/2009**

Country	Number of sentinel sites	Estimated population covered	Geographical coverage (national, regional)	Estimated notification rate (in the covered geographic area)	Number of cases	Number of fatal cases reported
Cyprus			Unknown		1	
France			Unknown		117	2
Malta			Unknown		4	
Netherlands			Unknown		26	
Total					148	2

**Figure 4: Number of SARI cases by week of onset, in week 42/2009**



**Table 5: Number of SARI cases by age and gender, in week 42/2009**

Age groups	Male	Female	Other (e.g., transsexual)	Unknown
Under 2	4	2		
2-17	8	10		
18-44	9	11		
45-59	2	3		
>=60	2	1		
Unknown		1		
Total	25	28		

**Table 6: Number of SARI cases by influenza type and subtype, in week 42/2009**

Virus type/subtype	Number of cases (and percentage) during current week	Cumulative number of cases (and percentage) since the start of the season
Influenza A	52 (98.1 %)	145 (98.0 %)
A (pandemic H1N1)	50 (94.3 %)	143 (96.6 %)
A(subtyping not performed)	1 (1.9 %)	1 (0.7 %)
A(H3)		
A(H1)	1 (1.9 %)	1 (0.7 %)
A(H5)		
Influenza B		
Unknown	1 (1.9 %)	3 (2.0 %)
Total	53	148

**Table 7: Number of SARI cases by antiviral treatment and resistance, in week 42/2009**

Antiviral treatment	Number (percentage) of patients who received prophylaxis	Number (percentage) of patients who received anti-viral treatment	Number (percentage) of patients with strains resistant to treatment
Oseltamivir	1 (1.0 %)	23 (43.0 %)	
Unknown	49 (92.0 %)	26 (49.0 %)	
None	3 (5.0 %)	4 (7.0 %)	
Total	53	53	

**Table 8: Number SARI cases by complication and age group, in week 42/2009**

Underlying condition/risk factor	Infant below 2 years Numbers and percentage	2-17 years Numbers and percentage	18-44 years Numbers and percentage	45-59 years Numbers and percentage	>=60 years Numbers and percentage
Acute respiratory distress syndrome		1 (5.6%)	1 (5.0%)		
None	5 (83.3%)	14 (77.8%)	17 (85.0%)	3 (60.0%)	1 (50.0%)
Other (please specify separately)		1 (5.6%)		1 (20.0%)	
Pneumonia (secondary bacterial infection)			1 (5.0%)		1 (50.0%)
Sepsis/Multi-organ failure	1 (16.7%)		1 (5.0%)		
Unknown	4 (66.7%)	16 (88.9%)	20 (100.0%)	4 (80.0%)	1 (50.0%)

**Table 9: Number of SARI by underlying condition by level of care, in week 42/2009**

	ICU	Inpatient ward	Other	Unknown
Asthma	1 (11.1%)			10 (27.0%)
Diabetes	1 (11.1%)			3 (8.1%)
Chronic heart disease	1 (11.1%)			
HIV/other immune deficiency	1 (11.1%)	3 (50.0%)		
Chronic lung disease	3 (33.3%)			2 (5.4%)
No underlying condition	3 (33.3%)	3 (50.0%)		19 (51.4%)
Other (please specify separately)	1 (11.1%)			
Obesity (BMI between 30 and 40)	1 (11.1%)			
Pregnancy	1 (11.1%)			6 (16.2%)
Underlying condition unknown	7 (77.8%)			35 (94.6%)

**Table 10: Number of SARI by underlying condition and level of respiratory support, in week 42/2009**

	Oxygen therapy	Ventilator support provided	Ventilator support necessary but not available	Respiratory support given unknown
Asthma	3 (42.9%)			8 (25.8%)
Diabetes	1 (14.3%)	1 (20.0%)		2 (6.5%)
Chronic heart disease		1 (20.0%)		
HIV/other immune deficiency		1 (20.0%)		
Chronic lung disease	1 (14.3%)	2 (40.0%)		1 (3.2%)
No underlying condition	4 (57.1%)	1 (20.0%)		15 (48.4%)
Other (please specify separately)		1 (20.0%)		
Obesity (BMI between 30 and 40)		1 (20.0%)		
Pregnancy	1 (14.3%)			6 (19.4%)
Underlying condition unknown	7 (100.0%)	4 (80.0%)		31 (100.0%)

**Table 11: Number of SARI cases by level of care and respiratory support, in week 42/2009**

Respiratory support	ICU	Inpatient ward	Other	Unknown
No respiratory support necessary	1	6		2
Oxygen therapy	3			4
Respiratory support given unknown				31
Ventilator	5	1		

**Table 12: Number of SARI cases by vaccination status, in week 42/2009**

Vaccination Status	Number Of Cases	Percentage of cases
Not vaccinated	13	24.5
Seasonal vaccination	1	2
Unknown	39	73.6
TOTAL	53	

## 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 and Bruno Ciancio. 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).*

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