SURVEILLANCE REPORT

Weekly influenza surveillance overview

10 December 2010

Main surveillance developments in week 48/2010 (29 Nov 2010 – 05 Dec 2010)

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

- During week 48/2010, although all reporting countries experienced low intensity influenza activity, an increasing trend was notified by 11 countries including the UK (England). Finland, Norway and UK (England) reported local outbreaks. The UK (England) also reported some severe cases, including several deaths, in young adults requiring intensive care.
- An increasing percentage (10.1%) of positive influenza sentinel specimens was reported compared to last week. From positive sentinel and non-sentinel specimens, 60% were type A and 40% were type B. Of the 52 sub-typed influenza A viruses, 48 (92.3%) were A(H1N1) 2009 and four (7.7%) were A(H3). The influenza B virus was dominant in five countries. So far, circulating strains matched the vaccine strains.
- Thirty-three SARI cases were reported by three countries (Belgium, Romania and Slovakia). No cases were related to influenza infection.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): All reporting countries experienced influenza activity of low intensity. However, compared with the previous week, more countries reported sporadic activity and increasing trends. Local outbreaks were reported by three countries. Severe cases in young adults requiring intensive care, including some deaths, were reported in UK (England). For more information, **click here.**

Virological surveillance: In week 48/2010, an increasing percentage (10.1%) of sentinel specimens was positive for influenza compared with previous week. Of the 176 influenza viruses detected, 105 (60%) were type A and 71 (40%) were type B. Of the 52 sub-typed influenza A viruses, 48 (92.3%) were A(H1N1) 2009 and four (7.7%) were A(H3) virus. For more information, **click here.**

Hospital surveillance of severe acute respiratory infection (SARI): In addition to Romania—which has reported 43 SARI cases since week 37/2010—Slovakia has reported its first case and Belgium retroactively notified 227 cases for the current season. For more information, **click here.**

