SURVEILLANCE REPORT

Weekly influenza surveillance overview

5 March 2010

Main surveillance developments in week 8/2010 (22 Feb 2010—28 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 influenza A(H1N1) virus is well past its winter peak in EU/EEA countries. Of the 25 countries reporting this week, all but one (Greece) reported low intensity.
- During week 08/2010, an increasing trend, but at a low level of activity, was observed in Latvia, Lithuania and Poland.
- Regional spread was reported in Austria, Greece and Italy and local geographic spread was reported by Malta and Slovakia.
- Of the 449 specimens collected by sentinel physicians, 26 (5.8%) were positive for influenza virus of which most were pandemic A(H1N1). This low percentage is slightly higher than the previous week. Only Sweden reported influenza B virus as dominant.
- The number of reported SARI cases and associated deaths continues to decline. Of the 11 SARI cases for whom possible underlying conditions were documented, eight had no underlying conditions

Sentinel surveillance of influenza like-illness (ILI)/ acute respiratory illness (ARI): Of the 25 countries reporting influenza intensity activity, only Greece reported medium intensity, but with a stable trend. Regional activity was reported by Austria, Greece and Italy, and local geographic spread was observed in Malta and Slovakia. For more information, **click here.**

Virological surveillance: Sentinel physicians collected 449 respiratory specimens, 26 (5.8%) of which were positive for influenza virus, slightly higher than the previous week. Since week 40/2009, 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) deaths: In week 08/2010, five countries reported 12 deaths. For more information, **click here.**

Hospital surveillance of severe acute respiratory infection (SARI): During week 08/2010, 23 SARI cases were reported. Of the six influenza viruses isolated from SARI patients and subtyped, four were the pandemic virus. For more information, **click here.**

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

Sentinel surveillance (ILI/ARI)

