

## Low levels of influenza in Europe

### Summary week 40/2012

Influenza activity is low and at out-of-season levels in Europe. The majority of countries reported no geographic spread and a low intensity of influenza; only Lithuania reported medium intensity. France, Lithuania, Norway, Sweden and the United Kingdom (Scotland) reported sporadic activity. While first influenza detections were reported from non-sentinel sources in some countries, none of the sentinel influenza-like illness (ILI)/acute respiratory infection (ARI) specimens and severe acute respiratory infection (SARI) specimens tested were positive for influenza.



For a description of influenza surveillance in the WHO European Region. See [below](#).

### Virological surveillance for influenza

A total of 282 sentinel samples was tested for influenza; none was positive. The first sporadic detections from non-sentinel sources were reported in Denmark, Latvia, Malta, Norway, Sweden, the Netherlands and the United Kingdom (England and Scotland). A total of 15 viruses was detected: 11 (73%) were influenza A and 4 (27%) were influenza B. Of the 5 subtyped influenza viruses, 4 were A(H1N1)pdm09 and one was influenza A(H3) (Fig. 1).

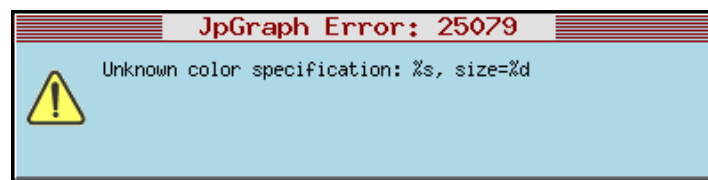
The map below presents the weekly reported dominant virus type. Influenza A was reported to be dominant in United Kingdom (Scotland).

### Outpatient surveillance for ILI/ARI

ILI and ARI consultation rates are at low levels, which is usual for this time of year: Thirty-seven countries reported low levels of influenza intensity and 1 (Lithuania) reported medium intensity; Thirty-four countries reported no geographic spread and 5 reported sporadic activity; Twenty-four countries reported a stable trend, 5 reported a decrease and 6 reported an increase in influenza activity.

The map below presents the weekly intensity, geographic spread and trend for Europe. Click on the map to access the national web sites available. Click on the Russian Federation to access more detailed regional data.

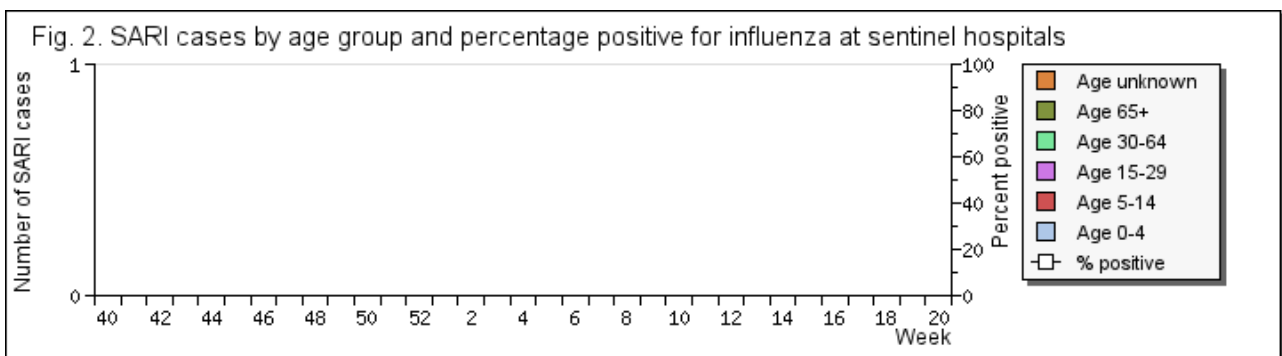
The proportion of ILI and ARI cases testing positive for influenza in the Region is low; none of the sentinel samples tested was positive (Fig. 2).



The pie chart below presents the distribution of influenza virus types detected in sentinel ILI /ARI cases. No virus detections were reported for week 40/2012. [Click here](#) for a detailed overview of influenza virus detections by type and subtype since week 40/2012.

### Hospital surveillance for SARI

Seven countries reported hospitalizations due to SARI, with the most cases in the youngest age group (Fig. 3).



The pie chart below presents the distribution of influenza virus types detected in SARI cases.

No SARI cases tested positive for influenza. [Click here](#) for a detailed overview of influenza virus detections by type and subtype since week 40/2012.

## Monitoring of resistance to antiviral drugs

No viruses have been screened for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir this season.

## Characterizations of virus strains

Influenza virus strains are monitored each season for their antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine, as well as the occurrence of mutations that affect pathogenicity or are associated with susceptibility to antiviral drugs.

In the 2012/2013 northern hemisphere influenza season, WHO recommends the inclusion in the vaccine of A/California/7/2009 (H1N1)pdm09-like virus, A/Victoria/361/2011 (H3N2)-like virus and B/Wisconsin/1/2010-like virus (from the B/Yamagata lineage of viruses).

## Description of influenza surveillance

The EuroFlu bulletin describes and comments on influenza activity in the 53 countries in the WHO European Region. Influenza activity is monitored through surveillance of ILI, ARI and/or hospital-based surveillance for severe disease. Primary care clinics conduct surveillance for ILI and/or ARI in most countries in the Region, although some countries routinely perform hospital-based surveillance. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI.

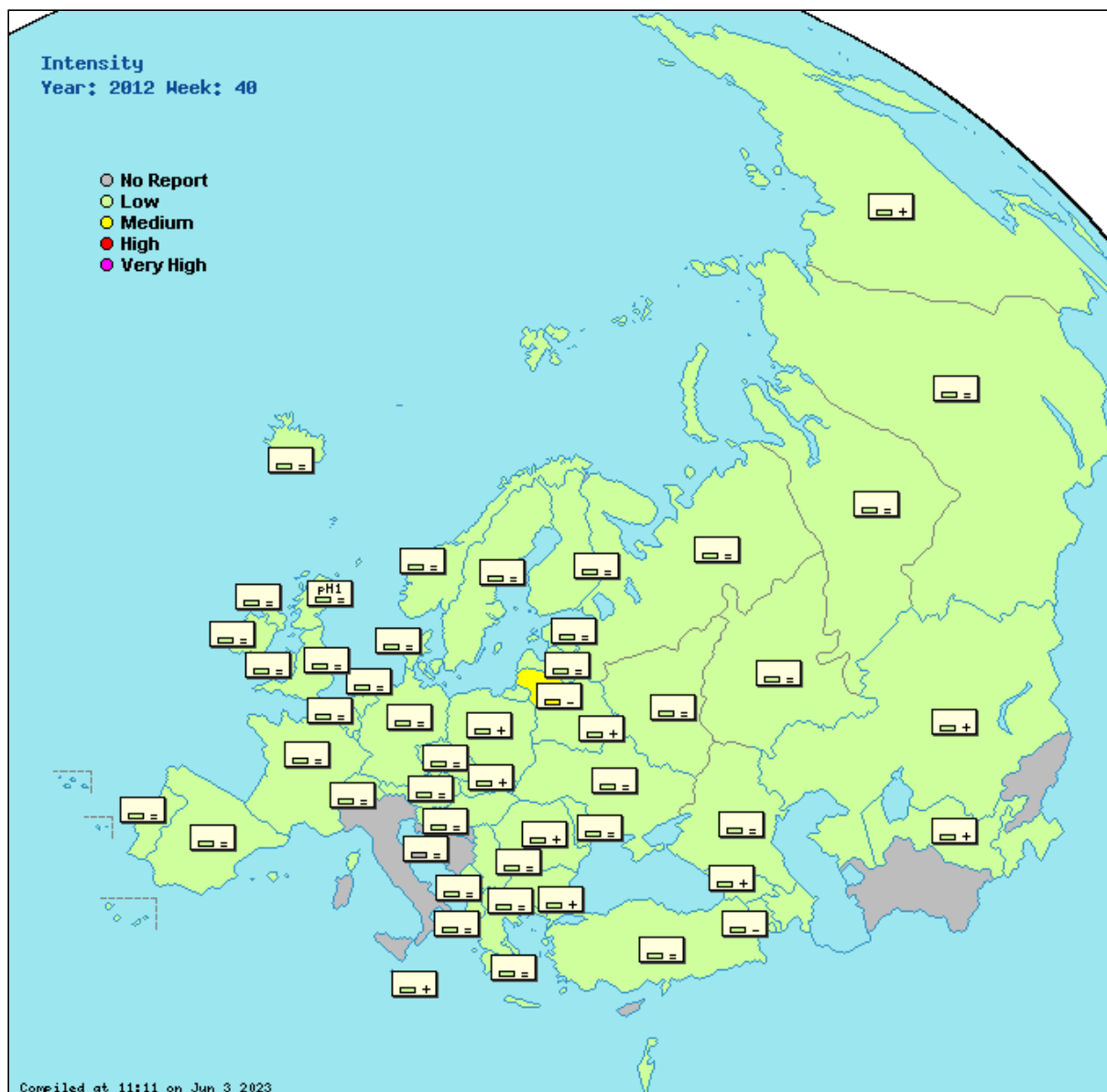
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + **virological**  **Geographical spread**  + **virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**No activity** = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
**Sporadic** = isolated cases of laboratory confirmed influenza infection  
**Localized** = limited to one administrative unit of the country (or reporting site) only.  
**Regional** = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
**Widespread** = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Latvia

The first influenza A case was confirmed from the traveller abroad.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable	0	-	None		378.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Low	None	Low	Decreasing	0	-	None		60.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	None	Low	Stable	0	-	None	8.3 ( <a href="#">graphs</a> )	<a href="#">graphs</a>		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing				158.6 ( <a href="#">graphs</a> )	<a href="#">graphs</a>		<a href="#">Click here</a>
Belarus	Low	None	Low	Decreasing	29	0%	None	4.7 ( <a href="#">graphs</a> )	1039.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	None		Stable	17	0%		56.4 ( <a href="#">graphs</a> )	2021.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina					0	-	None	<a href="#">graphs</a>			<a href="#">Click here</a>
Bulgaria	Low	None		Increasing	0	-	None	<a href="#">graphs</a>	446.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia							None	<a href="#">graphs</a>			<a href="#">Click here</a>
Czech Republic	Low	None		Stable	7	0%	None	17.4 ( <a href="#">graphs</a> )	742.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	None		Stable	1	0%		9.4 ( <a href="#">graphs</a> )	<a href="#">graphs</a>		<a href="#">Click here</a>

England	Low	None		Stable	2	0%	None	4.4 ( <a href="#">graphs</a> )	303.3 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Estonia	Low	None		Stable	2	0%	None	4.1 ( <a href="#">graphs</a> )	236.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Finland	Low	None		Stable	23	0%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable				( <a href="#">graphs</a> )	1672.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Georgia	Low	None	Low	Increasing	5	0%	None	229.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Germany					10	0%	None		( <a href="#">graphs</a> )	<a href="#">Click here</a>
Greece	Low	None		Stable	0	-	None	36.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Hungary	Low	None	Low		0	-	None	42.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Iceland	Low	None	Low	Stable	0	-	None	2.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Ireland	Low	None	Low	Stable	5	0%	None	7.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Israel	Low	None	Low	Stable			None	1.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan					11	0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Kyrgyzstan					15	0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Latvia	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	1188.0 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Lithuania	Medium	Sporadic	Low	Decreasing	0	-	None	0.6 ( <a href="#">graphs</a> )	503.1 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Luxembourg	Low	None	Low		0	-	None	0 * ( <a href="#">graphs</a> )	14.5 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Malta					0	-	None	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable			None	0.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Netherlands	Low	None		Stable	13	0%	None	30.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Northern Ireland	Low	None		Stable	1	0%	None	8.8 ( <a href="#">graphs</a> )	333.2 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	0	-	None	21.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Poland	Low	None	Low	Increasing	5	0%	None	116.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Portugal	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Stable	0	-	None	( <a href="#">graphs</a> )	49.1 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Romania	Low	None	Low	Increasing	0	-	None	0.0 ( <a href="#">graphs</a> )	611.5 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Russian Federation	Low	None		Stable	45	0%	None	( <a href="#">graphs</a> )	611.9 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Scotland	Low	Sporadic	Low	Stable	0	-	Type A, Subtype pH1	10.5 ( <a href="#">graphs</a> )	385.7 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Serbia	Low	None	Low	Stable	0	-	None	20.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Slovakia	Low	None	Low	Increasing	0	-	None	138.1 ( <a href="#">graphs</a> )	1518.1 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Slovenia	Low	None		Stable	3	0%	None	0.0 ( <a href="#">graphs</a> )	962.2 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Spain	Low	None		Stable	40	0%	None	9.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Sweden	Low	Sporadic	Low	Stable	5	0%	None	1.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Switzerland	Low	None		Stable	8	0%	None	8.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Turkey					35	0%	None	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Low	None	Low	Decreasing			None	403.1 ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Uzbekistan	Low	None	Low	Decreasing			None	( <a href="#">graphs</a> )	15.6 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Europe					282	-				<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# No evidence of increasing influenza activity in Europe



## Summary week 41/2012

Influenza activity is at low levels in all countries in the WHO European Region. All of the 14 countries that have established an epidemic threshold presented consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) that were below their thresholds. The number of severe acute respiratory infection (SARI) cases detected through hospital surveillance was similar to that in the previous week, but none of the 74 specimens tested was positive for influenza. Nevertheless, the first sporadic detections from sentinel and non-sentinel sources were reported in weeks 40 and 41. Most countries report no influenza activity and the percentage of samples testing positive is very low (<1%), indicating no significant influenza activity in the WHO European Region.

For a description of influenza surveillance in the WHO European Region. See [below](#).

## Virological surveillance for influenza

From sentinel sources, 3 out of 386 samples (0.8%) tested positive for influenza: 2 were influenza A (not subtyped) and 1 was influenza A(H3). From non-sentinel sources, 3631 samples were collected and 18 (0.5%) influenza detections were reported: 6 influenza A not subtyped, 4 A(H3) and 8 B viruses. Overall, a total of 21 samples tested positive for influenza in week 41/2012: 8 were influenza B and 13 were influenza A. Of the 13, 8 were not subtyped and 5 were A(H3) (Fig. 1).

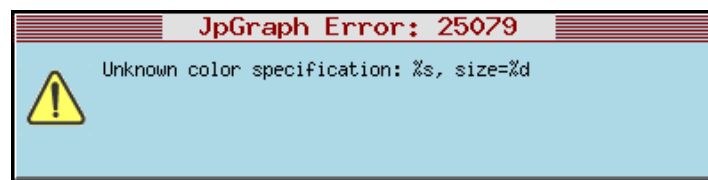
The map below presents the weekly reported dominant virus type. No countries reported a dominant virus type in week 41/2012.

## Outpatient surveillance for ILI/ARI

ILI and ARI consultation rates are at usual levels for this time of year. Of the 35 countries reporting on influenza intensity and spread, all reported low levels intensity; 31 reported no spread and 4 reported sporadic activity. 26 countries reported stable trends; 1 reported a decrease and 7 reported increases in influenza activity.

The map below presents the weekly intensity, geographic spread and trend for Europe.

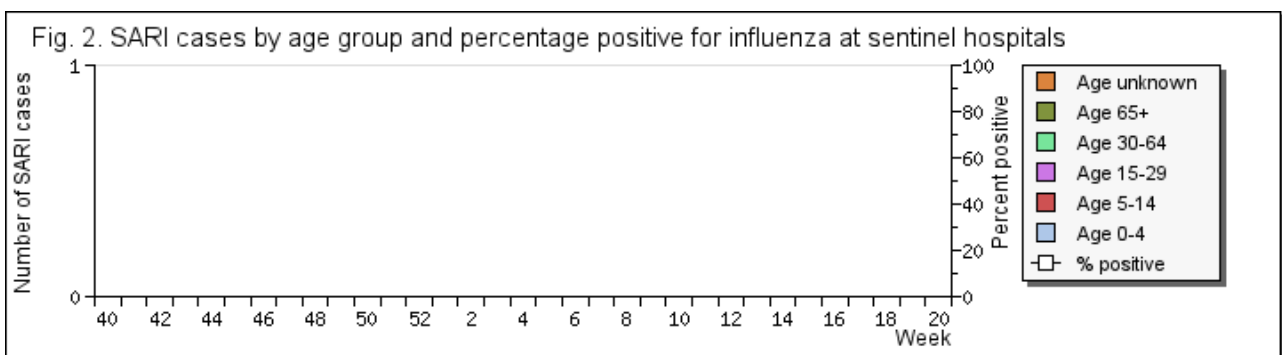
The proportion of ILI and ARI cases testing positive for influenza in the Region is low; of the 386 samples tested, 3 (0.8%) tested positive. See Fig. 2 for historical percentage positivity rates; no data are yet available for weeks 40 and 41, as for presentation at least 20 samples need to test positive for influenza.



The pie chart below presents the distribution of influenza virus types detected in sentinel ILI /ARI cases. Of 386 samples, 3 (0.8%) tested positive for influenza. 2 viruses were influenza A not subtyped and 1 was A(H3N2). [Click here](#) for a detailed overview of influenza virus detections by type and subtype since week 40/2012.

## Hospital surveillance for SARI

Of 11 countries with SARI surveillance, 7 (Albania, Georgia, Kazakhstan, Republic of Moldova, Russian Federation, Serbia and Ukraine) reported hospitalizations due to SARI, with most cases occurring in the youngest age group (Fig. 3).



The pie chart below presents the distribution of influenza virus types detected in SARI cases.

Of the 74 samples collected from hospitalized SARI cases, none tested positive for influenza. The samples were collected in 5 countries (Belarus, Georgia, Kyrgyzstan, Russian Federation and Ukraine). [Click here](#) for a detailed overview of influenza virus detections by type

and subtype since week 40/2012.

### Monitoring of resistance to antiviral drugs

No viruses have been screened for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir this season.

### Characterizations of virus strains

Influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their similarity to the viruses included in the seasonal influenza vaccine, and determine the prevalence of mutations that affect pathogenicity or are associated with susceptibility to antiviral drugs.

In the 2012/2013 northern hemisphere influenza season, WHO recommends the inclusion in the vaccine of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses.

### Description of influenza surveillance

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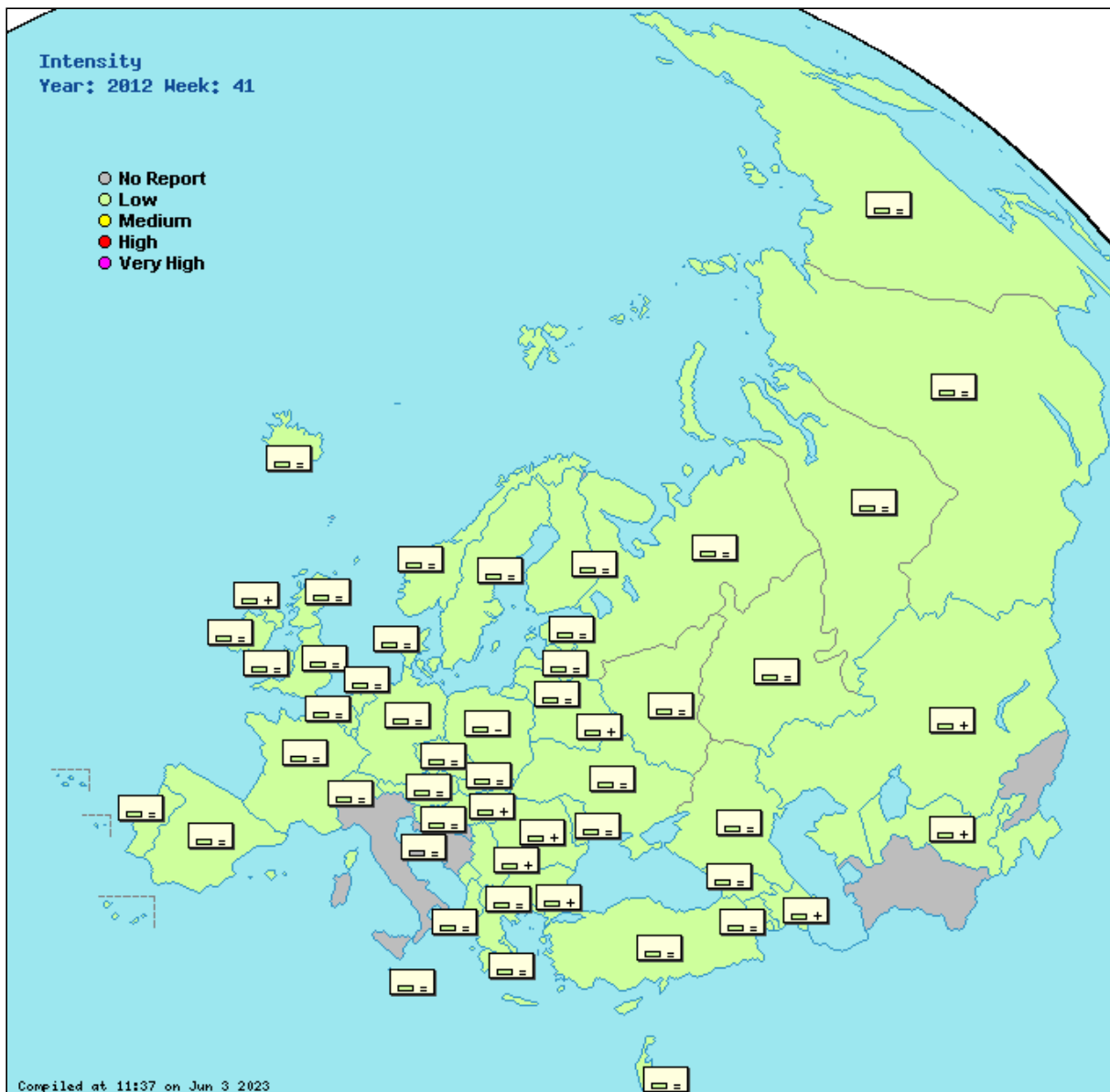
## Map

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Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
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 + : increasing clinical activity  
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**Widespread** = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Republic of Moldova

This week were tested 8 samples from sentinel surveillance system: in one sample was detected RNA of hRSV and in one RNA of Parainfluenza virus type 2.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable	1	0%	None		380.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia							None		<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	None	Low	Stable	0	-	None	10.3 ( <a href="#">graphs</a> )	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	0	-	None	275.0 ( <a href="#">graphs</a> )	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Belarus					25	0%	None		<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	None		Stable	13	0%	None	60.6 ( <a href="#">graphs</a> )	1779.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina							None	<a href="#">(graphs)</a>			<a href="#">Click here</a>
Bulgaria	Low	None		Increasing	0	-	None	<a href="#">(graphs)</a>	555.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Low	Sporadic		Stable	16	12.5%	None	17.7 ( <a href="#">graphs</a> )	765.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	None		Stable	4	0%	None	12.9 ( <a href="#">graphs</a> )	<a href="#">(graphs)</a>		<a href="#">Click here</a>

England					13	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Estonia	Low	None		Stable	2	0%	None	5.0 ( <a href="#">graphs</a> )	216.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	Low	None		Stable	7	0%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable	48	2.1%		( <a href="#">graphs</a> )	1683.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	None	Low	Stable	8	0%	None	223.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Low	None		Stable	15	0%	None	( <a href="#">graphs</a> )	1166.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	None		Stable	0	-		30.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	None	Low	Increasing	0	-	None	52.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland					0	-		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ireland	Low	None	Low	Stable	7	0%	None	4.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	None	Low	Stable	23	0%	None	1.4 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Kazakhstan	Low	None	Low	Increasing				128.7 ( <a href="#">graphs</a> )	12.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					17	0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	1253.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Low	Sporadic	Low	Stable	1	0%	None	1.1 ( <a href="#">graphs</a> )	519.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Low	None	Low		0	-	None	0 * ( <a href="#">graphs</a> )	27.3 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Malta					0	-	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				0.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Low	None		Stable	21	0%	None	33.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	None		Increasing	1	0%	None	15.6 ( <a href="#">graphs</a> )	342.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	1	0%	None	22.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	11	0%	None	101.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable	4	0%	None	19.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Stable	8	0%	None	( <a href="#">graphs</a> )	46.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	None	Low	Increasing	7	0%		0.6 ( <a href="#">graphs</a> )	706.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	None		Stable	46	0%	None	0.1 ( <a href="#">graphs</a> )	616.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	None	Low	Stable	8	0%	None	7.9 ( <a href="#">graphs</a> )	393.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	None	Low	Increasing	0	-	None	31.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	None	Low	Stable	0	-	None	135.9 ( <a href="#">graphs</a> )	1509.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia					8	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Spain	Low	None		Stable	20	0%	None	6.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Low	None		Stable	12	0%		2.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	None		Stable	4	0%	None	15.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey					31	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ukraine	Low	None		Stable	4	0%	None	435.4 ( <a href="#">graphs</a> )	3.0 * ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	None	Low	Increasing			None	( <a href="#">graphs</a> )	20.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					386	0.8%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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## Low levels of influenza activity in Europe

### Summary, week 42/2012

Influenza activity is at low levels in all countries in the WHO European Region, with only few reporting sporadic influenza detections. All of the 14 countries that have established epidemic thresholds reported consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) that were below their thresholds. The number of severe acute respiratory infection (SARI) cases detected through hospital surveillance was similar to that in the previous week, and none of the specimens tested was positive for influenza.

For a description of influenza surveillance in the WHO European Region. See [below](#).

### Virological surveillance for influenza

Overall, a total of 40 specimens tested positive for influenza in week 42/2012: 29 were influenza A and 11 were influenza B. Of the 29 influenza A, 16 were not subtyped, 9 were A(H3) and 4 A(H1)pdm09 (Fig. 1).

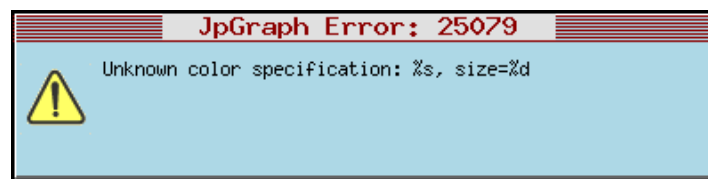
The map below presents the weekly reported dominant virus type. Influenza A was reported to be dominant in Poland in week 42/2012.

### Outpatient surveillance for ILI/ARI

ILI and ARI consultation rates are at usual levels for this time of year. Of the 39 countries reporting on influenza intensity and geographic spread, all reported low levels of intensity; 30 reported no activity and 9 reported sporadic activity. 32 countries reported stable trends; 3 reported a decrease and 3 reported increases in influenza activity.

The map below presents the weekly intensity, geographic spread and trend for Europe.

The proportion of ILI and ARI cases from sentinel surveillance testing positive for influenza in the Region is low; of the 510 specimens tested, 3 (0.6%) tested positive. See Fig. 2 for historical percentage positivity rates; the number of specimens in weeks 40-42/2012 is not sufficient for presentation, which requires at least 20 specimens per week to test positive for influenza.

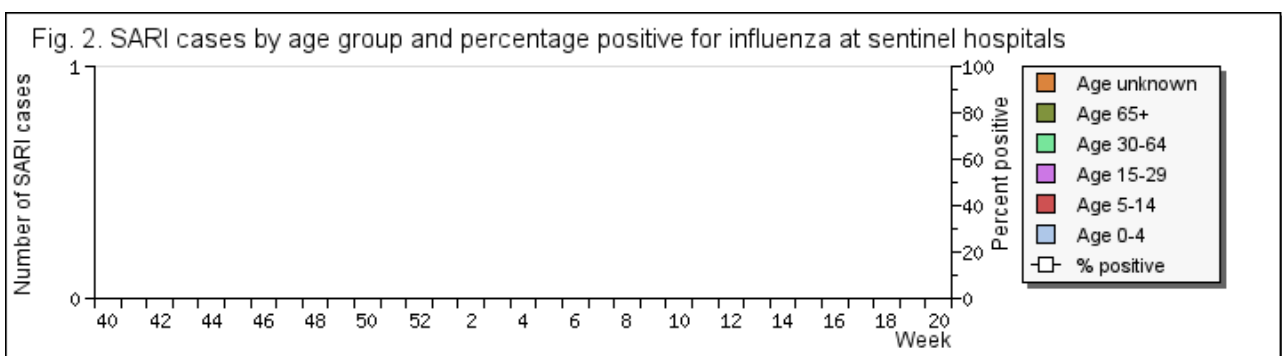


The pie chart below presents the distribution of influenza virus types detected in sentinel ILI/ARI cases. Of 510 specimens, 3 (0.6%) tested positive for influenza. The 3 viruses were influenza B. [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

The pie chart below presents the distribution of influenza virus types detected in non-sentinel ILI/ARI cases. Of 3949 specimens, 37 tested positive for influenza. 29 were influenza A and 8 were influenza B. Of the influenza A viruses, 13 were subtyped: 9 as A(H3) and 4 as A(H1)pdm09.

### Hospital surveillance for SARI

Of 11 countries with SARI surveillance, 8 (Armenia, Belarus, Georgia, Kazakhstan, Republic of Moldova, Russian Federation, Serbia and Ukraine) reported hospitalizations due to SARI, with most cases occurring in the youngest age group (Fig. 3).



The pie chart below presents the distribution of influenza virus types detected in SARI cases. Of the 75 specimens collected from hospitalized SARI cases, none tested positive for influenza. The specimens were collected in 6 countries (Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russian Federation and Ukraine). [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

### Monitoring of resistance to antiviral drugs

No viruses have been screened for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir this season.

### Characterizations of virus strains

Influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic similarity to the viruses included in the seasonal influenza vaccine, and determine the prevalence of mutations that affect pathogenicity or are associated with susceptibility to antiviral drugs.

In the 2012/2013 northern hemisphere influenza season, WHO recommends the inclusion in the vaccine of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses.

### Description of influenza surveillance

The EuroFlu bulletin describes and comments on influenza activity in the 53 countries in the WHO European Region. Influenza activity is monitored through surveillance of ILI, ARI and/or hospital-based surveillance for severe disease. Primary care clinics conduct surveillance for ILI and/or ARI in most countries in the Region, although some countries routinely perform hospital-based surveillance. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI.

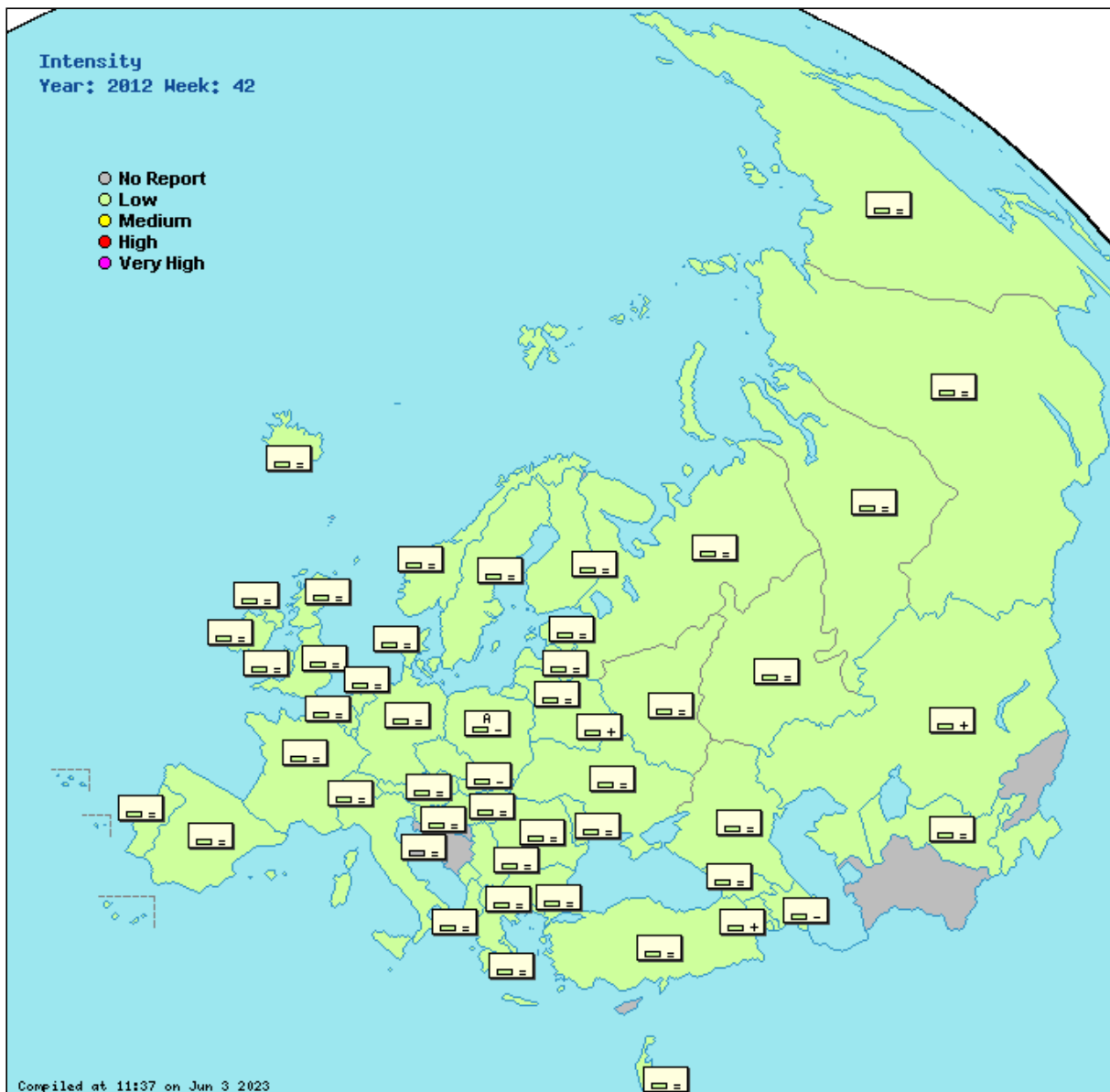
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**No activity** = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
**Sporadic** = isolated cases of laboratory confirmed influenza infection  
**Localized** = limited to one administrative unit of the country (or reporting site) only.  
**Regional** = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
**Widespread** = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Norway

The majority of the influenza A cases in week 42 were patients in a single hospital ward

### Republic of Moldova

Were tested 5 sentinel specimens this week and only one was positive for DNA Adenovirus.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Armenia	Low	None	Low	Increasing	1	0%	None		65.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	None	Low	Stable	0	-	None	10.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing	10	0%	None	174.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	None	Low	Increasing	37	0%	None	4.5 ( <a href="#">graphs</a> )	1108.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	None		Stable	20	0%	None	51.1 ( <a href="#">graphs</a> )	1610.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Bulgaria	Low	None		Stable	2	0%	None	( <a href="#">graphs</a> )	561.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia		None		Stable			None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus		None	Low	Stable				0.9 * ( <a href="#">graphs</a> )	9.3 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>

Czech Republic	Low	None		Stable				19.4 ( <a href="#">graphs</a> )	777.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	None		Stable	4	0%	None	15.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Sporadic		Stable	9	0%	None	7.1 ( <a href="#">graphs</a> )	325.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia					4	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Finland	Low	None		Stable	17	0%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable	65	1.5%	None	( <a href="#">graphs</a> )	1692.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	None	Low	Stable	9	0%	None	219.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	sari	<a href="#">Click here</a>
Germany	Low	None		Stable	28	0%	None	( <a href="#">graphs</a> )	1192.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	None		Stable	0	-		36.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	None	Low	Stable	0	-	None	46.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland	Low	Sporadic	Low	Stable	0	-		0.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	None	Low	Stable	10	10.0%	None	8.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	None	Low	Stable	29	0%	None	2.7 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Kazakhstan	Low	None	Low	Increasing	30	0%	None	143.7 ( <a href="#">graphs</a> )	14.9 ( <a href="#">graphs</a> )	sari	<a href="#">Click here</a>
Kyrgyzstan					10	0%	None		( <a href="#">graphs</a> )	sari	<a href="#">Click here</a>
Latvia	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	1197.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Low	Sporadic	Low	Stable	1	0%	None	0.7 ( <a href="#">graphs</a> )	518.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Low	None	Low		3	0%	None	0.2 * ( <a href="#">graphs</a> )	20.5 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				1.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Low	None		Stable	11	0%	None	34.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	None		Stable	1	0%	None	11.9 ( <a href="#">graphs</a> )	380.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	6	0%	None	22.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Decreasing	7	0%	Type A	99.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable	1	0%	None	9.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Stable	5	0%	None	( <a href="#">graphs</a> )	45.1 ( <a href="#">graphs</a> )	sari	<a href="#">Click here</a>
Romania	Low	None	Low	Stable	6	0%		1.5 ( <a href="#">graphs</a> )	712.5 ( <a href="#">graphs</a> )	sari	<a href="#">Click here</a>
Russian Federation	Low	None		Stable	48	0%	None	( <a href="#">graphs</a> )	624.3 ( <a href="#">graphs</a> )	sari	<a href="#">Click here</a>
Scotland	Low	None	Low	Stable	2	0%	None	6.3 ( <a href="#">graphs</a> )	349.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	None	Low	Stable	0	-	None	33.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	sari	<a href="#">Click here</a>
Slovakia	Low	Sporadic	Low	Decreasing	1	0%	None	130.7 ( <a href="#">graphs</a> )	1463.8 ( <a href="#">graphs</a> )	sari	<a href="#">Click here</a>
Slovenia					4	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Spain	Low	None		Stable	47	2.1%	None	9.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Low	Sporadic		Stable	28	0%		2.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	None		Stable	8	0%	None	13.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey					37	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ukraine	Low	None	Low	Stable	7	0%	None	449.5 ( <a href="#">graphs</a> )	3.1 * ( <a href="#">graphs</a> )	sari	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Stable	2	0%	None	( <a href="#">graphs</a> )	20.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					510	0.6%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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## Continuing low levels of influenza activity in Europe

### Summary, week 43/2012

Influenza activity is at low levels in all countries in the WHO European Region, with only few reporting sporadic influenza detections. All of the 18 countries that have established epidemic thresholds reported consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) that were below their thresholds. The number of severe acute respiratory infection (SARI) cases detected through hospital surveillance was similar to that in the previous week, and none of the specimens tested was positive for influenza.



For a description of influenza surveillance in the WHO European Region, please see [below](#).

### Virological surveillance for influenza

Overall, a total of 27 specimens tested positive for influenza in week 43/2012: 17 were influenza A and 10 were influenza B. Of the influenza A viruses, 10 were subtyped: 4 as A(H3) and 6 as A(H1)pdm09 (Fig. 1). Since week 40/2012, 128 specimens of influenza viruses from sentinel and non-sentinel sources have been typed and subtyped: 89 (70%) were influenza A and 39 (30%) were influenza B. Of the influenza A viruses 51 were subtyped: 23 (45%) as A(H3) and 28 (55%) as A(H1)pdm09.

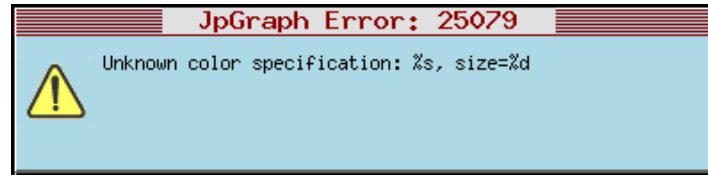
The map below presents the weekly reported dominant virus type. No country reported a dominant virus type in week 43/2012.

### Outpatient surveillance for ILI/ARI

ILI and ARI consultation rates are at usual levels for this time of year. Of the 38 countries reporting on influenza intensity and geographic spread, all reported low levels of intensity; 30 reported no activity and 8 reported sporadic activity. 32 countries reported stable trends; 2 reported a decrease and 4 reported increases in influenza activity.

The map below presents the weekly intensity, geographic spread and trend for Europe.

The proportion of ILI and ARI cases from sentinel surveillance testing positive for influenza in the Region is low; of the 465 specimens tested, only 1 (0.2%) was positive. See Fig. 2 for historical percentage positivity rates. The numbers of specimens in weeks 40-43/2012 have not been sufficient to warrant presentation; at least 20 specimens per week need to test positive for influenza.

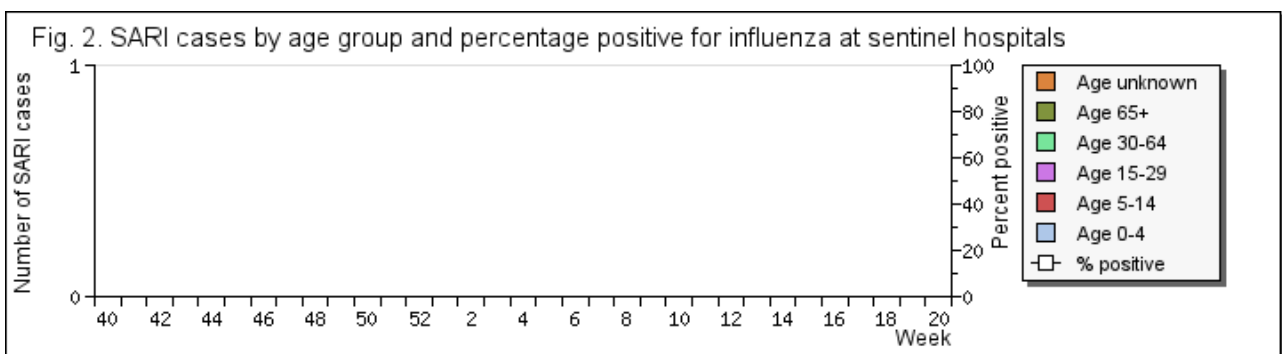


Of 465 specimens, 1 (0.2%) tested positive for influenza A(H3). [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

26 specimens were reported positive for influenza: 16 were influenza A and 10 were influenza B. Of the influenza A viruses, 9 were subtyped: 3 as A(H3) and 6 as A(H1)pdm09.

### Hospital surveillance for SARI

Of 11 countries with SARI surveillance, 8 (Armenia, Belarus, Georgia, Kazakhstan, Republic of Moldova, Russian Federation, Serbia and Ukraine) reported hospitalizations due to SARI, with most cases occurring in the youngest age group (Fig. 3).



Of the 85 specimens collected from hospitalized SARI cases, none tested positive for influenza. The specimens were collected in 7 countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Russian Federation and Ukraine). [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 1 country (Sweden) has screened 3 influenza A(H3N2) viruses for susceptibility to oseltamivir and zanamivir, and to adamantanes. All showed susceptibility to oseltamivir and zanamivir, but resistance to adamantanes.

### Virus characterizations

Influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic similarity to the viruses included in the seasonal influenza vaccine, and determine the prevalence of mutations that affect pathogenicity or are associated with susceptibility to antiviral drugs. Since week 40/2012, 1 country (Sweden) has characterized 2 influenza viruses genetically: 1 belonged to the subgroup represented by A/Perth/10/2010 in the A/Victoria/208/2009, A(H3) group 5; 1 belonged to the subgroup represented by A/Victoria/361/2011 in the A/Victoria/208/2009, A(H3) group 3C.

In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines.

### Description of influenza surveillance

The EuroFlu bulletin describes and comments on influenza activity in the 53 countries in the WHO European Region. Influenza activity is monitored through surveillance of ILI, ARI and/or hospital-based surveillance for severe disease. Primary care clinics conduct surveillance for ILI and/or ARI in most countries in the Region, although some countries routinely perform hospital-based surveillance. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI.

## Map

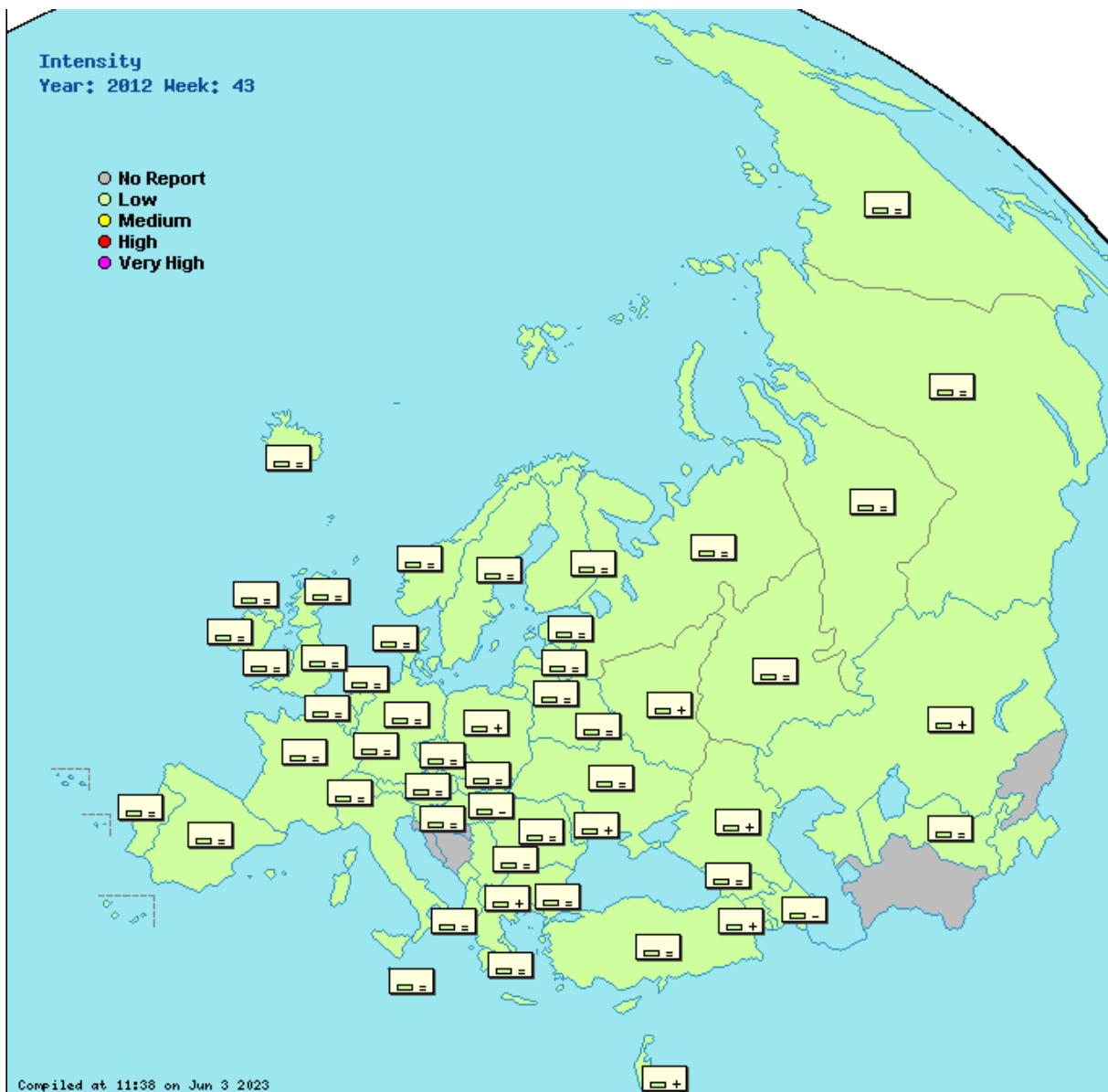
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**

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**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**No activity** = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
**Sporadic** = isolated cases of laboratory confirmed influenza infection  
**Localized** = limited to one administrative unit of the country (or reporting site) only.  
**Regional** = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
**Widespread** = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Republic of Moldova

In the 43rd week 10 sentinel samples were tested: 3 specimens were positive for both DNA Adenovirus and Parainfluenza virus type 3; 1 sample was positive for both DNA Adenovirus and Parainfluenza virus type 2; and 1 sample was positive for DNA Adenovirus. Influenza viruses were not detected in any of the tested specimens.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable					365.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Low	None	Low	Increasing	1	0%	None		73.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	None	Low	Stable	0	-	None	14.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing	4	0%	None	123.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	None	Low	Stable	28	0%	None	4.7 ( <a href="#">graphs</a> )	1090.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	None		Stable	10	0%	None	85.6 ( <a href="#">graphs</a> )	1736.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Bulgaria					0	-	None		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>

Cyprus	Low	None	Low	Stable				0.7 * ( <a href="#">graphs</a> )	7.4 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Czech Republic	Low	Sporadic		Stable	12	0%	None	19.6 ( <a href="#">graphs</a> )	775.0 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Denmark	Low	None		Stable	5	0%	None	12.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
England	Low	Sporadic		Stable	16	0%	None	4.3 ( <a href="#">graphs</a> )	301.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Estonia	Low	None		Stable	5	0%		4.7 ( <a href="#">graphs</a> )	225.1 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Finland	Low	None		Stable	11	0%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable	57	0%	None	( <a href="#">graphs</a> )	1624.1 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Georgia	Low	None	Low	Stable	15	0%	None	235.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Germany	Low	None		Stable	33	3.0%	None	( <a href="#">graphs</a> )	1099.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Greece	Low	None		Stable	0	-		25.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Hungary	Low	None	Low	Decreasing	0	-	None	39.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Iceland					0	-		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	None	Low	Stable	4	0%	None	8.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Israel	Low	None	Low	Increasing	40	0%	None	3.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	None	Low	Stable	13	0%	None	140.0 ( <a href="#">graphs</a> )	29.4 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Kyrgyzstan					20	0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Latvia	Low	None		Stable	0	-	None	2.0 ( <a href="#">graphs</a> )	967.6 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Lithuania	Low	Sporadic	Low	Stable	0	-	None	1.4 ( <a href="#">graphs</a> )	518.6 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Luxembourg	Low	None	Low		4	0%	None	0.2 * ( <a href="#">graphs</a> )	19.4 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Malta					0	-	None	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				0.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Netherlands	Low	None		Stable	3	0%	None	31.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Northern Ireland	Low	None		Stable	2	0%	None	13.7 ( <a href="#">graphs</a> )	378.1 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	6	0%	None	26.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Poland	Low	None	Low	Increasing	9	0%	None	103.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Portugal	Low	None		Stable	0	-	None	9.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Increasing	10	0%	None	( <a href="#">graphs</a> )	53.0 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Romania	Low	None	Low	Stable	9	0%		1.5 ( <a href="#">graphs</a> )	736.3 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Russian Federation	Low	Sporadic		Stable	48	0%	None	0.1 ( <a href="#">graphs</a> )	640.8 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Scotland	Low	None	Low	Stable	11	0%	None	8.1 ( <a href="#">graphs</a> )	413.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Serbia	Low	None	Low	Stable	0	-	None	36.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Slovakia	Low	None	Low	Stable	1	0%	None	135.7 ( <a href="#">graphs</a> )	1469.8 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Slovenia					4	0%	None	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Low	None		Stable	37	0%	None	11.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Sweden	Low	Sporadic		Stable	24	0%	None	2.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Switzerland	Low	None		Stable	9	0%	None	16.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Turkey					0	-	None	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Low	None	Low	Stable	6	0%	None	436.6 ( <a href="#">graphs</a> )	3.2 * ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Stable	7	0%	None	( <a href="#">graphs</a> )	20.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Europe					464	0.2%				<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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## Sporadic Influenza detections in WHO European Region



### Summary, week 44/2012

Levels of influenza activity in the Region remain low, with only a few countries reporting sporadic influenza detections. The influenza positivity rate is stable; since the start of the season, A(H1N1)pdm09, A(H3N2) and type B viruses have circulated in approximately equal proportions, based on detections and subtyping of representative type A specimens from both sentinel and non-sentinel sources. The number of hospitalizations due to severe acute respiratory infection (SARI) is stable, and none of the cases reported so far was associated with laboratory-confirmed influenza.



For a description of influenza surveillance in the WHO European Region, see [below](#).

### Virological surveillance for influenza

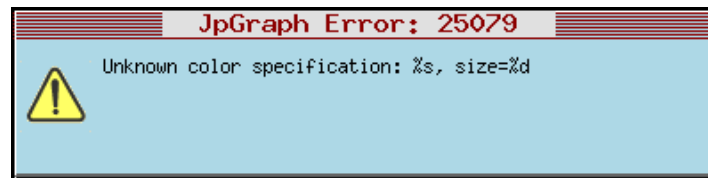
Overall, a total of 62 specimens tested positive for influenza in week 44/2012: 46 were type A and 16 were type B. Of the influenza A viruses, 20 were subtyped: 8 as A(H3) and 12 as A(H1)pdm09 (Fig. 1). Since week 40/2012, 200 influenza viruses from sentinel and non-sentinel sources have been typed: 138 (69%) were influenza A and 62 (31%) were influenza B. Of the influenza A viruses 76 were subtyped: 43 (57%) as A(H3) and 33 (43%) as A(H1)pdm09.

This week, as in previous weeks this season, no country reported a dominant virus type, as illustrated on the map below.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

In general ILI and ARI consultation rates remain low and stable, without any significant geographic differences in terms of spread. Only 9 countries out of 38 reported sporadic geographic spread, and 6 out of 37 reported increasing trends. Only 1 country (Republic of Moldova) of the 18 that have established epidemic thresholds reported consultation rates for ILI/ARI above its national threshold. The map below presents the weekly intensity, geographic spread and trend for Europe.

The positivity rate among ILI and ARI cases from sentinel sources remains stable and low, which is quite usual for the beginning of an influenza season (see Fig. 2). Out of the 486 specimens tested, 4 (0.8%) were positive for influenza viruses. The number of specimens testing positive for influenza in weeks 40-44/2012 is still not sufficient for presentation, which requires at least 20 positive specimens per week.

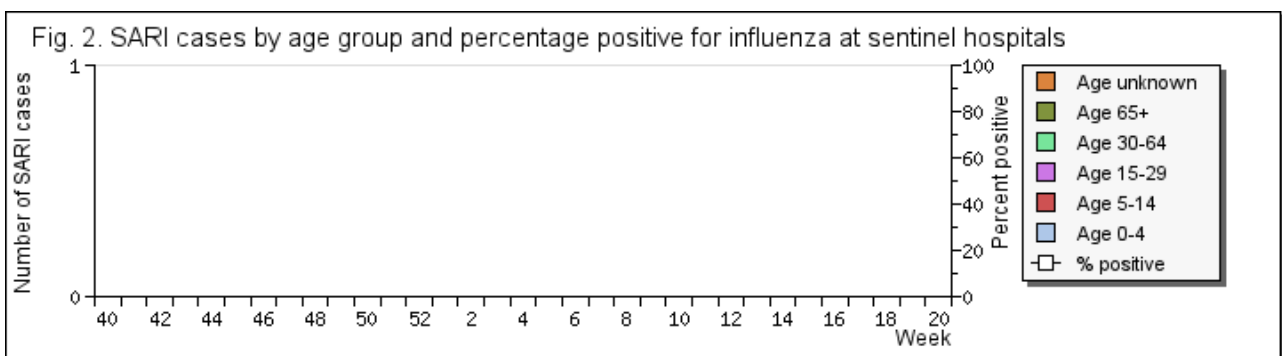


Of 486 specimens, 4 tested positive for influenza A. [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

58 specimens were reported positive for influenza: 42 were influenza A and 16 were influenza B. Of the influenza A viruses, 16 were subtyped: 5 as A(H3N2) and 11 as A(H1)pdm09.

### Hospital surveillance for SARI

This week, 9 countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Serbia and Ukraine) out of 11 reported hospitalizations due to SARI, with most of the cases in the group aged 0-4 years (Fig. 3). This week, as in previous weeks this season, none of the SARI cases was positive for influenza.



A total of 96 specimens was collected from hospitalized SARI cases in 8 countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Russian Federation, Serbia and Ukraine). [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 2 countries (the Netherlands and Sweden ) have screened 4 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. All of the 3 Influenza A(H3N2) and 1 influenza A(H1N1)pdm09 viruses that were screened showed susceptibility to oseltamivir and zanamivir. All 3 influenza A(H3N2) viruses that were screened for susceptibility to adamantanes were found to be resistant.

### Virus strain characterizations

Influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic similarity to the viruses included in the seasonal influenza vaccine, and determine the prevalence of mutations that affect pathogenicity or are associated with susceptibility to antiviral drugs. Since week 40/2012, 3 countries (Germany, Norway and Sweden) have characterized 5 influenza viruses genetically: 3 belonged to the group (5) represented by A/Perth/10/2010 in the A/Victoria/208/2009, A(H3) clade; 1 belonged to the subgroup (3C) represented by A/Victoria/361/2011 in the A/Victoria/208/2009, A(H3) clade; 1 belonged to the group (6) represented by A/St Petersburg/27/2011 in the A(H1N1)pdm09 clade. In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines.

### Description of influenza surveillance

The EuroFlu bulletin describes and comments on influenza activity in the 53 countries in the WHO European Region. Influenza activity is monitored through surveillance of ILI, ARI and/or hospital-based surveillance for severe disease. Primary care clinics conduct surveillance for ILI and/or ARI in most countries in the Region, although some countries routinely perform hospital-based surveillance. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI.

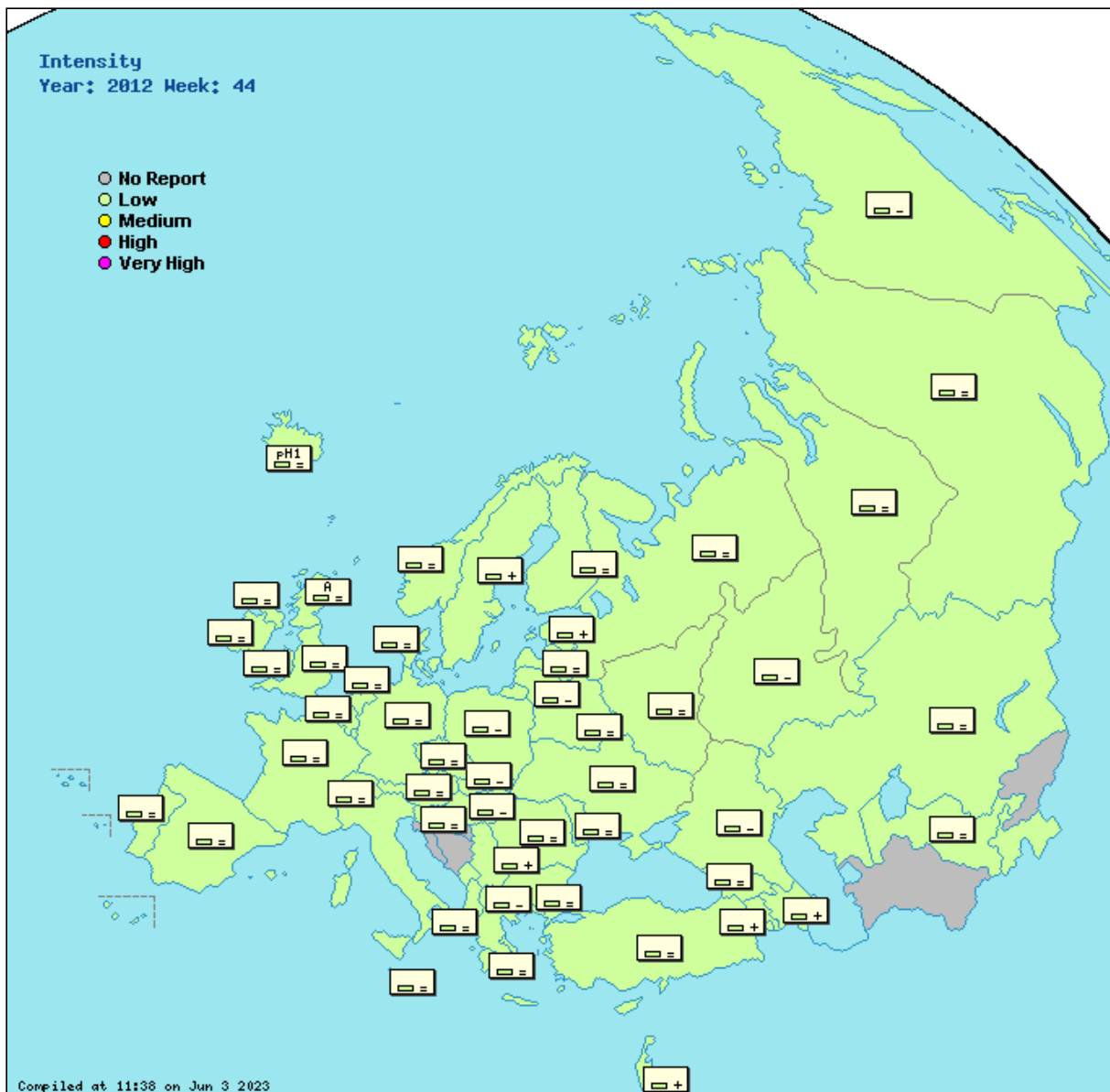
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**No activity** = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
**Sporadic** = isolated cases of laboratory confirmed influenza infection  
**Localized** = limited to one administrative unit of the country (or reporting site) only.  
**Regional** = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
**Widespread** = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Denmark

The two influenza A positive samples are A(H1N1)pdm09, although not confirmed at the NIC Denmark

### Norway

Low but increasing number of influenza virus detections. A(H1)pdm09, A(H3) and B Yamagata lineage viruses appear to be circulating sporadically, in approximately equal numbers.

### Republic of Moldova

None of Influenza viruses was detected in 14 sentinel specimens. 2 samples were positive for RNA Parainfluenza type 3 in 44th week.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable					369.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Low	None	Low	Increasing	1	0%	None		82.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	None	Low	Stable	0	-	None	11.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	0	-	None	175.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	None	Low	Stable	28	0%	None	5.8 ( <a href="#">graphs</a> )	1050.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>

Belgium	Low	None		Stable	11	0%	None	60.8 ( <a href="#">graphs</a> )	1240.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Bulgaria	Low	None		Stable	0	-	None	( <a href="#">graphs</a> )	552.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.3 * ( <a href="#">graphs</a> )	8.3 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Low	None		Stable				20.9 ( <a href="#">graphs</a> )	810.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	Sporadic		Stable	6	0%	None	21.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Sporadic		Stable	33	0%	None	4.4 ( <a href="#">graphs</a> )	309.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	None		Increasing	0	-		5.5 ( <a href="#">graphs</a> )	267.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	Low	None		Stable	9	0%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable	43	0%	None	( <a href="#">graphs</a> )	1457.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	None	Low	Stable	5	0%	None	202.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Low	Sporadic		Stable	36	2.8%	None	( <a href="#">graphs</a> )	945.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece					0	-		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Hungary	Low	None	Low	Decreasing	1	0%	None	30.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	None	Low	Stable	4	0%	None	4.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	None	Low	Increasing	48	4.2%	None	4.3 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Kazakhstan					6	0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					24	0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	896.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Low	None	Low	Decreasing	4	0%	None	1.3 ( <a href="#">graphs</a> )	363.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Low	None	Low		10	0%	None	0.4 * ( <a href="#">graphs</a> )	16.2 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				1.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Low	None		Stable	11	0%	None	44.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	None		Stable	0	-	None	10.5 ( <a href="#">graphs</a> )	320.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	4	0%	None	25.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	6	0%	None	74.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable	1	0%	None	7.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Stable	14	0%	None	( <a href="#">graphs</a> )	201.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	None	Low	Stable	12	0%		1.6 ( <a href="#">graphs</a> )	649.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Stable	41	0%	None	0.1 ( <a href="#">graphs</a> )	611.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Sporadic	Low	Stable	9	0%	None	9.2 ( <a href="#">graphs</a> )	390.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	None	Low	Increasing	0	-	None	45.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	Sporadic	Low	Decreasing	1	0%	None	109.9 ( <a href="#">graphs</a> )	1255.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Low	None		Stable	2	0%	None	0.0 ( <a href="#">graphs</a> )	409.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Low	None		Stable	40	0%	None	9.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Low	Sporadic		Increasing	35	2.9%	None	4.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	None		Stable	9	0%	None	16.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey					1	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ukraine	Low	None	Low	Stable	9	0%	None	3.4 * ( <a href="#">graphs</a> )	419.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Stable	22	0%	None	( <a href="#">graphs</a> )	21.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					486	0.8%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# Influenza detections in Europe still sporadic



## Summary, week 45/2012

Influenza activity in the WHO European Region remains at a pre-season level, with several countries reporting sporadic detections of influenza A(H1N1)pdm09, A(H3N2) and type-B viruses. The influenza positivity rate is relatively stable, as is usual for this time of the year. The number of hospitalizations due to severe acute respiratory infection (SARI) remains stable, with none of the cases reported this week due to influenza.

## Description of influenza surveillance

The EuroFlu bulletin describes and comments on influenza activity in the 53 countries in the WHO European Region. Most of these countries monitor influenza activity through surveillance of influenza-like illness (ILI) and/or acute respiratory infection (ARI) in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. This report collates and interprets the epidemiological and virological data provided from the different surveillance systems in the Region, to provide information to clinicians, public health specialists and the public on the timing of the influenza season, the spread of influenza in the Region, the prevalence and characteristics of circulating influenza viruses (type, subtype and lineage), and severity.



## Virological surveillance for influenza

This section describes which influenza viruses are circulating according to influenza type (A and B) and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria or B/Yamagata). Where there are sufficient data, the dominant virus type and/or subtype/lineage is shown for individual countries. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with susceptibility to antiviral drugs.

## Circulation of influenza viruses

Overall, a total of 95 specimens tested positive for influenza in week 45/2012, slightly more than in week 44/2012: 56 were type A and 39 were type B. Of the influenza A viruses, 33 were subtyped: 12 as A(H3) and 21 as A(H1)pdm09 (Fig. 1). Since week 40/2012, 311 influenza viruses from sentinel and non-sentinel sources have been typed: 206 (66%) were influenza A and 105 (34%) influenza B. Of the influenza A viruses 121 were subtyped: 64 (53%) as A(H3) and 57 (47%) as A(H1)pdm09.

Owing to the low number of viruses detected in week 45/2012 only 1 country (United Kingdom (Scotland)) reported a dominant virus, as influenza A and B, as shown in the map below.

## Virus strain characterizations

In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines (see more at [WHO](#) web site).

Since week 40/2012, 1 country (Germany) has characterized 3 influenza viruses antigenically: 2 were A(H3N2) viruses (A/Victoria/361/2011 (H3N2)-like) and 1 influenza B virus was B/Wisconsin/1/2010-like (B/Yamagata/16/88 lineage). This corresponds with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine. 2 countries (Norway and Sweden) have characterized 4 influenza viruses genetically, 1 A(H3N2), 1 A(H1N1)pdm09 and 2 influenza B viruses (Yamagata lineage). 1 A(H3N2) virus belonged to the subgroup (3C) represented by A/Victoria/361/2011 in the A/Victoria/208/2009, A(H3) clade; 1 A(H1N1)pdm09 belonged to the group (6) represented by A/St Petersburg/27/2011 in the A(H1N1)pdm09 clade; 1 influenza B virus belonged to the clade 3 represented by B/Wisconsin/1/2010 in the B(Yamagata) lineage and 1 belonged to the clade 2 represented by B/Estonia/55669/2011 in the B(Yamagata) lineage.

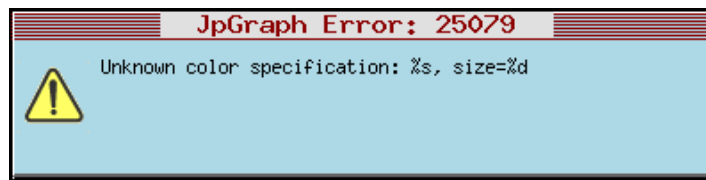
## Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 2 countries (the Netherlands and Sweden) have screened 4 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. All 3 A(H3N2) viruses and the single A(H1N1)pdm09 virus showed susceptibility to oseltamivir and zanamivir. The 3 influenza A(H3N2) viruses were screened for susceptibility to adamantanes and found to be resistant.

## Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Consultation rates for ILI and ARI continue to be low, as usual for this time of the year, throughout the WHO European Region. Only 13 of 41 countries reported sporadic geographic spread, while 7 of 40 reported increasing trends. Similar to the previous week, only 1 among 18 countries that have established epidemic thresholds (the Republic of Moldova) reported ILI/ARI consultation rates for above their national threshold. The map below presents the weekly intensity, geographic spread and trend for Europe.

The influenza-positivity rate among ILI and ARI cases from sentinel sources increased slightly, along with the number of specimens tested: 14 (2.3%) of 608 specimens tested were influenza positive. The number of specimens testing positive for influenza in weeks 40-45/2012 remains below the set cut-off for presentation, which requires at least 20 positive specimens per week (see Fig. 2).