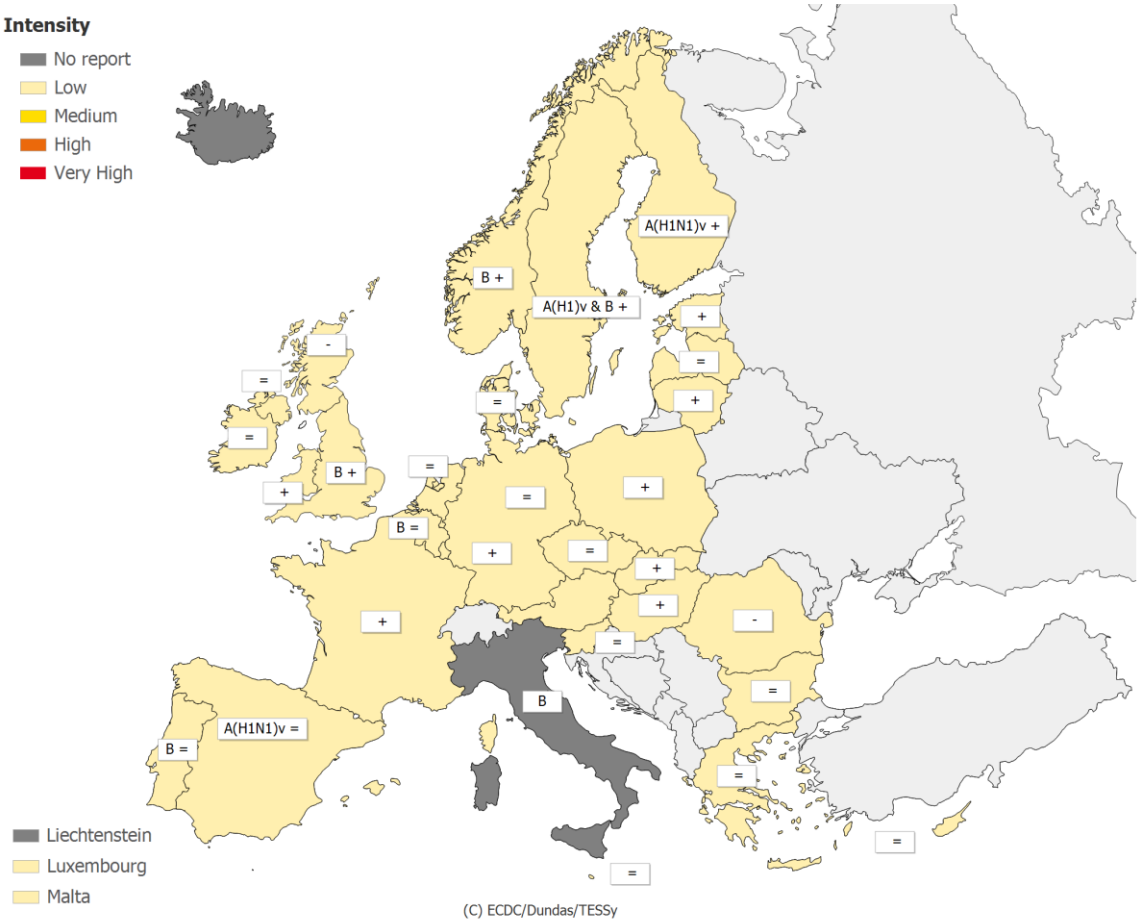
Weekly analysis – epidemiology

During week 48/2010, all 27 reporting countries experienced influenza activity of low intensity (Table 1, Map 1).

Sporadic activity was reported by 15 countries and the UK (Northern Ireland, Scotland and Wales) and local activity was reported by Norway and the UK (England). Nine countries reported no activity. (Table 1, Map 2).

The number of countries reporting a increasing trend for clinical activity increased from six in week 47/2010 to 11 in week 48/2010, including the UK (England and Wales) (Table 1, Map 2).