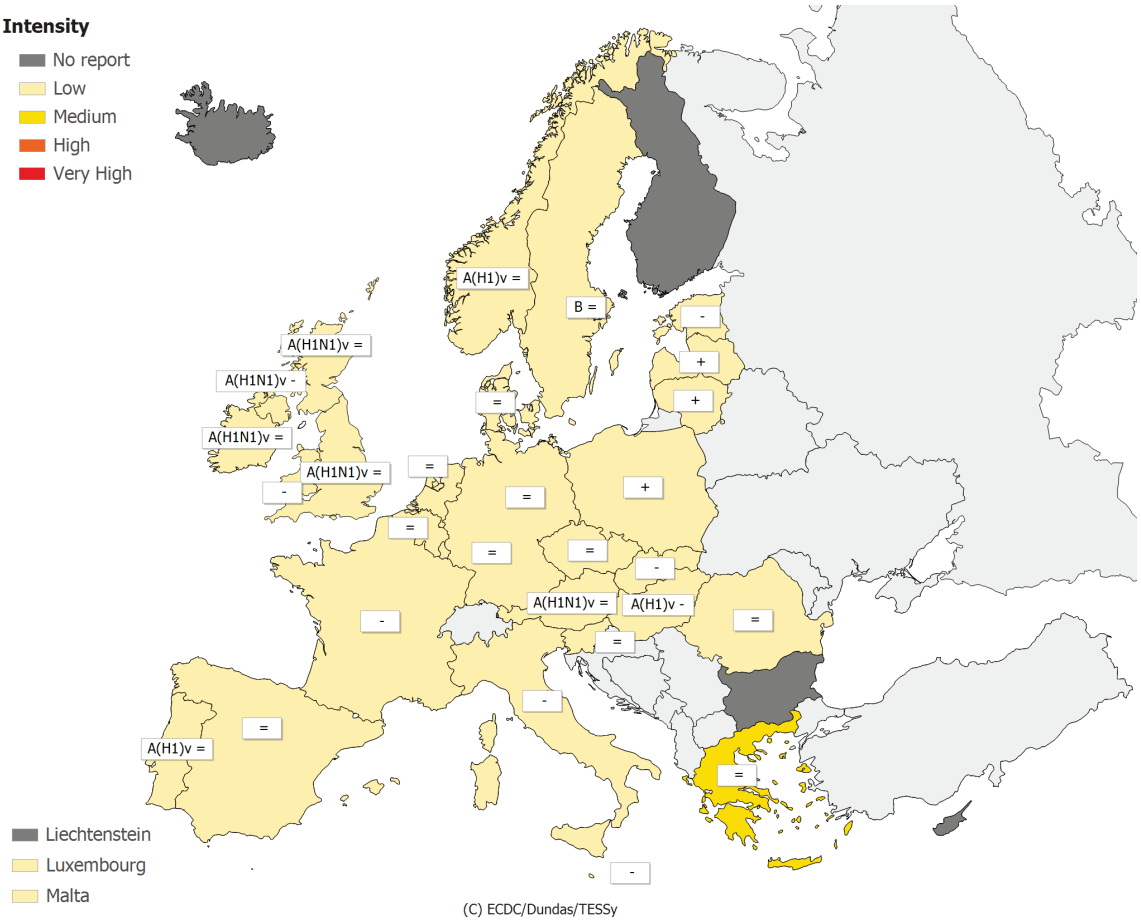
Weekly analysis—epidemiology

In week 08/2010, 25 of the 29 countries reported epidemiological data. For the activity intensity indicator, only Greece reported medium influenza activity, with a stable trend. All 24 remaining countries reported low activity. (Map 1, Table 1). An increasing trend was reported by Latvia, Lithuania and Poland, with Latvia notifying increasing rates of ARI since week 05 and Poland since last week. All remaining countries reported a stable or decreasing trend at low levels of activity.

For the geographic spread indicator, regional activity was reported by Austria, Greece and Italy, and local activity was reported by Malta and Slovakia. Sporadic or no activity was reported in the remaining 20 countries (Map 2, Table 1).

In countries where incidence rates of ARI or ILI are available by age groups, the most affected group has been 0–14 year-olds, even at low levels of activity.

