Low influenza activity in the WHO European Region

Summary, week 40/2013

This is the first bulletin of the 2013/2014 season. 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. None of the sentinel and non-sentinel influenza-like illness (ILI)/acute respiratory infection (ARI) specimens and severe acute respiratory infection (SARI) specimens tested was 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

During week 40/2013, a total of 150 specimens was tested for influenza, but none was positive (Fig. 2).

As no influenza viruses were detected during week 40/2013, only 7 countries reported on dominant virus type (as none) (Map 1).

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

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A(H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011*and B/Massachusetts/2/2012-like viruses in vaccines (see the WHO headquarters web site).

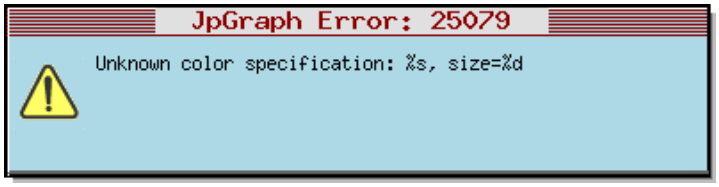
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 40/2013, all reporting countries in the Region reported low influenza activity (Map 2) with most of the countries reporting a stable trend (Map 4) with mainly no or sporadic influenza activity (Map 3), which is usual for this time of year.

ILI and ARI consultation rates were below the national baselines or at pre-season levels in all countries reporting clinical data during week 40/2013.

Click on the maps for more detailed information.

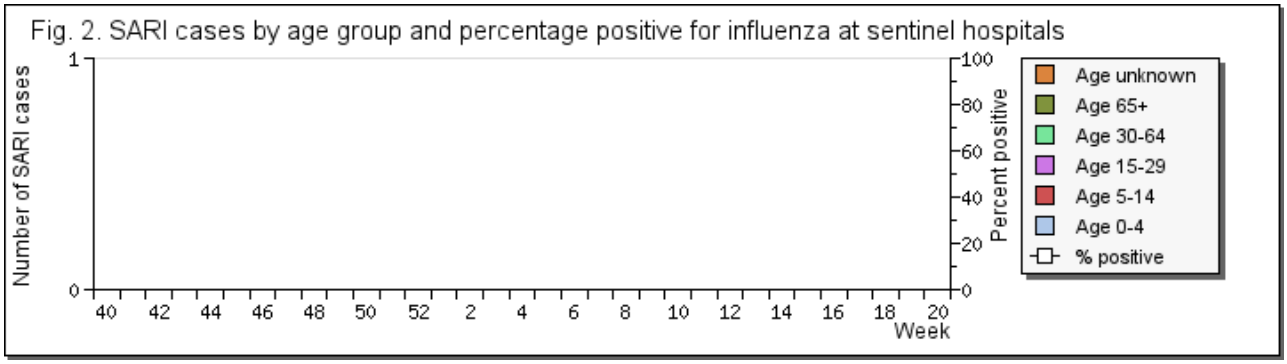
The proportion of ILI and ARI cases testing positive for influenza in the Region is low; none of the sentinel samples tested was positive (Fig. 5).



None of the 37 specimens collected from sentinel sources tested positive during week 40/2013. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

In week 40/2013 the number of SARI hospitalizations was at pre-season levels in Armenia, Belarus, Georgia, Kazakhstan, Republic of Moldova, Russian Federation, Serbia and Ukraine: countries that submitted data during week 40/2013 and took part in hospital surveillance for SARI (Fig. 7).



None of 31 SARI samples collected in Belarus, Georgia and Kazakhstan tested positive for influenza during week 40/2013. 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.

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.

Analysis of pooled data from 16 countries or regions showed that overall all-cause mortality has been - apart from excess mortality peaks in single countries during the summer period - around normal levels since the end of the winter season 2012/2013. 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.

'Erratum: the number of samples testing positive for influenza from sentinel and non-sentinel sources is not correct. The actual data are: 3 viruses from sentinel sources and 15 from non-sentinel were positive for influenza`.

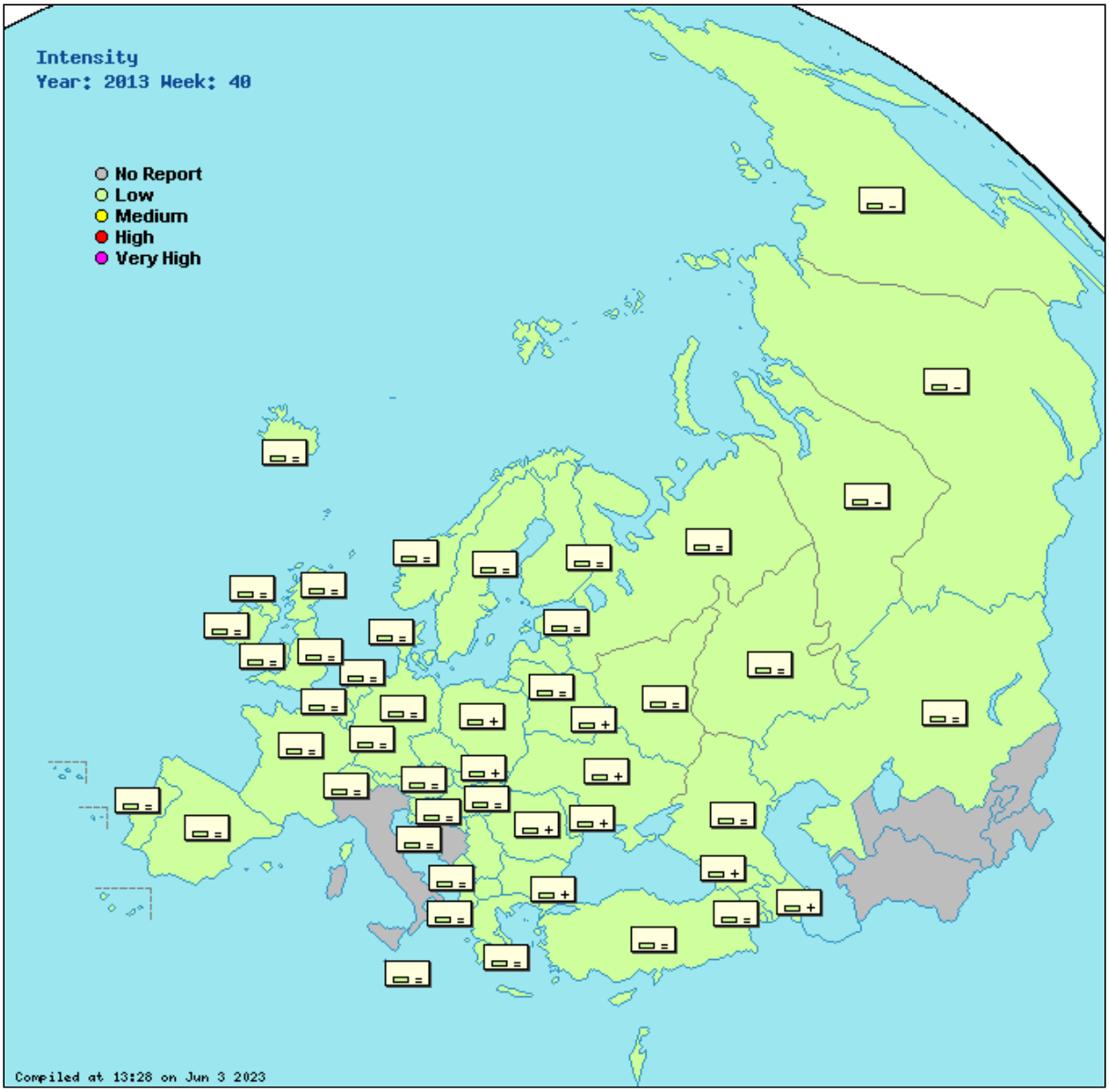
Map

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)

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					364.7 (graphs)	sari	Click here
Armenia	Low	None	Low	Stable					58.7 (graphs)	sari	Click here
Austria	Low	None		Stable				532.6 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Increasing	0	-	None	177.9 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Increasing	22	0%	None	12.4 (graphs)	1026.1 (graphs)	sari	Click here
Belgium	Low	None		Stable				13.8 (graphs)	1805.9 (graphs)	sari	Click here
Bosnia and Herzegovina							None	(graphs)			Click here
Bulgaria	Low	None		Increasing				(graphs)	529.4 (graphs)		Click here
Cyprus	Low	None	Low	Stable				0.2 * (graphs)	4.2 * (graphs)		Click here
Denmark	Low	None		Stable				17.2 (graphs)	(graphs)		Click here
England	Low	None		Stable				2.7 (graphs)	188.1 (graphs)		Click here

Estonia	Low	None		Stable				6.4 (graphs)	239.4 (graphs)		Click here
Finland	Low	None		Stable				(graphs)			Click here
France	Low	Sporadic	Low	Stable				(graphs)	1566.9 (graphs)		Click here
Georgia	Low	None	Low	Increasing	9	0%	None	266.9 (graphs)	(graphs)	sari	Click here
Germany	Low	None		Stable				(graphs)	924.7 (graphs)		Click here
Greece	Low	None		Stable				96.4 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable				54.7 (graphs)	(graphs)		Click here
Ireland	Low	None	Low	Stable				4.3 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Stable				3.6 (graphs)			Click here
Kazakhstan					6	0%	None		(graphs)	sari	Click here
Latvia	Low	None						0.0 (graphs)	1073.8 (graphs)		Click here
Lithuania	Low	Sporadic	Low	Stable				0.5 (graphs)	625.4 (graphs)		Click here
Luxembourg	Low	None						0 * (graphs)	24.7 * (graphs)		Click here
Malta	Low	Local	Low	Stable				0.3 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Stable				1.3 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable				17.4 (graphs)	(graphs)		Click here
Norway	Low	Sporadic		Stable				18.4 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Increasing				243.8 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable				0.0 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Increasing	0	-	None	(graphs)	263.7 (graphs)	sari	Click here
Romania	Low	None	Low	Increasing				1.1 (graphs)	794.1 (graphs)	sari	Click here
Russian Federation	Low	None		Stable			None	0.1 (graphs)	613.6 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable				5.8 (graphs)	360.7 (graphs)		Click here
Serbia	Low	None	Low	Stable				17.2 (graphs)	(graphs)	sari	Click here
Slovakia	Low	None	Low	Increasing				154.2 (graphs)	1754.8 (graphs)	sari	Click here
Slovenia	Low	None		Stable				0.0 (graphs)	786.2 (graphs)		Click here
Spain	Low	None		Stable				6.0 (graphs)	(graphs)		Click here
Sweden	Low	None		Stable				4.6 (graphs)	(graphs)		Click here
Ukraine	Low	None	Low	Increasing				2.7 * (graphs)	444.0 (graphs)	sari	Click here
Wales	Low	None		Stable				5.4 (graphs)	(graphs)		Click here
Europe					37	-					Click here

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.

Low influenza activity in the Europe

Summary, week 41/2013

Influenza activity was at low levels in all countries that reported data in week 41. In all countries with established epidemic thresholds, consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) were reported to be below the national thresholds. None of the specimens from cases of severe acute respiratory infection (SARI) that were collected through hospital surveillance, and tested for influenza, was positive. Most countries reported no influenza activity and the percentage of samples testing positive was very low (<1%), indicating no significant influenza activity in the WHO European 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

During week 41/2013, a total of 3931 specimens was tested for influenza, 19 (0.5%) of which were positive: 14 (74%) were positive for influenza A and 5 (26%) for influenza B (Fig 1).

Of the 11 influenza A viruses that were subtyped during week 41/2013, 3 were A(H1N1)pdm09 and 8 A(H3N2) viruses (Fig. 2a).

Since very few influenza viruses were detected during week 41/2013, 32 countries reported "none" in the dominant virus type category (Map 1).

Virus strain characterizations

Circulating 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.

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

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A(H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011 and B/Massachusetts/2/2012-like viruses in vaccines (see the WHO headquarters web site).

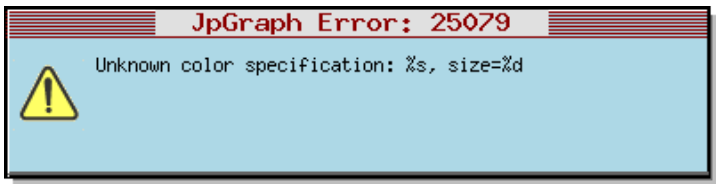
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 41/2013, all reporting countries in the Region reported low influenza activity (Map 2) with most reporting stable trends (Map 4) with mainly no or sporadic influenza activity (Map 3), which is usual for this time of year.

Similar to week 40, ILI and ARI consultation rates were below the national baselines or at interseason levels in all countries reporting clinical data during week 41/2013.

Click on the maps for more detailed information.

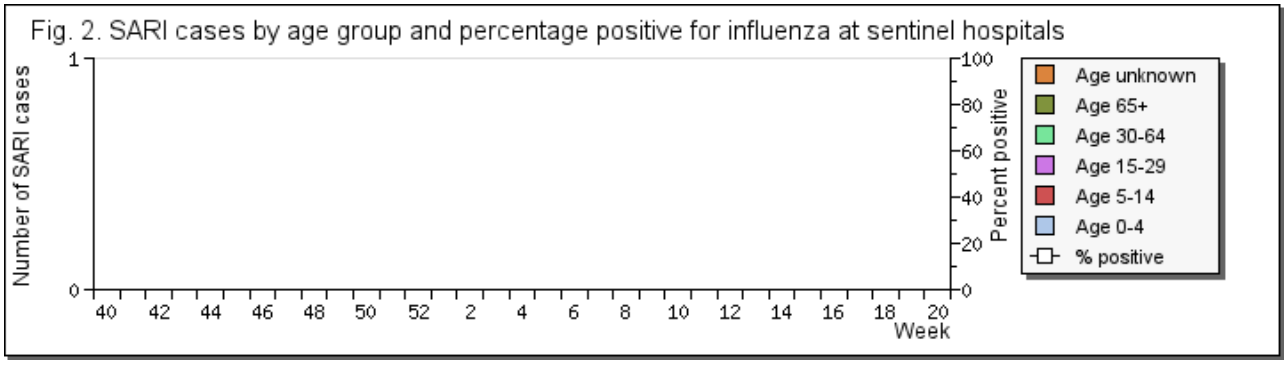
For week 41/2013, the proportion of ILI and ARI cases testing positive for influenza in the Region was low; with only 1 sentinel sample testing positive (Fig. 5).



1 of the 350 specimens collected from sentinel sources tested positive for influenza A during week 41/2013. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

7 countries (Armenia, Belarus, Georgia, Kyrgyzstan, Republic of Moldova, Russian Federation and Ukraine) taking part in hospital surveillance for SARI reported hospitalizations to be at interseason levels in week 41/2013 (Fig.7).This is typical for this time of the year.



None of the 68 SARI samples collected in Belarus, Georgia, Kazakhstan, Republic of Moldova, Russian Federation and Ukraine tested positive for influenza during week 41/2013. 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.

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 41/2013 showed that all-cause mortality was within the normal range for all reporting countries. 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.

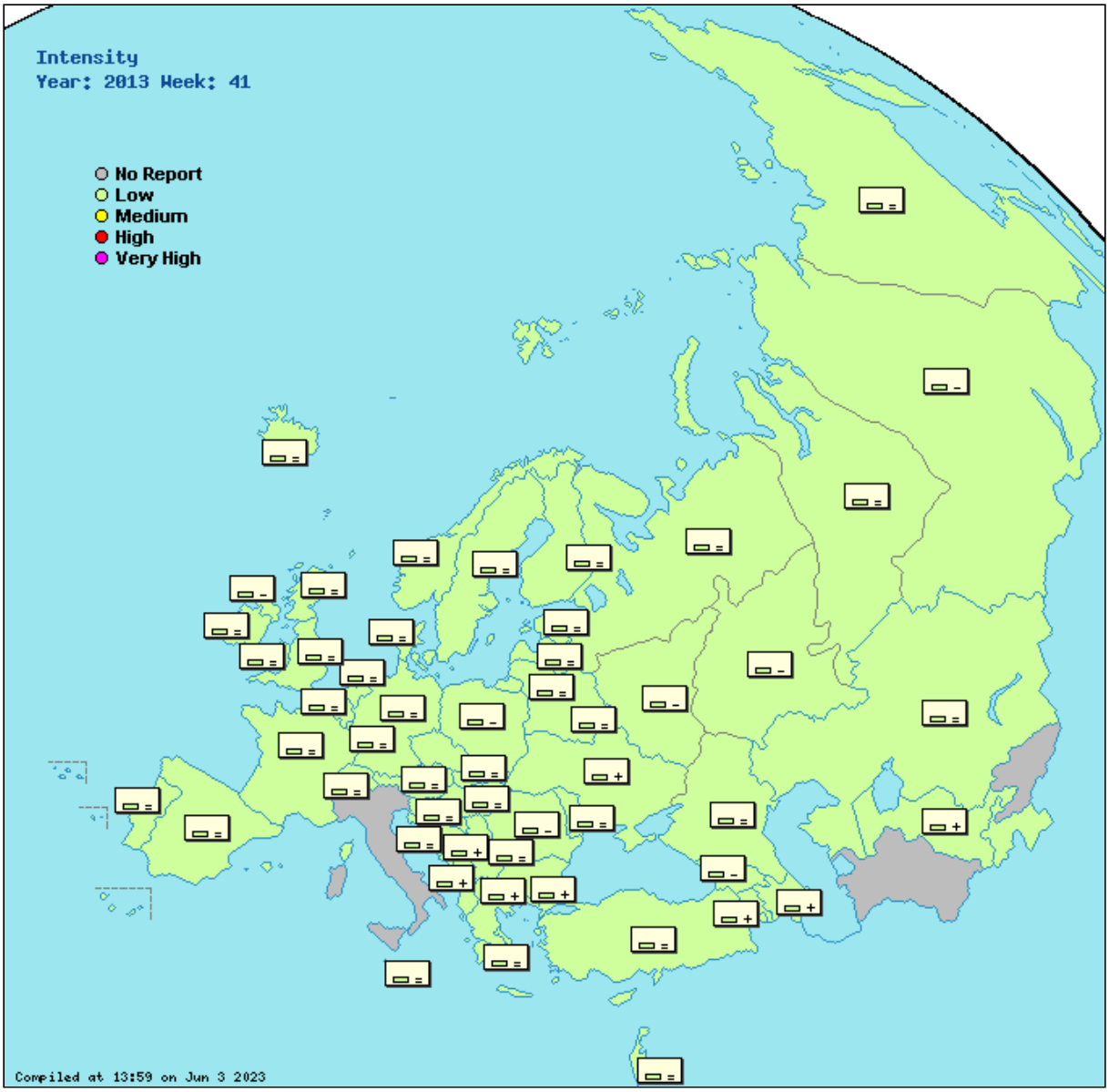
Map

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 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)

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		71.7 (graphs)	sari	Click here
Austria	Low	None		Stable	0	-	None	638.3 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Increasing	1	0%	None	185.4 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Stable	24	0%	None	13.0 (graphs)	976.8 (graphs)	sari	Click here
Belgium					19	0%	None	(graphs)		sari	Click here
Bosnia and Herzegovina	Low	None	Low	Increasing			None	26.7 (graphs)	97.5 (graphs)		Click here
Bulgaria	Low	None		Increasing	0	-	None	(graphs)	626.4 (graphs)		Click here
Cyprus	Low	None	Low	Stable				1.0 * (graphs)	6.6 * (graphs)		Click here
Czech Republic	Low	None		Stable				21.6 (graphs)	815.1 (graphs)		Click here
Denmark	Low	None		Stable	0	-	None	17.6 (graphs)	(graphs)		Click here
England	Low	None		Stable	20	0%	None	4.0 (graphs)	219.4 (graphs)		Click here

Estonia	Low	None		Stable	1	0%	None	5.9 (graphs)	243.2 (graphs)			Click here
Finland	Low	Local		Stable	4	0%	None	(graphs)				Click here
France	Low	Sporadic	Low	Stable	35	0%	None	(graphs)	1567.5 (graphs)			Click here
Georgia	Low	None	Low	Decreasing	8	0%	None	215.7 (graphs)	(graphs)		sari	Click here
Germany					16	0%	None		(graphs)			Click here
Greece	Low	None		Stable	0	-	None	67.7 (graphs)	(graphs)			Click here
Ireland	Low	None	Low	Stable	7	0%	None	7.1 (graphs)	(graphs)			Click here
Israel	Low	None	Low	Stable	21	0%	None	6.0 (graphs)				Click here
Kazakhstan					11	0%	None		(graphs)		sari	Click here
Kyrgyzstan								32.0 (graphs)	0.0 (graphs)		sari	Click here
Latvia	Low	None		Stable	0	-	None	0.0 (graphs)	1093.2 (graphs)			Click here
Lithuania	Low	None	Low	Stable	1	0%	None	0.5 (graphs)	614.2 (graphs)			Click here
Luxembourg	Low	None			3	0%		0.2 * (graphs)	22.3 * (graphs)			Click here
Malta	Low	Local	Low	Stable	0	-	None	0.7 * (graphs)	0 * (graphs)			Click here
Montenegro	Low	None	Low	Increasing				2.7 (graphs)	(graphs)			Click here
Netherlands	Low	None		Stable	3	0%	None	25.4 (graphs)	(graphs)			Click here
Northern Ireland	Low	None	Low	Decreasing	1	0%	None	8.4 (graphs)	324.5 (graphs)			Click here
Norway	Low	Sporadic		Stable	2	0%	None	20.4 (graphs)	(graphs)			Click here
Poland	Low	None	Low	Decreasing	9	0%	None	229.6 (graphs)	(graphs)			Click here
Portugal	Low	None		Stable	0	-	None	0.0 (graphs)	(graphs)			Click here
Republic of Moldova	Low	None	Low	Stable	6	0%	None	(graphs)	228.7 (graphs)		sari	Click here
Romania	Low	None	Low	Decreasing	2	0%		0.8 (graphs)	749.8 (graphs)		sari	Click here
Russian Federation	Low	None		Decreasing	49	0%	None	(graphs)	575.3 (graphs)		sari	Click here
Scotland	Low	Sporadic	Low	Stable	18	0%	None	6.8 (graphs)	366.5 (graphs)			Click here
Serbia	Low	None	Low	Stable				23.3 (graphs)	(graphs)		sari	Click here
Slovakia	Low	None	Low	Stable	0	-	None	147.0 (graphs)	1647.4 (graphs)		sari	Click here
Slovenia	Low	None		Stable	7	0%	None	0.0 (graphs)	913.5 (graphs)			Click here
Spain	Low	None		Stable	44	2.3%	None	8.9 (graphs)	(graphs)			Click here
Sweden	Low	None		Stable	28	0%		4.9 (graphs)	(graphs)			Click here
Switzerland	Low	None		Stable	6	0%	None	8.1 (graphs)	(graphs)			Click here
Ukraine	Low	None	Low	Increasing	4	0%	None	3.0 * (graphs)	462.1 (graphs)		sari	Click here
Uzbekistan	Low	Sporadic	Low	Increasing				(graphs)	21.6 (graphs)			Click here
Europe					350	0.3%						Click here

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.