Map 1: Intensity for week 48/2010

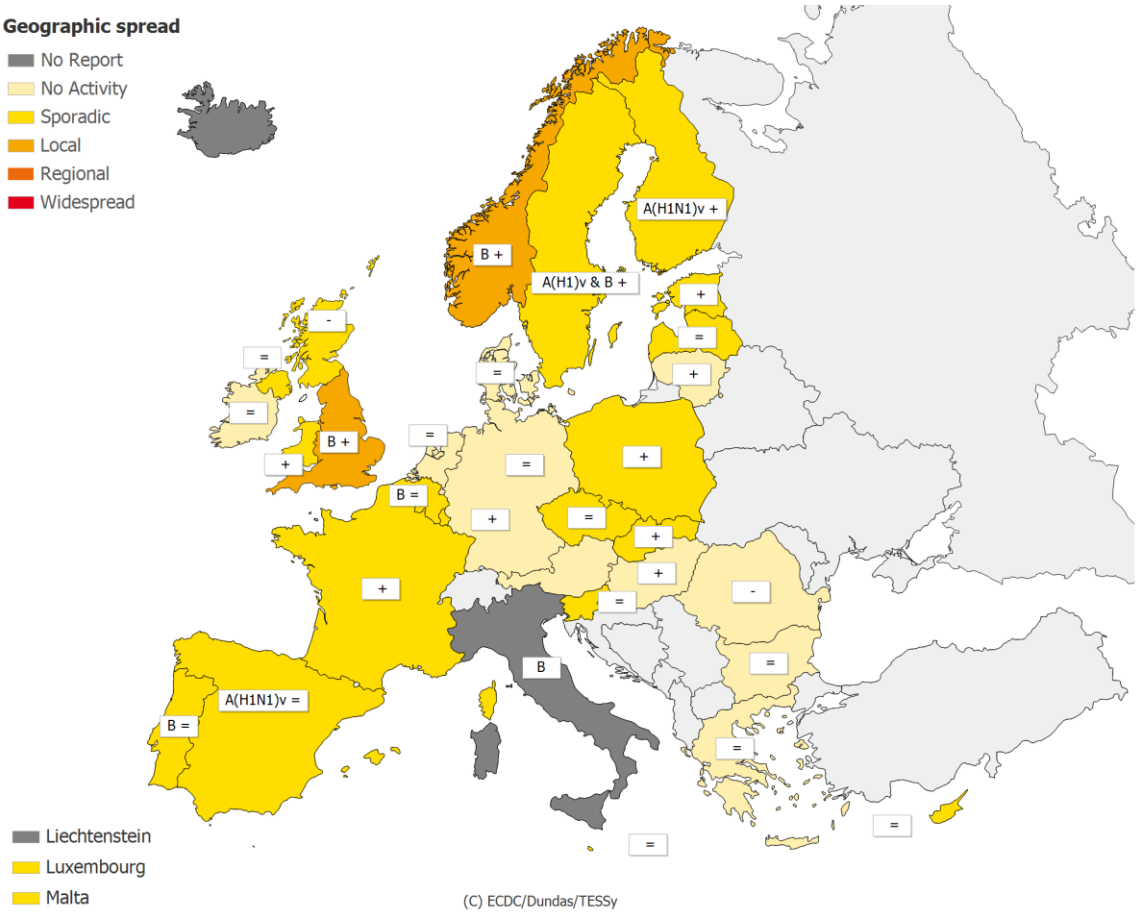


* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

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 & B**	Type B and Type A, Subtype H1v
		A(H1N1)v	Type A, Subtype H1N1v
		B	Type B

Map 2: Geographic spread for week 48/2010



* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % 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 & B	Type B and Type A, Subtype H1v
A(H1N1)v	Type A, Subtype H1N1v
B	Type B