Map 1: Intensity for week 08/2010

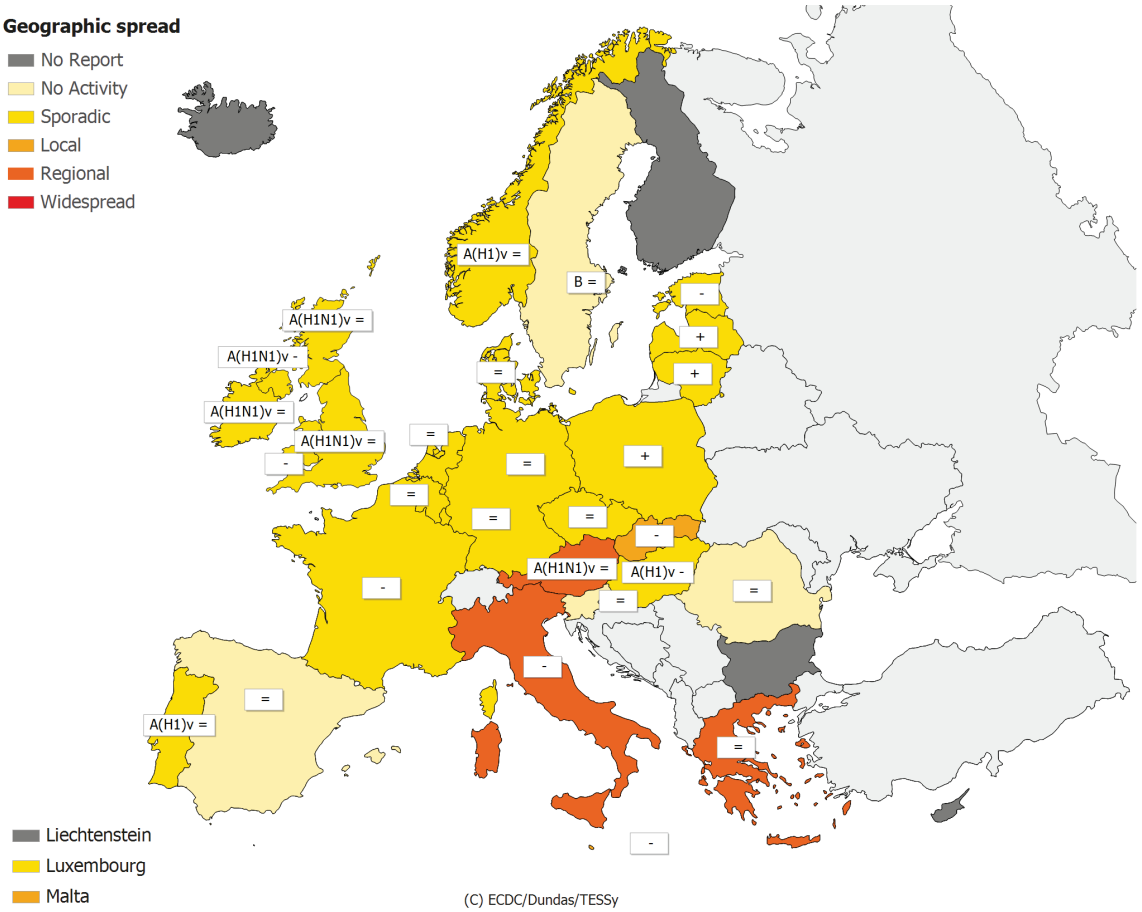


* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

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
		B	Type B

Map 2: Geographic spread for week 08/2010



* 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
A(H1)v	Type A, Subtype H1v
A(H1N1)v	Type A, Subtype H1N1v
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	Low	Regional	Stable	5	A(H1N1)v	0.0	-	19.8	Graphs	Graphs
Belgium	Low	Sporadic	Stable	19	None	5.3	78.3	1447.7	Graphs	Graphs
Bulgaria				0	None	-	-	-	Graphs	Graphs
Cyprus				-	-	-	-	-	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	-	-	-	40.0	920.2	Graphs	Graphs
Denmark	Low	Sporadic	Stable	16	None	6.3	46.5	0.0	Graphs	Graphs
Estonia	Low	Sporadic	Decreasing	5	None	0.0	6.3	272.7	Graphs	Graphs
Finland				-	-	-	-	-	Graphs	Graphs
France	Low	Sporadic	Decreasing	79	None	10.1	-	1321.5	Graphs	Graphs
Germany	Low	Sporadic	Stable	40	None	7.5	-	1261.2	Graphs	Graphs
Greece	Medium	Regional	Stable	9	None	66.7	161.3	-	Graphs	Graphs
Hungary	Low	Sporadic	Decreasing	51	A(H1)v	5.9	124.9	-	Graphs	Graphs
Iceland				-	-	-	-	-	Graphs	Graphs
Ireland	Low	Sporadic	Stable	4	A(H1N1)v	0.0	7.5	-	Graphs	Graphs
Italy	Low	Regional	Decreasing	-	-	-	182.8	-	Graphs	Graphs
Latvia	Low	Sporadic	Increasing	0	None	-	0.0	1221.5	Graphs	Graphs
Lithuania	Low	Sporadic	Increasing	3	None	0.0	1.2	477.3	Graphs	Graphs
Luxembourg	Low	Sporadic	Stable	-	-	-	-*	-*	Graphs	Graphs
Malta	Low	Local	Decreasing	-	-	-	-*	-*	Graphs	Graphs
Netherlands	Low	Sporadic	Stable	10	None	0.0	22.5	-	Graphs	Graphs
Norway	Low	Sporadic	Stable	1	A(H1)v	0.0	29.9	-	Graphs	Graphs
Poland	Low	Sporadic	Increasing	11	None	9.1	95.5	-	Graphs	Graphs
Portugal	Low	Sporadic	Stable	7	A(H1)v	0.0	8.4	-	Graphs	Graphs
Romania	Low	No activity	Stable	21	None	0.0	0.3	752.1	Graphs	Graphs
Slovakia	Low	Local	Decreasing	15	None	0.0	195.5	1580.2	Graphs	Graphs
Slovenia	Low	No activity	Stable	5	None	0.0	12.3	1226.6	Graphs	Graphs
Spain	Low	No activity	Stable	49	None	2.0	11.2	-	Graphs	Graphs
Sweden	Low	No activity	Stable	9	B	0.0	0.8	-	Graphs	Graphs
UK - England	Low	Sporadic	Stable	69	A(H1N1)v	6.4	9.0	388.2	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Decreasing	5	A(H1N1)v	0.0	14.3	381.7	Graphs	Graphs
UK - Scotland	Low	Sporadic	Stable	16	A(H1N1)v	0.0	3.0	212.0	Graphs	Graphs
UK - Wales	Low	Sporadic	Decreasing	-	-	-	2.5	-	Graphs	Graphs
Europe				449		5.8				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 08/2010, 21 countries and the UK (England, Northern Ireland and Scotland) reported virological data. Sentinel physicians collected 449 specimens, 26 (5.8%) of which were positive for influenza virus (Tables 1 and 2), a slightly higher percentage than the previous week (4.1%, Figure 3). In addition, 138 non-sentinel source specimens (i.e. specimens collected for diagnostic purpose in hospitals) were reported positive for influenza virus.