Influenza activity still low in Europe

Summary, week 42/2013

Levels of influenza activity in the WHO European Region remain low, with only a few countries reporting sporadic influenza detections. In all countries with established epidemic thresholds, consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) were reported to be below the national thresholds. The number of hospitalizations due to severe acute respiratory infection (SARI) remains at an interseason level, and none of the cases reported so far was associated with laboratory-confirmed 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

During week 42/2013, a total of 4608 specimens was tested for influenza, 25 (0.5%) of which were positive: 14 (56%) were positive for influenza A and 11 (44%) for influenza B (Fig 1 and 2).

Of the 9 influenza A viruses that were subtyped during week 42/2013; 3 were A(H1N1)pdm09 and 6 A(H3N2) (Fig. 2a).

Since very few influenza viruses were detected during week 42/2013, 36 countries reported ﷺnoneﷺ in the dominant virus type category (Map 1).

Virus strain characterizations

Circulating 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 40/2013, 3 countries (Denmark, Finland and Norway) have characterized 6 influenza viruses genetically: 4 A(H3N2), 1 A(H1N1)pdm09 and 1 influenza B virus (Yamagata lineage). 4 A(H3N2) viruses belonged to the subgroup (3C) represented by A/Texas/50/2012 in the A/Perth/16/2009, 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 2 represented by B/Massachusetts/02/2012 in the B(Yamagata) lineage.

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

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A(H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011 and B/Massachusetts/2/2012-like viruses in vaccines (see the WHO headquarters web site).

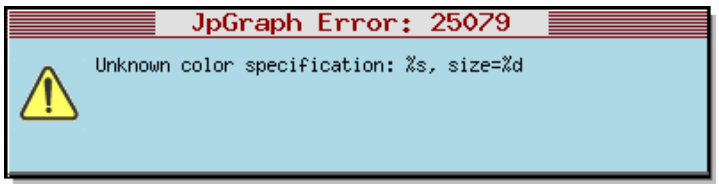
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 42/2013, all reporting countries in the Region reported low influenza activity (Map 2) with most reporting a stable trend (Map 4) with mainly no or sporadic influenza activity (Map 3), which is usual for this time of year.

ILI and ARI consultation rates were below the national baselines or at preseason levels in all countries reporting clinical data during week 42/2013.

Click on the maps for more detailed information.

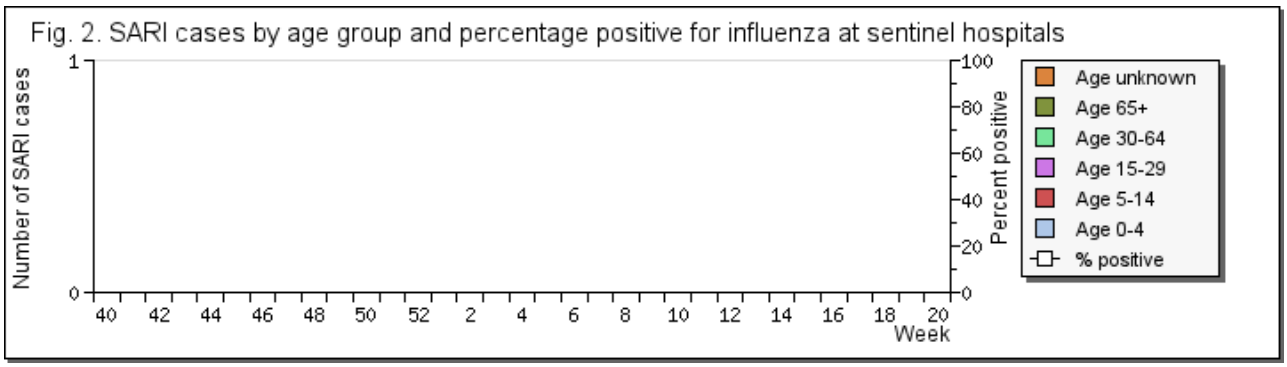
The proportion of ILI and ARI cases testing positive for influenza in the Region remained low, with only 5 of the sentinel samples testing positive for influenza during week 42 (Fig. 5). Fig. 5 presents historical percentage positivity rates; the number of specimens in weeks 40ﷺ42/2013 was not sufficient for presentation, which requires at least 20 specimens per week to test positive for influenza.



5 (1.1%) of the 466 specimens collected from sentinel sources tested positive during week 42/2013, with 3 being influenza B. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

In week 42/2013 the number of SARI hospitalizations remained at interseason levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



None of the 80 SARI samples collected in Belarus, Georgia Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Serbia and Ukraine tested positive for influenza during week 42/2013. Click here for a detailed overview in table format.

Since week 40/2013, Ireland and the United Kingdom reported 5 hospitalized laboratory-confirmed influenza cases, with 3 of them being influenza B, 1 A(H1N1)pdm09 and 1 A unsubtyped. 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 data for 42/2013 showed that all-cause mortality was within the normal range for all reporting countries. 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.

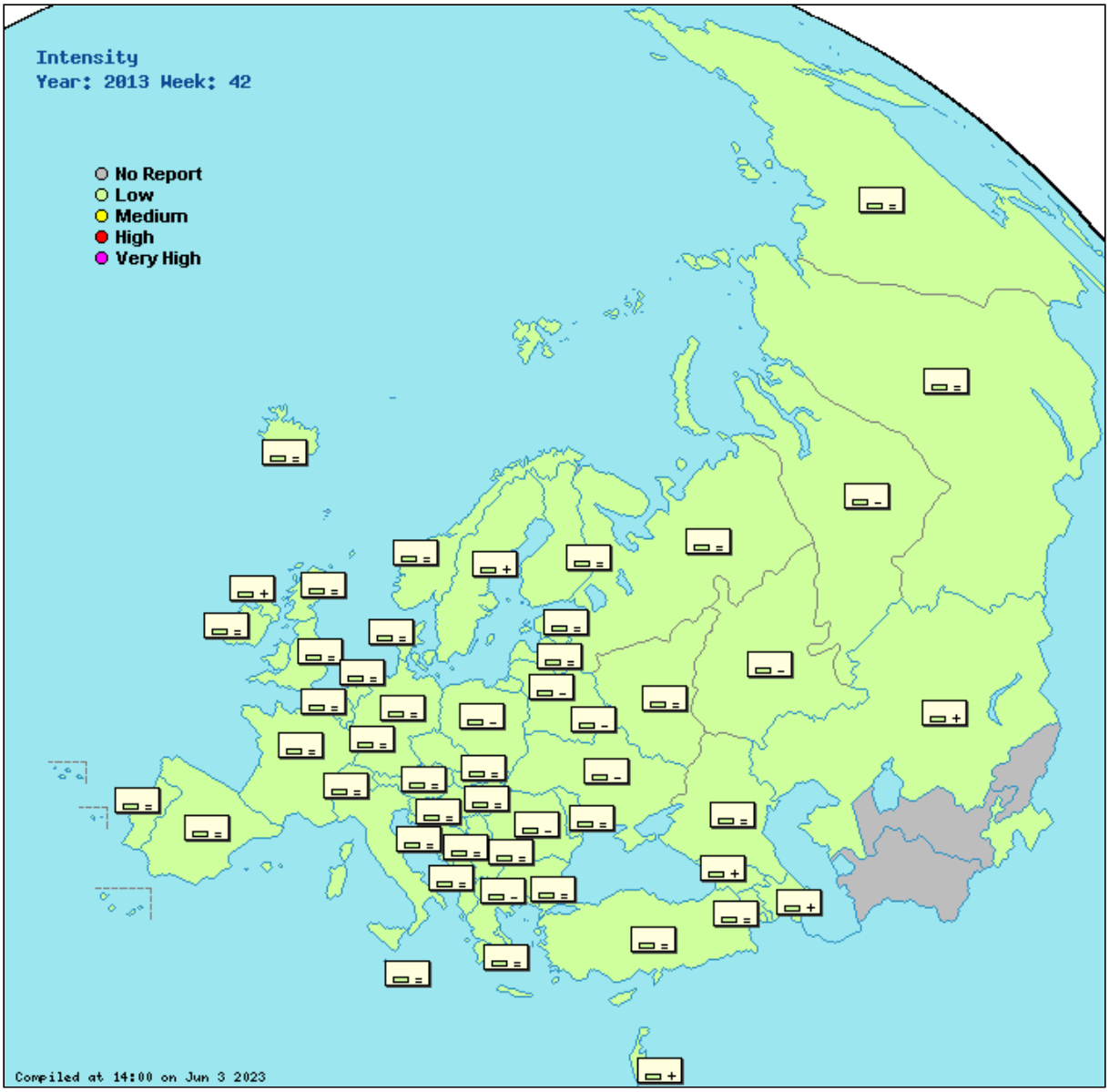
Map

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 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)

Netherlands
'PCR detection of A(H3N2), A(N1v) and B influenzavirus was in one specimen from one patient with pharyngitis and COPD.'

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					356.9 (graphs)	sari	Click here
Armenia	Low	None	Low	Stable					73.3 (graphs)	sari	Click here
Austria	Low	None		Stable	0	-	None	754.6 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Increasing	12	0%	None	303.2 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Stable	19	0%	None	13.0 (graphs)	928.6 (graphs)	sari	Click here
Belgium	Low	None		Stable	16	0%	None	38.3 (graphs)	1486.3 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Stable			None	32.5 (graphs)	99.6 (graphs)		Click here
Bulgaria	Low	None		Stable	0	-	None	(graphs)	636.3 (graphs)		Click here
Cyprus	Low	None	Low	Stable				1.5 * (graphs)	4.8 * (graphs)		Click here
Czech Republic	Low	None		Stable				20.9 (graphs)	817.6 (graphs)		Click here

Denmark	Low	Sporadic		Stable	7	28.6%	None	14.2 (graphs)		(graphs)		Click here
England	Low	None		Stable	62	0%	None	2.6 (graphs)	202.0	(graphs)		Click here
Estonia	Low	None		Stable	10	0%	None	5.0 (graphs)	229.7	(graphs)		Click here
Finland	Low	None		Stable	12	0%	None	(graphs)				Click here
France	Low	Sporadic	Low	Stable	40	0%	None	(graphs)	1542.7	(graphs)		Click here
Georgia	Low	None	Low	Increasing	6	0%	None	259.8 (graphs)		(graphs)	sari	Click here
Germany	Low	None		Stable	28	0%	None	(graphs)	1138.1	(graphs)		Click here
Greece	Low	None		Stable	0	-	None	71.1 (graphs)		(graphs)		Click here
Hungary	Low	None	Low	Stable	1	0%	None	44.9 (graphs)		(graphs)		Click here
Iceland					0	-		(graphs)				Click here
Ireland	Low	None	Low	Stable	7	0%	None	4.4 (graphs)		(graphs)		Click here
Israel	Low	None	Low	Increasing	33	9.1%	None	7.9 (graphs)				Click here
Kazakhstan					12	0%	None			(graphs)	sari	Click here
Kyrgyzstan					1	0%	None			(graphs)	sari	Click here
Latvia	Low	None		Stable	0	-	None	0.0 (graphs)	992.9	(graphs)		Click here
Lithuania	Low	None	Low	Decreasing	4	0%	None	0.6 (graphs)	587.3	(graphs)		Click here
Luxembourg	Low	None			3	0%	None	0.5 * (graphs)	24.0 *	(graphs)		Click here
Malta	Low	None	Low	Stable	0	-	None	0.9 * (graphs)	0 *	(graphs)		Click here
Montenegro	Low	None	Low	Stable				2.9 (graphs)		(graphs)		Click here
Netherlands	Low	None		Stable	2	0%	None	18.5 (graphs)		(graphs)		Click here
Northern Ireland	Low	None	Low	Increasing	0	-	None	15.6 (graphs)	326.6	(graphs)		Click here
Norway	Low	Sporadic		Stable	1	0%	None	22.1 (graphs)		(graphs)		Click here
Poland	Low	None	Low	Decreasing	9	0%	None	211.2 (graphs)		(graphs)		Click here
Portugal	Low	None		Stable	0	-	None	0.0 (graphs)		(graphs)		Click here
Republic of Moldova	Low	None	Low	Stable	10	0%	None	(graphs)	204.5	(graphs)	sari	Click here
Romania	Low	None	Low	Decreasing	4	0%		2.1 (graphs)	678.2	(graphs)	sari	Click here
Russian Federation	Low	Sporadic		Stable	39	0%	None	0.1 (graphs)	550.7	(graphs)	sari	Click here
Scotland	Low	None	Low	Stable	21	0%	None	7.6 (graphs)	315.3	(graphs)		Click here
Serbia	Low	None	Low	Stable	0	-	None	36.4 (graphs)		(graphs)	sari	Click here
Slovakia	Low	None	Low	Stable	1	0%	None	136.5 (graphs)	1516.5	(graphs)	sari	Click here
Slovenia	Low	None		Stable	4	0%	None	0.0 (graphs)	801.8	(graphs)		Click here
Spain	Low	None		Stable	64	0%	None	12.3 (graphs)		(graphs)		Click here
Sweden	Low	None		Increasing	31	0%		13.9 (graphs)		(graphs)		Click here
Switzerland	Low	None		Stable				16.4 (graphs)		(graphs)		Click here
Tajikistan	Low	None	Low	Stable				0.0 (graphs)		(graphs)		Click here
Turkey	Low	None	Low	Stable	0	-	None	0.0 (graphs)		(graphs)		Click here
Ukraine	Low	None	Low	Decreasing	7	0%	None	2.8 * (graphs)	444.7	(graphs)	sari	Click here
Uzbekistan					0	-	None			(graphs)		Click here
Wales	Low	None		Stable				4.5 (graphs)		(graphs)		Click here
Europe					466	1.1%						Click here

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.

Influenza activity still low in Europe

Summary, week 43/2013

Low levels of influenza activity in the WHO European Region continue, with only a few countries reporting sporadic influenza detections among samples from sentinel and non-sentinel sources. The number of hospitalizations due to severe acute respiratory infection (SARI) remained at a preseason level. None of the SARI cases tested so far was found 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

During week 43/2013, a total of 5004 specimens was tested for influenza, 58 (1.2%) of which were positive: 44 (76%) were positive for influenza A and 14 (24%) for influenza B (Fig. 1 and 2).

Of the 26 influenza A viruses that were subtyped during week 43/2013; 12 were A(H1N1)pdm09 and 14 A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2012), 137 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Cumulatively, 42 (31%) viruses were influenza B and 95 (69%)influenza A. Of the 62 influenza A viruses that have been subtyped, 25 (40%) were A(H1N1)pdm09 and 37 (60%) were A(H3N2) (Fig. 2b).

Since very few influenza viruses were detected during week 43/2013, 37 countries reported none in the dominant virus type category (Map 1).

Virus strain characterizations

Circulating 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 40/2013, 3 countries (Denmark, Finland and Norway) have characterized 6 influenza viruses genetically: 4 A(H3N2), 1 A(H1N1)pdm09 and 1 influenza B virus (Yamagata lineage). 4 A(H3N2) viruses belonged to the subgroup (3C) represented by A/Texas/50/2012 in the A/Perth/16/2009, 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 2 represented by B/Massachusetts/02/2012 in the B(Yamagata) lineage.

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

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A(H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011 and B/Massachusetts/2/2012-like viruses in vaccines (see the WHO headquarters web site).

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

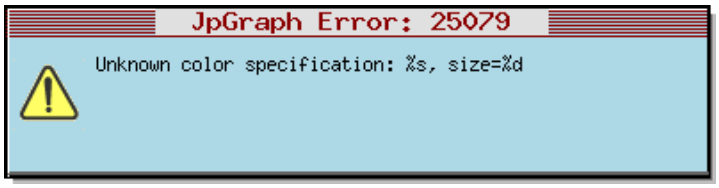
Similarly to previous weeks, all reporting countries in the Region reported low influenza activity (Map 2) during week 43/2013, with most reporting a stable trend (Map 4) with mainly no or sporadic influenza activity (Map 3), which is usual for this time of year

ILI and ARI consultation rates were below the national baselines or at preseason levels in all countries reporting clinical data during week 43/2013.

Click on the maps for more detailed information.

The number of ILI and ARI cases testing positive for influenza in the Region remained low, with only 15 of the sentinel samples testing positive for influenza during week 43 (Fig. 5). Fig. 5 presents historical positivity rates (%); the number of specimens in weeks 40–43

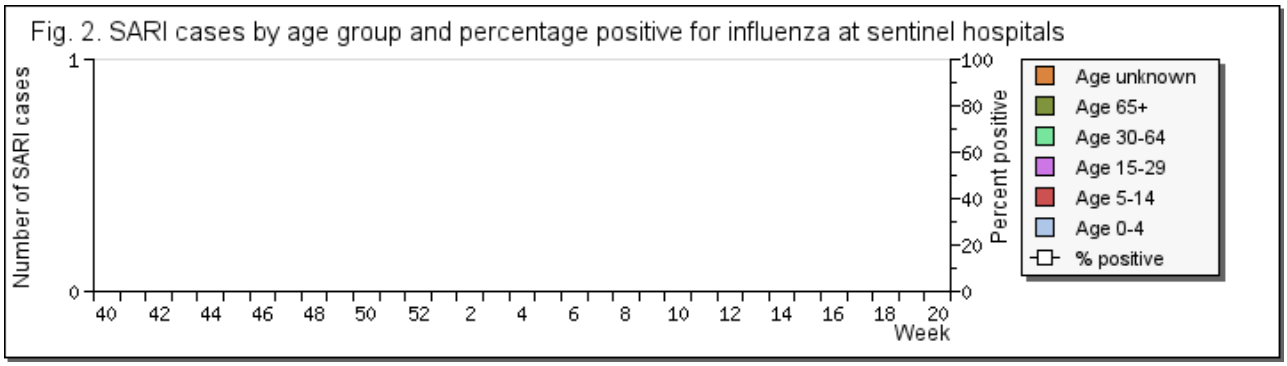
2013 was not sufficient for calculation of positivity, which requires at least 20 influenza positive specimens per week.



15 (2.4%) of the 637 specimens collected from sentinel sources tested positive during week 43/2013, with more than half being influenza B Click here for a detailed overview in a table format.

Hospital surveillance for SARI

In week 43/2013 the number of SARI hospitalizations remained at interseason levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



None of the 114 SARI samples collected in Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation and Ukraine tested positive for influenza during week 43/2013. Click here for a detailed overview in table format.

Since week 40/2013, Ireland and the United Kingdom reported 8 hospitalized laboratory-confirmed influenza cases, with 4 of them being influenza B, 2 A(H1N1)pdm09 and 2 A unsubtyped. 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 data for 43/2013 showed that all-cause mortality was within the normal range for all reporting countries. 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

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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.