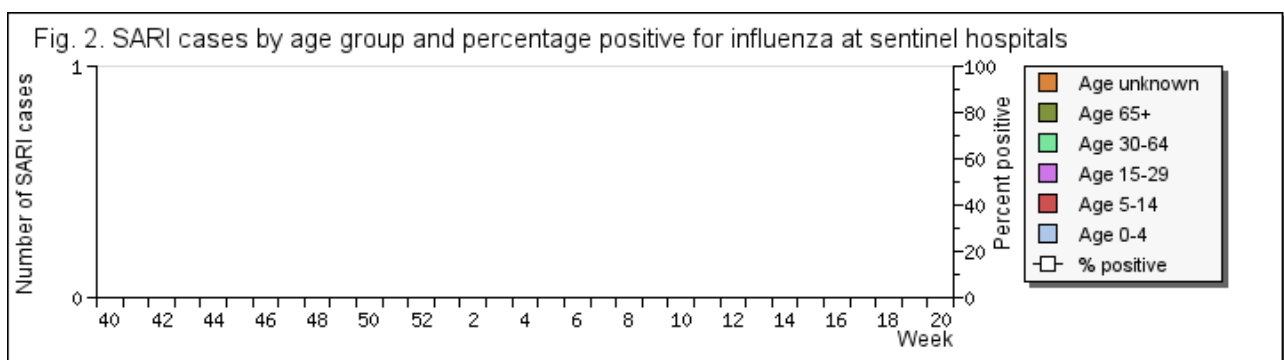


Of 608 specimens from sentinel sources, 14 tested positive for influenza A. This week 4 influenza B viruses were detected, in comparison with none last week. [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

81 specimens were reported positive for influenza: 46 were influenza A and 35 were influenza B. Of the influenza A viruses, 28 were subtyped: 7 as A(H3N2) and 21 as A(H1)pdm09.

### Hospital surveillance for SARI

Sentinel SARI hospitalization rates are still low and at pre-season levels, with most of the cases occurring in the group aged 0-4 (Fig. 3). Similar to week 44, 9 out of 11 reporting countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Serbia and Ukraine) reported hospitalizations due to SARI. None of these SARI cases was positive for influenza.



A total of 106 specimens was collected from hospitalized SARI cases in 8 countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Russian Federation, Serbia and Ukraine). [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

For the surveillance of confirmed hospitalized influenza see the Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

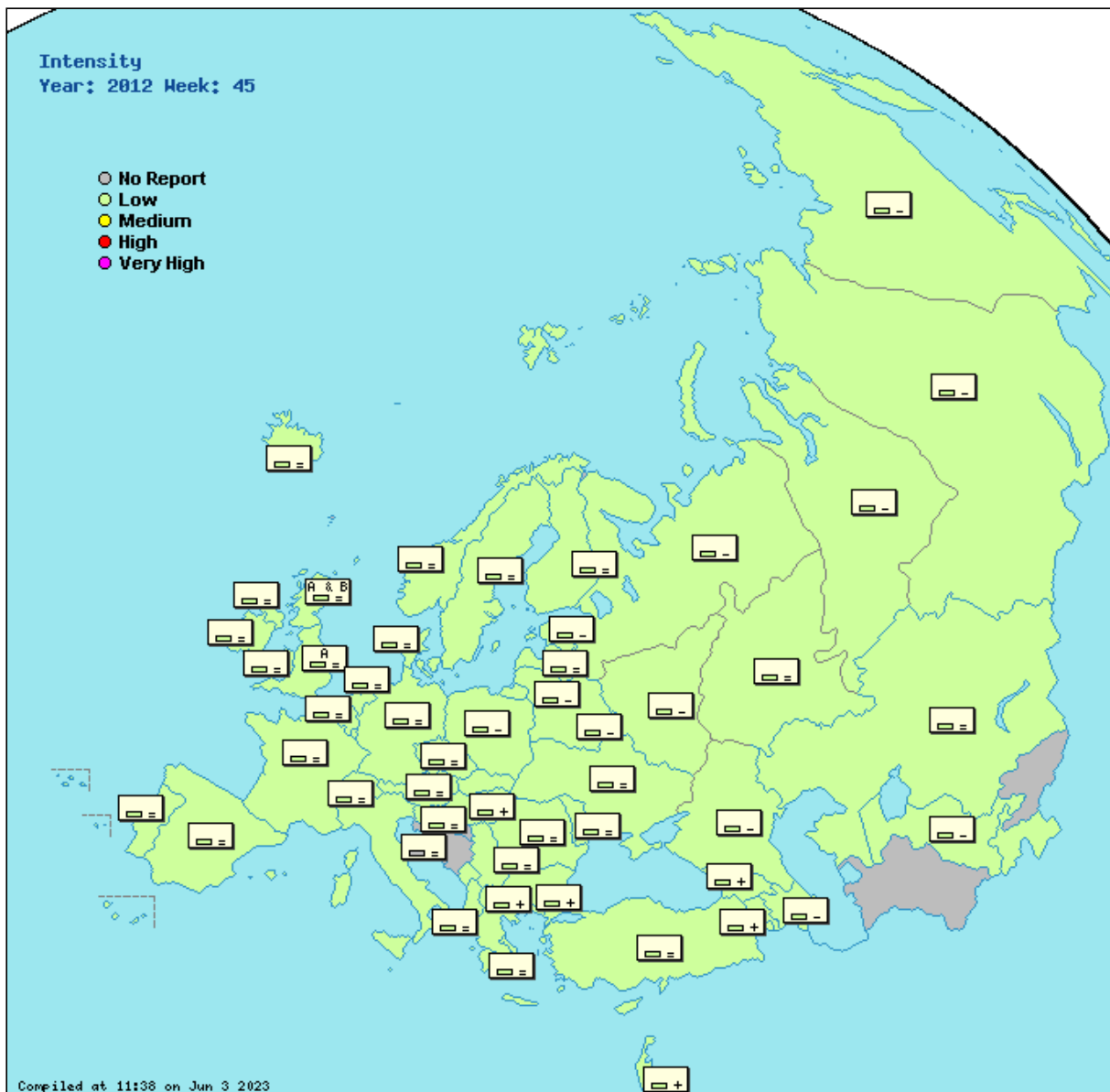
### Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map :  Intensity  + virological  Geographical spread  + virological  Impact



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**No activity** = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
**Sporadic** = isolated cases of laboratory confirmed influenza infection  
**Localized** = limited to one administrative unit of the country (or reporting site) only.  
**Regional** = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
**Widespread** = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Belgium

Four adult persons recently coming back from the Hajj in Saudi Arabia presented respiratory symptoms and were tested for respiratory viruses. Two tested positive for influenza B, one tested positive for influenza A and one was negative. Among the 4 persons was a couple with discordant results, the women testing positive for influenza A and the man testing positive for influenza B. The other persons had no epidemiologic links. No other respiratory viruses, including coronavirus, have been identified.

### Greece

During the weeks 42-44, nineteen specimens from paediatric patients with ARI in Southern Greece found negative for influenza virus, were tested for other respiratory viruses. Human rhinoviruses (n=2), human enteroviruses (n=2) and human respiratory syncytial virus type B (n=1) were detected in these specimens by molecular methods.

### Norway

Low but increasing number of influenza virus detections. A(H1)pdm09, A(H3) and B Yamagata lineage viruses appear to be circulating sporadically, in approximately equal numbers.

### Republic of Moldova

This week from 16 sentinel specimens, 2 samples were positive for RNA Parainfluenza type I and type III, respectively.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable					368.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia					1	0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	Sporadic	Low	Stable	5	20.0%	None	19.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing	2	0%	None	125.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	None	Low	Decreasing	44	0%	None	3.8 ( <a href="#">graphs</a> )	671.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	Sporadic		Stable	12	8.3%	None	58.0 ( <a href="#">graphs</a> )	1698.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Bulgaria	Low	None		Increasing	0	-	None	( <a href="#">graphs</a> )	864.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia		None		Stable				0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.8 * ( <a href="#">graphs</a> )	7.5 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Low	Sporadic		Stable	14	21.4%	None	21.8 ( <a href="#">graphs</a> )	811.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	Sporadic		Stable	8	0%	None	24.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Sporadic		Stable	45	0%	None	4.5 ( <a href="#">graphs</a> )	335.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	None		Decreasing	3	0%	None	4.0 ( <a href="#">graphs</a> )	206.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	Low	Sporadic		Stable	14	7.1%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable	62	1.6%	None	( <a href="#">graphs</a> )	1639.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	None	Low	Increasing	10	0%	None	257.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Low	Sporadic		Stable	45	4.4%	None	( <a href="#">graphs</a> )	1102.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	None		Stable	0	-	None	33.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	None	Low	Increasing	10	0%		50.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland					0	-		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ireland	Low	None	Low	Stable	5	0%	None	4.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	None	Low	Increasing	50	0%	None	5.6 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Low	None	Low	Stable				65.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	None	Low	Stable	17	0%	None	132.1 ( <a href="#">graphs</a> )	45.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					11	0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	919.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Low	None	Low	Decreasing	5	0%	None	1.8 ( <a href="#">graphs</a> )	455.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Low	None	Low		3	0%	None	0.8 * ( <a href="#">graphs</a> )	19.2 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				1.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Low	None		Stable	8	0%	None	28.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	None		Stable	0	-	None	9.6 ( <a href="#">graphs</a> )	410.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	9	22.2%	None	32.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	1	0%	None	74.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable	2	0%	None	24.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Stable	16	0%	None	( <a href="#">graphs</a> )	200.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	None	Low	Stable	12	0%		1.5 ( <a href="#">graphs</a> )	675.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Decreasing	37	0%	None	( <a href="#">graphs</a> )	532.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Sporadic	Low	Stable	17	5.9%	Type B and Type A, Subtype pH1N1	14.6 ( <a href="#">graphs</a> )	422.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	None	Low	Stable	1	0%	None	41.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	None	Low	Increasing				131.9 ( <a href="#">graphs</a> )	1343.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Low	None		Stable	1	0%	None	0.0 ( <a href="#">graphs</a> )	818.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Low	Sporadic		Increasing	69	1.5%	None	17.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Low	Sporadic		Increasing	34	0%	None	1.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	None		Stable	8	0%	None	19.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey					8	12.5%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ukraine	Low	None	Low	Stable	5	0%	None	3.7 * ( <a href="#">graphs</a> )	432.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Decreasing	12	0%	None	( <a href="#">graphs</a> )	20.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Wales	Low	None		Stable	2	0%		3.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					608	2.3%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and](#)



[Control.](#)

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EuroFlu : Weekly Electronic Bulletin

# Influenza activity remains at pre-seasonal levels in the WHO European Region



## Summary, week 46/2012

Levels of influenza activity in the Region remain low, with co-circulation of influenza A(H1N1)pdm09, A(H3N2) and type B viruses reported by countries this week. The number of specimens testing positive for influenza is typical for this time of the year and comparable with previous seasons. The number of hospitalizations due to severe acute respiratory infection (SARI) was similar to that in the previous week, with only 1 case testing positive for influenza B.



### Description of influenza surveillance

The EuroFlu bulletin describes and comments on influenza activity in the 53 countries in the WHO European Region. Most of these countries monitor influenza activity through surveillance of influenza-like illness (ILI) and/or acute respiratory infection (ARI) in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza, which may not use a standard case definition for ILI, ARI or SARI. This report collates and interprets the epidemiological and virological data provided from the different surveillance systems in the Region, to provide information to clinicians, public health specialists and the public on the timing of the influenza season, the spread of influenza in the Region, the prevalence and characteristics of circulating influenza viruses (type, subtype/lineage, antigenic and genetic properties), and severity in terms of numbers of confirmed cases, geographic spread, disease caused and impact on health systems.

### Virological surveillance for influenza

This section describes which influenza viruses are circulating according to influenza type (A and B) and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria or B/Yamagata). Overall, a total of 108 specimens tested positive for influenza in week 46/2012: 60 were type A and 48 were type B. Of the influenza A viruses, 30 were subtyped: 16 as A(H3N2) and 14 as A(H1N1)pdm09 (Fig. 1). Since week 40/2012, 440 influenza viruses from sentinel and non-sentinel sources have been typed: 278 (63%) were influenza A and 162 (37%) influenza B. Of the influenza A viruses 165 were subtyped: 90 (55%) as A(H3N2) and 75 (45%) as A(H1N1)pdm09.

Similar to previous weeks, owing to the low number of viruses detected in week 46/2012, no country reported a dominant virus, as shown in the map below.

### Virus strain characterizations

Influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with susceptibility to antiviral drugs. In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines (see more at [WHO](#) web site).

### Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 1 country (Germany) has characterized 7 influenza viruses antigenically (Fig. 4). This corresponds with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine. 5 countries (Finland, Germany, Norway, Portugal, Sweden) have characterized 18 influenza viruses genetically (Fig. 5).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)  
weeks 40/2012 - 46/2012  
[Total N = 21]



<span style="color: pink;">■</span>	A(H1)pdm09 A/California/7/2009 (H1N1)-like*# [2]
<span style="color: red;">■</span>	A(H3) A/Perth/16/2009 (H3N2)-like [0]
<span style="color: purple;">■</span>	A(H3) A/Victoria/361/2011 (H3N2)-like*# [14]
<span style="color: blue;">■</span>	B/Florida/4/2006-like (B/Yamagata/16/88 lineage) [0]
<span style="color: green;">■</span>	B/Estonia/55669/2011-like (B/Yamagata/16/88 lineage)*# [2]
<span style="color: cyan;">■</span>	B/Wisconsin/1/2010-like (B/Yamagata/16/88 lineage)*# [1]
<span style="color: limegreen;">■</span>	B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) [2]

(1) Sentinel and non-sentinel specimens combined

Compiled at 11:39 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

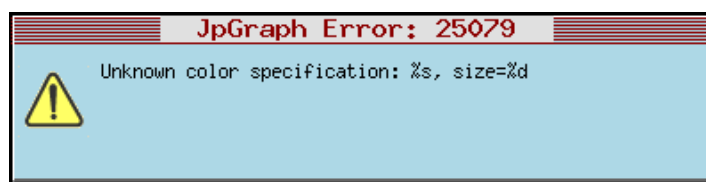
### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 2 countries (the Netherlands and Sweden) have screened 4 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. All 3 A(H3N2) viruses and the single A(H1N1)pdm09 virus showed susceptibility to oseltamivir and zanamivir. The 3 influenza A(H3N2) viruses were screened for susceptibility to adamantanes and found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Consultation rates for ILI and ARI remain at low levels throughout the WHO European Region. 29 out of 42 countries reported no influenza activity, and only 8 of 41 reported increasing trends. The Republic of Moldova is still the only country, among 18 with established epidemic thresholds, that reported ILI/ARI consultation rates above its national threshold. The map below presents the weekly intensity, geographic spread and trend for Europe.

The influenza-positivity rate among ILI and ARI cases, as well as the number of specimens tested from sentinel sources, is relatively stable and similar to the previous week: 15 (2.4%) of 628 specimens tested were influenza positive. The number of specimens testing positive for influenza in weeks 40-46/2012 remains below the set cut-off for presentation, which requires at least 20 positive specimens per week (see Fig. 2).

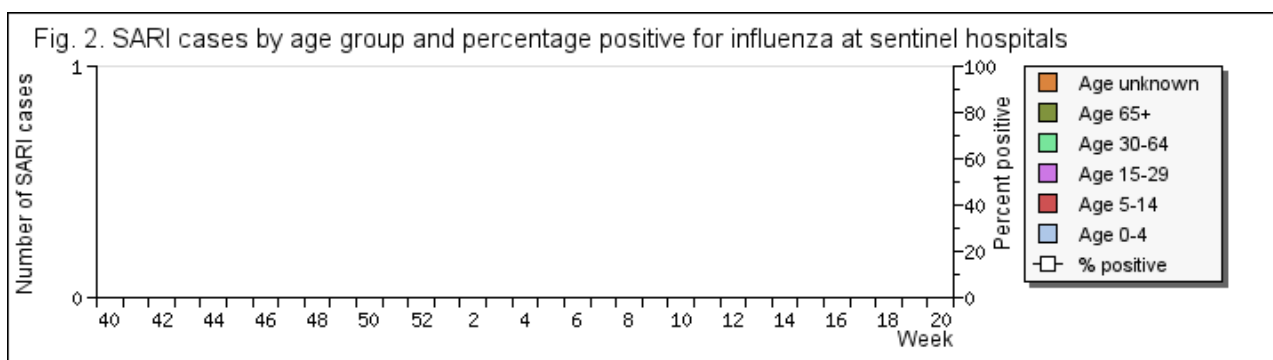


Of 628 specimens from sentinel sources, 8 tested positive for influenza A and 7 for influenza B [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

93 specimens were reported positive for influenza: 52 were influenza A and 41 were influenza B. Of the influenza A viruses, 23 were subtyped: 10 as A(H3N2) and 13 as A(H1)pdm09

### Hospital surveillance for SARI

This week, 10 countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Romania, Russian Federation, Serbia and Ukraine) reported on hospitalizations due to SARI. Sentinel SARI hospitalizations remain low and at pre-season levels, with a slight increase in the number of samples tested. Most of the cases have occurred in the group aged 0-4 years (Fig. 3). 1 SARI case reported by Serbia was positive for influenza B, yielding an influenza-positivity rate of 0.8% this week.



In week 46, 127 specimens were collected from hospitalized SARI cases in 9 countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Romania, Russian Federation, Serbia and Ukraine). [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

For the surveillance of confirmed hospitalized influenza see the Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

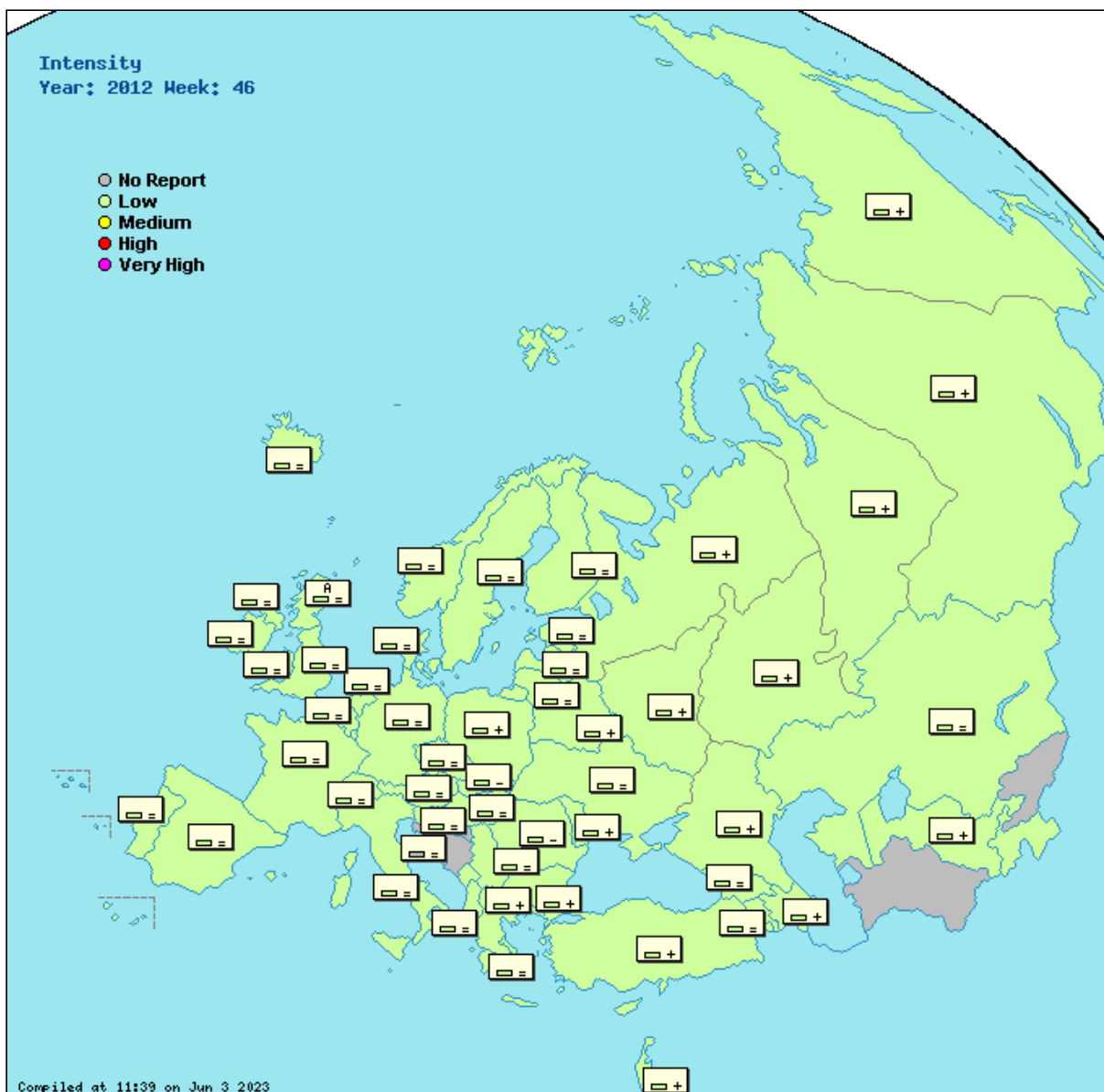
### Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + **virological**  **Geographical spread**  + **virological**  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

No activity = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
Sporadic = isolated cases of laboratory confirmed influenza infection  
Localized = limited to one administrative unit of the country (or reporting site) only.  
Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Norway

Moderate and increasing number of influenza virus detections. A(H1)pdm09, A(H3) and B Yamagata lineage viruses appear to be circulating sporadically, in approximately equal numbers. However, influenza B (Yamagata lineage) seems to be emerging as the most numerous although not yet fulfilling the criteria for predominance.

### Republic of Moldova

In the 46th week from 15 sentinel specimens, 2 samples were positive for RNA RSV and 4 sample - positive for DNA Adenovirus.

## Table and graphs (where available)

Intensity Geographic Impact Trend Sentinel Percentage Dominant ILI per ARI per Sentinel Virology graph

		Spread			swabs	positive	type	100,000	100,000	SARI	and pie chart
Albania	Low	None	Low	Stable				379.7 ( <a href="#">graphs</a> )		<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Low	None	Low	Stable	0	-	None	( <a href="#">graphs</a> )	0.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	None	Low	Stable	3	0%	None	19.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	0	-	None	223.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	None	Low	Increasing	18	0%	None	4.1 ( <a href="#">graphs</a> )	950.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	Sporadic		Stable	11	0%	None	76.1 ( <a href="#">graphs</a> )	1682.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina							None	27.2 ( <a href="#">graphs</a> )	67.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	None		Increasing	0	-	None	( <a href="#">graphs</a> )	1024.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia		None		Stable			None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				1.8 * ( <a href="#">graphs</a> )	10.3 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Low	Sporadic		Stable	16	6.3%	None	23.9 ( <a href="#">graphs</a> )	872.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	Sporadic		Stable	2	50.0%	None	20.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Sporadic		Stable	63	4.8%	None	6.9 ( <a href="#">graphs</a> )	353.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	None		Stable	5	0%	None	4.5 ( <a href="#">graphs</a> )	221.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	Low	Sporadic		Stable	11	9.1%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable	73	1.4%	None	( <a href="#">graphs</a> )	1400.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	None	Low	Stable	26	0%	None	249.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Low	Sporadic		Stable	58	3.5%	None	( <a href="#">graphs</a> )	1046.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	None		Stable	0	-	None	37.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	None	Low	Stable				52.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland	Low	Sporadic	Low	Stable				3.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	None	Low	Stable	3	0%	None	3.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	None	Low	Increasing	44	2.3%	None	6.9 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Low	None	Low	Stable	12	0%		82.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	None	Low	Decreasing	8	0%	None	119.5 ( <a href="#">graphs</a> )	19.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					14	0%	None	20.1 ( <a href="#">graphs</a> )	40.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	971.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Low	None	Low	Stable	2	0%	None	1.5 ( <a href="#">graphs</a> )	459.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Low	Sporadic	Low		4	25.0%	None	0 * ( <a href="#">graphs</a> )	21.9 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				2.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Low	None		Stable	4	0%	None	37.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	None		Stable	1	0%	None	9.5 ( <a href="#">graphs</a> )	387.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	6	0%	None	30.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Increasing	5	0%	None	84.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable	4	25.0%	None	27.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Increasing	15	0%	None	( <a href="#">graphs</a> )	223.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	None	Low	Decreasing	11	0%		1.6 ( <a href="#">graphs</a> )	632.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	None		Increasing	36	0%	None	0.1 ( <a href="#">graphs</a> )	592.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Sporadic	Low	Stable	21	4.8%	None	9.8 ( <a href="#">graphs</a> )	411.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	None	Low	Stable	4	0%	None	38.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	None	Low	Decreasing	5	0%	None	116.8 ( <a href="#">graphs</a> )	1355.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia					3	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Spain	Low	Sporadic		Stable	56	3.6%	None	16.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Low	Sporadic		Stable	39	0%	None	4.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	None		Stable	8	0%	None	17.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey					22	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ukraine	Low	None	Low	Stable	5	0%	None	3.5 * ( <a href="#">graphs</a> )	447.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing	9	0%	None	0.1 ( <a href="#">graphs</a> )	22.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Wales	Low	None		Stable	1	0%	None	2.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					628	2.4%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# Generally low influenza activity in Europe, but more countries reporting increasing ILI or ARI rates



EUROPE



## Summary, week 47/2012

Levels of influenza activity in the WHO European Region remain low, but more countries are reporting increasing rates of influenza-like illness (ILI) and/or acute respiratory infection (ARI) than in the previous week. Sporadic detections of influenza A(H1N1)pdm09, A(H3N2) and type B continue to be reported, almost exclusively in the north-western part of the Region. The number of hospitalizations due to severe acute respiratory infection (SARI) is stable, with very few cases testing positive for influenza to date.

### Description of influenza surveillance

The EuroFlu bulletin describes and comments on influenza activity in the 53 countries in the WHO European Region. Most of these countries monitor influenza activity through surveillance of influenza-like illness (ILI) and/or acute respiratory infection (ARI) in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza, which may not use a standard case definition for ILI, ARI or SARI. This report collates and interprets the epidemiological and virological data provided from the different surveillance systems in the Region, to provide information to clinicians, public health specialists and the public on the timing of the influenza season, the spread of influenza in the Region, the prevalence and characteristics of circulating influenza viruses (type, subtype/lineage, antigenic and genetic properties), and severity in terms of numbers of confirmed cases, geographic spread, disease caused and impact on health systems.

### Virological surveillance for influenza

This section describes which influenza viruses are circulating according to influenza type (A and B) and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria or B/Yamagata). Overall, a total of 143 specimens tested positive for influenza in week 47/2012: 77 (54%) were type A and 66 (46%) type B. Of the influenza A viruses 41 were subtyped: 28 as A(H3N2) and 13 as A(H1N1)pdm09 (Fig. 1). Since week 40/2012, 637 influenza viruses from sentinel and non-sentinel sources have been typed: 389 (61%) were influenza A and 248 (39%) influenza B. Of the influenza A viruses 237 were subtyped: 139 (59%) as A(H3N2) and 98 (41%) as A(H1N1)pdm09. Based on data reported since week 40, influenza virus circulation is largely confined to the north-western part of the Region.

Owing to the low number of viruses detected this week in most countries, only 2 reported on dominant virus type (Norway (influenza B) and Ukraine (influenza A)), as shown in the map below.

### Virus strain characterizations

Influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with susceptibility to antiviral drugs. In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines (see more at [WHO](#) web site).

### Virus strain characterizations

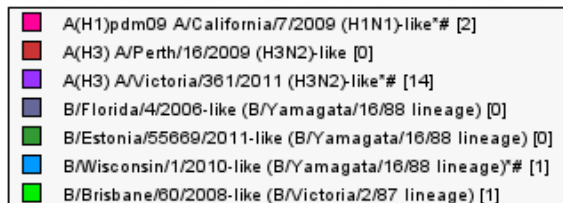
Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 2 countries (the United Kingdom (England), Germany) have characterized 13 influenza viruses antigenically (Fig. 4). 6 countries (Finland, Germany, Norway, Portugal, Spain, Sweden) have characterized 24 influenza viruses genetically (Fig. 5).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 47/2012

[Total N = 18]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:39 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).  
\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

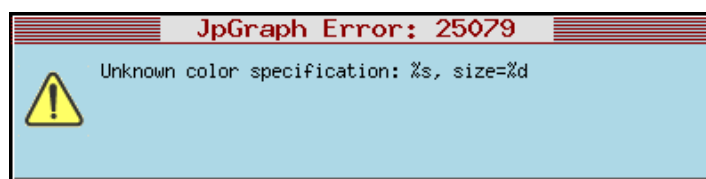
### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 3 countries (Germany, the Netherlands and Sweden) have screened 15 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. All 9 influenza A(H3N2), 3 A(H1N1)pdm09 viruses and 3 influenza B viruses showed susceptibility to oseltamivir and zanamivir. The 7 influenza A(H3N2) and 2 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

In general, consultation rates for ILI and ARI are still at low levels in the Region, with 26 out of 42 countries reporting no influenza activity, and 12 out of 40 reporting increasing trends. The map below presents the weekly intensity, geographic spread and trend for Europe.

The influenza-positivity rate among ILI and ARI cases remains low, with 22 (2.9%) of 758 specimens testing positive for influenza (Fig 2).

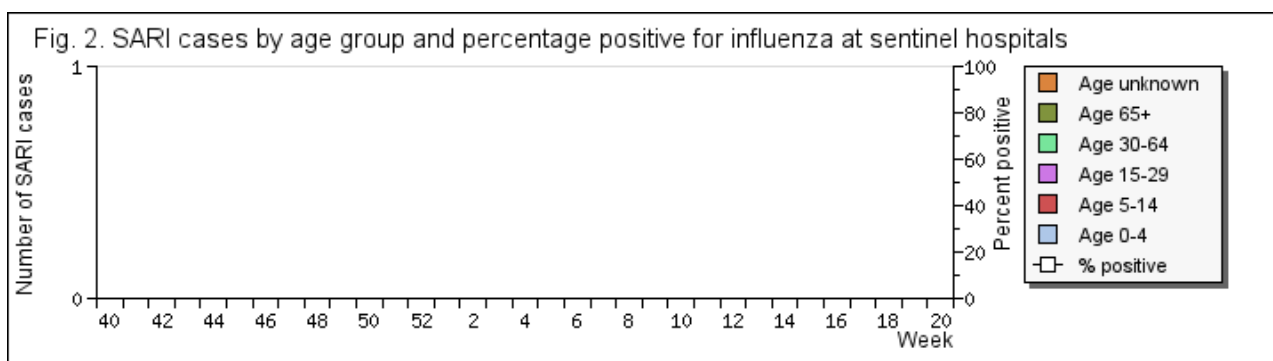


Of 758 specimens from sentinel sources, 10 were positive for influenza A (2 A(H1N1)pdm09 and 8 A(H3N2)) and 12 for influenza B. [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

From non-sentinel samples, 121 specimens were reported positive for influenza: 67 (55%) were influenza A and 54 (45%) were influenza B. Of the influenza A viruses, 31 were subtyped: 20 as A(H3N2) and 11 as A(H1N1)pdm09

### Hospital surveillance for SARI

Similar to week 46, 10 countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Romania, Russian Federation, Serbia and Ukraine) reported low levels of hospitalizations due to SARI this week. Most of the cases have occurred in the group aged 0-4 years (Fig. 3). Two SARI cases, reported by Kyrgyzstan and the Russian Federation, were positive for influenza B.



In week 47, 122 specimens were collected from hospitalized SARI cases in 8 countries (Belarus, Georgia, Kazakhstan, Kyrgyzstan, Romania, Russian Federation, Serbia and Ukraine). Only 2 tested positive; both were influenza B. [Click here](#) for a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

For the countries reporting to the European Centre for Disease Prevention and Control (ECDC) on severe influenza in hospitals, no positive cases were reported this week. For the surveillance of confirmed hospitalized influenza see the Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

**'Erratum: The ARI rates for the Republic of Moldova for the past four weeks are not correct. The actual ARI rates remain below the threshold'.**

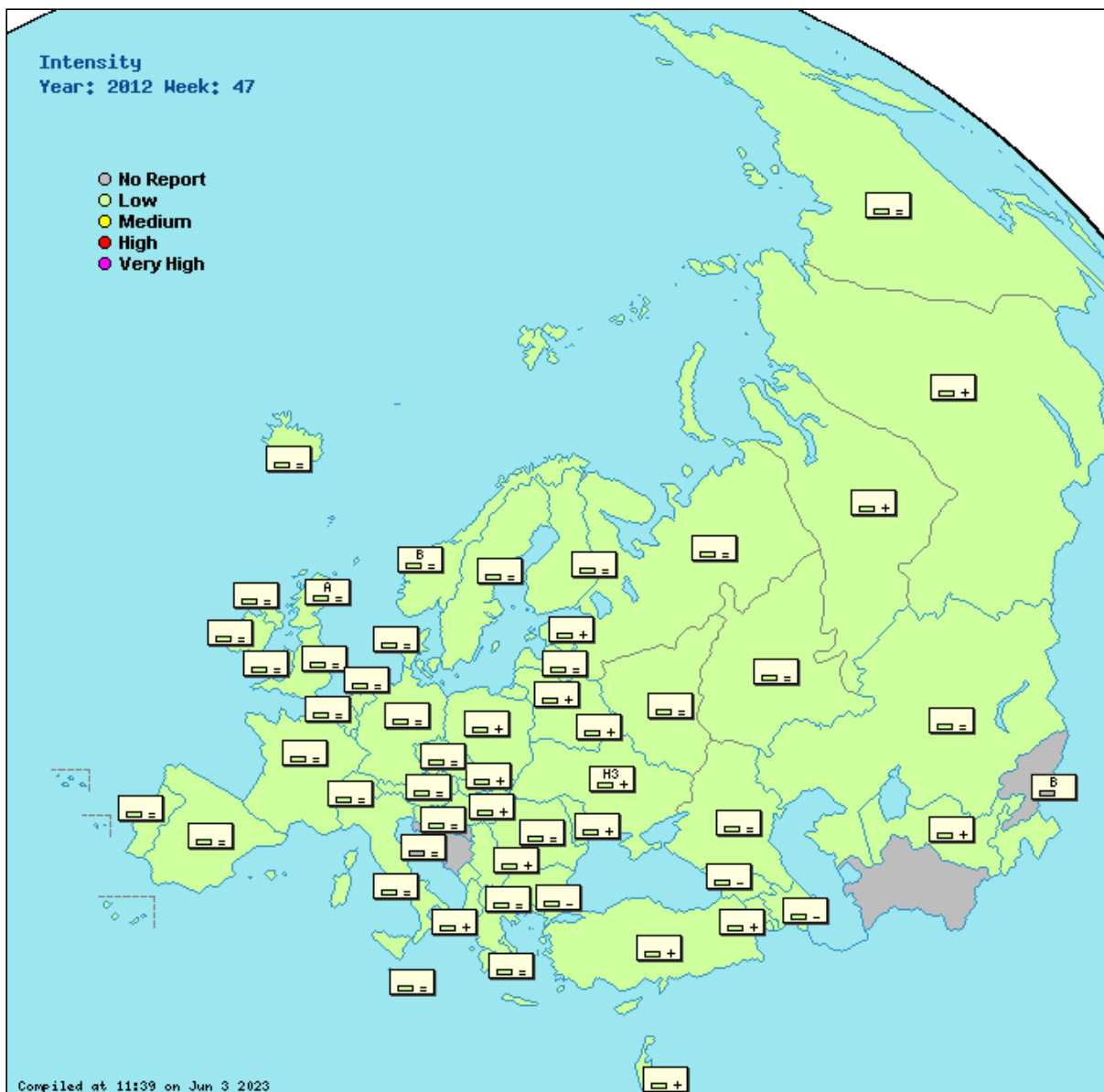
### Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + virological  **Geographical spread**  + virological  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

No activity = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
Sporadic = isolated cases of laboratory confirmed influenza infection  
Localized = limited to one administrative unit of the country (or reporting site) only.  
Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Denmark

The majority of samples tested positive for influenza A and B in Denmark so far have come from travellers returning from the Middle East.

### Norway

Moderate and increasing number of influenza virus detections. A(H1)pdm09, A(H3) and B Yamagata lineage viruses are circulating sporadically, with influenza B (Yamagata lineage) starting to emerge as the most predominant.

### Republic of Moldova

In the 47th week 15 sentinel samples were tested: 2 specimens were positive for both DNA Adenovirus and RNA hRSV; 1 sample was positive for both DNA Adenovirus and RNA Parainfluenza virus type 2; 5 samples were positive for DNA



Adenovirus and 1 sample positive for RNA Parainfluenza virus type 3. Influenza viruses were not detected in any of the tested specimens.

**Spain**

From week 40/2012 452 sentinel specimens have been tested for influenza. From them 9 were positive for influenza B virus and 1 for influenza C. No viruses A have been identified so far in Spain. There is a sporadic circulation of B influenza virus (mainly at the North of Spain) and one of them has been genetically characterized as B Yamagata lineage virus (clade B/Wisconsin/1/2010)

**Table and graphs (where available)**

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Armenia	Low	None	Low	Increasing	0	-	None		100.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	None	Low	Stable	6	0%	None	19.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing	0	-	None	161.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	None	Low	Increasing	31	0%	None	5.1 ( <a href="#">graphs</a> )	1011.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	Sporadic		Stable	12	8.3%	None	64.8 ( <a href="#">graphs</a> )	1721.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina							None	35.3 ( <a href="#">graphs</a> )	76.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	None		Decreasing	0	-	None	( <a href="#">graphs</a> )	985.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia		None		Stable			None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.7 * ( <a href="#">graphs</a> )	6.6 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Low	Sporadic		Stable	11	0%	None	26.7 ( <a href="#">graphs</a> )	920.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	Sporadic		Stable	2	0%	None	14.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Sporadic		Stable	68	2.9%	None	7.9 ( <a href="#">graphs</a> )	356.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	Sporadic		Increasing	5	0%	None	7.0 ( <a href="#">graphs</a> )	247.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	Low	Sporadic		Stable	21	4.8%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable	78	7.7%	None	( <a href="#">graphs</a> )	1626.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	None	Low	Decreasing	13	0%	None	176.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany					78	2.6%	None	( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	None		Stable	0	-	None	54.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	None	Low	Increasing	17	0%	None	58.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland	Low	Sporadic	Low	Stable	0	-	None	2.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	None	Low	Stable	8	12.5%	None	8.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	None	Low	Increasing	58	1.7%	None	7.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Italy	Low	None	Low	Stable	16	0%	None	91.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	None	Low	Stable	10	0%	None	130.1 ( <a href="#">graphs</a> )	26.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					7	0%	None	( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia					0	-	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Lithuania	Low	None	Low	Increasing	5	0%	None	2.0 ( <a href="#">graphs</a> )	510.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Low	None	Low		16	0%	None	1.6 * ( <a href="#">graphs</a> )	20.4 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Malta	Low	Local	Low	Stable				0.9 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				2.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Low	None		Stable	10	20.0%	None	29.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	Sporadic		Stable	3	0%	None	10.5 ( <a href="#">graphs</a> )	444.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	6	0%	Type B	32.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Increasing	13	0%	None	110.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable	6	0%	None	4.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Increasing	15	0%	None	( <a href="#">graphs</a> )	244.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	None	Low	Stable	12	0%		2.1 ( <a href="#">graphs</a> )	656.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Stable	41	0%	None	0.1 ( <a href="#">graphs</a> )	621.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Sporadic	Low	Stable	24	0%	None	9.7 ( <a href="#">graphs</a> )	412.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	None	Low	Increasing	4	0%	None	48.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	None	Low	Increasing	5	0%	None	131.5 ( <a href="#">graphs</a> )	1414.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Low	None		Stable	11	0%	None	1.3 ( <a href="#">graphs</a> )	942.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Low	Sporadic		Stable	59	1.7%	None	14.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Low	Sporadic		Stable	24	0%	None	2.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	None		Stable	14	0%	None	15.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey					44	11.4%	None	247.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Low	Sporadic	Low	Increasing	5	0%	Type A, Subtype H3	3.2 * ( <a href="#">graphs</a> )	485.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing			None	( <a href="#">graphs</a> )	24.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					758	2.9%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# Sporadic influenza detections largely restricted to countries in western Europe



## Summary, week 48/2012

Influenza activity in the WHO European Region remains at a pre-season level, with countries reporting sporadic detections of influenza viruses predominantly in western Europe. Influenza B was detected in more than half of the cases testing positive for influenza this week. The number of hospitalizations due to severe acute respiratory infection (SARI) remains stable, with 1 case related to influenza A reported this week.



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

Overall, a total of 187 specimens tested positive for influenza in week 48/2012: 90 were type A and 97 were type B. Of the influenza A viruses, 39 were subtyped: 17 as A(H3N2) and 22 as A(H1N1)pdm09 (Fig. 1).

Based on the data reported by countries this week, there is currently no clear pattern of circulation or dominance of influenza A and influenza B viruses in the Region (Map 1). Since week 40/2012, 868 influenza viruses from sentinel and non-sentinel sources have been typed: 509 (59%) were influenza A and 359 (41%) influenza B. Of the influenza A viruses 298 were subtyped: 170 (57%) as A(H3N2) and 128 (43%) as A(H1N1)pdm09 (Fig 2).

Owing to the low number of viruses detected in week 48/2012, only 1 country (United Kingdom) reported a dominant virus: influenza A and B in Scotland and influenza B in Wales, as shown on the map.

## Virus strain characterizations

In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines (see more at [WHO](#) web site).

### Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 4 countries (Denmark, the United Kingdom (England), Germany, Romania) have characterized 32 influenza viruses antigenically ([Fig. 3](#)). 7 countries (Denmark, Finland, Germany, Norway, Portugal, Spain, Sweden) have characterized 48 influenza viruses genetically ([Fig. 4](#)).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 48/2012

[Total N = 38]



■	A(H1)pdm09 A/California/7/2009 (H1N1)-like*# [4]
■	A(H3) A/Perth/16/2009 (H3N2)-like [0]
■	A(H3) A/Victoria/361/2011 (H3N2)-like*# [22]
■	B/Florida/4/2006-like (B/Yamagata/16/88 lineage) [0]
■	B/Estonia/55669/2011-like (B/Yamagata/16/88 lineage) [3]
■	B/Wisconsin/1/2010-like (B/Yamagata/16/88 lineage)*# [9]
■	B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) [0]

(1) Sentinel and non-sentinel specimens combined

Compiled at 11:40 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

## Monitoring of susceptibility to antiviral drugs

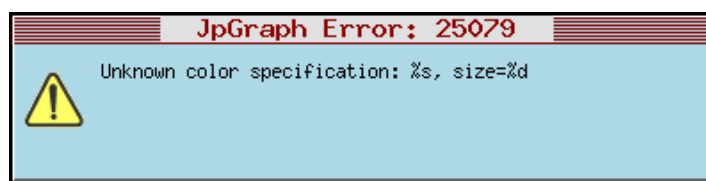
Since week 40/2012, 4 countries (Germany, the Netherlands, Sweden and the United Kingdom) have screened 34 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. All 9 influenza A(H3N2), 21 A(H1N1)pdm09 viruses and 4 influenza B viruses showed susceptibility to oseltamivir and zanamivir. The 7 influenza A(H3N2) and 2 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Consultation rates for ILI and ARI continue to be low (Map 2), as usual for this time of the year, throughout the WHO European Region. 24 out of 43 countries reported no geographic spread (Map 3), while 8 of 44 reported increasing trends (Map 4). Only 1 country among 18 that have established epidemic thresholds (the Russian Federation) reported that ILI/ARI consultation rates had reached the national threshold level.

Click on the maps for more detailed information.

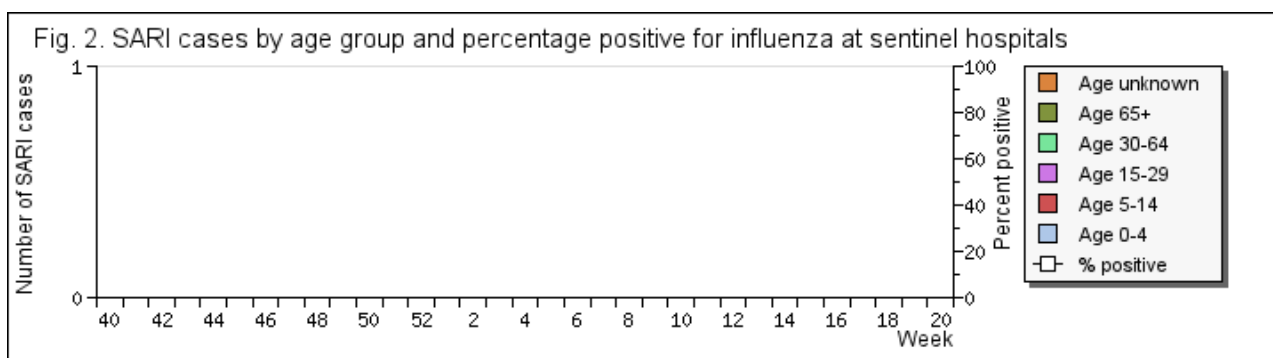
The influenza-positivity rate among ILI and ARI cases from sentinel sources increased slightly, along with the number of specimens tested: 6.4% of 761 specimens tested were influenza positive (Fig. 5).



Of 761 specimens from sentinel sources, 17 tested positive for influenza A and 32 for influenza B (Fig. 6a). Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

### Hospital surveillance for SARI

Sentinel SARI hospitalization rates are still low and at pre-season levels, with most cases occurring in the group aged 0-4 years (Fig. 7). 10 out of 11 reporting countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Romania, Russian Federation, Serbia and Ukraine) reported hospitalizations due to SARI. Reported by Ukraine, 1 SARI case was positive for influenza A(H1)pdm09.



A total of 137 specimens was collected from hospitalized SARI cases in 8 countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Russian Federation, Romania and Ukraine). Fig. 8b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012.

For the countries reporting to the European Centre for Disease Prevention and Control (ECDC) on severe influenza in hospitals, no positive cases were reported this week.

For the surveillance of confirmed hospitalized influenza see the Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](http://ecdc.europa.eu/en/wiso) web site.

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

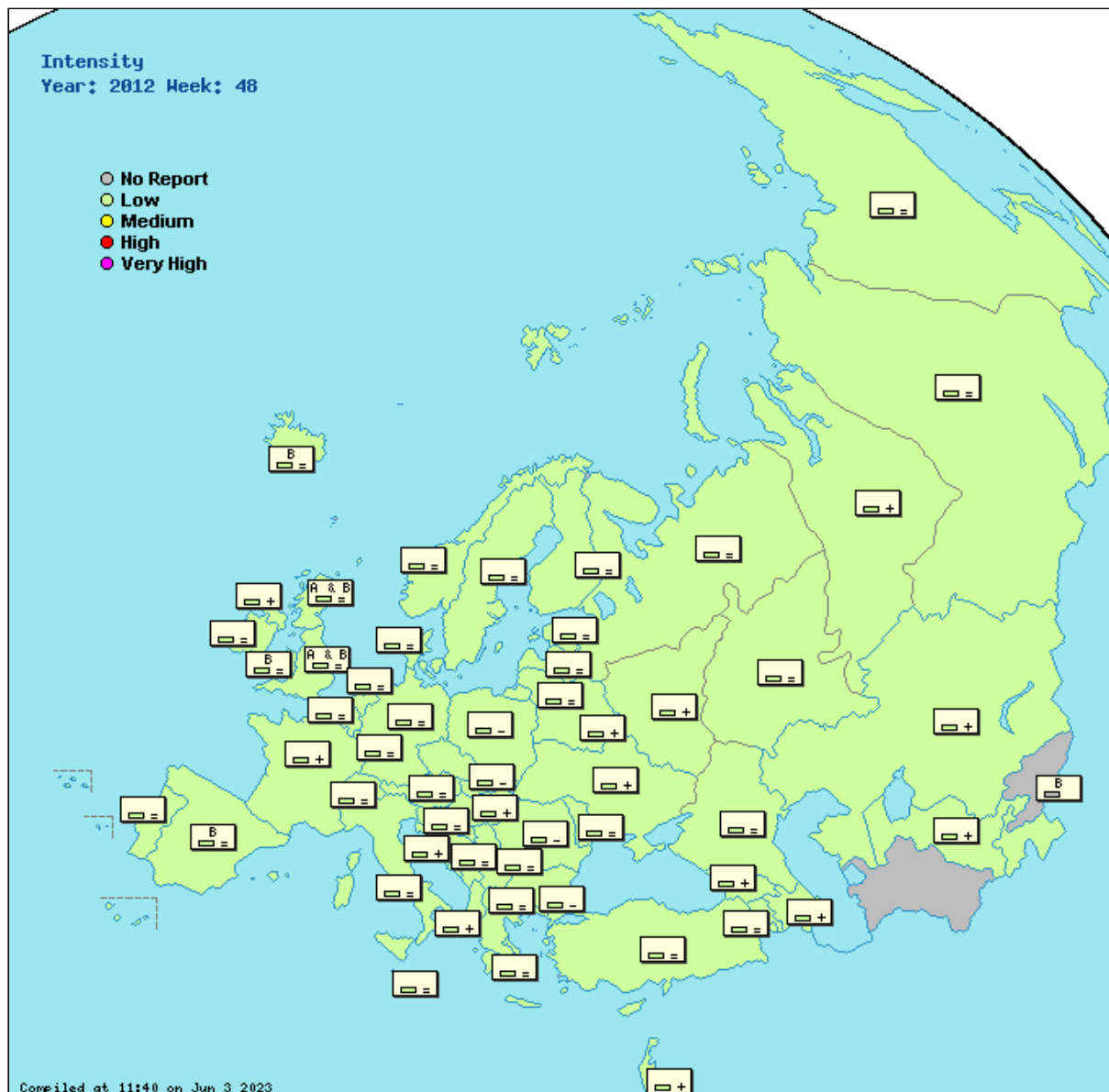
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

No activity = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
Sporadic = isolated cases of laboratory confirmed influenza infection  
Localized = limited to one administrative unit of the country (or reporting site) only.  
Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Norway

Moderate and increasing number of influenza virus detections. A(H1)pdm09, A(H3) and B Yamagata lineage viruses are circulating sporadically, with influenza B (Yamagata lineage) slightly more predominant than the others.

### Republic of Moldova

In the 48th week 17 sentinel samples were tested: 1 sample was positive for both DNA Adenovirus and RNA Parainfluenza virus type 3; 1 sample was positive for DNA Adenovirus and 4 samples positive for RNA hRSV. Influenza

viruses were not detected in any of the tested specimens.

## Spain

From week 40/2012 520 sentinel specimens have been tested for influenza. From them 15 were positive for influenza B virus and 1 for influenza C. No viruses A have been identified so far in Spain. There is a sporadic circulation of B influenza virus and 7 of them has been genetically characterized as B Yamagata lineage virus (6 belonged to B/Estonia/55669/2011 and 1 belonged to B/Wisconsin/1/2010)

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Armenia	Low	None	Low	Stable	0	-	None		(graphs)	sari	<a href="#">Click here</a>
Austria	Low	None	Low	Stable	8	0%	None	19.9 (graphs)	(graphs)		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	4	0%	None	168.1 (graphs)	(graphs)		<a href="#">Click here</a>
Belarus	Low	None	Low	Increasing	29	0%	None	7.5 (graphs)	1075.9 (graphs)	sari	<a href="#">Click here</a>
Belgium	Low	Sporadic		Stable	10	10.0%	None	84.9 (graphs)	2100.7 (graphs)	sari	<a href="#">Click here</a>
Bosnia and Herzegovina	Low	None	Low	Stable			None	31.3 (graphs)	97.7 (graphs)		<a href="#">Click here</a>
Bulgaria	Low	None		Decreasing	0	-	None	(graphs)	962.9 (graphs)		<a href="#">Click here</a>
Croatia	Low	None	Low	Increasing			None	0.0 (graphs)	(graphs)		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable			None	0.6 * (graphs)	6.4 * (graphs)		<a href="#">Click here</a>
Czech Republic	Low	Sporadic		Stable			None	31.4 (graphs)	949.2 (graphs)		<a href="#">Click here</a>
Denmark	Low	Sporadic		Stable	4	50.0%	None	31.6 (graphs)	(graphs)		<a href="#">Click here</a>
England	Low	Sporadic		Stable	69	21.7%	None	9.5 (graphs)	389.3 (graphs)		<a href="#">Click here</a>
Estonia	Low	Sporadic		Stable	2	0%	None	6.0 (graphs)	272.9 (graphs)		<a href="#">Click here</a>
Finland	Low	Sporadic		Stable	12	0%	None	0.0 (graphs)	(graphs)		<a href="#">Click here</a>
France	Low	Sporadic	Low	Increasing	97	11.3%	None	(graphs)	1871.3 (graphs)		<a href="#">Click here</a>
Georgia	Low	Sporadic	Low	Increasing	4	0%	None	220.6 (graphs)	(graphs)	sari	<a href="#">Click here</a>
Germany	Low	Sporadic		Stable	88	6.8%	None	(graphs)	1105.7 (graphs)		<a href="#">Click here</a>
Greece	Low	None		Stable	0	-	None	69.9 (graphs)	(graphs)		<a href="#">Click here</a>
Hungary					15	0%	None	(graphs)			<a href="#">Click here</a>
Iceland	Low	Sporadic	Low	Stable	0	-	None	2.2 (graphs)	(graphs)		<a href="#">Click here</a>
Ireland	Low	None	Low	Stable	9	11.1%	None	6.6 (graphs)	(graphs)		<a href="#">Click here</a>
Israel	Low	None	Low	Increasing	48	0%	None	8.1 (graphs)			<a href="#">Click here</a>
Italy	Low	None	Low	Stable	19	10.5%	None	104.7 (graphs)	(graphs)		<a href="#">Click here</a>
Kazakhstan	Low	None	Low	Increasing	14	0%	None	149.4 (graphs)	35.2 (graphs)	sari	<a href="#">Click here</a>
Kyrgyzstan					1	100.0%	None		(graphs)	sari	<a href="#">Click here</a>
Latvia	Low	Sporadic		Stable			None	0.0 (graphs)	1031.0 (graphs)		<a href="#">Click here</a>
Lithuania	Low	None	Low	Stable	3	0%	None	1.9 (graphs)	511.4 (graphs)		<a href="#">Click here</a>
Luxembourg	Low	None	Low		8	0%	None	1.0 * (graphs)	26.2 * (graphs)		<a href="#">Click here</a>
Malta	Low	Local	Low	Stable	0	-	None	1.0 * (graphs)	0 * (graphs)		<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable			None	1.3 (graphs)	(graphs)		<a href="#">Click here</a>
Netherlands	Low	Sporadic		Stable	3	33.3%	None	32.4 (graphs)	(graphs)		<a href="#">Click here</a>
Northern Ireland	Low	None		Increasing	3	0%	None	12.1 (graphs)	466.1 (graphs)		<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	8	25.0%	None	29.6 (graphs)	(graphs)		<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	11	0%	None	91.6 (graphs)	(graphs)		<a href="#">Click here</a>
Portugal	Low	None		Stable	3	0%	None	16.0 (graphs)	(graphs)		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Stable	17	0%	None	0 * (graphs)	0.1 * (graphs)	sari	<a href="#">Click here</a>
Romania	Low	None	Low	Decreasing	11	0%	None	1.9 (graphs)	550.9 (graphs)	sari	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Stable	63	0%	None	0.1 (graphs)	662.5 (graphs)	sari	<a href="#">Click here</a>
Scotland	Low	Sporadic	Low	Stable	38	5.3%	Type A and B	8.1 (graphs)	448.0 (graphs)		<a href="#">Click here</a>
Serbia	Low	None	Low	Stable	5	0%	None	45.0 (graphs)	(graphs)	sari	<a href="#">Click here</a>
Slovakia	Low	None	Low	Decreasing	5	0%	None	124.0 (graphs)	1400.4 (graphs)	sari	<a href="#">Click here</a>
Slovenia	Low	None		Stable	6	0%	None	0.0 (graphs)	1013.5 (graphs)		<a href="#">Click here</a>
Spain	Low	Sporadic		Stable	61	6.6%	None	17.0 (graphs)	(graphs)		<a href="#">Click here</a>
Sweden	Low	Sporadic		Stable	26	0%	None	1.2 (graphs)	(graphs)		<a href="#">Click here</a>
Switzerland	Low	Sporadic		Stable	11	9.1%	None	20.8 (graphs)	(graphs)		<a href="#">Click here</a>
Tajikistan	Low	Sporadic	Low	Stable			None	0.0 (graphs)	(graphs)		<a href="#">Click here</a>
Turkey	Low		Low	Stable	31	0%	None	274.6 (graphs)	(graphs)		<a href="#">Click here</a>
Ukraine	Low	None	Low	Increasing	4	0%	None	3.8 * (graphs)	498.9 (graphs)	sari	<a href="#">Click here</a>
Uzbekistan							None		(graphs)		<a href="#">Click here</a>
Wales	Low	None		Stable	4	0%	Type B	4.7 (graphs)	(graphs)		<a href="#">Click here</a>
Europe					754	6.5%					<a href="#">Click here</a>

### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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EuroFlu : Weekly Electronic Bulletin

# Sporadic influenza detections in the WHO European Region

## Summary, week 49/2012

Influenza activity in the WHO European Region remains at a low level, with growing numbers of countries in different parts of the Region reporting sporadic detections of influenza viruses. Similarly to last week, influenza B was detected in more than half of the cases from sentinel sources testing positive for influenza. The number of hospitalizations due to severe acute respiratory infection (SARI) remains stable, with 3 cases related to influenza A reported this week.

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

Overall, a total of 280 specimens tested positive for influenza in week 49/2012: 152 were type A and 128 were type B. Of the influenza A viruses, 86 were subtyped: 45 as A(H3N2) and 41 as A(H1N1)pdm09 (Fig. 1).

Since week 40/2012, 1177 influenza viruses from sentinel and non-sentinel sources have been typed: 681(58%) were influenza A and 496 (42%) influenza B. Of the influenza A viruses 421 were subtyped: 240 (57%) as A(H3N2) and 181 (43%) as A(H1N1)pdm09 (Fig 2).

Owing to the growing number of viruses detected in week 49/2012, 3 countries reported influenza A as the dominant type (Denmark, Slovenia and Sweden), and 1 country ♦ the United Kingdom (Wales and Northern Ireland) reported influenza B as dominant, as shown on Map 1.

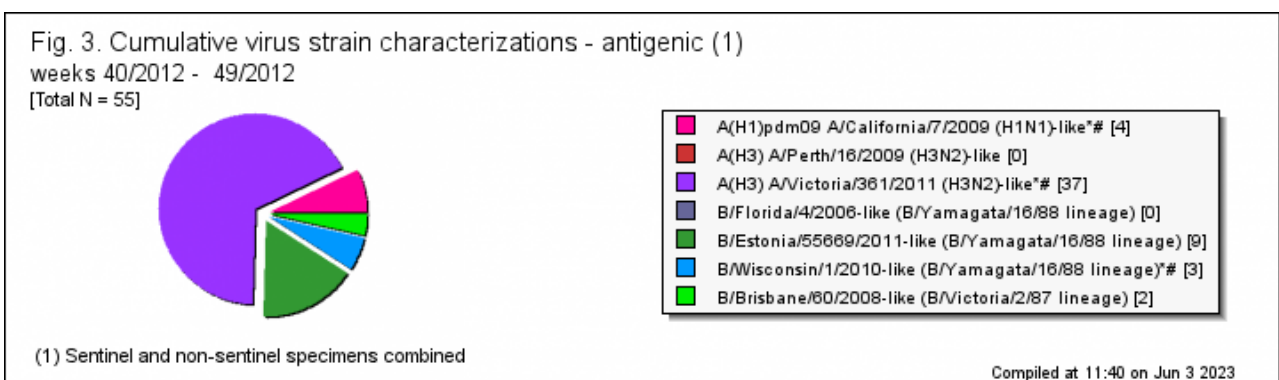
## Virus strain characterizations

In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines (see more at [WHO](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 5 countries (Denmark, the United Kingdom (England), Germany, Portugal, Romania) have characterized 43 influenza viruses antigenically ([Fig. 3](#)). This corresponds with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine. 6 countries (Denmark, Finland, Germany, Norway, Portugal, Sweden) have characterized 63 influenza viruses genetically ([Fig. 4](#)).



# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

## Monitoring of susceptibility to antiviral drugs





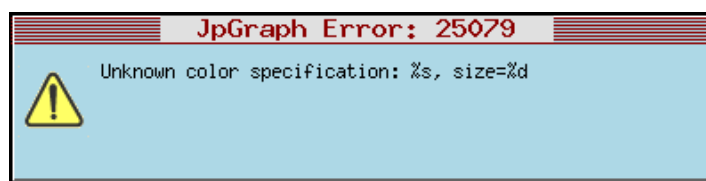
Since week 40/2012, 6 countries (Germany, Norway, the Netherlands, Spain, Sweden and the United Kingdom) have screened 54 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. The 22 influenza A(H3N2) viruses, 25 A(H1N1)pdm09 viruses and 7 influenza B viruses showed susceptibility to oseltamivir and zanamivir. The 14 influenza A(H3N2) and 5 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Consultation rates for ILI and ARI remain low and typical for this time of the year throughout the WHO European Region (Map 2); 18 out of 40 countries reported no geographic spread (Map 3), while 14 of 40 reported increasing trends (Map 4). Of the 18 countries that have established epidemic thresholds, 2 (Albania and the Russian Federation) reported ILI/ARI consultation rates above their national threshold levels.

Click on the maps for more detailed information.

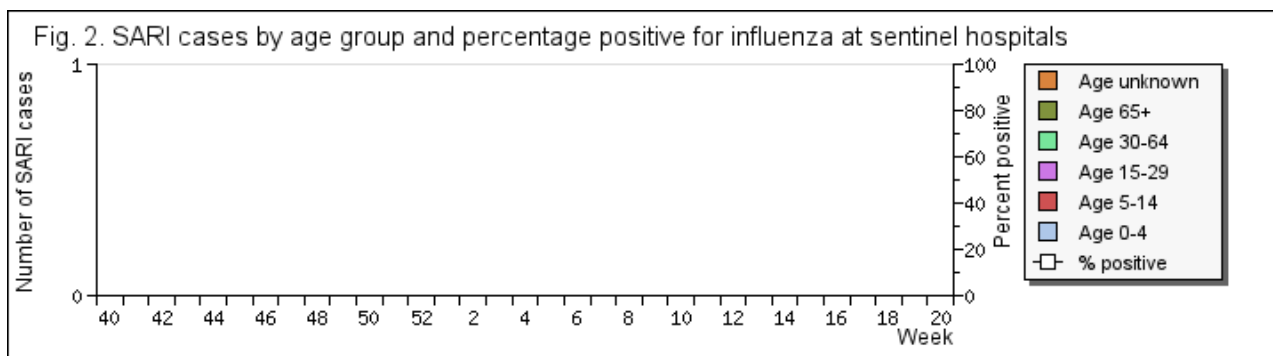
The influenza-positivity rate among ILI and ARI cases from sentinel sources again showed a slight increase, along with the number of specimens tested: 81 (8.5%) of 954 specimens tested positive for influenza this week (Fig. 5).



Of 954 specimens from sentinel sources, 39 tested positive for influenza A and 42 for influenza B (Fig. 6a). Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

Sentinel SARI hospitalization rates are stable, with most cases occurring in the group aged 0-4 years (Fig. 7). Of 11 reporting countries, 9 (Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine) reported hospitalizations related to SARI. The Russian Federation reported 3 SARI cases positive for influenza A(H3N2).



A total of 130 specimens has been collected from hospitalized SARI cases in 9 countries (Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine). Fig. 8b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in table format.

For the countries reporting to the European Centre for Disease Prevention and Control (ECDC) on severe influenza in hospitals, 1 case was reported positive for influenza B this week.

For the surveillance of confirmed hospitalized influenza see the Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

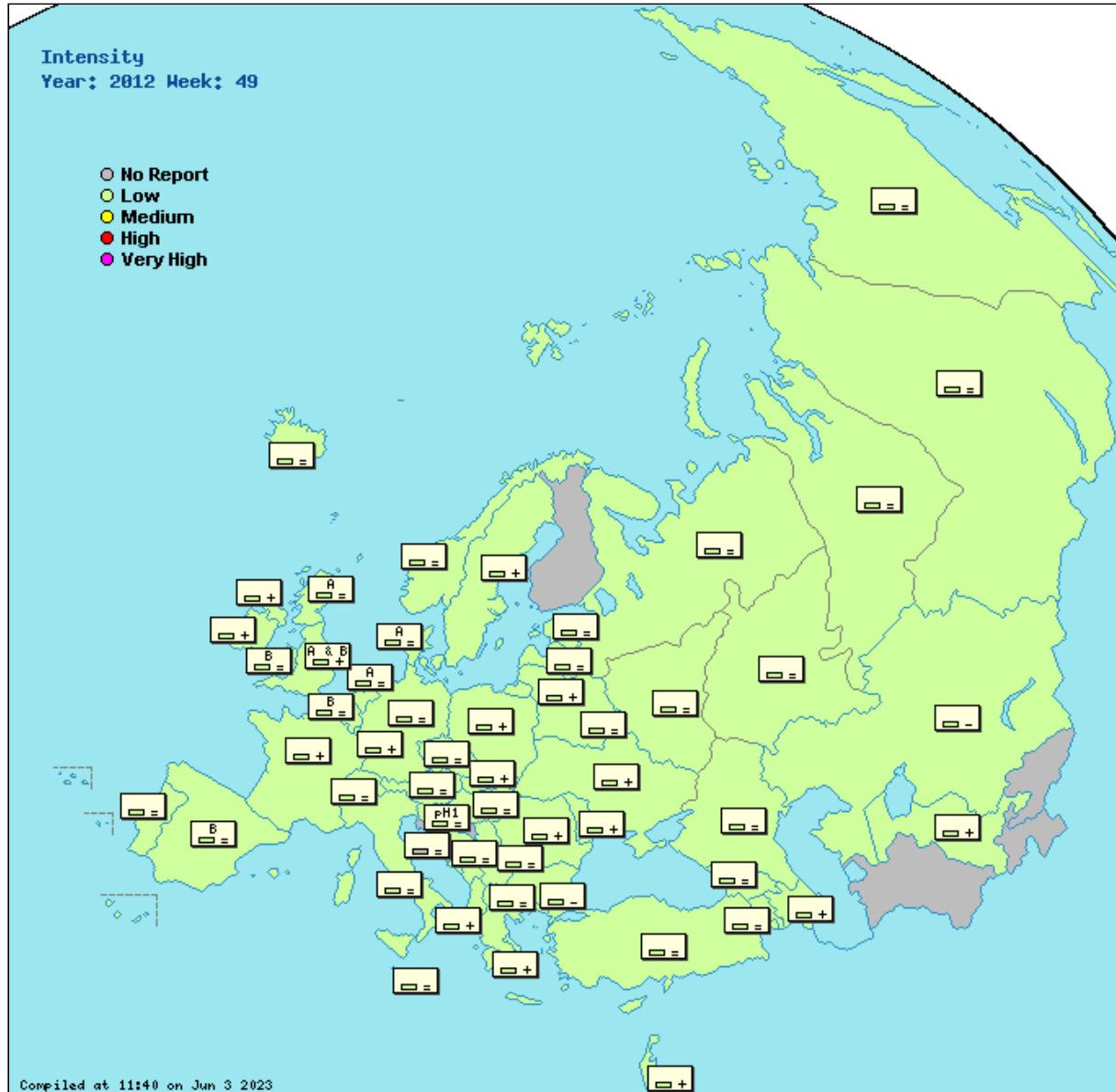
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

No activity = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
Sporadic = isolated cases of laboratory confirmed influenza infection  
Localized = limited to one administrative unit of the country (or reporting site) only.  
Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Norway

Moderate and increasing number of influenza virus detections. A(H1)pdm09, A(H3) and B Yamagata lineage viruses are circulating sporadically, with influenza B (Yamagata lineage) slightly more predominant than the others.