Of the 16 139 influenza viruses detected by sentinel practices and sub-typed since week 40/2009, 16 083 (99%) were identified as the 2009 influenza A(H1N1) pandemic virus. Table 2 shows the distribution of both sentinel and non-sentinel specimens by type and sub-type.

Of the 1903 antigenic characterisations of influenza viruses reported from week 40/2009, 1872 (98.4%) were A/California/7/2009(H1N1)-like, 22 A/Perth/16/2009(H3N2)-like, five A/Brisbane/10/2007(H3N2)-like and four B/Brisbane/60/2008-like (table 3). Only Sweden reported the influenza B virus as dominant. More details on the circulating viruses can be found in the report prepared by the Community Network of Reference Laboratories (CNRL) coordination team.

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 the 1447 viruses analysed, none were resistant to zanamivir (Table 4).

The total number of respiratory syncytial virus (RSV) detections in 11 countries has been in decline (Figure 4). However in Estonia, Germany, Latvia and Sweden, the number of RSV positive samples has increased for at least three consecutive weeks.

Table 2: Weekly and cumulative influenza virus detections by type, sub-type and surveillance system, weeks 40/2009–08/2010

	Current Week		Season	
Virus type/subtype	Sentinel	Non-sentinel	Sentinel	Non-sentinel
Influenza A	25	131	16794	89646
A (pandemic H1N1)	18	118	16083	78098
A (subtyping not performed)	7	13	655	11409
A (not subtypable)	0	0	13	47
A (H3)	0	0	8	43
A (H1)	0	0	35	49
Influenza B	1	7	69	124
Total Influenza	**26**	**138**	**16863**	**89770**

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, sub-type and by week of report, weeks 40/2009–08/2010