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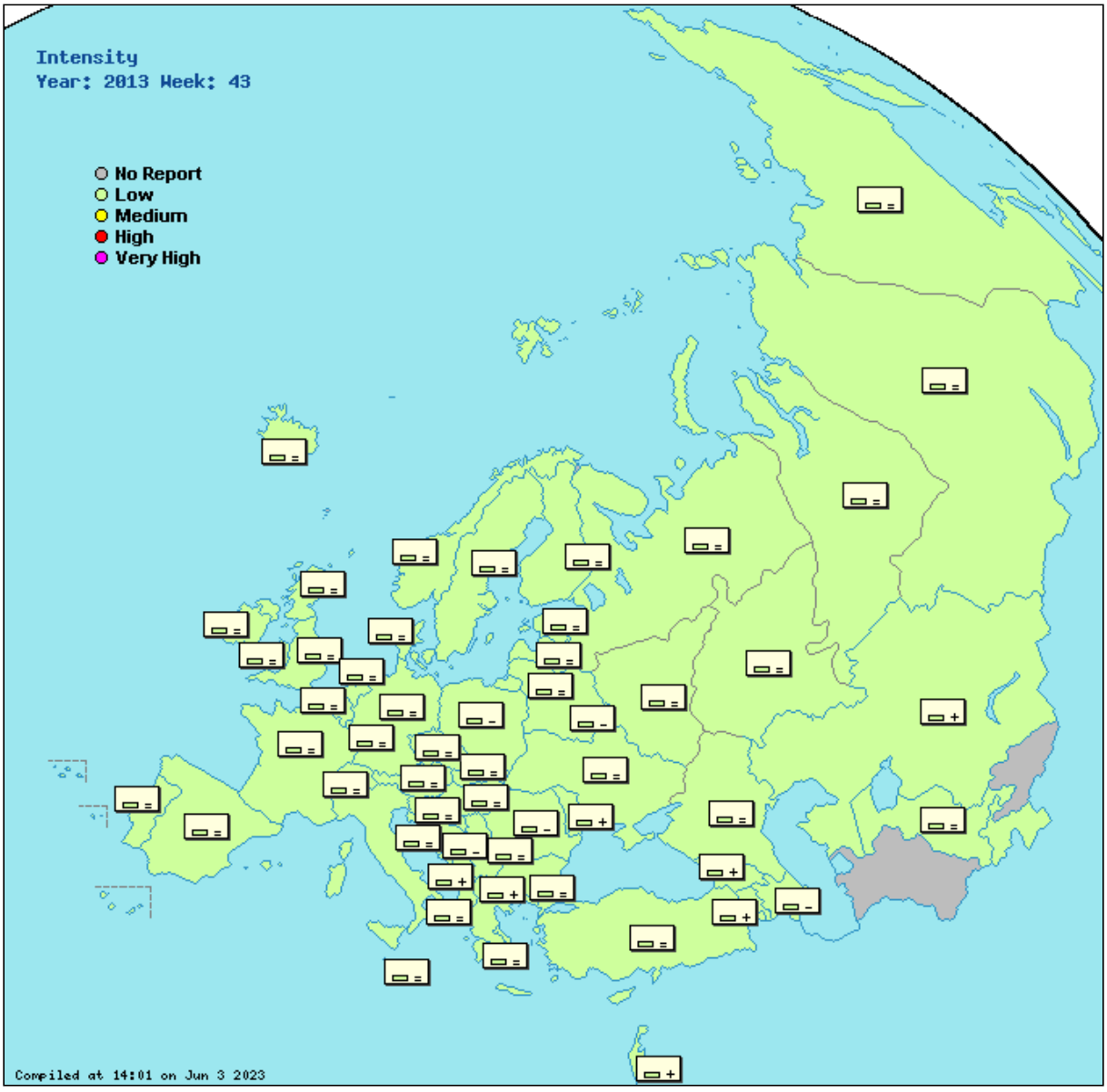
Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

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)

Republic of Moldova
This week 19 samples (17 were sentinel) were tested for Influenza A and B - none of them were positive. 2 specimens were positive for RNA Human Parainfluenza virus type 1 and 3, respectively, and 3 - positive for RNA Rhinovirus; in 1 sample were detected RNA Human Parainfluenza virus and RNA hRSV.

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 (graphs)	sari	Click here
Armenia	Low	None	Low	Increasing	0	-	None		77.2 (graphs)	sari	Click here
Austria	Low	None		Stable	0	-	None	786.5 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Decreasing	34	0%	None	217.1 (graphs)	(graphs)		Click here
Belarus					35	0%	None		(graphs)	sari	Click here

Belgium	Low	None		Stable	14	0%	None	25.6 (graphs)	1382.4 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Decreasing			None	23.5 (graphs)	88.8 (graphs)		Click here
Bulgaria	Low	None		Stable	0	-	None	(graphs)	588.6 (graphs)		Click here
Croatia					0	-	None	(graphs)			Click here
Cyprus	Low	None	Low	Stable				0.9 * (graphs)	6.3 * (graphs)		Click here
Czech Republic					15	6.7%	None		(graphs)		Click here
Denmark	Low	Sporadic		Stable	4	25.0%	None	24.3 (graphs)	(graphs)		Click here
England	Low	None		Stable	69	0%	None	3.9 (graphs)	176.4 (graphs)		Click here
Estonia	Low	None		Stable	1	0%	None	5.2 (graphs)	230.2 (graphs)		Click here
Finland	Low	None		Stable	13	0%	None	(graphs)			Click here
France	Low	Sporadic	Low	Stable	25	0%	None	(graphs)	1374.1 (graphs)		Click here
Georgia	Low	None	Low	Increasing	13	0%	None	314.9 (graphs)	(graphs)	sari	Click here
Germany	Low	None		Stable	45	0%	None	(graphs)	1103.6 (graphs)		Click here
Greece	Low	None		Stable	0	-	None	97.3 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable	2	0%	None	36.1 (graphs)	(graphs)		Click here
Iceland					0	-		(graphs)			Click here
Ireland	Low	None	Low	Stable	6	0%	None	3.9 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Increasing	62	16.1%	None	8.6 (graphs)			Click here
Italy	Low	None	Low	Stable				50.8 (graphs)	(graphs)		Click here
Kazakhstan					8	0%	None		(graphs)	sari	Click here
Kyrgyzstan					0	-	None		(graphs)	sari	Click here
Latvia	Low	None		Stable	0	-	None	0.0 (graphs)	883.0 (graphs)		Click here
Lithuania	Low	None	Low	Stable	8	0%	None	0.6 (graphs)	582.9 (graphs)		Click here
Luxembourg	Low	Local			2	0%		0.6 * (graphs)	22.9 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	None	Low	Increasing				1.4 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable				0.6 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Increasing				4.0 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	6	0%	None	18.1 (graphs)	(graphs)		Click here
Northern Ireland	Low	None	Low	Stable				14.4 (graphs)	349.3 (graphs)		Click here
Norway	Low	Sporadic		Stable	3	0%	None	23.8 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Decreasing	4	0%	None	226.6 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	1	0%	None	9.1 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Increasing	14	0%	None	(graphs)	252.3 (graphs)	sari	Click here
Romania	Low	None	Low	Decreasing	5	0%		1.5 (graphs)	623.9 (graphs)	sari	Click here
Russian Federation	Low	None		Stable	47	0%	None	0.1 (graphs)	546.6 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	31	0%	None	8.4 (graphs)	349.9 (graphs)		Click here
Serbia	Low	None	Low	Stable	1	0%	None	33.3 (graphs)	(graphs)	sari	Click here
Slovakia	Low	None	Low	Stable	1	0%	None	127.9 (graphs)	1458.9 (graphs)	sari	Click here
Slovenia	Low	None		Stable	8	0%	None	1.4 (graphs)	796.1 (graphs)		Click here
Spain	Low	None		Stable	48	2.1%	None	9.8 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Stable	39	2.6%		6.7 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable				11.9 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	64	1.6%	None	0.0 (graphs)	(graphs)		Click here
Ukraine	Low	Sporadic	Low	Decreasing	9	0%	None	3.0 * (graphs)	436.9 (graphs)	sari	Click here
Uzbekistan					0	-	None		(graphs)		Click here
Wales	Low	None		Stable	0	-	None	4.7 (graphs)	(graphs)		Click here
Europe					637	2.4%					Click here

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.

Influenza activity still low in Europe

Summary, week 44/2013

Similarly to previous seasons, influenza activity remained low in the WHO European Region during week 44/2013, with only a few countries reporting sporadic influenza detections among sentinel samples. Since the start of the season, A(H1N1)pdm09, A(H3N2) and type B viruses have co-circulated. The number of hospitalizations due to severe acute respiratory infection (SARI) is stable. None of the SARI cases has tested positive for influenza so far this season.

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

Similarly to the previous week, a total of 5158 specimens was tested for influenza during week 44/2013, 72 (1.4%) of which were positive: 54 (75%) were positive for influenza A and 18 (25%) for influenza B (Fig. 1 and 2).

Of the 24 influenza A viruses that were subtyped during week 44/2013, 14 were A(H1N1)pdm09 and 10 A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2013), 216 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Cumulatively, 62 (29%) viruses were influenza B and 154 (71%) influenza A. Of the 91 influenza A viruses that have been subtyped, 40 (44%) were A(H1N1)pdm09 and 51 (56%) were A(H3N2) (Fig. 2b).

Since very few influenza viruses were detected during week 44/2013, 38 countries reported ﷺnoneﷺ in the dominant virus type category (Map 1).

Virus strain characterizations

Circulating 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 40/2013, 1 country (United Kingdom (England)) has characterized 2 influenza viruses antigenically: both were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like). 3 countries (Denmark, Finland and Norway) have characterized 6 influenza viruses genetically: 4 A(H3N2), 1 A(H1N1)pdm09 and 1 influenza B virus (Yamagata lineage). The 4 A(H3N2) viruses belonged to the subgroup 3C represented by A/Texas/50/2012 in the A/Perth/16/2009, A(H3) clade; the A(H1N1)pdm09 virus belonged to group 6 represented by A/St Petersburg/27/2011 in the A(H1N1)pdm09 clade; the influenza B virus belonged to clade 2 represented by B/Massachusetts/02/2012 in the B(Yamagata) lineage.

Since week 40/2013, 1 country (Sweden) has screened 2 influenza A(H1N1)pdm09 viruses for susceptibility to oseltamivir and zanamivir, and to adamantanes. Both showed susceptibility to oseltamivir and zanamivir, but resistance to adamantanes.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

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

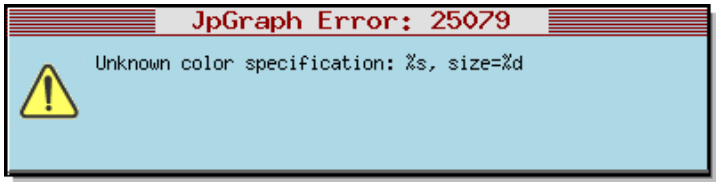
Similarly to previous weeks, all reporting countries in the Region reported low influenza activity (Map 2) during week 44/2013, with most reporting a stable trend (Map 4) with mainly no or sporadic influenza activity (Map 3), which resembles the situation in previous seasons at this time of year.

Consultation rates for ILI and/or ARI remained below the national baselines or at preseason levels in all countries reporting clinical data during week 44/2013.

Click on the maps for more detailed information.

The number of ILI and ARI cases testing positive for influenza in the Region remained low, with only 5 sentinel samples testing positive during week 44 (Fig. 5).

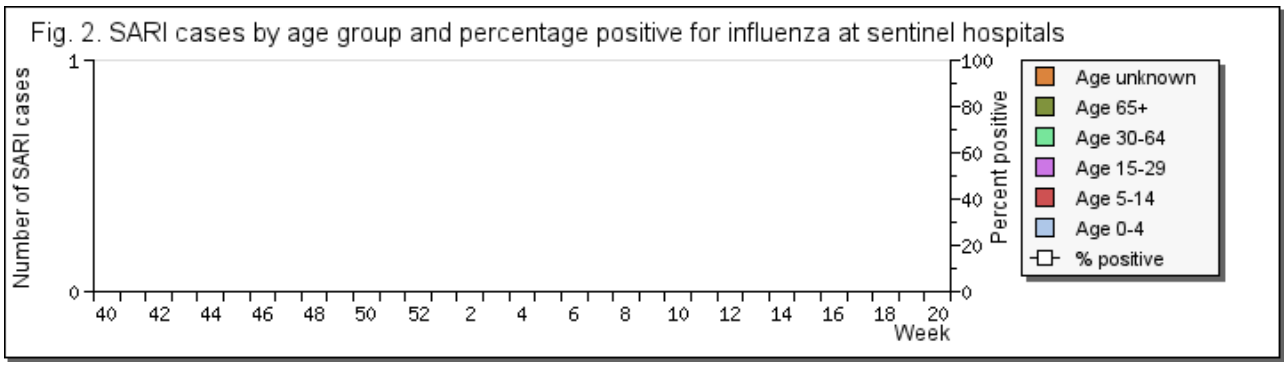
Fig. 5 presents historical data on the weekly percentage of influenza positive sentinel ILI/ARI specimens from the previous 4 seasons; the percentage of sentinel ILI/ARI influenza positive samples was not calculated in weeks 40–44 2013, because there were fewer than 20 influenza positive specimens per week.



5 (0.8%) of the 629 specimens collected from sentinel sources tested positive during week 44/2013, with the majority being influenza A. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations in week 44/2013 was similar to those in previous weeks, and remained at interseason levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



None of the 88 SARI samples collected in Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation and Ukraine tested positive for influenza during week 43/2013. Click here for a detailed overview in table format.

Since week 40/2013, Ireland and the United Kingdom reported 9 hospitalized laboratory-confirmed influenza cases, with 4 of them being influenza B, 2 A(H1N1)pdm09 and 3 A unsubtyped. 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 data for 44/2013 showed that all-cause mortality was within the normal range for all reporting countries. 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.

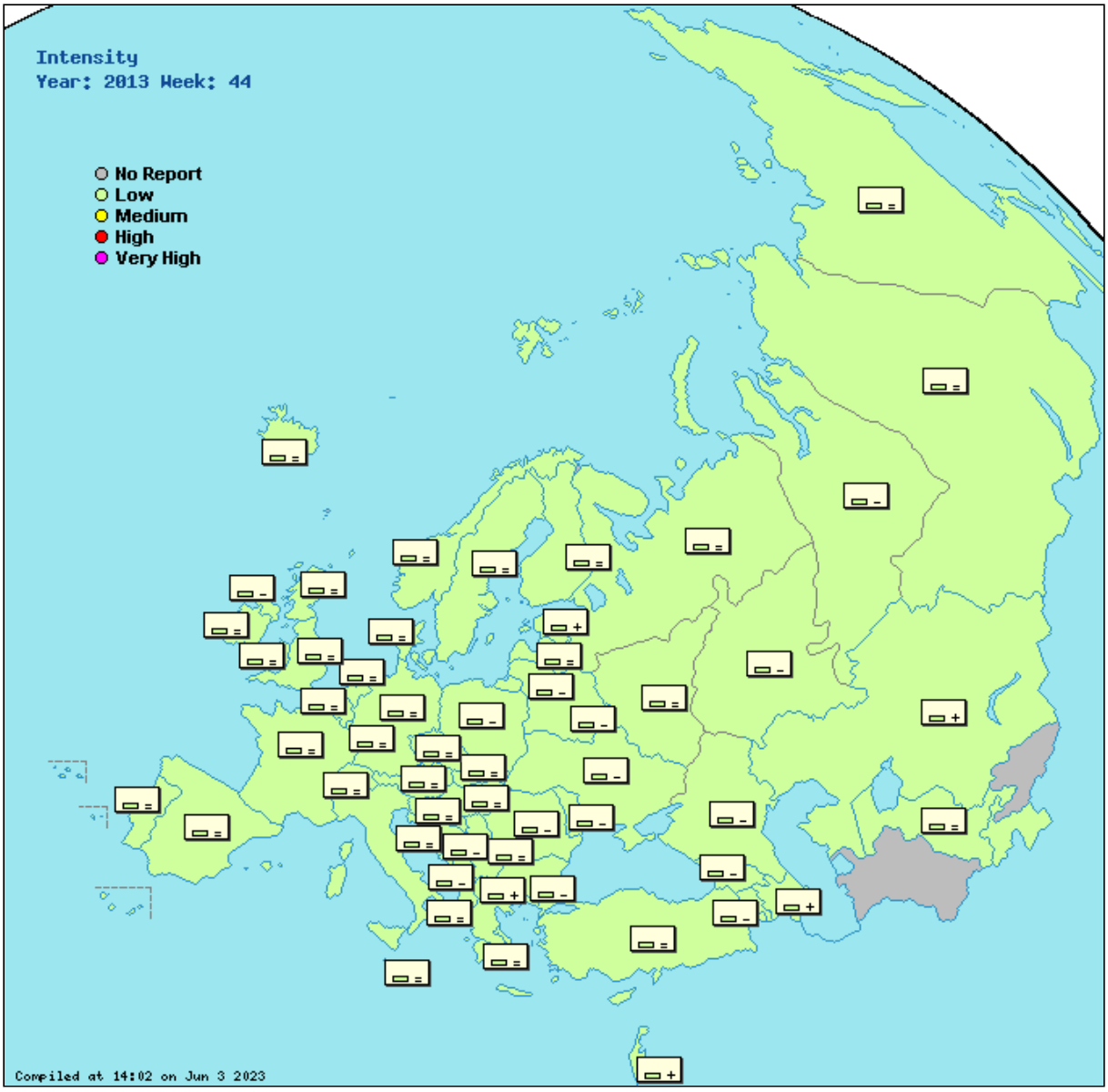
Map

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 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
This week 19 sentinel samples were tested for Influenza A and B - none of them were positive. 1 sample - positive for RNA hParainfluenza virus type 3, 1 sample - positive for RNA RSV, and 2 - positive for RNA Rhinovirus; in 1 sample were detected RNA Human Parainfluenza virus type 1 and RNA Rhinovirus.

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					372.5 (graphs)	sari	Click here
Armenia	Low	None	Low	Decreasing	0	-	None	(graphs)	0.0 (graphs)	sari	Click here
Austria	Low	None		Stable	0	-	None	666.2 (graphs)	(graphs)		Click here
Azerbaijan	Low	Sporadic	Low	Increasing	74	4.1%	None	253.2 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Decreasing	27	0%	None	14.6 (graphs)	782.0 (graphs)	sari	Click here
Belgium	Low	None		Stable	5	0%	None	9.5 (graphs)	1011.2 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Decreasing			None	16.9 (graphs)	77.5 (graphs)		Click here
Bulgaria	Low	None		Decreasing	0	-	None	(graphs)	452.4 (graphs)		Click here
Croatia							None	(graphs)			Click here
Cyprus	Low	None	Low	Stable				0.4 * (graphs)	3.2 * (graphs)		Click here
Czech Republic	Low	None		Stable	15	0%	None	18.5 (graphs)	744.6 (graphs)		Click here
Denmark	Low	Sporadic		Stable	7	0%	None	19.5 (graphs)	(graphs)		Click here
England	Low	None		Stable	58	0%	None	5.3 (graphs)	145.2 (graphs)		Click here
Estonia					4	0%	None	(graphs)			Click here
Finland	Low	None		Stable	8	0%	None	(graphs)			Click here
France	Low	Sporadic	Low	Stable	20	0%		(graphs)	1139.4 (graphs)		Click here
Georgia	Low	None	Low	Decreasing	7	0%	None	232.7 (graphs)	(graphs)	sari	Click here
Germany	Low	None		Stable	28	0%	None	(graphs)	837.5 (graphs)		Click here
Greece	Low	None		Stable	0	-	None	58.5 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable	4	0%	None	27.6 (graphs)	(graphs)		Click here
Iceland					0	-		(graphs)			Click here
Ireland	Low	None	Low	Stable	2	0%	None	1.3 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Increasing	62	1.6%	None	9.4 (graphs)			Click here
Italy	Low	None	Low	Stable				50.6 (graphs)	(graphs)		Click here
Kazakhstan					9	0%	None		(graphs)	sari	Click here
Kyrgyzstan					0	-	None		(graphs)	sari	Click here
Latvia	Low	None		Stable	0	-	None	0.0 (graphs)	782.0 (graphs)		Click here
Lithuania	Low	None	Low	Decreasing	11	0%	None	0.7 (graphs)	382.4 (graphs)		Click here
Luxembourg	Low	None			4	0%		0 * (graphs)	20.5 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	None	Low	Increasing			None	1.6 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable	0	-	None	0.5 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Decreasing				2.1 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	11	9.1%	None	12.0 (graphs)	(graphs)		Click here
Northern Ireland	Low	None	Low	Decreasing	0	-	None	14.4 (graphs)	349.3 (graphs)		Click here
Norway	Low	Sporadic		Stable	5	0%	None	23.1 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Decreasing	3	0%	None	147.3 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	1	0%	None	6.0 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Decreasing	12	0%	None	(graphs)	195.8 (graphs)	sari	Click here
Romania	Low	None	Low	Decreasing	1	0%		1.5 (graphs)	600.3 (graphs)	sari	Click here
Russian Federation	Low	None		Stable	50	0%	None	0.1 (graphs)	533.1 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	21	0%	None	4.7 (graphs)	319.0 (graphs)		Click here
Serbia	Low	None	Low	Stable	2	0%	None	36.6 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	2	0%	None	108.9 (graphs)	1152.9 (graphs)	sari	Click here
Slovenia	Low	None		Stable	4	0%	None	0.0 (graphs)	606.1 (graphs)		Click here
Spain	Low	None		Stable	53	0%	None	10.7 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Stable	34	0%		6.8 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable	6	0%	None	9.0 (graphs)	(graphs)		Click here
Tajikistan	Low	None	Low	Stable				0.0 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	70	0%	None	0.0 (graphs)	(graphs)		Click here
Ukraine	Low	None	Low	Decreasing	9	0%	None	3.5 * (graphs)	377.5 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Stable				(graphs)	23.6 (graphs)		Click here
Europe					629	0.8%					Click here

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.