### Republic of Moldova

This week none of the 20 sentinel specimens were positive for Influenza Viruses. Only 2 samples were positive for DNA Adenovirus.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing	4	0%	None		426.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Low	None	Low	Stable					95.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	Sporadic	Low	Stable	7	0%	None	19.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	4	0%	None	180.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	None	Low	Stable	27	0%	None	8.3 ( <a href="#">graphs</a> )	1107.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	Sporadic		Stable	9	33.3%	None	79.8 ( <a href="#">graphs</a> )	2049.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Low	None	Low	Stable			None	28.6 ( <a href="#">graphs</a> )	87.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	None		Decreasing	16	0%	None	( <a href="#">graphs</a> )	927.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia		None		Stable			None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Low	None		Stable	11	0%	None	35.5 ( <a href="#">graphs</a> )	980.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	Sporadic		Stable	4	75.0%	Type A	34.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Local		Increasing	90	15.6%	None	14.3 ( <a href="#">graphs</a> )	429.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	Sporadic		Stable	2	0%	None	6.3 ( <a href="#">graphs</a> )	247.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland					6	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
France					100	20.0%	None		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	Sporadic	Low	Stable	19	0%	None	205.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Low	Sporadic		Stable	91	11.0%	None	( <a href="#">graphs</a> )	1131.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	Sporadic		Increasing	0	-	None	68.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	None	Low	Stable				69.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland					0	-		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ireland	Low	Sporadic	Low	Stable	12	41.7%	None	11.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	None	Low	Increasing	43	4.7%	None	9.3 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy					17	5.9%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Kazakhstan	Low	Sporadic	Low	Decreasing	6	0%	None	123.1 ( <a href="#">graphs</a> )	27.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					24	0%	None	33.1 ( <a href="#">graphs</a> )	60.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Low	Sporadic		Stable				0.0 ( <a href="#">graphs</a> )	1225.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Low	None	Low	Increasing	13	0%	None	2.2 ( <a href="#">graphs</a> )	588.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Low	Sporadic	Low		12	16.7%	None	1.0 * ( <a href="#">graphs</a> )	24.9 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Malta					0	-	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Low	Sporadic		Stable	9	33.3%	None	32.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	None		Increasing	2	0%	Type B	15.2 ( <a href="#">graphs</a> )	468.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	8	12.5%	None	33.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Increasing	19	5.3%	None	147.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable	2	0%	None	11.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Increasing	19	0%	None	( <a href="#">graphs</a> )	282.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	None	Low	Increasing	16	0%		1.8 ( <a href="#">graphs</a> )	629.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Stable	52	0%	None	0.1 ( <a href="#">graphs</a> )	677.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Sporadic	Low	Stable	28	7.1%	None	11.3 ( <a href="#">graphs</a> )	488.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	None	Low	Stable	4	0%	None	48.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	None	Low	Increasing	5	0%	None	136.5 ( <a href="#">graphs</a> )	1476.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Low	Sporadic		Stable	7	0%	Type A, Subtype pH1	2.7 ( <a href="#">graphs</a> )	982.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Low	Sporadic		Stable	45	13.3%	None	15.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Low	Sporadic		Increasing	36	5.6%	Type A	3.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	Sporadic		Stable	11	18.2%	None	25.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey	Low	Sporadic	Low	Stable	165	1.2%	None	178.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Low	None	Low	Increasing	4	0%	None	3.7 * ( <a href="#">graphs</a> )	507.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing			None	0.1 ( <a href="#">graphs</a> )	27.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Wales	Low	None		Stable	5	40.0%	Type B	6.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					954	8.5%					<a href="#">Click here</a>

### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

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**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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EuroFlu : Weekly Electronic Bulletin

# The influenza season has begun in the WHO European Region



## Summary, week 50/2012

The influenza season has begun in the WHO European Region, with growing numbers of countries in different parts of the Region reporting sporadic co-circulation of influenza A(H1N1)pdm09, A(H3N2) and type B viruses, though influenza activity is still at a low level. Further, the percentage of influenza-positive sentinel samples has increased over the past two weeks (from 6% to 15.8%) together with the number of specimens tested for influenza, indicating the start of the influenza season. The number of reported hospitalizations due to severe acute respiratory infection (SARI) remains similar to that seen in the previous several weeks, with 2 cases associated with confirmed influenza infection, one each of types A and B.

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

The number of specimens testing positive for influenza has increased steadily in the past weeks, mainly due to influenza viruses detected in Norway, France and the United Kingdom. Overall, a total of 577 specimens tested positive for influenza in week 50/2012: 338 were type A and 239 were type B. Of the influenza A viruses, 191 were subtyped: 70 as A(H3N2) and 121 as A(H1N1)pdm09 (Fig. 1).

Since week 40/2012, influenza A and influenza B viruses have been detected in almost equal proportions, and 1843 influenza viruses from sentinel and non-sentinel sources have been typed: 1073 (58%) were influenza A and 770 (42%) influenza B. Of the influenza A viruses 669 were subtyped: 351 (52%) as A(H3N2) and 318 (48%) as A(H1N1)pdm09 (Fig 2).

During week 50/2012, Denmark, Germany, Sweden and the United Kingdom (Scotland) reported dominant viruses as influenza A, with Belgium, Luxembourg and the United Kingdom (Wales and Northern Ireland) reporting influenza B as the dominant type (Map 1). It is too early to assess which influenza viruses will dominate this season as the number of detections is still relatively low.

## Virus strain characterizations

In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines (see more at [WHO](#) web site).

## Virus strain characterizations

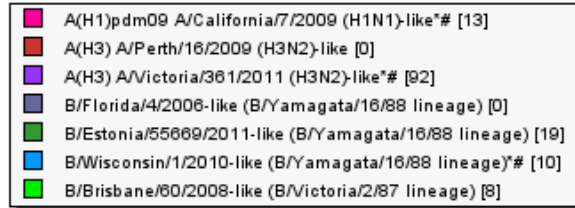
Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 54 influenza viruses characterized antigenically by 6 countries (Denmark, the United Kingdom (England), Germany, Latvia, Portugal, Romania) have corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine ([Fig. 3](#)). 8 countries (Belgium, Denmark, Finland, Germany, Norway, Portugal, Spain, Sweden) have characterized 91 influenza viruses genetically ([Fig. 4](#)).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 50/2012

[Total N = 142]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:40 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 7 countries (Denmark, Germany, the Netherlands, Norway, Spain, Sweden and the United Kingdom) have screened 60 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. The 26 influenza A(H3N2) viruses, 27 A(H1N1)pdm09 viruses and 7 influenza B viruses showed susceptibility to oseltamivir and zanamivir. The 14 influenza A(H3N2) and 5 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

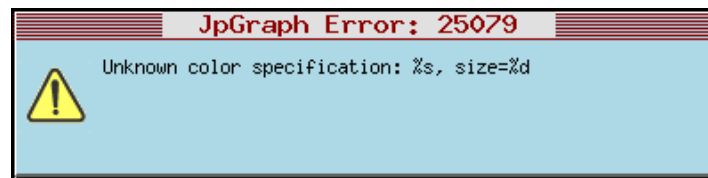
### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Consultation rates for ILI and ARI are still low throughout the WHO European Region (Map 2), with three countries (Norway, Sweden and the United Kingdom (England)) reported regional or widespread circulation of influenza (Map 3), and 17 of 41 reported increasing trends (Map 4).

Click on the maps for more detailed information.

The influenza-positivity rate among ILI and ARI cases from sentinel sources increased in comparison with previous weeks, along with the number of specimens tested: 171 (15.8%) of 1082 specimens tested positive for influenza this week (Fig. 5).

Influenza-positive cases were reported mainly by countries in western Europe, with more than half of the positive samples reported by the United Kingdom, France, Germany and Norway.

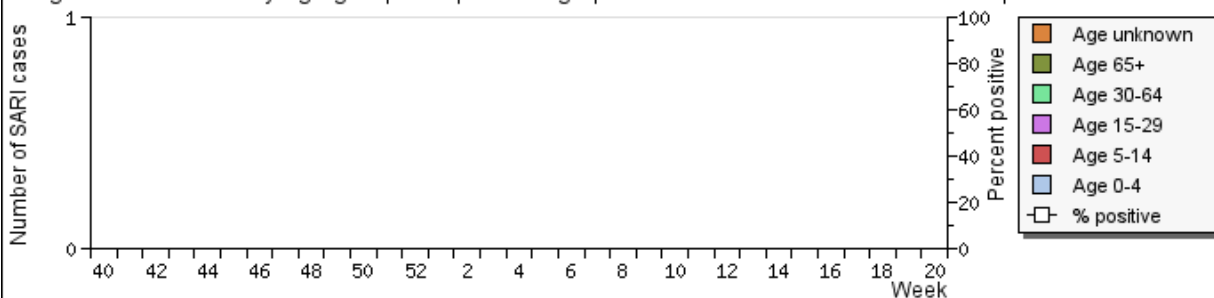


Of the 1082 specimens from sentinel sources, 91 tested positive for influenza A and 80 for influenza B (Fig. 6a). Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

Hospitalizations due to SARI continue to be stable and at pre-season levels in the 10 countries reporting this week (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine). Most cases occurred in the age group 0-4 years (Fig. 7).

Fig. 2. SARI cases by age group and percentage positive for influenza at sentinel hospitals



To date, only a few influenza detections have been reported by the hospitals participating in SARI surveillance, similar to the situation in outpatient surveillance in these countries. In week 50, 2 cases tested positive among 122 specimens collected from hospitalized SARI cases in 8 countries (Armenia, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation and Ukraine); the Russian Federation reported 1 SARI case positive for influenza B and Ukraine reported 1 case positive for A(H3N2).

(Fig. 8a). Since week 40/2012, 1305 SARI specimens have been tested for influenza, with only 10 cases being positive for influenza (Fig. 8b). [Click here](#) for a detailed overview in table format.

For the countries reporting to the European Centre for Disease Prevention and Control (ECDC) on severe influenza in hospitals, no cases were reported positive for influenza this week.

For the surveillance of confirmed hospitalized influenza see the Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

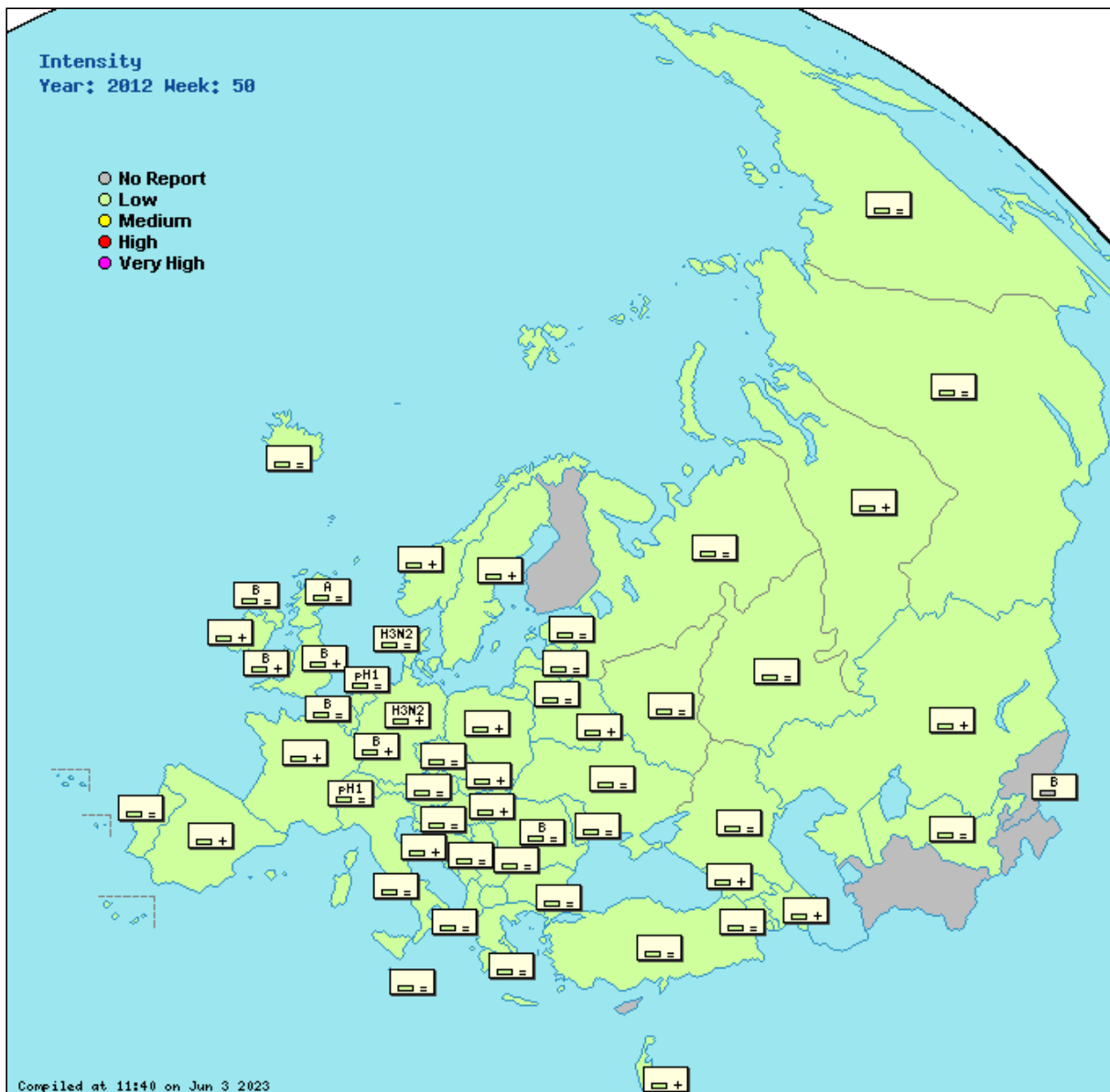
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + **virological**  **Geographical spread**  + **virological**  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

No activity = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
Sporadic = isolated cases of laboratory confirmed influenza infection  
Localized = limited to one administrative unit of the country (or reporting site) only.  
Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Norway

The number of influenza virus detections increased considerably in week 50. There appears to be local variation in the occurrence of A(H1N1)pdm09, A(H3N2), and B/Yamagata lineage viruses. B/Victoria lineage viruses have been very rare. None of the three circulating viruses qualifies for predominance or co-predominance.

### Republic of Moldova

This 50th Influenza Surveillance week were tested 28 specimens: 2 were positive for DNA Adenovirus, 4 - positive for RNA hRSV and 1 sample was positive for RNA Parainfluenza type 3.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable					408.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Low	None	Low	Stable	0	-	None		90.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	Sporadic	Low	Stable	7	28.6%	None	17.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	1	0%	None	190.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	Sporadic	Low	Increasing				8.8 ( <a href="#">graphs</a> )	1153.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	Sporadic		Stable	15	46.7%	Type B	102.0 ( <a href="#">graphs</a> )	2163.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>



Bosnia and Herzegovina	Low	None	Low	Stable			None	28.7 ( <a href="#">graphs</a> )	84.2 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Bulgaria	Low	None		Stable	43	0%	None	( <a href="#">graphs</a> )	884.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Croatia	Low	Sporadic	Low	Increasing			None	0.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Czech Republic	Low	Sporadic		Stable	15	20.0%	None	42.4 ( <a href="#">graphs</a> )	1053.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Denmark	Low	Sporadic		Stable	6	16.7%	Type A, Subtype H3	40.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
England	Low	Widespread		Increasing	133	16.5%	None	23.4 ( <a href="#">graphs</a> )	459.7 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Estonia	Low	Sporadic		Stable	5	0%	None	6.0 ( <a href="#">graphs</a> )	257.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Finland					10	0%		( <a href="#">graphs</a> )		<a href="#">Click here</a>
France	Low	Local	Low	Increasing	131	30.5%		( <a href="#">graphs</a> )	2414.7 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Georgia	Low	Sporadic	Low	Increasing	20	0%	None	263.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Germany	Low	Sporadic		Increasing	89	23.6%	Type A, Subtype H3N2	( <a href="#">graphs</a> )	1267.2 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Greece	Low	Sporadic		Stable	0	-	None	93.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Hungary	Low	None	Low	Increasing	23	0%	None	79.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Ireland	Low	Sporadic	Low	Increasing	29	24.1%	None	25.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Israel	Low	None	Low	Increasing	20	10.0%	None	10.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Italy	Low	Sporadic	Low	Stable	26	19.2%	None	164.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Kazakhstan	Low	Sporadic	Low	Increasing	18	0%	None	185.0 ( <a href="#">graphs</a> )	45.8 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Kyrgyzstan					26	19.2%	None		( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Latvia	Low	Sporadic		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	1138.1 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Lithuania	Low	Local	Low	Stable	2	0%	None	2.7 ( <a href="#">graphs</a> )	626.6 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Luxembourg	Low	Sporadic	Low		14	42.9%	Type B	0.9 * ( <a href="#">graphs</a> )	34.3 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Malta					0	-	None	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				1.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Netherlands	Low	Sporadic		Stable	9	33.3%	None	41.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Northern Ireland	Low	Sporadic		Stable	5	20.0%	Type B	15.0 ( <a href="#">graphs</a> )	555.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Norway	Low	Regional		Increasing	15	73.3%	None	67.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Increasing	37	13.5%	None	131.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Portugal	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Stable	24	0%	None	( <a href="#">graphs</a> )	268.0 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Romania	Low	None	Low	Stable	9	0%		1.8 ( <a href="#">graphs</a> )	645.8 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Russian Federation	Low	Sporadic		Stable	38	0%	None	0.1 ( <a href="#">graphs</a> )	701.2 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Scotland	Low	Local	Low	Stable	36	11.1%	Type A	11.8 ( <a href="#">graphs</a> )	579.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Serbia	Low	None	Low	Stable	2	0%	None	50.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Slovakia	Low	None	Low	Increasing	3	0%	None	156.2 ( <a href="#">graphs</a> )	1608.7 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Slovenia					12	16.7%	None	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Low	Sporadic		Increasing	63	4.8%	None	21.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Sweden	Low	Regional		Stable	36	11.1%	Type A	4.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Switzerland	Low	Sporadic		Increasing	17	23.5%	None	30.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Turkey	Low	Local	Low	Stable	125	6.4%	None	229.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Ukraine	Low	None	Low	Stable	12	0%	None	3.7 * ( <a href="#">graphs</a> )	509.8 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Uzbekistan	Low		Low	Stable			None	0.1 ( <a href="#">graphs</a> )	31.4 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Wales	Low	Local		Increasing	6	83.3%	Type B	9.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Europe					1082	15.8%				<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium = usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# Influenza activity is increasing slowly in the WHO European Region



## Summary, week 51/2012

Influenza activity is slowly increasing with more countries in different parts of the Region reporting sporadic co-circulation of influenza A(H1N1)pdm09, A(H3N2) and type B viruses. This week the reporting of influenza surveillance data is incomplete due to the Christmas holidays. This is reflected in the lower number of testing performed. However the percentage of influenza-positive samples from both sentinel and non-sentinel sources are similar to last week. The number of reported hospitalizations due to severe acute respiratory infection (SARI) remains similar to that seen in the previous several weeks: 1 influenza detection was reported (influenza B).



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

The number of specimens testing positive for influenza decreased together with the number of samples tested due to relatively low reporting rate by the countries in western part of the region caused by holidays this week. Overall, a total of 386 specimens tested positive for influenza in week 51/2012: 275 were type A and 111 were type B. Of the influenza A viruses, 74 were subtyped: 38 as A(H3N2) and 41 as A(H1N1)pdm09 (Fig. 1).

Since week 40/2012 influenza A and influenza B viruses have been detected in similar proportions, 2295 influenza viruses from sentinel and non-sentinel sources have been typed: 1379 (60%) were influenza A and 916 (40%) influenza B. Of the influenza A viruses 794 were subtyped: 415 (52%) as A(H3N2) and 379 (48%) as A(H1N1)pdm09 (Fig 2).

During week 51/2012, Denmark reported influenza A as the dominant virus type while Belgium, Luxembourg and Spain reported influenza B as dominant type. France reported both influenza A and B as the dominant type (Map 1). It is still too early to assess which influenza viruses will dominate this season as the number of detections remains relatively low.

## Virus strain characterizations

In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines (see more at [WHO](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 54 influenza viruses characterized antigenically by 6 countries (Denmark, the United Kingdom (England), Germany, Latvia, Portugal, Romania) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine ([Fig. 3](#)). 8 countries (Belgium, Denmark, Finland, Germany, Norway, Portugal, Spain, Sweden) have characterized 91 influenza viruses genetically ([Fig. 4](#)).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 51/2012

[Total N = 240]



■	A(H1)pdm09 A/California/7/2009 (H1N1)-like*# [28]
■	A(H3) A/Perth/16/2009 (H3N2)-like [0]
■	A(H3) A/Victoria/361/2011 (H3N2)-like*# [156]
■	B/Florida/4/2006-like (B/Yamagata/16/88 lineage) [0]
■	B/Estonia/55669/2011-like (B/Yamagata/16/88 lineage) [34]
■	B/Wisconsin/1/2010-like (B/Yamagata/16/88 lineage)*# [17]
■	B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) [5]

(1) Sentinel and non-sentinel specimens combined

Compiled at 11:41 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).  
\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

### Monitoring of susceptibility to antiviral drugs

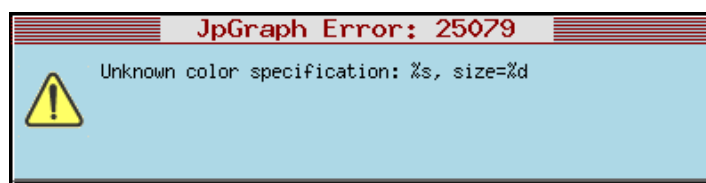
Since week 40/2012, 7 countries (Denmark, Germany, the Netherlands, Norway, Spain, Sweden and the United Kingdom) have screened 60 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. The 26 influenza A(H3N2) viruses, 27 A(H1N1)pdm09 viruses and 7 influenza B viruses showed susceptibility to oseltamivir and zanamivir. The 14 influenza A(H3N2) and 5 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Consultation rates for ILI and ARI remain at usual for this time of the year levels throughout the WHO European Region with only 1 country (France) reporting medium intensity (Map 2). Three countries; France, Netherlands and the United Kingdom (England) reported regional or widespread circulation of influenza (Map 3), while only 11 of 30 reported increasing trends (Map 4).

Click on the maps for more detailed information.

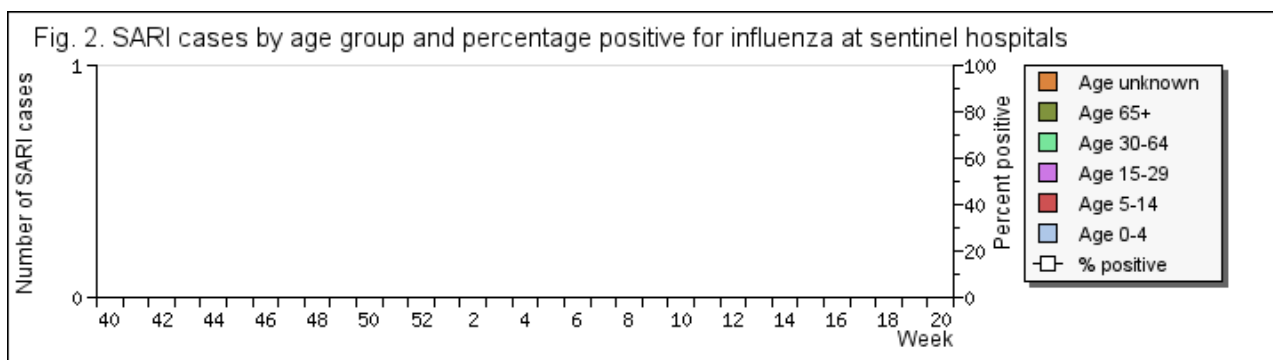
The influenza-positivity rate among ILI and ARI cases from sentinel sources remain at similar level as during the previous week with less specimens tested for influenza: 121 (18%) of 662 specimens tested positive for influenza this week (Fig. 5).



Of the 662 specimens from sentinel sources, 69 tested positive for influenza A and 52 for influenza B (Fig. 6a). Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

Hospitalizations due to SARI remain stable and at pre-season levels in the 9 countries reporting this week (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, the Russian Federation, Serbia and Ukraine) with most cases reported in the age group 0-4 years (Fig. 7).



To date, only few influenza detections have been reported by the hospitals participating in SARI surveillance, similar to the situation in outpatient surveillance in these countries. In week 51, 1 case tested positive among 132 specimens collected from hospitalized SARI cases in 7 countries (Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation, Serbia and Ukraine); with Kyrgyzstan reported 1 SARI case positive for influenza B. Since week 40/2012, 1493 SARI specimens have been collected and tested for influenza with only 12 influenza detections among those cases (Fig. 8b). [Click here](#) for a detailed overview in table format.

For the countries reporting to the European Centre for Disease Prevention and Control (ECDC) on severe influenza in hospitals, no cases were reported positive for influenza this week.

For the surveillance of confirmed hospitalized influenza see the Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza

viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

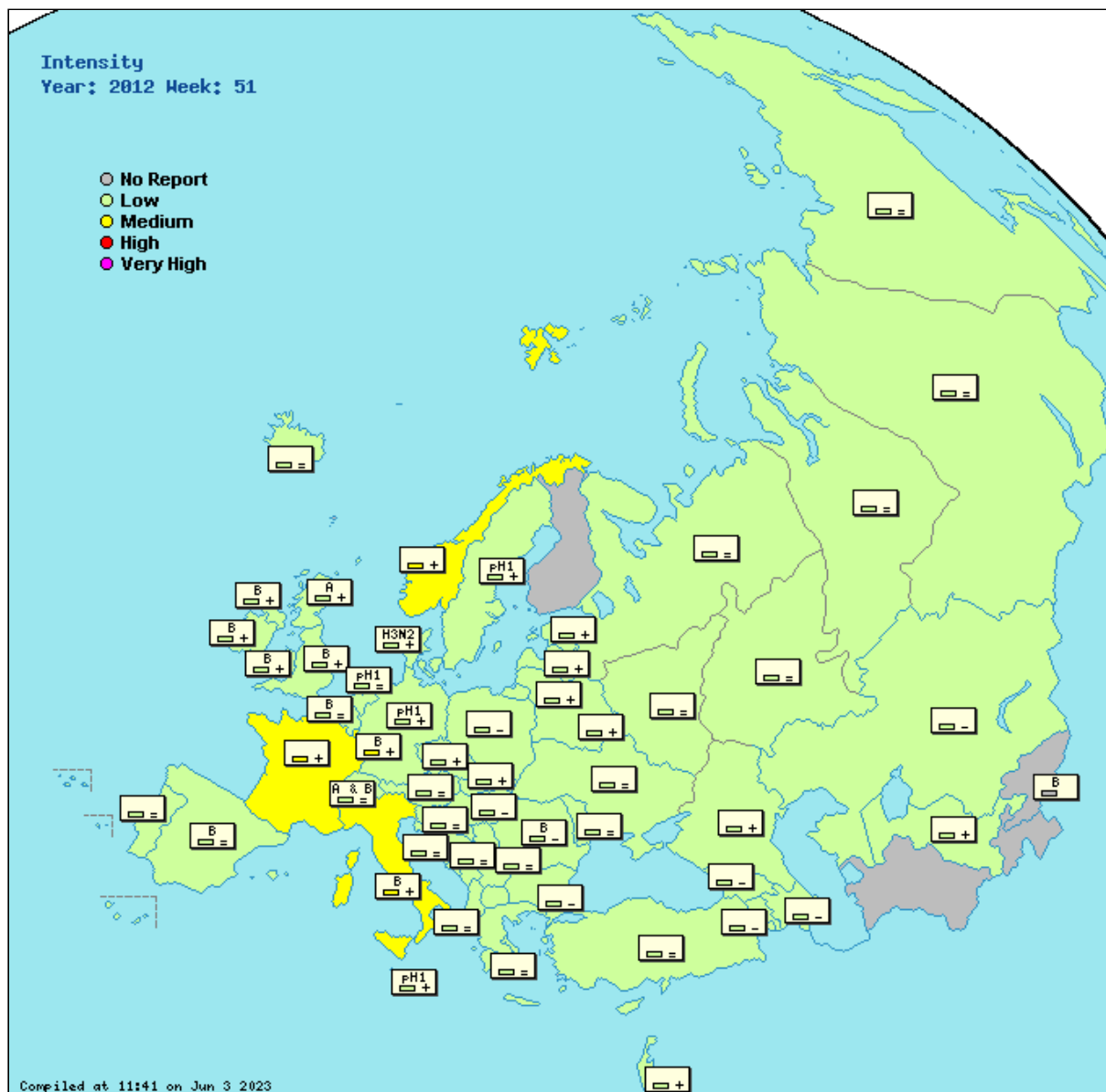
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + virological  **Geographical spread**  + virological  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

No activity = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
Sporadic = isolated cases of laboratory confirmed influenza infection  
Localized = limited to one administrative unit of the country (or reporting site) only.  
Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

## Denmark

The data from Denmark week 51 is not national as data from the regions are missing due to the holidays. The numbers will be updated when we have the data. However; based on other reports there has been an increase in ILI consultations during the holidays and the dominant type is influenza A H3N2.

## Republic of Moldova

This 51st Influenza Surveillance week were tested 20 specimens: 1 sample was positive for RNA hRSV and 1 sample - for RNA Parainfluenza type 3.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable				390.7 ( <a href="#">graphs</a> )		<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Low	None	Low	Decreasing	1	0%	None	83.7 ( <a href="#">graphs</a> )		<a href="#">sari</a>	<a href="#">Click here</a>
Austria					17	23.5%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing	0	-	None	138.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	Sporadic	Low	Increasing	29	0%	None	10.9 ( <a href="#">graphs</a> )	1200.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	Sporadic		Stable	21	33.3%	Type B	159.5 ( <a href="#">graphs</a> )	1993.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Low	None	Low	Stable			None	35.6 ( <a href="#">graphs</a> )	108.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria					57	0%	None	( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Low	Sporadic	Low	Stable			None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.7 * ( <a href="#">graphs</a> )	5.7 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Low	Local		Increasing	21	33.3%	None	53.9 ( <a href="#">graphs</a> )	1107.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark					2	100.0%	Type A, Subtype H3N2	( <a href="#">graphs</a> )			<a href="#">Click here</a>
England	Low	Widespread		Increasing				27.4 ( <a href="#">graphs</a> )	525.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	Sporadic		Increasing				8.1 ( <a href="#">graphs</a> )	265.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
France	Medium	Regional	Low	Increasing	105	45.7%	Type A and B	( <a href="#">graphs</a> )	2528.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	None	Low	Decreasing	11	0%	None	219.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Greece	Low	None		Stable	0	-	None	34.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary					12	8.3%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Israel	Low	Sporadic	Low	Increasing	65	1.5%	None	14.8 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Kazakhstan	Low	Sporadic	Low	Decreasing	3	0%	None	112.0 ( <a href="#">graphs</a> )	25.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					11	18.2%	None	13.0 ( <a href="#">graphs</a> )	59.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Low	Sporadic		Increasing	0	-	None	3.9 ( <a href="#">graphs</a> )	1003.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania					1	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Luxembourg	Medium	Sporadic	Low		30	56.7%	Type B	3.9 * ( <a href="#">graphs</a> )	32.3 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				1.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Low	Widespread		Stable				43.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	Sporadic		Increasing				25.5 ( <a href="#">graphs</a> )	629.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway					2	100.0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	48	22.9%	None	104.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable	2	0%	None	25.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Stable	19	0%	None	( <a href="#">graphs</a> )	281.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Stable	51	2.0%	None	0.2 ( <a href="#">graphs</a> )	711.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Serbia	Low	Sporadic	Low	Stable	1	100.0%	None	48.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	None	Low	Increasing				163.5 ( <a href="#">graphs</a> )	1649.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia					16	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Spain	Low	Sporadic		Stable	51	13.7%	Type B	23.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	Sporadic		Increasing	27	33.3%	None	47.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey					47	2.1%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ukraine	Low	None	Low	Stable	6	0%	None	3.8 * ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing	6	0%	None	0.2 ( <a href="#">graphs</a> )	39.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					662	18.3%					<a href="#">Click here</a>

### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# Influenza activity is increasing mainly due to influenza detections in western Europe



EUROPE



## Summary, week 52/2012

Influenza-like illness (ILI) and acute respiratory infection (ARI) consultation rates continue to rise, following a west-to-east progression across the WHO European Region. For the second week, reporting of influenza surveillance data was incomplete, due to the holiday period. Countries mainly in the western part of the Region reported co-circulation of influenza A(H1N1)pdm09, A(H3N2) and type B viruses. The proportion of A(H1N1)pdm09 is considerably higher in comparison with the same time period last season. The number of reported hospitalizations due to severe acute respiratory infection (SARI) remains low, with no cases being associated with influenza detection

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

In week 52/2012, the reported number of specimens testing positive for influenza, along with the number of samples tested, was relatively low, due to suboptimal reporting by countries in the eastern part of the Region during the holiday period. Overall, a total of 844 specimens tested positive for influenza in week 52/2012: 593 were type A and 251 were type B. Of the influenza A viruses, 194 were subtyped: 55 as A(H3N2) and 139 as A(H1N1)pdm09 (Fig. 1).

Since week 40/2012, influenza A and influenza B viruses had been detected in comparable proportions. The prevalence of influenza A(H1N1)pdm09 increased in week 52, however; 4068 influenza viruses from sentinel and non-sentinel sources have been typed: 2454 (60%) were influenza A and 1614 (40%) influenza B. Of the influenza A viruses 1293 were subtyped: 655 (51%) as A(H3N2) and 638 (49%) as A(H1N1)pdm09 (Fig 2).

The proportion of A(H1N1)pdm09 cases is significantly higher than in the same period last season, when these cases, from sentinel and non-sentinel sources, represented less than 5% of total detections.

In week 52/2012, Denmark, the Czech Republic, Germany and Turkey reported influenza A as the dominant virus type, while Ireland, Luxembourg and Spain reported influenza B as dominant. France and Switzerland reported influenza A and B as co-dominant (Map 1). It is still too early to assess which influenza viruses will dominate this season as the number of detections remains relatively low.

## Virus strain characterizations

In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines (see more at [WHO](#) web site).

## Virus strain characterizations

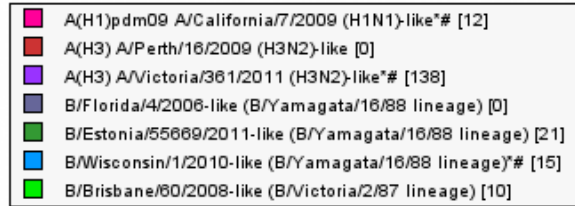
Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 84 influenza viruses characterized antigenically by 7 countries (Denmark, the United Kingdom (England), Germany, Latvia, Portugal, Romania, Switzerland) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine ([Fig. 3](#)). 8 countries (Belgium, Denmark, Finland, Germany, Norway, Portugal, Spain, Sweden) have characterized 118 influenza viruses genetically ([Fig. 4](#)).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 52/2012

[Total N = 196]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:41 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

### Monitoring of susceptibility to antiviral drugs

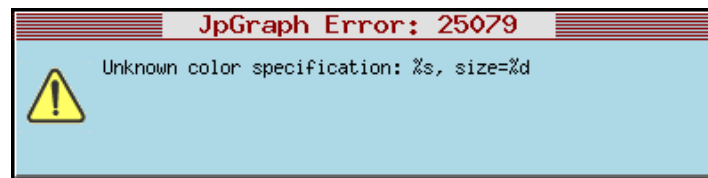
Since week 40/2012, 7 countries (Denmark, Germany, the Netherlands, Norway, Spain, Sweden and the United Kingdom) have screened 81 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. The 37 influenza A(H3N2) viruses, 28 A(H1N1)pdm09 viruses and 16 influenza B viruses showed susceptibility to both drugs. The 14 influenza A(H3N2) and 5 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Consultation rates for ILI and ARI remain at low levels throughout most countries in the WHO European Region, but are increasing in some western countries (France, Italy, the Netherlands and Norway) (Map 2). In addition, a growing number of countries (Belgium, Denmark, Italy, France, the Netherlands, Norway and the United Kingdom (England)) reported regional or widespread circulation of influenza in week 52 (Map 3). Although some countries in eastern Europe and central Asia reported increasing trends in ILI or ARI (Map 4), influenza activity remains low in this part of the Region (Map 2 and Map 3).

Click on the maps for more detailed information.

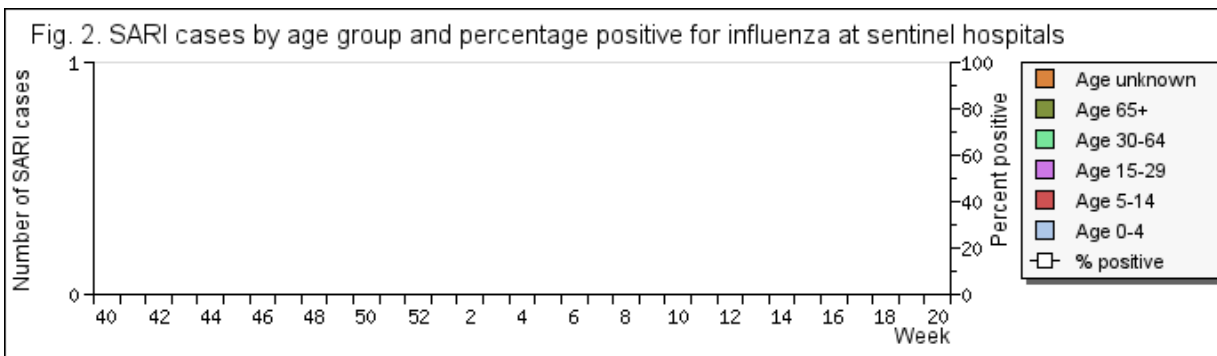
The influenza-positivity rate among ILI and ARI cases from sentinel sources decreased slightly from the previous week: 116 (20%) of 567 specimens tested positive for influenza in week 52 (Fig. 5).



Of the 587 specimens from sentinel sources, 72 tested positive for influenza A and 44 for influenza B (Fig. 6a). Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

Hospitalizations due to SARI remain low in the 8 countries reporting in week 52 (Albania, Belarus, Belgium, Georgia, Kazakhstan, the Republic of Moldova, Serbia and Ukraine) with most cases falling in the group aged 0-4 years (Fig. 7).



In week 52, only 2 countries (Kazakhstan and Ukraine) reported data on specimens tested for influenza. A total of 35 cases was tested, but all were negative (Fig. 8a). Since week 40/2012, 1541 SARI specimens have been collected and tested for influenza with only 13 influenza detections (Fig. 8b). [Click here](#) for a detailed overview in table format.

The countries notifying the European Centre for Disease Prevention and Control (ECDC) of severe influenza in hospitals, reported 12 cases positive for influenza in week 52



For the surveillance of confirmed hospitalized influenza see the Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](http://ecdc.europa.eu/en/weekly-influenza-surveillance-overview) web site.

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

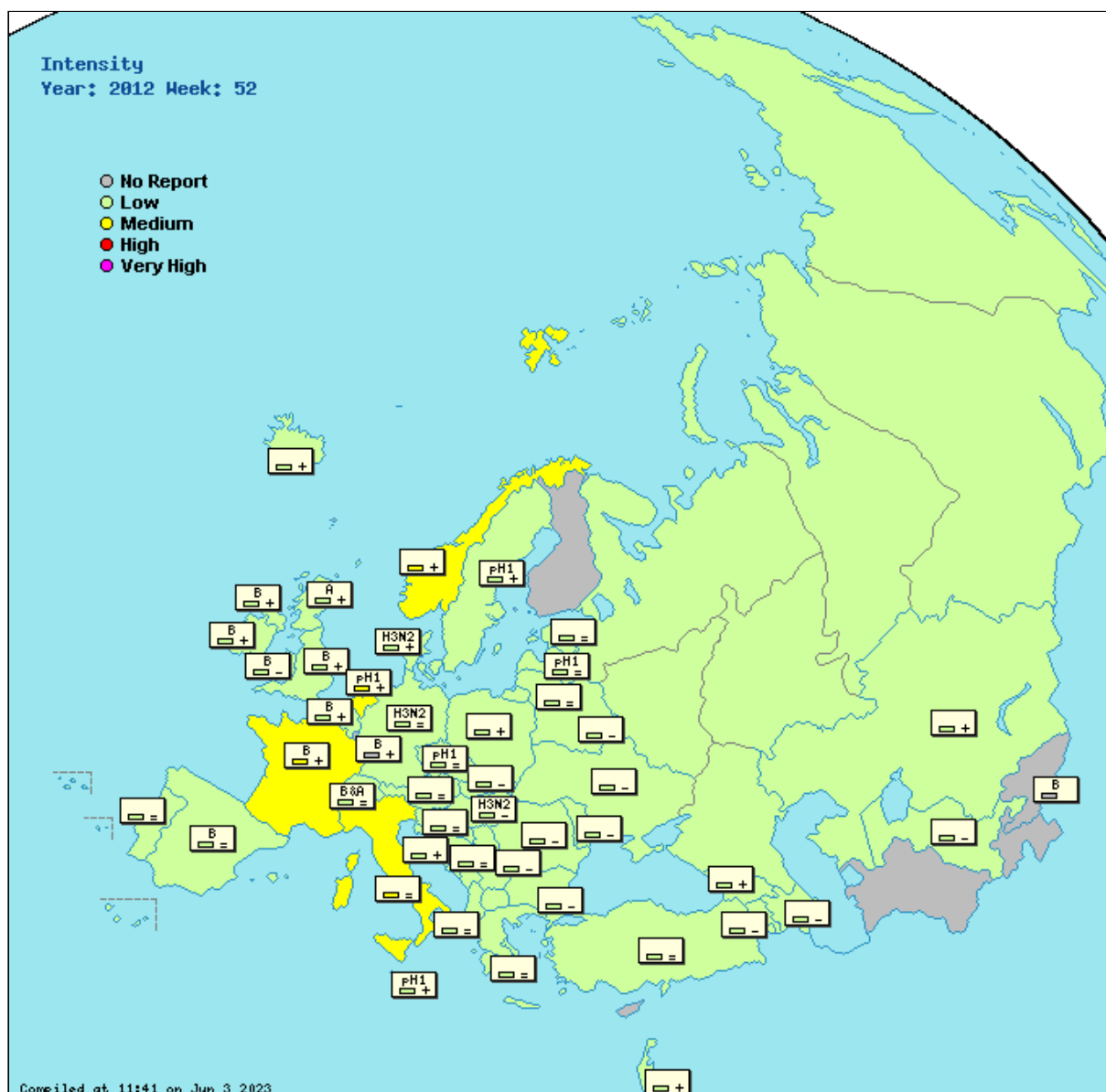
### Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map :  Intensity  + virological  Geographical spread  + virological  Impact



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
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= : stable clinical activity  
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No activity = no laboratory-confirmed case(s) of influenza, or evidence of increased or unusual respiratory disease activity.  
Sporadic = isolated cases of laboratory confirmed influenza infection  
Localized = limited to one administrative unit of the country (or reporting site) only.  
Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites).  
Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

## Country comments (where available)

### Greece

The first influenza case of the 2012-2013 season was confirmed on Friday 28-Dec-2012. A swab specimen received from a hospitalized 2-year old male, tested positive by real time PCR for influenza A/H3N2 virus.

### Norway

There is a massive media attention on the cases with A(H1N1)pdm09 in Norway at the moment.

### Slovakia

In Slovakia we have in the last week of the year very high decreasing of ILI and ARI because in Slovakia was 3 days holiday (doktors didnt work and also children dont go to school).

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable	3	0%	None		367.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria					8	37.5%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing	0	-	None	101.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	Sporadic	Low	Decreasing				15.6 ( <a href="#">graphs</a> )	767.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	Widespread		Increasing				188.4 ( <a href="#">graphs</a> )	1955.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Low	None	Low	Stable			None	25.1 ( <a href="#">graphs</a> )	88.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	None		Decreasing	21	0%	None	( <a href="#">graphs</a> )	298.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Low	Sporadic	Low	Increasing			None	0.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Low	Local		Stable	0	-	Type A, Subtype pH1	44.6 ( <a href="#">graphs</a> )	611.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	Widespread		Increasing	0	-	Type A, Subtype H3N2	20.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Widespread		Increasing	136	0%	None	32.7 ( <a href="#">graphs</a> )	428.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	Sporadic		Stable				6.9 ( <a href="#">graphs</a> )	207.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland					5	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
France	Medium	Widespread	Low	Increasing	105	55.2%	Type A and B	( <a href="#">graphs</a> )	2260.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	None	Low	Increasing				222.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Low	Local		Stable	26	42.3%	Type A, Subtype H3N2	( <a href="#">graphs</a> )	670.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	Sporadic		Stable	0	-	None	35.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	None	Low	Decreasing	1	0%		24.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	Local	Low	Increasing	0	-	Type B	35.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	Sporadic	Low	Increasing	72	12.5%	None	17.3 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Medium	Regional	Low	Stable	0	-	None	231.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	Sporadic	Low	Increasing	13	0%	None	143.6 ( <a href="#">graphs</a> )	30.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Lithuania	Low	Sporadic	Low	Stable	1	0%	None	3.6 ( <a href="#">graphs</a> )	709.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg			Low		12	16.7%	Type B	0 * ( <a href="#">graphs</a> )	31.2 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	Sporadic	Low	Increasing				16.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Medium	Regional		Increasing				61.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	Local		Increasing	6	66.7%	Type B	43.7 ( <a href="#">graphs</a> )	465.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Medium	Widespread	Moderate	Increasing	0	-	None	39.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Increasing	15	40.0%	None	162.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable	1	0%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Decreasing	0	-	None	( <a href="#">graphs</a> )	144.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Serbia	Low		Low					0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	None	Low	Decreasing	0	-	None	81.4 ( <a href="#">graphs</a> )	871.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia					5	20.0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Spain	Low	Sporadic		Stable	17	11.8%	Type B	23.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	Sporadic		Increasing	12	41.7%	Type B and Type A, Subtype pH1	55.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey	Low	Sporadic	Low	Stable	94	12.8%	Type A, Subtype pH1	203.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Low	Sporadic	Low	Decreasing	4	0%	None	3.8 * ( <a href="#">graphs</a> )	464.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan					10	30.0%	None		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					567	20.5%					<a href="#">Click here</a>

### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium = usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is stable compared with the previous week.

activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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EuroFlu : Weekly Electronic Bulletin

# Influenza activity gradually increasing in the WHO European Region



## Summary, week 1/2013

Levels of influenza activity in countries in the WHO European Region are heterogeneous, with widespread activity mainly in the western and northern parts of the Region and no or sporadic activity in the eastern part, but a gradual increase overall. Influenza A(H1N1)pdm09, A(H3N2) and type B viruses continue to co-circulate, but the proportion of A(H1N1)pdm09 relative to A(H3N2) is increasing. The number of reported hospitalizations due to severe acute respiratory infection (SARI) remains stable, with 8% of cases being associated with influenza detection.



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

The proportion of specimens testing positive for influenza has increased steadily in the past weeks to 37%, mainly due to influenza viruses detected in the western part of the Region. This increase is attributable mainly to an increase of influenza A viruses.

Overall, a total of 2606 specimens tested positive for influenza in week 01/2013, the majority of which, 1829 (70%), were influenza A (Fig. 1).

The proportion of influenza A(H1N1)pdm09 relative to A(H3N2) is increasing. Of the influenza A viruses, 779 were subtyped: 151(19%) as A(H3N2) and 628 (81%) as A(H1N1)pdm09 with mainly northern and central countries reporting A(H1N1)pdm09 detections (Fig. 2a).

Since week 40/2012, 7696 influenza viruses from sentinel and non-sentinel sources have been typed: 4914 (64%) were influenza A and 2782 (36%) influenza B (Fig. 2b). Of the influenza A viruses 2502 were subtyped: 1051 (42%) as A(H3N2) and 1451(58%) as A(H1N1)pdm09 (Fig 2).

Overall, the proportion of influenza A(H1N1)pdm09 detections reported since week 40/2012 is considerably higher than in the same period last season, when A(H1N1)pdm09 represented less than 5% of total influenza A viruses subtyped

In week 01/2013, countries mainly in western and northern parts of the Region reported virus dominance: B in Belgium, Italy, Spain and the United Kingdom (Northern Ireland and Wales); A in Israel, the Netherlands and the United Kingdom (Scotland); co-dominance of type B and A(H1N1)pdm09 in France, Luxembourg and Switzerland; A(H1N1)pdm09 in the Czech Republic, Germany, Latvia, Lithuania, Norway and Poland; and A(H3N2) in Denmark, (Map 1). At this stage, it is therefore not clear which, if any, influenza type/subtype will dominate this season.

## Virus strain characterizations

In the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in trivalent vaccines (see more at [WHO](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 85 influenza viruses characterized antigenically by 7 countries (Denmark, the United Kingdom (England), Germany, Latvia, Portugal, Romania, Switzerland). The majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine ([Fig. 3](#)). In addition, 8 countries (Belgium, Denmark, Finland, Germany, Norway, Portugal, Spain, Sweden) have characterized 118 influenza viruses genetically ([Fig. 4](#)).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 01/2013

[Total N = 199]



<span style="color: pink;">■</span>	A(H1N1)pdm09 A/California/7/2009 (H1N1)-like*# [42]
<span style="color: red;">■</span>	A(H3) A/Perth/16/2009 (H3N2)-like [0]
<span style="color: purple;">■</span>	A(H3) A/Victoria/361/2011 (H3N2)-like*# [95]
<span style="color: grey;">■</span>	B/Florida/4/2006-like (B/Yamagata/16/88 lineage) [0]
<span style="color: green;">■</span>	B/Estonia/55669/2011-like (B/Yamagata/16/88 lineage) [43]
<span style="color: blue;">■</span>	B/Wisconsin/1/2010-like (B/Yamagata/16/88 lineage)*# [11]
<span style="color: lightgreen;">■</span>	B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) [8]

(1) Sentinel and non-sentinel specimens combined

Compiled at 11:42 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

### Monitoring of susceptibility to antiviral drugs

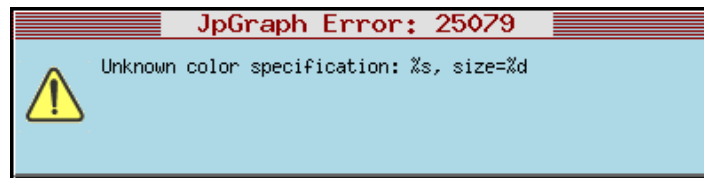
Since week 40/2012, 7 countries (Denmark, Germany, the Netherlands, Norway, Spain, Sweden and the United Kingdom) have screened 81 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. The 37 influenza A(H3N2) viruses, 28 A(H1N1)pdm09 viruses and 16 influenza B viruses showed susceptibility to both drugs. The 14 influenza A(H3N2) and 5 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Intensity remains low in most of the countries in the WHO European Region (Map 2) with most of the western countries reporting regional or widespread circulation of influenza for week 01/2013 (Map 3). Consultation rates for ILI and ARI continue to increase (above the established baselines for Belgium, Denmark, Ireland and the Netherlands) throughout the northern and western parts of the Region and Israel, while remaining low in the eastern and southern parts of the Region (Map 4).

Click on the maps for more detailed information.

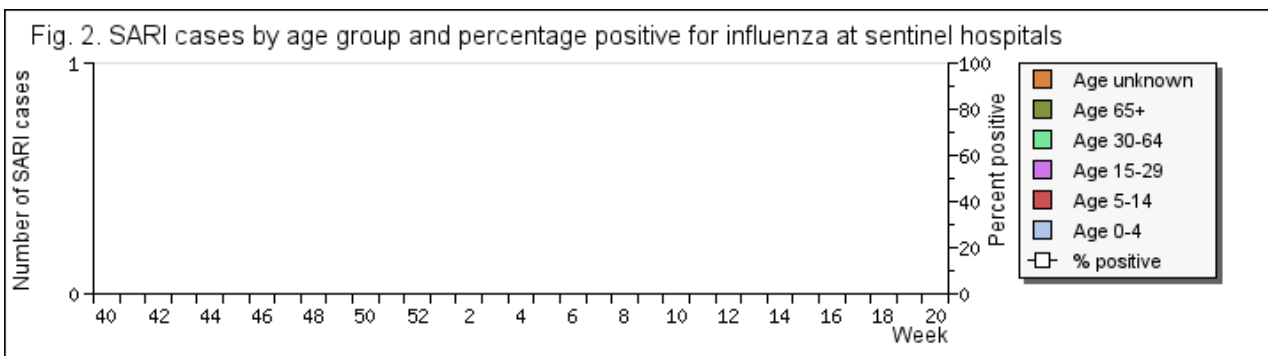
Concurrent with the increasing outpatient consultation rates, the influenza-positivity rate among ILI and ARI cases from sentinel sources is gradually increasing, mainly owing to detections in western Europe: overall, 345 (37%) of 943 specimens tested positive for influenza in week 01/2013 (Fig. 5).



Of the 345 positive specimens from sentinel sources, influenza A and influenza B were detected in similar proportions (Fig. 6a). Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

Hospitalizations due to SARI have remained stable overall, with most cases being reported in children aged 0-4 years (Fig. 7).



In the last few weeks, only sporadic influenza detections have been reported among SARI cases (Fig. 7), consistent with the overall low influenza activity in countries reporting on SARI hospitalizations. In week 01/2013, 4 countries (Belgium, Kazakhstan, Kyrgyzstan and Ukraine) reported 9 cases positive for influenza virus among 110 specimens collected from hospitalized SARI cases in 6 countries (Belgium, Kazakhstan, Kyrgyzstan, Romania, the Russian Federation and Ukraine) (Fig. 8a). Since week 40/2012, 1762 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

The countries notifying the European Centre for Disease Prevention and Control (ECDC) of severe influenza in hospitals, a higher number of influenza detections has been reported, reflecting increasing levels of influenza activity in the western part of the Region. To

date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](http://ecdc.europa.eu/en/flu) web site.

**N.B.** 5 influenza-positive SARI cases reported by Belgium are not included in pie-chart this week

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

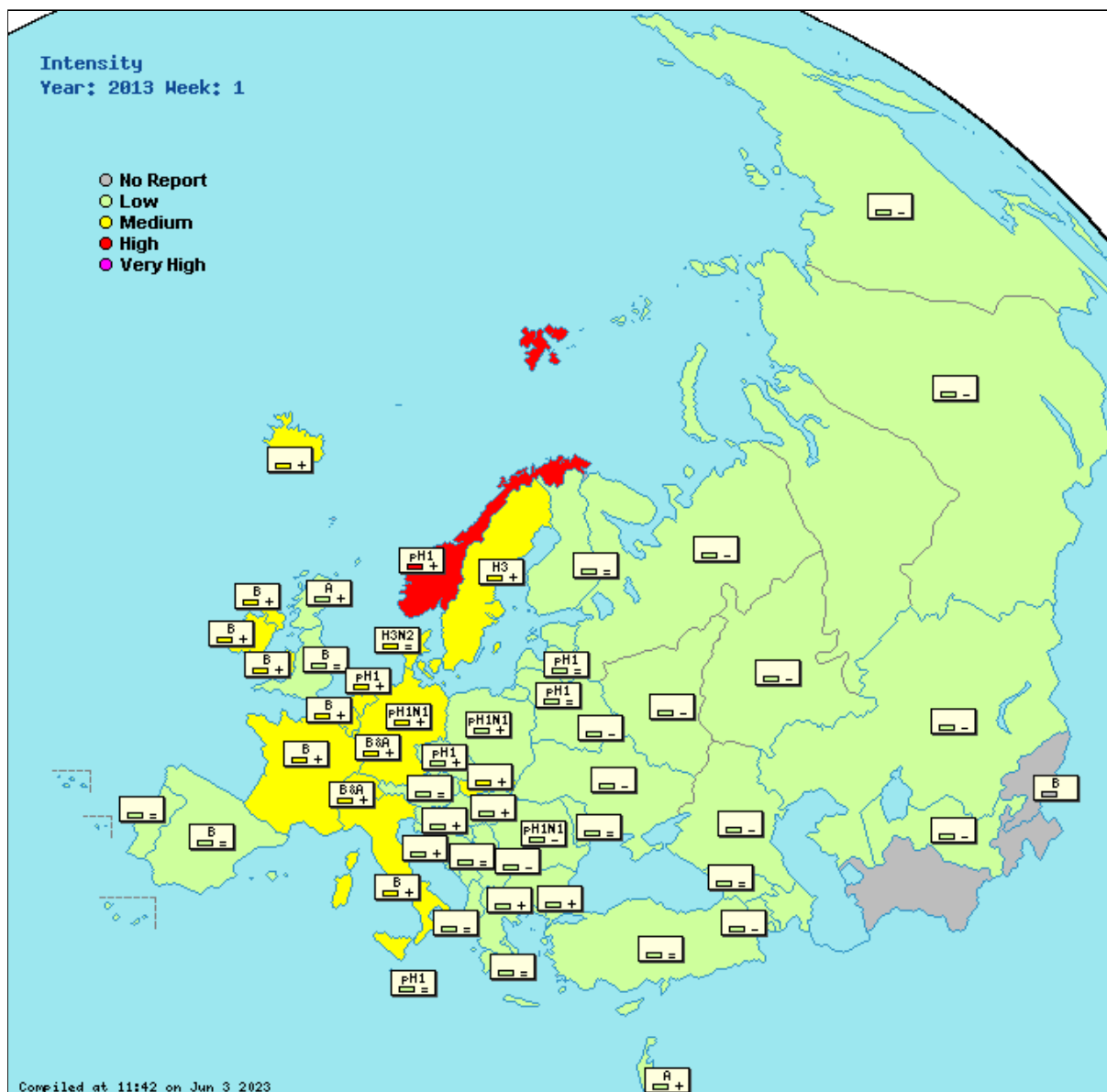
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + **virological**  **Geographical spread**  + **virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= stable clinical activity  
 + increasing clinical activity  
 - decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

### Czech Republic

Up to end of week 1/2013 a cumulative total of 33 severe influenza patients with laboratory-confirmed influenza A(H1N1)2009 or influenza A(untsubtyped) were reported by intensive and resuscitation care units including 4 death.

### Norway

The number of influenza virus detections increased to a high level in week 1/2013. There appears to be local variation in the occurrence of A(H1N1)pdm09, A(H3N2), and B/Yamagata lineage viruses, but A(H1N1)pdm viruses are now predominating at the national level.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable					388.4	(graphs)	sari <a href="#">Click here</a>
Armenia	Low	None	Low	Decreasing	0	-	None		22.1	(graphs)	sari <a href="#">Click here</a>
Austria	Low	Local	Low	Stable	11	27.3%	None	10.1	(graphs)	(graphs)	<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing				194.5	(graphs)	(graphs)	<a href="#">Click here</a>

Belarus	Low	Sporadic	Low	Decreasing					7.5 ( <a href="#">graphs</a> )	658.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Medium	Widespread		Stable	33	75.8%	Type B		192.6 ( <a href="#">graphs</a> )	1818.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Low	None	Low	Stable			None		20.5 ( <a href="#">graphs</a> )	58.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	None		Increasing	8	0%	None		( <a href="#">graphs</a> )	479.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Low	Sporadic	Low	Increasing			None		0.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Low	Regional		Increasing	5	20.0%	Type A, Subtype pH1		58.3 ( <a href="#">graphs</a> )	906.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Medium	Widespread		Stable	7	100.0%	Type A, Subtype H3N2		150.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Widespread		Stable	143	47.6%	None		29.2 ( <a href="#">graphs</a> )	476.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	Sporadic		Increasing					8.4 ( <a href="#">graphs</a> )	232.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland					4	25.0%	None		( <a href="#">graphs</a> )			<a href="#">Click here</a>
France	Medium	Widespread	Low	Increasing	111	38.7%	Type A and B		( <a href="#">graphs</a> )	2213.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	Sporadic	Low	Stable	4	0%	None		138.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Medium	Regional		Increasing	69	30.4%	Type A, Subtype pH1N1		( <a href="#">graphs</a> )	1034.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	Sporadic	Low	Increasing	10	30.0%	None		45.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland	Medium	Widespread	Moderate	Increasing	0	-			25.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Medium	Widespread	Moderate	Increasing	55	72.7%	Type B		63.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	Regional	Low	Increasing	101	15.8%	Type A		26.9 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Medium	Regional	Low	Increasing	13	38.5%	Type B		329.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	Sporadic	Low	Decreasing	16	0%	None		71.9 ( <a href="#">graphs</a> )	37.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					5	40.0%	None		2.4 ( <a href="#">graphs</a> )	35.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Low	Sporadic		Stable	0	-	Type A, Subtype pH1		0.0 ( <a href="#">graphs</a> )	875.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Low	Sporadic	Low	Stable	3	33.3%	Type A, Subtype pH1		8.9 ( <a href="#">graphs</a> )	443.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Medium	Widespread	Low		15	46.7%	Type B and Type A, Subtype pH1N1		10.2* ( <a href="#">graphs</a> )	20.4* ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia							None		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Montenegro	Low	Sporadic	Low	Increasing					17.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Medium	Widespread		Increasing	12	58.3%	Type A		82.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Medium	Regional		Increasing	10	50.0%	Type B		87.0 ( <a href="#">graphs</a> )	571.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	High	Widespread	Moderate	Increasing	35	57.1%	Type A, Subtype pH1		43.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Increasing	66	42.4%	Type A, Subtype pH1N1		350.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable					8.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Stable	0	-	None		( <a href="#">graphs</a> )	143.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	None	Low	Decreasing	6	0%			1.2 ( <a href="#">graphs</a> )	327.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Decreasing	10	0%	None		( <a href="#">graphs</a> )	295.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Regional	Low	Increasing	6	50.0%	Type A		46.3 ( <a href="#">graphs</a> )	993.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	None	Low	Decreasing	0	-	None		32.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Medium	Sporadic	Low	Increasing	0	-	None		84.7 ( <a href="#">graphs</a> )	1134.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Low	Sporadic		Increasing	25	36.0%	None		4.5 ( <a href="#">graphs</a> )	991.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Low	Sporadic		Stable	41	19.5%	Type B		23.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Medium	Local	Low	Increasing	10	40.0%	Type B and Type A, Subtype pH1		96.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey	Low	Sporadic	Low	Stable	93	17.2%	None		225.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Low	Sporadic	Low	Decreasing	9	0%	None		1.7* ( <a href="#">graphs</a> )	282.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Decreasing	4	25.0%	None		0.1 ( <a href="#">graphs</a> )	27.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Wales	Medium	Widespread		Increasing	3	33.3%	Type B		33.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					943	36.6%						<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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# Large variation in influenza activity across the WHO European Region



EUROPE



## Summary, week 2/2013

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) are now increasing in almost all countries in the Region. Influenza activity is still largely limited to the western part of the Region, however, where widespread transmission is being reported by most countries. While influenza A(H1N1)pdm09, A(H3N2) and type B viruses are circulating in the Region, the proportion of influenza A(H1N1)pdm09 continues to increase, relative to the others, and accounts for 84% of influenza A viruses subtyped. The number of reported hospitalizations due to severe acute respiratory infection (SARI) is increasing slowly, along with the proportion of patients testing positive for influenza.

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Mortality monitoring \(EuroMomo\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

The number of specimens testing positive for influenza in the Region continues to rise, mainly owing to increasing detections in the western part of the Region. Overall, a total of 3495 specimens tested positive for influenza in week 02/2013, the majority of which, 2532 (72%), were influenza A (Fig. 1).

The proportion of influenza A(H1N1)pdm09 viruses relative to A(H3N2) continues to increase. In week 2, among 1363 influenza A viruses subtyped, 1151 (84%) were A(H1N1)pdm09 while 212 (16%) were A(H3N2) (Fig. 2a). This presents a very different picture from the 2011/2012 influenza season when A(H1N1)pdm09 detections were rare. In the 19 countries testing 20 or more sentinel specimens, influenza positivity ranged from 11% to 68%, with a median of 45% (mean: 44%).

Since the beginning of the season (week 40/2012), 12,247 influenza viruses from sentinel and non-sentinel sources have been typed: 8250 (67%) were influenza A and 3997 (33%) influenza B (Fig. 2b). Of the influenza A viruses, 4475 were subtyped: 2945 (66%) as A(H1N1)pdm09 and 1530 (34%) as A(H3N2). In addition, since week 40/2012, the lineage has been determined for 497 influenza B viruses: 454 (91%) belonged to the B/Yamagata lineage and 43 (9%) to B/Victoria.

Current circulation of influenza viruses varies considerably across the Region. As in the previous weeks, influenza A (mainly A(H1N1)pdm09) has been reported to be the dominant virus in northern and central Europe, in parts of the Russian Federation and in Turkey (Map 1); while influenza B is reported as the dominant virus in some countries in the southern and western part of the Region. In between these areas, co-circulation of A(H1N1)pdm09, A(H3N2) and influenza B is being reported.

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at [WHO](#) web site). The majority of characterized viruses from the WHO European Region have been similar to these vaccine viruses.

## Virus strain characterizations

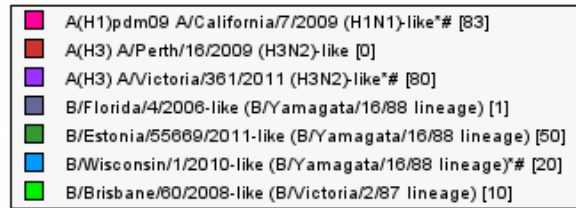
Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 179 influenza viruses characterized antigenically by 8 countries (Denmark, the United Kingdom (England), Germany, Latvia, Portugal, Romania, the Russian Federation, Switzerland) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine ([Fig. 3](#)). 10 countries (Austria, Belgium, Denmark, Finland, Germany, Norway, Portugal, Spain, Sweden, Switzerland) have characterized 140 influenza viruses genetically ([Fig. 4](#)).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 02/2013

[Total N = 244]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:42 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Currently, both A(H1N1)pdm09 and A(H3N2) viruses fall into a number of different genetic groups but they remain antigenically similar to their respective vaccine viruses, A/California/7/2009 and A/Victoria/361/2011. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating. Influenza B viruses of the B/Victoria lineage, all fall within the B/Brisbane/60/2008 clade and are antigenically indistinguishable. B/Yamagata lineage viruses in circulation clearly fall into two distinct genetic clades, 2 and 3 represented by B/Estonia/55669/2011 and B/Wisconsin/1/2010 respectively: while viruses in these clades can be distinguished antigenically, the antigenic differentiation is not clear-cut as post-infection ferret antisera raised against clade 2 viruses are more clade-specific than are antisera raised against clade 3 viruses.

### Monitoring of susceptibility to antiviral drugs

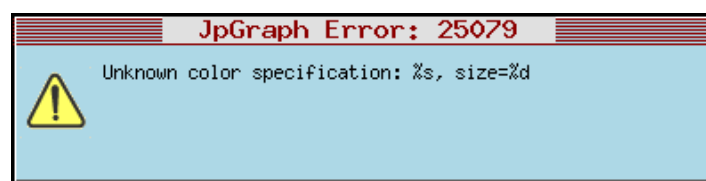
Since week 40/2012, 7 countries (Denmark, Germany, the Netherlands, Norway, Spain, Sweden and the United Kingdom) have screened 133 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. The 63 influenza A(H3N2), 43 A(H1N1)pdm09 and 27 influenza B viruses showed susceptibility to both drugs. The 14 influenza A(H3N2) and 5 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

ILI and ARI consultation rates are now starting to increase in the eastern part the Region (Map 4), although intensity remains low in this area (Map 2). In most of the northern and western European countries and Israel, consultation rates for ILI and ARI continue to increase (Map 4); they are above established seasonal thresholds in several countries (see [Country data and graphs](#) for individual country data). In addition, a higher number of western countries reported regional or widespread circulation of influenza in week 02/2013 than in the previous week (Map 3).

Click on the maps for more detailed information.