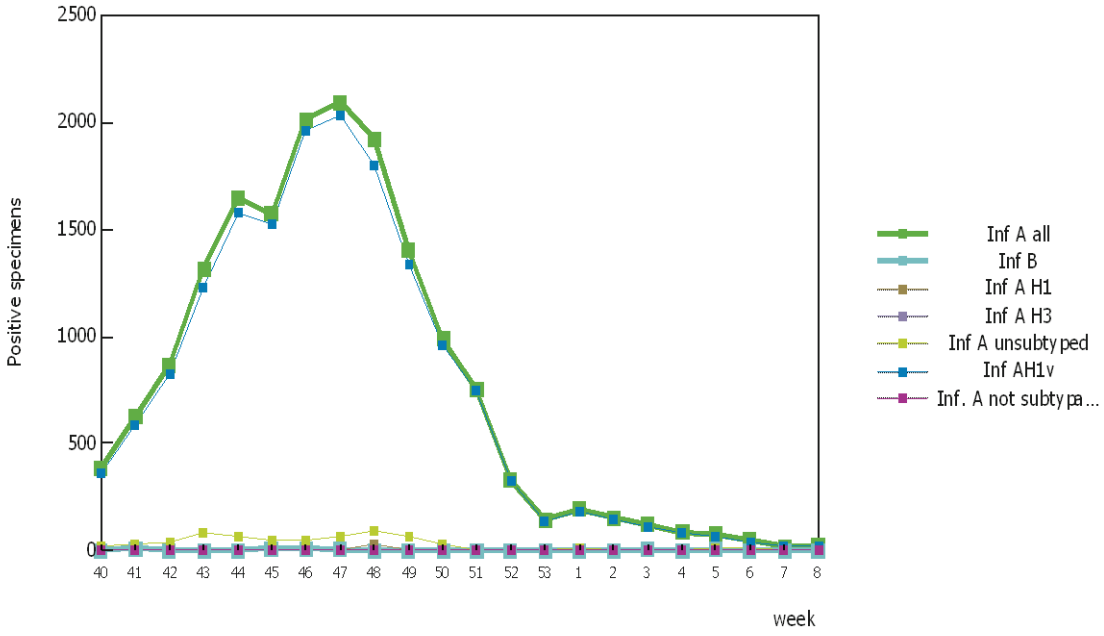


Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2009–08/2010

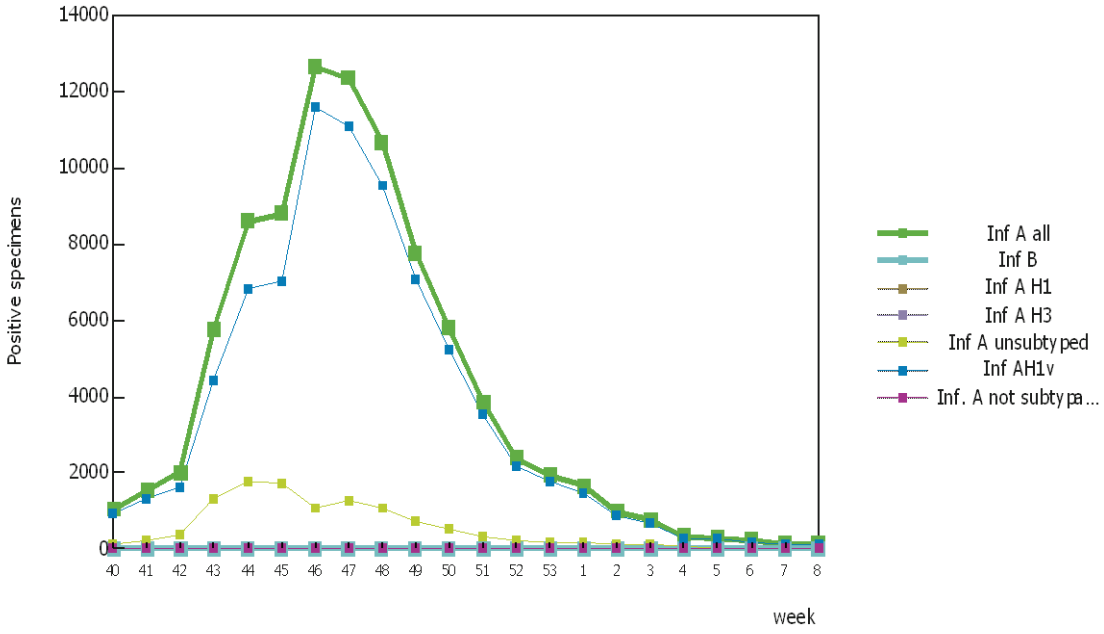


Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2009–08/2010

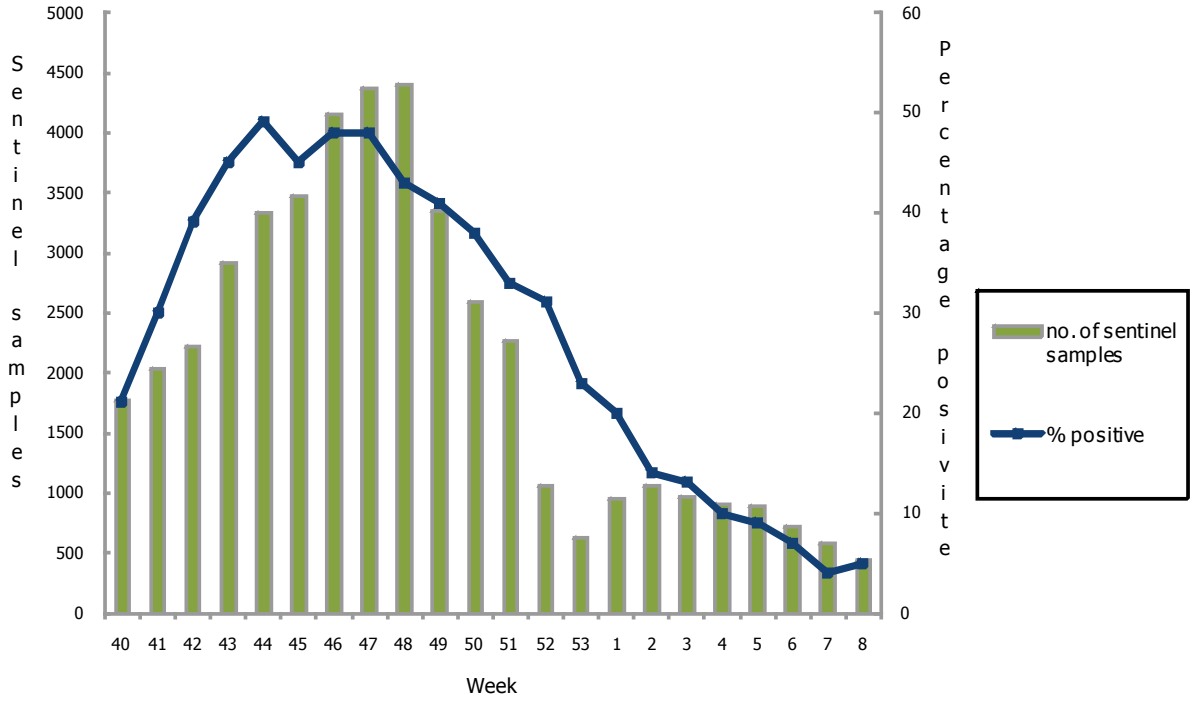


Table 3: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates since week 40/2009

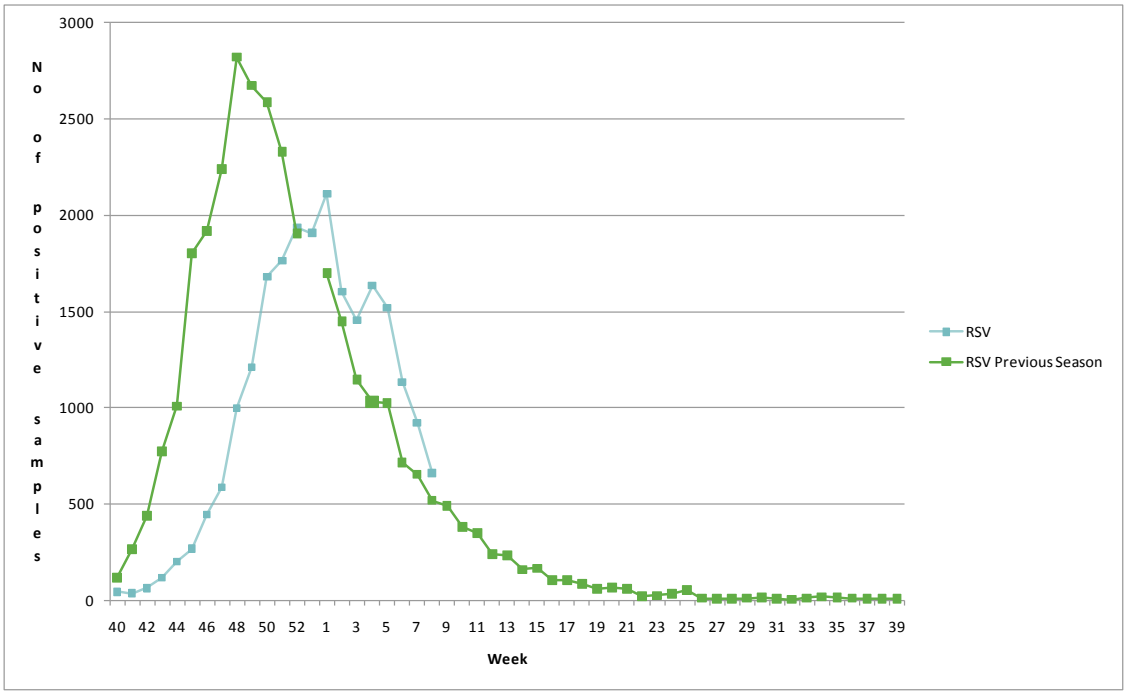
Strain name	Number of strains
A(H1)v California/7/2009-like	1872
A(H3) A/Brisbane/10/2007 (H3N2)-like	5
A(H3) A/Perth/16/2009 (H3N2)-like	22
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	4
B/Florida/4/2006-like (B/Yamagata/16/88 lineage)	0

Table 4: Antiviral resistance by influenza virus type and subtype, weeks 40/2009–08/2010

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	n.a.	n.a.

Note: n.a.= not applicable

Figure 4: Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2009–8/2010



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 08/2010, five countries reported 12 deaths related to influenza.