Influenza activity remains at preseason levels in Europe

Summary, week 45/2013

During week 45/2013 influenza activity in the WHO European Region remained at preseason levels, but with several countries reporting sporadic detections of influenza A(H1N1)pdm09, A(H3N2) and type-B viruses. The influenza positivity rate remained low, which is usual for this time of the year and similar to previous seasons. The number of hospitalizations due to severe acute respiratory infection (SARI) remains stable, with none of the cases reported this week positive for influenza 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

Cumulatively, 4488 specimens from sentinel and non-sentinel sources were tested for influenza during week 45/2013, 54 (1.2%) of which were positive: 43 (80%) for influenza A and 11 (20%) for influenza B (Fig. 1 and 2).

Of the 29 influenza A viruses that were subtyped during week 45/2013, 16 (55%) were A(H1N1)pdm09 and 13 (45%) A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2013), 279 influenza viruses from sentinel and non-sentinel sources have been detected and typed, with influenza A being predominant: cumulatively, 205 (73%) viruses were influenza A and 74 (27%)influenza B. Of the 131 influenza A viruses that have been subtyped, 63 (48%) were A(H1N1)pdm09 and 68 (52%) were A(H3N2) (Fig. 2b).

Since the beginning of the season, the number of influenza detections in reporting countries has remained too low to allow inference of any dominant virus; consequently 40 countries reported ﷺnoneﷺ in the dominant virus type category for week 45/2013 (Map 1).

Virus strain characterizations

Circulating 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 40/2013, 2 countries (Germany and United Kingdom (England)) have characterized 3 influenza viruses antigenically: all were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like). 4 countries (Denmark, Finland, Norway and Spain) have characterized 11 influenza viruses genetically: 8 A(H3N2), 2 A(H1N1)pdm09 and 1 influenza B virus (Yamagata lineage). Eight A(H3N2) viruses belonged to the subgroup (3C) represented by A/Texas/50/2012 in the A/Perth/16/2009, A(H3) clade; 2 A(H1N1)pdm09 belonged to the genetic group 6 represented by A/St Petersburg/27/2011 in the A(H1N1)pdm09 clade; 1 influenza B virus belonged to clade 2 represented by B/Massachusetts/02/2012 in the B(Yamagata) lineage.

Since week 40/2013, 2 countries (Spain and Sweden) have screened 3 influenza A(H1N1)pdm09 viruses for susceptibility to oseltamivir, zanamivir, and to adamantanes. All showed susceptibility to oseltamivir and zanamivir, but resistance to adamantanes.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

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

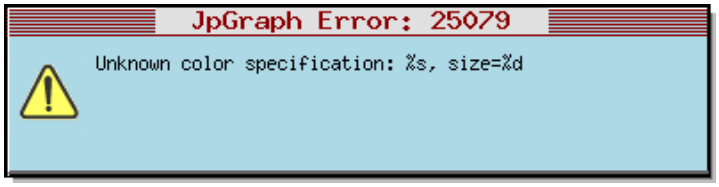
Similarly to previous weeks, during week 45/2013, all reporting countries in the Region reported low influenza activity (Map 2) mainly stable trends (Map 4) with predominantly no or sporadic influenza activity (Map 3), which resembles the situation in previous seasons at this time of year.

Consultation rates for ILI and/or ARI remained below the national baselines or at preseason levels in all countries reporting clinical data, except the Republic of Moldova, during week 45/2013.

Click on the maps for more detailed information.

The number of ILI and ARI cases testing positive for influenza in the Region remained low. Only 11 sentinel samples tested positive, mainly in European Union (EU) countries, during week 45.

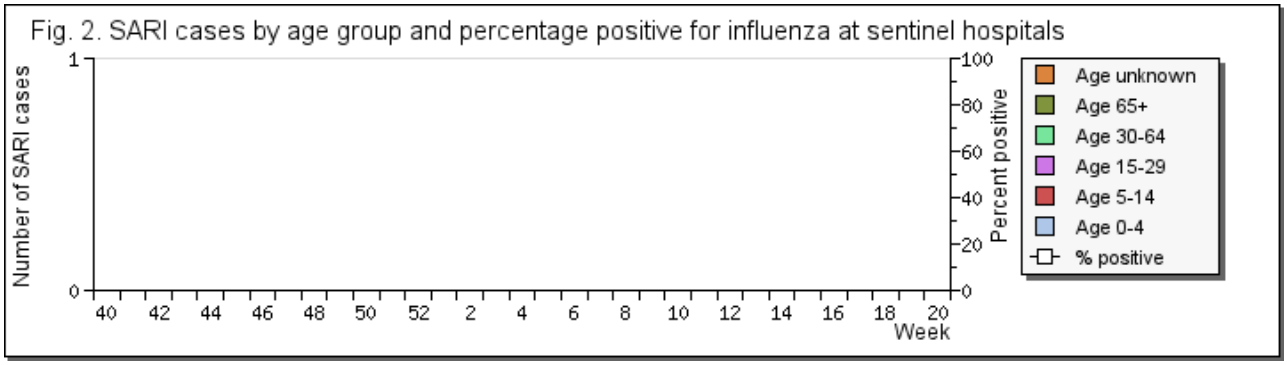
Fig. 5 presents historical data on the weekly percentage of influenza positive sentinel ILI/ARI specimens from the previous 4 seasons; the percentage of sentinel ILI/ARI influenza positive samples was not calculated in weeks 40–45 2013, because there were fewer than 20 influenza positive specimens per week.



11 (1.6%) of the 681 specimens collected from sentinel sources tested positive during week 45/2013, with the majority being influenza A. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations during week 45/2013 was similar to those in previous weeks, and remained at interseason levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7). Currently, only 9 countries are reporting on SARI hospitalizations, because Albania, Belgium, Slovakia and Romania have not yet started such reporting for this season.



Similarly to previous weeks none of the 100 SARI samples collected in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation and Ukraine tested positive for influenza during week 45/2013. Click here for a detailed overview in table format.

Since week 40/2013, Ireland, Sweden and the United Kingdom reported 14 hospitalized laboratory-confirmed influenza cases, with 7 of them being influenza B, 3 A(H1N1)pdm09 and 4 A not subtyped. 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 data for 45/2013 showed that all-cause mortality was within the normal range for all reporting countries. 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.

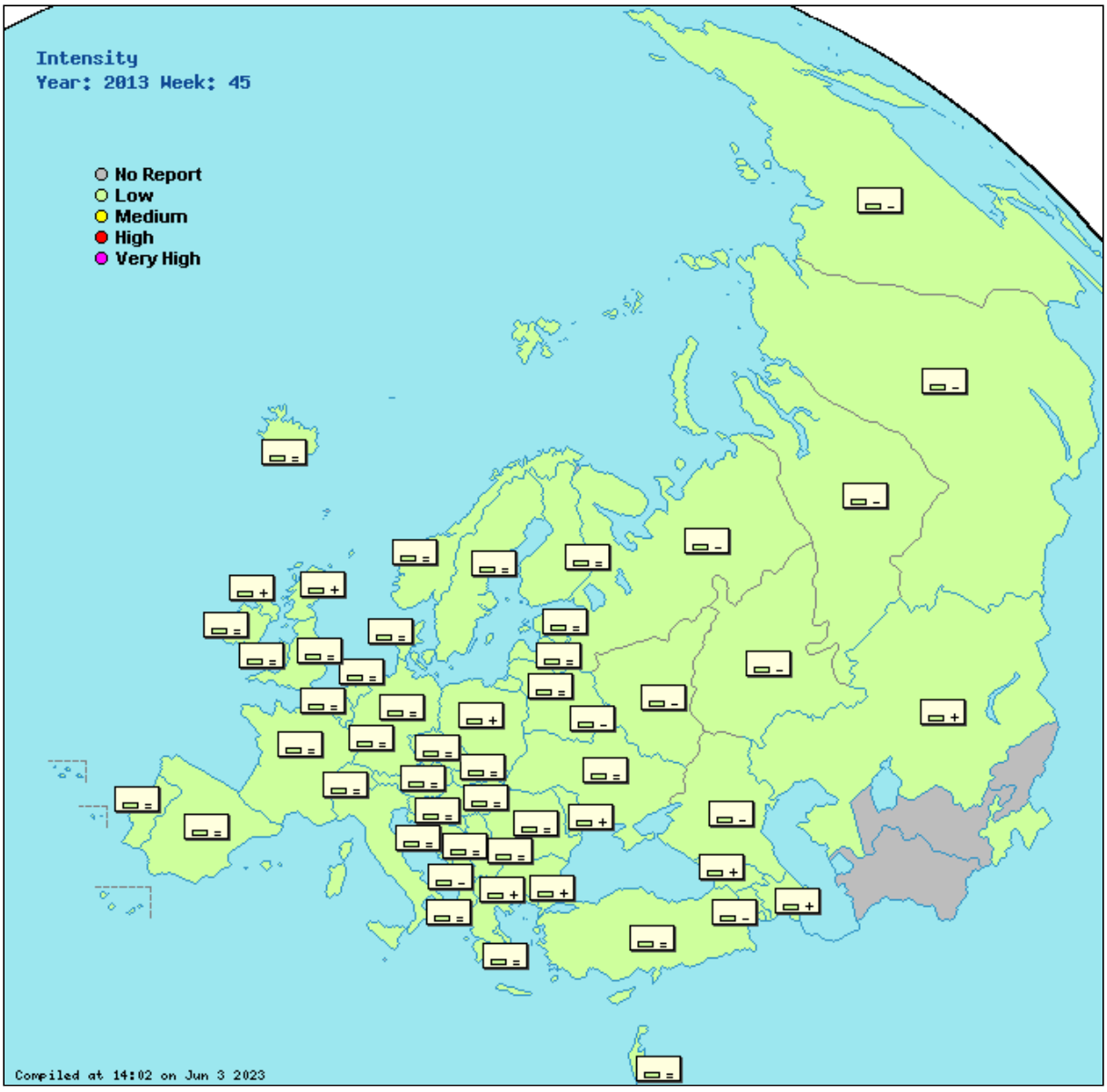
Map

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 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
20 sentinel samples were tested for Influenza A and B - none of them were positive. 1 sample was positive for RNA hParainfluenza virus type 1, 1 sample - positive for RNA RSV, 2 - positive for RNA Rhinovirus, and 2 samples - positive

for RNA hParainfluenza virus type 3.

Scotland

Virology data from non-sentinel sources for week 45 is incomplete and should be interpreted with caution, due to a data transfer problem from one main laboratory.

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					377.3 (graphs)	sari	Click here
Armenia	Low	None	Low	Decreasing	0	-	None		70.5 (graphs)	sari	Click here
Austria	Low	None		Stable	3	0%	None	816.1 (graphs)	(graphs)		Click here
Azerbaijan	Low	Sporadic	Low	Increasing	34	5.9%	None	181.5 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Decreasing	32	0%	None	11.2 (graphs)	649.0 (graphs)	sari	Click here
Belgium	Low	None		Stable	14	0%	None	25.9 (graphs)	1509.3 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Stable			None	26.9 (graphs)	108.4 (graphs)		Click here
Bulgaria	Low	None		Increasing	0	-	None	(graphs)	809.7 (graphs)		Click here
Croatia					0	-	None	(graphs)			Click here
Cyprus	Low	None	Low	Stable				0.2 * (graphs)	4.5 * (graphs)		Click here
Czech Republic	Low	None		Stable	14	0%	None	18.0 (graphs)	782.3 (graphs)		Click here
Denmark	Low	Sporadic		Stable	4	0%	None	20.6 (graphs)	(graphs)		Click here
England	Low	None		Stable	57	3.5%	None	2.1 (graphs)	153.2 (graphs)		Click here
Estonia	Low	None		Stable	0	-	None	5.7 (graphs)	196.0 (graphs)		Click here
Finland	Low	None		Stable	9	0%	None	(graphs)			Click here
France	Low	Sporadic	Low	Stable	24	0%		(graphs)	1229.3 (graphs)		Click here
Georgia	Low	None	Low	Increasing	7	0%	None	302.4 (graphs)	(graphs)	sari	Click here
Germany	Low	None		Stable	52	0%	None	(graphs)	1011.8 (graphs)		Click here
Greece	Low	None		Stable	0	-	None	62.8 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable	12	0%	None	42.9 (graphs)	(graphs)		Click here
Iceland					0	-		(graphs)			Click here
Ireland	Low	None	Low	Stable	6	0%	None	5.6 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Stable	52	1.9%	None	8.9 (graphs)			Click here
Italy	Low	None	Low	Stable				62.0 (graphs)	(graphs)		Click here
Kazakhstan					11	0%	None		(graphs)	sari	Click here
Kyrgyzstan					0	-	None	33.2 (graphs)	0.0 (graphs)	sari	Click here
Latvia	Low	None		Stable	0	-	None	0.0 (graphs)	866.6 (graphs)		Click here
Lithuania	Low	None	Low	Stable	6	0%	None	0.6 (graphs)	462.1 (graphs)		Click here
Luxembourg	Low	None			0	-		0 * (graphs)	21.6 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Increasing			None	2.4 (graphs)	(graphs)		Click here
Malta					0	-	None	(graphs)			Click here
Montenegro	Low	None	Low	Decreasing				0.8 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	6	0%	None	23.4 (graphs)	(graphs)		Click here
Northern Ireland	Low	None	Low	Increasing	2	0%	None	13.2 (graphs)	352.8 (graphs)		Click here
Norway	Low	Sporadic		Stable	13	7.7%	None	24.3 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Increasing	14	0%	None	182.5 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	0	-	None	0.0 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Increasing	16	0%	None	(graphs)	285.6 (graphs)	sari	Click here
Romania	Low	None	Low	Stable	4	0%		2.0 (graphs)	604.4 (graphs)	sari	Click here
Russian Federation	Low	None		Decreasing	42	0%	None	(graphs)	442.0 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Increasing	28	0%	None	10.4 (graphs)	363.8 (graphs)		Click here
Serbia	Low	None	Low	Stable	0	-	None	36.0 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	7	0%	None	118.0 (graphs)	1377.8 (graphs)	sari	Click here
Slovenia	Low	None		Stable	1	0%	None	0.0 (graphs)	679.9 (graphs)		Click here
Spain	Low	None		Stable	57	1.8%	None	13.6 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Stable	42	7.1%	None	6.3 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable	14	0%	None	20.2 (graphs)	(graphs)		Click here
Tajikistan	Low	None	Low	Stable				0.0 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	87	1.2%	None	0.0 (graphs)	(graphs)		Click here
Ukraine	Low	None	Low	Stable	11	0%	None	4.1 * (graphs)	379.6 (graphs)	sari	Click here
Uzbekistan					0	-	None		(graphs)		Click here
Europe					681	1.6%					Click here

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.

Low influenza activity in Europe

Summary, week 46/2013

Levels of influenza activity in the WHO European Region remained low, with co-circulation of influenza A(H1N1)pdm09, A(H3N2) and type-B viruses reported by countries for week 46/2013. The number of specimens testing positive for influenza was low, which 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 none of the 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

During week 46/2013 the number of influenza detections in the Region remained low. Cumulatively, 5585 specimens from sentinel and non-sentinel sources were tested for influenza during week 46/2013, 55 (1%) of which were positive: 35 (63%) for influenza A and 20 (37%) for influenza B (Fig. 1 and 2).

Of the 22 influenza A viruses that were subtyped during week 46/2013, 12 (55%) were A(H1N1)pdm09 and 10 (45%) A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2013), 356 influenza viruses from sentinel and non-sentinel sources have been detected and typed. Influenza A was predominant: 257 (72%) were influenza A and 99 (28%) influenza B viruses. Of the 165 influenza A viruses that have been subtyped, 82 were A(H1N1)pdm09 and 83 were A(H3N2) (Fig. 2b).

Since the beginning of the season, the number of influenza detections in reporting countries has remained too low to allow inference of any dominant virus; consequently 40 countries reported "none" in the dominant virus category for week 46/2013 (Map 1).

Virus strain characterizations

Circulating 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 40/2013, 2 countries (Germany and United Kingdom (England)) have characterized 8 influenza viruses antigenically: all were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like). 4 countries (Denmark, Finland, Norway and Sweden) have characterized 16 influenza viruses genetically: 9 A(H3N2), 6 A(H1N1)pdm09 and 1 influenza B virus (Yamagata lineage). The 9 A(H3N2) viruses belonged to subgroup 3C, represented by A/Texas/50/2012 in the A/Perth/16/2009, A(H3) clade; 6 A(H1N1)pdm09 belonged to genetic group 6, represented by A/St Petersburg/27/2011 in the A(H1N1)pdm09 clade; the influenza B virus belonged to clade 2 represented by B/Massachusetts/02/2012 in the Yamagata lineage.

Since week 40/2013, 4 countries (Norway, Spain, Sweden and United Kingdom (England)) have screened 8 influenza A(H1N1)pdm09, 8 influenza A(H3N2) viruses and 1 influenza B virus for susceptibility to oseltamivir and zanamivir. All showed susceptibility to both drugs. The 5 influenza A(H1N1)pdm09 and 7 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

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

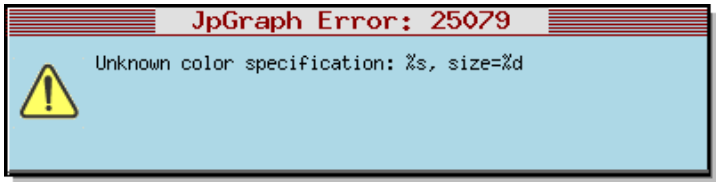
Similarly to previous weeks, during week 46/2013, all reporting countries in the Region reported low influenza activity (Map 2) mainly stable trends (Map 4) with predominantly no or sporadic influenza activity (Map 3), which resembles the situation in previous seasons at this time of year.

Consultation rates for ILI and/or ARI remained below the national baselines or at preseason levels in all countries reporting clinical data during week 46/2013.

Click on the maps for more detailed information.

The number of ILI and ARI cases testing positive for influenza in the Region remained low. Only 1 sentinel sample tested positive for influenza during week 46/2013.

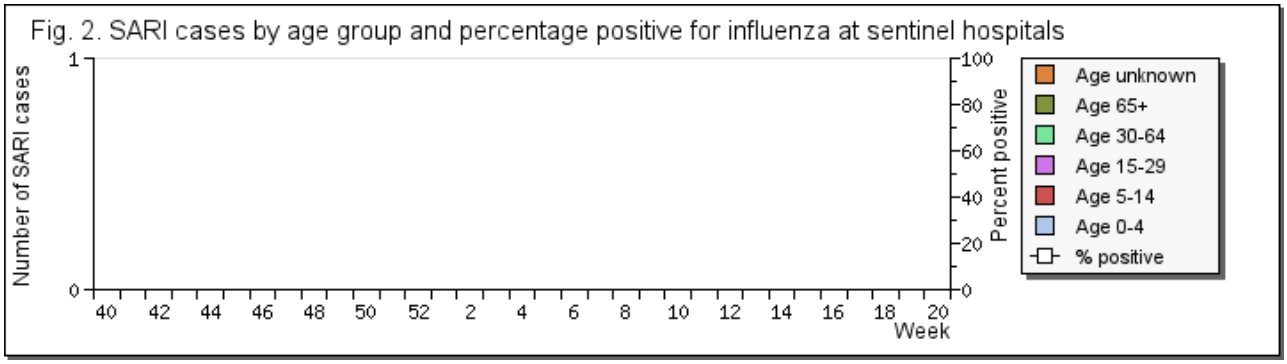
Fig. 5 presents historical data on the weekly percentage of influenza positive sentinel ILI/ARI specimens from the previous 4 seasons; the percentage of sentinel ILI/ARI influenza positive samples was not calculated in weeks 40–46/2013, because there were fewer than 20 influenza positive specimens per week.