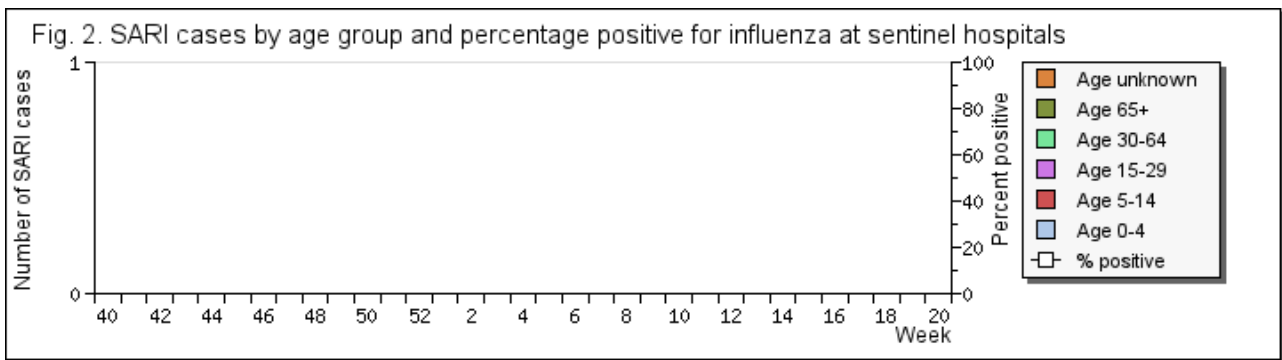
Concurrent with increasing consultation rates for ILI and ARI, the number of influenza detections from sentinel outpatient clinics is gradually increasing, mainly owing to detections in western Europe. Overall, 1671 specimens were tested, of which 648 (39%) were positive for influenza in week 02/2013; similar to the percent of specimens positive for influenza in week 01/2013 (Fig. 5).



Of the 648 positive specimens from sentinel sources, influenza A was detected in 58% (Fig. 6a), a slight increase from the previous weeks when influenza A and B were detected in equal proportions. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

Hospitalizations due to SARI have increased slightly over the past few weeks along with an increase in the proportion of respiratory specimens from patients testing positive for influenza (Fig. 7). Overall, the great majority of cases reported have been in the group aged 0-4 years (see [Country data and graphs](#) for individual country data).



In the past few weeks, only sporadic influenza detections have been reported among SARI cases (Fig. 7), reflecting an overall low influenza activity in countries reporting on SARI hospitalizations. In week 02/2013, 6 countries (Belarus, Belgium, Georgia, Kyrgyzstan, Romania and the Russian Federation) detected a total of 28 influenza viruses among 200 specimens tested (Fig. 8a). Since week 40/2012, 2018 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on severe influenza in hospitals to the European Centre for Disease Prevention and Control (ECDC), a higher number of influenza detections has been reported compared to countries reporting on SARI (most of which are in the eastern part of the Region). This reflects the higher levels of influenza activity in the western part of the Region. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### The EUROMOMO mortality monitoring system

Pooled analysis for week 2/2013 did not show any excess of all-cause mortality for this season so far although, 2 out of 15 reporting countries saw a clear increase of mortality in the elderly people (aged 65 years and above). For more information about the EUROMOMO mortality monitoring system please click [here](#)

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

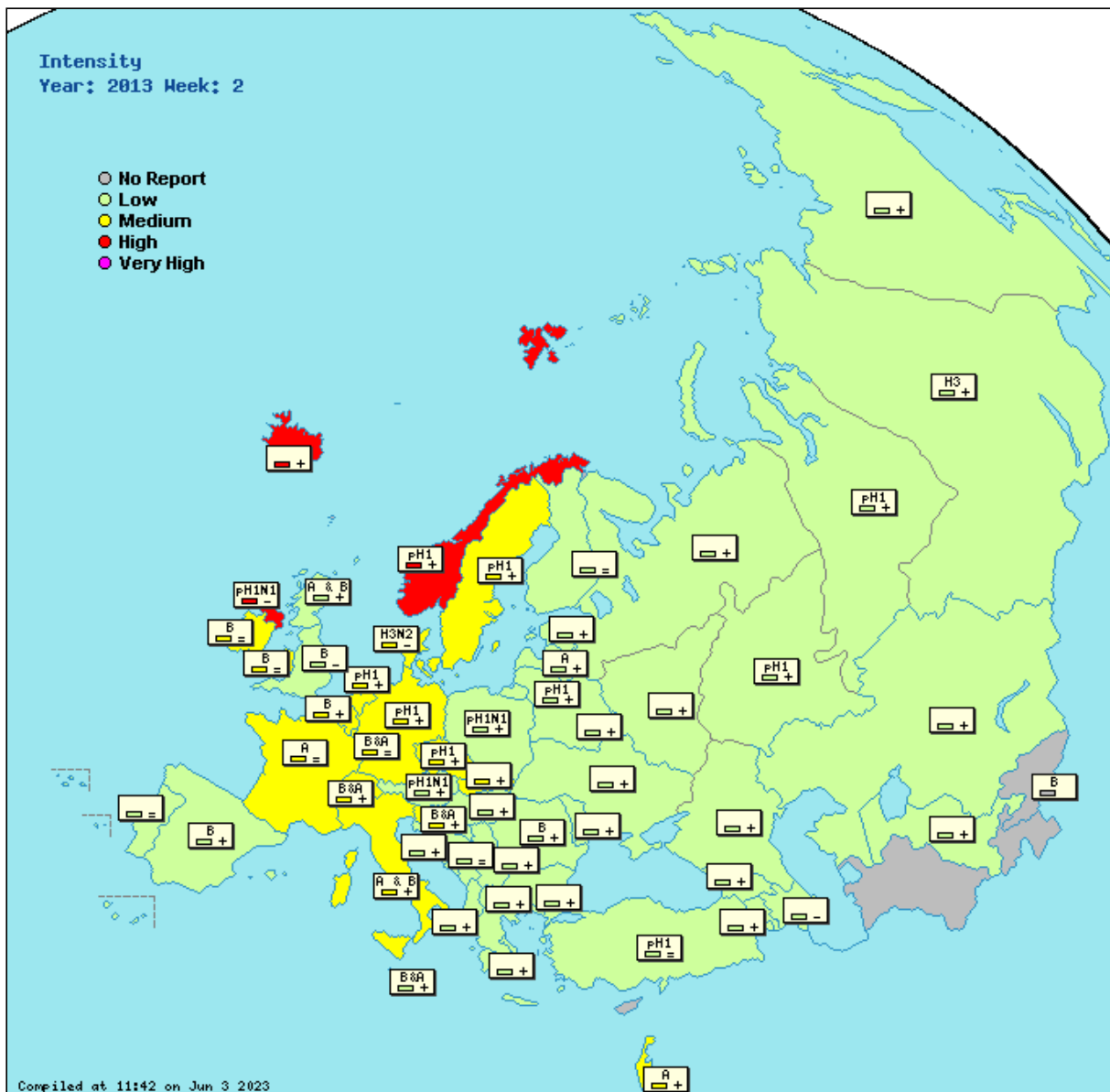
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B  
 = : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

### Czech Republic

Up to end of week 2/2013 a cumulative total of 80 severe influenza patients with laboratory-confirmed influenza were reported by intensive and resuscitation care units including 11 deaths.

### Republic of Moldova

This 2nd sentinel week in one sentinel sample was detected ARN Influenza type B and in one non-sentinel SARI sample was detected ARN Parainfluenza virus type 3.

### Scotland

All Influenza A (H3N2) and A(H1N1)pdm09 samples sequenced to date match the respective vaccine strains. Of the Influenza B samples for which the lineage has been determined 75% could be attributed to Yamagata lineage and 25% to Victoria lineage.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing	5	0%	None		426.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>

Armenia	Low	None	Low	Increasing	0	-	None	67.1	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	Regional	Low	Increasing	26	38.5%	Type A, Subtype pH1N1	27.5	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing	0	-	None	161.1	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Belarus	Low	Sporadic	Low	Increasing	14	7.1%	None	13.1	<a href="#">(graphs)</a>	825.1	<a href="#">(graphs)</a> <a href="#">sari</a> <a href="#">Click here</a>
Belgium	Medium	Widespread		Increasing	65	52.3%	Type B	344.8	<a href="#">(graphs)</a>	1876.1	<a href="#">(graphs)</a> <a href="#">sari</a> <a href="#">Click here</a>
Bosnia and Herzegovina	Low	None	Low	Stable			None	48.2	<a href="#">(graphs)</a>	120.1	<a href="#">(graphs)</a> <a href="#">Click here</a>
Bulgaria	Low	None		Increasing	5	0%	None		<a href="#">(graphs)</a>	838.4	<a href="#">(graphs)</a> <a href="#">Click here</a>
Croatia	Low	Widespread	Low	Increasing			None	0.4	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Czech Republic	Medium	Widespread		Increasing	23	56.5%	Type A, Subtype pH1	118.6	<a href="#">(graphs)</a>	1240.1	<a href="#">(graphs)</a> <a href="#">Click here</a>
Denmark	Medium	Widespread		Decreasing	16	50.0%	Type A, Subtype H3N2	119.6	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
England	Low	Widespread		Decreasing	149	35.6%	None	24.8	<a href="#">(graphs)</a>	431.7	<a href="#">(graphs)</a> <a href="#">Click here</a>
Estonia	Low	Sporadic		Increasing				8.9	<a href="#">(graphs)</a>	295.9	<a href="#">(graphs)</a> <a href="#">Click here</a>
Finland					10	10.0%	None		<a href="#">(graphs)</a>		<a href="#">Click here</a>
France	Medium	Widespread	Low	Stable	220	45.9%	Type A and B		<a href="#">(graphs)</a>	2311.5	<a href="#">(graphs)</a> <a href="#">Click here</a>
Georgia	Low	Sporadic	Low	Increasing	12	8.3%	None	170.8	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Germany	Medium	Widespread		Increasing	135	45.2%	Type A, Subtype pH1 and H3N2		<a href="#">(graphs)</a>	1430.1	<a href="#">(graphs)</a> <a href="#">Click here</a>
Greece	Low	Local		Increasing	0	-		171.0	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Hungary	Low	Sporadic	Low	Increasing				93.7	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Iceland	High	Widespread	Moderate	Increasing	0	-		57.0	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Ireland	Medium	Widespread	Moderate	Stable	50	58.0%	Type B	52.1	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Israel	Medium	Widespread	Moderate	Increasing	103	36.9%	Type A	34.9	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Italy	Medium	Regional	Low	Increasing	59	39.0%	Type A and B	449.8	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Kazakhstan	Low	Sporadic	Moderate	Increasing	5	0%	None	118.4	<a href="#">(graphs)</a>	23.0	<a href="#">(graphs)</a> <a href="#">sari</a> <a href="#">Click here</a>
Kyrgyzstan					13	30.8%	None	7.1	<a href="#">(graphs)</a>	57.1	<a href="#">(graphs)</a> <a href="#">sari</a> <a href="#">Click here</a>
Latvia	Low	Sporadic		Stable	0	-	Type A	3.9	<a href="#">(graphs)</a>	1179.0	<a href="#">(graphs)</a> <a href="#">Click here</a>
Lithuania					22	68.2%	Type A, Subtype pH1		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Luxembourg	Medium	Widespread	Low		33	45.5%	Type B and Type A, Subtype pH1	3.1 *	<a href="#">(graphs)</a>	26.6 *	<a href="#">(graphs)</a> <a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Low	Regional	Low	Increasing			None	13.2	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Malta	Low	Local	Low	Increasing	0	-	Type B and Type A, Subtype pH1	4.1 *	<a href="#">(graphs)</a>	0 *	<a href="#">(graphs)</a> <a href="#">Click here</a>
Montenegro	Low	Sporadic	Low	Increasing				23.8	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Netherlands	Medium	Widespread		Increasing	32	31.3%	Type A	108.4	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Northern Ireland	Medium	Regional		Decreasing	16	43.8%	Type B	72.4	<a href="#">(graphs)</a>	495.1	<a href="#">(graphs)</a> <a href="#">Click here</a>
Norway	High	Widespread	Moderate	Increasing	34	61.8%	Type A, Subtype pH1	356.6	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Increasing				522.2	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Portugal	Low	Sporadic		Stable	4	25.0%	None	9.0	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Republic of Moldova	Low	Sporadic	Low	Increasing	1	100.0%	Type B		<a href="#">(graphs)</a>	174.2	<a href="#">(graphs)</a> <a href="#">sari</a> <a href="#">Click here</a>
Romania	Low	Sporadic	Low	Increasing	15	13.3%	Type B	2.3	<a href="#">(graphs)</a>	545.5	<a href="#">(graphs)</a> <a href="#">sari</a> <a href="#">Click here</a>
Russian Federation	Low	Sporadic		Increasing	27	11.1%	Type A, Subtype pH1 and H3	0.2	<a href="#">(graphs)</a>	445.6	<a href="#">(graphs)</a> <a href="#">sari</a> <a href="#">Click here</a>
Scotland	Low	Regional	Low	Increasing	52	44.2%	Type A and B	52.2	<a href="#">(graphs)</a>	731.1	<a href="#">(graphs)</a> <a href="#">Click here</a>
Serbia	Low	Sporadic	Low	Increasing				37.8	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Slovakia	Medium	Sporadic	Low	Increasing	0	-	None	182.9	<a href="#">(graphs)</a>	1686.3	<a href="#">(graphs)</a> <a href="#">sari</a> <a href="#">Click here</a>
Slovenia	Medium	Local		Increasing	31	61.3%	Type B and Type A, Subtype pH1	18.7	<a href="#">(graphs)</a>	1319.7	<a href="#">(graphs)</a> <a href="#">Click here</a>
Spain	Low	Local		Increasing	133	35.3%	Type B	50.3	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Sweden	Medium	Widespread		Increasing	102	22.6%	Type A	10.8	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Switzerland					46	58.7%	Type B and Type A, Subtype pH1		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Turkey	Low	Local	Low	Stable	178	23.6%	Type A, Subtype pH1	158.8	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Ukraine	Low	Sporadic	Low	Increasing	4	0%	None	2.3 *	<a href="#">(graphs)</a>	344.7	<a href="#">(graphs)</a> <a href="#">sari</a> <a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing	16	56.3%	None	0.1	<a href="#">(graphs)</a>	38.0	<a href="#">(graphs)</a> <a href="#">Click here</a>
Wales	Medium	Widespread		Stable	6	83.3%	Type B	26.1	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Europe					1662	38.9%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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EuroFlu : Weekly Electronic Bulletin

# The patterns of influenza activity remain diverse across the WHO European Region



## Summary, week 3/2013

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) are increasing in the majority of countries in the Region, including eastern Europe, but have started to decrease in northern countries. Influenza A(H1N1)pdm09, A(H3N2) and type B viruses are circulating in the Region, but the relative proportion of influenza A(H1N1)pdm09 in samples from sentinel and non-sentinel sources continues to increase. The number of reported hospitalizations due to severe acute respiratory infection (SARI) is increasing slowly in association with the increase in influenza activity in the eastern part of the Region.



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Mortality monitoring \(EuroMomo\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

The number of specimens testing positive for influenza in the Region was similar to the previous week, again mainly due to detections in the western part of the Region. Overall, a total of 3741 specimens tested positive for influenza in week 3/2013, which 2840 (76%) were influenza A (Fig. 1).

For week 3/2013 the picture related to the proportion of influenza A(H1N1)pdm09 viruses versus A(H3N2) was similar to those in the two previous weeks, with A(H1N1)pdm09 dominating: of 1856 influenza A viruses subtyped, 1488 (80%) were A(H1N1)pdm09 while 368 (20%) were A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2012), 16 457 influenza viruses from sentinel and non-sentinel sources have been typed: 11 318 (69%) were influenza A and 5 139 (31%) influenza B (Fig. 2b). Of the influenza A viruses, 6698 were subtyped: 4552 (68%) as A(H1N1)pdm09 and 2146 (32%) as A(H3N2). In addition, since week 40/2012, the lineage for 788 influenza B viruses has been determined: 707 (90%) belonged to the B/Yamagata lineage and 81 (10%) to B/Victoria.

The circulation of influenza viruses remains variable across the Region. Influenza A (mainly A(H1N1)pdm09) continues to be reported as the dominant virus in an increasing number of countries in northern and central Europe, the Russian Federation and Turkey, while influenza B is reported as the dominant virus in some countries in the southern and western parts of the Region (Map 1). Between these areas, co-circulation of A(H1N1)pdm09, A(H3N2) and influenza B is reported.

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at [WHO](#) web site). The majority of characterized viruses from the WHO European Region have been similar to these vaccine viruses.

### Virus strain characterizations

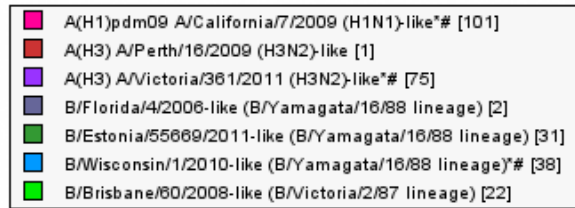
Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 964 influenza viruses characterized antigenically by 10 countries (Denmark, the United Kingdom (England), Germany, Latvia, Portugal, Romania, the Russian Federation, Scotland, Slovakia, Switzerland) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine ([Fig. 3](#)). 11 countries (Austria, Belgium, Denmark, Finland, Germany, Norway, Portugal, Scotland, Spain, Sweden, Switzerland) have characterized 240 influenza viruses genetically ([Fig. 4](#)).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 03/2013

[Total N = 270]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:42 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

At present, both A(H1N1)pdm09 and A(H3N2) viruses fall into a number of different genetic groups, but they remain antigenically similar to their respective vaccine viruses, A/California/7/2009 and A/Victoria/361/2011. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating with the clear dominance of the B/Yamagata lineage viruses this season. Influenza B viruses of the B/Victoria lineage, all fall within the B/Brisbane/60/2008 clade and are antigenically indistinguishable. B/Yamagata lineage viruses in circulation clearly fall into two distinct genetic clades, 2 and 3 represented by B/Estonia/55669/2011 and B/Wisconsin/1/2010 respectively. Viruses in these clades can be distinguished antigenically from each other, but the antigenic differentiation of these clades is not clear-cut as post-infection ferret antisera raised against clade 2 viruses are more clade-specific than are antisera raised against clade 3 viruses. Nevertheless, viruses within these clades remain antigenically similar to the current vaccine strain.

#### Monitoring of susceptibility to antiviral drugs

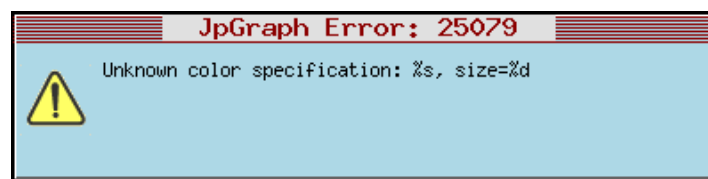
Since week 40/2012, 7 countries (Denmark, Germany, the Netherlands, Norway, Spain, Sweden and the United Kingdom) have screened 196 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. The 78 influenza A(H3N2), 52 A(H1N1)pdm09 and 66 influenza B viruses showed susceptibility to both drugs. The 14 influenza A(H3N2) and 5 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

#### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

ILI and ARI consultation rates continue to increase in the eastern part of the Region (Map 4), but with mainly low intensity levels across this area (Map 2); only Kazakhstan reported medium intensity. In contrast, consultation rates for ILI and ARI started to decrease in northern European countries (Map 4) despite a high proportion of specimens testing positive for influenza (see [Country data and graphs](#) for individual country data). A higher number of countries in the central part of the Region reported regional or widespread circulation of influenza in week 3/2013 (Map 3).

Click on the maps for more detailed information.

The number of specimens tested from sentinel outpatient clinics is increasing, notably in France, Germany, Poland, Spain, Turkey and the United Kingdom. Overall, 2286 specimens were tested, of which 909 (40%) were positive for influenza in week 3/2013, similar to the proportions in the previous 2 weeks (Fig. 5).

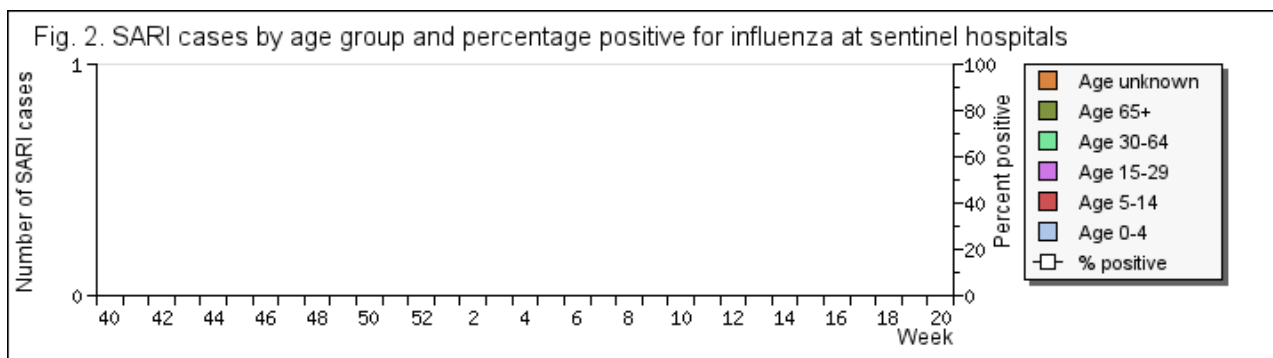


Of the 909 positive specimens from sentinel sources, influenza A was detected in 62% (Fig. 6), a slight increase from the 2 previous weeks. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

#### Hospital surveillance for SARI

The number of hospitalizations due to SARI continues to rise, with a similar proportion of respiratory specimens from patients testing positive for influenza (Fig. 7). Overall, most reporting countries, except Belgium and Slovakia, reported cases mainly in the group aged 0-4 years (see [Country data and graphs](#) for individual country data).





The increase in numbers of SARI cases testing positive for influenza (Fig. 7), is in line with increasing influenza activity in countries reporting on SARI hospitalizations. In week 3/2013, 9 countries (Belarus, Belgium, Georgia, Kyrgyzstan, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) detected a total of 27 influenza viruses among 237 specimens tested (Fig. 8). Since week 40/2012, 2272 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 30 such cases were reported for week 3/2013. This reflects the higher levels of influenza activity in the western part of the Region. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### The EUROMOMO mortality monitoring system

EuroMOMO is a project aimed to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 EU countries. Pooled analysis as of week 3/2013 shows no excess all-cause mortality as yet this season. For more information about the EUROMOMO mortality monitoring system please click [here](#)

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

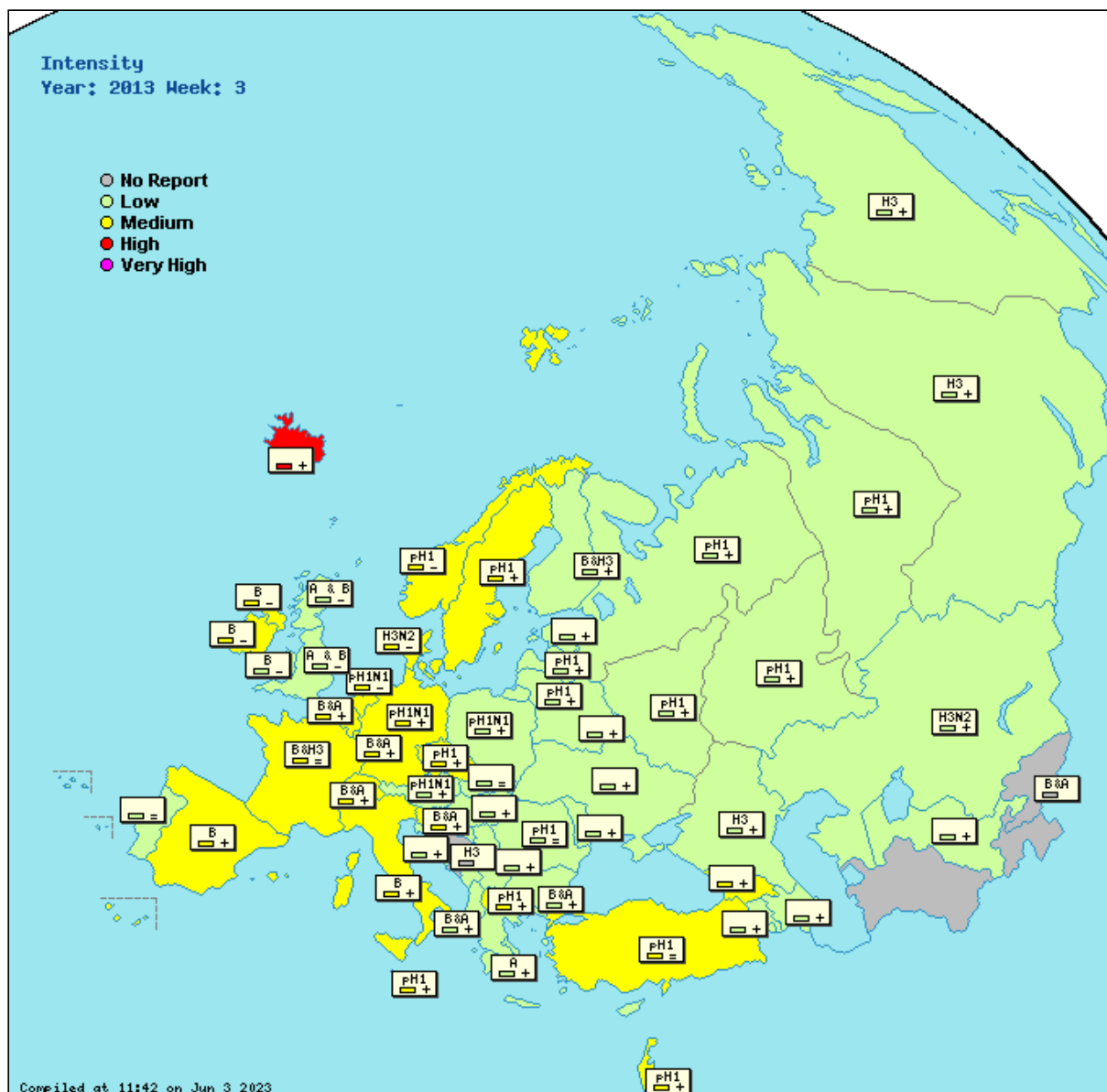
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

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.  
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.

## Country comments (where available)

### Czech Republic

Up to end of week 3/2013 a cumulative total of 140 severe influenza patients with laboratory-confirmed influenza were reported by intensive and resuscitation care units including 24 deaths.

### Republic of Moldova

This 3rd sentinel week in one sentinel sample was detected ARN Influenza type B and in one non-sentinel sample was detected ARN Influenza virus A(H1N1)pdm.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing	14	14.3%	Type B and Type A, Subtype pH1		429.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Low	None	Low	Increasing	0	-	None		85.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	Regional	Low	Increasing	48	43.8%	Type A, Subtype pH1N1	32.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	2	0%	None	184.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	Sporadic	Low	Increasing	32	9.4%	None	14.0 ( <a href="#">graphs</a> )	886.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>

Belgium	Medium	Widespread		Increasing	93	64.5%	Type B	420.4 ( <a href="#">graphs</a> )	1832.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Low	None	Low	Stable			Type A, Subtype H3	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	Sporadic		Increasing	19	26.3%	Type B and Type A, Subtype pH1	( <a href="#">graphs</a> )	932.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Low	Widespread	Low	Increasing			None	3.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				1.5 * ( <a href="#">graphs</a> )	11.0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Medium	Widespread		Increasing	9	33.3%	Type A, Subtype pH1	163.8 ( <a href="#">graphs</a> )	1289.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Medium	Widespread		Decreasing	22	72.7%	Type A, Subtype H3N2	150.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Widespread		Decreasing	111	0%	Type A and B	13.6 ( <a href="#">graphs</a> )	322.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	Local		Increasing				10.0 ( <a href="#">graphs</a> )	317.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland					27	55.6%	Type B and Type A, Subtype H3	( <a href="#">graphs</a> )			<a href="#">Click here</a>
France	Medium	Widespread	Low	Stable	166	57.2%	Type A and B	( <a href="#">graphs</a> )	2217.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Medium	Widespread	Moderate	Increasing	23	17.4%	None	227.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Medium	Widespread		Increasing	180	47.8%	Type A, Subtype pH1N1 and H3	( <a href="#">graphs</a> )	1417.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	Local		Increasing	5	40.0%	Type A	80.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	Sporadic	Low	Increasing	38	13.2%	None	121.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland	High	Widespread	Low	Increasing	0	-		89.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Medium	Widespread	Moderate	Decreasing	60	53.3%	Type B	50.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Medium	Widespread	Moderate	Increasing	109	44.0%	Type A, Subtype pH1 and H3	60.8 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Medium	Widespread	Low	Increasing	94	36.2%	Type B	625.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Medium	Local	Moderate	Increasing	18	5.6%	None	155.9 ( <a href="#">graphs</a> )	17.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					17	0%	None	29.5 ( <a href="#">graphs</a> )	65.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Low	Regional		Increasing				40.0 ( <a href="#">graphs</a> )	1188.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania					49	71.4%	Type A, Subtype pH1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Luxembourg	Medium	Widespread	Low		40	52.5%	Type B and Type A, Subtype pH1	5.2 * ( <a href="#">graphs</a> )	34.6 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Malta	Medium	Local	Moderate	Increasing				2.3 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	Local	Low	Increasing				32.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Medium	Widespread		Decreasing	27	51.9%	Type A	82.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Medium	Regional		Decreasing	13	238.5%	Type B	53.9 ( <a href="#">graphs</a> )	441.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Medium	Widespread	Moderate	Decreasing	3	66.7%	Type A, Subtype pH1	229.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Increasing	237	27.0%	Type A, Subtype pH1N1	560.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	Sporadic		Stable	14	50.0%	None	27.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	Sporadic	Low	Increasing	8	12.5%	None	( <a href="#">graphs</a> )	221.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	None	Low	Stable	5	20.0%		3.0 ( <a href="#">graphs</a> )	578.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Increasing	56	3.6%	Type A, Subtype pH1 and H3	0.5 ( <a href="#">graphs</a> )	604.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Regional	Low	Decreasing	44	29.6%	Type A and B	33.8 ( <a href="#">graphs</a> )	548.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	Sporadic	Low	Increasing	28	39.3%	None	44.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Medium	Sporadic	Low	Increasing	4	100.0%	None	227.1 ( <a href="#">graphs</a> )	1847.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia					62	50.0%	Type B and Type A, Subtype pH1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Spain	Medium	Regional		Increasing	242	45.5%	Type B	95.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Medium	Widespread		Increasing	78	25.6%	Type A, Subtype pH1N1 and H3	11.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Medium	Widespread		Increasing	57	59.7%	Type B	200.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey	Medium	Regional	Low	Stable	203	31.0%	Type A, Subtype pH1	125.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Low	Regional	Low	Increasing	15	13.3%	None	2.8 * ( <a href="#">graphs</a> )	406.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing	19	57.9%	None	0.2 ( <a href="#">graphs</a> )	40.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Wales	Low	Sporadic		Decreasing	2	0%	Type B	11.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					2293	39.6%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium = usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# Levels of influenza activity indicate a west-to-east progression across Europe

## Summary, week 4/2013

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) are increasing in most countries in the WHO European Region. In line with observations in previous seasons, influenza activity appears to be migrating from west to east, with countries in the west possibly having reached peak activity while those in the east show slow increases. Influenza A(H1N1)pdm09 remains predominant with co-circulation of influenza A(H3N2) and type B viruses. The proportion of samples from sentinel and non-sentinel sources testing positive for influenza reached its highest level (49%) so far this season. The proportion of severe acute respiratory infection (SARI) cases testing positive for influenza continued to increase, mainly owing to influenza A.



EUROPE



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

Overall, the number of specimens testing positive for influenza in the Region increased in week 04/2013. Armenia was the only country to report no specimens testing positive for influenza up to this week. Overall, a total of 4699 specimens tested positive for influenza in week 04/2013, with 3453 (73%) testing positive for influenza A, similarly to the previous week (Fig. 1).

In week 04/2013, influenza A(H1N1)pdm09 viruses continued to dominate: of 2160 influenza A viruses subtyped, 1739 (81%) were A(H1N1)pdm09 while only 421 (19%) were A(H3N2) (Fig. 2a). This presents a very different picture from the 2011/2012 influenza season, when A(H1N1)pdm09 detections were rare, but is similar to the 2010/2011 season.

In the 32 countries testing 20 or more sentinel specimens, influenza positivity ranged from 0% to 95.4%, with a median of 46% (mean: 45%).

Since the beginning of the season (week 40/2012), 22 029 influenza viruses from sentinel and non-sentinel sources have been typed: 15 307 (69%) were influenza A and 6 722 (31%) influenza B (Fig. 2b). Of the influenza A viruses, 9163 were subtyped: 6458 (70%) as A(H1N1)pdm09 and 2705 (30%) as A(H3N2). In addition, the lineage for 999 influenza B viruses has been determined since week 40/2012: 897 (90%) belonged to the B/Yamagata lineage and 102 (10%) to B/Victoria.

Circulation of influenza viruses in week 04/2013 remained diverse and similar to the previous week across the Region. Influenza A (mainly A(H1N1)pdm09) was reported as the dominant virus in an increasing number of countries in northern, eastern and central Europe, and Turkey, while influenza B was reported as the dominant virus in some countries in the southern and western parts of the Region (Map 1). Between these areas, co-circulation of A(H1N1)pdm09, A(H3N2) and influenza B was reported.

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at [WHO web site](#)).

## Virus strain characterizations

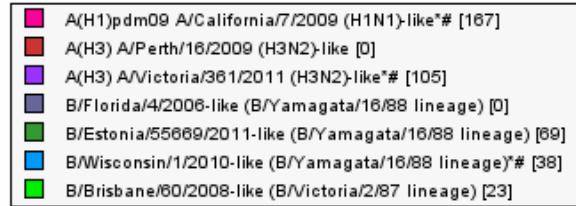
Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 1144 influenza viruses characterized antigenically by 12 countries (Denmark, the United Kingdom (England), Germany, Greece, Latvia, Portugal, Romania, the Russian Federation, Scotland, Slovakia, Slovenia, Switzerland) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). 12 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Norway, Portugal, Scotland, Spain, Sweden, Switzerland) have characterized 318 influenza viruses genetically (Fig. 4).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 04/2013

[Total N = 402]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:43 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their vaccine viruses, A/California/7/2009 and A/Victoria/361/2011, respectively. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating with the clear dominance of the B/Yamagata lineage viruses this season. Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 clade and are antigenically indistinguishable. B/Yamagata lineage viruses in circulation clearly fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3) respectively. Viruses in these clades can be distinguished antigenically from each other, but the antigenic differentiation of these clades is not clear-cut as post-infection ferret antisera raised against clade 2 viruses are more clade-specific than are antisera raised against clade 3 viruses. Nevertheless, viruses within these clades remain antigenically similar to the current vaccine virus.

### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 7 countries (Denmark, Germany, the Netherlands, Norway, Spain, Sweden and the United Kingdom) have screened 262 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. The 95 influenza A(H3N2) and 67 influenza B viruses showed susceptibility to both drugs. Of the 100 A(H1N1)pdm09 viruses tested, 99 showed susceptibility to both drugs and 1 virus carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, was detected in the Netherlands in a hospitalized immunocompromised patient exposed to oseltamivir through treatment (see [Country comments](#) for more details).

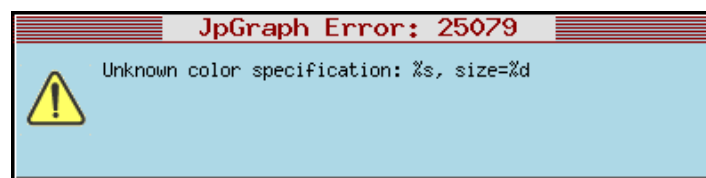
The 14 influenza A(H3N2) and 10 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

ILI and ARI consultation rates continue to increase in the eastern part of the Region (Map 4), but mainly with reported low intensity levels (Map 2). In Norway, Poland and the United Kingdom (Northern Ireland), consultation rates for ILI and ARI are decreasing (Map 4), along with the numbers of specimens testing positive for influenza (see [Country data and graphs](#) for more details). Most of the countries across the Region reported regional or widespread circulation of influenza for week 04/2013 (Map 3). Of the 20 countries that have established epidemic thresholds, 4 (Kazakhstan, Romania, Serbia and Ukraine) reported ILI/ARI consultation rates below their national threshold levels.

Click on the maps for more detailed information.

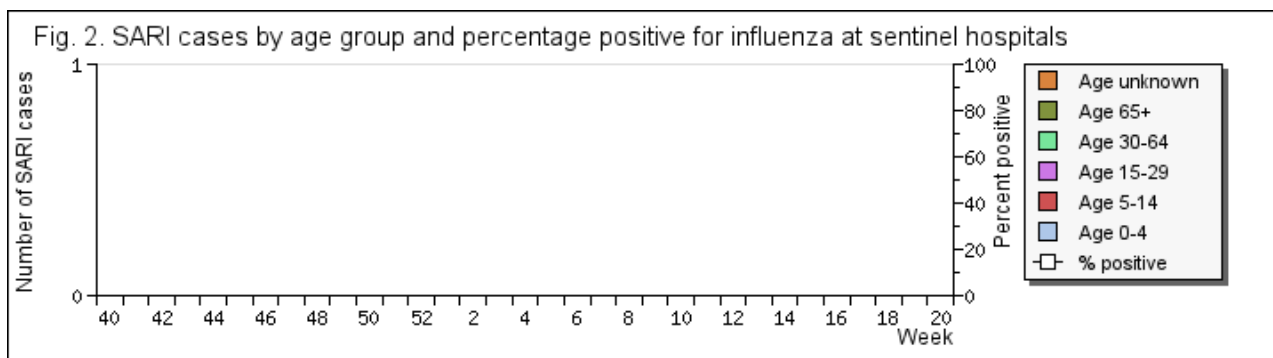
The number of specimens testing positive for influenza from sentinel outpatient clinics reached the highest level so far this season. Overall, 2855 specimens were tested, of which 1391 (49%) were positive for influenza in week 04/2013 (Fig. 5).



Of the 1391 influenza-positive specimens from sentinel sources, influenza A was detected in 59% (Fig. 6a). Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

The proportion of respiratory specimens from patients with SARI testing positive for influenza has continued to rise since week 01/2013 (Fig. 7), in line with increasing influenza activity in countries reporting on SARI hospitalizations. Overall, the majority of countries reported cases mainly in the group aged 0-4 years, (see [Country data and graphs](#) for individual country data).



For week 04/2013, 11 countries (Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 40 influenza detections among 223 specimens tested, 70% of which (28) were influenza A (Fig. 8a). Since week 40/2012, 2553 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 71 such cases were reported for week 04/2013.

This reflects the continued higher levels of influenza activity in the western part of the Region. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 04/2013 data from 13 countries, or regions within countries, shows no substantial excess all-cause mortality as yet this season. For more information about the EUROMOMO mortality monitoring system please click [here](#)

***'Erratum: The ILI rates presented for Hungary are not correct. The actual ILI rates are 136 consultations per 100 000 population'.***

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

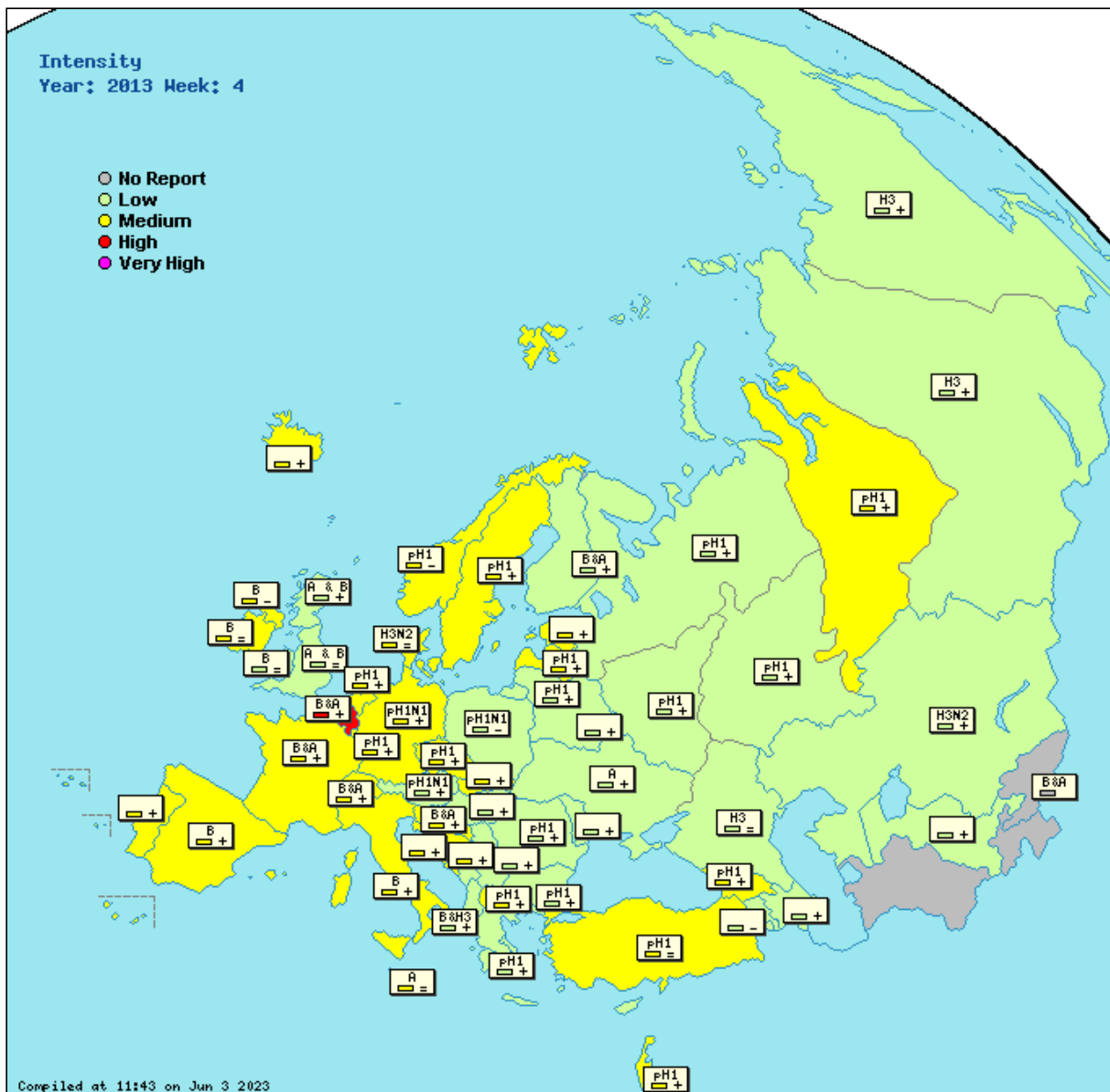
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.  
**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.

## Country comments (where available)

### Czech Republic

Up to end of week 4/2013 a cumulative total of 196 severe influenza patients with laboratory-confirmed influenza were reported by intensive and resuscitation care units including 40 deaths

### Netherlands

'In the Netherlands, a hospitalised immunocompromised patient was identified carrying an oseltamivir resistant A(H1N1)pdm09 virus with the H275Y amino acid substitution. This resistant variant emerged during oseltamivir therapy and was detected shortly after oseltamivir was stopped and before zanamivir therapy was started. The patient was also treated with antibiotics for pneumoniae due to Haemophilus influenzae, thereof improved rapidly and was discharged 20 days after onset of respiratory symptoms.'

### Republic of Moldova

This 4th sentinel surveillance week, totally, were tested 27 samples: 3 samples were positive for A(H1N1)pdm; 1 was positive for A(H3N2); 4 positive for Influenza virus type B and 1 sample was positive for both ARN Influenza virus A(H1N1)pdm and Influenza virus type B.

### Slovenia

By the side of influenza positives, in this season we are observing persistence of high proportion of RSV positive specimens.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing	54	14.8%	Type B and Type A, Subtype H3		435.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Low	None	Low	Decreasing					76.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	Widespread	Low	Increasing	63	58.7%	Type A, Subtype pH1N1	1284.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	14	7.1%	None	222.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	Sporadic	Low	Increasing	46	13.0%	None	22.1 ( <a href="#">graphs</a> )	1070.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	High	Widespread		Increasing	110	73.6%	Type B and Type A, Subtype pH1	679.3 ( <a href="#">graphs</a> )	2345.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Medium	None	Moderate	Increasing			None	37.8 ( <a href="#">graphs</a> )	93.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	Sporadic		Increasing	45	8.9%	Type A, Subtype pH1	( <a href="#">graphs</a> )	1027.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Medium	Widespread	Low	Increasing			None	19.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.4 * ( <a href="#">graphs</a> )	9.2 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Medium	Widespread		Increasing	36	66.7%	Type A, Subtype pH1	209.2 ( <a href="#">graphs</a> )	1418.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Medium	Widespread		Stable	23	69.6%	Type A, Subtype H3N2	189.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Regional		Stable	84	39.3%	Type A and B	11.1 ( <a href="#">graphs</a> )	343.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Medium	Widespread		Increasing	36	16.7%	None	21.0 ( <a href="#">graphs</a> )	450.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	Low	Widespread		Increasing	32	40.6%	Type B and Type A, Subtype pH1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
France	Medium	Widespread	Low	Increasing	226	73.0%	Type A and B	( <a href="#">graphs</a> )	2825.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Medium	Widespread	Moderate	Increasing	26	19.2%	Type A, Subtype pH1	235.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Medium	Widespread		Increasing	275	61.5%	Type A, Subtype pH1N1 and H3	( <a href="#">graphs</a> )	1766.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	Sporadic		Increasing	2	50.0%	Type A, Subtype pH1	124.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	Sporadic	Low	Increasing	33	9.1%	None	13517.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland	Medium	Widespread	Low	Increasing	0	-		97.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Medium	Widespread	Moderate	Stable	37	48.7%	Type B	48.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Medium	Widespread	Moderate	Increasing	160	57.5%	Type A, Subtype pH1 and H3	101.8 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Medium	Widespread	Low	Increasing	118	52.5%	Type B	791.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan					23	0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					37	27.0%	None	22.4 ( <a href="#">graphs</a> )	69.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Medium	Widespread		Increasing	3	33.3%	Type A, Subtype pH1	228.8 ( <a href="#">graphs</a> )	1946.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Low	Local	Low	Increasing	65	95.4%	Type A, Subtype pH1	205.7 ( <a href="#">graphs</a> )	1178.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Medium	Widespread	Low		52	71.2%	Type A, Subtype pH1	3.8 * ( <a href="#">graphs</a> )	32.7 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia							Type A, Subtype pH1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Malta	Medium	Local	Moderate	Stable				5.6 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	Local	Low	Stable				23.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Medium	Widespread		Increasing	37	62.2%	Type A	114.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	Local		Decreasing	3	66.7%	Type B	47.9 ( <a href="#">graphs</a> )	417.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Medium	Widespread	Moderate	Decreasing	0	-	Type A, Subtype pH1	200.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Decreasing	217	19.8%	Type A, Subtype pH1N1	518.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Medium	Widespread		Increasing	22	31.8%	None	43.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	Sporadic	Low	Increasing	19	21.1%	None	3.4 ( <a href="#">graphs</a> )	274.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	Sporadic	Low	Increasing	15	46.7%	Type A, Subtype pH1	3.6 ( <a href="#">graphs</a> )	648.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Local		Increasing	66	42.4%	Type A, Subtype pH1	1.3 ( <a href="#">graphs</a> )	715.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Serbia	Low	Sporadic	Low	Increasing	19	47.4%	None	58.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Medium	Local	Moderate	Increasing	46	32.6%	None	340.1 ( <a href="#">graphs</a> )	2236.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Medium	Widespread		Increasing	48	68.8%	Type B and Type A, Subtype pH1	38.5 ( <a href="#">graphs</a> )	1448.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Medium	Widespread		Increasing	343	51.3%	Type B	156.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Medium	Widespread		Increasing	85	40.0%	Type A, Subtype pH1N1 and H3	14.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Medium	Widespread		Increasing	95	79.0%	Type B	284.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey	Medium	Regional	Low	Stable	206	31.1%	Type A, Subtype pH1	140.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Low	Regional	Low	Increasing	13	15.4%	Type A	3.1 * ( <a href="#">graphs</a> )	466.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing	21	71.4%	None	0.3 ( <a href="#">graphs</a> )	43.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					2855	48.7%					<a href="#">Click here</a>

### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium = usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000



The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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EuroFlu : Weekly Electronic Bulletin

# Influenza activity continues to rise across Europe

## Summary, week 5/2013

Clinical activity rates continue to increase in most countries in the WHO European Region, with predominance of influenza A(H1N1)pdm09 and co-circulation of influenza A(H3N2) and type B viruses. The proportion of samples from sentinel and non-sentinel sources testing positive for influenza reached its highest level so far this season. In line with the increasing activity in outpatient surveillance, the proportion of hospitalized cases of severe acute respiratory infection (SARI) that were positive for influenza continued to increase, and was mainly due to influenza A(H1N1)pdm09 viruses.

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).



## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

The overall number of specimens testing positive for influenza in the Region and the influenza positivity rate continued to rise slowly. A total of 6542 specimens tested positive for influenza in week 05/2013, with 4627 (71%) being influenza A. This distribution is similar to the previous two weeks (Fig. 1).

In week 05/2013, influenza A(H1N1)pdm09 viruses remained dominant: of 2976 influenza A viruses subtyped, 2314 (78%) were A(H1N1)pdm09 while only 662 (22%) were A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2012), 30 119 influenza viruses from sentinel and non-sentinel sources have been typed. A fairly even distribution of influenza virus types has been observed consistently since week 47/2012: 21 097 (70%) were influenza A and 9 022 (30%) influenza B (Fig. 2b). Of the influenza A viruses, 13 107 were subtyped: 9 355 (71%) as A(H1N1)pdm09 and 3 752 (29%) as A(H3N2).

In addition, the lineage for 1260 influenza B viruses has been determined since week 40/2012: 1129 (90%) belonged to the B/Yamagata lineage and 131 (10%) to B/Victoria.

Circulation of influenza viruses in week 05/2013 remained diverse, and similar to the previous two weeks, across the Region. Influenza A, mainly A(H1N1)pdm09, was reported as the dominant virus in countries in northern, eastern and central Europe, and Turkey, while influenza B was reported as the dominant virus in some countries in the southern and western parts of the Region, as well as the United Kingdom (Northern Ireland) (Map 1). Between these areas, co-circulation of A(H1N1)pdm09, A(H3N2) and influenza B was reported.

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at [WHO web site](#)).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 1269 influenza viruses characterized antigenically by 11 countries (Denmark, Germany, Greece, Latvia, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Switzerland and the United Kingdom (England and Scotland)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom characterized the most viruses ♦ 862 (68%) ♦ with 485 (71%) of the 682 influenza (H3N2) viruses being characterized by Scotland as A(H3) A/Victoria/361/2011 (H3N2)-like. 12 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Norway, Portugal, Scotland, Spain, Sweden, Switzerland) have characterized 382 influenza viruses genetically (Fig. 4).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 05/2013

[Total N = 577]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:43 on Jun 3 2013

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their vaccine viruses, A/California/7/2009 and A/Victoria/361/2011, respectively. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating with dominance of the B/Yamagata lineage viruses this season (90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3) respectively. Viruses in these clades can be distinguished antigenically from each other, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 8 countries (Denmark, Germany, Greece, the Netherlands, Norway, Spain, Sweden and the United Kingdom) have screened 278 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. The 96 influenza A(H3N2) and 74 influenza B viruses showed susceptibility to both drugs. Of the 108 A(H1N1)pdm09 viruses tested, 107 showed susceptibility to both drugs and 1 virus carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, was detected in the Netherlands in a hospitalized immunocompromised patient exposed to oseltamivir through treatment.

The 14 influenza A(H3N2) and 10 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

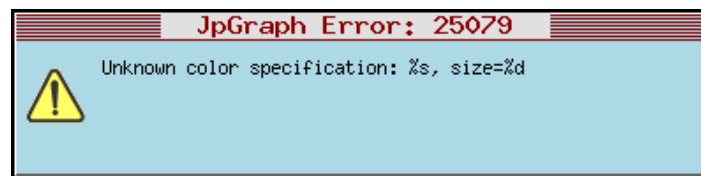
### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

ILI and ARI consultation rates continued to increase in most of the Region (Map 4), with most countries reporting medium intensity levels (Map 2) although some north-western countries (such as Norway, Poland and the United Kingdom) seem to have experienced peaks in clinical activity earlier in the season (see [Country data and graphs](#) for more details). Most of the countries across the Region reported regional or widespread circulation of influenza for week 05/2013 (Map 3). Of the 20 countries that have established epidemic thresholds, only 2 (Kazakhstan and Ukraine) reported ILI/ARI consultation rates remaining below their national threshold levels.

Click on the maps for more detailed information.

The number of specimens testing positive for influenza from sentinel outpatient clinics reached the highest level so far this season. Overall, 2949 specimens were tested, of which 1541 (52%) were positive for influenza in week 05/2013 (Fig. 5).

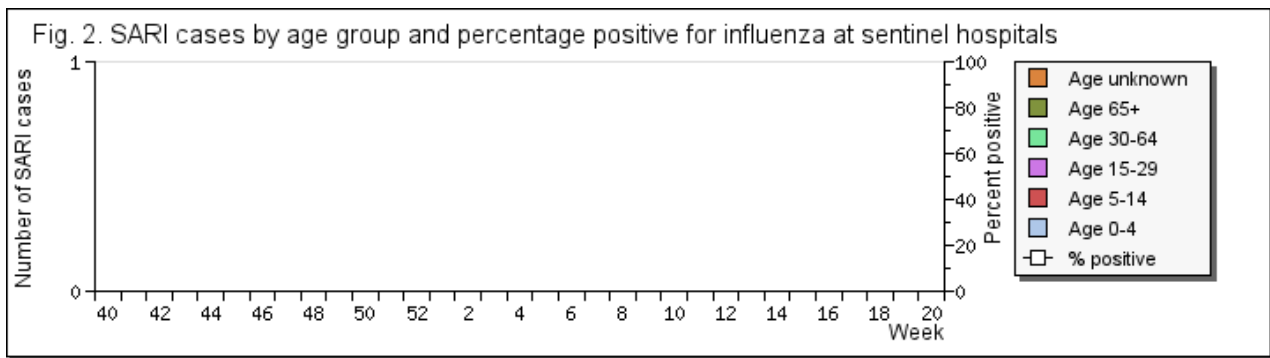
In the 28 countries testing 20 or more sentinel specimens, influenza positivity ranged from 0% to 89.3%, with a median of 45.5% (mean: 45.2%).



Similar to the previous week, of the 1541 influenza-positive specimens from sentinel sources, 66% were influenza A (Fig. 6a). Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

The number of hospitalizations, as well as the proportion of respiratory specimens from patients with SARI testing positive for influenza, has continued to increase since week 01/2013 (Fig. 7), in line with increasing influenza activity in countries reporting on SARI hospitalizations. Overall, the majority of countries reported cases mainly in the group aged 0-4 years, (see [Country data and graphs](#) for individual country data).



For week 05/2013, 11 countries (Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Serbia, Slovakia and Ukraine) reported 87 influenza detections among 282 specimens tested, 78% of which (68) were influenza A (Fig. 8a). Since week 40/2012, 2898 SARI specimens have been collected and tested for influenza with the relative distribution of influenza types and subtypes in hospitalized SARI patients similar to that observed from other sentinel data sources. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 71 case was reported for week 05/2013. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 05/2013 data from 12 countries, or regions within countries, shows no substantial excess all-cause mortality as yet this season. For more information about the EUROMOMO mortality monitoring system please click [here](#)

### Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has gradually decreased (see [Country data and graphs](#) for individual country data).

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria or B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

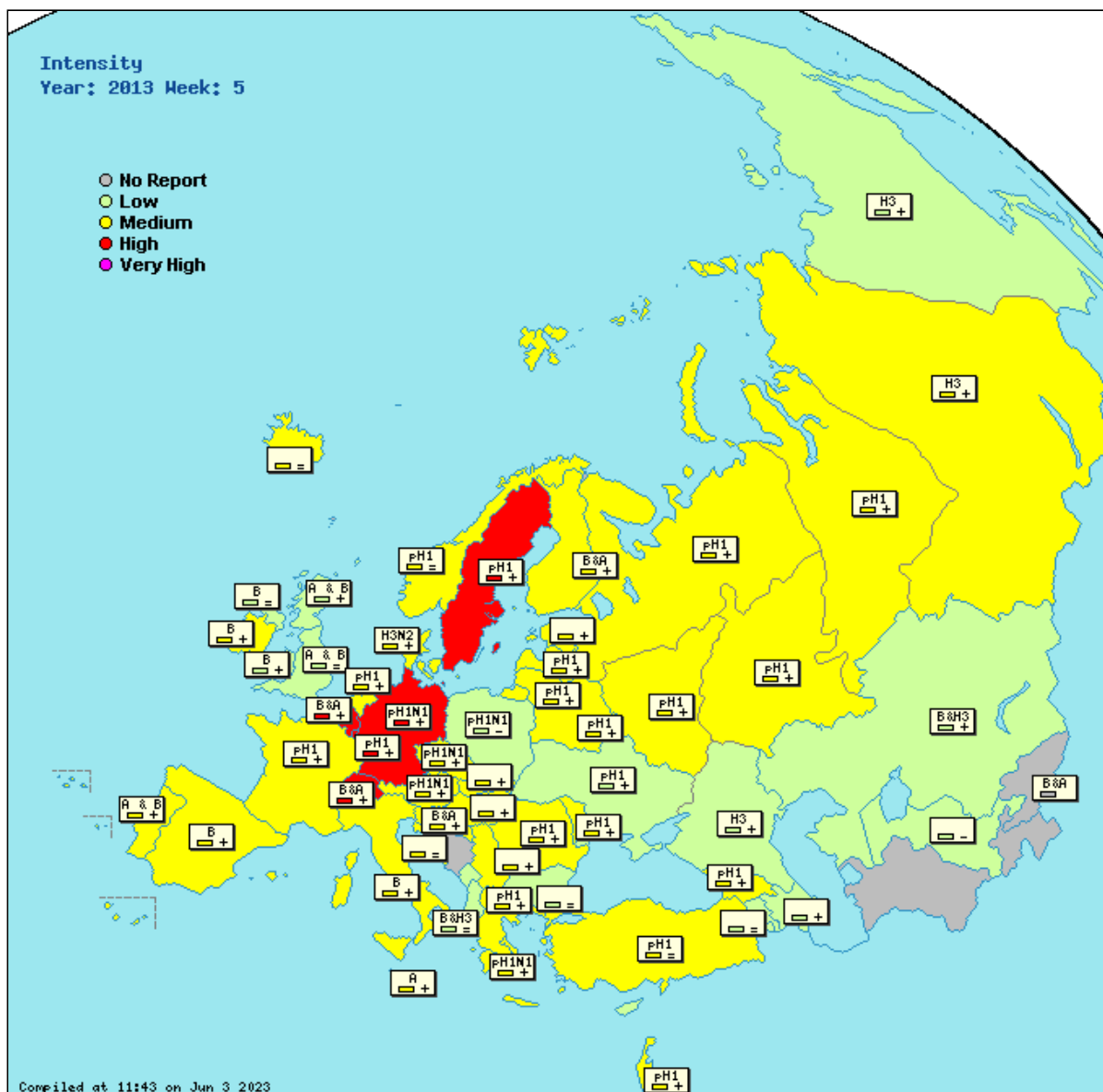
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



- A = Dominant virus A
  - H1N1 = Dominant virus A(H1N1)
  - H3N2 = Dominant virus A(H3N2)
  - H1N2 = Dominant virus A(H1N2)
  - B = Dominant virus B
  - A & B = Dominant virus A & B
- = : stable clinical activity
  - + : increasing clinical activity
  - : decreasing clinical activity
- Low = no influenza activity or influenza at baseline levels
  - Medium = usual levels of influenza activity
  - High = higher than usual levels of influenza activity
  - Very high = particularly severe levels of influenza activity
- 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.

## Country comments (where available)

### Denmark

In Denmark we had a peak in week 1, however; for week 5 we again experience an increase in diagnostic samples tested for influenza and in the amount of influenza A and B positives. Influenza A(H3N2) is still the dominant subtype when looking at all samples, but influenza B (Yamagata) is increasing. In sentinel specimens the distribution between influenza A and B positives is 50/50 and the amount of influenza B positives are increasing.

### Republic of Moldova

This week were registered 2 cases of death from seasonal influenza A (H1N1) pdm (non-sentinel): a person of 62 years, female, Florești district; and a person of 27 years, male, Ungheni district. In both cases patients asked late for medical care, antiviral treatment was initiated late. Both people have not been vaccinated against influenza.

Totally, this 5th sentinel week, 38 samples were tested for Influenza viruses, from which 11 samples were positive for RNA Influenza virus A(H1N1)pdm and 3 samples were positive for RNA Influenza virus type B.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable	42	21.4%	Type B and Type A, Subtype H3		430.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>

Armenia	Low	None	Low	Stable	3	33.3%	None		76.9	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Medium	Widespread	Low	Increasing	80	65.0%	Type A, Subtype pH1N1	1565.7	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	57	3.5%	None	240.7	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Belarus	Medium	Local	Moderate	Increasing	34	29.4%	Type A, Subtype pH1	23.2	<a href="#">(graphs)</a>	1202.9	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Belgium	High	Widespread		Increasing	113	83.2%	Type B and Type A, Subtype pH1N1	1002.9	<a href="#">(graphs)</a>	2600.1	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Bosnia and Herzegovina							None	80.6	<a href="#">(graphs)</a>	157.4	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Bulgaria	Low	Sporadic		Stable	31	32.3%	None		<a href="#">(graphs)</a>	1030.2	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Croatia	Medium	Widespread	Low	Stable			None	10.5	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.6 *	<a href="#">(graphs)</a>	14.1 *	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Czech Republic					17	58.8%	Type A, Subtype pH1N1 and H3				<a href="#">(graphs)</a>	<a href="#">Click here</a>
Denmark	Medium	Widespread		Increasing	12	75.0%	Type A, Subtype H3N2	241.5	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
England	Low	Regional		Stable	122	41.0%	Type A and B	12.7	<a href="#">(graphs)</a>	335.0	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Estonia	Medium	Widespread		Increasing	35	34.3%	None	25.0	<a href="#">(graphs)</a>	636.0	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Finland	Medium	Widespread		Increasing					<a href="#">(graphs)</a>			<a href="#">Click here</a>
France	Medium	Widespread	Moderate	Increasing	276	55.8%	Type A and B		<a href="#">(graphs)</a>	3395.3	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Georgia	Medium	Widespread	Moderate	Increasing	18	44.4%	Type A, Subtype pH1	301.2	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Germany					313	65.2%	Type A, Subtype pH1N1 and H3				<a href="#">(graphs)</a>	<a href="#">Click here</a>
Hungary	Medium	Widespread	Low	Increasing				167.6	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Iceland					0	-			<a href="#">(graphs)</a>			<a href="#">Click here</a>
Ireland	Medium	Widespread	Moderate	Increasing	48	66.7%	Type B	62.7	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Israel	Medium	Widespread	Moderate	Increasing	126	65.1%	Type A, Subtype pH1 and H3	114.7	<a href="#">(graphs)</a>			<a href="#">Click here</a>
Italy					166	71.7%	Type B		<a href="#">(graphs)</a>			<a href="#">Click here</a>
Kazakhstan					25	0%	None				<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Kyrgyzstan					36	38.9%	None	41.3	<a href="#">(graphs)</a>	73.7	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Latvia	Medium	Widespread		Increasing	7	71.4%	Type A, Subtype pH1	428.1	<a href="#">(graphs)</a>	1714.2	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Lithuania	Medium	Widespread	Low	Increasing	84	89.3%	Type A, Subtype pH1	378.4	<a href="#">(graphs)</a>	1324.0	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Luxembourg	High	Widespread	Low		89	60.7%	Type A, Subtype pH1	7.5 *	<a href="#">(graphs)</a>	32.2 *	<a href="#">(graphs)</a>	<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Medium	Widespread	Moderate	Increasing			Type A, Subtype pH1	91.0	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Malta	Medium	Local	Moderate	Increasing				8.7 *	<a href="#">(graphs)</a>	0 *	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Montenegro	Low	Local	Low	Decreasing				16.5	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Netherlands	Medium	Widespread		Increasing	45	73.3%	Type A	148.4	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Northern Ireland	Low	Local		Stable	8	87.5%	Type B	48.4	<a href="#">(graphs)</a>	439.4	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Norway	Medium	Widespread	Moderate	Stable	9	77.8%	Type A, Subtype pH1	184.2	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Decreasing	112	6.3%	Type A, Subtype pH1N1	378.6	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Portugal	Medium	Widespread		Increasing	20	20.0%	Type A and B	50.6	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Republic of Moldova	Medium	Regional	Moderate	Increasing	20	30.0%	Type A, Subtype pH1	4.2	<a href="#">(graphs)</a>	305.8	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Russian Federation	Medium	Local		Increasing	64	23.4%	Type A, Subtype pH1	2.9	<a href="#">(graphs)</a>	865.7	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Scotland	Low	Regional	Low	Increasing	59	49.2%	Type A and B	44.2	<a href="#">(graphs)</a>	560.0	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Serbia	Medium	Regional	Low	Increasing	30	56.7%	None	97.8	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Slovakia	Medium	Local	Low	Increasing	0	-		508.7	<a href="#">(graphs)</a>	2812.2	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Slovenia					55	54.6%	Type B and Type A, Subtype pH1		<a href="#">(graphs)</a>			<a href="#">Click here</a>
Spain	Medium	Widespread		Increasing	414	49.5%	Type B	202.7	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Sweden	High	Widespread		Increasing	116	40.5%	Type A, Subtype pH1N1 and H3	16.7	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Switzerland	High	Widespread		Increasing	84	79.8%	Type B and Type A, Subtype pH1	406.7	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Turkey					156	30.1%	Type A, Subtype pH1		<a href="#">(graphs)</a>			<a href="#">Click here</a>
Ukraine	Low	Local	Low	Increasing	8	12.5%	Type A, Subtype pH1	3.2 *	<a href="#">(graphs)</a>	522.1	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Decreasing	15	86.7%	None	0.1	<a href="#">(graphs)</a>	41.5	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Europe					2949	52.3%						<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# Influenza activity remains high in the WHO European Region

## Summary, week 6/2013

For week 06/2013 most countries in the European Region reported medium levels of influenza-like illness (ILI) and acute respiratory infection (ARI) clinical consultation rates, and the percentage of sentinel specimens testing positive for influenza remained high. Influenza activity continued to progress from west to east across the Region, with A(H1N1)pdm09 remaining the dominant influenza virus in circulation. Within hospital surveillance, most of the severe acute respiratory infection (SARI) specimens that tested positive for influenza this week contained influenza A(H1N1)pdm09 virus.



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 6/2013 the overall influenza positivity rate continued to increase in the WHO European Region. A total of 6403 specimens tested positive for influenza in week 06/2013, with 4282 (67%) being influenza A. This distribution has remained similar for several weeks (Fig. 1).

As in the 2 previous weeks, influenza A(H1N1)pdm09 viruses were the dominant A virus subtype in week 6/2013. Of 2660 influenza A viruses subtyped in week 6/2013, 1987(75%) were A(H1N1)pdm09, while only 673 (25%) were A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2012), 39 090 influenza viruses from sentinel and non-sentinel sources have been detected and typed. The relative proportion of influenza virus types has remained consistent since week 47/2012: cumulatively, 27 017 (69%) were influenza A and 12 073 (31%) influenza B (Fig. 2b). Of 17180 influenza A viruses that have been subtyped, 12 437 (72%) were A(H1N1)pdm09 and 4 743 (28%) were A(H3N2) ◆ relative proportions similar to those seen in previous weeks.

In addition, the lineage for 1506 influenza B viruses has been determined since week 40/2012: 1361 (90%) belonged to the B/Yamagata lineage and 145 (10%) to B/Victoria.

Circulation of influenza viruses in week 06/2013 remained similar to the two previous weeks, with influenza A, mainly A(H1N1)pdm09, reported as the dominant virus in countries in northern, eastern and central Europe, Portugal and Turkey, while influenza B was reported as the dominant virus in some countries in the southern part of the Region, as well as Ireland and the United Kingdom (Northern Ireland) (Map 1). Between these areas, co-circulation of A(H1N1)pdm09, A(H3N2) and influenza B was observed.

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at [WHO](#) web site).