Table 1: Epidemiological and virological overview by country, week 48/2010

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	No activity	Unknown (no information available)	7	None	0.0	-	30.2	Graphs	Graphs
Belgium	Low	Sporadic	Stable	19	B	26.3	34.2	854.3	Graphs	Graphs
Bulgaria	Low	No activity	Stable	40	None	0.0	-	864.0	Graphs	Graphs
Cyprus	Low	Sporadic	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Czech Republic	Low	Sporadic	Stable	-	-	0.0	28.3	985.8	Graphs	Graphs
Denmark	Low	No activity	Stable	13	None	0.0	72.6	-	Graphs	Graphs
Estonia	Low	Sporadic	Increasing	16	None	**6.3**	5.7	340.6	Graphs	Graphs
Finland	Low	Sporadic	Increasing	31	swoAH1N1	19.4	-	-	Graphs	Graphs
France	Low	Sporadic	Increasing	50	None	4.0	-	1765.9	Graphs	Graphs
Germany	Low	No activity	Stable	44	None	0.0	-	1054.0	Graphs	Graphs
Greece	Low	No activity	Stable	3	None	0.0	61.8	-	Graphs	Graphs
Hungary	Low	No activity	Increasing	-	-	0.0	99.6	-	Graphs	Graphs
Iceland				-	-	0.0	-	-		
Ireland	Low	No activity	Stable	9	None	0.0	6.6	-	Graphs	Graphs
Italy				17	B	5.9	-	-	Graphs	Graphs
Latvia	Low	Sporadic	Stable	0	None	0.0	0.9	950.3	Graphs	Graphs
Lithuania	Low	No activity	Increasing	-	-	0.0	1.1	507.1	Graphs	Graphs
Luxembourg	Low	Sporadic	Increasing	10	None	10.0	-*	-*	Graphs	Graphs
Malta	Low	Sporadic	Stable	-	-	0.0	-*	-*	Graphs	Graphs
Netherlands	Low	No activity	Stable	10	None	10.0	33.5	-	Graphs	Graphs
Norway	Low	Local	Increasing	4	B	0.0	34.9	-	Graphs	Graphs
Poland	Low	Sporadic	Increasing	12	None	0.0	59.6	-	Graphs	Graphs
Portugal	Low	Sporadic	Stable	1	B	100.0	23.4	-	Graphs	Graphs
Romania	Low	No activity	Decreasing	44	None	0.0	15.6	721.9	Graphs	Graphs
Slovakia	Low	Sporadic	Increasing	-	-	0.0	194.7	1719.1	Graphs	Graphs
Slovenia	Low	Sporadic	Stable	14	None	7.1	1.3	1041.1	Graphs	Graphs
Spain	Low	Sporadic	Stable	72	swoAH1N1	11.1	22.6	-	Graphs	Graphs
Sweden	Low	Sporadic	Increasing	18	B & swoAH1N1	5.6	3.6	-	Graphs	Graphs
UK - England	Low	Local	Increasing	109	B	22.0	13.3	492.5	Graphs	Graphs
UK - Northern Ireland	Low	Sporadic	Stable	8	-	0.0	21.0	382.2	Graphs	Graphs
UK - Scotland	Low	Sporadic	Decreasing	16	None	31.3	4.3	222.7	Graphs	Graphs
UK - Wales	Low	Sporadic	Increasing	-	-	0.0	11.7	-	Graphs	Graphs
Europe				567		10.1				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 48/2010, 21 countries and the UK (England and Scotland) reported virological data. Sentinel physicians collected 567 swabs with an increased percentage (10.1%) of specimens testing positive for influenza virus compared with last week. (Tables 1 and 2, Figure 3). Belgium, Finland and the UK (England, Scotland) reported percentages for positive specimens between 19.4% and 31.3%. In addition, 119 non-sentinel source specimens (i.e. specimens collected for diagnostic purpose in hospitals) were reported positive for influenza virus. Of the 176 influenza viruses detected during week 48/2010, 105 (60%) were type A and 71 (40%) were type B. Belgium, Italy, Norway, Portugal and the UK (England) reported influenza B viruses as the dominant type (Table 1). Of the 52 influenza A viruses sub-typed, 48 (92.3%) were A(H1N1) 2009 and four (7.7%) were A(H3) (Table 2).

Since week 40/2010, of the 551 influenza detections in sentinel and non-sentinel specimens, 338 (61%) were influenza A and 213 (39%) were influenza B viruses. One hundred and ninety influenza A viruses have been sub-typed: 152 (80%) were 2009 pandemic A(H1N1) and 38 (20%) were A(H3) virus (Table 2).Trends of virological detections since week 40/2010 are shown in Figures 1–3.

Since week 40/2010, 55 influenza viruses from sentinel and non-sentinel specimens have been characterised antigenically (Table 3): 26 as A/California/7/2009 (H1N1)-like, eight as A/Perth/16/2009 (H3N2)-like, 20 as B/Brisbane/60/2008-like (Victoria lineage) and one as B/Florida/4/2006-like (Yamagata lineage).

More details on circulating viruses can be found in the report prepared by the Community Network of Reference Laboratories coordination team.

In week 48/2010, respiratory syncytial virus detections continued to increase for the ninth consecutive week (Figure 4).

Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2010–48/2010

	Current Period		Season	
Virus type/subtype	**Sentinel**	**Non-Sentinel**	**Sentinel**	**Non-Sentinel**
Influenza A	34	71	113	225
A (pandemic H1N1)	31	17	88	64
A (subtyping not performed)	1	52	7	141
A (not subtypable)	0	0	0	0
A (H3)	2	2	18	20
A (H1)	0	0	0	0
Influenza B	23	48	82	131
Total Influenza	**57**	**119**	**195**	**356**

Note: A(pandemic H1), 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 40/2010–48/2010