1 (0.1%) of the 778 specimens collected from sentinel sources tested positive for influenza A during week 46/2013. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations during week 46/2013 was lower than in the preceding week, but similar to those in previous weeks. It remained at interseason levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



Similarly to previous weeks none of the 128 SARI samples collected in Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation and Ukraine tested positive for influenza during week 46/2013. Click here for a detailed overview in table format.

Since week 40/2013, Ireland, Sweden and the United Kingdom reported 15 hospitalized laboratory-confirmed influenza cases, with 7 of them being influenza B, 3 A(H1N1)pdm09 and 5 A not subtyped. 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 data for 46/2013 showed that all-cause mortality was within the normal range for all reporting countries. 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.

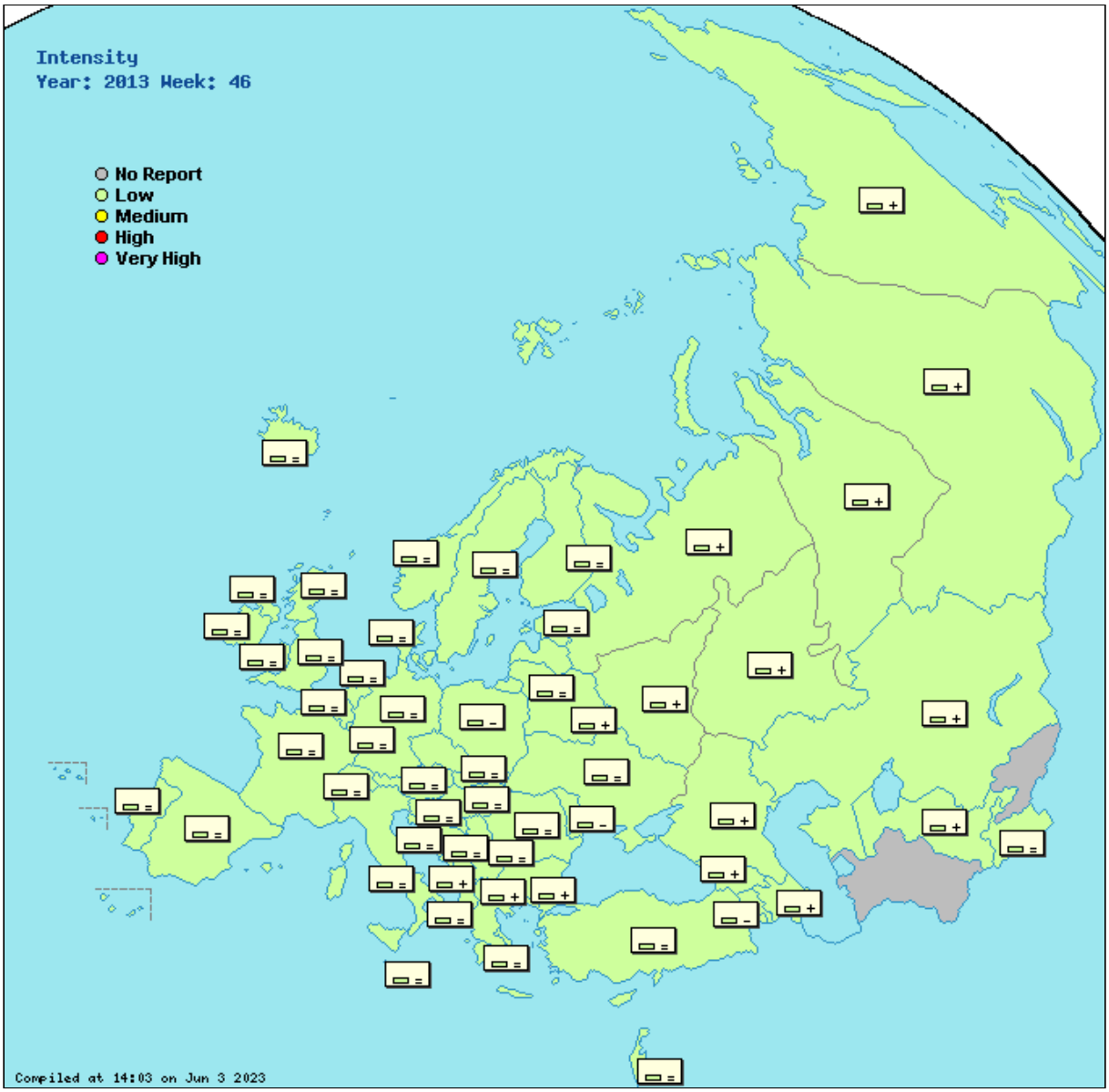
Map

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 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
20 sentinel samples were tested for Influenza A and B - none of them were positive. 1 sample was positive for RNA

hParainfluenza virus type 1, 1 sample - positive for RNA Rhinovirus and RNA hParainfluenza virus type 1, and 2 - positive for RNA Rhinovirus.

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				(graphs)	390.6 (graphs)	sari	Click here
Armenia					0	-	None		(graphs)	sari	Click here
Austria	Low	None		Stable	2	0%	None	887.0 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Increasing	32	0%	None	189.1 (graphs)	(graphs)		Click here
Belarus					30	0%	None		(graphs)	sari	Click here
Belgium	Low	None		Stable	14	0%	None	23.3 (graphs)	1342.1 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Stable			None	31.1 (graphs)	86.0 (graphs)		Click here
Bulgaria	Low	None		Increasing	0	-	None	(graphs)	903.6 (graphs)		Click here
Croatia							None	(graphs)			Click here
Cyprus	Low	None	Low	Stable				0.4 * (graphs)	5.3 * (graphs)		Click here
Czech Republic	Low	None		Stable				22.6 (graphs)	806.8 (graphs)		Click here
Denmark	Low	Sporadic		Stable	3	0%	None	26.7 (graphs)	(graphs)		Click here
England	Low	None		Stable	67	0%	None	4.8 (graphs)	174.6 (graphs)		Click here
Estonia	Low	None		Stable	1	0%	None	4.4 (graphs)	223.0 (graphs)		Click here
Finland	Low	None		Stable	12	0%	None	(graphs)			Click here
France	Low	Sporadic	Low	Stable	43	0%	None	(graphs)	1239.0 (graphs)		Click here
Georgia	Low	None	Low	Increasing	10	0%	None	335.5 (graphs)	(graphs)	sari	Click here
Germany	Low	None		Stable	48	0%	None	(graphs)	996.5 (graphs)		Click here
Greece	Low	None		Stable	0	-	None	62.1 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable	14	0%	None	46.0 (graphs)	(graphs)		Click here
Iceland					0	-		(graphs)			Click here
Ireland	Low	None	Low	Stable	7	0%	None	6.1 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Stable	33	0%	None	9.4 (graphs)			Click here
Italy	Low	None	Low	Stable	75	0%	None	68.2 (graphs)	(graphs)		Click here
Kazakhstan					26	0%	None		(graphs)	sari	Click here
Kyrgyzstan					2	0%	None		(graphs)	sari	Click here
Latvia	Low	None			0	-	None	0.0 (graphs)	815.1 (graphs)		Click here
Lithuania	Low	None	Low	Stable	9	0%	None	0.8 (graphs)	466.3 (graphs)		Click here
Luxembourg	Low	None			7	0%		0.3 * (graphs)	24.8 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Increasing			None	3.7 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable	0	-	None	0.2 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Stable				1.0 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	8	0%	None	17.5 (graphs)	(graphs)		Click here
Northern Ireland	Low	None	Low	Stable	2	0%	None	14.4 (graphs)	362.0 (graphs)		Click here
Norway	Low	Sporadic		Stable	6	0%	None	20.7 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Decreasing	4	0%	None	144.3 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable				0.0 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Decreasing	16	0%	None	(graphs)	240.8 (graphs)	sari	Click here
Romania	Low	None	Low	Stable	3	0%		1.5 (graphs)	605.7 (graphs)	sari	Click here
Russian Federation	Low	None		Increasing	45	0%	None	(graphs)	493.3 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	18	0%	None	8.2 (graphs)	382.5 (graphs)		Click here
Serbia	Low	None	Low	Stable	0	-	None	36.8 (graphs)	(graphs)	sari	Click here
Slovakia	Low	None	Low	Stable	0	-	None	119.7 (graphs)	1367.9 (graphs)	sari	Click here
Slovenia	Low	None		Stable	11	0%	None	0.0 (graphs)	809.1 (graphs)		Click here
Spain	Low	None		Stable	65	0%	None	12.4 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Stable	40	2.5%	None	5.2 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable	5	0%	None	13.1 (graphs)	(graphs)		Click here
Tajikistan	Low	None	Low	Stable				0.0 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	113	0%	None	0.0 (graphs)	(graphs)		Click here
Ukraine	Low	None	Low	Stable	7	0%	None	4.1 * (graphs)	390.4 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Increasing	0	-	None	(graphs)	0.0 (graphs)		Click here
Europe					778	0.1%					Click here

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.

Low levels of influenza activity with sporadic influenza detections in countries of the WHO European Region

Summary, week 47/2013

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 for this week. The number of specimens testing positive for influenza is low, quite typical for this time of the year and comparable with previous seasons. The number of hospitalizations due to severe acute respiratory infection (SARI) is similar to that in the previous week, with none of the 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

For week 47/2013 the number of influenza detections in the Region remained low: cumulatively, 5984 specimens from sentinel and non-sentinel sources were tested for influenza, 45 (1%) of which were positive: 29 (64%) for influenza A and 16 (36%) for influenza B (Fig. 1 and 2).

Of the 17 influenza A viruses that were subtyped for week 47/2013, 5 (29%) were A(H1N1)pdm09 and 12 (71%) A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2013), 387 influenza viruses from sentinel and non-sentinel sources have been detected and typed, with influenza A being predominant: 277 (72%) viruses were influenza A and 110 (28%) influenza B. Of the 169 influenza A viruses that have been subtyped, 82 (51%) were A(H1N1)pdm09 and 87 (49%) were A(H3N2) (Fig. 2b).

Since the beginning of the season, the number of influenza detections in reporting countries has remained too low to allow inference of any dominant virus; consequently 38 countries reported "none" in the dominant virus type category for week 47/2013 (Map 1).

Virus strain characterizations

Circulating 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 40/2013, one country (Germany) has characterized 2 influenza viruses antigenically: both were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like). 4 countries (Denmark, Finland, Norway and Sweden) have characterized 26 influenza viruses genetically: 12 A(H3N2), 13 A(H1N1)pdm09 and 1 influenza B virus (Yamagata lineage). The 12 A(H3N2) viruses belonged to subgroup 3C, represented by A/Texas/50/2012 in the A/Perth/16/2009, A(H3) clade; 13 A(H1N1)pdm09 viruses belonged to genetic group 6, represented by A/St Petersburg/27/2011; the influenza B virus belonged to clade 2 represented by B/Massachusetts/02/2012 in the Yamagata lineage.

Since week 40/2013, 4 countries (Norway, Spain, Sweden and United Kingdom (England)) have screened 17 influenza A(H1N1)pdm09, 8 influenza A(H3N2) viruses and 1 influenza B virus for susceptibility to oseltamivir and zanamivir. All showed susceptibility to both drugs. The 11 influenza A(H1N1)pdm09 and 7 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

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

Similar to previous weeks, during week 47/2013 all reporting countries in the Region reported low influenza activity (Map 2), mainly stable trends (Map 4), with predominantly no or sporadic influenza activity (Map 3), which resembles the situation in previous seasons at this time of year.

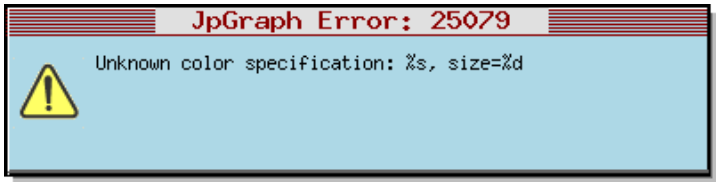
Consultation rates for ILI and/or ARI remained below the national baselines or at pre-season levels in all countries reporting clinical

data, for week 47/2013. Nevertheless, in several countries (Austria, Italy, Spain and the United Kingdom (England)) an increase in ILI or ARI consultation rates was observed in children aged 0–4 years.

Click on the maps for more detailed information.

The number of ILI and ARI cases testing positive for influenza in the Region remained low. Six samples (1%) tested positive for influenza during week 47/2013.

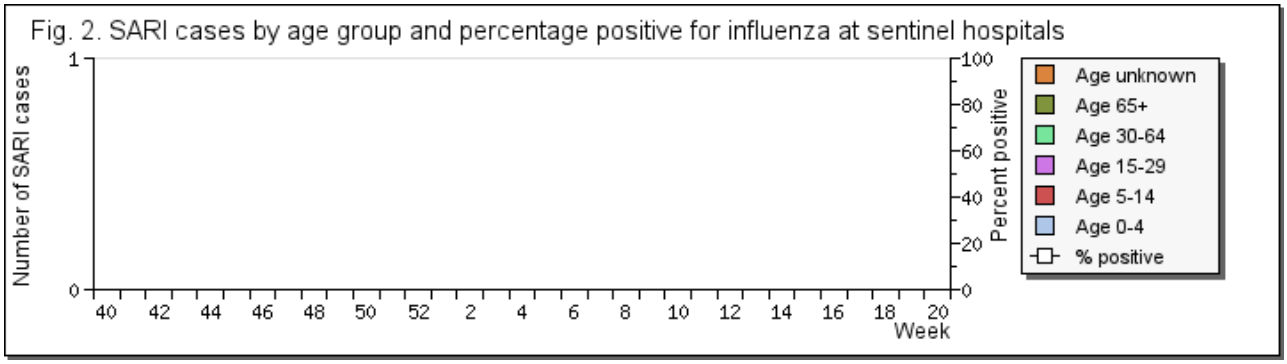
Fig. 5 presents historical data on the weekly percentage of influenza positive sentinel ILI/ARI specimens from the previous 4 seasons; the percentage of sentinel ILI/ARI influenza positive samples was not calculated in weeks 40–47/2013, because there were fewer than 20 influenza-positive specimens per week.



6 (1%) of the 763 specimens collected from sentinel sources tested positive for influenza A for week 47/2013. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations in week 47/2013 was similar to that reported in previous weeks, and remained at inter-season levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



Similarly to previous weeks, none of the 73 SARI samples collected in Belarus, Georgia, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine tested positive for influenza in week 47/2013. Click here for a detailed overview in table format.

Since week 40/2013, Ireland, Sweden and the United Kingdom reported 15 hospitalized laboratory-confirmed influenza cases, with 7 of them being influenza B, 3 A(H1N1)pdm09 and 5 A not subtyped. 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 data for 46/2013 showed that all-cause mortality was within the normal range for all reporting countries. 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.

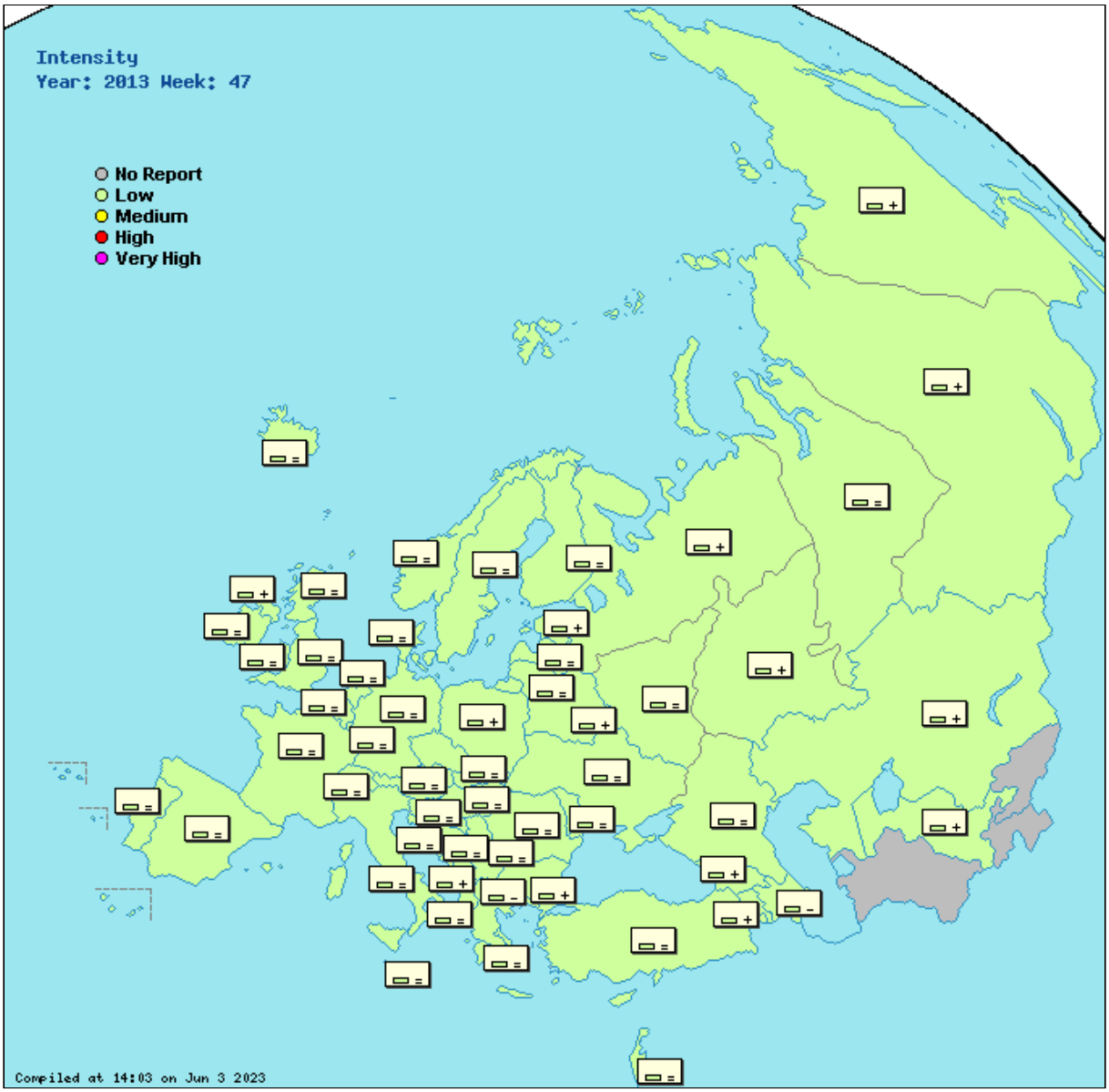
Map

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 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
21 samples were tested for Influenza A and B - none of them were positive. 2 samples were positive for RNA hRSV, 1

sample - positive for RNA Rhinovirus and RNA Adenovirus and 4 - positive for RNA Rhinovirus.