## Virus strain characterizations

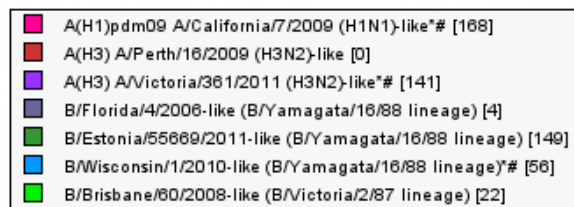
Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 1710 influenza viruses characterized antigenically by 12 countries (Denmark, Germany, Greece, Italy, Latvia, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Switzerland and the United Kingdom (England and Scotland)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom characterized the majority of these viruses (925: 54%). Of the 790 A/Victoria/361/2011 (H3N2)-like viruses characterized this season 485 (61%) were characterized by Scotland. 13 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Italy, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 505 influenza viruses genetically (Fig. 4).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 06/2013

[Total N = 540]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:43 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their vaccine viruses, A/California/7/2009 and A/Victoria/361/2011, respectively. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses this season (90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3) respectively. Viruses in these clades can be distinguished antigenically from each other, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 8 countries (Denmark, Germany, Greece, the Netherlands, Norway, Spain, Sweden and the United Kingdom) have screened 280 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. The 97 influenza A(H3N2) and 74 influenza B viruses showed susceptibility to both drugs. Of the 109 A(H1N1)pdm09 viruses tested, 108 showed susceptibility to both drugs, 1 virus carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, was detected in the Netherlands in a hospitalized immunocompromised patient exposed to oseltamivir through treatment.

The 14 influenza A(H3N2) and 10 influenza A(H1N1)pdm09 viruses screened for susceptibility to adamantanes were found to be resistant.

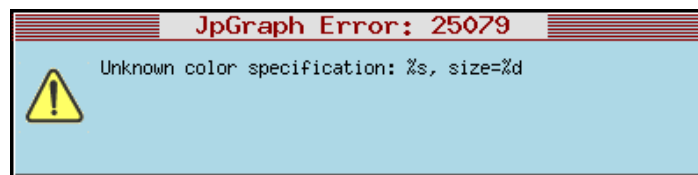
### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Reported clinical data indicated that influenza activity continued to increase in most of the WHO European Region (Map 4), with the majority of countries reporting medium intensity levels (Map 2). At the same time, clinical activity in Denmark, Greece, Iceland, Ireland, the Netherlands, Norway and Poland peaked earlier in the season and has declined (see [Country data and graphs](#) for more details). Most of the countries across the Region reported widespread circulation of influenza for week 06/2013 (Map 3). All of the countries that have established epidemic thresholds reported ILI/ARI consultation rates above their national threshold levels.

Click on the maps for more detailed information.

Overall, 2635 sentinel specimens were tested, of which 1352 (51%) were positive for influenza in week 06/2013 ♦ a slight decrease in comparison with the previous week. (Fig. 5).

In the 26 countries testing 20 or more sentinel specimens, influenza positivity ranged from 11% to 78%, with a median of 50% (mean: 46%).

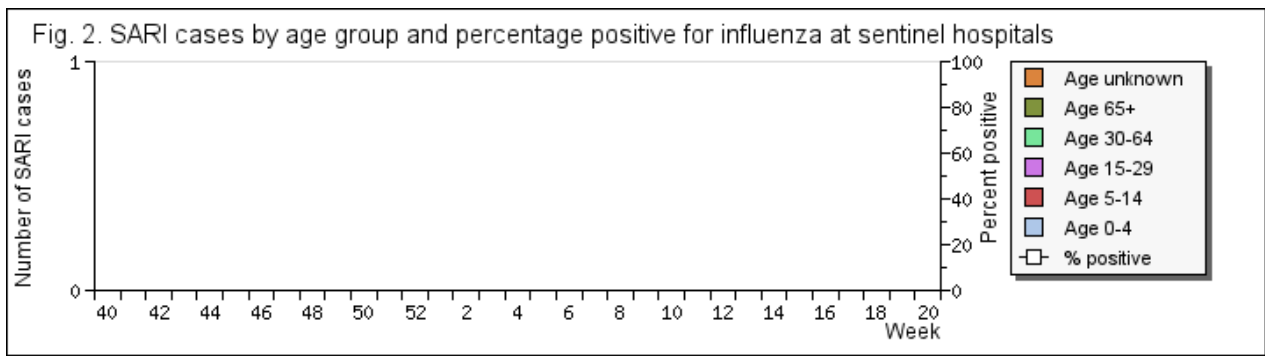


Of the 1352 influenza-positive specimens from sentinel sources, 56% were influenza A (Fig. 6a). Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

The number of hospitalizations, as well as the proportion of respiratory specimens from patients with SARI testing positive for influenza, remained relatively stable (Fig. 7) with most countries reporting cases mainly in the group aged 0 ♦ 4 years.





For week 06/2013, 13 countries (Albania, Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 88 influenza detections among 304 specimens tested, 79% of which (70) were influenza A (Fig. 8a). Since week 40/2012, 3300 SARI specimens have been collected and tested for influenza. The relative distribution of influenza types and subtypes in hospitalized SARI patients remains similar to that observed from other sentinel data sources. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 125 cases were reported for week 06/2013, with most of them being influenza A. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

### EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 6/2013, based on 14 countries or regions, showed increased mortality among older people. The results of pooled analysis may vary, depending on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#)

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria or B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

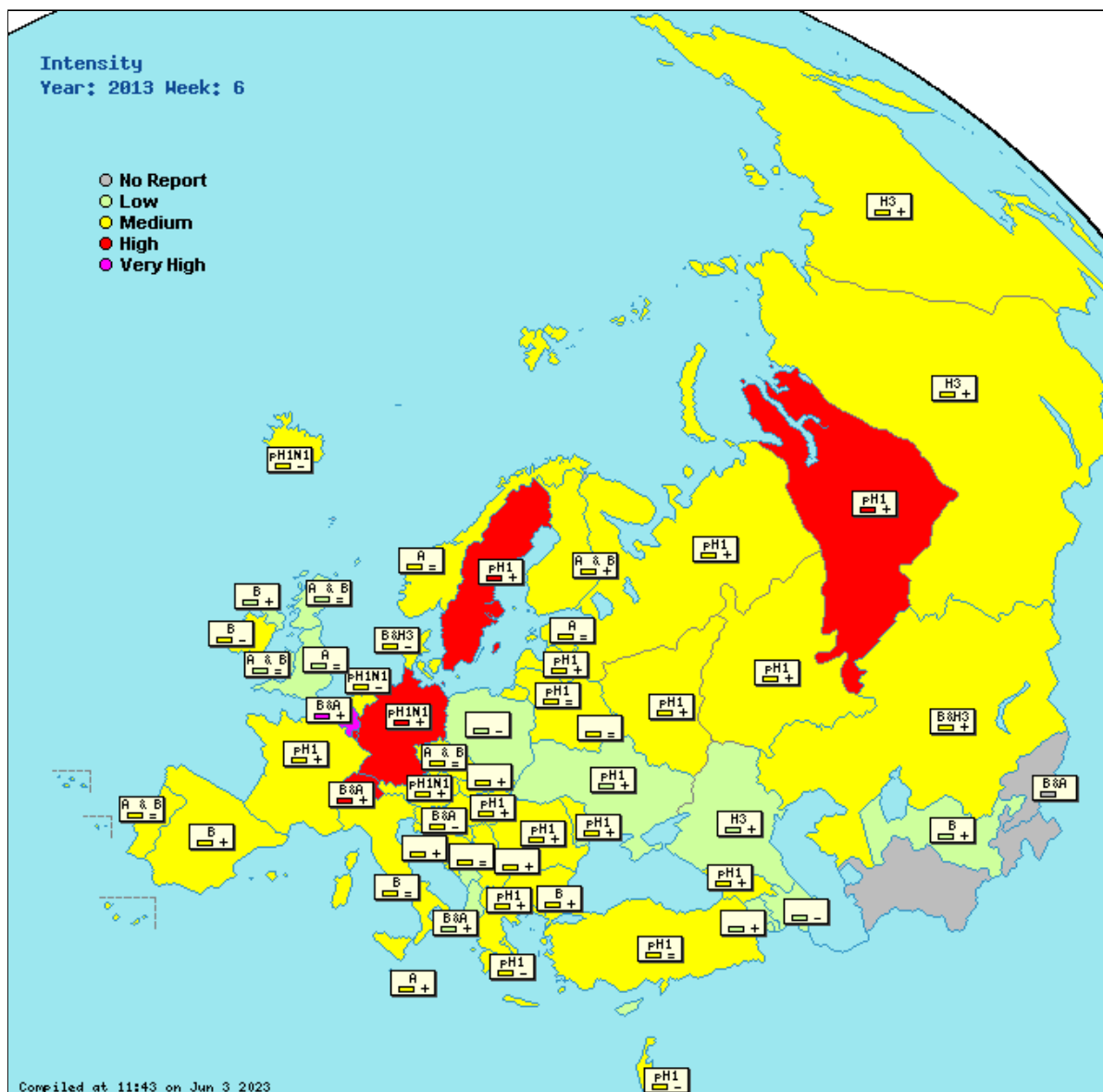
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + **virological**  **Geographical spread**  + **virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

### Denmark

In Denmark, the season so far has been dominated by A(H3N2) viruses, mainly divided into two genetic groups. Now we are experiencing an increase in influenza B-Yamagata

### Czech Republic

Up to end of week 6/2013 a cumulative total of 350 severe influenza patients with laboratory-confirmed influenza were reported by intensive and resuscitation care units including 68 deaths. Further details regarding current influenza situation were published as Rapid Communication paper in Eurosurveillance on 7 February 2013 at <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20396>

### Republic of Moldova

This week were registered 2 cases of death from seasonal influenza A (H1N1) pdm (non-sentinel): a person of 42 years, female, Ungheni district; and a person of 62 years, male, Chisinau. In both cases patients asked late for medical care, antiviral treatment was initiated late. Both people have not been vaccinated against influenza.

This 6th sentinel week, 42 samples were tested for Influenza viruses, from which 14 samples were positive for RNA Influenza virus A(H1N1)pdm, 2 samples - positive for RNA Influenza virus A(H3N2) and 7 samples were positive for RNA Influenza virus type B.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing	60	21.7%	Type B and Type A, Subtype pH1		460.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia					0	-	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Medium	Widespread		Increasing	89	64.0%	Type A, Subtype pH1N1	1817.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	Sporadic	Low	Decreasing	53	11.3%	None	229.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Medium	Sporadic	Moderate	Stable	30	33.3%	None	28.2 ( <a href="#">graphs</a> )	1203.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Very High	Widespread		Increasing	114	52.6%	Type B and Type A, Subtype pH1N1	1126.9 ( <a href="#">graphs</a> )	2513.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Medium	Widespread	Moderate	Stable			None	73.8 ( <a href="#">graphs</a> )	145.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Medium	Local		Increasing	40	37.5%	Type B	( <a href="#">graphs</a> )	1229.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Medium	Widespread	Low	Increasing			None	26.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				1.8 * ( <a href="#">graphs</a> )	10.8 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Medium	Widespread		Stable				282.5 ( <a href="#">graphs</a> )	1506.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Medium	Widespread		Decreasing	16	62.5%	Type B and Type A, Subtype H3N2	195.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Regional		Stable	100	16.0%	Type A and B	14.5 ( <a href="#">graphs</a> )	369.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Medium	Widespread		Stable	51	52.9%	Type A	22.2 ( <a href="#">graphs</a> )	640.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	Medium	Widespread		Increasing	49	34.7%	Type A and B	( <a href="#">graphs</a> )			<a href="#">Click here</a>
France	Medium	Widespread	Moderate	Increasing	242	64.1%	Type A and B	( <a href="#">graphs</a> )	3372.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Medium	Widespread	Moderate	Increasing	15	26.7%	Type A, Subtype pH1	309.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	High	Widespread		Increasing	300	66.0%	Type A, Subtype pH1N1 and H3	( <a href="#">graphs</a> )	2260.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Medium	Local		Decreasing	28	21.4%	Type A, Subtype pH1 and H3N2	162.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Medium	Widespread	Low	Increasing	54	20.4%	Type A, Subtype pH1	233.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland	Medium	Widespread	Low	Decreasing	0	-		76.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Medium	Widespread	Moderate	Decreasing	53	54.7%	Type B	59.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Medium	Widespread	Moderate	Decreasing	119	64.7%	Type A, Subtype pH1 and H3	101.2 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Medium	Widespread	Low	Stable	139	77.0%	Type B	985.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan					14	57.1%	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					8	50.0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Medium	Widespread		Increasing	11	27.3%	Type A, Subtype pH1	438.9 ( <a href="#">graphs</a> )	1746.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Medium	Widespread	Low	Stable	63	77.8%	Type A, Subtype pH1	363.6 ( <a href="#">graphs</a> )	1131.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	High	Widespread	Low					6.0 * ( <a href="#">graphs</a> )	26.8 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Medium	Widespread	Moderate	Increasing			Type A, Subtype pH1	116.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Malta	Medium	Local	Moderate	Increasing				12.7 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	Local	Low	Increasing				21.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Medium	Widespread		Decreasing	32	62.5%	Type A	111.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	Local		Increasing	4	100.0%	Type B	61.4 ( <a href="#">graphs</a> )	475.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Medium	Widespread		Stable	4	75.0%	Type A	187.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Decreasing	73	15.1%	None	307.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Medium	Widespread		Stable	17	58.8%	Type A	37.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Medium	Regional	Moderate	Increasing	19	57.9%	Type A, Subtype pH1	4.7 ( <a href="#">graphs</a> )	273.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Medium	Local	Low	Increasing	7	57.1%	Type A, Subtype pH1	5.2 ( <a href="#">graphs</a> )	860.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Medium	Widespread		Increasing	84	29.8%	Type A, Subtype pH1	7.2 ( <a href="#">graphs</a> )	986.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Regional	Low	Stable	43	37.2%	Type A and B	41.6 ( <a href="#">graphs</a> )	548.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Medium	Widespread		Increasing	33	63.6%	None	162.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Medium	Local	Low	Increasing	34	29.4%	None	593.3 ( <a href="#">graphs</a> )	2961.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia					37	67.6%	Type B and Type A, Subtype pH1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Spain	Medium	Widespread		Increasing	456	47.8%	Type B	224.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	High	Widespread		Increasing				35.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	High	Widespread		Increasing	82	75.6%	Type B and Type A, Subtype pH1	479.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey					33	27.3%	Type A, Subtype pH1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ukraine	Low	Regional	Moderate	Increasing	8	62.5%	Type A, Subtype pH1	2.9 * ( <a href="#">graphs</a> )	558.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing	16	68.8%	Type B	0.2 ( <a href="#">graphs</a> )	43.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Wales					5	100.0%	Type A and B	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Europe					2635	51.3%					<a href="#">Click here</a>

### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium = usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*, the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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EuroFlu : Weekly Electronic Bulletin

# Influenza activity remains at high levels in the east but started declining at the western part of the WHO European Region



## Summary, week 7/2013

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) have continued to increase in the eastern part of the Region, but have started to decrease in some northern and western countries. Influenza A(H1N1)pdm09, A(H3N2) and type B viruses continued to co-circulate in the Region, with A(H1N1)pdm09 predominant. The number of reported hospitalizations due to severe acute respiratory infection (SARI) is increasing slowly in association with the increasing influenza activity in the eastern part of the Region. The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2013-2014 took place this week, and the WHO expert group recommended updates of the A(H3N2) and B/Yamagata lineage components.



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 07/2013 a total of 7044 specimens tested positive for influenza, with 4761 (68%) being influenza A (Fig. 1).

In week 07/2013, influenza A(H1N1)pdm09 viruses remained the dominant A virus subtype: of 3568 subtyped, 2644 (74%) were A(H1N1)pdm09 while only 924 (26%) were A(H3N2) (Fig. 2a). These proportions of influenza A virus subtypes have remained stable for several weeks.

Since the beginning of the season (week 40/2012), 47 426 influenza viruses from sentinel and non-sentinel sources have been detected and typed. The relative proportion of influenza virus types has remained consistent since week 47/2012: cumulatively, 32 556 (69%) were influenza A and 14 870 (31%) influenza B (Fig. 2b). Of the 20 778 influenza A viruses that have been subtyped, 15 103 (73%) were A(H1N1)pdm09 and 5 675 (27%) were A(H3N2).

In addition, the lineages for 1905 influenza B viruses were determined: 1727 (91%) belonged to the B/Yamagata lineage and 178 (9%) to B/Victoria.

Circulation of influenza viruses in week 07/2013 remained diverse, with influenza A, mainly A(H1N1)pdm09, reported as the dominant virus in countries in northern, eastern and central Europe, Iceland, Portugal and Turkey, while influenza B was reported as the dominant virus in some countries in the southern part of the Region, as well as the United Kingdom (Northern Ireland) (Map 1). Between these areas, more countries than in week 06/2013 reported co-circulation of A(H1N1)pdm09, A(H3N2) and influenza B.

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at [WHO headquarters](#) web site).

The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2013-2014 took place this week, and the WHO expert group recommended updates of the A(H3N2) and B/Yamagata lineage components (see the [WHO headquarters](#) web site).

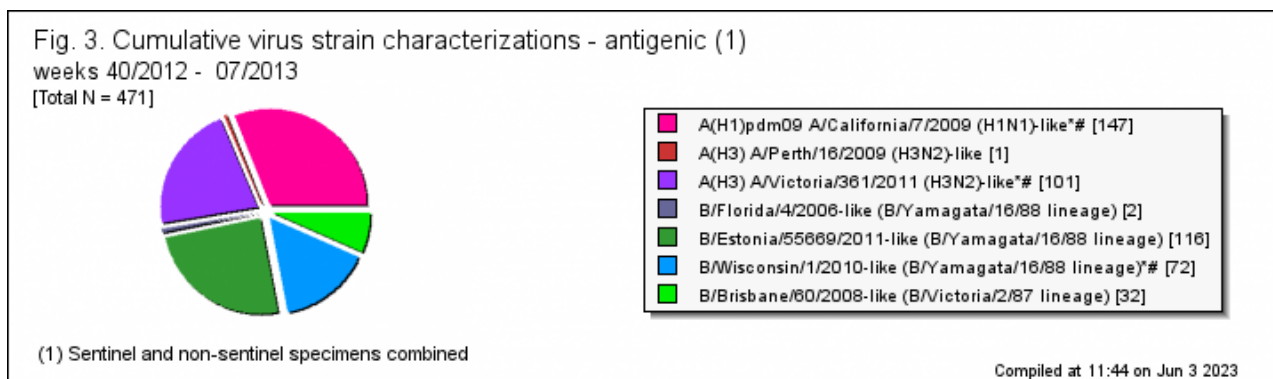
An update of the A(H3N2) vaccine component was recommended because of antigenic changes in earlier egg-propagated A/Victoria/361/2011-like vaccine viruses resulting from adaptation to propagation in eggs. It was also recommended that the cell-propagated A/Victoria/361/2011-like vaccine virus be A/Texas/50/2012 The B/Yamagata lineage B/Wisconsin/1/2010-like virus (Clade 3) was replaced by the B/Massachusetts/2/2012-like (Clade 2) virus. This decision was based on the antigenic differentiation of Clade 2 and 3 viruses by some post-infection ferret antisera and the increase in the proportion of Clade 2 B/Yamagata lineage viruses over Clade 3 in Europe and many parts of the world.

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they

correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 2001 influenza viruses characterized antigenically by 13 countries (Denmark, Germany, Greece, Italy, Latvia, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom characterized the majority of these viruses (925: 46%). Scotland characterized 485 (56%) of the 865 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 13 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Italy, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 552 influenza viruses genetically (Fig. 4).



# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).  
\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

#### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 9 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom) have screened 284 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 111 A(H1N1)pdm09 viruses tested, 110 showed susceptibility to both drugs, 1 virus carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, was detected in the Netherlands in a hospitalized immunocompromised patient exposed to oseltamivir through treatment. The 98 influenza A(H3N2) and 75 influenza B viruses tested showed susceptibility to both drugs.

The 10 influenza A(H1N1)pdm09 and 14 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

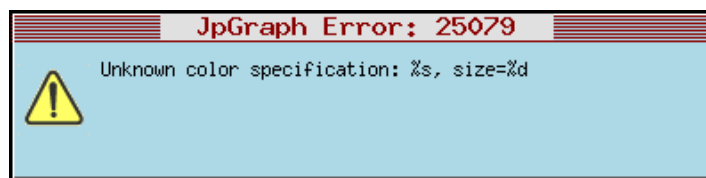
#### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

More countries than last week, mainly in western and northern parts of the Region, reported decreasing influenza activity during week 07/2013 (Map 4), but with the majority still reporting medium intensity levels (Map 2) and widespread circulation of influenza (Map 3). Similar to week 06/2013, of the countries that have established epidemic thresholds, all but Ukraine reported ILI/ARI consultation rates above their national threshold levels.

Click on the maps for more detailed information.

In week 07/2013, 2634 sentinel specimens were tested of which 1313 (50%) were positive for influenza, similar to week 06/2013 (Fig. 5).

In the 29 countries testing 20 or more sentinel specimens, influenza positivity ranged from 14% to 81%, with a median of 54% (mean: 49%).

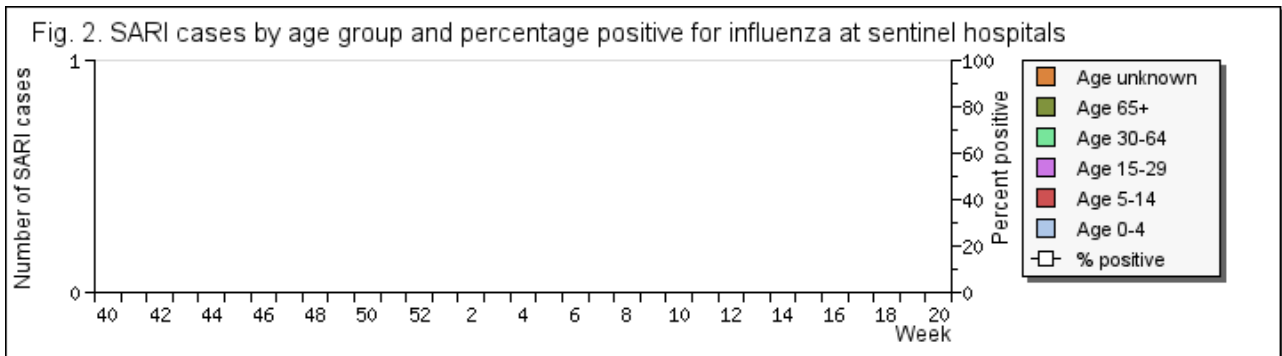


Of the 1313 influenza-positive specimens from sentinel sources, more were positive for influenza B (50%) than in week 06/2013. Most of the influenza B detections were reported by France, Italy and Spain (Fig. 6a). Fig. 6b gives a detailed overview of cumulative

influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

The weekly number of SARI hospitalizations reached the highest level of the season to date. The proportion of respiratory specimens from patients with SARI that tested positive for influenza remained relatively stable over the last 2 weeks (Fig. 7) with most countries reporting cases predominantly in the group aged 0-4 years. Nevertheless, Kazakhstan and Ukraine reported increasing activity in the group aged 15-29; Serbia, in the group aged 30-64; and Slovakia, 15-64. Since the beginning of the season, the increase in SARI cases testing positive for influenza in Georgia, Romania and Ukraine is more or less in line with the increase in the reported number of SARI hospitalizations.



For week 07/2013, 11 countries (Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine) reported 107 influenza detections among 343 specimens tested, 91% of which were influenza A (Fig. 8a). Most of the detections were reported by 4 countries (Armenia, Georgia, the Russian Federation and Ukraine), in which influenza activity has been gradually increasing with influenza A(H1N1)pdm09 predominant. Since week 40/2012, 3715 SARI specimens have been collected and tested for influenza. The relative distribution of influenza types and subtypes in hospitalized SARI patients remains more or less in line with the results of outpatient surveillance. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 78 such cases were reported for week 07/2013, with most of them being influenza A. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients with 56% of detected viruses being influenza A.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

### EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 7/2013, based on 14 countries or regions, showed increased mortality among older people. The results of pooled analysis may vary, depending on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#).

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

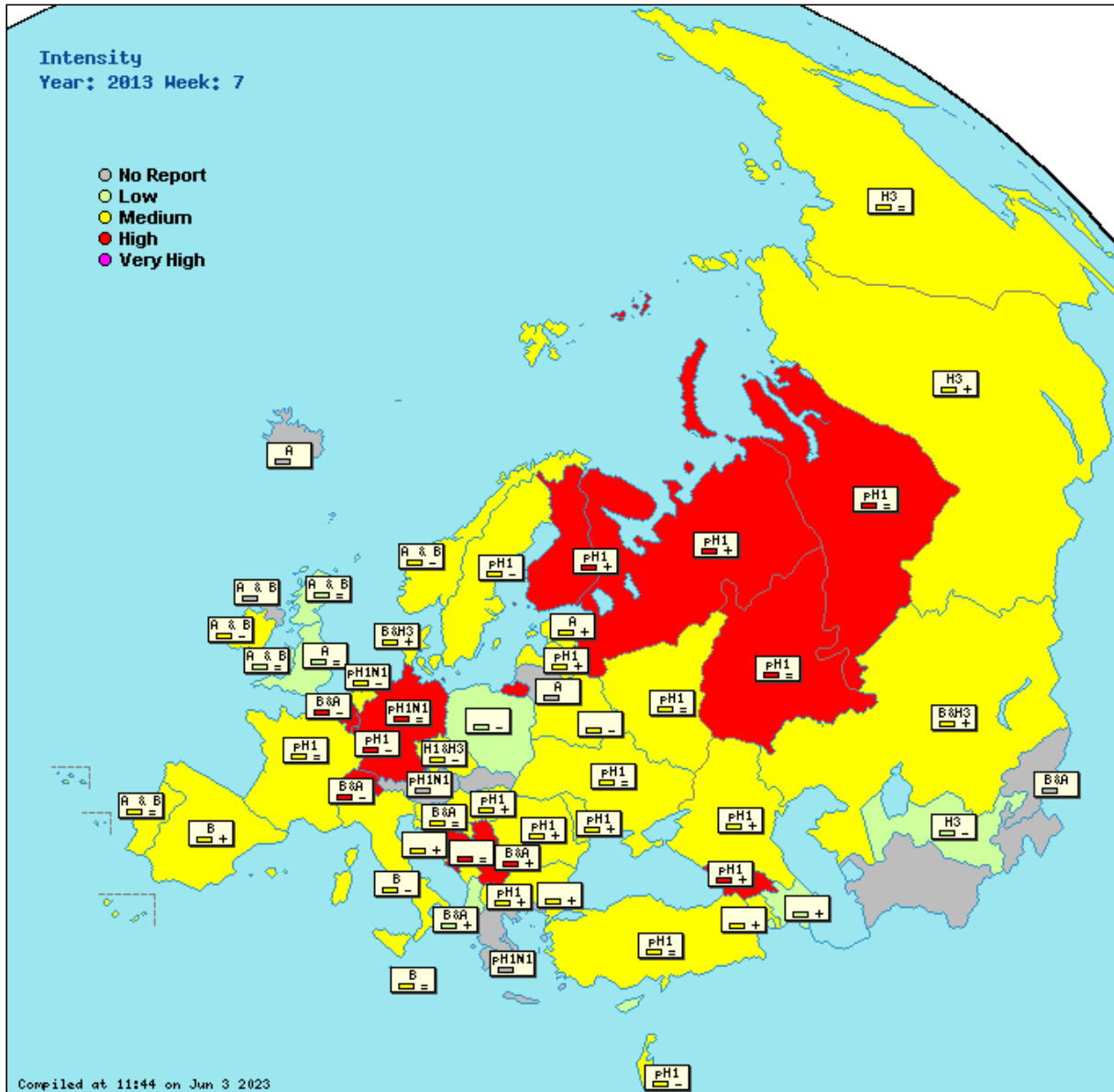
### Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + virological  **Geographical spread**  + virological  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

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.

## Country comments (where available)

### Czech Republic

Up to end of week 7/2013 a cumulative total of 405 severe influenza patients with laboratory-confirmed influenza were reported by intensive and resuscitation care units including 85 deaths.

### Republic of Moldova

During week 07/2013, 2 deaths from seasonal influenza A (H1N1)pdm09 (non-sentinel) were registered: 2 males aged 55 and 51 years in Chisinau. Both cases patients asked late for medical care, and antiviral treatment was initiated late. Neither had been vaccinated against influenza.

In addition, 57 samples were tested for Influenza viruses, of which 27 were positive for RNA influenza virus A(H1N1)pdm09; 4 samples, positive for RNA influenza virus A(H3N2); and 8, for RNA influenza virus type B.

## Table and graphs (where available)



	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing	52	25.0%	Type B and Type A, Subtype pH1		492.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Medium	Sporadic	Moderate	Increasing	11	81.8%	None		109.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Azerbaijan	Low	Sporadic	Low	Increasing	12	8.3%	None	263.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Medium	Sporadic	Moderate	Decreasing	27	22.2%	None	25.2 ( <a href="#">graphs</a> )	1075.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	High	Widespread		Decreasing	93	68.8%	Type B and Type A, Subtype pH1	837.9 ( <a href="#">graphs</a> )	2096.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	High	Widespread	Moderate	Stable			None	75.2 ( <a href="#">graphs</a> )	140.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Medium	Local		Increasing	45	37.8%	None	( <a href="#">graphs</a> )	1279.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Medium	Widespread	Moderate	Increasing			None	36.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				1.7 * ( <a href="#">graphs</a> )	12.8 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Medium	Widespread		Decreasing	23	78.3%	Type A, Subtype H1 and H3	206.0 ( <a href="#">graphs</a> )	1349.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Medium	Widespread		Increasing	55	58.2%	Type B and Type A, Subtype H3N2	242.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Regional		Stable	107	9.4%	Type A and B	22.3 ( <a href="#">graphs</a> )	362.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Medium	Widespread		Increasing	50	54.0%	Type A	30.0 ( <a href="#">graphs</a> )	704.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	High	Widespread		Increasing	59	55.9%	Type A, Subtype pH1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
France	Medium	Widespread	Moderate	Stable	217	53.9%	Type A and B	( <a href="#">graphs</a> )	3203.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	High	Widespread	Moderate	Increasing	24	33.3%	Type A, Subtype pH1	359.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	High	Widespread		Stable	274	63.1%	Type A, Subtype pH1N1 and H3	( <a href="#">graphs</a> )	2266.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece					7	14.3%	Type A, Subtype pH1N1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Hungary	Medium	Widespread	Moderate	Increasing	69	36.2%	Type A	322.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland					0	-	Type A	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ireland	Medium	Regional	Moderate	Decreasing	34	32.4%	Type A and B	41.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Medium	Widespread	Moderate	Decreasing	76	64.5%	Type A, Subtype pH1 and H3	79.5 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Medium	Widespread	Low	Decreasing	155	65.8%	Type B	920.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Medium	Local	Moderate	Increasing	15	20.0%	None	237.0 ( <a href="#">graphs</a> )	68.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					16	25.0%	None	15.4 ( <a href="#">graphs</a> )	82.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Medium	Widespread		Increasing	9	77.8%	Type A, Subtype pH1	454.1 ( <a href="#">graphs</a> )	1459.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania					45	55.6%	Type A	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Luxembourg	High	Widespread	Low		53	52.8%	Type A, Subtype pH1	6.1 * ( <a href="#">graphs</a> )	26.7 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Medium	Widespread	Moderate	Increasing	11	72.7%	Type A, Subtype pH1	128.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Malta	Medium	Local	Moderate	Stable				10.3 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Medium	Regional	Low	Increasing				46.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Medium	Widespread		Decreasing	39	69.2%	Type A	118.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland					6	66.7%	Type B	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Norway	Medium	Widespread		Decreasing	8	62.5%	Type A and B	145.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Decreasing	37	16.2%	None	284.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Medium	Widespread		Stable	24	50.0%	Type A	45.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Medium	Regional	Moderate	Increasing	15	73.3%	Type A, Subtype pH1	10.3 ( <a href="#">graphs</a> )	522.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Medium	Regional	Moderate	Increasing	7	28.6%	Type A, Subtype pH1	6.8 ( <a href="#">graphs</a> )	929.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Medium	Widespread		Stable	94	20.2%	Type A, Subtype pH1	10.4 ( <a href="#">graphs</a> )	1044.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Serbia	High	Widespread		Increasing	44	61.4%	Type B and Type A, Subtype pH1	206.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia					22	59.1%	None	( <a href="#">graphs</a> )		<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Medium	Widespread		Stable	37	81.1%	Type B and Type A, Subtype pH1	61.3 ( <a href="#">graphs</a> )	1540.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Medium	Widespread		Increasing	451	54.6%	Type B	232.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Medium	Widespread		Decreasing	124	27.4%	Type A, Subtype pH1N1 and H3	19.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	High	Widespread		Decreasing	65	70.8%	Type B and Type A, Subtype pH1	366.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey					92	25.0%	Type A, Subtype pH1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ukraine	Medium	Regional	Moderate	Stable	8	25.0%	Type A, Subtype pH1	2.6 * ( <a href="#">graphs</a> )	556.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Decreasing	18	72.2%	Type A, Subtype H3	0.3 ( <a href="#">graphs</a> )	42.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Wales					4	50.0%	Type A and B	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Europe					2634	49.9%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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EuroFlu : Weekly Electronic Bulletin

# Influenza activity still high in central and eastern Europe but declining in western countries



## Summary, week 8/2013

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) have continued to increase in the central and eastern parts of the WHO European Region, but started to decrease in some northern and western countries. In countries such as Ireland, the Netherlands and the United Kingdom, ILI rates have returned to lower levels but remain above the epidemic threshold. Influenza A(H1N1)pdm09, A(H3N2) and type B viruses continued to co-circulate in the Region. A(H1N1)pdm09 predominates, including in patients hospitalized for severe acute respiratory infection (SARI), mainly in the eastern part of the Region, where the number of SARI cases has increased slowly in association with increasing influenza activity.



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 08/2013, a total of 6706 specimens tested positive for influenza, with 4311 (64%) being influenza A (Fig. 1).

Influenza A(H1N1)pdm09 viruses remained the dominant A virus: of 2887 subtyped, 2136 (74%) were A(H1N1)pdm09 and 751 (26%) were A(H3N2) (Fig. 2a). These proportions of influenza A virus subtypes have remained stable for several weeks.

Since the beginning of the season (week 40/2012), 55 647 influenza viruses from sentinel and non-sentinel sources have been detected and typed. The relative proportion of influenza virus types has remained consistent since week 47/2012: cumulatively, 37 724 (68%) were influenza A and 17 923 (32%) influenza B (Fig. 2b). Of the 24 233 influenza A viruses that have been subtyped, 17 556 (72%) were A(H1N1)pdm09 and 6 677 (28%) were A(H3N2).

In addition, the lineages for 2278 influenza B viruses were determined: 2078 (91%) belonged to the B/Yamagata lineage and 200 (9%) to B/Victoria.

Circulation of influenza viruses in week 08/2013 varied by country. Influenza A, mainly A(H1N1)pdm09, was reported as the dominant virus in countries in eastern and central Europe, while influenza B was reported as the dominant virus in some countries in the southern part of the Region (Map 1). Between these areas, a number of countries reported co-circulation of influenza A and B.

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at [WHO headquarters](#) web site).

For the composition of influenza virus vaccines for the northern hemisphere 2013-2014, on 20 February, WHO expert group recommended updates of the A(H3N2) and B/Yamagata lineage components (see the [WHO headquarters](#) web site).

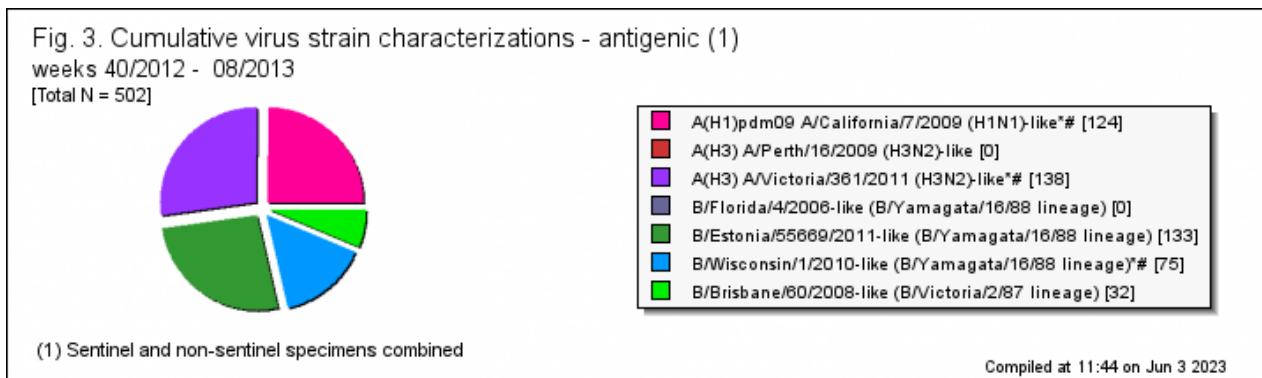
An update of the A(H3N2) vaccine component was recommended because of antigenic changes in earlier A/Victoria/361/2011-like vaccine viruses resulting from adaptation to propagation in eggs. It was recommended that the cell-propagated A/Victoria/361/2011-like vaccine virus be A/Texas/50/2012, as it showed limited antigenic change on egg-adaptation. The B/Yamagata lineage B/Wisconsin/1/2010-like virus (Clade 3) was replaced by the B/Massachusetts/2/2012-like (Clade 2) virus. This decision was based on the antigenic differentiation of Clade 2 and 3 viruses by some post-infection ferret antisera and the increase in the proportion of Clade 2 B/Yamagata lineage viruses over Clade 3 in Europe and many parts of the world.

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 2493 influenza viruses characterized antigenically by 13 countries (Denmark, Germany, Greece, Italy, Latvia, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine

(Fig. 3). The United Kingdom characterized the majority of these viruses (1111: 45%). Scotland reported on 492 (47%) of the 1037 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 14 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 723 influenza viruses genetically (Fig. 4).



# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).  
\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their vaccine viruses, A/California/7/2009 and A/Victoria/361/2011, respectively. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses this season (90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3) respectively. Viruses in these clades can be distinguished antigenically from each other, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 11 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 422 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 198 A(H1N1)pdm09 viruses tested, 195 showed susceptibility to both drugs, 3 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected in the Netherlands (2) and Switzerland (1) in hospitalized immunocompromised patients exposed to oseltamivir through treatment. The 126 influenza A(H3N2) and 98 influenza B viruses tested showed susceptibility to both drugs. The 31 influenza A(H1N1)pdm09 and 14 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

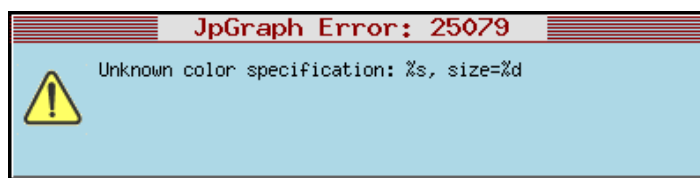
### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Countries located mainly in the western part of the Region reported decreasing influenza activity for week 08/2013 (Map 4), but most continued to report medium intensity levels (Map 2) and widespread circulation of influenza (Map 3). Of the countries that have established epidemic thresholds, all reported ILI/ARI consultation rates above their national threshold levels.

Click on the maps for more detailed information.

In week 08/2013, 2586 sentinel specimens were tested of which 1230 (48%) were positive for influenza, similar to week 07/2013 (Fig. 5).

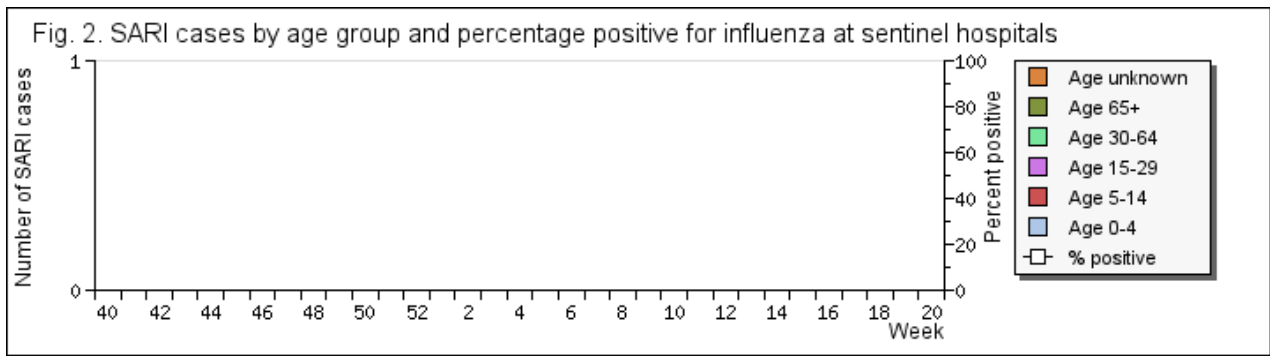
In the 31 countries testing 20 or more sentinel specimens, influenza positivity ranged from 14% to 75%, with a median of 49% (mean: 44%).



Of the 1230 influenza-positive specimens from sentinel sources, 49% were positive for influenza B, similar to week 07/2013 (Fig. 6a). Most of the influenza B detections were reported by France, Italy and Spain. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

The weekly number of SARI hospitalizations may have peaks for the season for Belgium and Romania, and is levelling off in Belarus, Kazakhstan and Ukraine. An increase in SARI cases from week 07 to week 08 was observed in Armenia, Georgia and the Russian Federation. The proportion of respiratory specimens from patients with SARI that tested positive for influenza remained relatively stable over the last 2 weeks (Fig. 7). For several weeks, coinciding with increased positivity rates and the predominance of A(H1N1)pdm09, 5 countries (Belarus, Belgium, Georgia, Romania and Serbia) showed increases in cases in the groups aged 30-64 and/or >65 years, while increases in cases in the group aged 15-29 were observed in Ukraine. Since the beginning of the season, the increase in SARI cases testing positive for influenza in Belgium, Georgia, Kazakhstan, Romania and Ukraine has been more or less in line with the increase in the reported number of SARI hospitalizations.



For week 08/2013, 12 countries (Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 165 influenza detections among 459 specimens tested, 79% of which were influenza A (Fig. 8a). Most of the detections were reported by 4 countries (Armenia, Georgia, the Russian Federation and Ukraine), in which influenza activity has gradually increased, with influenza A(H1N1)pdm09 predominant. Since week 40/2012, 4253 SARI specimens have been collected and tested for influenza. The relative distribution of influenza types and subtypes in hospitalized SARI patients remains more or less in line with the results of outpatient surveillance. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 111 such cases were reported for week 08/2013. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Respiratory syncytial virus (RSV)

Based on data presented by countries reporting on RSV, the positivity rate in countries in western Europe peaked around week 52/2012 (see [Country data and graphs](#) for individual country data). RSV detections were still high in week 08/2013, however, in countries such as Latvia, Poland and Sweden.

### EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 08/2013 data, based on 15 countries or regions, showed similar excess mortality patterns to last week: all-cause mortality among people aged 65 and older was around 3 z-scores above the baseline in weeks 01/03, and has been around 4 z-scores since week 04/2013. No excess mortality in younger age groups has been detected so far this season. Results of pooled analysis may vary, depending on which countries are included in the weekly analysis.

Individual country analysis showed a diverse temporal pattern of all-cause mortality in people aged ≥65 years. While mortality increases to around 3 z-scores above the baseline were seen at the end of 2012 in some countries (Denmark, Ireland, Sweden and the United Kingdom (England and Scotland)), these increases started later in others (France, the Netherlands). In some countries (Belgium, Finland and Switzerland) mortality increased only moderately (around 2 z scores above the baseline), while others (Germany (Berlin, Hesse), Hungary, Portugal and Spain) have not yet had any mortality increases. The highest and longest sustained excess mortality was seen in Denmark, where influenza activity was dominated by A(H3N2) circulation (excess mortality from week 51/2012 to week 06/2013, with peak values of 7 z-scores in week 01 and 5 z-scores in week 05).

The diverse mortality pattern may be explained by the pattern of influenza activity this season in Europe, but other factors, such as extreme cold, may have played a role. For more information about the EUROMOMO mortality monitoring system please click [here](#).

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria or B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

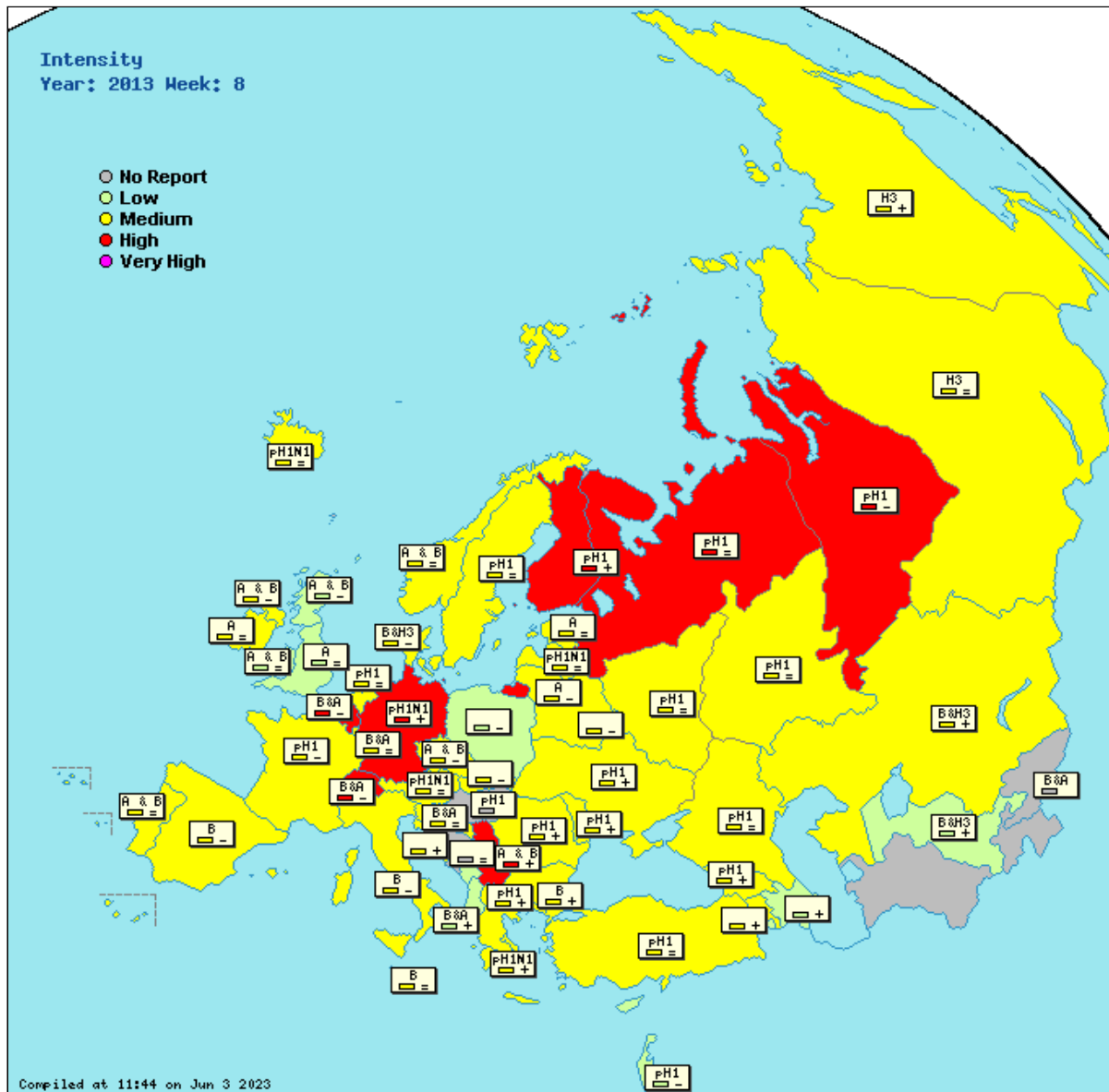
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + **virological**  **Geographical spread**  + **virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

### Republic of Moldova

This week 57 samples were tested for Influenza viruses, of which 18 were positive for RNA influenza virus A(H1N1)pdm09; 3 samples, positive for RNA influenza virus A(H3N2); and 10, for RNA influenza virus type B.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing	42	14.3%	Type B and Type A, Subtype pH1		502.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Medium	Sporadic	Moderate	Increasing	9	55.6%	None		154.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>

Austria	Medium	Widespread	Stable	68	66.2%	Type A, Subtype pH1N1	1575.7	( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>			
Azerbaijan	Low	Sporadic	Low	Decreasing	41	26.8%	None	219.8	( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>		
Belarus	Medium	Sporadic	Moderate	Decreasing	24	16.7%	None	23.2	( <a href="#">graphs</a> )	1049.8	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	High	Widespread	Decreasing	73	60.3%	Type B and Type A, Subtype pH1	745.0	( <a href="#">graphs</a> )	2119.1	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>	
Bosnia and Herzegovina	High	Widespread	Moderate	Increasing		None	72.9	( <a href="#">graphs</a> )	165.3	( <a href="#">graphs</a> )		<a href="#">Click here</a>	
Bulgaria	Medium	Regional	Increasing	25	20.0%	Type B		( <a href="#">graphs</a> )	1317.7	( <a href="#">graphs</a> )		<a href="#">Click here</a>	
Croatia	Medium	Widespread	Moderate	Increasing		None	58.3	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )		<a href="#">Click here</a>	
Cyprus	Low	None	Low	Stable			0.8 *	( <a href="#">graphs</a> )	7.5 *	( <a href="#">graphs</a> )		<a href="#">Click here</a>	
Czech Republic	Medium	Widespread	Decreasing				165.7	( <a href="#">graphs</a> )	1255.4	( <a href="#">graphs</a> )		<a href="#">Click here</a>	
Denmark	Medium	Widespread	Decreasing	37	54.1%	Type B and Type A, Subtype H3N2	165.2	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )		<a href="#">Click here</a>	
England	Low	Regional	Stable	103	7.8%	Type A	15.3	( <a href="#">graphs</a> )	361.8	( <a href="#">graphs</a> )		<a href="#">Click here</a>	
Estonia	Medium	Widespread	Stable	56	32.1%	Type A	28.4	( <a href="#">graphs</a> )	695.5	( <a href="#">graphs</a> )		<a href="#">Click here</a>	
Finland	High	Widespread	Increasing	48	60.4%	Type A, Subtype pH1		( <a href="#">graphs</a> )				<a href="#">Click here</a>	
France	Medium	Widespread	Moderate	Decreasing	225	48.9%	Type A and B		( <a href="#">graphs</a> )	2661.7	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Medium	Widespread	Moderate	Decreasing	36	38.9%	Type A, Subtype pH1	312.1	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	High	Widespread	Increasing	301	62.1%	Type A, Subtype pH1N1 and H3		( <a href="#">graphs</a> )	2660.6	( <a href="#">graphs</a> )		<a href="#">Click here</a>	
Greece	Medium	Local	Increasing	33	51.5%	Type A, Subtype pH1N1	180.2	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )		<a href="#">Click here</a>	
Hungary				65	44.6%	Type A, Subtype pH1 and H3N2		( <a href="#">graphs</a> )				<a href="#">Click here</a>	
Iceland	Medium	Widespread	Low	Stable	0	-	93.3	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )		<a href="#">Click here</a>	
Ireland	Medium	Regional	Moderate	Stable	34	64.7%	Type A and B	40.0	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	Widespread	Low	Decreasing	80	62.5%	Type A, Subtype pH1 and H3	87.4	( <a href="#">graphs</a> )				<a href="#">Click here</a>
Italy	Medium	Widespread	Low	Decreasing	99	62.6%	Type B	910.3	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	Local	Moderate	Increasing	26	23.1%	None	249.5	( <a href="#">graphs</a> )	34.3	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan				26	26.9%	None					( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Medium	Widespread	Stable	11	72.7%	Type A, Subtype pH1N1	452.6	( <a href="#">graphs</a> )	1282.5	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Lithuania	Medium	Regional	Low	Decreasing	25	44.0%	Type A	99.3	( <a href="#">graphs</a> )	619.5	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg				59	64.4%	Type B and Type A, Subtype pH1N1		( <a href="#">graphs</a> )					<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Medium	Widespread	Low	Increasing		Type A, Subtype pH1	144.0	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Malta	Medium	Local	Moderate	Stable			3.8 *	( <a href="#">graphs</a> )	0 *	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Montenegro	Low	Local	Low	Increasing			66.0	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Netherlands	Medium	Widespread	Stable	39	48.7%	Type A	132.4	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Northern Ireland	Low	Local	Decreasing	5	60.0%	Type A and B	43.7	( <a href="#">graphs</a> )	451.0	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Norway	Medium	Widespread	Stable	3	100.0%	Type A and B	132.7	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	53	24.5%	None	299.8	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Medium	Widespread	Stable	14	35.7%	Type A and B	55.2	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Republic of Moldova	Medium	Widespread	Moderate	Increasing	21	57.1%	Type A, Subtype pH1	14.1	( <a href="#">graphs</a> )	606.7	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Medium	Widespread	Moderate	Increasing	16	31.3%	Type A, Subtype pH1	5.3	( <a href="#">graphs</a> )	979.2	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Medium	Widespread	Stable	110	29.1%	Type A, Subtype pH1	12.1	( <a href="#">graphs</a> )	1035.9	( <a href="#">graphs</a> )	<a href="#">sari</a>		<a href="#">Click here</a>
Scotland	Low	Regional	Low	Decreasing	40	30.0%	Type A and B	25.2	( <a href="#">graphs</a> )	532.7	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	High	Widespread	Increasing	11	63.6%	Type A and B	235.2	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )	<a href="#">sari</a>		<a href="#">Click here</a>
Slovakia	Medium	Local	Low	Decreasing	27	55.6%	None	593.4	( <a href="#">graphs</a> )	2783.9	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Medium	Widespread	Stable	36	75.0%	Type B and Type A, Subtype pH1	131.9	( <a href="#">graphs</a> )	1647.2	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Spain	Medium	Widespread	Decreasing	499	53.1%	Type B	230.6	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Sweden	Medium	Widespread	Stable	102	27.5%	Type A, Subtype pH1N1 and H3	24.2	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Switzerland	Medium	Widespread	Decreasing				321.5	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Turkey	Medium	Regional	Low	Stable	35	31.4%	Type A, Subtype pH1	137.0	( <a href="#">graphs</a> )		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Medium	Regional	Moderate	Increasing	9	22.2%	Type A, Subtype pH1	2.9 *	( <a href="#">graphs</a> )	619.2	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing	13	69.2%	Type B and Type A, Subtype H3	0.3	( <a href="#">graphs</a> )	42.7	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Wales				7	85.7%	Type A and B		( <a href="#">graphs</a> )					<a href="#">Click here</a>
Europe				2586	47.6%								<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium = usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*, the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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# Influenza activity declining in western Europe, but varied in central and eastern parts of the Region



## Summary, week 9/2013

During week 09/2013, clinical ILI and ARI consultation rates continued to decline mainly in western and central parts of the WHO European Region, with fewer countries in the central and eastern parts of the Region reporting increasing activity than in the previous week. A(H1N1)pdm09 remained the most commonly detected influenza virus in the Region, but the proportion of type B viruses detected in sentinel sources increased during week 09/2013 mainly in Germany, Italy and Spain. A(H1N1)pdm09 was also dominant in patients hospitalized for severe acute respiratory infection (SARI) in the eastern part of the Region, where the number of SARI cases remained at the same level as last week.

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 09/2013, a total of 6215 specimens tested positive for influenza, with 3911 (63%) specimens being positive for influenza A (Fig. 1), which is a similar proportion as in the previous weeks.

Influenza A(H1N1)pdm09 viruses have remained the dominant A virus with similar proportions for several weeks: of 2547 subtyped, 1748 (69%) were A(H1N1)pdm09 and 799 (31%) were A(H3N2) (Fig. 2a). Since the beginning of the season (week 40/2012), 64 575 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Since week 47/2012, influenza A has been the most commonly detected virus: cumulatively, 42 848 (66%) were influenza A and 21 727 (34%) influenza B (Fig. 2b).

Of the 27 810 influenza A viruses that have been subtyped, 19 944 (72%) were A(H1N1)pdm09 and 7866 (28%) were A(H3N2).

In addition, the lineage for 3062 influenza B viruses has been determined: 2806 (92%) belonged to the B/Yamagata lineage and 256 (8%) to B/Victoria.

Circulation of influenza viruses in week 09/2013 remained diverse. Influenza A, mainly A(H1N1)pdm09, was reported as the dominant virus in countries in eastern and central Europe and Turkey, as has been the case since the beginning of the season, while influenza B was reported as the dominant virus in some countries in the southern part of the Region (Map 1) and Denmark. Between these areas, more countries than during week 08/2013 reported co-circulation of influenza A (mainly A(H1N1)pdm09) and B.

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at [WHO headquarters](#) web site).

For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 3088 influenza viruses characterized antigenically by 14 countries (Austria, Denmark, Germany, Greece, Italy, Latvia, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom characterized the majority of these viruses (1158: 38%). Scotland reported on 492 (41%) of the 1201 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 15 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 852 influenza viruses genetically (Fig. 4).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 09/2013

[Total N = 477]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:46 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 11 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 730 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 302 A(H1N1)pdm09 viruses tested, 297 showed susceptibility to both drugs; 5 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected. 2 viruses from the United Kingdom were detected in outpatient patients not exposed to oseltamivir through treatment. 3 viruses from the Netherlands (2) and Switzerland (1) were detected in hospitalized immunocompromized patients exposed to oseltamivir through treatment.

The 194 influenza A(H3N2) tested showed susceptibility to both drugs. Of the 234 influenza B viruses tested, 233 showed susceptibility to both drugs, 1 virus showed reduced inhibition for oseltamivir and normal inhibition for zanamivir, was detected in the United Kingdom in outpatient patient without exposure to antiviral treatment. There is no indication of spread of resistant viruses.

The 44 influenza A(H1N1)pdm09 and 19 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

In comparison with week 08/2013, many more countries located in the western and eastern parts of the Region reported decreasing influenza activity in week 9/2013 (Map 4). Based on the reported decreasing consultation rates for several weeks, in most of the western European countries the peak of influenza activity was observed around week 5/2013. At the same time most of the countries in the Region continued to report medium intensity levels (Map 2) and widespread circulation of influenza (Map 3).

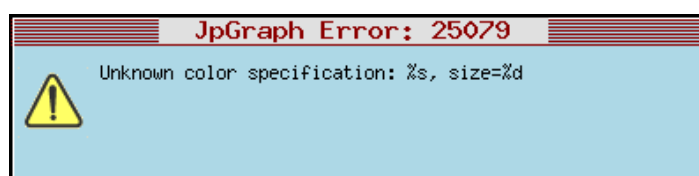
Regarding the impact of influenza this season so far, the age group most affected in outpatient surveillance was 0-4, followed by 5-14.

Of the countries that have established epidemic thresholds, all countries still reported ILI/ARI consultation rates above their national threshold levels.

Click on the maps for more detailed information.

In week 09/2013, 2217 sentinel specimens were tested, of which 1079 (49%) were positive for influenza. The proportion of influenza-positive sentinel specimens has been decreasing gradually since week 5/2013 (Fig. 5).

In the 26 countries testing 20 or more sentinel specimens, influenza positivity ranged from 9% to 91%, with a median of 49% (mean: 51%).



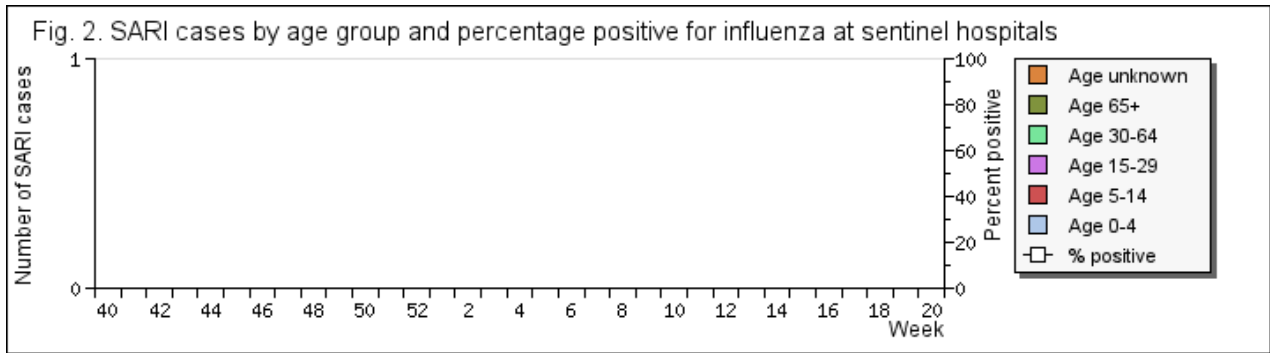
Of the 1079 influenza-positive specimens from sentinel sources, 51% were positive for influenza B, similar to the 2 previous weeks (Fig. 6a). Most of the influenza B detections were reported by Germany, Italy and Spain. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

## Hospital surveillance for SARI

It seems that the weekly number of SARI hospitalizations has peaked for the season for Albania, Belgium and the Republic of Moldova. During week 09/2013 as well as for several previous weeks Armenia, Romania and Slovakia showed increases in number of cases in the groups aged 30-64 and/or ≥65 years, coinciding with increased positivity rates and the predominance of A(H1N1)pdm09.

A decrease in SARI cases from week 08 to week 09 was observed in Georgia, Kyrgyzstan, Serbia and the Russian Federation. The proportion of respiratory specimens from patients with SARI who tested positive for influenza has remained relatively stable over the last 3 weeks (Fig. 7).

Since the beginning of the season, the number of SARI cases testing positive for influenza in Belgium, Georgia, Kazakhstan and Romania has more or less correlated with the reported number of SARI hospitalizations.



For week 09/2013, similar to week 8/2013, 12 countries (Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 135 influenza detections among 432 specimens tested, 78% of which were influenza A (Fig. 8a). Most of the detections were reported by 5 countries (Armenia, Georgia, Romania, the Russian Federation and Ukraine), in which influenza activity has gradually increased, with influenza A(H1N1)pdm09 being predominant. Since week 40/2012, 4754 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 154 such cases were reported for week 09/2013, which most of them caused by influenza A. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

## Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

## EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 9/2013 data, based on 15 countries or regions, showed excess mortality among people aged 65 and older since week 01/2013. No excess mortality in younger age groups has been detected so far this season. Results of pooled analysis may vary dependent on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#).

## Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria or B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

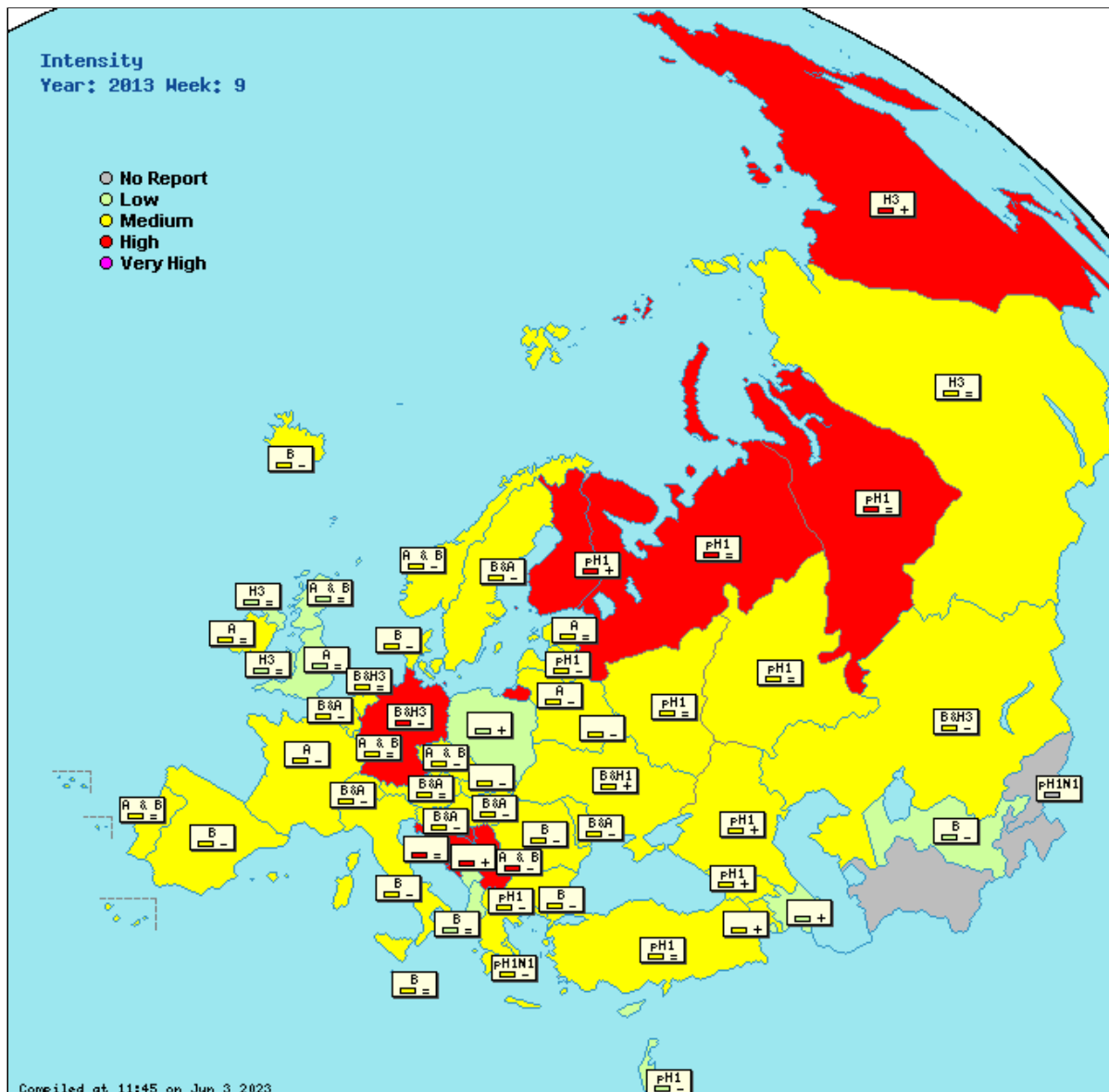
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + **virological**  **Geographical spread**  + **virological**  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

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.

## Country comments (where available)

### Republic of Moldova

During week 09/2013, 2 deaths from seasonal influenza A (H1N1)pdm09 (non-sentinel) were registered: 2 females aged 56 in Chisinau and 52 years in Ciadar-Lunga district. Both cases patients asked late for medical care, and antiviral treatment was initiated late. Neither had been vaccinated against influenza.