Table 5: Aggregate numbers of 2009 pandemic influenza A(H1N1) associated deaths, week 08/2010

Country	Deaths reported in week 8/2010	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		97	2010-w07
Denmark		0	2009-w36
Estonia	2	18	2010-w08
Finland		0	2009-w36
France	0	306	2010-w08
Germany	2	243	2010-w08
Greece	2	137	2010-w08
Hungary	5	129	2010-w08
Iceland		2	2009-w52
Ireland	0	22	2010-w08
Italy		1	2009-w52
Latvia		34	2010-w05
Lithuania	0	23	2010-w08
Luxembourg		3	2009-w52
Malta	0	5	2010-w08
Netherlands		58	2010-w07
Norway	0	29	2010-w08
Poland		9	2009-w47
Portugal		0	2009-w36
Romania	0	122	2010-w08
Slovakia	1	52	2010-w08
Slovenia		19	2010-w07
Spain		4	2009-w29
Sweden	0	24	2010-w08
United Kingdom		215	2010-w01
Total	12	1592	

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 08/2010, 23 SARI cases were reported, five of which (22%) had symptom onset during the same week. 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 11 206 cases, including 542 fatalities (Table 6).

Of the six influenza A viruses isolated from SARI cases in week 08/2010, four were the 2009 pandemic virus (Table 8).

Of the 23 SARI cases reported during week 08/2010, only three were known to have received antiviral prophylaxis, and eight were known to have received antiviral therapy (Table 9).

Of the 23 SARI cases, five were known to have required ICU admission and eight needed ventilator support (Table 10).

Of the 11 SARI cases for whom possible underlying conditions were documented, eight had no known underlying condition, two had asthma and one was diabetic (Figure 6).

Table 6: Cumulative number of SARI cases, weeks 40/2009–week 08/2010

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	2821		38		
Belgium	1801	16.88			10668666
Cyprus	25		8		
Finland	1421	26.68	55	1.03	5326314
France	1340		291		
United Kingdom	1567	3.97	64	0.16	39503332
Ireland	903		17		
Malta	180	43.52	1	0.24	413609
Netherlands	644	3.9	27	0.16	16521505
Romania	196	1.55	12	0.09	12684180
Slovakia	308		29		
Total	11206		542		85117606

Figure 5: Number of SARI cases by week of onset, week 08/2010

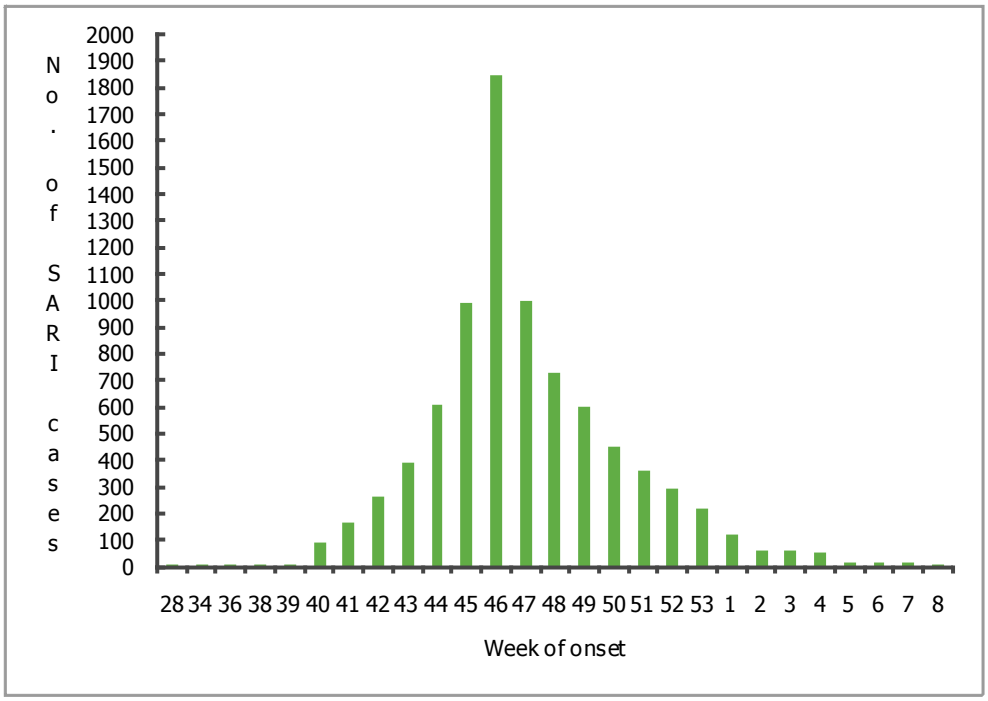


Table 7: Number of SARI cases by age and gender, week 08/2010

Age groups	Male	Female	Unknown
Under 2	5	1	5
2-17	1		
18-44	1	4	
45-59	1	3	
>=60	2		
Total	10	8	5