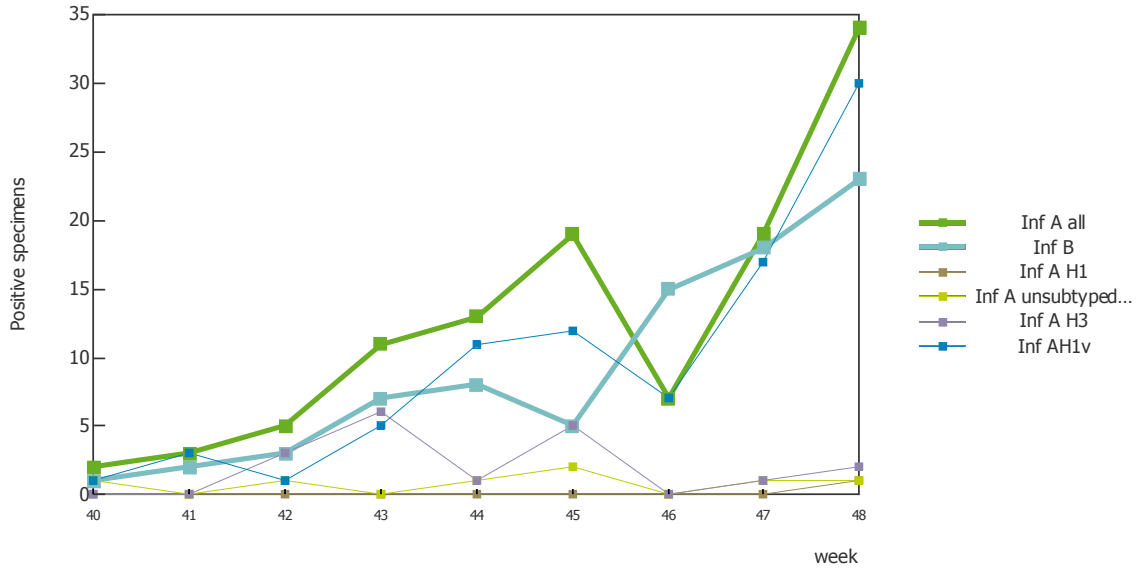


Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2010–48/2010

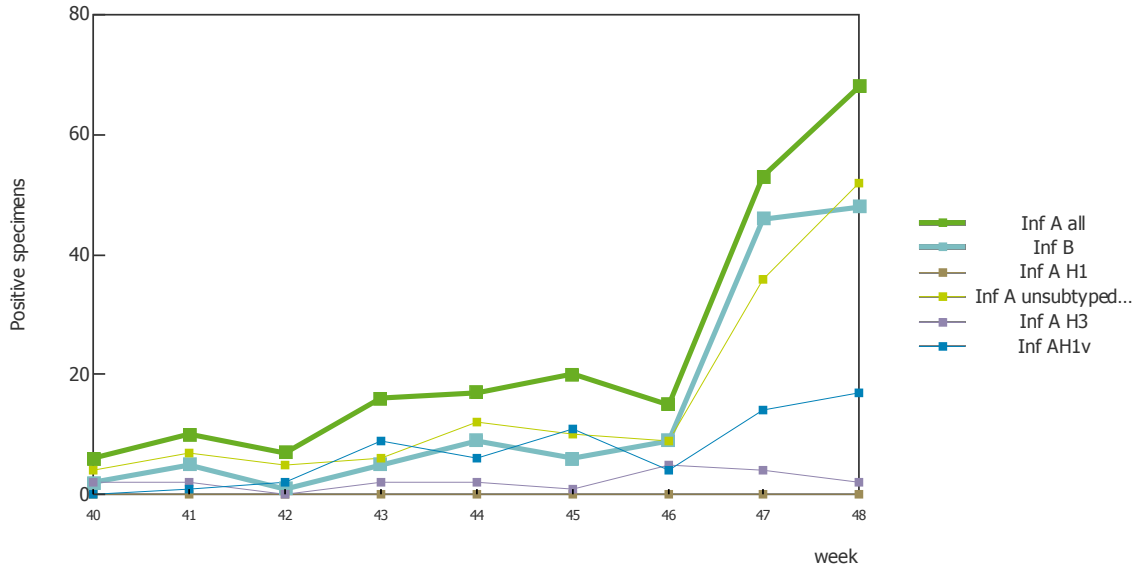


Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2010–48/2010

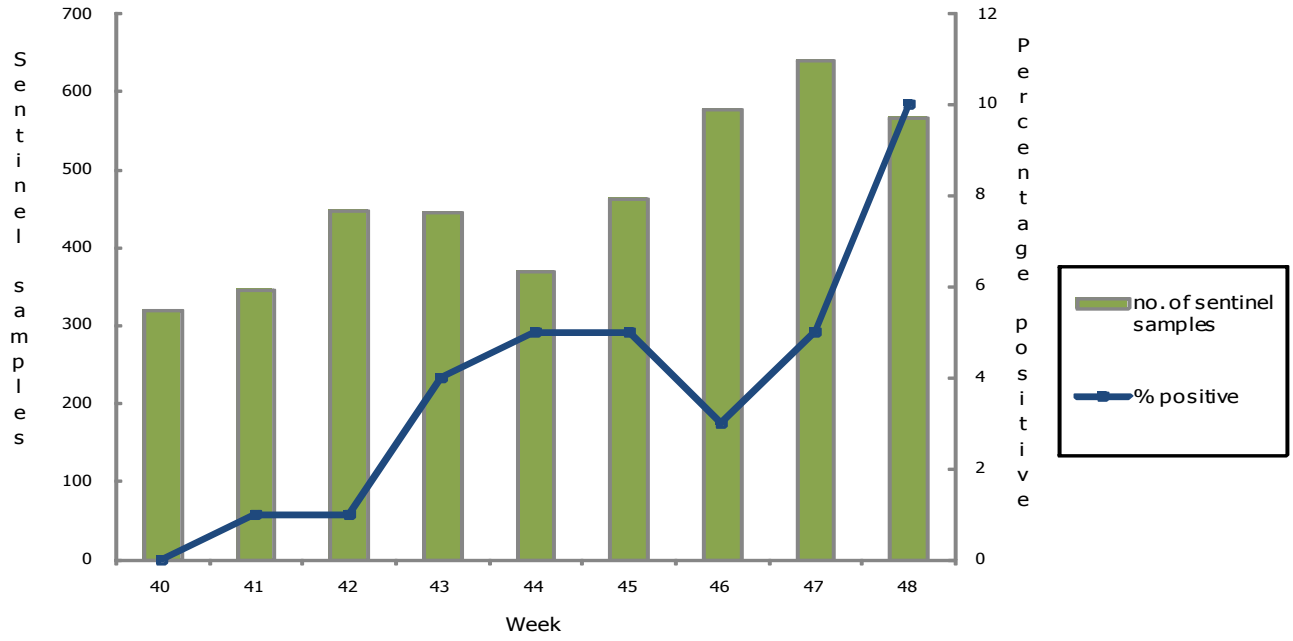
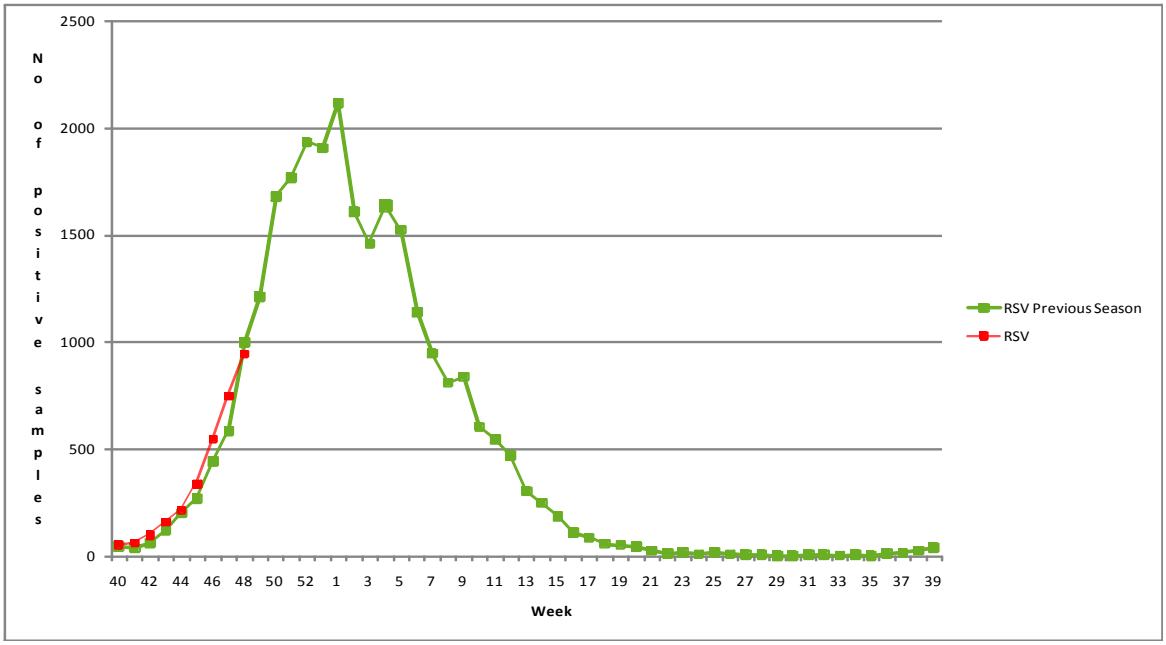