In addition, 56 samples were tested for Influenza viruses, of which 15 were positive for RNA influenza virus A(H1N1)pdm09; 3 samples, positive for RNA influenza virus A(H3N2); and 18, for RNA influenza virus type B.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable			None		496.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Medium	Local	Moderate	Increasing	6	50.0%	None		328.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Medium	Widespread		Stable	67	76.1%	Type B and Type A, Subtype pH1N1	1637.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	Sporadic	Low	Increasing	25	8.0%	None	257.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Medium	Sporadic	Moderate	Decreasing	33	27.3%	None	21.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Medium	Widespread		Decreasing	80	73.8%	Type B and Type A, Subtype pH1	567.0 ( <a href="#">graphs</a> )	1965.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	High	Widespread	Moderate	Increasing			None	91.6 ( <a href="#">graphs</a> )	170.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Medium	Regional		Decreasing	33	30.3%	Type B	( <a href="#">graphs</a> )	1237.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	High	Widespread	Moderate	Stable			None	57.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.6 * ( <a href="#">graphs</a> )	11.2 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Medium	Widespread		Decreasing	17	117.7%	Type B	136.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Regional		Stable	101	29.7%	Type A	15.1 ( <a href="#">graphs</a> )	367.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Medium	Widespread		Stable	61	45.9%	Type A	27.8 ( <a href="#">graphs</a> )	713.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	High	Widespread		Increasing	39	41.0%	Type A, Subtype pH1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
France	Medium	Widespread	Moderate	Decreasing	111	57.7%	Type A and B	( <a href="#">graphs</a> )	2230.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Medium	Widespread	Moderate	Increasing	15	20.0%	Type A, Subtype pH1	320.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	High	Widespread		Decreasing	275	52.7%	Type B and Type A, Subtype H3N2	( <a href="#">graphs</a> )	2219.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Medium	Local		Decreasing	5	20.0%	Type A, Subtype pH1N1	184.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Medium	Widespread	Low	Decreasing	86	47.7%	Type B and Type A, Subtype pH1	376.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland	Medium	Widespread	Low	Decreasing	0	-		76.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Medium	Regional	Moderate	Stable	38	55.3%	Type A	45.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	Regional	Low	Decreasing				56.1 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Medium	Widespread	Low	Decreasing	103	73.8%	Type B	757.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Medium	Local	Severe	Increasing	15	6.7%	None	253.9 ( <a href="#">graphs</a> )	57.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					9	0%	None	75.8 ( <a href="#">graphs</a> )	7.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Medium	Widespread		Decreasing	8	62.5%	Type A, Subtype pH1	370.3 ( <a href="#">graphs</a> )	1255.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Medium	Regional	Low	Decreasing	29	69.0%	Type A	55.2 ( <a href="#">graphs</a> )	576.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Medium	Widespread	Low		70	48.6%	Type A and B	5.4 * ( <a href="#">graphs</a> )	28.4 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Medium	Widespread	Low	Decreasing	1	100.0%	Type A, Subtype pH1	109.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	Regional	Low	Decreasing				60.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Medium	Widespread		Decreasing	42	59.5%	Type A and B	103.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	Local		Stable	5	80.0%	Type A	44.8 ( <a href="#">graphs</a> )	473.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Medium	Widespread		Decreasing	2	50.0%	Type A and B	111.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Increasing	58	43.1%	None	308.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Medium	Widespread		Stable	16	50.0%	Type A and B	48.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Medium	Widespread	Moderate	Decreasing	20	65.0%	Type B and Type A, Subtype pH1	12.0 ( <a href="#">graphs</a> )	478.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Medium	Widespread	Low	Decreasing	22	90.9%	Type B	6.0 ( <a href="#">graphs</a> )	945.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Medium	Widespread		Stable	137	19.7%	Type A, Subtype pH1	12.1 ( <a href="#">graphs</a> )	1074.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Regional	Low	Stable	45	57.8%	Type A and B	25.4 ( <a href="#">graphs</a> )	529.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	High	Widespread		Decreasing	15	73.3%	Type A and B	221.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Medium	Local	Low	Decreasing	22	54.6%	None	422.9 ( <a href="#">graphs</a> )	2376.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Medium	Widespread		Decreasing	35	80.0%	Type B and Type A, Subtype pH1	86.8 ( <a href="#">graphs</a> )	1306.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Medium	Widespread		Decreasing	341	49.3%	Type B	168.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Medium	Widespread		Decreasing	93	41.9%	Type B and Type A, Subtype pH1	11.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Medium	Widespread		Decreasing				242.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey	Medium	Regional	Low	Stable	117	23.1%	Type A, Subtype pH1	164.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Medium	Regional	Moderate	Increasing			None	2.9 * ( <a href="#">graphs</a> )	627.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Decreasing	10	50.0%	Type B	0.2 ( <a href="#">graphs</a> )	36.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					2207	48.9%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

Neither the World Health Organization (WHO), nor any person acting on its behalf, is liable for the use that may be made of the information contained in this bulletin. Maps and commentary used in this bulletin do not imply any opinions whatsoever on the part of WHO or its partners about the legal status of the countries and territories shown or about their borders.



# Continued decline in consultation rates in most European countries with medium activity and widespread circulation of influenza



## Summary, week 10/2013

During week 10/2013, consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) continued to decline in most parts of the WHO European Region. Most countries reported medium activity, widespread circulation of influenza and a high percentage of sentinel specimens testing positive for influenza. The proportion of type B viruses detected in sentinel sources increased, mainly in countries in southern and central parts of the Region. A(H1N1)pdm09 remained dominant in outpatient surveillance and patients hospitalized for severe acute respiratory infection (SARI), but the number of SARI cases started decreasing, along with the number of hospitalized cases testing positive for influenza.



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 10/2013, a total of 5980 specimens tested positive for influenza, with 3638 (61%) positive for influenza A (Fig. 1). The proportion of influenza A viruses has gradually decreased since week 3/2013, when 76% of specimens tested positive.

Influenza A(H1N1)pdm09 remained the dominant A virus with similar proportions observed for several weeks: of 2185 subtyped, 1459 (67%) were A(H1N1)pdm09 and 726 (33%) were A(H3N2) (Fig. 2a). Since the beginning of the season (week 40/2012), 72 137 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Since week 47/2012, influenza A has been the most commonly detected virus. Cumulatively, 47 619 (66%) were influenza A and 24 518 (34%) influenza B (Fig. 2b).

Of the 30 589 influenza A viruses that have been subtyped, 21 688 (71%) were A(H1N1)pdm09 and 8901 (29%) were A(H3N2).

The lineage for 3669 influenza B viruses was determined, with a similar distribution of influenza B viruses to the previous week: 3350 (91%) belonged to the B/Yamagata lineage and 319 (9%) to B/Victoria.

The circulation of influenza viruses still varied across the Region in week 10/2013. Influenza A, mainly A(H1N1)pdm09, was reported as the dominant virus by countries in eastern and central Europe, Ireland and the United Kingdom (England and Northern Ireland), while influenza B was reported as dominant in some countries in the southern and central parts of the Region, Denmark and Norway. Between these areas, more countries reported co-circulation of influenza A (mainly A(H1N1)pdm09) and B (Map 1) in week 10/2013 than the previous week.

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at [WHO headquarters](#) web site).

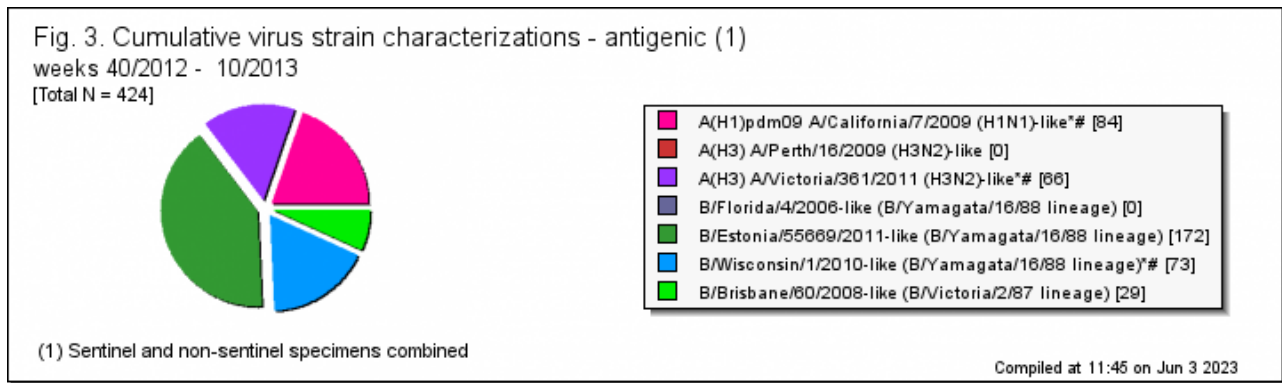
For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 3426 influenza viruses characterized antigenically by 14 countries (Austria, Denmark, Germany, Greece, Italy, Latvia, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England, Scotland)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom characterized the majority of these viruses (1217: 36%). Scotland reported on 495 (39%) of the 1257 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 15 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland))

have characterized 1070 influenza viruses genetically (Fig. 4).



# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).  
 \* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Since week 40/2012, 12 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 787 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 324 A(H1N1)pdm09 viruses tested, 316 showed susceptibility to both drugs, and 8 viruses carried the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir. 1 virus from the Russian Federation was detected in a hospitalized patient and 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment. 5 viruses from Germany (2) the Netherlands (2) and Switzerland (1) were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment.

The 207 influenza A(H3N2) tested showed susceptibility to both drugs. Of the 256 influenza B viruses tested, 255 showed susceptibility to both drugs; 1 virus, showing reduced inhibition for oseltamivir and normal inhibition for zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 44 influenza A(H1N1)pdm09 and 19 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

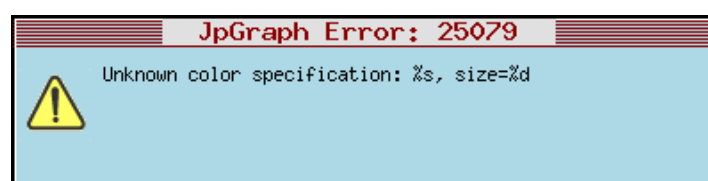
In comparison with week 9/2013, many more countries all over the Region reported decreasing influenza activity in week 10/2013 (Map 4). Nevertheless, most countries continued to report medium intensity levels (Map 2) and widespread circulation of influenza (Map 3).

Of the countries that have established epidemic thresholds, the Czech Republic, France, Israel, Kyrgyzstan and Ukraine reported ILI/ARI consultation rates below their national threshold levels.

Click on the maps for more detailed information.

The percentage of sentinel specimens testing positive for influenza remained high: in week 10/2013, 1887 sentinel specimens were tested, of which 945 (50%) were positive for influenza, similar to week 9/2013 (Fig. 5).

In the 23 countries testing 20 or more sentinel specimens, influenza positivity ranged from 5% to 77%, with a median of 54% (mean: 50%).



Of the 945 influenza-positive specimens from sentinel sources, 55% were positive for influenza B. The proportion of sentinel samples testing positive for influenza B, has gradually increased since week 3/2013 (Fig. 6a). Similarly to the two previous weeks, most of the influenza B detections were reported by France, Germany and Spain. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

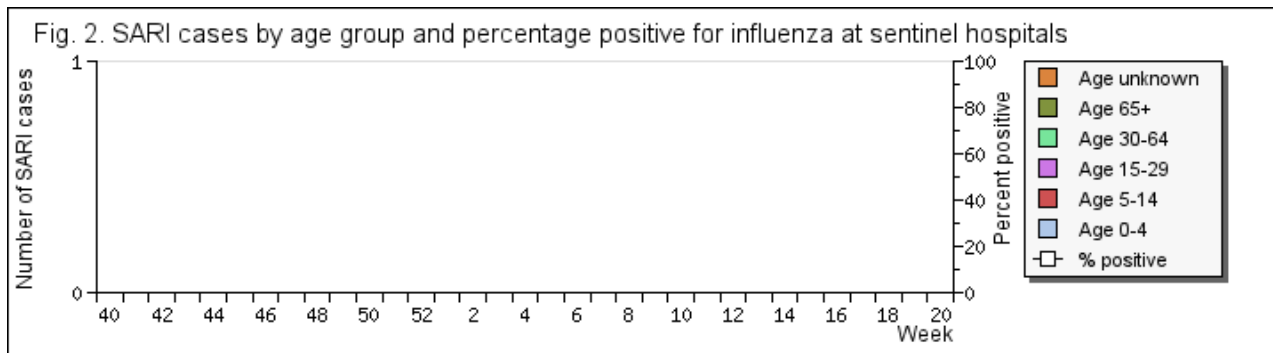


## Hospital surveillance for SARI

In week 10/2013 the number of SARI hospitalizations and the proportion of SARI respiratory specimens testing positive for influenza decreased from the levels seen in previous weeks (Fig. 7). This is concurrent with decreasing influenza activity in most of the countries taking part in hospital surveillance for SARI.

The decreasing trend in the number of SARI hospitalizations indicates that they have peaked for the season in Albania, Belgium, Kyrgyzstan and the Russian Federation.

During week 10/2013 Georgia and Ukraine showed increased cases in the groups aged 30-64 and/or ≥65 years, coinciding with increased positivity rates.



For week 10/2013, similarly to the two previous weeks, 12 countries (Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 97 influenza detections among 365 specimens tested, 77% of which were influenza A (Fig. 8a). Most of the detections were reported by 5 countries (Armenia, Georgia, Romania, the Russian Federation and Ukraine). Since week 40/2012, 5189 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 78 such cases were reported for week 10/2013. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

## Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

## EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 10/2013 data, based on 15 countries or regions, showed excess mortality among people aged 65 and older since week 01/2013. No excess mortality in younger age groups has been detected so far this season. Results of pooled analysis may vary dependent on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#).

## Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

## Map

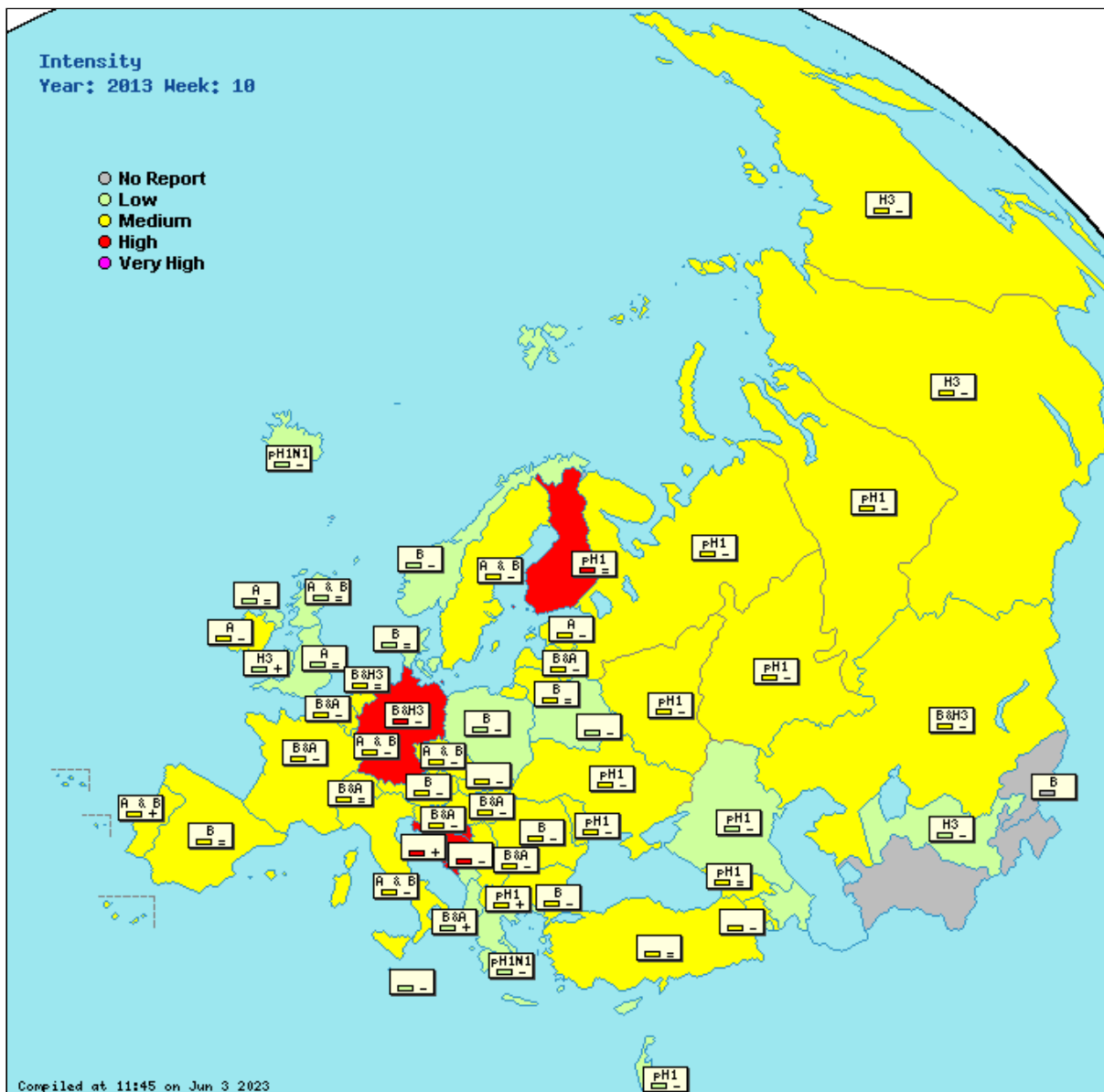
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will

appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + **virological**  **Geographical spread**  + **virological**  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

### Republic of Moldova

During week 10/2013, 1 death from seasonal influenza A (H1N1)pdm09 (non-sentinel) were registered: 1 male aged 62 in Cantemir district. Patient asked late for medical care, and antiviral treatment was initiated late. Neither had been vaccinated against influenza.

In addition, 37 samples were tested for Influenza viruses, of which 8 were positive for RNA influenza virus A(H1N1)pdm09; 4 samples, positive for RNA influenza virus A(H3N2); and 4, for RNA influenza virus type B.

### Romania

one of the laboratory confirmed cases was a double infection (coinfection): SWOAH1 and B virus

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing					505.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Medium	Local	Moderate	Decreasing	4	50.0%	None		259.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Medium	Widespread		Decreasing	55	67.3%	Type B	1330.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing				214.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	Sporadic	Low	Decreasing	28	21.4%	None	20.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Medium	Widespread		Decreasing	55	67.3%	Type B and Type A, Subtype pH1	445.3 ( <a href="#">graphs</a> )	1895.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	High	Widespread	Moderate	Decreasing			None	69.5 ( <a href="#">graphs</a> )	141.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Medium	Local		Decreasing	7	71.4%	Type B	( <a href="#">graphs</a> )	1139.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	High	Widespread	Moderate	Increasing			None	125.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.7 * ( <a href="#">graphs</a> )	7.7 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Medium	Local		Decreasing	17	64.7%	Type A and B	99.0 ( <a href="#">graphs</a> )	1078.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	Widespread		Stable	12	50.0%	Type B	129.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England					68	39.7%	Type A	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Estonia	Medium	Widespread		Decreasing	34	44.1%	Type A	27.2 ( <a href="#">graphs</a> )	553.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	High	Widespread		Stable	49	57.1%	Type A, Subtype pH1	( <a href="#">graphs</a> )			<a href="#">Click here</a>
France	Medium	Widespread	Moderate	Decreasing	152	56.6%	Type A and B	( <a href="#">graphs</a> )	1889.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	High	Widespread	Moderate	Stable	14	21.4%	Type A, Subtype pH1	318.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	High	Widespread		Decreasing	234	53.9%	Type B and Type A, Subtype H3N2	( <a href="#">graphs</a> )	1896.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	Local		Decreasing	6	50.0%	Type A, Subtype pH1N1	209.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Medium	Widespread	Low	Decreasing	63	50.8%	Type B and Type A, Subtype pH1	296.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland					0	-		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ireland	Medium	Regional	Moderate	Decreasing	25	56.0%	Type A	34.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	Regional	Low	Decreasing				36.3 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Medium	Widespread	Low	Decreasing	88	61.4%	Type A and B	550.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan					22	4.6%	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					4	25.0%	None	48.3 ( <a href="#">graphs</a> )	13.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Medium	Widespread		Decreasing	3	66.7%	Type B and Type A, Subtype pH1	345.9 ( <a href="#">graphs</a> )	1173.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Medium	Regional	Low	Stable	28	78.6%	Type B	39.4 ( <a href="#">graphs</a> )	616.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Medium	Widespread	Low		40	50.0%	Type A and B	5.6 * ( <a href="#">graphs</a> )	28.6 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Medium	Widespread	Moderate	Increasing	5	20.0%	Type A, Subtype pH1	116.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Malta	Low	Local	Low	Decreasing				2.4 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Medium	Widespread		Stable	41	63.4%	Type A and B	109.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	Local		Stable	4	75.0%	Type A	46.3 ( <a href="#">graphs</a> )	470.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Low	Widespread		Decreasing	2	50.0%	Type B	93.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	62	30.7%	Type B	299.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Medium	Widespread		Increasing	25	68.0%	Type A and B	71.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Medium	Widespread	Moderate	Decreasing	16	43.8%	Type A, Subtype pH1	6.5 ( <a href="#">graphs</a> )	368.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Medium	Widespread	Low	Decreasing	17	70.6%	Type B	7.4 ( <a href="#">graphs</a> )	897.8 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Medium	Regional		Decreasing	63	44.4%	Type A, Subtype pH1	8.6 ( <a href="#">graphs</a> )	858.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Regional	Low	Stable	30	40.0%	Type A and B	23.9 ( <a href="#">graphs</a> )	508.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Medium	Widespread	Low	Decreasing	10	80.0%	Type B and Type A, Subtype pH1	186.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Medium	Local	Low	Decreasing	19	84.2%	None	287.4 ( <a href="#">graphs</a> )	1898.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Medium	Widespread		Decreasing	34	76.5%	Type B and Type A, Subtype pH1	54.5 ( <a href="#">graphs</a> )	1328.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Medium	Widespread		Stable	374	48.1%	Type B	171.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Medium	Widespread		Decreasing	45	40.0%	Type A and B	18.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Medium	Widespread		Decreasing	25	76.0%	Type B and Type A, Subtype pH1	212.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey	Medium	Regional	Moderate	Stable	93	10.8%	None	130.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Medium	Regional	Moderate	Decreasing	5	20.0%	Type A, Subtype pH1	4.1 * ( <a href="#">graphs</a> )	555.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Decreasing	9	33.3%	Type A	0.2 ( <a href="#">graphs</a> )	27.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Wales	Low	Local		Increasing				18.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					1887	50.1%					<a href="#">Click here</a>

### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium = usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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EuroFlu : Weekly Electronic Bulletin

# Influenza activity continues to increase in some eastern countries while decreasing in many other European countries



## Summary, week 11/2013

During week 11/2013, consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) continued to decline throughout most parts of the WHO European Region, with most countries reporting medium activity. A few countries in the east, however, reported increasing clinical outpatient activity. The percentage of sentinel specimens testing positive for influenza has started to decline overall, but remains high in several countries. While pandemic influenza A(H1N1)pdm09 and influenza B co-dominate in northern and western Europe, A(H1N1)pdm09 is the dominant virus in the central and eastern parts of the Region. The number of hospitalizations due to severe acute respiratory infection (SARI) decreased slightly in week 11/2013, but some eastern countries reported increased influenza-positivity rates among SARI cases, in line with increases in ARI/ILI consultation rates.



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 11/2013 a total of 4821 specimens tested positive for influenza, with 2783 (58%) positive for influenza A (Fig. 1). The proportion of influenza A viruses has continued to decrease since week 03/2013, when it was 76% of influenza-positive specimens.

As in previous weeks, influenza A(H1N1)pdm09 remained the dominant type A virus in the Region: of 1639 subtyped, 1016 (62%) were A(H1N1)pdm09 and 623 (38%) were A(H3N2) (Fig. 2a). Since the beginning of the season (week 40/2012), 78 182 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Since week 47/2012, influenza A has been the most commonly detected virus: cumulatively, 51 113 (65%) were influenza A and 27 069 (35%) influenza B (Fig. 2b).

Of the 32 806 influenza A viruses that have been subtyped, 23 002 (70%) were A(H1N1)pdm09 and 9 804 (30%) were A(H3N2).

In addition, the lineage for 4065 influenza B viruses has been determined: 3720 (92%) belonged to the B/Yamagata lineage and 345 (8%) to B/Victoria.

Circulation of influenza viruses in week 11/2013 remained diverse across the Region, with more northern and western countries reporting the dominance of influenza B or co-circulation of influenza A and B. Influenza A was reported as the dominant virus mainly by countries in eastern and central Europe, as well as in Greece, Ireland and the United Kingdom (England, Wales and Northern Ireland) (Map 1).

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at the [WHO headquarters](#) web site).

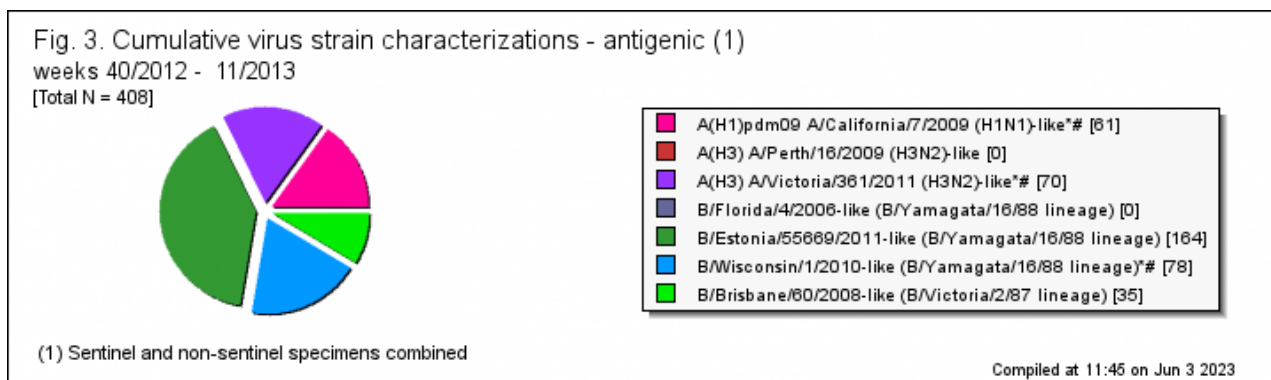
For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 4099 influenza viruses characterized antigenically by 14 countries (Austria, Denmark, Germany, Greece, Italy, Latvia, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)). The great majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom characterized 1245 of these viruses (30%). Scotland reported on 495 (35%) of the 1396 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 15 countries (Austria, Belgium, Denmark, Finland,

Germany, Greece, Ireland, Italy, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 1101 influenza viruses genetically (Fig. 4).



# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).  
\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Cumulatively since week 40/2012, 12 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 967 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 442 A(H1N1)pdm09 viruses tested, 433 showed susceptibility to both drugs while 9 viruses (2%) carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected. Of these 9 viruses, 1 from the Russian Federation was detected in a hospitalized patient not exposed to oseltamivir through treatment; 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment; and 6 viruses were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment (1 from Denmark, 2 from Germany, 2 from the Netherlands and 1 from Switzerland).

The 233 influenza A(H3N2) viruses tested showed susceptibility to both drugs. Of the 292 influenza B viruses tested, 291 showed susceptibility to both drugs; 1 virus showing reduced inhibition for oseltamivir, and normal inhibition for zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 44 influenza A(H1N1)pdm09 and 19 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

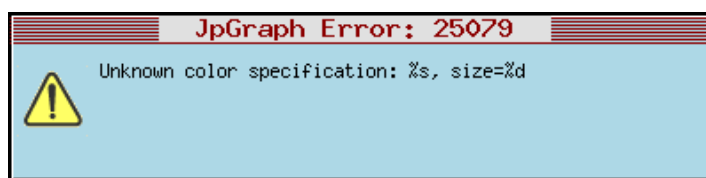
A few countries, mainly in the eastern part of the Region, reported increasing influenza activity for week 11/2013 (Map 4). In week 11/2013, only 1 (Bosnia and Herzegovina) reported high intensity, in contrast to 4 countries during week 10/2013 (Map 2). At the same time, most countries continued reporting widespread/regional circulation of influenza (Map 3).

Of the countries that have established epidemic thresholds, 4 (the Czech Republic, France, Israel and Kazakhstan) reported ILI/ARI consultation rates below their national threshold levels.

Click on the maps for more detailed information.

The percentage of sentinel specimens testing positive for influenza has decreased in comparison with week 10/2013; 1571 sentinel specimens were tested of which 634 (40%) were positive for influenza (Fig. 5).

In the 20 countries testing 20 or more sentinel specimens, influenza positivity ranged from 11% to 76%, with a median of 42% (mean: 43%).



Of the 634 influenza-positive specimens from sentinel sources, 59% were positive for influenza B. The proportion of sentinel samples testing positive for influenza B has gradually increased since week 03/2013 (Fig. 6a). As in the two previous weeks, most of these

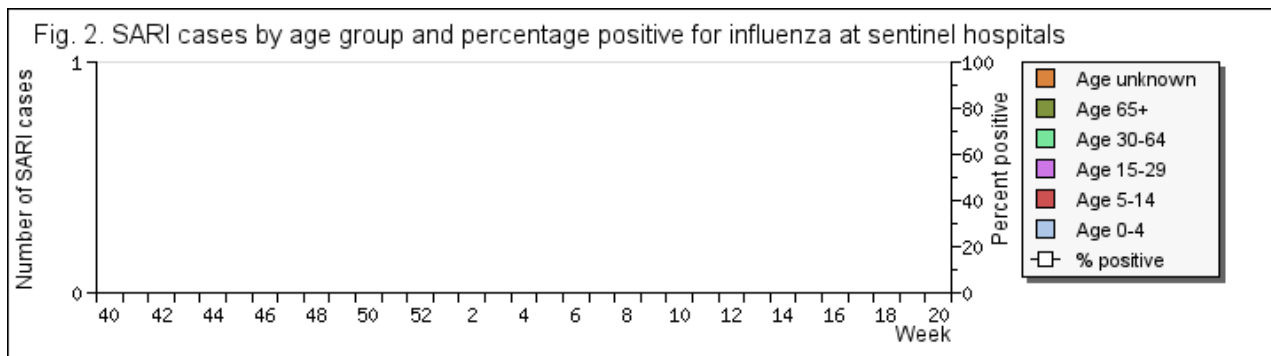
detections were reported by Germany and Spain. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

In week 11/2013 the number of SARI hospitalizations decreased in comparison with previous weeks, but remained above pre-season levels (Fig. 7). This trend indicates that SARI hospitalization has peaked for the season in Belgium, Kyrgyzstan and Slovakia, concurrently with overall declines in outpatient ILI or ARI consultation rates.

During week 11/2013 Armenia, Georgia, the Russian Federation and Ukraine showed increases in cases in the groups aged 30-64 and/or ≥65 years, coinciding with increased influenza-positivity rates and concurrent with increases in ARI/ILI consultation rates.

In general, at the beginning of the season, a relatively large portion of sentinel SARI hospitalizations occurred in the group aged 0-4. With increases in influenza activity, there have been associated increases in the relative proportions of SARI hospitalizations in older children, young adults and adults.



For week 11/2013, 13 countries (Albania, Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 130 influenza detections among 356 specimens tested, 65% of which were influenza A (Fig. 8a). As in week 10/2013, most of the detections were reported by 5 countries (Armenia, Georgia, Romania, the Russian Federation and Ukraine). Since week 40/2012, 5731 SARI specimens have been collected and tested for influenza [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 111 such cases were reported for week 11/2013. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

### EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 11/2013 data, based on 16 countries or regions, showed a pattern similar to those in the previous weeks, with excess mortality among people aged ≥65 years. This pattern started in week 01/2013 and continues. Mortality in the most recent weeks may be overestimated, however, because of imprecise adjustment of delayed registrations. For more information about the EUROMOMO mortality monitoring system please click [here](#).

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

### Map

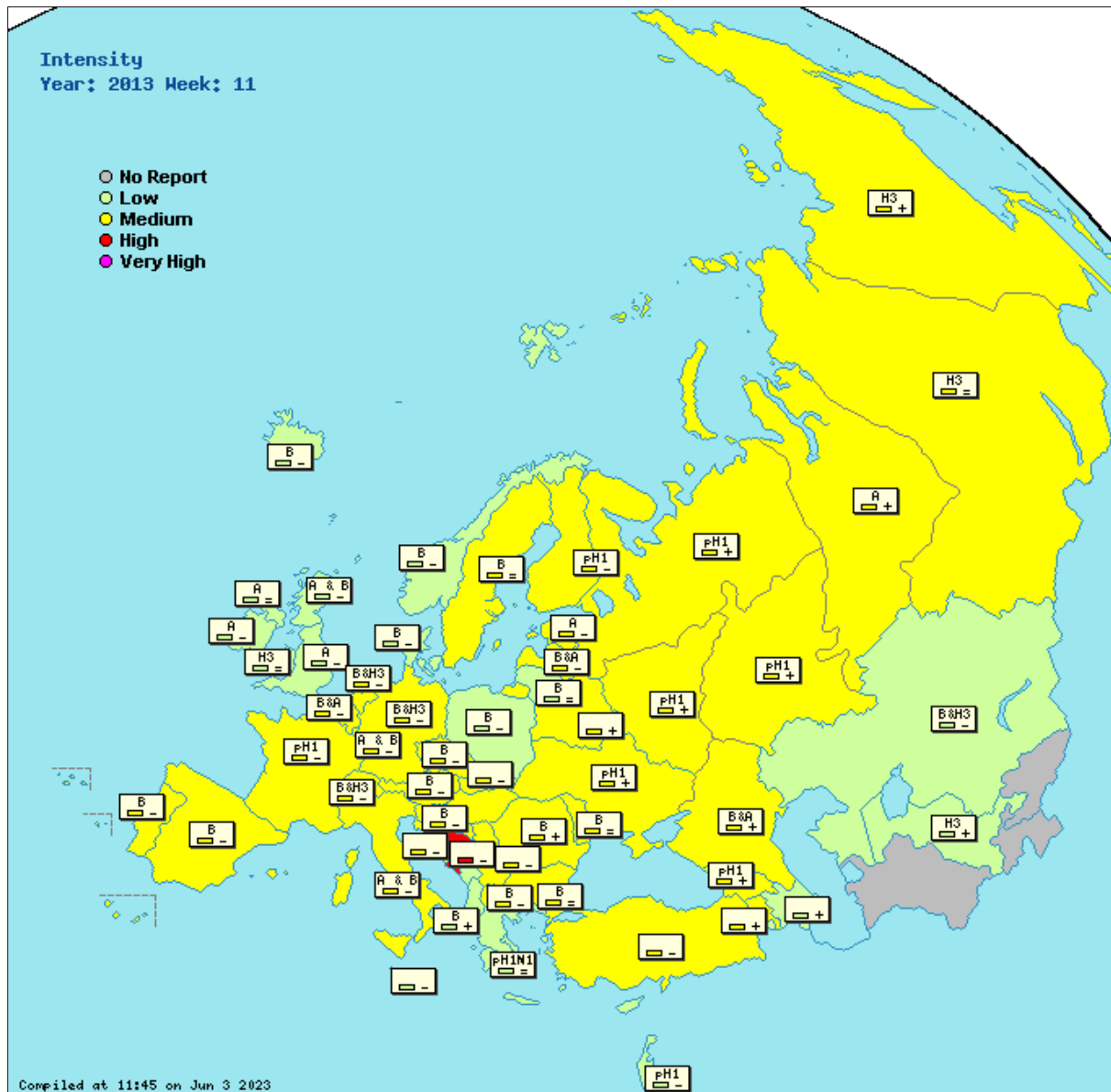
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant

virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

**=** : stable clinical activity  
**+** : increasing clinical activity  
**-** : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing	21	47.6%	Type B		516.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>



Armenia	Medium	Local	Moderate	Increasing	3	33.3%	None		350.2	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Medium	Widespread		Decreasing	34	73.5%	Type B	1263.6	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	12	0%	None	212.9	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Belarus	Medium	Sporadic	Low	Increasing	35	17.1%	None	18.3	<a href="#">(graphs)</a>	1045.6	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Belgium	Medium	Widespread		Decreasing	58	56.9%	Type B and Type A, Subtype pH1	290.5	<a href="#">(graphs)</a>	1965.3	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Bosnia and Herzegovina	High	Widespread	Moderate	Decreasing			None	65.5	<a href="#">(graphs)</a>	143.5	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Bulgaria	Medium	Local		Stable	15	46.7%	Type B		<a href="#">(graphs)</a>	1132.7	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Croatia	Medium	Widespread	Moderate	Decreasing			None	109.4	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0 *	<a href="#">(graphs)</a>	8.7 *	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Czech Republic	Medium	Local		Decreasing				83.9	<a href="#">(graphs)</a>	1066.8	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Denmark	Low	Widespread		Decreasing	12	66.7%	Type B	116.7	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
England	Low	Regional		Decreasing	73	31.5%	Type A	11.2	<a href="#">(graphs)</a>	349.2	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Estonia	Medium	Widespread		Decreasing	45	42.2%	Type A	24.2	<a href="#">(graphs)</a>	514.3	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Finland	Medium	Widespread		Decreasing	16	37.5%	Type A, Subtype pH1		<a href="#">(graphs)</a>			<a href="#">Click here</a>
France	Medium	Regional	Low	Decreasing	107	36.5%	Type A and B		<a href="#">(graphs)</a>	1474.1	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Georgia	Medium	Widespread	Moderate	Increasing	11	9.1%	Type A, Subtype pH1	360.4	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Germany	Medium	Widespread		Decreasing	211	53.6%	Type B and Type A, Subtype H3N2		<a href="#">(graphs)</a>	1727.7	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Greece	Low	Local		Stable	5	60.0%	Type A, Subtype pH1N1	188.9	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Hungary	Medium	Widespread	Low	Decreasing				192.9	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Iceland	Low	Regional	Low	Decreasing	0	-		36.0	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Ireland	Low	Local	Low	Decreasing	17	29.4%	Type A	23.1	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Israel	Low	Regional	Low	Decreasing	33	30.3%	Type A, Subtype pH1 and H3	23.2	<a href="#">(graphs)</a>			<a href="#">Click here</a>
Italy	Medium	Regional	Low	Decreasing	53	41.5%	Type A and B	403.3	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Kazakhstan	Medium	Local	Low	Decreasing	18	16.7%	None	181.6	<a href="#">(graphs)</a>	39.8	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Kyrgyzstan					7	0%	None		<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Latvia	Medium	Widespread		Decreasing	1	100.0%	Type B and Type A, Subtype pH1	279.9	<a href="#">(graphs)</a>	1187.1	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Lithuania	Low	Regional	Low	Stable	21	76.2%	Type B	42.3	<a href="#">(graphs)</a>	704.2	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Luxembourg	Medium	Widespread	Low		37	40.5%	Type A and B	4.5 *	<a href="#">(graphs)</a>	20.9 *	<a href="#">(graphs)</a>	<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Medium	Widespread	Moderate	Decreasing	6	66.7%	Type B	98.7	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Malta	Low	Local	Low	Decreasing				2.4 *	<a href="#">(graphs)</a>	0 *	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Montenegro	Low	Local	Low	Decreasing				28.3	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Netherlands	Medium	Widespread		Increasing	28	42.9%	Type A and B	67.1	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Northern Ireland	Low	Local		Stable	4	50.0%	Type A	44.7	<a href="#">(graphs)</a>	465.9	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Norway	Low	Regional		Decreasing	5	60.0%	Type B	74.4	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	31	19.4%	Type B	264.9	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Portugal	Medium	Widespread		Decreasing	18	77.8%	Type A and B	57.5	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Republic of Moldova	Medium	Regional	Moderate	Stable					<a href="#">(graphs)</a>	0.0	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Romania	Medium	Widespread	Low	Increasing	6	83.3%	Type B	9.3	<a href="#">(graphs)</a>	928.3	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Russian Federation	Medium	Widespread		Increasing	101	22.8%	Type A, Subtype pH1	8.7	<a href="#">(graphs)</a>	952.4	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Scotland	Low	Regional	Low	Decreasing	43	37.2%	Type A and B	18.6	<a href="#">(graphs)</a>	483.4	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Serbia	Medium	Regional	Low	Decreasing	8	50.0%	None	152.1	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Slovakia	Medium	Local	Low	Decreasing	16	6.3%	None	258.4	<a href="#">(graphs)</a>	1770.0	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Slovenia	Medium	Widespread		Decreasing	37	73.0%	Type B	37.2	<a href="#">(graphs)</a>	1359.2	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Spain	Medium	Regional		Decreasing	230	40.0%	Type B	112.0	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Sweden	Medium	Widespread		Stable	56	46.4%	Type B	16.4	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Switzerland	Medium	Widespread		Decreasing	23	60.9%	Type B and Type A, Subtype H3N2	98.0	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Turkey	Medium	Regional	Low	Decreasing	72	11.1%	None	55.4	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">Click here</a>
Ukraine	Medium	Regional	Moderate	Increasing	10	40.0%	Type A, Subtype pH1	4.2 *	<a href="#">(graphs)</a>	690.4	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing	8	50.0%	Type A, Subtype H3	0.2	<a href="#">(graphs)</a>	30.8	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Wales					5	60.0%	Type A, Subtype H3		<a href="#">(graphs)</a>			<a href="#">Click here</a>
Europe					1552	40.9%						<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium = usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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EuroFlu : Weekly Electronic Bulletin

# Declining influenza activity in Europe, despite high positivity rates



EUROPE



## Summary, week 12/2013

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) continue to decrease throughout the WHO European Region, reaching pre-season levels in some western countries. The percentage of specimens testing positive for influenza, as well as the number of tests performed, continues to decline, but remains high in several countries. Based on data from sentinel sources, influenza A(H1N1)pdm09 and influenza B continue to co-circulate, but the ratio of influenza B to influenza A is increasing. The number of SARI hospitalizations as well as influenza positivity rate among cases of severe acute respiratory infection (SARI) decreased, with influenza A(H1N1)pdm09 being responsible for around half of the influenza detections.

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 12/2013 a total of 3418 specimens tested positive for influenza, with 1864 (55%) positive for influenza A (Fig. 1). The proportion of influenza A viruses among total influenza detections has decreased since week 03/2013, when it was 76% of influenza-positive specimens.

As in previous weeks, influenza A(H1N1)pdm09 remained the dominant type A virus in the Region: of 1206 subtyped, 709 (59%) were A(H1N1)pdm09 and 497 (41%) were A(H3N2) (Fig. 2a). Since the beginning of the season (week 40/2012), 82 410 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Since week 47/2012, influenza A has been the most commonly detected virus: cumulatively, 53 371 (65%) were influenza A and 29 039 (35%) influenza B (Fig. 2b).

Of the 34 285 influenza A viruses that have been subtyped, 23 851 (70%) were A(H1N1)pdm09 and 10 434 (30%) were A(H3N2).

In addition, the lineage for 4735 influenza B viruses has been determined: 4333 (92%) belonged to the B/Yamagata lineage and 402 (8%) to B/Victoria.

Circulation of influenza viruses in week 12/2013 remained diverse across the Region, with an increasing number of countries in different parts of the Region reporting the dominance of influenza B or co-circulation of influenza A and B. Estonia, Greece and Ireland reported influenza A as the dominant virus (Map 1).

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at the [WHO headquarters](#) web site).

For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

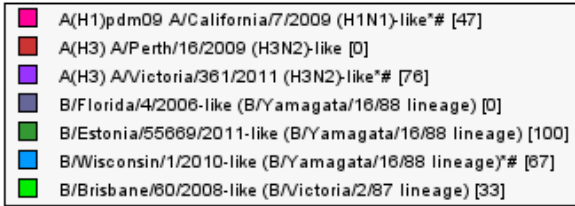
Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 4530 influenza viruses characterized antigenically by 14 countries (Austria, Denmark, Germany, Greece, Italy, Latvia, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)). The great majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom characterized 1245 of these viruses (27%). Scotland reported on 495 (33%) of the 1396 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 15 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 1154 influenza viruses genetically (Fig. 4).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 12/2013

[Total N = 323]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:46 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Cumulatively since week 40/2012, 12 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 1165 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 569 A(H1N1)pdm09 viruses tested, 560 showed susceptibility to both drugs while 9 viruses (2%) carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected. Of these 9 viruses, 1 from the Russian Federation was detected in a hospitalized patient not exposed to oseltamivir through treatment; 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment; and 6 viruses were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment (1 from Denmark, 2 from Germany, 2 from the Netherlands and 1 from Switzerland).

The 272 influenza A(H3N2) viruses tested showed susceptibility to both drugs. Of the 324 influenza B viruses tested, 323 showed susceptibility to both drugs; 1 virus showing reduced inhibition for oseltamivir, and normal inhibition for zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 99 influenza A(H1N1)pdm09 and 42 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

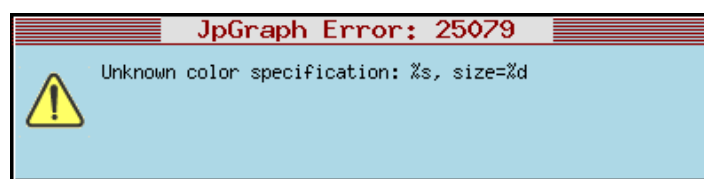
Latvia and Poland were the only countries that reported increasing influenza activity for week 12/2013 (Map 4). Similarly to week 11/2013, only Bosnia and Herzegovina reported high intensity (Map 2). At the same time, most countries continued reporting widespread/regional circulation of influenza (Map 3).

Of the countries that have established epidemic thresholds, 7 (the Czech Republic, France, Ireland, Israel, Kyrgyzstan, Kazakhstan and Romania) reported ILI/ARI consultation rates below their national threshold levels. In Denmark, Serbia and Switzerland, ILI/ARI consultation rates reached the baseline levels during week 12/2013.

Click on the maps for more detailed information.

The percentage of sentinel specimens testing positive for influenza has gradually decreased since week 10/2013; during week 12/2013, 1109 sentinel specimens were tested of which 445 (40%) were positive for influenza (Fig. 5).

In the 18 countries testing 20 or more sentinel specimens, influenza positivity ranged from 9% to 100%, with a median of 43% (mean: 44%).



Of the 445 influenza-positive specimens from sentinel sources, 67% were positive for influenza B. This proportion has gradually increased since week 03/2013 (Fig. 6a). Influenza B is becoming more predominant in countries where circulation of A(H1N1)pdm09 is decreasing. As in the 2 previous weeks, most of these detections were reported by France, Germany and Spain. Fig. 6b gives a

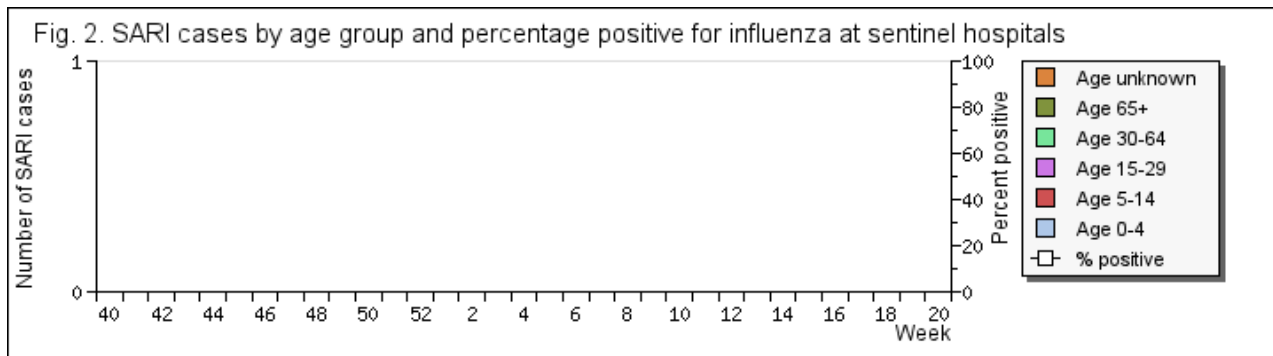
detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

In week 12/2013 the number of SARI hospitalizations and influenza positivity rate among SARI cases decreased in comparison with previous weeks (Fig. 7).

This trend indicates that SARI hospitalization has peaked for the season in Belgium, Kyrgyzstan, the Russian Federation and Slovakia, concurrently with overall declines in outpatient ILI or ARI consultation rates.

In general, at the beginning of the season, a relatively large portion of sentinel SARI hospitalizations occurred in the group aged 0-4. With increases in influenza activity, there have been associated increases in the relative proportions of SARI hospitalizations in older children, young adults and adults.



For week 12/2013, 12 countries (Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 72 influenza detections among 268 specimens tested, 49% of which were influenza A (Fig. 8a). Similarly to previous weeks, a few countries (Armenia, Georgia, Romania, the Russian Federation) reported most of the detections. Since week 40/2012, 60-39 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 24 such cases were reported for week 12/2013. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

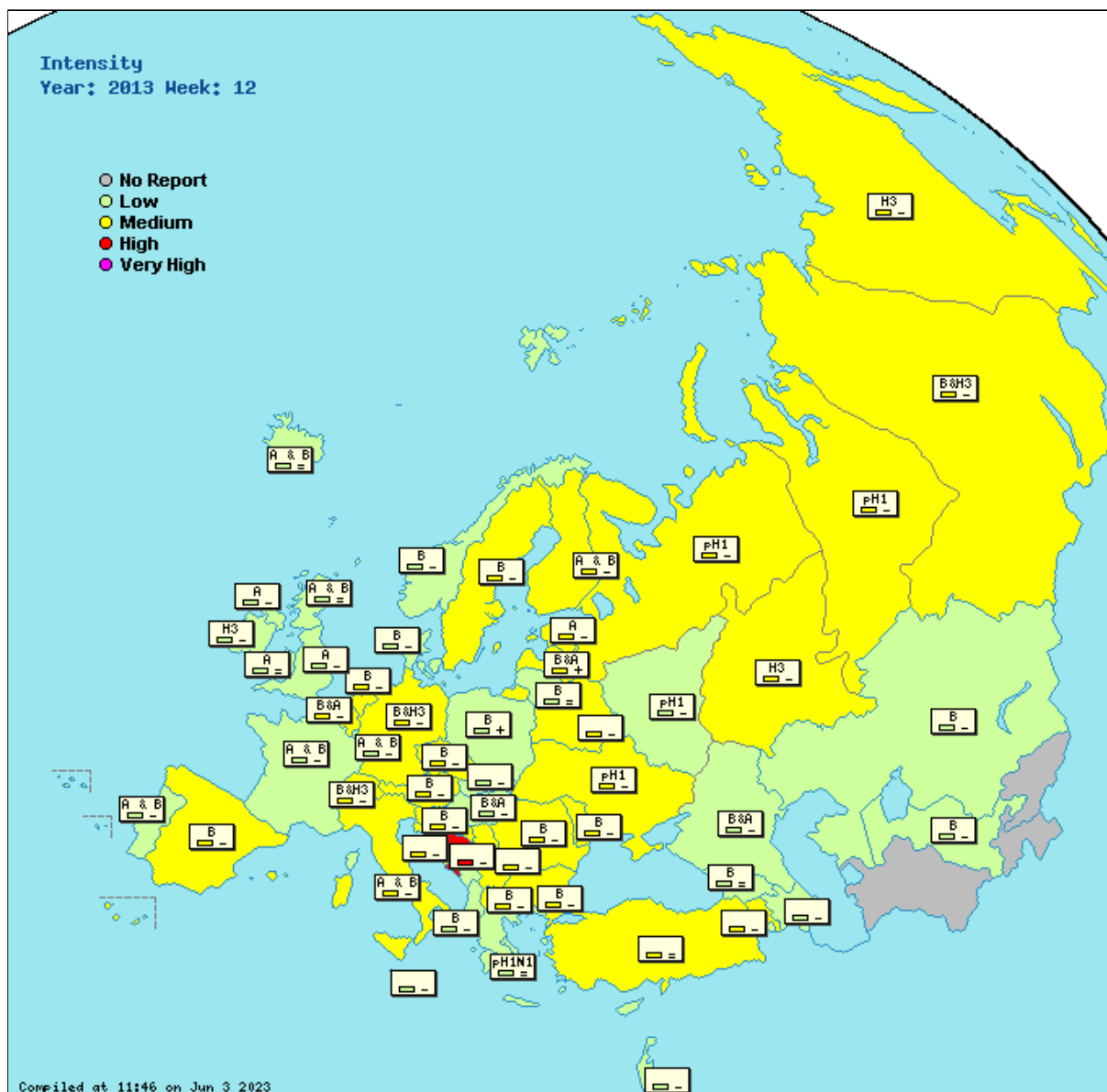
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + virological  **Geographical spread**  + virological  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B  
 = : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

### Republic of Moldova

During week 12/2013, 1 death from seasonal influenza A (H3N2) (non-sentinel) were registered: one person of 33 years, female, Strzeni district. Patient asked late for medical care, antiviral treatment was initiated late and has not been vaccinated against influenza.

In addition, 36 samples were tested for Influenza viruses, of which 5 were positive for RNA influenza virus A(H1N1)pdm09; 2 samples, positive for RNA influenza virus A(H3N2); 11 samples, positive for RNA influenza virus type B; and 2, for RNA influenza virus A(H1N1)pdm09 + B.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Decreasing					501.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Medium	Local	Moderate	Decreasing	1	100.0%	None		312.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Medium	Regional		Decreasing	21	66.7%	Type B	1083.0 ( <a href="#">graphs</a> )	<a href="#">graphs</a>	<a href="#">Click here</a>	<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing	0	-	None	143.4 ( <a href="#">graphs</a> )	<a href="#">graphs</a>		<a href="#">Click here</a>

Belarus	Medium	Sporadic	Moderate	Decreasing	26	15.4%	None	18.3	<a href="#">(graphs)</a>	1019.9	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Medium	Widespread		Decreasing	21	100.0%	Type B and Type A, Subtype pH1	164.2	<a href="#">(graphs)</a>	1644.6	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	High	Widespread	Moderate	Decreasing			None	63.3	<a href="#">(graphs)</a>	120.3	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Bulgaria	Medium	Sporadic		Decreasing	0	-	Type B		<a href="#">(graphs)</a>	1001.4	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Croatia	Medium	Widespread	Moderate	Decreasing			None	93.6	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0 *	<a href="#">(graphs)</a>	7.3 *	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Czech Republic	Medium	Local		Decreasing	18	55.6%	Type B	79.2	<a href="#">(graphs)</a>	1065.2	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Denmark	Low	Sporadic		Decreasing				79.1	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Estonia	Medium	Widespread		Decreasing	13	38.5%	Type A	18.4	<a href="#">(graphs)</a>	472.0	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Finland	Medium	Widespread		Decreasing	13	38.5%	Type A and B		<a href="#">(graphs)</a>				<a href="#">Click here</a>
France	Low	Local	Low	Decreasing	105	41.0%	Type A and B		<a href="#">(graphs)</a>	1357.0	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Georgia	Low	Regional	Low	Decreasing	12	0%	None	311.5	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Medium	Widespread		Decreasing	171	47.4%	Type B and Type A, Subtype H3N2		<a href="#">(graphs)</a>	1472.4	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Greece	Low	Local		Stable	11	36.4%	Type A, Subtype pH1N1	170.2	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Hungary	Low	Regional	Low	Decreasing				136.1	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Iceland					0	-	None		<a href="#">(graphs)</a>				<a href="#">Click here</a>
Ireland	Low	Local	Low	Decreasing	17	41.2%	Type A, Subtype H3	19.7	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Israel					19	21.1%	None		<a href="#">(graphs)</a>				<a href="#">Click here</a>
Italy	Medium	Regional	Low	Decreasing	41	43.9%	Type A and B	299.8	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Kazakhstan					10	20.0%	None				<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					4	0%	None	43.7	<a href="#">(graphs)</a>	5.4	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Medium	Widespread		Increasing	3	66.7%	Type B and Type A, Subtype pH1	296.5	<a href="#">(graphs)</a>	1206.0	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Lithuania	Low	Regional	Low	Stable	19	79.0%	Type B	46.4	<a href="#">(graphs)</a>	777.6	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Luxembourg	Medium	Widespread	Low		26	42.3%	Type A and B	1.9 *	<a href="#">(graphs)</a>	24.5 *	<a href="#">(graphs)</a>		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Medium	Widespread	Low	Decreasing	2	50.0%	Type B	81.7	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Malta	Low	Local	Low	Decreasing				1.4 *	<a href="#">(graphs)</a>	0 *	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Montenegro	Low	Sporadic	Low	Decreasing				21.4	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Netherlands	Medium	Widespread		Decreasing	23	60.9%	Type B	59.4	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Northern Ireland	Low	Local		Decreasing	6	33.3%	Type A	32.1	<a href="#">(graphs)</a>	413.3	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Norway	Low	Regional		Decreasing	0	-	Type B	65.9	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Poland	Low	None	Low	Increasing	41	9.8%	Type B	283.1	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Portugal	Low	Widespread		Decreasing	0	-	Type A and B	22.5	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Republic of Moldova	Medium	Regional	Moderate	Decreasing	15	60.0%	Type B	2.5	<a href="#">(graphs)</a>	302.8	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Medium	Widespread	Low	Decreasing	24	25.0%	Type B	5.2	<a href="#">(graphs)</a>	831.4	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Medium	Regional		Decreasing	73	21.9%	None	6.4	<a href="#">(graphs)</a>	862.4	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Local	Low	Stable	30	46.7%	Type A and B	18.1	<a href="#">(graphs)</a>	481.2	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Serbia	Medium	Regional	Low	Decreasing	2	50.0%	None	108.1	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	Local	Low	Decreasing	20	65.0%	None	235.2	<a href="#">(graphs)</a>	1687.2	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Medium	Widespread		Stable	25	64.0%	Type B	36.5	<a href="#">(graphs)</a>	1298.2	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Spain	Medium	Regional		Decreasing	169	42.6%	Type B	88.9	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Sweden	Medium	Widespread		Decreasing	22	31.8%	Type B	10.4	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Switzerland	Medium	Widespread		Decreasing	30	53.3%	Type B and Type A, Subtype H3N2	85.1	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Turkey	Medium	Regional	Low	Stable	69	8.7%	None	135.4	<a href="#">(graphs)</a>		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Ukraine	Medium	Regional	Moderate	Decreasing	4	0%	Type A, Subtype pH1	3.6 *	<a href="#">(graphs)</a>	677.1	<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan					3	33.3%	Type B				<a href="#">(graphs)</a>		<a href="#">Click here</a>
Europe					1109	40.1%							<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# Declining Influenza activity in Europe

## Summary, week 13/2013

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) continue to decline throughout the WHO European Region, with most countries reporting low activity during week 13/2013. The percentage of sentinel ILI and/or ARI specimens testing positive for influenza has been declining since week 07/2013. Based on data from sentinel sources, influenza B and influenza A(H1N1)pdm09 continue to co-circulate. Sentinel hospitalizations for severe acute respiratory infection (SARI) are declining in general, but remain above pre-season levels in some countries.

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 13/2013, 2609 specimens tested positive for influenza, with 1461 (56%) positive for influenza A (Fig. 1). Among total weekly influenza detections (sentinel and non-sentinel), the proportion of influenza A viruses to influenza B has decreased since week 03/2013, when it was 76%.

Among 883 influenza A viruses that were subtyped during week 13/2013, influenza A(H1N1)pdm09 and influenza A(H3N2) were detected in similar proportions: 452 (51%) and 431 (49%), respectively (Fig. 2a). Since the beginning of the season (week 40/2012), 86 189 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Since week 47/2012, influenza A has remained the most commonly detected virus.

Cumulatively, 55 432 viruses (64%) were influenza A and 30 757 (36%) influenza B (Fig. 2b). Of the 35 579 influenza A viruses that have been subtyped, 24 496 (69%) were A(H1N1)pdm09 and 11 083 (31%) were A(H3N2).

In addition, the lineage for 5032 influenza B viruses was determined: 4603 (91%) belonged to the B/Yamagata lineage and 429 (9%) to B/Victoria.

The circulation of influenza viruses remained diverse across the Region in week 13/2013. Influenza A was reported as the dominant virus by Estonia, Greece, Ireland, the Russian Federation, Spain, the United Kingdom (England, Northern Ireland and Wales), Ukraine and Uzbekistan; the rest of the countries in the Region reported dominance of influenza B or co-circulation of influenza A and B (Map 1).

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at the [WHO headquarters](#) web site).

For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 4719 influenza viruses characterized antigenically by 15 countries (Austria, the Czech Republic, Denmark, Germany, Greece, Italy, Latvia, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)). The great majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom characterized 1301 of these viruses (28%). Scotland reported on 498 (33%) of the 1514 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 15 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 1243 influenza viruses genetically (Fig. 4).

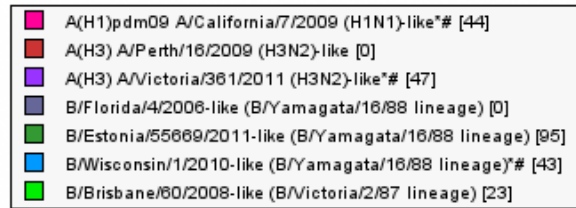




Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 13/2013

[Total N = 252]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:46 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Cumulatively since week 40/2012, 12 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 1183 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 578 A(H1N1)pdm09 viruses tested, 569 showed susceptibility to both drugs while 9 viruses (2%) carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected. Of these 9 viruses, 1 from the Russian Federation was detected in a hospitalized patient not exposed to oseltamivir through treatment; 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment; and 6 viruses were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment (1 from Denmark, 2 from Germany, 2 from the Netherlands and 1 from Switzerland).

The 275 influenza A(H3N2) viruses tested showed susceptibility to both drugs. Of the 330 influenza B viruses tested, 329 showed susceptibility to both drugs; 1 virus, showing reduced inhibition for oseltamivir and normal inhibition for zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 99 influenza A(H1N1)pdm09 and 42 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

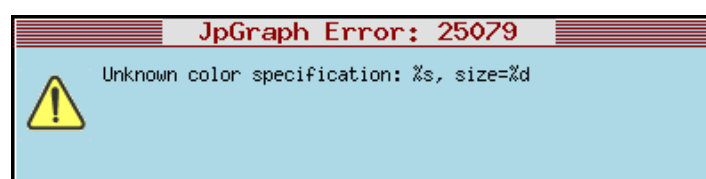
Most of the countries in the Region reported decreasing influenza activity (Map 4) and low intensity in week 13/2013 (Map 2), with fewer countries reporting regional/widespread influenza activity than in previous weeks (Map 3).

Of the 20 countries that have established epidemic thresholds, 12 (Belgium, the Czech Republic, Denmark, France, Israel, Italy, Kazakhstan, Kyrgyzstan, Serbia, Spain, Switzerland and Ukraine) reported ILI/ARI consultation rates below their national threshold levels. Rates in the other countries are approaching the thresholds.

Click on the maps for more detailed information.

In week 13/2013 the percentage of sentinel specimens testing positive for influenza decreased in comparison with the previous week: 786 sentinel specimens were tested, of which 257 (33%) were positive for influenza (Fig. 5). This decreasing trend has continued since the peak for the season, around week 07/2013.

In the 12 countries testing 20 or more sentinel specimens, influenza positivity ranged from 4% to 65%, with a median of 27% (mean: 32%).

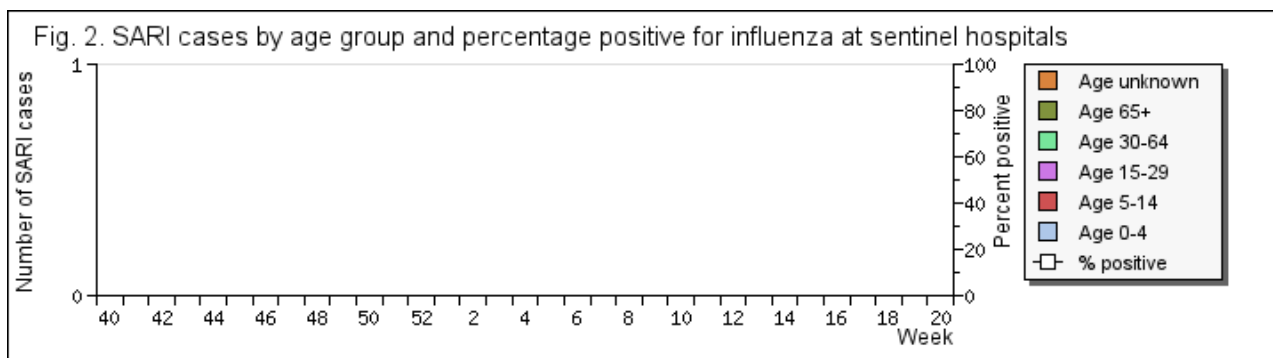


Of the 257 influenza-positive specimens from sentinel sources, 63% were positive for influenza B. Influenza B is becoming more prevalent in countries where circulation of A(H1N1)pdm09 is decreasing. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

## Hospital surveillance for SARI

In week 13/2013 the number of SARI hospitalizations decreased from the levels seen in previous weeks (Fig. 7). This is concurrent with decreasing influenza activity in most of the countries taking part in hospital surveillance for SARI.

The decreasing trend in the number of SARI hospitalizations indicates that they have peaked for the season in Albania, Belgium, Kazakhstan, Kyrgyzstan, the Russian Federation, Slovakia and Ukraine.



For week 13/2013, 12 countries (Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 77 influenza detections among 242 specimens tested, 53% of which were influenza B, in line with the detections reported from outpatient surveillance (Fig. 8a). Most of the detections were reported by 2 countries (Armenia and the Russian Federation). Since week 40/2012, 6302 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 32 such cases were reported for week 13/2013. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

## Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

## EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week-13/2013 data, based on 12 countries or regions, showed a flat but sustained peak in excess mortality among people aged 65 and older that started in week 01/2013 and may be continuing. Cumulative winter excess mortality among older people (from week 40/2012 to week 13/2013) showed excess mortality levels comparable to those of the 2011/2012 winter season. No excess mortality in younger age groups has been detected so far this season. Results of pooled analysis may vary, depending on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#).

## Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

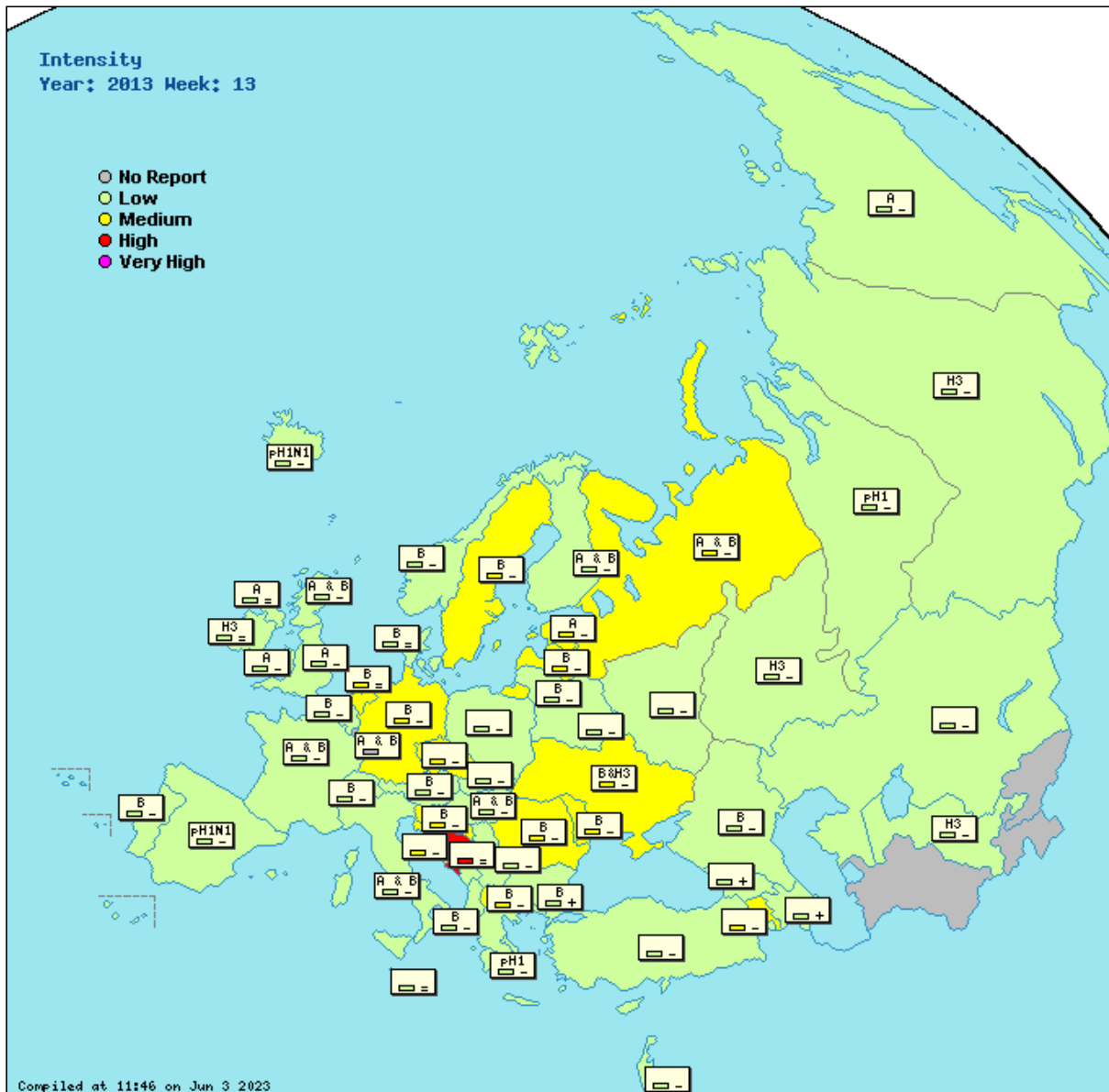
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + virological  **Geographical spread**  + virological  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B  
 = : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

### Republic of Moldova

This week, 21 samples were tested for Influenza viruses, of which 3 were positive for RNA influenza virus A(H1N1)pdm09; and 7, for RNA influenza virus type B.