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					389.7 (graphs)	sari	Click here
Armenia	Low	None	Low	Increasing					83.6 (graphs)	sari	Click here
Austria	Low	None		Stable	2	0%	None	833.2 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Decreasing	106	0%	None	186.9 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Increasing	34	0%	None	17.1 (graphs)	859.4 (graphs)	sari	Click here
Belgium	Low	None		Stable	16	0%	None	40.5 (graphs)	1831.9 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Stable			None	28.5 (graphs)	95.0 (graphs)		Click here
Bulgaria	Low	None		Increasing	3	0%	None	(graphs)	1035.4 (graphs)		Click here
Croatia					0	-	None	(graphs)			Click here
Cyprus	Low	None	Low	Stable				0.4 * (graphs)	5.1 * (graphs)		Click here
Czech Republic	Low	None		Stable				24.8 (graphs)	854.9 (graphs)		Click here
Denmark	Low	Sporadic		Stable	4	0%	None	27.4 (graphs)	(graphs)		Click here
England	Low	None		Stable	0	-	None	1.6 (graphs)	231.7 (graphs)		Click here
Estonia	Low	None		Increasing	3	0%	None	7.1 (graphs)	237.4 (graphs)		Click here
Finland	Low	None		Stable	8	0%	None	(graphs)			Click here
France	Low	Sporadic	Low	Stable	52	0%	None	(graphs)	1531.8 (graphs)		Click here
Georgia					7	0%	None	404.1 (graphs)	(graphs)	sari	Click here
Germany	Low	None		Stable	56	0%	None	(graphs)	1050.2 (graphs)		Click here
Greece	Low	None		Stable	2	0%	None	48.8 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable	15	0%	None	64.2 (graphs)	(graphs)		Click here
Iceland					0	-		(graphs)			Click here
Ireland	Low	Sporadic	Low	Stable	8	12.5%	None	4.2 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Stable	45	2.2%	None	11.1 (graphs)			Click here
Italy	Low	None	Low	Stable	10	0%	None	94.1 (graphs)	(graphs)		Click here
Kyrgyzstan					2	0%	None	48.3 (graphs)	32.5 (graphs)	sari	Click here
Latvia	Low	None		Stable	0	-	None	0.0 (graphs)	813.7 (graphs)		Click here
Lithuania	Low	None	Low	Stable	9	0%	None	0.9 (graphs)	504.1 (graphs)		Click here
Luxembourg	Low	None			6	0%		0.3 * (graphs)	19.2 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Decreasing	0	-	None	3.1 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable				0.2 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	Sporadic	Low	Increasing				2.7 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	8	0%	None	33.9 (graphs)	(graphs)		Click here
Northern Ireland	Low	None	Low	Increasing	4	0%	None	18.8 (graphs)	385.1 (graphs)		Click here
Norway	Low	Sporadic		Stable	6	0%	None	22.4 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Increasing	4	0%	None	192.9 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	0	-	None	6.6 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Stable	18	0%	None	(graphs)	249.6 (graphs)	sari	Click here
Romania	Low	None	Low	Stable	2	0%		1.0 (graphs)	636.9 (graphs)	sari	Click here
Russian Federation	Low	None		Stable	55	0%	None	(graphs)	526.4 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	32	0%	None	7.8 (graphs)	397.3 (graphs)		Click here
Serbia	Low	None	Low	Stable	3	0%	None	41.6 (graphs)	(graphs)	sari	Click here
Slovakia	Low	None	Low	Stable	3	0%	None	129.7 (graphs)	1468.6 (graphs)	sari	Click here
Slovenia	Low	None		Stable	5	0%	None	0.0 (graphs)	830.3 (graphs)		Click here
Spain	Low	Sporadic		Stable	69	2.9%	None	15.4 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Stable	26	0%	None	6.7 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable	11	0%	None	23.3 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	120	1.7%	None	0.0 (graphs)	(graphs)		Click here
Ukraine	Low	None	Low	Stable	6	0%	None	3.1 * (graphs)	422.5 (graphs)	sari	Click here
Uzbekistan					2	0%	None		(graphs)		Click here
Wales	Low	None		Stable	1	0%	None	6.6 (graphs)	(graphs)		Click here
Europe					763	0.8%					Click here

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.

Influenza detections still sporadic in Europe

Summary, week 48/2013

Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) in outpatient clinics and hospitalizations due to severe acute respiratory infection (SARI) remain at low levels throughout the WHO European Region. Several countries reported sporadic detections of influenza A(H3N2), influenza B and influenza A(H1N1)pdm09. The percentage of sentinel samples that tested positive for influenza in week 48/2013 (4%) remained low, as is common for this time of year, while respiratory syncytial virus detections have slowly increased since week 40/2013.

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

During week 48/2013 the number of influenza detections in the Region remained low. Cumulatively, 6371 specimens from sentinel and non-sentinel sources were tested for influenza during the week, 94(1.5%) of which were positive: 65 (69%) for influenza A and 29 (31%) for influenza B (Fig. 1 and 2).

Of the 40 influenza A viruses that were subtyped during week 48/2013, 11 (28%) were A(H1N1)pdm09 and 29 (72%) A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2013), sentinel and non-sentinel sources have yielded 528 influenza detections: 377 (71%) were influenza A viruses and 151 (29%) influenza B. Of the 233 influenza A viruses that have been subtyped, 104 (45%) were A(H1N1)pdm09 and 129 (55%) were A(H3N2) (Fig. 2b).

Owing to the low number of viruses detected in week 48/2013, only 1 country (Italy) reported a dominant virus, influenza A, subtype H3N2, as shown in Map 1.

Virus strain characterizations

Circulating 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 40/2013, 3 countries (Germany, Portugal and the United Kingdom (England)) have characterized 11 influenza viruses antigenically: 9 were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like) and 2 B/Yamagata/16/88 lineage viruses: 1 B/Massachusetts/2/2012-like and 1 B/Wisconsin/1/2010-like. 6 countries (Denmark, Finland, Norway, Portugal, Spain and Sweden) have characterized 29 influenza viruses genetically: 12 A(H3N2), 15 A(H1N1)pdm09 and 2 influenza B-Yamagata lineage. The 12 A(H3N2) viruses belonged to subgroup 3C, represented by A/Texas/50/2012 in the A/Perth/16/2009, A(H3) clade; the 15 A(H1N1)pdm09 viruses belonged to genetic group 6, represented by A/St Petersburg/27/2011; the 2 influenza B viruses belonged to clade 2, represented by B/Massachusetts/02/2012 in the Yamagata lineage.

Since week 40/2013, 4 countries (Norway, Spain, Sweden and United Kingdom (England)) have screened 21 influenza A(H1N1)pdm09, 12 influenza A(H3N2) and 2 influenza B viruses for susceptibility to oseltamivir and zanamivir. All showed susceptibility to both drugs. The 12 influenza A(H1N1)pdm09 and 8 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

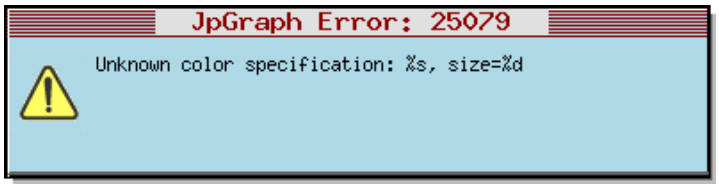
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Similarly to previous weeks, during week 48/2013 the European countries making reports all indicated low influenza activity (Map 2) and mainly stable trends (Map 4), with predominantly no or sporadic influenza activity (Map 3), which resembles the situation in previous seasons at this time of year.

Consultation rates for ILI and/or ARI remained below the national baselines or at pre-season levels in all countries reporting clinical data during week 48/2013.

Click on the maps for more detailed information.

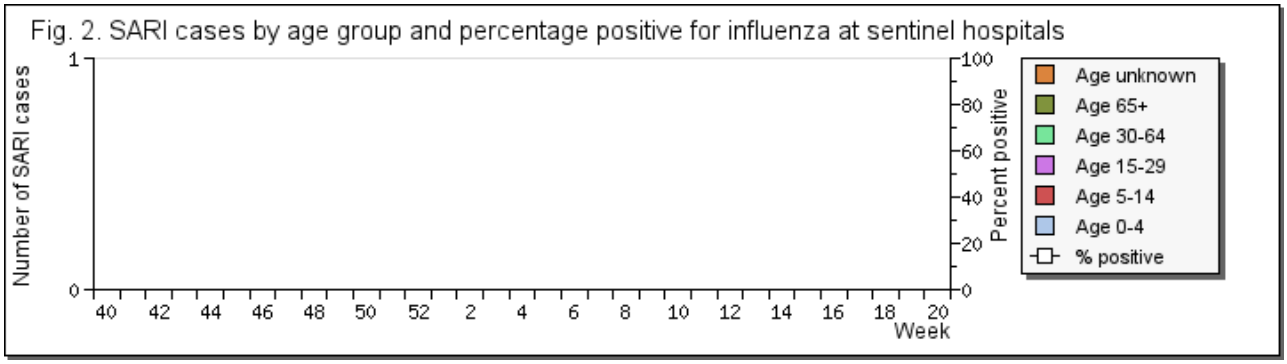
The number of ILI and ARI cases testing positive for influenza in the Region remained low. Only 32 sentinel samples tested positive for influenza during week 48/2013, reported mainly by a few western European countries.



32 (4%) of the 811 specimens collected from sentinel sources tested positive for influenza, with the majority being influenza A, during week 48/2013. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations during week 48/2013 was similar to those in previous weeks. It remained at interseason levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



Similarly to previous weeks, none of the 146 SARI samples collected in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation and Ukraine tested positive for influenza during week 48/2013. Click here for a detailed overview in table format.

Since week 40/2013, Ireland, Sweden and the United Kingdom reported 19 hospitalized laboratory-confirmed influenza cases, with 8 of them being influenza B, 4 A(H1N1)pdm09 and 7 A not subtyped. 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 has been gradually increasing since week 40/2013 (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 48/2013 showed that all-cause mortality was within the normal range for all reporting countries. 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.

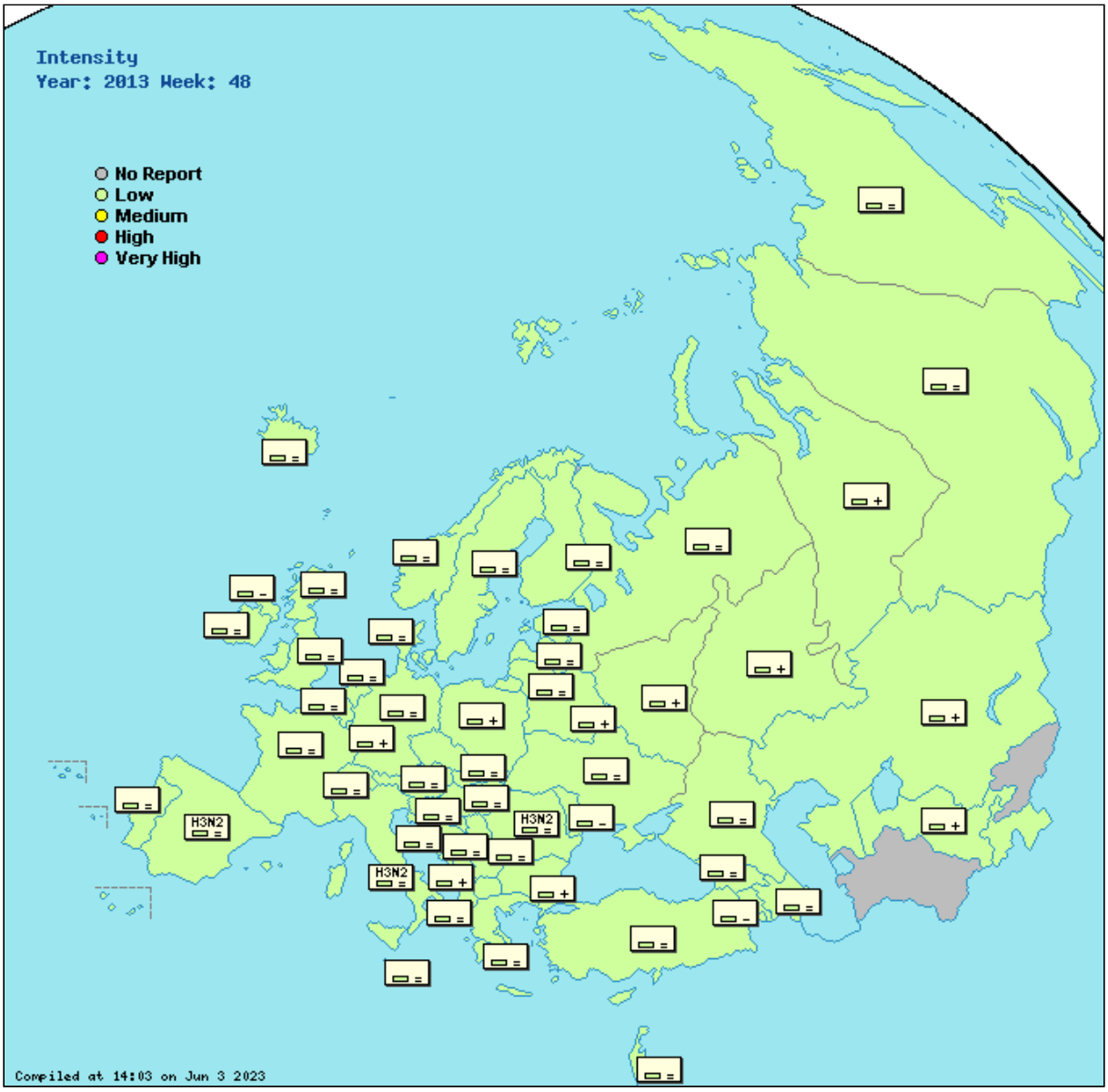
Map

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 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
21 samples were tested for Influenza A and B - none of them were positive. 2 samples were positive for RNA hRSV, 1 sample - positive for RNA Rhinovirus, 1 - positive for RNA hRhinovirus and hParainfluenza type 1 and 1- positive for hParainfluenza type 1.

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					4	0%	None		(graphs)	sari	Click here
Austria	Low	None		Stable	5	0%	None	817.8 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Stable	100	0%	None	186.9 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Increasing	29	0%	None	15.0 (graphs)	915.1 (graphs)	sari	Click here
Belgium	Low	None		Stable	12	0%	None	40.4 (graphs)	1893.4 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Stable			None	26.0 (graphs)	108.6 (graphs)		Click here
Bulgaria	Low	None		Increasing	0	-	None	(graphs)	1055.5 (graphs)		Click here
Cyprus	Low	None	Low	Stable				1.0 * (graphs)	4.1 * (graphs)		Click here
Czech Republic	Low	None		Stable				26.2 (graphs)	890.9 (graphs)		Click here
Denmark	Low	Sporadic		Stable	4	0%	None	32.2 (graphs)	(graphs)		Click here
England	Low	None		Stable	71	0%	None	5.2 (graphs)	233.5 (graphs)		Click here
Estonia	Low	None		Stable	4	0%	None	7.7 (graphs)	287.6 (graphs)		Click here
Finland	Low	None		Stable	8	0%	None	(graphs)			Click here
France	Low	Sporadic	Low	Stable	55	1.8%	None	(graphs)	1686.4 (graphs)		Click here
Georgia	Low	None	Low	Stable	11	0%	None	404.1 (graphs)	(graphs)	sari	Click here
Germany	Low	Sporadic		Stable				(graphs)	1056.2 (graphs)		Click here
Greece	Low	None		Stable	0	-	None	56.4 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable	18	0%	None	72.3 (graphs)	(graphs)		Click here
Iceland	Low	None	Low	Stable	0	-		2.5 (graphs)	(graphs)		Click here
Ireland	Low	None	Low	Stable	9	0%	None	8.4 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Stable	45	4.4%	None	11.6 (graphs)			Click here
Italy	Low	None	Low	Stable	13	7.7%	Type A, Subtype H3N2	117.9 (graphs)	(graphs)		Click here
Kazakhstan	Low	None	Low	Increasing	17	0%	None	123.4 (graphs)	35.7 (graphs)	sari	Click here
Kyrgyzstan					3	0%	None		(graphs)	sari	Click here
Latvia	Low	None		Stable	0	-	None	0.0 (graphs)	893.9 (graphs)		Click here
Lithuania	Low	None	Low	Stable	9	0%	None	0.6 (graphs)	539.1 (graphs)		Click here
Luxembourg	Low	None			3	0%		0.8 * (graphs)	24.1 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Stable				3.1 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable				0.8 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Increasing				3.9 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	4	0%	None	32.3 (graphs)	(graphs)		Click here
Northern Ireland	Low	None	Low	Decreasing	0	-	None	18.8 (graphs)	385.1 (graphs)		Click here
Norway	Low	Sporadic		Stable	8	12.5%	None	24.1 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Increasing	16	0%	None	203.5 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	2	0%	None	0.0 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Decreasing	17	0%	None	(graphs)	207.4 (graphs)	sari	Click here
Romania	Low	None	Low	Stable	7	0%		1.2 (graphs)	679.0 (graphs)	sari	Click here
Russian Federation	Low	None		Increasing	47	0%	None	0.1 (graphs)	579.2 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	21	4.8%	None	8.7 (graphs)	401.7 (graphs)		Click here
Serbia	Low	None	Low	Stable	9	0%	None	43.0 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	1	0%	None	160.5 (graphs)	1605.4 (graphs)	sari	Click here
Slovenia	Low	None		Stable	8	0%	None	0.0 (graphs)	928.8 (graphs)		Click here
Spain	Low	Sporadic		Stable	79	7.6%	None	16.8 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Stable	35	5.7%	None	2.8 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable	8	0%	None	13.9 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	124	14.5%	None	127.1 (graphs)	(graphs)		Click here
Ukraine	Low	Sporadic	Low	Stable	3	0%	None	3.2 * (graphs)	459.4 (graphs)	sari	Click here
Uzbekistan					2	0%	None		(graphs)		Click here
Wales	Low	None		Stable				4.9 (graphs)	(graphs)		Click here
Europe					811	4.0%					Click here

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.

Sporadic influenza activity in the WHO European Region

Summary, week 49/2013

Influenza activity in the WHO European Region remains at pre-season levels, with sporadic detections of influenza viruses being reported mainly from countries in western Europe. Influenza A was detected in the majority of cases testing positive for influenza this week. The number of hospitalizations due to severe acute respiratory infection (SARI) remains stable, with no influenza detected among SARI cases.

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

During week 49/2013 the number of influenza detections in the Region remained low despite a slight increase in number of specimens tested for influenza in comparison with previous weeks. In total, 7121 specimens from sentinel and non-sentinel sources were tested for influenza during the week, 106 (1.5%) of which were positive: 92 (87%) for influenza A and 14 (13%) for influenza B (Fig.1 and 2).

Of the 61 influenza A viruses that were subtyped during week 49/2013, 29 (48%) were A(H1N1)pdm09 and 32 (52%) A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2013), sentinel and non-sentinel sources have yielded 655 influenza detections: 489 (74%) were influenza A viruses and 166 (26%) influenza B (Fig. 2b). Of the 318 influenza A viruses that have been subtyped, 152 (48%) were A(H1N1)pdm09 and 166 (52%) were A(H3N2).

Since the number of influenza detections remained low in week 49/2013, only 3 countries reported a dominant virus, influenza A (Norway), and influenza A, subtype H3N2 (Italy and Turkey), as shown in Map 1.

Virus strain characterizations

Circulating 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 40/2013, 3 countries (Germany, Portugal and the United Kingdom (England)) have characterized 12 influenza viruses antigenically: 10 were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like) and 2 B/Yamagata/16/88 lineage viruses (1 B/Massachusetts/2/2012-like and 1 B/Wisconsin/1/2010-like). 6 countries (Denmark, Finland, Norway, Portugal, Spain and Sweden) have characterized 33 influenza viruses genetically: 14 A(H3N2), 16 A(H1N1)pdm09 and 3 influenza B-Yamagata lineage. The 14 A(H3N2) viruses belonged to subgroup 3C, represented by A/Texas/50/2012 in the A/Perth/16/2009, A(H3) clade; the 16 A(H1N1)pdm09 viruses belonged to genetic group 6, represented by A/St Petersburg/27/2011; 2 influenza B viruses belonged to clade 2, represented by B/Massachusetts/02/2012 and 1 to clade 3, represented by B/Wisconsin/1/2010, all in the Yamagata lineage.

Since week 40/2013, 4 countries (Norway, Spain, Sweden and United Kingdom (England)) have screened 21 influenza A(H1N1)pdm09, 13 influenza A(H3N2) and 2 influenza B viruses for susceptibility to oseltamivir and zanamivir. All showed susceptibility to both drugs. The 12 influenza A(H1N1)pdm09 and 8 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

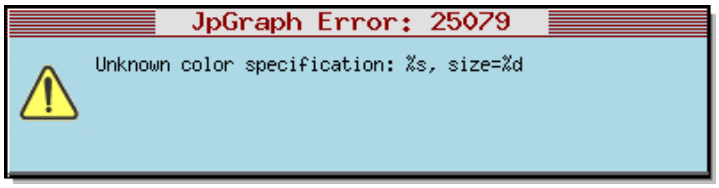
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

Similarly to previous weeks, during week 49/2013 almost all of the European countries reporting qualitative indicators indicated low influenza activity (Map 2) and mainly stable trends (Map 4), with predominantly no or sporadic influenza activity (Map 3).

During week 49/2013, consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) remained below the national baselines or at pre-season levels in all countries reporting clinical data except for the Republic of Moldova.

Click on the maps for more detailed information.

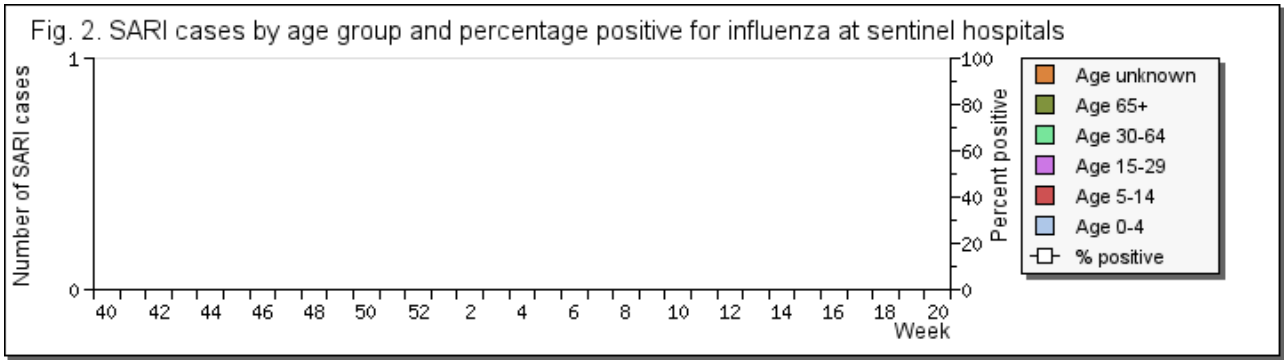
The number of ILI and ARI cases testing positive for influenza in the Region remained low. Only 31 sentinel samples tested positive for influenza during week 49/2013, reported mainly by a few western European countries.