Table 8: Number of SARI cases by influenza type and subtype, week 08/2010

Virus type/subtype	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A	6	8942
A (pandemic H1N1)	4	8882
A(subtyping not performed)	2	33
A(H3)	0	0
A(H1)	0	27
A(H5)	0	0
Influenza B	0	0
Unknown	17	2264
Total	23	11206

Table 9: Number of SARI cases by antiviral treatment, week 08/2010

Antiviral	Prophylaxis - number of patients	Treatment - number of patients
Oseltamivir	0	5
Other (or any other combination)	3	3
Unknown	9	7
None	11	8
Total	23	23

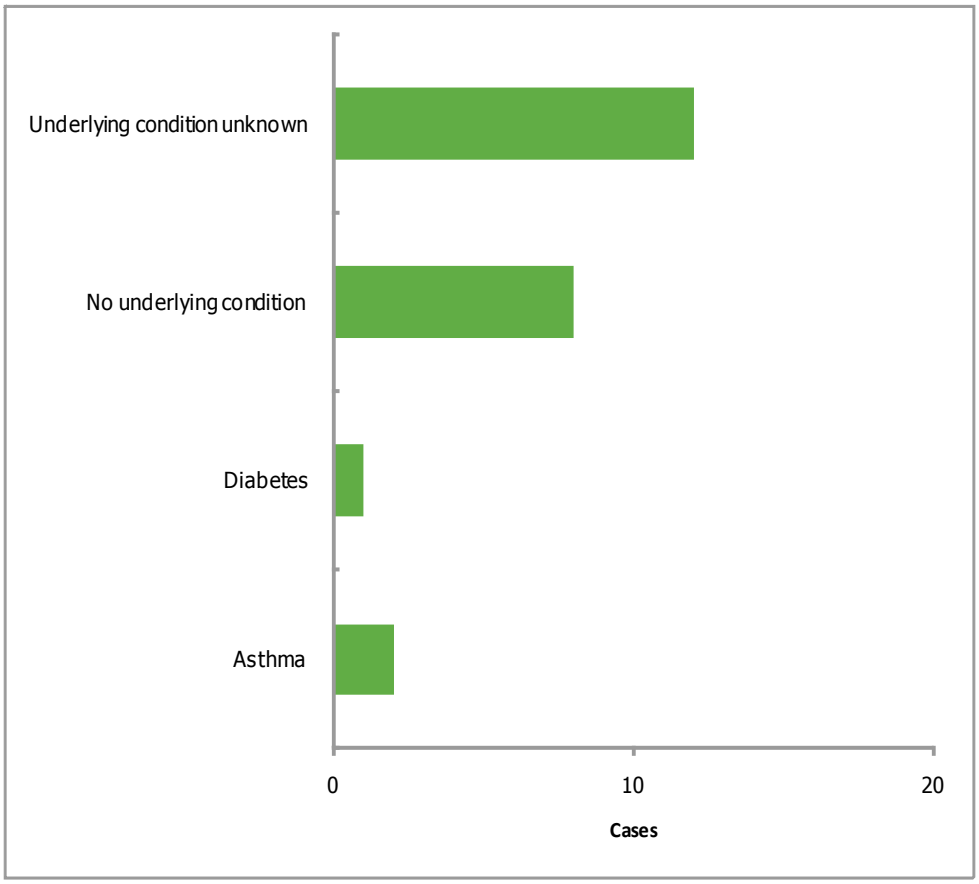
Table 10: Number of SARI cases by level of care and respiratory support, week 08/2010

Respiratory support	ICU	Inpatient ward	Other	Unknown
No respiratory support necessary		3		
Oxygen therapy	3	5		
Respiratory support given unknown	1	3		7
Ventilator	1			

Table 11: Number of SARI cases by vaccination status, week 08/2010

Vaccination Status	Number Of Cases	Percentage of cases
No pandemic vaccine	13	56.5
Seasonal vaccination	3	13
Unknown	7	30.4
TOTAL	23	

Figure 6: Number of SARI cases by underlying condition, week 08/2010



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, 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).