### Scotland

Please note that due to reporting delays over the Easter Holidays the data for this week are provisional

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Decreasing					480.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Medium	Local	Moderate	Decreasing	1	100.0%	None	8571.4 ( <a href="#">graphs</a> )	275.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>

Austria	Low	Regional		Decreasing	11	72.7%	Type B	1046.1	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	15	0%	None	259.1	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Belarus					31	19.4%	None		<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	Widespread		Decreasing	26	46.2%	Type B	89.8	<a href="#">(graphs)</a>	1565.1 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Bosnia and Herzegovina	High	Widespread	Moderate	Stable			None	77.5	<a href="#">(graphs)</a>	134.3 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Bulgaria	Low	Sporadic		Increasing	0	-	Type B		<a href="#">(graphs)</a>	860.4 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Croatia	Medium	Widespread	Low	Decreasing			None	64.4	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0 *	<a href="#">(graphs)</a>	5.9 * <a href="#">(graphs)</a>	<a href="#">Click here</a>
Czech Republic	Medium	Local		Decreasing	15	60.0%	Type B	72.7	<a href="#">(graphs)</a>	1022.8 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Denmark	Low	Sporadic		Stable	0	-	Type B	51.7	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
England	Low	Regional		Decreasing	41	12.2%	Type A	7.7	<a href="#">(graphs)</a>	288.1 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Estonia	Medium	Widespread		Decreasing	14	50.0%	Type A	14.9	<a href="#">(graphs)</a>	423.6 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Finland	Low	Widespread		Decreasing	11	45.5%	Type A and B		<a href="#">(graphs)</a>		<a href="#">Click here</a>
France	Low	Local	Low	Decreasing	55	23.6%	Type A and B		<a href="#">(graphs)</a>	1426.3 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Georgia	Low	Regional	Low	Increasing	13	0%	None	384.1	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Germany	Medium	Widespread		Decreasing	110	56.4%	Type B		<a href="#">(graphs)</a>	1186.3 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Greece	Low	Sporadic		Decreasing	0	-	Type A, Subtype pH1 and H3N2	119.4	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Hungary	Low	Sporadic	Low	Decreasing	26	38.5%	Type A and B	87.6	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Iceland					0	-			<a href="#">(graphs)</a>		<a href="#">Click here</a>
Ireland	Low	Local	Low	Stable	10	60.0%	Type A, Subtype H3	23.8	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Israel	Low	Sporadic	Low	Decreasing	19	21.1%	None	6.6	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Italy	Low	Local	Low	Decreasing	19	26.3%	Type A and B	207.2	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Kazakhstan	Low	Local	Low	Decreasing	9	0%	None	91.4	<a href="#">(graphs)</a>	14.9 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Kyrgyzstan					2	0%	None	51.5	<a href="#">(graphs)</a>	21.6 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Latvia	Medium	Widespread		Decreasing	1	0%	Type B	229.9	<a href="#">(graphs)</a>	969.1 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Lithuania	Low	Regional	Low	Decreasing	11	72.7%	Type B	42.5	<a href="#">(graphs)</a>	669.3 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Luxembourg					8	12.5%			<a href="#">(graphs)</a>		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Medium	Widespread	Low	Decreasing	2	50.0%	Type B	65.5	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Malta	Low	Local	Low	Stable				0.3 *	<a href="#">(graphs)</a>	0 * <a href="#">(graphs)</a>	<a href="#">Click here</a>
Montenegro	Low	None	Low	Decreasing				18.8	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Netherlands	Medium	Widespread		Stable	24	45.8%	Type B	70.5	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Northern Ireland	Low	Local		Stable	11	63.6%	Type A	37.4	<a href="#">(graphs)</a>	489.9 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Norway	Low	Regional		Decreasing	0	-	Type B	17.0	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	29	17.2%	None	257.0	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Portugal	Low	Sporadic		Decreasing	1	0%	None	0.0	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Republic of Moldova	Medium	Regional	Low	Decreasing	12	50.0%	Type B	3.7	<a href="#">(graphs)</a>	233.5 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Romania					8	50.0%	Type B	0.0	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Russian Federation	Low	Local		Decreasing	55	16.4%	None	4.8	<a href="#">(graphs)</a>	769.9 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Scotland	Low	Local	Low	Decreasing	15	40.0%	Type B	14.2	<a href="#">(graphs)</a>	494.9 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Serbia	Low	Sporadic	Low	Decreasing	5	20.0%	None	84.1	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Slovakia	Low	Sporadic	Low	Decreasing	5	60.0%	None	174.0	<a href="#">(graphs)</a>	1514.2 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Slovenia	Medium	Widespread		Decreasing	23	65.2%	Type B	25.2	<a href="#">(graphs)</a>	1203.3 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Spain	Low	Local		Decreasing	62	27.4%	Type A, Subtype pH1N1	35.3	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Sweden	Medium	Regional		Decreasing	19	26.3%	Type B	10.7	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Switzerland	Low	Local		Decreasing				44.1	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Turkey	Medium	Regional	Low	Decreasing	50	4.0%	None	115.5	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Ukraine	Medium	Regional	Moderate	Decreasing	9	22.2%	Type A, Subtype pH1	2.8 *	<a href="#">(graphs)</a>	573.3 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Decreasing	6	16.7%	Type A	0.1	<a href="#">(graphs)</a>	22.9 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Wales	Low	Sporadic	Low	Decreasing	2	0%	Type A	9.5	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Europe					786	32.7%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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EuroFlu : Weekly Electronic Bulletin

# Low and decreasing influenza activity in most countries of the WHO European Region



EUROPE



## Summary, week 14/2013

Consultation rates have decreased in most countries of the Region. The number of specimens tested from both sentinel and non-sentinel sources and the percentage of influenza-positive specimens have decreased. The number of hospitalizations due to severe acute respiratory infection (SARI) has been decreasing in line with a decrease in the proportion of influenza-positive specimens. In week 14/2013, influenza B viruses represented the majority of influenza detections from sentinel and non-sentinel sites in the Region. For information about human infections with avian influenza A(H7N9) virus in China please click [here](#).

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 14/2013, 2248 specimens tested positive for influenza, with influenza B being the most prevalent type in specimens from sentinel and non-sentinel sites: 1219 (54%)(Fig. 1). For total weekly influenza detections (sentinel and non-sentinel), the proportion of influenza A viruses compared to influenza B has gradually decreased since week 03/2013, when type A viruses represented 76% of influenza-positive specimens.

Among 606 influenza A viruses that were subtyped during week 14/2013, 261(43%) were influenza A(H1N1)pdm09 and 345 (57%) were influenza A(H3N2) (Fig. 2a). Since the beginning of the season (week 40/2012), 89 319 influenza viruses from sentinel and non-sentinel sources have been detected and typed (Fig. 2b).

Cumulatively, 56 890 viruses (64%) were influenza A and 32 429 (36%) influenza B (Fig. 2b). Since week 47/2012, influenza A has been the most commonly detected virus. Of the 36 527 influenza A viruses that have been subtyped, 24 908(68%) were A(H1N1)pdm09 and 11 619(32%) were A(H3N2).

In addition, the lineage for 5335 influenza B viruses has been determined: 4884 (92%) belonged to the B/Yamagata lineage and 451 (8%) to B/Victoria.

The circulation of influenza viruses continued to be uneven across the Region in week 14/2013. The number of countries reporting influenza A as the dominant virus has been decreasing. In week 14/2013 it was reported as dominant by Belgium, Estonia, Finland, Greece and the United Kingdom (England, Northern Ireland and Wales) only; the remaining countries of the Region that reported, indicated dominance of influenza B or co-circulation of influenza A and B (Map 1).

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at the [WHO headquarters](#) web site).

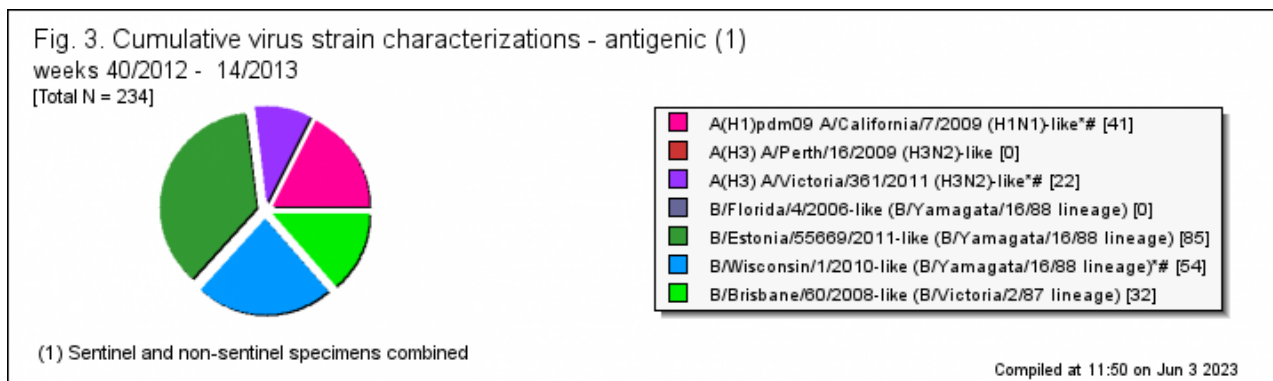
For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 5144 influenza viruses characterized antigenically by 16 countries (Austria, the Czech Republic, Denmark, Germany, Greece, Italy, Latvia, Portugal, Republic of Moldova, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)). The great majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom characterized 1321 of these viruses (26%). Scotland reported on 498 (31%) of the 1591 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 15 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Norway, Portugal, the Russian Federation, Spain,

Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 1339 influenza viruses genetically ([Fig. 4](#)).



# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their vaccine viruses, A/California/7/2009 and A/Victoria/361/2011, respectively. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses this season (92%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3) respectively. Viruses in these clades can be distinguished antigenically from each other, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

#### Monitoring of susceptibility to antiviral drugs

Cumulatively since week 40/2012, 12 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 1226 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 593 A(H1N1)pdm09 viruses tested, 583 showed susceptibility to both drugs while 10 viruses (<2%) carried the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir. Of these 10 viruses, 1 from the Russian Federation was detected in a hospitalized patient not exposed to oseltamivir through treatment; 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment; 4 viruses were detected in hospitalized patients exposed to oseltamivir through treatment (1 from Denmark, 2 from Germany and 1 from Sweden) and 3 viruses were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment (2 from the Netherlands and 1 from Switzerland).

The 277 influenza A(H3N2) viruses tested showed susceptibility to both drugs. Of the 356 influenza B viruses tested, 355 showed susceptibility to both drugs; 1 virus, showing reduced inhibition for oseltamivir and normal inhibition for zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 99 influenza A(H1N1)pdm09 and 42 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

#### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

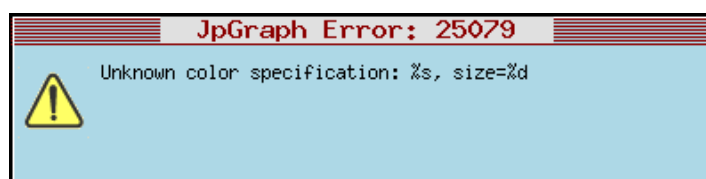
All the countries in the Region except Uzbekistan reported decreasing influenza activity (Map 4) and low or medium intensity in week 14/2013 (Map 2), with fewer countries reporting regional/widespread influenza activity than in previous weeks (Map 3).

Of the 20 countries that have established epidemic thresholds, only Albania and Greece reported ILI/ARI consultation rates above their national threshold levels. In Estonia, the Netherlands and the Russian Federation the ILI/ARI consultation rates reached their national threshold levels.

Click on the maps for more detailed information.

In week 14/2013 the percentage of sentinel specimens testing positive for influenza decreased in comparison with the previous week: 751 sentinel specimens were tested, of which 224 (30%) were positive for influenza (Fig. 5). This decreasing trend has continued since the peak for the season, around week 07/2013.

In the 10 countries testing 20 or more sentinel specimens, influenza positivity ranged from 8% to 61%, with a median of 26% (mean: 27%).

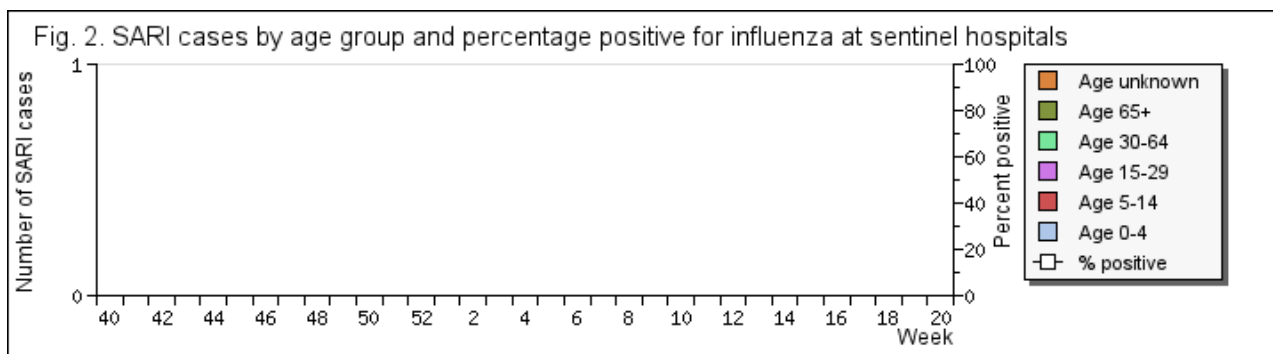


Of the 224 influenza-positive specimens from sentinel sources, 71% were positive for influenza B. Influenza B is becoming more prevalent in countries where circulation of A(H1N1)pdm09 is decreasing. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

## Hospital surveillance for SARI

In week 14/2013 the number of SARI hospitalizations together with the influenza positivity rate among SARI cases continued to decrease (Fig. 7). This is concurrent with decreasing influenza activity in most of the countries taking part in hospital surveillance for SARI.

The decreasing trend in the number of SARI hospitalizations indicates that they have peaked for the season in most of the countries taking part in hospitalized surveillance: Albania, Belarus, Belgium, Kazakhstan, Kyrgyzstan, the Russian Federation, Serbia, Slovakia and Ukraine.



For week 14/2013, 12 countries (Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 41 influenza detections among 197 specimens tested, 71% of which were influenza B, in line with the detections reported from outpatient surveillance (Fig. 8a). Most of the detections were reported by Armenia. Since week 40/2012, 6552 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 39 such cases were reported for week 13/2013. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

## Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

## EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 14/2013 data, based on 12 countries or regions, showed a sustained peak of excess mortality among people aged 65 years or above, starting in week 1/2013. Although it seems to have ended, it may still be ongoing. Cumulative winter excess mortality among older people (cumulated from week 40/2012 to week 13/2013) showed excess mortality levels comparable to those of the 2011/2012 winter season. No excess mortality in younger age groups has been detected so far this season. Results of pooled analysis may vary, depending on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#).

## Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria or B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

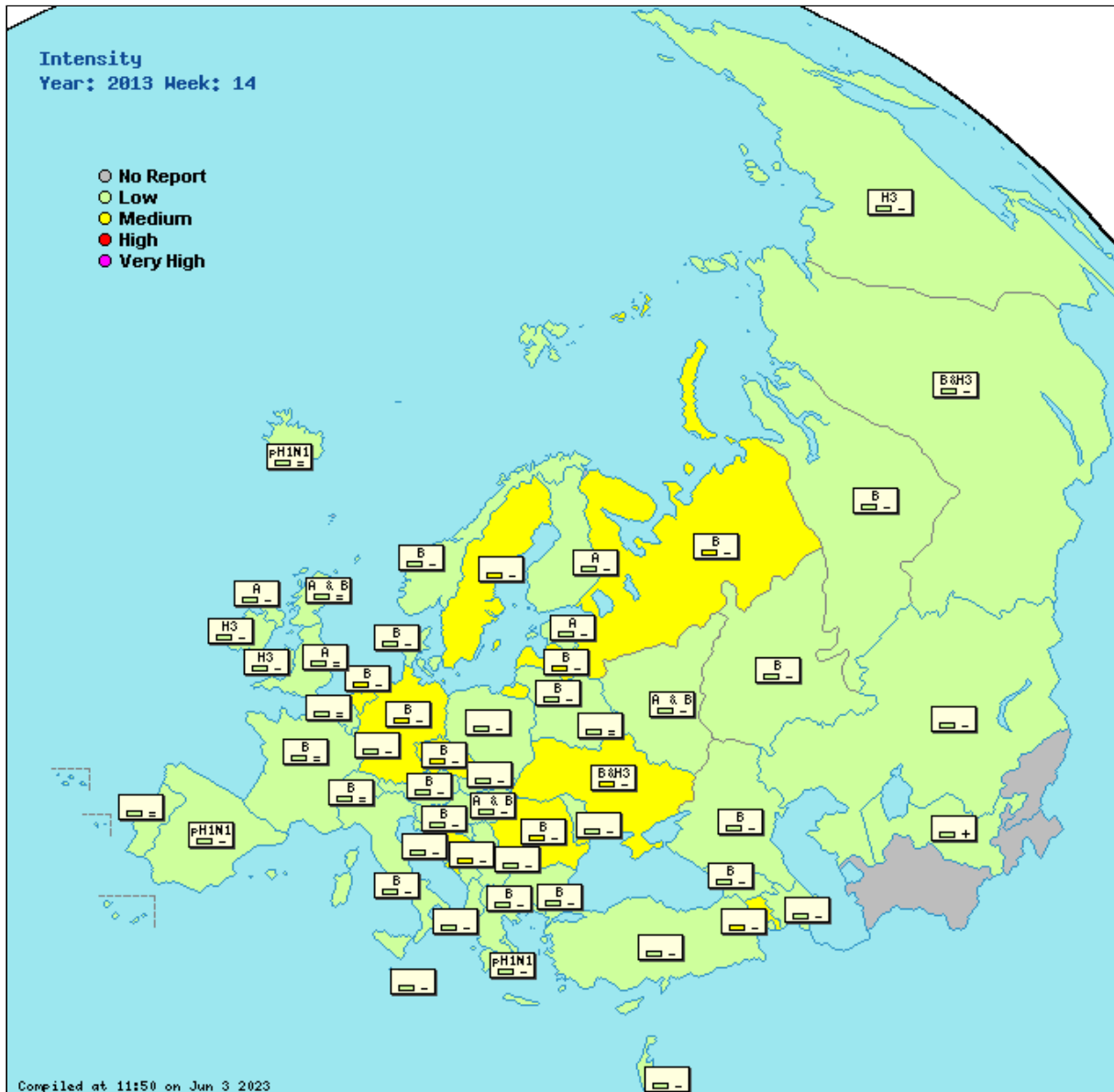
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will



appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + **virological**  **Geographical spread**  + **virological**  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B  
= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

### Republic of Moldova

This week, 17 samples were tested for Influenza viruses, of which 2 were positive for RNA influenza virus A(H1N1)pdm09; 1 was positive for RNA influenza virus A(H3N2), and 5, for RNA influenza virus type B, and 1 sample was positive for RNA hRSV.

### Scotland

Please note that due to the reduced number of working days over the Easter Holidays the data for this week are provisional

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Decreasing				469.1 ( <a href="#">graphs</a> )		<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Medium	Sporadic	Moderate	Decreasing	1	100.0%	None		164.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	Regional		Decreasing	14	85.7%	Type B	491.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	Sporadic	Low	Decreasing	23	60.9%	None	159.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus					30	30.0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	Sporadic		Stable	7	42.9%	Type A	69.6 ( <a href="#">graphs</a> )	1394.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Medium	Widespread	Moderate	Decreasing			None	52.6 ( <a href="#">graphs</a> )	132.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	Sporadic		Decreasing	0	-	Type B	( <a href="#">graphs</a> )	633.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Low	Widespread	Low	Decreasing			None	30.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0 * ( <a href="#">graphs</a> )	6.0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Medium	Local		Decreasing	12	8.3%	Type B	68.3 ( <a href="#">graphs</a> )	1008.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	Sporadic		Decreasing	3	100.0%	Type B	45.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Regional		Stable	38	7.9%	Type A	6.2 ( <a href="#">graphs</a> )	299.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	Widespread		Decreasing	22	31.8%	Type A	13.2 ( <a href="#">graphs</a> )	406.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	Low	Regional		Decreasing	10	20.0%	Type A	( <a href="#">graphs</a> )			<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable	81	22.2%	None	( <a href="#">graphs</a> )	1279.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	Sporadic	Low	Decreasing	14	0%	None	348.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Medium	Regional		Decreasing	90	42.2%	Type B	( <a href="#">graphs</a> )	1162.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	Sporadic		Decreasing	0	-	Type A, Subtype pH1N1	160.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	Sporadic	Low	Decreasing	12	41.7%	Type A and B	63.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland	Low	Regional	Low	Stable	0	-		19.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	Local	Low	Decreasing	8	25.0%	Type A, Subtype H3	15.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	Sporadic	Low	Decreasing	9	0%	None	5.3 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Low	Local	Low	Decreasing	9	0%		146.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	Local	Low	Decreasing	11	0%	None	114.2 ( <a href="#">graphs</a> )	7.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					0	-	None	40.5 ( <a href="#">graphs</a> )	18.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Medium	Widespread		Decreasing	0	-	Type B	140.2 ( <a href="#">graphs</a> )	986.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Low	Local	Low	Decreasing	15	86.7%	Type B	37.4 ( <a href="#">graphs</a> )	622.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Low	Widespread	Low		2	50.0%	None	0 * ( <a href="#">graphs</a> )	10.9 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Low	Widespread	Low	Decreasing	1	100.0%	Type B	38.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Malta	Low	Local	Low	Decreasing				0.4 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	None	Low	Decreasing				12.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Medium	Widespread		Decreasing	18	38.9%	Type B	52.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	Local		Decreasing	1	100.0%	Type A	25.3 ( <a href="#">graphs</a> )	264.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Low	Local		Decreasing	4	75.0%	Type B	31.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	9	33.3%	None	217.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	Sporadic		Stable				30.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	Regional	Low	Decreasing	13	46.2%	None	2.3 ( <a href="#">graphs</a> )	225.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Medium	Regional	Low	Decreasing	6	50.0%	Type B	6.6 ( <a href="#">graphs</a> )	716.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Local		Decreasing	83	13.3%	Type A and B	2.6 ( <a href="#">graphs</a> )	694.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Local	Low	Stable	17	17.7%	Type A and B	14.9 ( <a href="#">graphs</a> )	466.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	Sporadic	Low	Decreasing	0	-	None	68.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	Sporadic	Low	Decreasing	5	60.0%	None	131.6 ( <a href="#">graphs</a> )	1400.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Low	Local		Decreasing	15	73.3%	Type B	8.5 ( <a href="#">graphs</a> )	1026.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Low	Sporadic		Decreasing	30	35.0%	Type B	25.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Medium	Widespread		Decreasing	60	20.0%	None	5.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	Sporadic		Decreasing	16	43.8%	Type B	24.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey	Low	Regional	Low	Decreasing	48	8.3%	None	42.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Medium	Regional	Moderate	Decreasing	7	28.6%	Type B and Type A, Subtype H3	3.4 * ( <a href="#">graphs</a> )	522.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Increasing	7	0%	None	( <a href="#">graphs</a> )	23.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Wales	Low	Sporadic	Low	Decreasing	0	-	Type A, Subtype H3	5.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					751	29.8%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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EuroFlu : Weekly Electronic Bulletin

# Continued decline of influenza activity in the WHO European Region



## Summary, week 15/2013

Clinical consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) are below the baseline or at pre-season levels in many countries of the WHO European Region and most are reporting low influenza activity. This is consistent with declines in the percentage of ILI and ARI sentinel specimens testing positive for influenza. Data from hospital-based sentinel surveillance demonstrate that the number of hospitalizations for severe acute respiratory infection (SARI) and the percentage of SARI cases caused by influenza are declining. Influenza B now dominates in circulation relative to influenza A(H1N1)pdm09, but positivity rates continue to decline for all influenza types and sub-types of influenza. For information about human infections with avian influenza A(H7N9) virus in China please click [here](#).



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 15/2013, 1901 specimens tested positive for influenza, with 1052 (56%) positive for influenza B (Fig. 1). Among total weekly influenza detections (sentinel and non-sentinel), the proportion of influenza A viruses compared to influenza B has gradually decreased since week 03/2013, when type A viruses represented 76% of influenza detections.

Among 466 influenza A viruses that were subtyped during week 15/2013, influenza A(H1N1)pdm09 and influenza A(H3N2) were detected in similar proportions: 214 (46%) and 252 (54%), respectively (Fig. 2a). Since the beginning of the season (week 40/2012), 90 530 influenza viruses from sentinel and non-sentinel sources have been detected and typed: 57 457 viruses (64%) were influenza A and 33 073 (36%) influenza B (Fig. 2b). Influenza A has been the most commonly detected virus since week 47/2012. Of the 36 571 influenza A viruses that have been subtyped, 25 032 (68%) were A(H1N1)pdm09 and 11 539 (32%) were A(H3N2).

In addition, the lineage for 5504 influenza B viruses has been determined: 5035 (91%) belonged to the B/Yamagata lineage and 469 (9%) to B/Victoria.

The circulation of influenza viruses remained diverse across the Region. Influenza A was reported as the dominant virus by Belgium, Finland, Greece, Ireland, Italy, some parts of the Russian Federation and the United Kingdom (England); the rest of the countries in the Region reported dominance of influenza B or co-circulation of influenza A and B (Map 1).

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at the [WHO headquarters](#) web site).

For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

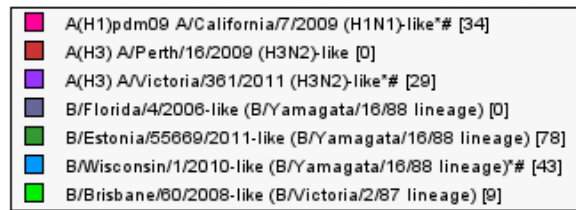
Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 4687 influenza viruses have been characterized antigenically by 16 countries (Austria, the Czech Republic, Denmark, Germany, Greece, Italy, Latvia, Portugal, Republic of Moldova, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (Scotland)). The great majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom (Scotland) reported on 499 (37%) of the 1366 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 15 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 1482 influenza viruses genetically (Fig. 4).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 15/2013

[Total N = 193]



(1) Sentinel and non-sentinel specimens combined

Compiled at 11:51 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Cumulatively since week 40/2012, 12 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 1260 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 623 A(H1N1)pdm09 viruses tested, 610 showed susceptibility to both drugs while 13 viruses (2%) carried the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir. Of these 13 viruses, 1 from the Russian Federation was detected in a hospitalized patient not exposed to oseltamivir through treatment; 1 from Germany was detected in a hospitalized patient with unknown exposure to the neuraminidase inhibitors; 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment; 6 viruses were detected in hospitalized patients exposed to oseltamivir through treatment (1 from Denmark, 4 from Germany and 1 from Sweden) and 3 viruses were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment (2 from the Netherlands and 1 from Switzerland).

The 278 influenza A(H3N2) viruses tested showed susceptibility to both drugs. Of the 359 influenza B viruses tested, 358 showed susceptibility to both drugs; 1 virus, showing reduced inhibition by oseltamivir and normal inhibition by zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 99 influenza A(H1N1)pdm09 and 42 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

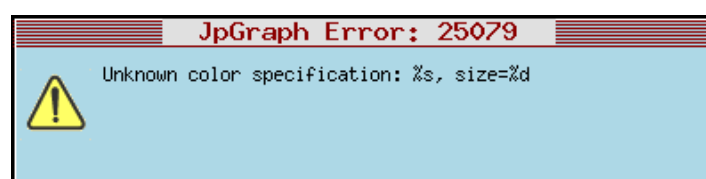
Most of the countries in the Region reported decreasing influenza activity and low intensity in week 15/2013 (Map 2 and Map 4), with fewer countries reporting regional/widespread influenza activity than in previous weeks (Map 3).

Of the 20 countries that have established epidemic thresholds, only Albania and the Netherlands reported ILI/ARI consultation rates above their national threshold levels.

Click on the maps for more detailed information.

In week 15/2013 the percentage of sentinel specimens testing positive for influenza decreased in comparison with the previous week: 645 sentinel specimens were tested, of which 176 (27%) were positive for influenza (Fig. 5). This decreasing trend has continued since the peak for the season, around week 07/2013.

In the 8 countries testing 20 or more sentinel specimens, influenza positivity ranged from 0% to 42%, with a median of 25% (mean: 23%).

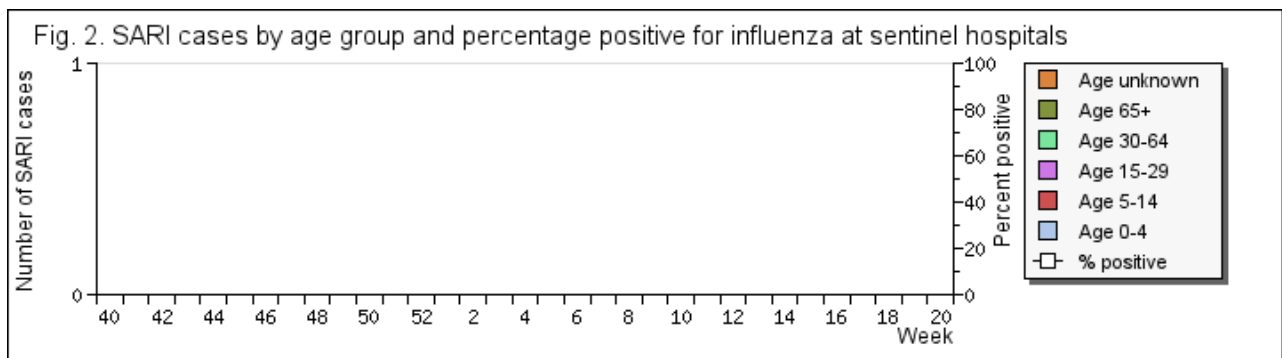


Of the 176 influenza-positive specimens from sentinel sources, 62% were positive for influenza B. Influenza B has prevailed for several weeks in the countries where circulation of A(H1N1)pdm09 is decreasing. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

## Hospital surveillance for SARI

In week 15/2013 the number of SARI hospitalizations together with the influenza positivity rate among SARI cases decreased from the levels seen in previous weeks (Fig. 7). This is concurrent with decreasing influenza activity in most of the countries taking part in hospital surveillance for SARI.

The decreasing trend in the number of SARI hospitalizations indicates that they have peaked for the season in Albania, Belarus, Belgium, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine.



For week 15/2013, only 10 countries (Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 27 influenza detections among 148 specimens tested, 59% of which were influenza B, in line with the detections reported from outpatient surveillance (Fig. 8a). Most of the detections were reported by 2 countries (Belarus and Ukraine). Since week 40/2012, 6745 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 44 such cases were reported for week 15/2013. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

## Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

## EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 15/2013 data, based on 14 countries or regions, showed that all-cause mortality has been within normal limits during the past 4 weeks. Before that, a sustained peak of excess mortality among people aged 65 years and older was observed lasting from week 01/2013 to week 11/2013. Cumulative winter excess mortality among older people (cumulated from week 40/2012 to week 15/2013) showed excess mortality levels comparable to those of the 2011/2012 winter season. No excess mortality in younger age groups has been detected so far this season. Results of pooled analysis may vary, depending on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#).

## Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

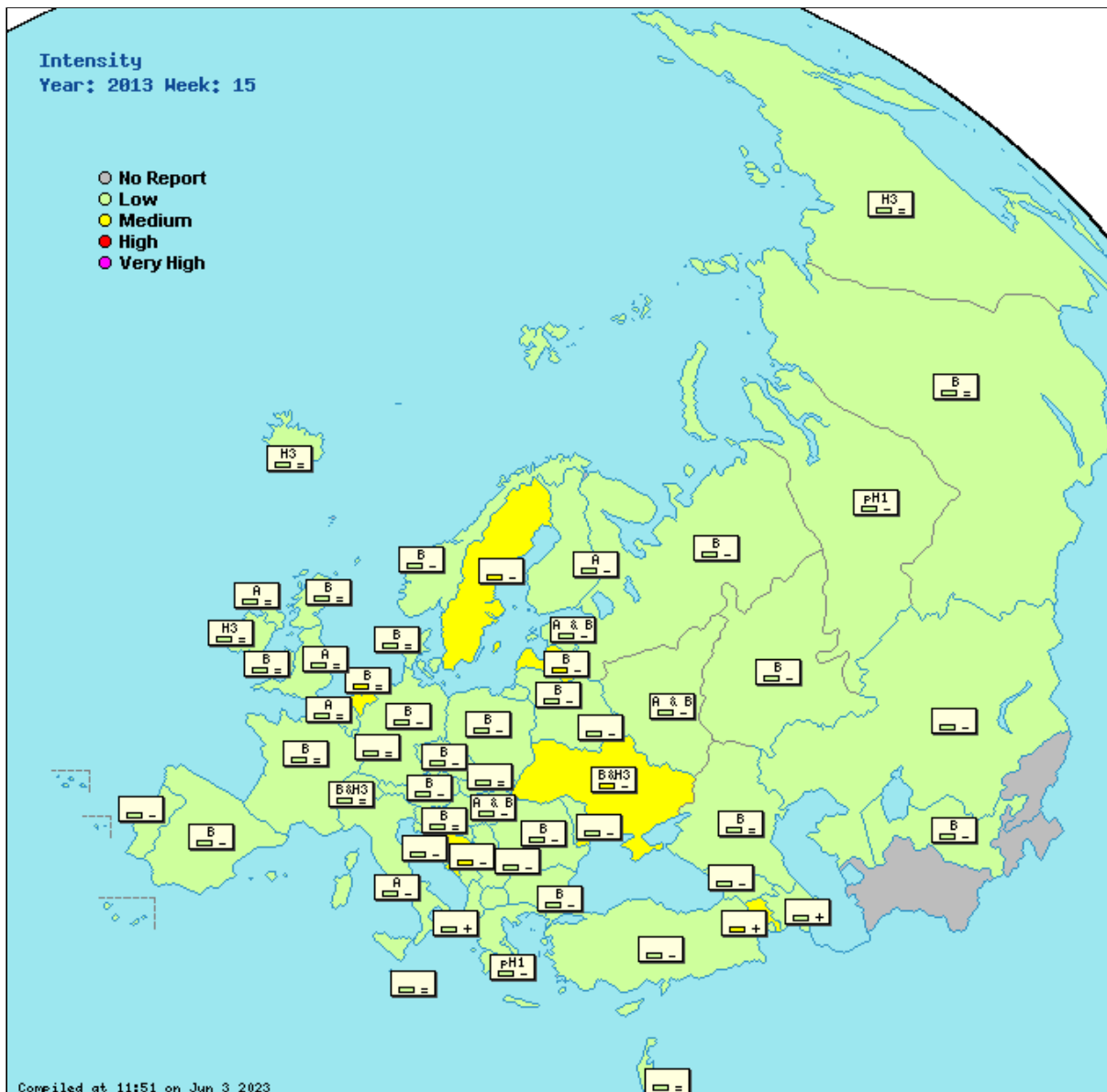
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + virological  **Geographical spread**  + virological  **Impact**



A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

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.

### Country comments (where available)

#### Republic of Moldova

This week, 13 samples were tested for Influenza viruses, of which 1 sample was positive for RNA influenza virus A(H1N1)pdm09+B; 4 were positive for RNA influenza virus type B, and, also, 1 sample positive for RNA Metapneumovirus, 1 - for RNA Rhinovirus, and 1 - for DNA Adenovirus.

### Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing				447.6 ( <a href="#">graphs</a> )		<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Medium	Sporadic	Moderate	Increasing				176.1 ( <a href="#">graphs</a> )		<a href="#">sari</a>	<a href="#">Click here</a>

Austria	Low	Sporadic		Decreasing	5	80.0%	Type B	503.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	15	6.7%	None	198.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Belarus	Low	Sporadic	Low	Decreasing	31	9.7%	None	13.6 ( <a href="#">graphs</a> )	918.5 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Belgium	Low	Sporadic		Stable	13	53.9%	Type A	42.0 ( <a href="#">graphs</a> )	1445.4 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Bosnia and Herzegovina	Medium	Widespread	Moderate	Decreasing			None	41.1 ( <a href="#">graphs</a> )	71.3 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Bulgaria	Low	Sporadic		Decreasing	0	-	Type B	( <a href="#">graphs</a> )	548.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Croatia	Low	Widespread	Low	Decreasing			None	29.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.1 * ( <a href="#">graphs</a> )	3.6 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Czech Republic	Low	Local		Decreasing	17	47.1%	Type B	56.8 ( <a href="#">graphs</a> )	967.6 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Denmark	Low	Sporadic		Stable	3	33.3%	Type B	34.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
England	Low	Local		Stable	0	-	Type A	5.4 ( <a href="#">graphs</a> )	305.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Estonia	Low	Local		Decreasing	17	52.9%	Type A and B	10.2 ( <a href="#">graphs</a> )	321.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Finland	Low	Local		Decreasing	12	8.3%	Type A	( <a href="#">graphs</a> )		<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable	70	20.0%	None	( <a href="#">graphs</a> )	1323.1 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Georgia	Low	None	Low	Decreasing	2	0%	None	307.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Germany	Low	Local		Decreasing	76	40.8%	Type B	( <a href="#">graphs</a> )	1158.2 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Greece	Low	Sporadic		Decreasing	4	25.0%	Type A, Subtype pH1 and H3N2	71.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Hungary	Low	Sporadic	Low	Decreasing	13	38.5%	Type A and B	51.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Iceland					0	-		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	Local	Low	Stable	17	52.9%	Type A, Subtype H3	16.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Israel	Low	Sporadic	Low	Stable	8	37.5%	None	5.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Italy	Low	None	Low	Decreasing	12	0%	Type A	105.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Kazakhstan	Low	Local	Low	Decreasing	10	20.0%	None	83.0 ( <a href="#">graphs</a> )	19.8 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Kyrgyzstan					1	0%	None		( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Latvia	Medium	Regional		Decreasing	2	0%	Type B	118.9 ( <a href="#">graphs</a> )	932.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Lithuania	Low	Local	Low	Decreasing	9	66.7%	Type B	25.6 ( <a href="#">graphs</a> )	585.1 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Luxembourg	Low	Sporadic	Low		9	33.3%	None	0.7 * ( <a href="#">graphs</a> )	19.6 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Low	Regional	Low	Decreasing				23.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Malta	Low	Local	Low	Stable				0.8 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Montenegro	Low	None	Low	Decreasing				9.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Netherlands	Medium	Widespread		Stable	15	40.0%	Type B	60.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Norway	Low	Local		Decreasing	1	100.0%	Type B	41.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Poland	Low	Sporadic	Low	Decreasing	8	25.0%	Type B	233.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Portugal	Low	Sporadic		Decreasing	3	0%	None	17.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Republic of Moldova	Low	Local	Low	Decreasing	7	42.9%	None	3.8 ( <a href="#">graphs</a> )	229.7 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Romania	Low	Local	Low	Decreasing	4	0%	Type B	5.1 ( <a href="#">graphs</a> )	593.8 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Russian Federation	Low	Sporadic		Decreasing	62	12.9%	Type A and B	1.8 ( <a href="#">graphs</a> )	639.0 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Scotland	Low	Local	Low	Stable	24	41.7%	Type B	15.4 ( <a href="#">graphs</a> )	461.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Serbia	Low	Sporadic	Low	Decreasing	3	33.3%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Slovakia	Low	Sporadic	Low	Stable	2	0%	None	128.2 ( <a href="#">graphs</a> )	1455.8 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Slovenia	Low	Local		Stable	10	50.0%	Type B	14.7 ( <a href="#">graphs</a> )	1026.8 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Spain	Low	Sporadic		Decreasing	63	30.2%	Type B	19.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Sweden	Medium	Regional		Decreasing	23	30.4%	None	4.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Switzerland	Low	Sporadic		Stable	15	26.7%	Type B and Type A, Subtype H3N2	24.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Turkey	Low	Sporadic	Low	Decreasing	43	0%	None	51.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Ukraine	Medium	Regional	Moderate	Decreasing	8	12.5%	Type B and Type A, Subtype H3	2.7 * ( <a href="#">graphs</a> )	491.1 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Decreasing	8	12.5%	Type B	( <a href="#">graphs</a> )	23.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Europe					645	27.3%				<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium = usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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# Influenza activity returns to pre-season levels in Europe

## Summary, week 16/2013

Recent declines in clinical indicators have been observed in nearly all countries in the WHO European Region, and influenza activity is now below seasonal thresholds in most. The percentage of sentinel influenza-like illness (ILI), acute respiratory infection (ARI) and severe acute respiratory infection (SARI) specimens testing positive for influenza, and the circulation of influenza A(H1N1)pdm09 relative to influenza B have also declined during recent weeks. For information about human infections with avian influenza A(H7N9) virus in China please click [here](#).

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 16/2013, 1360 specimens tested positive for influenza, with 770 (57%) positive for influenza B, similarly to week 15/2013 (Fig. 1). Among total weekly influenza detections (sentinel and non-sentinel), the proportion of influenza A viruses in relation to influenza B has gradually decreased since week 03/2013, when type A viruses represented 76% of influenza detections.

Among 327 influenza A viruses that were subtyped during week 16/2013, 109(33%) were influenza A(H1N1)pdm09 and 218 (67%), influenza A(H3N2) (Fig. 2a). Since the beginning of the season (week 40/2012), 93 840 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Cumulatively, 59 055 viruses (63%) were influenza A and 34 785 (37%), influenza B (Fig. 2b). Cumulatively, influenza A has been the most commonly detected virus since week 47/2012. Of the 37 992 influenza A viruses that have been subtyped, 25 397 (67%) were A(H1N1)pdm09 and 12 595 (33%) were A(H3N2).

In addition, the lineage for 5689 influenza B viruses has been determined: 5212 (92%) belonged to the B/Yamagata lineage and 477 (8%) to B/Victoria.

The circulation of influenza viruses remained diverse across the Region, with most countries reporting influenza B as the dominant virus. Only Ireland, Kyrgyzstan and the United Kingdom (England and Northern Ireland) reported dominance of influenza A; Switzerland and Ukraine reported co-circulation of influenza A and B (Map 1).

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at the [WHO headquarters](#) web site).

For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

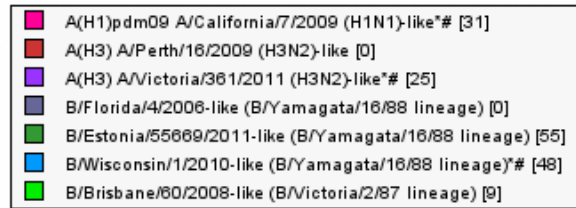
Since week 40/2012, 5264 influenza viruses characterized antigenically by 17 countries (Austria, Bulgaria, the Czech Republic, Denmark, Germany, Greece, Italy, Latvia, Portugal, Republic of Moldova, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)). The great majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine ([Fig. 3](#)). The United Kingdom characterized 1386 of these viruses (26%). Scotland reported on 499 (33%) of the 1522 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 15 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 1546 influenza viruses genetically ([Fig. 4](#)).



Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 16/2013

[Total N = 168]



(1) Sentinel and non-sentinel specimens combined

Compiled at 13:59 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Cumulatively since week 40/2012, 12 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 1259 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 623 A(H1N1)pdm09 viruses tested, 610 showed susceptibility to both drugs while 13 viruses (2%) carried the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir. Of these 13 viruses, 1 from the Russian Federation was detected in a hospitalized patient not exposed to oseltamivir through treatment; 1 from Germany was detected in a hospitalized patient with unknown exposure to the neuraminidase inhibitors; 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment; 6 viruses were detected in hospitalized patients exposed to oseltamivir through treatment (1 from Denmark, 4 from Germany and 1 from Sweden) and 3 viruses were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment (2 from the Netherlands and 1 from Switzerland).

The 278 influenza A(H3N2) viruses tested showed susceptibility to both drugs. Of the 359 influenza B viruses tested, 358 showed susceptibility to both drugs; 1 virus, showing reduced inhibition by oseltamivir and normal inhibition by zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 99 influenza A(H1N1)pdm09 and 42 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

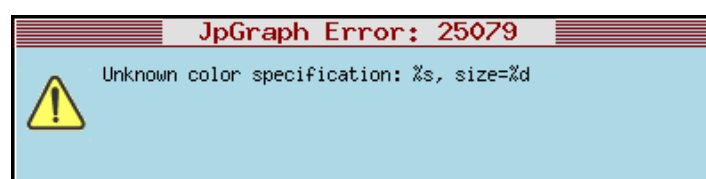
Similarly to week 15/2013, most countries in the Region reported decreasing influenza activity (Map 4) and low intensity in week 16/2013 (Map 2), although more reported sporadic influenza activity than in previous weeks (Map 3).

Of the 20 countries that have established epidemic thresholds, 19 reported ILI/ARI consultation rates below their national threshold levels. The Netherlands reported the ILI consultation rate to be at the threshold level.

Click on the maps for more detailed information.

In week 16/2013 the percentage of sentinel specimens testing positive for influenza decreased in comparison with the previous week: 497 sentinel specimens were tested, of which 112 (23%) were positive for influenza (Fig. 5). This decreasing trend has continued since the peak for the season, around week 07/2013.

In the 7 countries testing 20 or more sentinel specimens, influenza positivity ranged from 14% to 34%, with a median of 19% (mean: 22%).

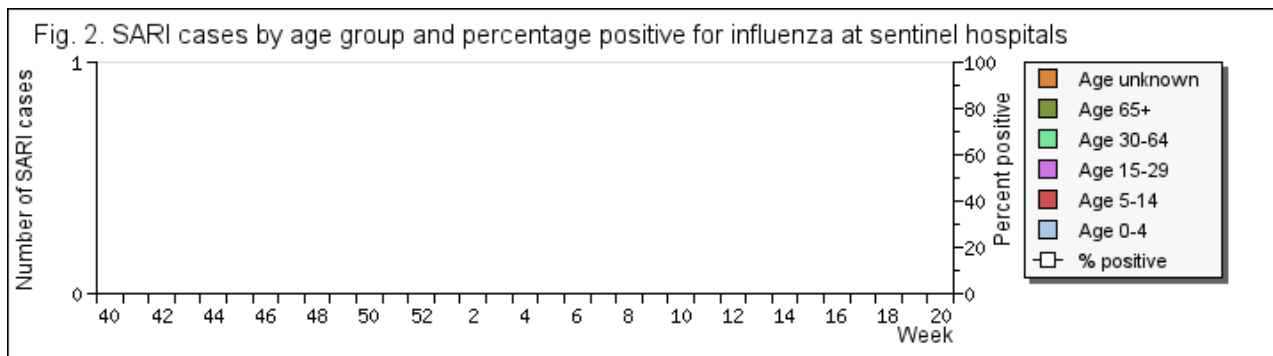


Of the 112 influenza-positive specimens from sentinel sources, 71% were positive for influenza B. Influenza B has been prevalent for several weeks in countries where circulation of A(H1N1)pdm09 has decreased. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

## Hospital surveillance for SARI

In week 16/2013 the number of SARI hospitalizations, along with the influenza positivity rate among cases, returned to pre-season levels in most of the countries taking part in hospital surveillance for SARI (Fig. 7).

This decreasing trend indicates that cases have peaked for the season for all the countries taking part in hospital surveillance for SARI.



For week 16/2013, 12 countries (Armenia, Belarus, Belgium, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine) reported 25 influenza detections among 119 specimens tested, 68% of which were influenza B, in line with the detections reported from outpatient surveillance (Fig. 8a). Most of the detections were reported by 3 countries (Belarus, the Russian Federation and Ukraine). Since week 40/2012, 6947 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 25 such cases were reported for week 15/2013. To date, A(H1N1)pdm09, A(H3N2) and influenza B have been detected among hospitalized patients.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

## Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

## EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week 16/2013 data, based on 13 countries or regions, showed a sustained peak of excess all-cause mortality among people aged 65 years and older, starting in week 01/2013. Results of pooled analysis may vary, depending on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#).

## Description of influenza surveillance

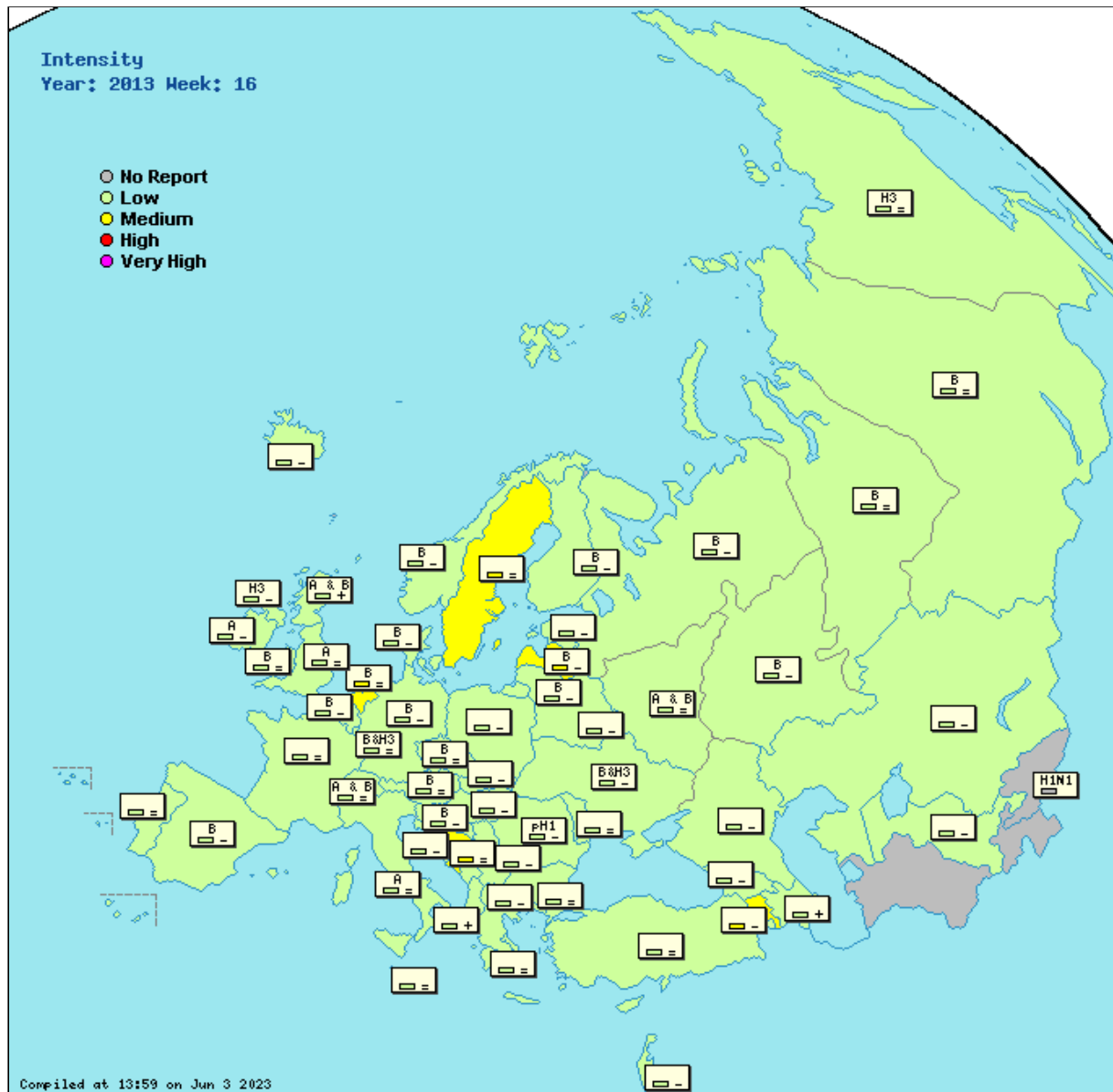
Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B  
 = : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

### Republic of Moldova

This week, 12 samples were tested for Influenza viruses, of which 1 sample was positive for RNA influenza virus A(H1N1)pdm09; 3 were positive for RNA influenza virus type B, and, also, 1 sample positive for RNA hRSV, 1 - for RNA Rhinovirus, and 1 - for DNA Adenovirus.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing					400.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Medium	Sporadic	Moderate	Decreasing	1	100.0%	None		152.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	Sporadic		Stable	2	50.0%	Type B	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Increasing	32	15.6%	None	218.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	Sporadic	Low	Decreasing	30	33.3%	None	10.6 ( <a href="#">graphs</a> )	882.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>

Belgium	Low	Sporadic		Decreasing	8	37.5%	Type B	24.6 ( <a href="#">graphs</a> )	1189.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Medium	Widespread	Moderate	Stable			None	77.5 ( <a href="#">graphs</a> )	134.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	Sporadic		Stable	0	-	None	( <a href="#">graphs</a> )	578.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Low	Sporadic	Low	Decreasing			None	16.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.2 * ( <a href="#">graphs</a> )	4.0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Czech Republic	Low	Sporadic		Stable	9	33.3%	Type B	41.0 ( <a href="#">graphs</a> )	839.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Denmark	Low	Sporadic		Decreasing	0	-	Type B	26.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
England	Low	Local		Stable	29	17.2%	Type A	5.3 ( <a href="#">graphs</a> )	236.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	Sporadic		Decreasing	5	40.0%	None	7.6 ( <a href="#">graphs</a> )	312.4 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland	Low	Sporadic		Decreasing	10	10.0%	Type B	( <a href="#">graphs</a> )			<a href="#">Click here</a>
France	Low	Sporadic	Low	Stable	25	24.0%	None	( <a href="#">graphs</a> )	1189.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	Sporadic	Low	Decreasing	10	20.0%	None	282.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Low	Local		Decreasing	47	34.0%	Type B	( <a href="#">graphs</a> )	866.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	Sporadic		Stable	1	100.0%	None	85.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Hungary	Low	Sporadic	Low	Decreasing	10	20.0%	None	33.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Iceland					0	-		( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ireland	Low	Local	Low	Decreasing	8	12.5%	Type A	12.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	Sporadic	Low	Decreasing	17	5.9%	None	4.3 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Italy	Low	None	Low	Stable	3	0%		72.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	Local	Low	Decreasing	7	0%	None	81.3 ( <a href="#">graphs</a> )	5.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					0	-	Type A, Subtype H1N1	39.0 ( <a href="#">graphs</a> )	16.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia	Medium	Regional		Decreasing	0	-	Type B	51.6 ( <a href="#">graphs</a> )	860.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Lithuania	Low	Local	Low	Decreasing	8	87.5%	Type B	13.2 ( <a href="#">graphs</a> )	519.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Luxembourg	Low	None	Low		4	0%		0.3 * ( <a href="#">graphs</a> )	19.2 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Low	Regional	Low	Decreasing				10.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Malta	Low	Local	Low	Stable				1.2 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	None	Low	Decreasing				5.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Medium	Widespread		Stable	14	35.7%	Type B	52.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	Local		Decreasing	0	-	Type A, Subtype H3	25.6 ( <a href="#">graphs</a> )	369.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway	Low	Local		Decreasing	5	60.0%	Type B	32.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	6	16.7%	None	171.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal					2	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Republic of Moldova	Low	Local	Low	Stable	6	16.7%	None	0.2 ( <a href="#">graphs</a> )	209.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	Sporadic	Low	Decreasing	3	100.0%	Type B	1.3 ( <a href="#">graphs</a> )	527.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Stable	81	14.8%	Type B	1.3 ( <a href="#">graphs</a> )	611.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Local	Low	Increasing	28	10.7%	Type B	17.8 ( <a href="#">graphs</a> )	417.5 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Serbia	Low	Sporadic	Low	Decreasing	2	100.0%	None	28.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovakia	Low	Sporadic	Low	Decreasing	0	-	None	106.6 ( <a href="#">graphs</a> )	1274.1 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia	Low	Local		Decreasing	8	37.5%	Type B	3.6 ( <a href="#">graphs</a> )	1015.7 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Spain	Low	Sporadic		Decreasing	43	18.6%	Type B	14.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Sweden	Medium	Regional		Stable	12	16.7%	None	5.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Switzerland	Low	Sporadic		Stable	5	40.0%	Type A and B	8.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey	Low	Sporadic	Low	Stable	10	0%	None	115.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ukraine	Low	Regional	Low	Decreasing	4	0%	Type B and Type A, Subtype H3	2.5 * ( <a href="#">graphs</a> )	466.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Uzbekistan	Low	Sporadic	Low	Decreasing	1	0%	None	( <a href="#">graphs</a> )	23.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					496	22.6%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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# Influenza season ending in Europe

## Summary, week 17/2013

Influenza-like illness (ILI) and acute respiratory infection (ARI) consultation rates are low throughout the WHO European Region. The great majority of countries report no or sporadic influenza activity. The percentages of sentinel ILI, ARI and severe acute respiratory infection (SARI) specimens testing positive for influenza have declined in recent weeks. Influenza B is becoming the dominant virus in circulation, followed by influenza A(H3N2), with relatively few A(H1N1)pdm09 viruses. For information about human infections with avian influenza A(H7N9) virus in China please click [here](#).

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 17/2013, 382 specimens tested positive for influenza, with 236 (62%) positive for influenza B, similarly to the previous three weeks (Fig. 1). Among total weekly influenza detections (sentinel and non-sentinel), the proportion of influenza A viruses in relation to influenza B has gradually decreased since week 03/2013, when type A viruses represented 76% of the total.

Of the 45 influenza A viruses that were subtyped during week 17/2013, 13 (29%) were influenza A(H1N1)pdm09 and 32 (71%) influenza A(H3N2) (Fig. 2a). Since the beginning of the season (week 40/2012), 94 358 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Cumulatively, 59 270 viruses (63%) were influenza A and 35 088 (37%) influenza B (Fig. 2b). Cumulatively, influenza A has been the most commonly detected virus since week 47/2012. Of the 38 106 influenza A viruses that have been subtyped, 25 433 (67%) were A(H1N1)pdm09 and 12 673 (33%) were A(H3N2).

In addition, the lineage for 5732 influenza B viruses has been determined: 5254 (92%) belonged to the B/Yamagata lineage and 478 (8%) to B/Victoria.

Owing to the low number of viruses detected during week 17/2013 in most countries, only a few reported on dominant virus type: influenza B in Bulgaria, Georgia, Germany, Greece, Latvia, Slovenia and the United Kingdom (Scotland), and influenza A in Estonia, Ireland and the United Kingdom (Wales) (Map 1).

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at the [WHO headquarters](#) web site).

For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

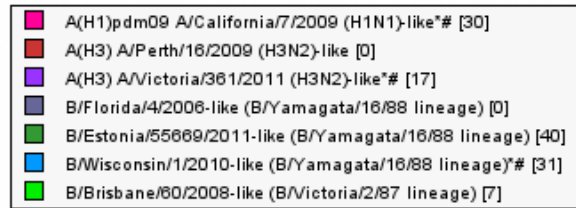
Since week 40/2012, 5300 influenza viruses characterized antigenically by 17 countries (Austria, Bulgaria, the Czech Republic, Denmark, Germany, Greece, Italy, Latvia, Portugal, the Republic of Moldova, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)). The great majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine ([Fig. 3](#)). The United Kingdom characterized 1408 of these viruses (27%). Scotland reported on 500 (32%) of the 1541 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 15 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 1574 influenza viruses genetically ([Fig. 4](#)).



Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 17/2013

[Total N = 125]



(1) Sentinel and non-sentinel specimens combined

Compiled at 13:58 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Cumulatively since week 40/2012, 12 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 1394 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 695 A(H1N1)pdm09 viruses tested, 682 showed susceptibility to both drugs while 13 viruses (2%) carried the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir. Of these 13 viruses, 1 from the Russian Federation was detected in a hospitalized patient not exposed to oseltamivir through treatment; 1 from Germany was detected in a hospitalized patient with unknown exposure to the neuraminidase inhibitors; 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment; 6 viruses were detected in hospitalized patients exposed to oseltamivir through treatment (1 from Denmark, 4 from Germany and 1 from Sweden) and 3 viruses were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment (2 from the Netherlands and 1 from Switzerland).

The 294 influenza A(H3N2) viruses tested showed susceptibility to both drugs. Of the 405 influenza B viruses tested, 404 showed susceptibility to both drugs; 1 virus, showing reduced inhibition by oseltamivir and normal inhibition by zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 105 influenza A(H1N1)pdm09 and 50 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

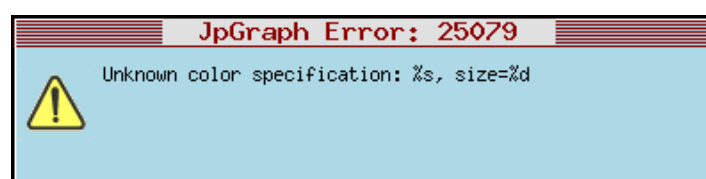
Similarly to several previous weeks, most countries in the Region reported decreasing influenza activity (Map 4), low intensity (Map 2) and no or sporadic influenza activity in week 17/2013 (Map 3).

Of the 20 countries that have established epidemic thresholds, all reported ILI/ARI consultation rates below their national threshold levels.

Click on the maps for more detailed information.

In week 17/2013 the percentage of sentinel specimens testing positive for influenza decreased notably from that in the previous week: 225 sentinel specimens were tested, of which 23 (10%) were positive for influenza (Fig. 5). This decreasing trend has continued since the peak for the season, around week 07/2013.

In the 4 countries testing 20 or more sentinel specimens, influenza positivity ranged from 0% to 19%, with a median of 11% (mean: 10%).

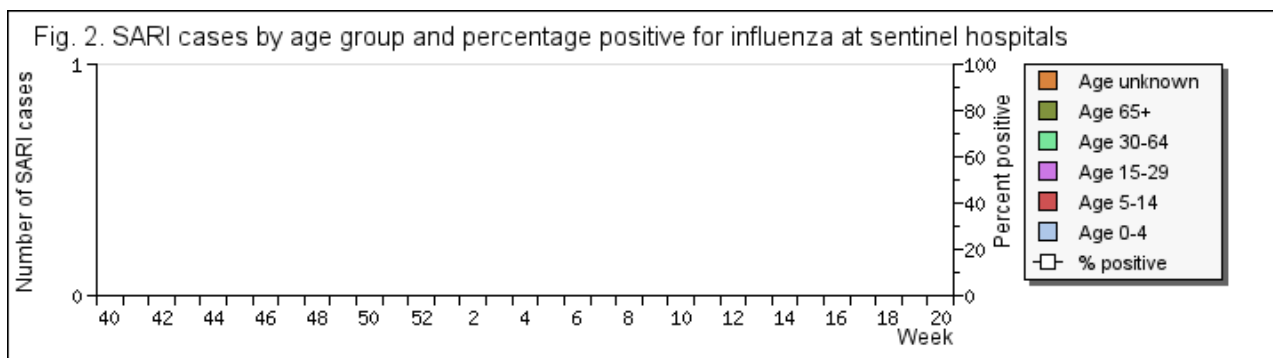


Of the 23 influenza-positive specimens from sentinel sources, 78% were positive for influenza B. Influenza B has been prevalent for several weeks in countries where circulation of A(H1N1)pdm09 has decreased. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

## Hospital surveillance for SARI

In week 17/2013 the number of SARI hospitalizations, along with the influenza positivity rate among cases, returned to pre-season levels in most of the countries taking part in hospital surveillance for SARI (Fig. 7).

This decreasing trend indicates that cases have peaked for the season for all the countries taking part in hospital surveillance for SARI.



For week 17/2013, only 8 countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Romania, Slovakia and Ukraine) reported 20 influenza detections among 93 specimens tested, 95% of which were influenza B, in line with the detections reported from outpatient surveillance (Fig. 8a). Armenia reported most of the detections. Since week 40/2012, 7076 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

## Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

## EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of week data for 17/2013, based on 13 countries or regions, showed a sustained peak of excess all-cause mortality among those aged 65 years and over. Excess mortality started in week 01/2013, peaked in week 10/2013 and has since declined, but has not yet returned to normal levels. Results of pooled analysis may vary, depending on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#).

## Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

## Map

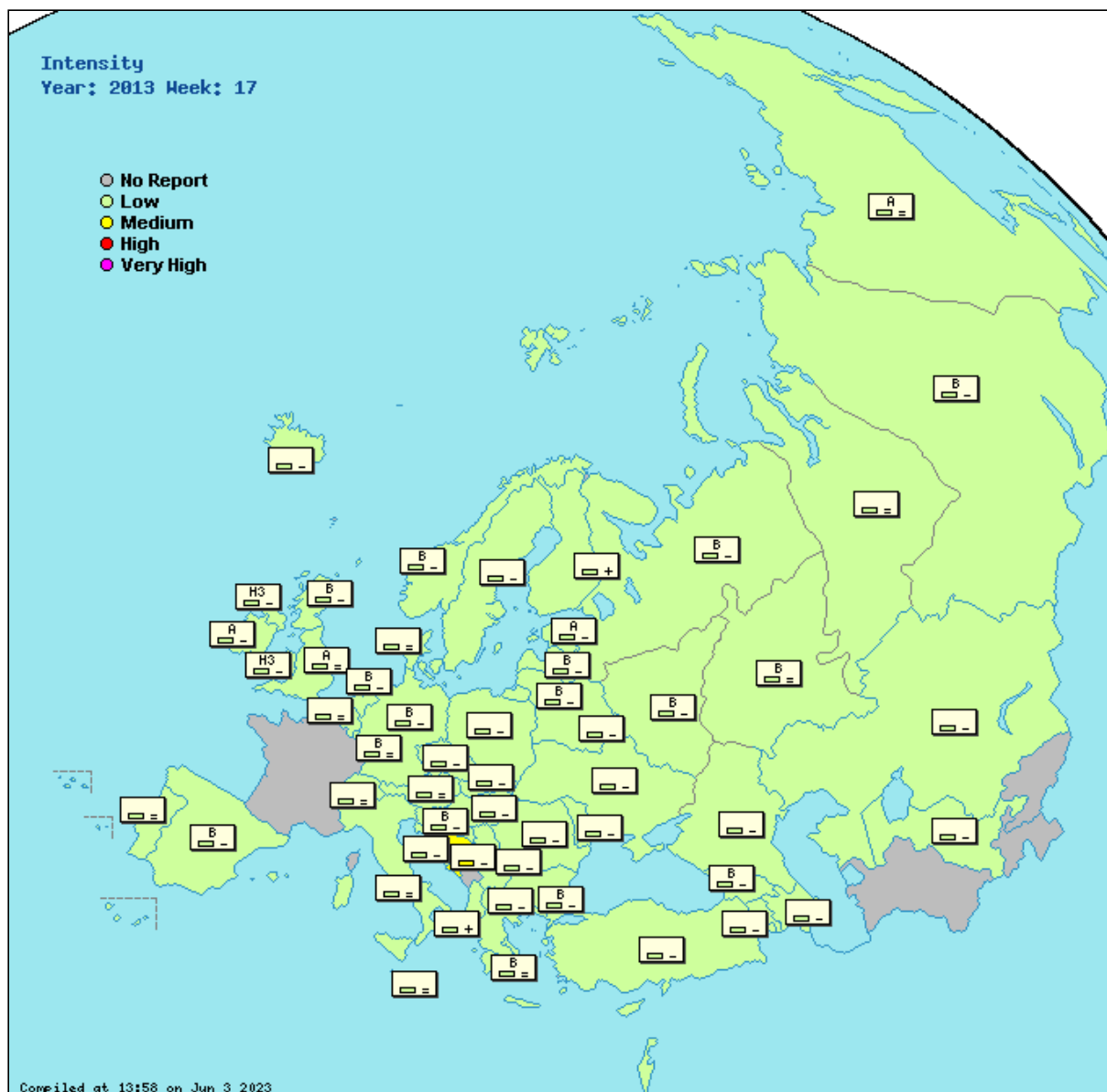
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + virological  **Geographical spread**  + virological  **Impact**





A = Dominant virus A  
H1N1 = Dominant virus A(H1N1)  
H3N2 = Dominant virus A(H3N2)  
H1N2 = Dominant virus A(H1N2)  
B = Dominant virus B  
A & B = Dominant virus A & B

= : stable clinical activity  
+ : increasing clinical activity  
- : decreasing clinical activity

Low = no influenza activity or influenza at baseline levels  
Medium = usual levels of influenza activity  
High = higher than usual levels of influenza activity  
Very high = particularly severe levels of influenza activity

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.