Table 3: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2010–48/2010

Strain name	Number of strains
A(H1)v California/7/2009-like	26
A(H3) A/Brisbane/10/2007 (H3N2)-like	0
A(H3) A/Perth/16/2009 (H3N2)-like	8
B/Brisbane/60/2008-like (B/Victoria/2/87 lineage)	20
B/Florida/4/2006-like (B/Yamagata/16/88 lineage)	1

Figure 4: Respiratory syncytial virus detections, sentinel and non-sentinel, weeks 40/2010–48/2010



Country comments

Norway: Thirteen of the 17 influenza B detections in week 48 were from a single county in south-eastern Norway suggesting a local outbreak.

Finland: Six 2009 pandemic A(H1N1) viruses were detected in one army training center.

UK (England): Although general practitioner consultation rates remain low, several outbreaks and severe hospitalised cases have been reported indicating influenza transmission in the community. Several severe cases of influenza have been reported in the last two weeks resulting in an increase in ICU bed occupancy and in the provision of beds used for extracorporeal membrane oxygenation (ECMO) and some related deaths were reported. The majority of these patients are under 65 years of age. Further information can be found on the **Health Protection Agency website**.

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.**

Hospital surveillance – severe acute respiratory infection (SARI)

Weekly analysis – SARI

In addition to Romania, which has reported 43 SARI cases since week 37/2010, Slovakia has reported its first case. Belgium retroactively notified 227 cases.

During week 48/2010, 33 SARI cases were reported: 24 in Belgium, eight in Romania and one in Slovakia. The gender ratio (male/female) was 1.5 and no information was available regarding the possible causative pathogens.

Four cases were admitted to the intensive care unit and all cases needed respiratory support. The vaccination status of nine patients was known and eight of them were not vaccinated. Of the eight patients for whom information was available, three had no underlying conditions and four were infants less than two years old. No related fatalities were reported.