During week 49/2013, 31 (4.1%) of the 750 specimens collected from sentinel sources tested positive for influenza, with the majority being influenza A(H3). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations was similar to previous weeks during week 49/2013. It remained at interseason levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



Similarly to previous weeks, none of the 123 SARI samples collected in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza during week 49/2013. Click here for a detailed overview in table format.

Since week 40/2013, Ireland, France, Spain, Sweden and the United Kingdom have reported 30 hospitalized laboratory-confirmed influenza cases in total, with 11 being influenza B, 7 A(H1N1)pdm09, 1 A(H3) and 11 type A not subtyped. 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 has been gradually increasing since week 40/2013 with a slightly later start compared with the previous season. For more information please click here.

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 49/2013 showed that all-cause mortality was within the normal range for all reporting countries. 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.

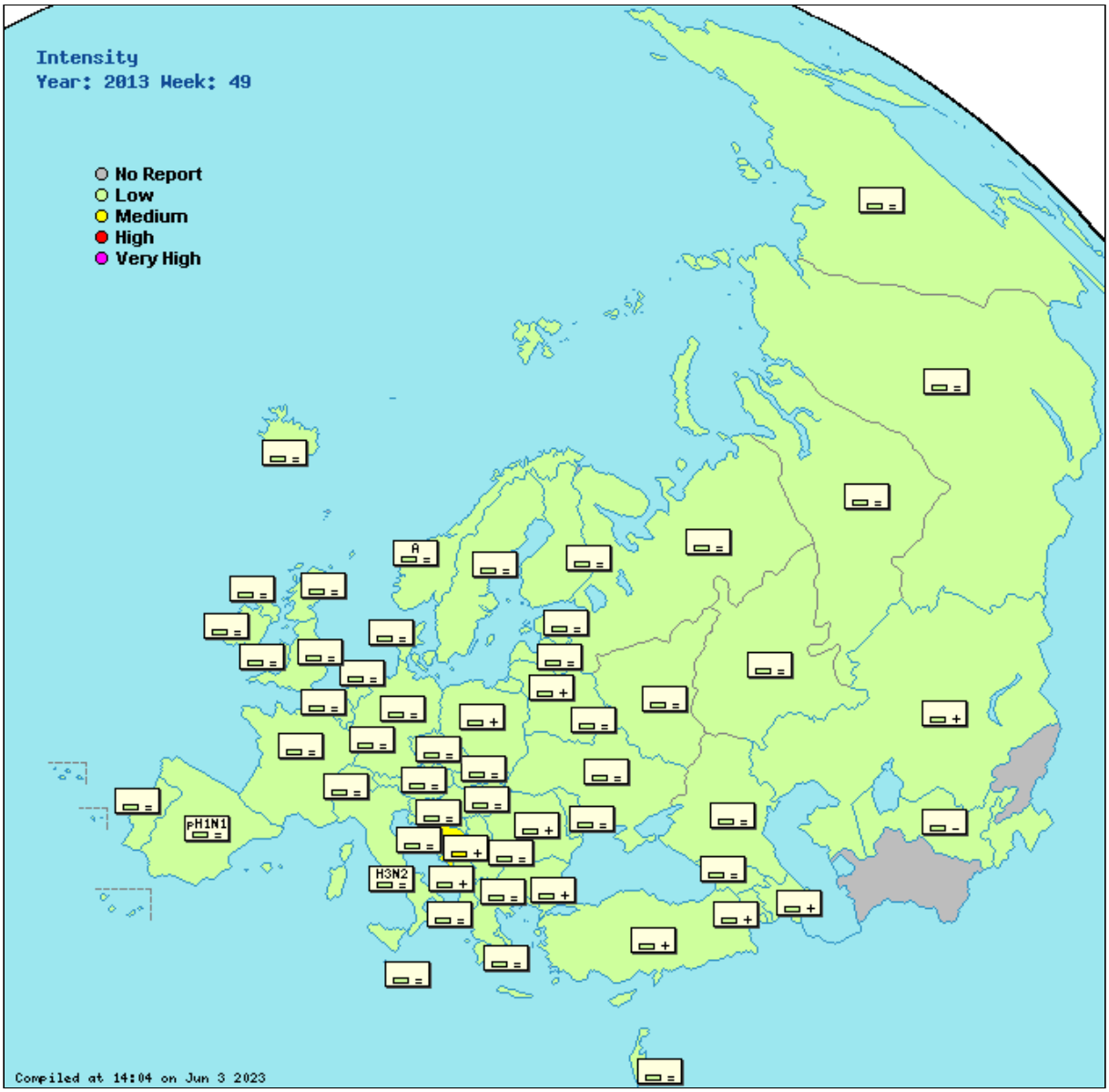
Map

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 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
20 samples were tested for Influenza A and B - none of them were positive. 2 samples were positive for RNA hRSV, 1

sample - positive for RNA Rhinovirus, 1 - positive for RNA hRhinovirus and DNA hBocavirus, 1- positive for DNA hBocavirus, and 1- positive for RNA hMetapneumovirus.

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					374.9 (graphs)	sari	Click here
Armenia	Low	None	Low	Increasing	0	-	None		(graphs)	sari	Click here
Austria	Low	None		Stable	4	0%	None	998.8 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Increasing	37	0%	None	187.3 (graphs)	(graphs)		Click here
Belarus					31	0%	None		(graphs)	sari	Click here
Belgium	Low	None		Stable	11	0%	None	34.6 (graphs)	2047.8 (graphs)	sari	Click here
Bosnia and Herzegovina	Medium	None	Low	Increasing			None	34.1 (graphs)	114.2 (graphs)		Click here
Bulgaria	Low	None		Increasing	0	-	None	(graphs)	1075.2 (graphs)		Click here
Croatia	Low	None		Stable	5	0%	None	0.0 (graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				0.2 * (graphs)	7.2 * (graphs)		Click here
Czech Republic	Low	None		Stable	17	0%	None	23.7 (graphs)	928.3 (graphs)		Click here
Denmark	Low	Sporadic		Stable	5	0%	None	32.0 (graphs)	(graphs)		Click here
England	Low	None		Stable	66	0%	None	6.6 (graphs)	287.5 (graphs)		Click here
Estonia	Low	None		Stable	2	0%	None	6.4 (graphs)	248.3 (graphs)		Click here
Finland	Low	None		Stable	9	0%	None	(graphs)			Click here
France	Low	Sporadic	Low	Stable	68	7.4%	None	(graphs)	1832.7 (graphs)		Click here
Georgia	Low	None	Moderate	Stable	17	0%	None	347.3 (graphs)	(graphs)	sari	Click here
Germany	Low	Sporadic		Stable	51	0%	None	(graphs)	1110.9 (graphs)		Click here
Greece	Low	None		Stable	9	0%	None	75.0 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable	15	0%	None	76.0 (graphs)	(graphs)		Click here
Iceland	Low	None	Low	Stable	0	-		2.2 (graphs)	(graphs)		Click here
Ireland	Low	Sporadic	Low	Stable	11	18.2%	None	6.1 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Stable	35	5.7%	None	11.0 (graphs)			Click here
Italy	Low	None	Low	Stable	25	4.0%	Type A, Subtype H3N2	135.7 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Increasing	21	9.5%	None	107.6 (graphs)	26.3 (graphs)	sari	Click here
Kyrgyzstan					0	-	None	54.4 (graphs)	32.5 (graphs)	sari	Click here
Latvia	Low	None		Stable	0	-	None	0.0 (graphs)	878.3 (graphs)		Click here
Lithuania	Low	None	Low	Increasing	3	0%	None	0.7 (graphs)	589.2 (graphs)		Click here
Luxembourg	Low	None			5	0%		0.4 * (graphs)	23.1 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Stable			None	3.0 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable				1.1 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Increasing				5.0 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	1	0%	None	21.0 (graphs)	(graphs)		Click here
Northern Ireland	Low	None	Low	Stable	0	-	None	12.7 (graphs)	435.6 (graphs)		Click here
Norway	Low	Sporadic		Stable	4	0%	Type A	26.0 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Increasing	14	0%	None	230.7 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	1	0%	None	17.6 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Stable	14	0%	None	(graphs)	270.1 (graphs)	sari	Click here
Romania	Low	None	Low	Increasing	3	0%		1.6 (graphs)	746.2 (graphs)	sari	Click here
Russian Federation	Low	None		Stable	58	0%	None	(graphs)	592.6 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	24	4.2%	None	7.7 (graphs)	405.3 (graphs)		Click here
Serbia	Low	None	Low	Stable	4	0%	None	42.7 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	3	0%	None	154.5 (graphs)	1591.3 (graphs)	sari	Click here
Slovenia	Low	None		Stable	9	0%	None	0.0 (graphs)	959.8 (graphs)		Click here
Spain	Low	Sporadic		Stable	50	8.0%	None	17.4 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Stable	30	0%	None	5.3 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable	8	0%	None	17.2 (graphs)	(graphs)		Click here
Tajikistan	Low	None	Low	Stable				0.0 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Increasing	63	22.2%	Type A, Subtype H3	155.8 (graphs)	(graphs)		Click here
Ukraine	Low	None	Low	Stable	7	0%	None	3.4 * (graphs)	477.9 (graphs)	sari	Click here
Uzbekistan					10	0%	None		(graphs)		Click here
Wales	Low	None		Stable				8.1 (graphs)	(graphs)		Click here
Europe					750	4.1%					Click here

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.

Low influenza activity in Europe, but more countries reporting influenza detections

Summary, week 50/2013

Influenza activity remained low throughout the WHO European Region, with consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) in outpatient clinics and admissions for severe acute respiratory infection (SARI) in hospitals at pre-season levels in the majority of countries. The numbers of influenza A(H3N2), influenza B and influenza A(H1N1)pdm09 detections have been slowly increasing, mainly in western European countries, with the majority being influenza A. Respiratory syncytial virus detections continued to increase in some countries, but detections remained lower than last season.

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

During week 50/2013 the number of influenza detections in the Region increased slightly in comparison with previous weeks. In total, 7241 specimens from sentinel and non-sentinel sources were tested for influenza during the week, 164 (2.3%) of which were positive: 150 (92%) for influenza A and 14 (8%) for influenza B (Fig. 1 and 2).

Of the 78 influenza A viruses that were subtyped during week 50/2013, 41 (53%) were A(H1N1)pdm09 and 37 (47%) A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2013), sentinel and non-sentinel sources have yielded 854 influenza detections: 665 (78%) were influenza A viruses and 189 (22%) influenza B (Fig. 2b). Of the 434 influenza A viruses that have been subtyped, 210 (48%) were A(H1N1)pdm09 and 224 (52%) were A(H3N2).

Since the number of influenza detections remained low in week 50/2013, only 3 countries reported a dominant virus, influenza A (Norway) and influenza A(H3N2) in Italy and Spain, as shown in Map 1.

Virus strain characterizations

Circulating 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 40/2013, 3 countries (Germany, Portugal and the United Kingdom (England)) have characterized 13 influenza viruses antigenically: 9 were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like); 2 were A(H3N2) viruses (A/Texas/50/2012 (H3N2)-like); and 2 B/Yamagata/16/88 lineage viruses (1 B/Massachusetts/2/2012-like and 1 B/Wisconsin/1/2010-like). 7 countries (Denmark, Finland, the Netherlands, Norway, Portugal, Spain and Sweden) have characterized 57 influenza viruses genetically: 25 A(H3N2), 26 A(H1N1)pdm09 and 6 influenza B-Yamagata lineage. The 25 A(H3N2) viruses belonged to genetic subgroup 3C, represented by A/Texas/50/2012 in the A/Perth/16/2009, A(H3) clade; the 26 A(H1N1)pdm09 viruses belonged to genetic group 6, represented by A/St Petersburg/27/2011; and 4 influenza B viruses belonged to clade 2, represented by B/Massachusetts/02/2012 and 2 to clade 3, represented by B/Wisconsin/1/2010, all in the Yamagata lineage.

Since week 40/2013, 5 countries (the Netherlands, Norway, Spain, Sweden and the United Kingdom (England)) have screened 32 influenza A(H1N1)pdm09, 17 influenza A(H3N2) and 2 influenza B viruses for susceptibility to oseltamivir and zanamivir. All showed susceptibility to both drugs. The 14 influenza A(H1N1)pdm09 and 12 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

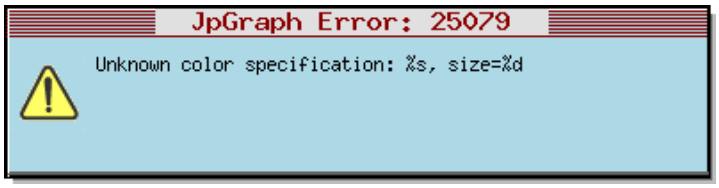
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 50/2013 most European countries reporting qualitative indicators indicated low influenza activity (Map 2) and mainly stable trends (Map 4), with predominantly no or sporadic influenza activity (Map 3).

During week 50/2013, consultation rates for ILI and/or ARI remained below the national baselines or at pre-season levels in all countries reporting clinical data except, despite there being no influenza detections, for the Republic of Moldova.

Click on the maps for more detailed information.

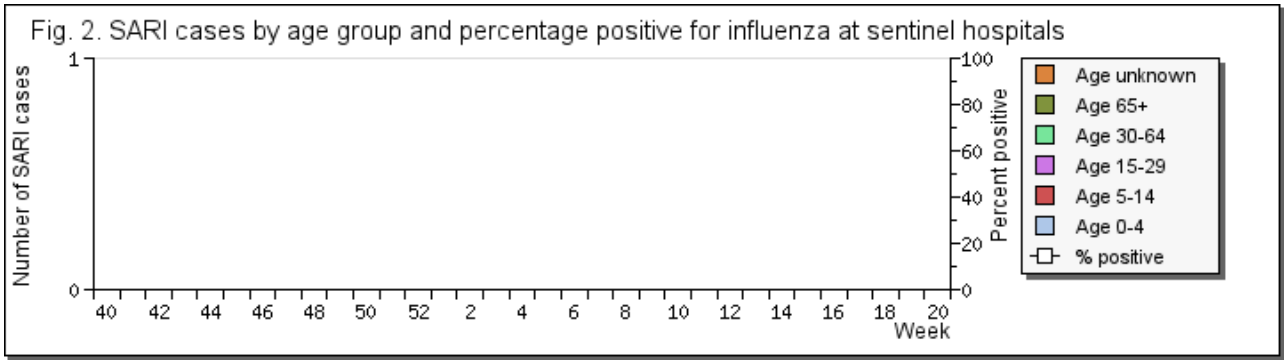
The number of ILI and ARI cases testing positive for influenza in the Region has been slowly increasing since the beginning of the season. However, during week 50/2013 only 48 sentinel samples tested positive for influenza, reported mainly by several western European countries.



During week 50/2013, 48 (5.8%) of the 830 specimens collected from sentinel sources tested positive for influenza, with the majority being influenza A(H3). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations has been slowly increasing since week 40/2013. However, the number remained at inter-season levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



Similarly to previous weeks, none of the 128 SARI samples collected in Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza during week 50/2013. Click here for a detailed overview in table format.

Since week 40/2013, Ireland, France, Spain, Sweden and the United Kingdom have reported 40 hospitalized laboratory-confirmed influenza cases in total, with 11 being influenza B, 11 A(H1N1)pdm09, 4 A(H3) and 14 type A not subtyped. 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 has been gradually increasing since week 40/2013 with a slightly later start compared with the previous season. (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 50/2013 showed that all-cause mortality was within the normal range for all reporting countries. 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.

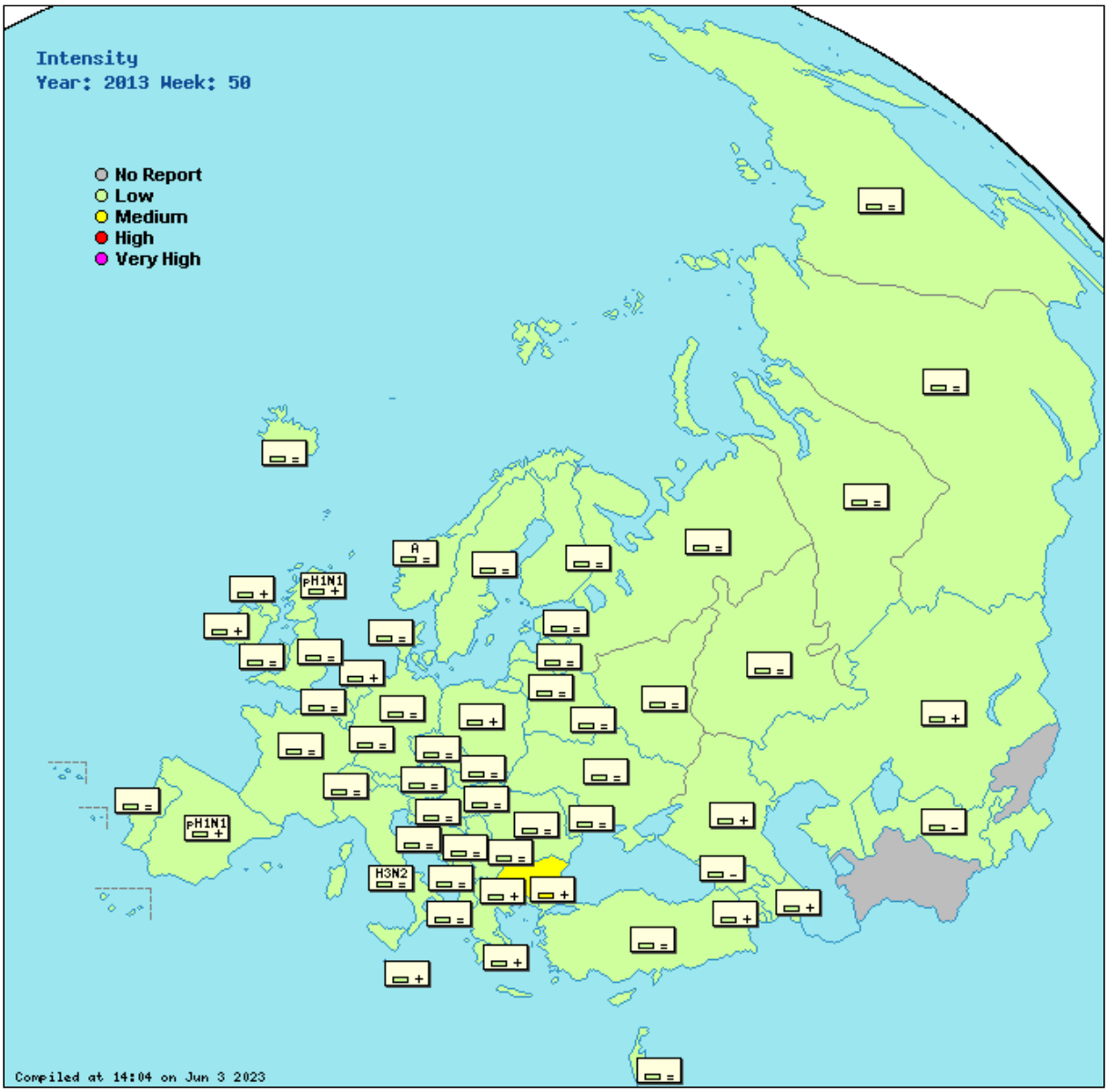
Map

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 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)

Czech Republic
Only non-flu viruses have been detected so far.
Republic of Moldova
23 samples were tested for Influenza A and B - none of them were positive. 2 samples were positive for RNA hRSV, 2 samples - positive for RNA Rhinovirus, 1 - positive for RNA hRhinovirus and RNA hMetapneumovirus, 2- positive for RNA hParainfluenza virus type 1, and 2 samples - positive for RNA hCoronavirus (genotypes HKU-1, OC43).