## Country comments (where available)

### Republic of Moldova

This week, 10 samples were tested for Influenza viruses, of which 1 was positive for RNA influenza virus A(H3N2); and, also, 1 sample - positive for RNA hRSV, 3 - for RNA Rhinovirus, and 1 - for DNA Adenovirus.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Increasing							
Armenia					2	100.0%	None	5576.2 ( <a href="#">graphs</a> )	365.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	Sporadic		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	<a href="#">graphs</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing	10	0%	None	170.3 ( <a href="#">graphs</a> )	<a href="#">graphs</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Belarus					27	11.1%	None		<a href="#">graphs</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium					5	0%	None	<a href="#">graphs</a>		<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Medium		Low	Decreasing			None	43.7 ( <a href="#">graphs</a> )	87.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>

Bulgaria					9	0%	Type B			<a href="#">(graphs)</a>	<a href="#">Click here</a>
Croatia	Low	Sporadic	Low	Decreasing			None	11.3	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0.2 *	<a href="#">(graphs)</a>	8.2 * <a href="#">(graphs)</a>	<a href="#">Click here</a>
Czech Republic					6	33.3%	None			<a href="#">(graphs)</a>	<a href="#">Click here</a>
Denmark	Low	Sporadic		Stable	0	-	None	23.3	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
England	Low	Sporadic		Stable	27	0%	Type A	5.2	<a href="#">(graphs)</a>	261.0 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Estonia	Low	Sporadic		Decreasing	3	33.3%	Type A	7.6	<a href="#">(graphs)</a>	277.8 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Georgia	Low	Sporadic	Low	Decreasing	8	62.5%	Type B	248.2	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Germany	Low	Local		Decreasing	26	19.2%	Type B		<a href="#">(graphs)</a>	808.2 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Greece	Low	Sporadic		Stable	1	0%	Type B	85.8	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Hungary	Low	Sporadic	Low	Decreasing	7	28.6%	None	27.2	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Ireland	Low	Sporadic	Low	Decreasing	10	0%	Type A	8.6	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Israel	Low	None	Low	Stable				5.6	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Kazakhstan	Low	Local	Low	Decreasing	9	0%	None	79.5	<a href="#">(graphs)</a>	8.7 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Kyrgyzstan					1	0%	None			<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Latvia	Low	Regional		Decreasing	1	0%	Type B	24.4	<a href="#">(graphs)</a>	872.1 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Lithuania	Low	Sporadic	Low	Decreasing	3	33.3%	None	5.4	<a href="#">(graphs)</a>	475.3 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Luxembourg	Low	None	Low		5	0%		0.3 *	<a href="#">(graphs)</a>	15.6 * <a href="#">(graphs)</a>	<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia					0	-	None			<a href="#">(graphs)</a>	<a href="#">Click here</a>
Malta	Low	Local	Low	Stable				0 *	<a href="#">(graphs)</a>	0 * <a href="#">(graphs)</a>	<a href="#">Click here</a>
Montenegro								3.2	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Netherlands	Low	Sporadic		Decreasing				24.2	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Northern Ireland	Low	Local		Decreasing	1	0%	Type A	19.4	<a href="#">(graphs)</a>	333.4 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Norway	Low	Local		Decreasing	0	-		22.3	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	4	0%	None	117.6	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Portugal	Low	None		Stable				0.0	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Republic of Moldova	Low	Sporadic	Low	Decreasing	7	0%	None		<a href="#">(graphs)</a>	185.4 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Romania	Low	Sporadic	Low	Decreasing	1	100.0%	None	1.2	<a href="#">(graphs)</a>	504.9 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Russian Federation	Low	Sporadic		Decreasing				0.8	<a href="#">(graphs)</a>	576.1 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Scotland	Low	Local	Low	Decreasing	19	0%	Type B	11.4	<a href="#">(graphs)</a>	386.9 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Serbia	Low	None	Low	Decreasing				21.7	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Slovakia	Low	Sporadic	Low	Decreasing	1	100.0%	None	86.1	<a href="#">(graphs)</a>	1187.4 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Slovenia					1	0%	Type B		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Spain	Low	Sporadic		Decreasing	20	0%	None	9.5	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Sweden	Low	Regional		Decreasing	3	0%	None	3.5	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Switzerland	Low	None		Stable				2.6	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Turkey					3	0%	None		<a href="#">(graphs)</a>		<a href="#">Click here</a>
Ukraine	Low	Sporadic	Low	Decreasing	4	0%	None			0.0 <a href="#">(graphs)</a>	<a href="#">sari</a> <a href="#">Click here</a>
Uzbekistan	Low	None	Low	Decreasing	2	0%	None		<a href="#">(graphs)</a>	20.6 <a href="#">(graphs)</a>	<a href="#">Click here</a>
Wales	Low	None		Decreasing	0	-	Type A, Subtype H3	5.8	<a href="#">(graphs)</a>	<a href="#">(graphs)</a>	<a href="#">Click here</a>
Europe					226	10.2%					<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium = usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# Influenza activity is at out-of-season levels in Europe



## Summary, week 18/2013

Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) are at low levels in all countries. The percentages of sentinel samples from ILI, ARI, and severe acute respiratory infection (SARI) surveillance that tested positive for influenza were low. Influenza B was detected in most of the positive specimens collected in week 18/2013, although most virus detections since the start of the season have been influenza A. Countries with hospital-based sentinel surveillance continue to report SARI hospitalizations, although numbers are declining overall, as is the proportion of samples testing positive for influenza. For information about human infections with avian influenza A(H7N9) virus in China please click [here](#).

*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 18/2013, 342 specimens tested positive for influenza, with 224 (66%) positive for influenza B, similar to the previous three weeks (Fig. 1). For total weekly influenza detections (sentinel and non-sentinel), the proportion of influenza A viruses in relation to influenza B has gradually decreased since week 03/2013, when type A viruses represented 76% of the total.

Of the 48 influenza A viruses that were subtyped during week 18/2013, 16 (33%) were influenza A(H1N1)pdm09 and 32 (67%) influenza A(H3N2) (Fig. 2a). Since the beginning of the season (week 40/2012), 95 070 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Cumulatively, 59 534 viruses (63%) were influenza A and 35 536 (37%) influenza B (Fig. 2b). Cumulatively, influenza A has been the most commonly detected virus since week 47/2012. Of the 38 292 influenza A viruses that have been subtyped, 25 492 (67%) were A(H1N1)pdm09 and 12 800 (33%) were A(H3N2).

In addition, the lineage for 5822 influenza B viruses has been determined: 5341 (92%) belonged to the B/Yamagata lineage and 481 (8%) to B/Victoria.

Owing to the low number of viruses detected during week 18/2013 in most countries, only a few reported on dominant virus type: influenza B in Georgia, Germany, Latvia, Lithuania and the Russian Federation, and influenza A in Finland, Greece and the United Kingdom (England and Wales); the United Kingdom (Scotland) reported co-dominance of influenza A and B (Map 1).

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at the [WHO headquarters](#) web site).

For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

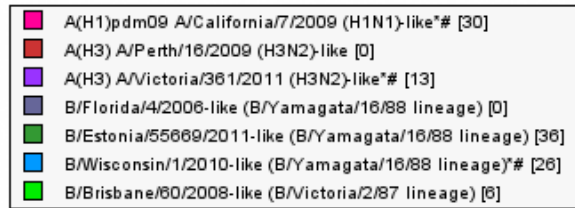
Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 5467 influenza viruses characterized antigenically by 17 countries (Austria, Bulgaria, the Czech Republic, Denmark, Germany, Greece, Italy, Latvia, Portugal, the Republic of Moldova, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)). The great majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine ([Fig. 3](#)). The United Kingdom characterized 1420 of these viruses (26%). Scotland reported on 499 (32%) of the 1583 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 16 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 1642 influenza viruses genetically ([Fig. 4](#)).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 18/2013

[Total N = 111]



(1) Sentinel and non-sentinel specimens combined

Compiled at 13:57 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Cumulatively since week 40/2012, 12 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 1400 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 697 A(H1N1)pdm09 viruses tested, 684 showed susceptibility to both drugs while 13 viruses (2%) carried the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir. Of these 13 viruses, 1 from the Russian Federation was detected in a hospitalized patient not exposed to oseltamivir through treatment; 1 from Germany was detected in a hospitalized patient with unknown exposure to the neuraminidase inhibitors; 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment; 6 viruses were detected in hospitalized patients exposed to oseltamivir through treatment (1 from Denmark, 4 from Germany and 1 from Sweden) and 3 viruses were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment (2 from the Netherlands and 1 from Switzerland).

The 296 influenza A(H3N2) viruses tested showed susceptibility to both drugs. Of the 407 influenza B viruses tested, 406 showed susceptibility to both drugs; 1 virus showing reduced inhibition by oseltamivir, and normal inhibition by zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 105 influenza A(H1N1)pdm09 and 50 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

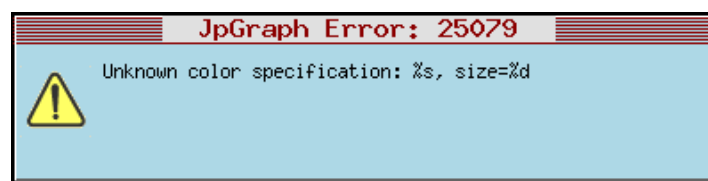
During week 18/2013, all countries but 1 reported low influenza activity (Map 2). Most countries in the Region reported decreasing trends (Map 4) and no or sporadic influenza activity in week 18/2013 (Map 3).

ILI and ARI consultation rates were below the national baselines or at pre-season levels in all countries reporting clinical data during week 18/2013.

Click on the maps for more detailed information.

For week 18/2013, the percentage of sentinel specimens testing positive for influenza remained low: 197 sentinel specimens were tested, of which 21 (11%) were positive for influenza (Fig. 5). This decreasing trend has continued since the peak for the season, around week 07/2013.

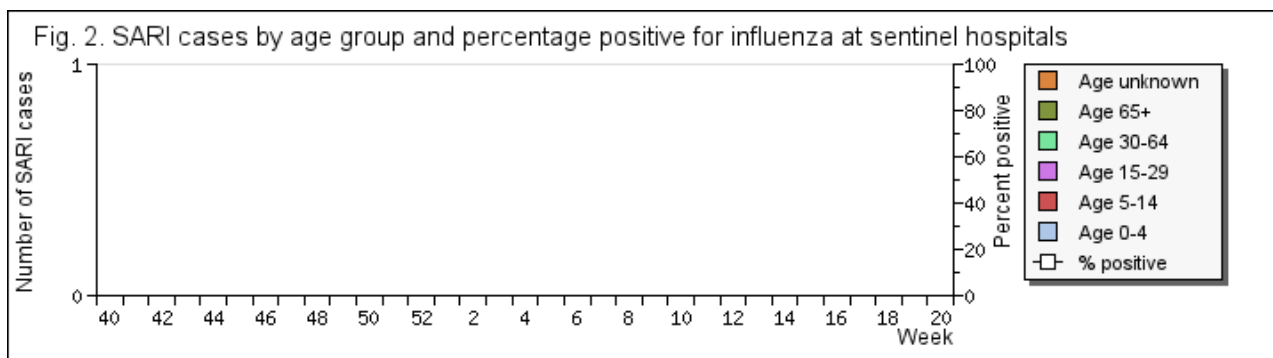
In the 4 countries testing 20 or more sentinel specimens, influenza positivity ranged from 0% to 9%, with a median of 7% (mean: 6%).



Of the 21 influenza-positive specimens from sentinel sources, 81% were positive for influenza B. Influenza B has been prevalent for several weeks in countries where circulation of A(H1N1)pdm09 has decreased. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

In week 18/2013 the number of SARI hospitalizations, along with the influenza positivity rate among cases, returned to pre-season levels in most of the countries taking part in hospital surveillance for SARI (Fig. 7).



For week 18/2013, only 4 countries (Armenia, Belarus, Georgia and Kyrgyzstan) reported a total of 5 influenza detections all of which were influenza B, in line with the detections reported from outpatient surveillance (Fig. 8a). Since week 40/2012, 7188 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 2 such cases were reported for weeks 17-18 /2013. For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

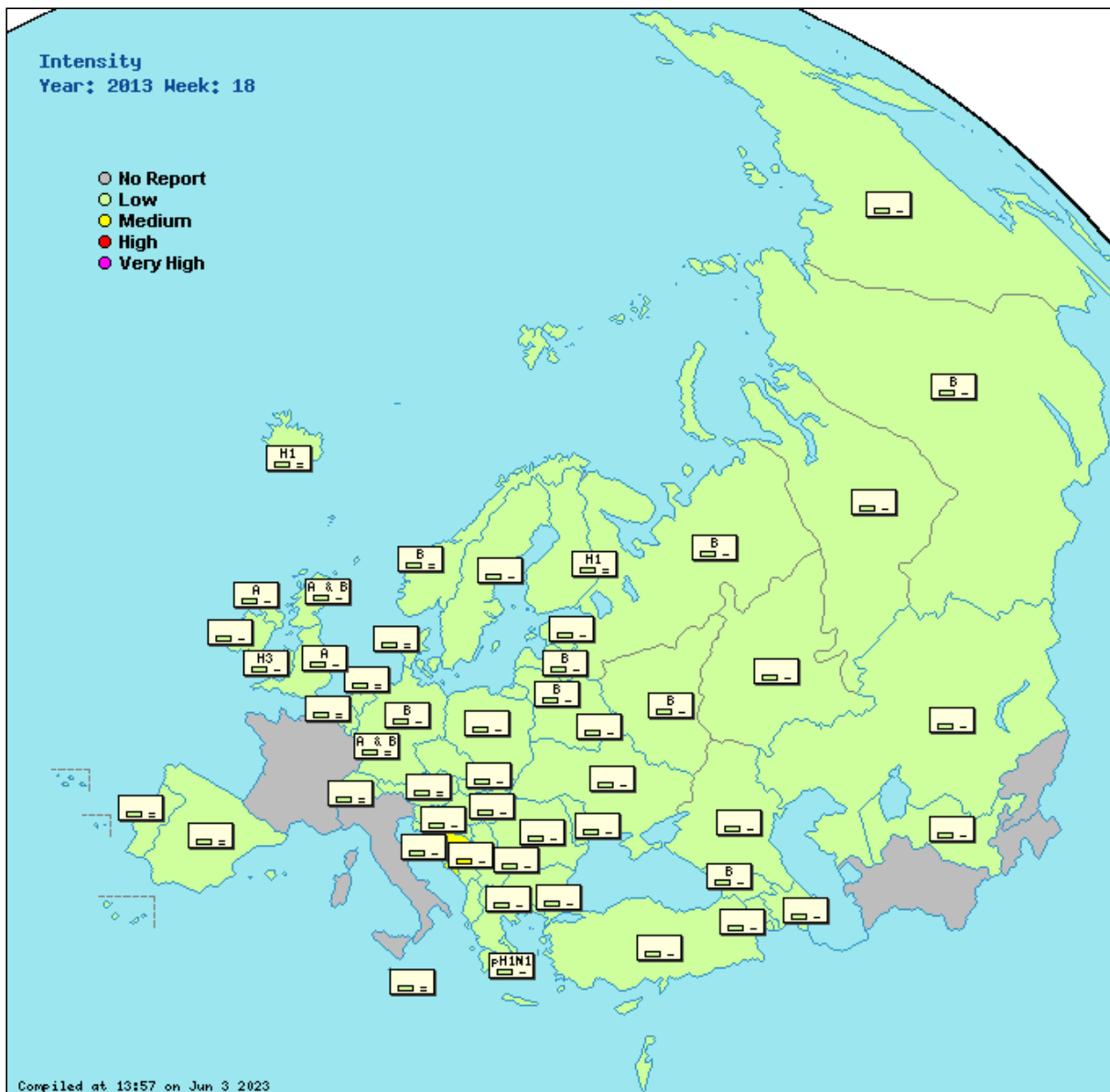
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

### Republic of Moldova

This week, 7 samples were tested for Influenza viruses, of which 1 was positive for RNA influenza virus B.

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Armenia	Low	None	Low	Decreasing	0	-	None		78.4 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	Local		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	<a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	Sporadic	Low	Decreasing	15	6.7%	None	160.2 ( <a href="#">graphs</a> )	<a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	Sporadic	Low	Decreasing	21	4.8%	None	9.6 ( <a href="#">graphs</a> )	759.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	None		Stable	0	-	None	11.0 ( <a href="#">graphs</a> )	1229.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Medium	Regional	Low	Decreasing			None	4.1 ( <a href="#">graphs</a> )	17.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	Sporadic		Decreasing	0	-	None	<a href="#">graphs</a> )	197.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Low	Sporadic	Low	Decreasing			None	2.4 ( <a href="#">graphs</a> )	<a href="#">graphs</a> )		<a href="#">Click here</a>

Cyprus	Low	None	Low	Stable				0.4 * ( <a href="#">graphs</a> )	6.1 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Denmark	Low	None		Stable				12.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
England	Low	Local		Decreasing	11	0%	Type A	3.9 ( <a href="#">graphs</a> )	254.0 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Estonia	Low	Sporadic		Decreasing	1	0%	None	6.7 ( <a href="#">graphs</a> )	228.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Finland	Low	None		Stable	9	11.1%	Type A, Subtype H1	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	Sporadic	Low	Decreasing	12	83.3%	Type B	178.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Germany	Low	Sporadic		Decreasing	19	10.5%	Type B	( <a href="#">graphs</a> )	691.1 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Greece	Low	Sporadic		Decreasing	0	-	Type A, Subtype pH1N1	25.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Hungary	Low	None	Low	Decreasing	3	0%	None	14.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Iceland					0	-		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	Sporadic	Low	Decreasing	6	0%	None	4.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Israel	Low	None	Low	Stable				4.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	Sporadic	Low	Decreasing	7	0%	None	68.5 ( <a href="#">graphs</a> )	3.7 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Kyrgyzstan					2	0%	None	26.6 ( <a href="#">graphs</a> )	18.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Latvia	Low	Sporadic		Decreasing	0	-	Type B	5.2 ( <a href="#">graphs</a> )	714.2 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Lithuania	Low	Local	Low	Decreasing	1	100.0%	Type B	2.0 ( <a href="#">graphs</a> )	361.2 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Luxembourg	Low	None	Low		2	0%		0.4 * ( <a href="#">graphs</a> )	11.0 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Decreasing	0	-	None	1.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Malta					0	-	None	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	None	Low	Decreasing				3.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Netherlands	Low	Sporadic		Stable	1	0%	None	24.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Northern Ireland	Low	Local		Decreasing	5	0%	None	13.7 ( <a href="#">graphs</a> )	328.4 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Norway	Low	Local		Stable	0	-	Type B	17.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	0	-	None	72.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Portugal	Low	Sporadic		Stable	1	0%	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Republic of Moldova	Low	Sporadic	Low	Decreasing	5	0%	None	( <a href="#">graphs</a> )	113.4 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Romania	Low	Sporadic	Low	Decreasing	0	-	None	0.5 ( <a href="#">graphs</a> )	319.8 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Decreasing	22	0%	Type B	0.2 ( <a href="#">graphs</a> )	320.7 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Scotland	Low	Local	Low	Decreasing	20	15.0%	Type A and B	9.6 ( <a href="#">graphs</a> )	369.6 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Serbia	Low	None	Low	Decreasing				8.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Slovakia	Low	Sporadic	Low	Decreasing	0	-	None	73.7 ( <a href="#">graphs</a> )	1074.6 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Slovenia	Low	Sporadic		Decreasing	0	-	None	1.5 ( <a href="#">graphs</a> )	495.8 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Spain	Low	Sporadic		Stable	22	9.1%	None	5.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Sweden	Low	Sporadic		Decreasing	2	0%	None	1.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Switzerland	Low	None		Stable				3.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Turkey	Low	Sporadic	Low	Decreasing	5	0%	None	64.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Ukraine	Low	None	Low	Decreasing	4	0%	None	1.8 * ( <a href="#">graphs</a> )	250.1 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Uzbekistan	Low	None	Low	Decreasing	1	0%	None	( <a href="#">graphs</a> )	18.3 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Wales	Low	None		Decreasing	0	-	Type A, Subtype H3	2.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Europe					197	10.7%				<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in >=50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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# Influenza season ending in the WHO European Region



## Summary, week 19/2013

Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) are at low levels in the WHO European Region, with half of countries reporting no influenza activity during week 19/2013. The percentages of sentinel samples from ILI, ARI and severe acute respiratory infection (SARI) surveillance that test positive for influenza continue to be low. Hospitalizations for SARI have declined to levels observed before the start of the season. For information about human infections with avian influenza A(H7N9) virus in China please click [here](#).



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Country comments](#)
- [Country data and graphs](#)
- [Description of influenza surveillance](#)

## Virological surveillance for influenza

During week 19/2013, only 194 specimens tested positive for influenza, with influenza B being detected in 65% of cases, as observed in previous weeks (Fig. 1). For total weekly influenza detections (sentinel and non-sentinel), the proportion of influenza A viruses in relation to influenza B has gradually decreased since week 03/2013, when type A viruses represented 76% of the total.

Of the 31 influenza A viruses that were subtyped during week 19/2013, 14 (45%) were influenza A(H1N1)pdm09 and 17 (55%) influenza A(H3N2) (Fig. 2a). Since the beginning of the season (week 40/2012), 95 316 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Cumulatively, 59 614 viruses (62%) were influenza A and 35 702 (38%) influenza B (Fig. 2b). Cumulatively, influenza A has been the most commonly detected virus since week 47/2012. Of the 38 357 influenza A viruses that have been subtyped, 25 532 (67%) were A(H1N1)pdm09 and 12 825 (33%) were A(H3N2).

In addition, the lineage for 5840 influenza B viruses has been determined: 5356 (92%) belonged to the B/Yamagata lineage and 484 (8%) to B/Victoria.

Owing to the low number of viruses detected during week 19/2013, only a few countries reported on dominant virus type: influenza B in Bulgaria, Israel, Lithuania, Norway and the Russian Federation, and influenza A in Greece (Map 1).

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at the [WHO headquarters](#) web site).

For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

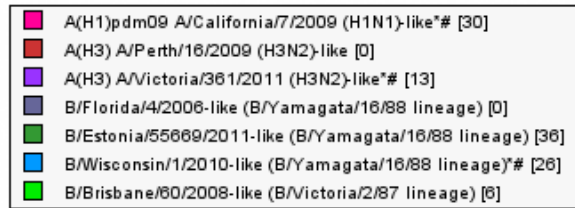
Since week 40/2012, 5509 influenza viruses characterized antigenically by 17 countries (Austria, Bulgaria, the Czech Republic, Denmark, Germany, Greece, Italy, Latvia, Portugal, Republic of Moldova, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)). The great majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine ([Fig. 3](#)). The United Kingdom characterized 1420 of these viruses (26%). Scotland reported on 499 (31%) of the 1588 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 15 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 1584 influenza viruses genetically ([Fig. 4](#)).



Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 19/2013

[Total N = 111]



(1) Sentinel and non-sentinel specimens combined

Compiled at 13:57 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Cumulatively since week 40/2012, 12 countries (Denmark, Germany, Greece, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 1400 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 698 A(H1N1)pdm09 viruses tested, 685 showed susceptibility to both drugs while 13 viruses (2%) carried the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir. Of these 13 viruses, 1 from the Russian Federation was detected in a hospitalized patient not exposed to oseltamivir through treatment; 1 from Germany was detected in a hospitalized patient with unknown exposure to the neuraminidase inhibitors; 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment; 6 viruses were detected in hospitalized patients exposed to oseltamivir through treatment (1 from Denmark, 4 from Germany and 1 from Sweden) and 3 viruses were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment (2 from the Netherlands and 1 from Switzerland).

The 305 influenza A(H3N2) viruses tested showed susceptibility to both drugs. Of the 413 influenza B viruses tested, 412 showed susceptibility to both drugs; 1 virus showing reduced inhibition by oseltamivir, and normal inhibition by zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 105 influenza A(H1N1)pdm09 and 50 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

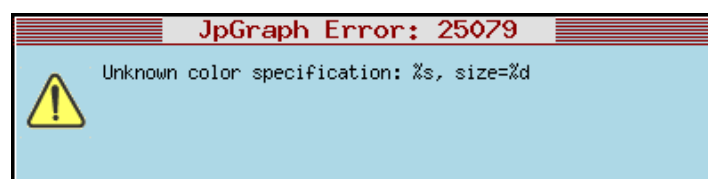
### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

For week 19/2013, all countries in the Region reported low influenza activity (Map 2). Similarly to the two previous weeks, most countries reported decreasing trends (Map 4) and no or sporadic influenza activity in week 19/2013 (Map 3).

ILI and ARI consultation rates were below the national baselines or at pre-season levels in all countries reporting clinical data during week 19/2013.

Click on the maps for more detailed information.

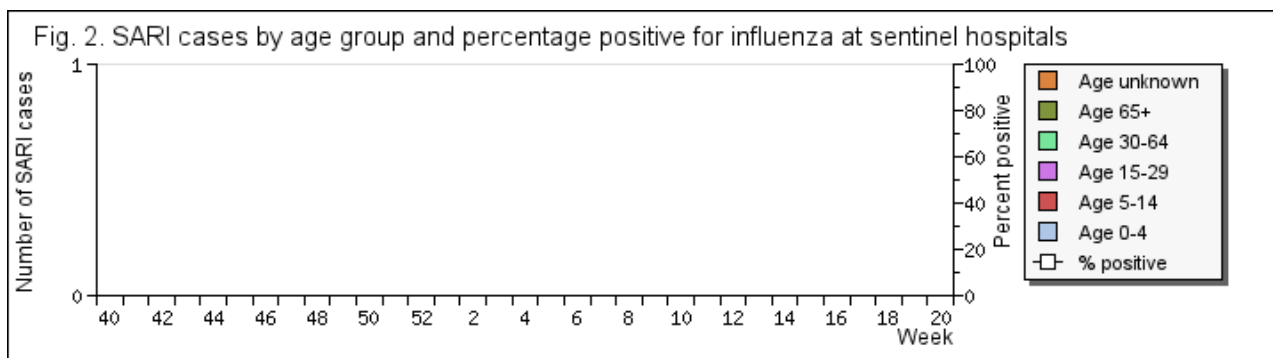
For week 19/2013, the number of sentinel specimens tested and the percentage testing positive for influenza remained low: out of 83 sentinel specimens tested, 8 (10%) were positive for influenza (Fig. 5). This decreasing trend has continued since the peak for the season, around week 07/2013.



Of the 8 influenza-positive specimens from sentinel sources, 7 (87%) were influenza B. Influenza B has been prevalent for several weeks in countries where circulation of A(H1N1)pdm09 has decreased. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

In week 19/2013 the number of SARI hospitalizations, along with the influenza positivity rate among cases, remained at pre-season levels in the countries taking part in hospital surveillance for SARI (Fig. 7).



For week 19/2013, only 2 countries (Georgia and the Russian Federation) reported a total of 5 influenza detections, with 4 (80%) of them being influenza B, in line with the detections reported from outpatient surveillance (Fig. 8a). Since week 40/2012, 7218 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

### EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of data for week 19/2013, based on 15 countries or regions, showed a sustained peak of excess all-cause mortality among those aged 65 years and older. Excess mortality started in week 01/2013, peaked in week 10/2013 and has been around normal levels since week 17/2013. Cumulative winter excess mortality among older people (from week 40/2012 to week 19/2013) showed levels higher than those seen in the past three winters. Results of pooled analysis may vary, depending on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#).

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria of B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

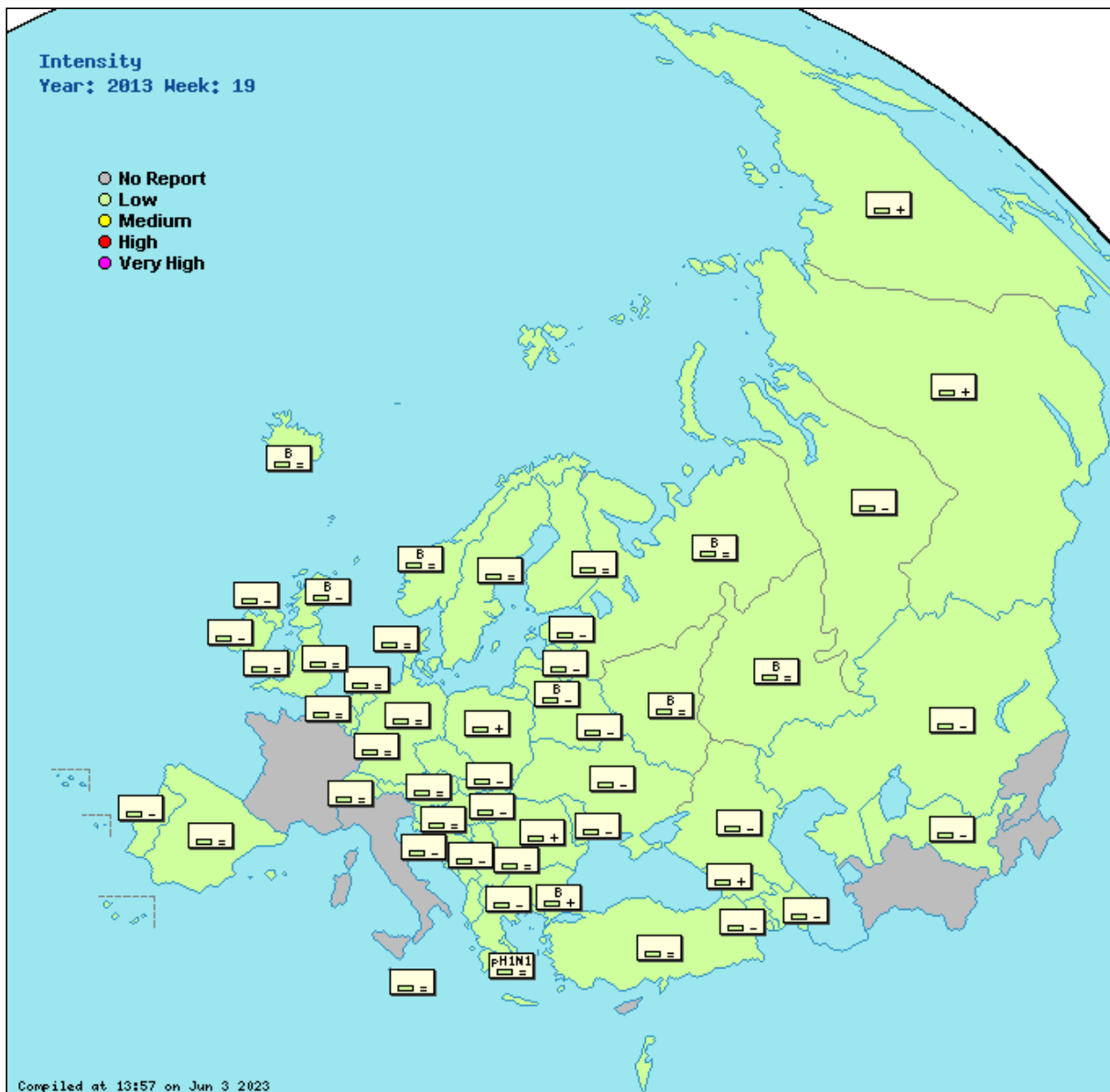
### Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  **+ virological**  **Geographical spread**  **+ virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Armenia	Low	None	Low	Decreasing	0	-	None		58.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	<a href="#">graphs</a>		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Decreasing	10	0%	None	111.5 ( <a href="#">graphs</a> )	<a href="#">graphs</a>		<a href="#">Click here</a>
Belarus	Low	None	Low	Decreasing				7.5 ( <a href="#">graphs</a> )	520.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	None		Stable	0	-	None	11.4 ( <a href="#">graphs</a> )	1043.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina	Low	Regional	Low	Decreasing			None	24.3 ( <a href="#">graphs</a> )	43.6 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Bulgaria	Low	Sporadic		Increasing	0	-	Type B	<a href="#">graphs</a>	360.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Low	Sporadic	Low	Decreasing			None	0.2 ( <a href="#">graphs</a> )	<a href="#">graphs</a>		<a href="#">Click here</a>
Czech Republic	Low	Sporadic		Stable				14.4 ( <a href="#">graphs</a> )	553.0 ( <a href="#">graphs</a> )		<a href="#">Click here</a>

Denmark	Low	None		Stable	0	-	None	6.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Estonia	Low	Sporadic		Decreasing	1	0%	None	3.4 ( <a href="#">graphs</a> )	182.7 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Georgia	Low	Regional	Low	Increasing	5	60.0%	None	194.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	sari <a href="#">Click here</a>
Germany	Low	Sporadic		Stable				( <a href="#">graphs</a> )	594.6 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Greece	Low	Sporadic		Stable	1	0%	Type A, Subtype pH1N1	14.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Hungary	Low	None	Low	Decreasing	3	0%		11.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Iceland					0	-	Type B	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	None	Low	Stable				3.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	None	Low	Decreasing	2	0%	None	58.0 ( <a href="#">graphs</a> )	6.5 ( <a href="#">graphs</a> )	sari <a href="#">Click here</a>
Kyrgyzstan					1	0%	None	( <a href="#">graphs</a> )		sari <a href="#">Click here</a>
Latvia	Low	Sporadic		Decreasing	0	-	None	2.1 ( <a href="#">graphs</a> )	498.0 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Lithuania	Low	Sporadic	Low	Decreasing	2	100.0%	Type B	1.4 ( <a href="#">graphs</a> )	374.4 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Luxembourg	Low	None	Low		1	0%		0 * ( <a href="#">graphs</a> )	16.1 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia					0	-	None	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Malta	Low	Local	Low	Stable				0.7 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				2.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Netherlands	Low	None		Stable	2	0%	None	21.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Northern Ireland	Low	Sporadic		Decreasing	2	0%	None	8.5 ( <a href="#">graphs</a> )	273.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	1	100.0%	Type B	19.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Poland	Low	None	Low	Increasing	0	-	None	120.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Portugal	Low	None		Decreasing				0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Decreasing	0	-	None	( <a href="#">graphs</a> )	73.2 ( <a href="#">graphs</a> )	sari <a href="#">Click here</a>
Romania	Low	None	Low	Increasing	0	-	None	0.6 ( <a href="#">graphs</a> )	417.9 ( <a href="#">graphs</a> )	sari <a href="#">Click here</a>
Russian Federation	Low	Sporadic		Stable	24	0%	Type B	0.2 ( <a href="#">graphs</a> )	319.7 ( <a href="#">graphs</a> )	sari <a href="#">Click here</a>
Serbia	Low	None	Low	Stable	0	-	None	8.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	sari <a href="#">Click here</a>
Slovakia	Low	Sporadic	Low	Decreasing	0	-	None	62.0 ( <a href="#">graphs</a> )	930.2 ( <a href="#">graphs</a> )	sari <a href="#">Click here</a>
Slovenia	Low	Sporadic		Stable	1	0%	None	0.0 ( <a href="#">graphs</a> )	618.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Spain	Low	None		Stable	16	6.3%	None	5.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Sweden	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Switzerland	Low	None		Stable				9.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Turkey	Low	Sporadic	Low	Stable	4	0%	None	65.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Ukraine	Low	Sporadic	Low	Decreasing	4	0%	None	2.5 * ( <a href="#">graphs</a> )	192.1 ( <a href="#">graphs</a> )	sari <a href="#">Click here</a>
Uzbekistan	Low	None	Low	Decreasing	3	0%	None	( <a href="#">graphs</a> )	17.0 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Europe					83	9.6%				<a href="#">Click here</a>

#### Preliminary data

**Intensity:** Low = no influenza activity or influenza activity at baseline level; Medium= usual levels of influenza activity; High = higher than usual levels of influenza activity; Very high = particularly severe levels of influenza activity.

**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = appearing in multiple but <50% of the administrative units of the country (or reporting sites); Widespread = appearing in ≥50% of the administrative units of the country (or reporting sites).

**Impact:** Low = demands on health-care services are not above usual levels; Moderate = demands on health-care services are above the usual demand levels but still below the maximum capacity of those services; Severe = demands on health care services exceed the capacity of those services.

**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity is decreasing compared with the previous week.

**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

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# Influenza activity returns to out-of-season levels in the WHO European Region



## Summary, week 20/2013

Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI), as well as hospitalization rates for severe acute respiratory infection (SARI), returned to out-of-season levels in the WHO European Region, with most countries reporting no influenza activity during week 20/2013. The percentages of sentinel samples from ILI, ARI and SARI surveillance that test positive for influenza remained low. For information about human infections with avian influenza A(H7N9) virus in China please click [here](#).



*The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.*

For a description of influenza surveillance in the WHO European Region see [below](#).

## Contents

- [Virological surveillance for influenza](#)
- [Outpatient surveillance](#)
- [Hospital surveillance](#)
- [Respiratory syncytial virus \(RSV\)](#)
- [EuroMOMO \(European Mortality Monitoring Project\)](#)
- [Description of influenza surveillance](#)
- [Country comments](#)
- [Country data and graphs](#)

## Virological surveillance for influenza

During week 20/2013, only 189 specimens tested positive for influenza, with influenza B being detected in 63% of cases, as observed in previous weeks (Fig. 1). For total weekly influenza detections (sentinel and non-sentinel), the proportion of influenza A viruses in relation to influenza B has gradually decreased since week 03/2013, when type A viruses represented 76% of the total.

Of the 31 influenza A viruses that were subtyped during week 20/2013, 9 (29%) were influenza A(H1N1)pdm09 and 22 (71%) influenza A(H3N2) (Fig. 2a). Since the beginning of the season (week 40/2012), 95 628 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Cumulatively, 59 781 viruses (63%) were influenza A and 35 847 (37%) influenza B (Fig. 2b). Cumulatively, influenza A has been the most commonly detected virus since week 47/2012. Of the 38 494 influenza A viruses that have been subtyped, 25 563 (67%) were A(H1N1)pdm09 and 12 931 (33%) were A(H3N2).

In addition, the lineage for 5883 influenza B viruses has been determined: 5399 (92%) belonged to the B/Yamagata lineage and 484 (8%) to B/Victoria.

Owing to the low number of viruses detected during week 20/2013, only a few countries reported on dominant virus type: influenza B in Georgia, Norway and the Russian Federation, and influenza A in Greece, with the United Kingdom (Scotland) reporting co-circulation of influenza A and B (Map 1).

## Virus strain characterizations

For the 2012/2013 northern hemisphere influenza season, WHO recommends inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Victoria/361/2011 (H3N2)-like and B/Wisconsin/1/2010-like (from the B/Yamagata lineage) viruses in vaccines (see more at the [WHO headquarters](#) web site).

For the recommendations for the 2013/2014 northern hemisphere influenza season (see the [WHO headquarters](#) web site).

## Virus strain characterizations

Influenza viruses are monitored each season for antigenic and genetic characteristics, to determine the extent to which they correspond with the viruses included in the seasonal influenza vaccine as well as the occurrence of mutations that affect pathogenicity or that are associated with susceptibility to antiviral drugs.

Since week 40/2012, 5732 influenza viruses characterized antigenically by 17 countries (Austria, Bulgaria, the Czech Republic, Denmark, Germany, Greece, Italy, Latvia, Portugal, the Republic of Moldova, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Switzerland and the United Kingdom (England and Scotland)). The great majority corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). The United Kingdom characterized 1437 of these viruses (25%). Scotland reported on 499 (30%) of the 1683 A/Victoria/361/2011 (H3N2)-like viruses characterized this season. 16 countries (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 1676 influenza viruses genetically (Fig. 4).

Fig. 3. Cumulative virus strain characterizations - antigenic (1)

weeks 40/2012 - 20/2013

[Total N = 112]



	A(H1N1)pdm09 A/California/7/2009 (H1N1)-like*# [30]
	A(H3) A/Perth/16/2009 (H3N2)-like [0]
	A(H3) A/Victoria/361/2011 (H3N2)-like*# [13]
	B/Florida/4/2006-like (B/Yamagata/16/88 lineage) [0]
	B/Estonia/55669/2011-like (B/Yamagata/16/88 lineage) [37]
	B/Wisconsin/1/2010-like (B/Yamagata/16/88 lineage)*# [26]
	B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) [8]

(1) Sentinel and non-sentinel specimens combined

Compiled at 13:56 on Jun 3 2023

# Included in the WHO-recommended composition of influenza virus vaccines for use in the [2011/2012 northern hemisphere influenza season](#).

\* Included in the WHO-recommended composition of influenza virus vaccines for use in the [2012 southern hemisphere influenza season](#).

Both A(H1N1)pdm09 and A(H3N2) viruses have evolved to fall into a number of different genetic groups, which are all antigenically similar to their prototype viruses, egg-propagated A/California/7/2009 and cell-propagated A/Victoria/361/2011, respectively. However, the A/Victoria/361/2011 egg-propagated vaccine virus has egg-induced antigenic changes compared with the cell-propagated A/Victoria/361/2011 virus. Influenza B viruses of the B/Victoria/2/87 and the B/Yamagata/16/88 lineages are co-circulating in the Region with dominance of the B/Yamagata lineage viruses (~90%). Influenza B viruses of the B/Victoria lineage all fall within the B/Brisbane/60/2008 genetic clade and are antigenically indistinguishable. B/Yamagata lineage viruses fall into two distinct genetic clades, represented by B/Estonia/55669/2011 (Clade 2) and B/Wisconsin/1/2010 (Clade 3), respectively, with the proportion of viruses in Clade 2 markedly increasing. Viruses in these clades can be distinguished antigenically from each other by some post-infection ferret antisera, but remain antigenically similar to the current vaccine virus, B/Wisconsin/1/2010.

### Monitoring of susceptibility to antiviral drugs

Cumulatively since week 40/2012, 13 countries (Denmark, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom) have screened 1540 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 743 A(H1N1)pdm09 viruses tested, 730 showed susceptibility to both drugs while 13 viruses (2%) carried the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir. Of these 13 viruses, 1 from the Russian Federation was detected in a hospitalized patient not exposed to oseltamivir through treatment; 1 from Germany was detected in a hospitalized patient with unknown exposure to the neuraminidase inhibitors; 2 viruses from the United Kingdom were detected in outpatients not exposed to oseltamivir through treatment; 6 viruses were detected in hospitalized patients exposed to oseltamivir through treatment (1 from Denmark, 4 from Germany and 1 from Sweden) and 3 viruses were detected in hospitalized immunocompromised patients exposed to oseltamivir through treatment (2 from the Netherlands and 1 from Switzerland).

The 378 influenza A(H3N2) viruses tested showed susceptibility to both drugs. Of the 419 influenza B viruses tested, 418 showed susceptibility to both drugs; 1 virus showing reduced inhibition by oseltamivir, and normal inhibition by zanamivir, was detected in the United Kingdom in an outpatient without exposure to antiviral treatment. There is no indication of the spread of resistant viruses.

The 110 influenza A(H1N1)pdm09 and 55 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

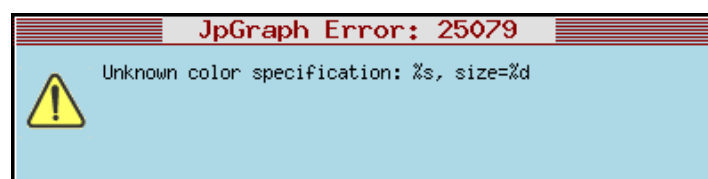
### Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

For week 20/2013, all countries in the Region reported low influenza activity (Map 2). As for the two previous weeks, most countries reported no or sporadic influenza activity in week 20/2013 (Map 3).

ILI and ARI consultation rates were below the national baselines or at pre-season levels in all countries reporting clinical data during week 20/2013.

Click on the maps for more detailed information.

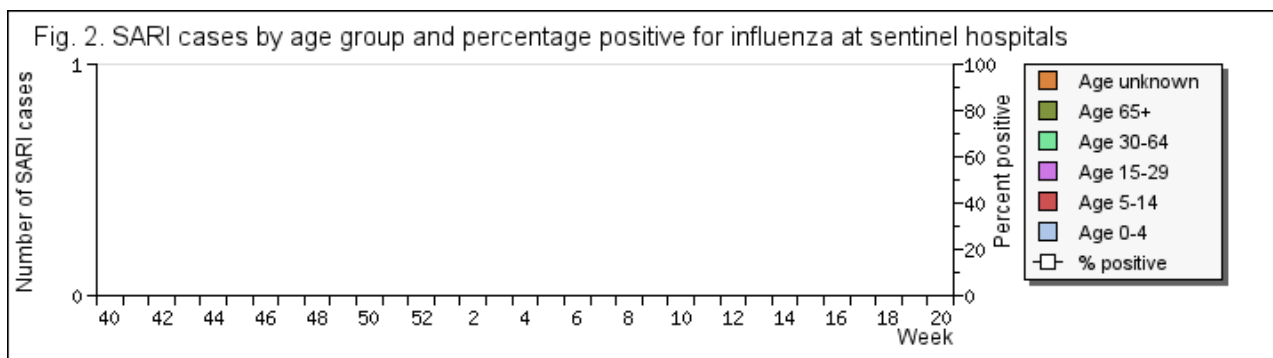
For week 20/2013, the number of sentinel specimens tested and the percentage testing positive for influenza remained low: out of 173 sentinel specimens tested, 6 (3.5%) were positive for influenza (Fig. 5). This decreasing trend has continued since the peak for the season, around week 07/2013.



Of the 6 influenza-positive specimens from sentinel sources, 4 (66%) were influenza B (Fig. 6a). Influenza B has been prevalent for several weeks in countries where circulation of A(H1N1)pdm09 has decreased. Fig. 6b gives a detailed overview of cumulative influenza virus detections by type and subtype since week 40/2012. [Click here](#) for a detailed overview in a table format.

### Hospital surveillance for SARI

In week 20/2013 the number of SARI hospitalizations, along with the influenza positivity rate among cases, remained at low levels in the countries taking part in hospital surveillance for SARI (Fig. 7).



For week 20/2013, 5 countries (Armenia, Georgia, Romania, the Russian Federation and Ukraine) reported a total of 16 influenza detections, with 15 (94%) of them being influenza B, in line with the detections reported from outpatient surveillance (Fig. 8a). Since week 40/2012, 7310 SARI specimens have been collected and tested for influenza. [Click here](#) for a detailed overview in table format.

Among the countries reporting on hospitalization of severe influenza cases to the European Centre for Disease Prevention and Control (ECDC), 11 such cases were reported for weeks 19-20 /2013. For more information on surveillance of confirmed hospitalized influenza, please see ECDC's Weekly Influenza Surveillance Overview (WISO) at [European Centre for Disease Prevention and Control](#) web site.

### Respiratory syncytial virus (RSV)

Based on the data presented by countries reporting on RSV, the positivity rate peaked in week 52/2012, after which the number of detections has continued to decrease gradually (see [Country data and graphs](#) for individual country data).

### EuroMOMO (European Mortality Monitoring Project)

EuroMOMO is a project set up to develop and operate a routine public health mortality monitoring system to detect and measure, on a real-time basis, excess deaths related to influenza and other possible public health threats across 20 European Union (EU) countries.

Pooled analysis of data for week 20/2013, based on 14 countries or regions, showed a sustained winter peak of excess all-cause mortality among those aged 65 years and older. Excess mortality started in week 01/2013, peaked in week 10/2013 but has been around normal levels since week 17/2013. Cumulative winter excess mortality among older people (cumulated from week 40/2012 to week 19/2013) showed excess mortality levels higher than those seen in the past three winters. The mortality pattern may be explained by the pattern of influenza activity this season in Europe, but other factors such as the long, cold winter may also have contributed. Results of pooled analysis may vary, depending on which countries are included in the weekly analysis. For more information about the EUROMOMO mortality monitoring system please click [here](#).

### Description of influenza surveillance

Most of the 53 Member States of the WHO European Region monitor influenza activity through surveillance of ILI and/or ARI in primary care clinics, with some countries also conducting hospital-based surveillance for severe disease. Surveillance data in the Region are collected from sentinel and non-sentinel systems. Sentinel data come from a network of designated clinicians who routinely and systematically collect respiratory specimens from ILI, ARI or SARI cases according to standard case definitions. Non-sentinel data come from a variety of other sources, including community outbreaks, general practitioners and hospitals that are not part of the sentinel surveillance system for influenza and may not use a standard case definition for ILI, ARI or SARI. The EuroFlu bulletin collates and interprets epidemiological and virological data from the different surveillance systems in the Region, to provide information on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating influenza viruses according to influenza type and subtype (A(H3N2) and A(H1N1)pdm09) or lineage (B/Victoria or B/Yamagata), and severity. In addition, influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic and genetic similarity to the viruses included in the seasonal influenza vaccine and the prevalence of mutations that affect pathogenicity or are associated with reduced susceptibility to antiviral drugs.

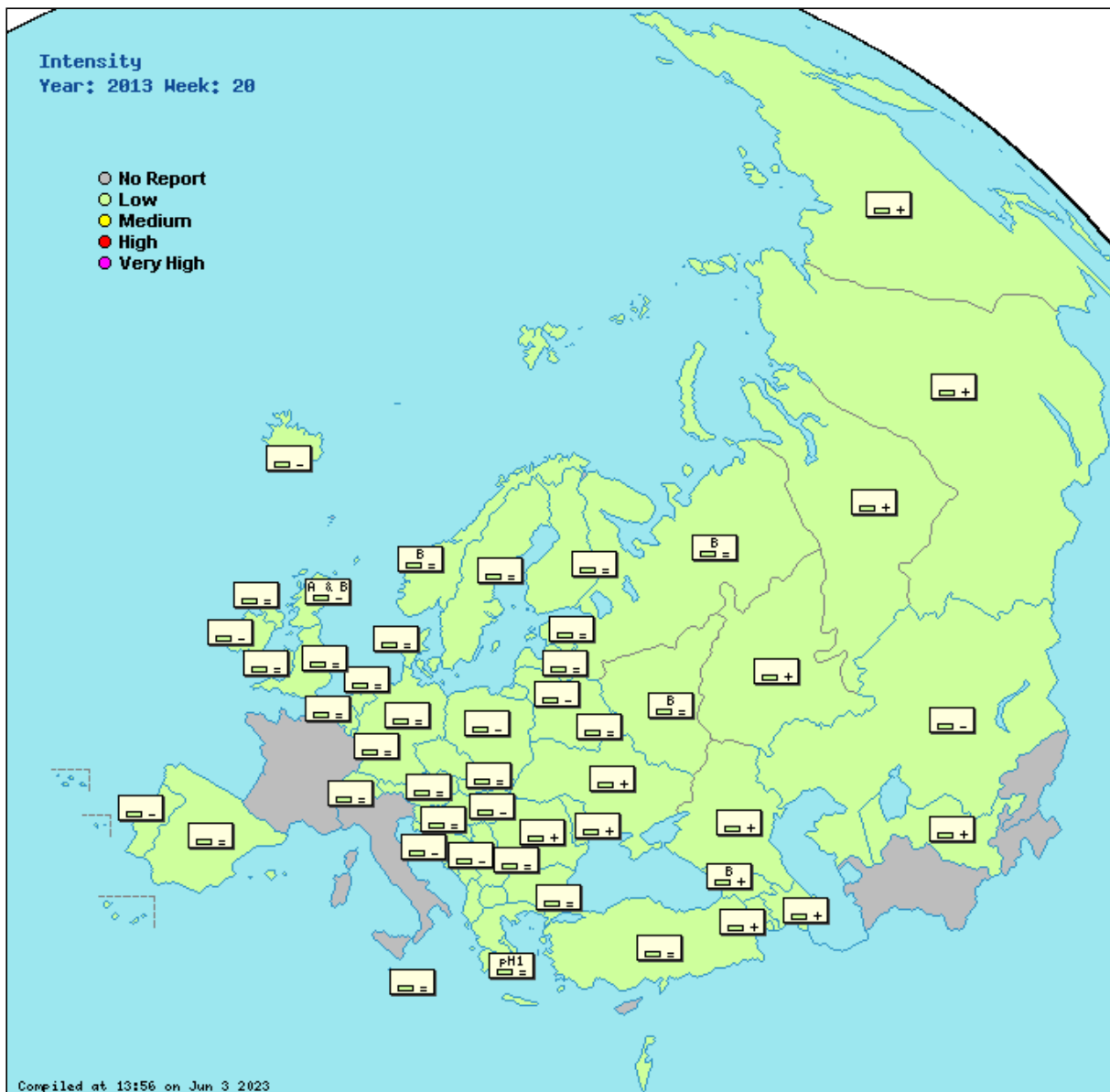
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map :  Intensity  + virological  Geographical spread  + virological  Impact



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Albania	Low	None	Low	Stable					343.6 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Armenia	Low	None	Low	Increasing	1	0%	None		72.9 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Azerbaijan	Low	Sporadic	Low	Increasing	7	14.3%	None	177.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Belarus	Low	None	Low	Stable				7.9 ( <a href="#">graphs</a> )	497.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	None		Stable	0	-	None	5.9 ( <a href="#">graphs</a> )	1475.0 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina							None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Bulgaria	Low	None		Stable	0	-	None	( <a href="#">graphs</a> )	416.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Croatia	Low	Sporadic	Low	Decreasing			None	1.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>



Czech Republic	Low	None		Stable				14.0 ( <a href="#">graphs</a> )	592.0 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Denmark	Low	None		Stable	0	-	None	5.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
England	Low	Sporadic		Stable	12	0%		3.2 ( <a href="#">graphs</a> )	235.3 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Estonia	Low	None		Stable	0	-	None	4.0 ( <a href="#">graphs</a> )	168.0 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Finland	Low	None		Stable	3	0%	None	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Georgia	Low	Regional	Low	Increasing	11	36.4%	Type B	222.4 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Germany	Low	None		Stable	8	0%	None	( <a href="#">graphs</a> )	738.5 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Greece	Low	Sporadic		Stable	2	50.0%	Type A, Subtype pH1	34.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Hungary	Low	None	Low	Decreasing	1	0%	None	9.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Iceland					0	-		( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	Sporadic	Low	Decreasing	1	0%	None	1.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Israel	Low	None	Low	Stable				2.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Kazakhstan	Low	None	Low	Decreasing	6	0%	None	59.3 ( <a href="#">graphs</a> )	3.4 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Kyrgyzstan					1	0%	None	29.7 ( <a href="#">graphs</a> )	5.4 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Latvia	Low	Sporadic		Stable	0	-	None	2.0 ( <a href="#">graphs</a> )	488.6 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Lithuania	Low	None	Low	Decreasing	2	0%	None	0.5 ( <a href="#">graphs</a> )	321.3 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Luxembourg	Low	None	Low		2	0%	None	0 * ( <a href="#">graphs</a> )	13.4 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Decreasing				0.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Malta	Low	Local	Low	Stable				0.2 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Netherlands	Low	None		Stable	4	0%	None	12.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Northern Ireland	Low	Sporadic		Stable	0	-	None	10.1 ( <a href="#">graphs</a> )	336.8 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Norway	Low	Sporadic		Stable	0	-	Type B	17.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	0	-	None	106.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Portugal	Low	None		Decreasing	0	-	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Increasing	2	0%	None	( <a href="#">graphs</a> )	104.4 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Romania	Low	None	Low	Increasing	0	-	None	0.3 ( <a href="#">graphs</a> )	442.2 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Russian Federation	Low	Sporadic		Increasing	53	0%	Type B	0.1 ( <a href="#">graphs</a> )	356.0 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Scotland	Low	Sporadic	Low	Decreasing	13	0%	Type A and B	5.4 ( <a href="#">graphs</a> )	328.0 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Serbia	Low	None	Low	Stable	0	-	None	10.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Slovakia	Low	Sporadic	Low	Stable	0	-	None	64.4 ( <a href="#">graphs</a> )	953.8 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Slovenia	Low	None		Stable	2	0%	None	0.0 ( <a href="#">graphs</a> )	555.7 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Spain	Low	None		Stable	6	0%	None	5.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Sweden	Low	Sporadic		Stable	2	0%	None	1.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Switzerland	Low	None		Stable				0.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Turkey	Low	Sporadic	Low	Stable	29	0%	None	74.9 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Ukraine	Low	None	Low	Increasing	4	0%	None	2.4 * ( <a href="#">graphs</a> )	247.0 ( <a href="#">graphs</a> )	<a href="#">sari</a> <a href="#">Click here</a>
Uzbekistan	Low	None	Low	Increasing	1	0%	None	( <a href="#">graphs</a> )	19.9 ( <a href="#">graphs</a> )	<a href="#">Click here</a>
Wales	Low	None		Stable	0	-	None	3.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">Click here</a>
Europe					173	3.5%				<a href="#">Click here</a>

#### Preliminary data

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**Percentage positive:** percentage of sentinel swabs that tested positive for influenza A or B

**Dominant type:** this assessment is based on data from sentinel and non-sentinel sources

**ARI:** acute respiratory infection

**ILI:** influenza-like illness

**Sentinel SARI:** severe acute respiratory illness

**Population:** per 100,000 population

\*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by the EISS Co-ordination Centre (Tamara Meerhoff, Liesbeth Meuwissen, Adam Meijer, John Paget, Koos van der Velden). It was reviewed by Dr. José Marinho Falcão (National Institute of Health, Lisbon, Portugal), Dr. Jan Kyncl (National Institute of Public Health, Prague, Czech Republic) and Dr. Jan de Jong (Erasmus Medical Centre, Rotterdam, the Netherlands) on behalf of the EISS Working Group. The bulletin text is also reviewed by the [European Centre for Disease Prevention and Control](#).

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# Influenza activity in Europe at out-of-season levels



Until week 40/2013, the EuroFlu bulletin will be published fortnightly.



- This is the first interseason report, based on data for weeks 21-22/2013, reported in weeks 21 and 22/2013 by 37 Member States in the WHO European Region.
- Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) were at low levels in all countries in the Region.
- Only 2 of the 98 specimens (2%) collected from sentinel sources tested positive for influenza.

## Outpatient surveillance for ILI and ARI

All of the 27 countries reporting data on intensity reported low intensity, with decreasing or stable trends in clinical activity overall. Only Romania reported increasing influenza activity during week 22/2013. Of the 28 countries reporting on the geographical spread of influenza, 21 reported no activity, 6 reported sporadic and 1, local activity.

During week 22/2013, sentinel outpatient clinics collected 98 respiratory specimens, 2 of which (2%) tested positive for influenza viruses, both influenza B.

## Hospital surveillance for SARI

8 countries reported data for hospital-based sentinel surveillance of SARI in weeks 21-22/2013: Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Slovakia and Ukraine. 25 respiratory specimens were collected from SARI patients, 1 of which tested positive for influenza B.

## Virological overview

Specimens from non-sentinel sources yielded 36 influenza detections in week 22/2013: 12 type A (4 A(H3), 2 A (H1N1)pdm09 and 6 A not subtyped) and 24 influenza B.

Since week 21/2013, a total of 116 influenza virus detections had been reported: 39 were influenza A (34%) and 77 (66%) were influenza B. Of the influenza A viruses, 27 (69%) were subtyped; 7 were A(H1N1)pdm09 and 20, A(H3).

## Comment

Influenza activity is at out-of-season levels throughout the European Region. 2% of the samples collected from sentinel sources were positive for influenza virus, indicating low influenza activity.

## Further information

The EuroFlu bulletin describes and comments on influenza activity in the 53 Member States in the WHO European Region to provide information to public health specialists, clinicians and the public on the timing of the influenza season, the spread of influenza, the prevalence and characteristics of circulating viruses (type, subtype and lineage) and severity.

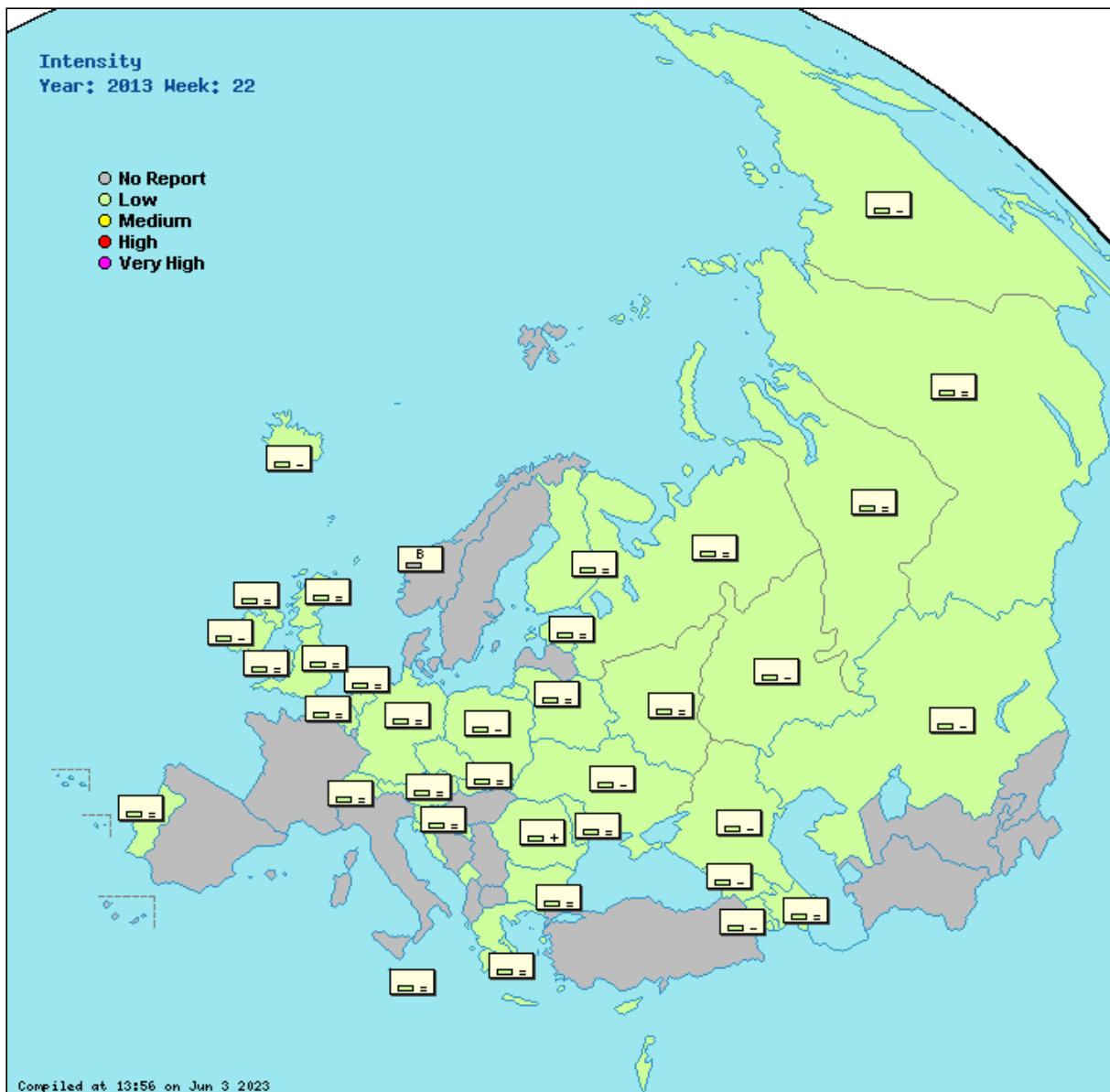
## Map

The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity**  + **virological**  **Geographical spread**  + **virological**  **Impact**



**A** = Dominant virus A  
**H1N1** = Dominant virus A(H1N1)  
**H3N2** = Dominant virus A(H3N2)  
**H1N2** = Dominant virus A(H1N2)  
**B** = Dominant virus B  
**A & B** = Dominant virus A & B

= : stable clinical activity  
 + : increasing clinical activity  
 - : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels  
**Medium** = usual levels of influenza activity  
**High** = higher than usual levels of influenza activity  
**Very high** = particularly severe levels of influenza activity

**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.

## Country comments (where available)

## Table and graphs (where available)

	Intensity	Geographic Spread	Impact	Trend	Sentinel swabs	Percentage positive	Dominant type	ILI per 100,000	ARI per 100,000	Sentinel SARI	Virology graph and pie chart
Armenia					0	-	None		<a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Austria	Low	None		Stable	0	-	None	0.0 <a href="#">(graphs)</a>	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Azerbaijan	Low	None	Low	Stable	1	0%	None	163.2 <a href="#">(graphs)</a>	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Belarus	Low	None	Low	Decreasing				8.7 <a href="#">(graphs)</a>	483.9 <a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Belgium	Low	None		Stable	2	0%	None	8.4 <a href="#">(graphs)</a>	1374.8 <a href="#">(graphs)</a>	<a href="#">sari</a>	<a href="#">Click here</a>
Bosnia and Herzegovina							None	<a href="#">(graphs)</a>			<a href="#">Click here</a>
Bulgaria	Low	None		Stable	0	-	None	<a href="#">(graphs)</a>	353.3 <a href="#">(graphs)</a>		<a href="#">Click here</a>
Croatia	Low	Sporadic	Low	Decreasing				0.1 <a href="#">(graphs)</a>	<a href="#">(graphs)</a>		<a href="#">Click here</a>
Cyprus	Low	None	Low	Stable				0* <a href="#">(graphs)</a>	2.7* <a href="#">(graphs)</a>		<a href="#">Click here</a>

Denmark					0	-	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
England	Low	Sporadic		Stable	2	0%		1.7 ( <a href="#">graphs</a> )	181.2 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Estonia	Low	None		Stable	1	0%	None	4.6 ( <a href="#">graphs</a> )	165.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Finland					0	-	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Georgia	Low	Sporadic	Low	Decreasing	11	18.2%	None	194.7 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Germany	Low	None		Stable	4	0%	None	( <a href="#">graphs</a> )	648.3 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Greece	Low	None		Stable	0	-	None	22.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Ireland	Low	Sporadic	Low	Decreasing	3	0%	None	1.1 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Israel	Low	None	Low	Stable				2.1 ( <a href="#">graphs</a> )			<a href="#">Click here</a>
Kazakhstan	Low	None	Low	Decreasing	4	0%	None	56.6 ( <a href="#">graphs</a> )	1.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Kyrgyzstan					0	-	None		( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Latvia					0	-	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Lithuania	Low	None	Low	Stable	1	0%	None	0.1 ( <a href="#">graphs</a> )	232.1 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Malta	Low	Local	Low	Stable				0.3 * ( <a href="#">graphs</a> )	0 * ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Montenegro	Low	None	Low	Stable				0.5 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Netherlands	Low	None		Stable	5	0%	None	21.2 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Northern Ireland	Low	Sporadic		Stable	2	0%	None	7.2 ( <a href="#">graphs</a> )	256.8 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Norway		Sporadic			0	-	Type B	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Poland	Low	None	Low	Decreasing	0	-	None	91.6 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Portugal	Low	None		Stable	0	-	None	0.0 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Republic of Moldova	Low	None	Low	Stable	0	-	None	( <a href="#">graphs</a> )	67.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Romania	Low	None	Low	Increasing	0	-	None	0.0 ( <a href="#">graphs</a> )	508.5 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Russian Federation	Low	Sporadic		Stable	56	0%	None	0.1 ( <a href="#">graphs</a> )	323.3 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Scotland	Low	Sporadic	Low	Stable	0	-	None	3.8 ( <a href="#">graphs</a> )	299.9 ( <a href="#">graphs</a> )		<a href="#">Click here</a>
Slovakia	Low	None	Low	Stable	0	-	None	68.3 ( <a href="#">graphs</a> )	1076.2 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Slovenia					0	-	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Sweden					0	-	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Switzerland	Low	None		Stable				4.8 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Turkey					1	0%	None	( <a href="#">graphs</a> )			<a href="#">Click here</a>
Ukraine	Low	None	Low	Decreasing	5	0%	None	1.7 * ( <a href="#">graphs</a> )	226.7 ( <a href="#">graphs</a> )	<a href="#">sari</a>	<a href="#">Click here</a>
Wales	Low	None		Stable				2.3 ( <a href="#">graphs</a> )	( <a href="#">graphs</a> )		<a href="#">Click here</a>
Europe					98	2.0%					<a href="#">Click here</a>

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