Table 4: Cumulative number of SARI cases, weeks 40/2010 - week 48/2010

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
Belgium	227				
Romania	43	0.67			6413821
Slovakia	1				
Total	271				

Figure 5: Number of SARI cases by week of onset, weeks 40/2010 - week 48/2010

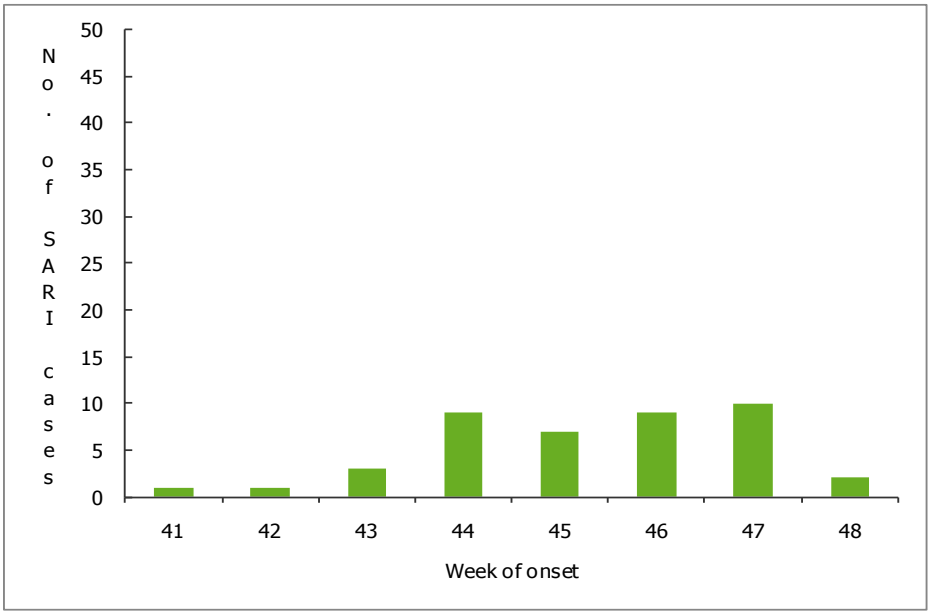


Table 5: Number of SARI cases by age and gender, week 48/2010

Age groups	Male	Female
Under 2	13	6
2-17	5	4
>=60	2	3
Total	20	13

Table 6: Number of SARI cases by influenza type and subtype, week 48/2010

Virus type/subtype	Number of cases during current week	Cumulative number of cases since the start of the season
Influenza A		
A (pandemic H1N1)		
A(subtyping not performed)		
A(H3)		
A(H1)		
A(H5)		
Influenza B		
Unknown	33	268
Total	33	268

Table 7: Number of SARI cases by antiviral treatment, week 48/2010

Antiviral treatment	Number of patients who received prophylaxis	Number of patients who received anti-viral treatment
Oseltamivir		1
Other (or combinations with other)	1	1
Unknown	24	24
None	8	7
Total	33	33

Table 8: Number of SARI cases by level of care and respiratory support, week 48/2010

Respiratory support	ICU	Inpatient ward	Other	Unknown
No respiratory support necessary		2		
Oxygen therapy	3	3		
Respiratory support given unknown	1		24	

Table 9: Number of SARI cases by vaccination status, week 48/2010

Vaccination Status	Number Of Cases	Percentage of cases
Not full pandemic vaccination	0	0
Not vaccinated	8	24
Seasonal vaccination	1	3
Unknown	24	73
TOTAL	33	

Table 10: Number of underlying conditions in SARI cases by age group, week 48/2010

Underlying condition/risk factor	Infant below 2 years	2-17 years	18-44 years	45-59 years	>=60 years
Asthma	1	1			
Chronic heart disease					1
Chronic lung disease	1				
Neuromuscular disorder					1
No underlying condition	2				1
Other (please specify separately)		1			
Underlying condition unknown	15	7			2

The report text was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC): Eeva Broberg, Flaviu Plata, Phillip Zucs and René Snacken. 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 Bianca Snijders (RIVM Bilthoven, The Netherlands) and Thedi Ziegler (National Institute for Health and Welfare, Finland)

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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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