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				(graphs)	399.0 (graphs)	sari	Click here
Armenia	Low	None	Low	Increasing					87.9 (graphs)	sari	Click here
Austria	Low	None	Low	Stable	2	0%	None	832.6 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Increasing	56	0%	None	187.9 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Stable	32	0%	None	14.6 (graphs)	961.2 (graphs)	sari	Click here
Belgium	Low	None		Stable	16	12.5%	None	28.9 (graphs)	1949.1 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Stable			None	21.1 (graphs)	9972.7 (graphs)		Click here
Bulgaria	Medium	Sporadic		Increasing	16	6.3%	None	(graphs)	1149.8 (graphs)		Click here
Croatia	Low	Sporadic		Stable			None	(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				2.0 * (graphs)	7.9 * (graphs)		Click here
Czech Republic	Low	None		Stable	15	0%	None	27.0 (graphs)	941.6 (graphs)		Click here
Denmark	Low	Sporadic		Stable	1	0%	None	44.8 (graphs)	(graphs)		Click here
England	Low	None		Stable	82	7.3%	None	4.6 (graphs)	263.0 (graphs)		Click here
Estonia	Low	Sporadic		Stable	1	0%	None	6.3 (graphs)	251.2 (graphs)		Click here
Finland	Low	Sporadic		Stable	8	12.5%	None	(graphs)			Click here
France	Low	Sporadic	Low	Stable	63	11.1%	None	(graphs)	1824.2 (graphs)		Click here
Georgia	Low	None	Low	Decreasing	12	0%	None	224.1 (graphs)	(graphs)	sari	Click here
Germany	Low	Sporadic		Stable	67	0%	None	(graphs)	1131.9 (graphs)		Click here
Greece	Low	Sporadic		Increasing	0	-	None	89.1 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable	17	0%	None	87.6 (graphs)	(graphs)		Click here
Iceland	Low	None	Low	Stable	0	-		1.6 (graphs)	(graphs)		Click here
Ireland	Low	Sporadic	Low	Increasing	8	0%	None	9.7 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Stable	47	0%	None	16.6 (graphs)			Click here
Italy	Low	None	Low	Stable	24	16.7%	Type A, Subtype H3N2	155.7 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Increasing	26	7.7%	None	152.3 (graphs)	27.4 (graphs)	sari	Click here
Kyrgyzstan					0	-	None		(graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	1	100.0%	None	0.0 (graphs)	897.0 (graphs)		Click here
Lithuania	Low	None	Low	Stable	5	0%	None	1.0 (graphs)	567.1 (graphs)		Click here
Luxembourg	Low	None			5	0%		0.4 * (graphs)	26.0 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Increasing			None	7.5 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Increasing				3.7 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Stable				3.9 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	12	0%	None	30.2 (graphs)	(graphs)		Click here
Northern Ireland	Low	None	Low	Increasing	2	0%	None	13.8 (graphs)	464.9 (graphs)		Click here
Norway	Low	Sporadic		Stable	6	0%	Type A	30.9 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Increasing	7	0%	None	239.9 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	2	0%	None	9.1 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Stable	17	0%	None	(graphs)	300.2 (graphs)	sari	Click here
Romania	Low	None	Low	Stable	3	0%		2.5 (graphs)	767.9 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Stable	43	0%	None	(graphs)	605.2 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Increasing	33	0%	None	16.6 (graphs)	463.0 (graphs)		Click here
Serbia	Low	None	Low	Stable	2	0%	None	45.1 (graphs)	(graphs)	sari	Click here
Slovakia	Low	None	Low	Stable	7	0%	None	174.2 (graphs)	1717.4 (graphs)	sari	Click here
Slovenia	Low	None		Stable	12	0%	None	1.3 (graphs)	1117.5 (graphs)		Click here
Spain	Low	Sporadic		Increasing	103	19.4%	Type A, Subtype H3	27.8 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Stable	45	6.7%		5.8 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable	8	0%	None	17.2 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable				145.2 (graphs)	(graphs)		Click here
Ukraine	Low	None	Low	Stable	7	0%	None	4.4 * (graphs)	494.1 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Decreasing	15	6.7%	None	(graphs)	25.5 (graphs)		Click here
Wales	Low	None		Stable	2	0%	None	3.7 (graphs)	(graphs)		Click here
Europe					830	5.8%					Click here

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.

Sporadic influenza detections in the WHO European Region

Summary, week 51/2013

The reporting of influenza surveillance data for week 51/2013 is incomplete due to the Christmas holidays, which is also reflected in the lower number of tests performed. In most of the countries reporting data this week, consultation rates for influenza-like illness (ILI) and acute respiratory infections (ARI) remained at low levels, as would normally be seen outside the peak period for seasonal influenza. However, the numbers of influenza A(H3N2), influenza B and influenza A(H1N1)pdm09 detections have been slowly increasing, the majority being influenza A. The number of reported hospitalizations due to severe acute respiratory infection (SARI) has been also increasing slowly: 6 influenza A detections have been reported.

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

During week 51/2013 the number of influenza detections in the Region increased slightly in comparison with previous weeks. In total, 5942 specimens from sentinel and non-sentinel sources were tested for influenza during the week, 201 (3.4%) of which were positive: 183 (91%) for influenza A and 18 (9%) for influenza B (Figs. 1 and 2).However, the results are affected by underreporting of western European countries due to the Christmas holidays.

Of the 106 influenza A viruses that were subtyped during week 51/2013, 24 (23%) were A(H1N1)pdm09 and 82 (77%) A(H3N2) (Fig. 2a).

Since the beginning of the season (week 40/2013), sentinel and non-sentinel sources have yielded 1129 influenza detections: 918 (81%) were influenza A viruses and 211 (19%) influenza B (Fig. 2b). Of the 613 influenza A viruses that have been subtyped, 257 (42%) were A(H1N1)pdm09 and 356 (58%) were A(H3N2).

Since the number of influenza detections remained relatively low in week 51/2013, only 4 countries reported a dominant virus, influenza A (Norway and Switzerland) , influenza A(H3) (Turkey) and influenza A (pH1) (United Kingdom (Northern Ireland)) as shown in Map 1.

Virus strain characterizations

Circulating 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 40/2013, 4 countries (Denmark, Germany, Portugal and the United Kingdom (England)) have characterized 16 influenza viruses antigenically: 9 were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like); 4 were A(H3N2) viruses (A/Texas/50/2012 (H3N2)-like); 2 B/Yamagata/16/88 lineage viruses (1 B/Massachusetts/2/2012-like and 1 B/Wisconsin/1/2010-like) and 1 B/Victoria/2/87 lineage virus (B/Brisbane/60/2008-like). Nine countries (Denmark, Finland, Germany, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom (Scotland)) have characterized 66 influenza viruses genetically: 25 A(H3N2), 26 A(H1N1)pdm09; and 6 influenza B viruses. The 30 A(H3N2) viruses belonged to genetic subgroup 3C, represented by A/Texas/50/2012 in the A/Perth/16/2009, A(H3) clade; the 26 A(H1N1)pdm09 viruses belonged to genetic group 6, represented by A/St Petersburg/27/2011; 1 influenza virus belonged to clade 1A, represented by B/Brisbane/60/2008 in the Victoria lineage and 6 influenza B viruses belonged to clade 2, represented by B/Massachusetts/02/2012 and 3 to clade 3, represented by B/Wisconsin/1/2010, in the Yamagata lineage.

Since week 40/2013, 5 countries (the Netherlands, Norway, Spain, Sweden and the United Kingdom (England)) have screened 35 influenza A(H1N1)pdm09, 20 influenza A(H3N2) and 2 influenza B viruses for susceptibility to oseltamivir and zanamivir. All showed susceptibility to both drugs. The 14 influenza A(H1N1)pdm09 and 12 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

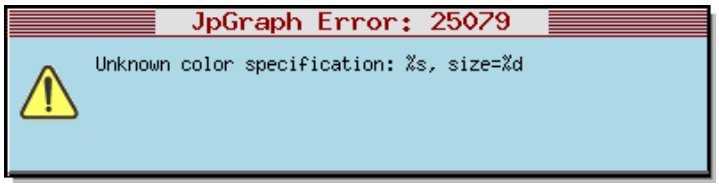
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 51/2013 most European countries reporting qualitative indicators indicated low influenza activity (Map 2) and mainly stable trends (Map 4), with predominantly no or sporadic influenza activity (Map 3).

During week 51/2013, consultation rates for ILI and/or ARI remained below the national baselines or at pre-season levels in all countries reporting clinical data except for Albania and the Republic of Moldova.

Click on the maps for more detailed information.

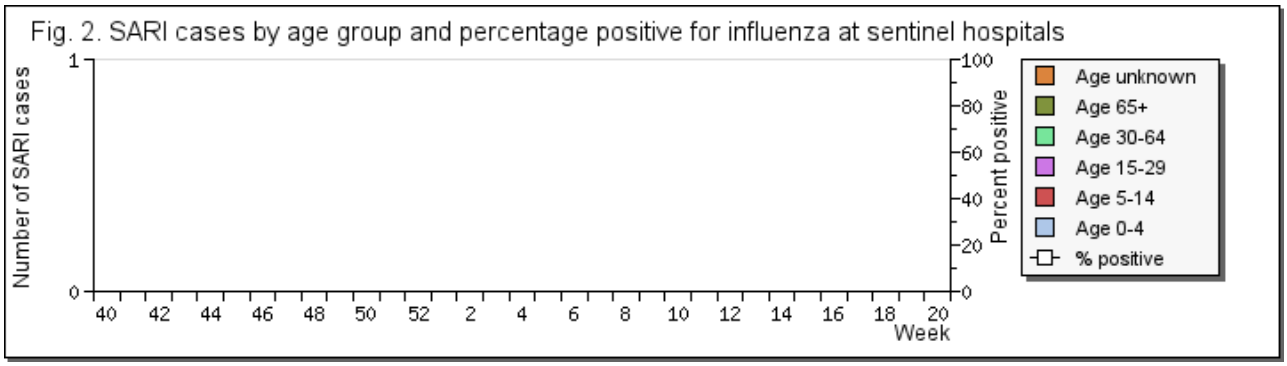
The number of ILI and ARI cases testing positive for influenza in the Region has been slowly increasing since the beginning of the season. During week 51/2013, 66 sentinel samples tested positive for influenza; these were reported mainly by western European countries.



During week 51/2013, 66 (12%) of the 536 specimens collected from sentinel sources tested positive for influenza, the majority for influenza A(H3). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations has been slowly increasing since week 40/2013. However, the number remained at inter-season levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



During week 51/2013, 6 of the 125 SARI samples collected in Armenia, Belarus, Georgia, Kazakhstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza A. Click here for a detailed overview in table format.

Since week 40/2013, Ireland, France, Spain, Sweden and the United Kingdom have reported 40 hospitalized laboratory-confirmed influenza cases in total, with 11 being influenza B, 11 A(H1N1)pdm09, 4 A(H3) and 14 type A not subtyped. 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 has been gradually increasing since week 40/2013 and picked up in week 50/2013 with a slightly later start compared with the previous season. (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.

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Description of influenza surveillance

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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.

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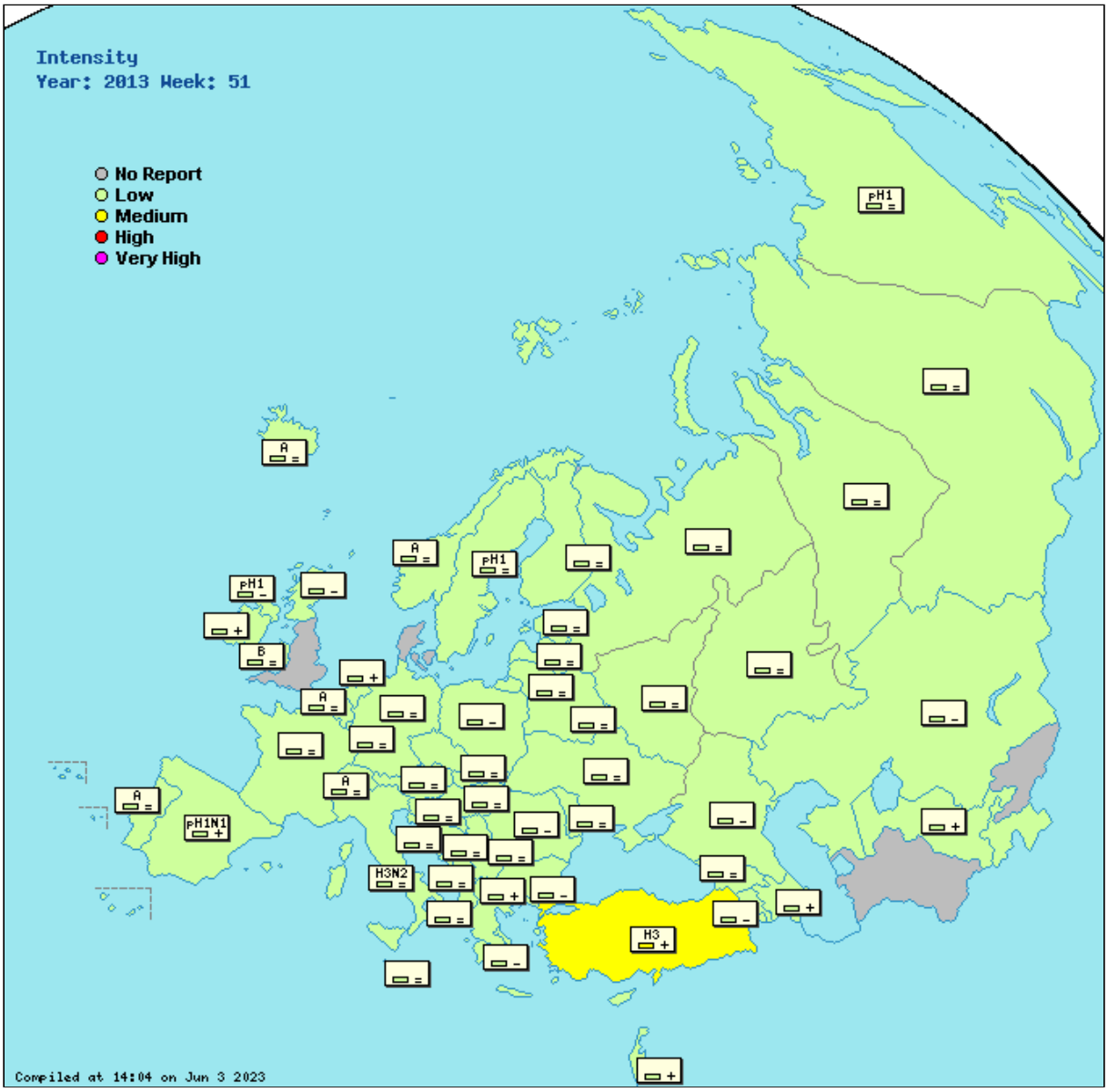
Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

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



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

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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
This week were detected 1 positive sample for Influenza A(H3N2) from 25 samples tested for Influenza viruses. Also, 1 sample was positive for RNA hRSV, 1 sample - positive for DNA Adenovirus, and 1 - positive for RNA hParainfluenza virus type 4.

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					432.4 (graphs)	sari	Click here
Armenia	Low	None	Low	Decreasing	0	-	None		78.3 (graphs)	sari	Click here
Azerbaijan	Low	None	Low	Increasing	21	0%	None	206.3 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Stable	24	0%	None	16.5 (graphs)	939.2 (graphs)	sari	Click here
Belgium	Low	None		Stable	10	10.0%	None	53.4 (graphs)	1742.9 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Stable			None	21.5 (graphs)	87.9 (graphs)		Click here
Bulgaria	Low	Sporadic		Decreasing	8	12.5%	None	(graphs)	923.3 (graphs)		Click here
Croatia	Low	Sporadic		Stable			None	(graphs)	(graphs)		Click here
Czech Republic	Low	None		Stable				27.3 (graphs)	939.5 (graphs)		Click here
Finland	Low	Sporadic		Stable	8	12.5%	None	(graphs)			Click here
France	Low	Sporadic	Low	Stable	85	18.8%	None	(graphs)	1907.1 (graphs)		Click here
Georgia	Low	None	Low	Stable	8	0%	None	256.3 (graphs)	(graphs)	sari	Click here
Greece	Low	Sporadic		Decreasing	5	0%	None	503.6 (graphs)	(graphs)		Click here
Iceland					0	-		(graphs)			Click here
Israel	Low	Sporadic	Low	Increasing	78	3.9%	None	19.3 (graphs)			Click here
Kazakhstan	Low	Sporadic	Low	Decreasing	8	12.5%	None	106.4 (graphs)	18.6 (graphs)	sari	Click here
Kyrgyzstan								48.9 (graphs)	8.9 (graphs)	sari	Click here
Latvia	Low	Sporadic		Stable				0.0 (graphs)	779.2 (graphs)		Click here
Lithuania	Low	None	Low	Stable	5	0%	None	0.9 (graphs)	478.5 (graphs)		Click here
Luxembourg					5	0%		(graphs)			Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Increasing			None	7.8 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable	1	0%	None	1.5 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Stable				4.0 (graphs)	(graphs)		Click here
Netherlands					4	25.0%	None	(graphs)			Click here
Northern Ireland	Low	None	Low	Decreasing	2	0%	Type A, Subtype pH1	9.9 (graphs)	497.3 (graphs)		Click here
Norway					2	0%	Type A	(graphs)			Click here
Poland	Low	None	Low	Decreasing	11	0%	None	201.1 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	2	0%	None	12.7 (graphs)	(graphs)		Click here
Republic of Moldova	Low	Sporadic	Low	Stable	19	5.3%	None	0.3 (graphs)	268.1 (graphs)	sari	Click here
Romania	Low	None	Low	Decreasing	2	0%		1.5 (graphs)	720.2 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Stable	44	4.6%	None	0.1 (graphs)	602.2 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Decreasing	30	3.3%	None	9.2 (graphs)	471.3 (graphs)		Click here
Serbia	Low	None	Low	Stable	4	0%	None	40.8 (graphs)	(graphs)	sari	Click here
Slovakia	Low	None	Low	Stable	4	0%	None	169.4 (graphs)	1795.5 (graphs)	sari	Click here
Slovenia					12	0%	None	(graphs)			Click here
Switzerland	Low	Sporadic		Stable	15	0%	Type A	23.7 (graphs)	(graphs)		Click here
Turkey	Medium	Local	Low	Increasing	101	36.6%	Type A, Subtype H3	200.8 (graphs)	(graphs)		Click here
Ukraine	Low	Sporadic	Low	Stable	9	0%	None	3.4 * (graphs)	473.0 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic		Increasing	9	11.1%	None	0.1 (graphs)	28.4 (graphs)		Click here
Europe					536	12.3%					Click here

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.

Influenza activity remains at low levels in the WHO European Region

Summary, week 52/2013

The reporting of influenza surveillance data for week 52/2013 is incomplete due to the Christmas/New Year holidays and should be interpreted with caution. Consultation rates for influenza-like illness (ILI) and acute respiratory infections (ARI) in outpatient clinics were at low levels throughout the WHO European Region. However, the numbers of influenza A(H3N2), A(H1N1)pdm09 and influenza B detections have been increasing, with the majority being influenza A(H3). The number of reported hospitalizations due to severe acute respiratory infection (SARI) remained low, but 4 cases associated with influenza A infection were reported for week 52.

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

During week 52/2013 the number of influenza detections in the Region increased compared with previous weeks, but the reported number of specimens tested was much lower. In total, 3646 specimens from sentinel and non-sentinel sources were tested for influenza during week 52, 191 (5.2%) of which were positive: 177 (93%) influenza A and 14 (7%) influenza B (Figs. 1 and 2). The results are affected by underreporting by several countries due to the Christmas/New Year holidays.

Of the 148 influenza A viruses that were subtyped during week 52/2013, 28 (19%) were A(H1N1)pdm09 and 120 (81%) A(H3N2) (Fig. 2a).

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 1399 influenza detections: 1172 (84%) were influenza A viruses and 227 (16%) influenza B (Fig. 2b). Of the 819 influenza A viruses that have been subtyped, 303 (37%) were A(H1N1)pdm09 and 516 (63%) were A(H3N2) (Fig. 2b).

As the number of influenza detections remained low in week 52/2013, only 5 countries reported a dominant virus, influenza A (Norway, Switzerland), influenza A(H3) (Turkey), influenza A ((H1N1)pdm09 and H3) (Russian Federation) and influenza A(H1N1)pdm09 (Greece) as shown in Map 1.

Virus strain characterizations

Circulating 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 40/2013, 5 countries (Denmark, Germany, Portugal, the Russian Federation and the United Kingdom (England)) have characterized 17 influenza viruses antigenically: 9 were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like); 4 were A(H3N2) viruses (A/Texas/50/2012 (H3N2)-like); 2 B/Yamagata/16/88 lineage viruses (1 B/Massachusetts/2/2012-like and 1 B/Wisconsin/1/2010-like) and 2 B/Victoria/2/87 lineage viruses (B/Brisbane/60/2008-like). Nine countries (Denmark, Finland, Germany, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom (Scotland)) have characterized 69 influenza viruses genetically: 30 A(H3N2), 29 A(H1N1)pdm09, and 10 influenza B viruses. The 30 A(H3N2) viruses belonged to genetic subgroup 3C, represented by A/Texas/50/2012 in the A/Perth/16/2009 clade; the 29 A(H1N1)pdm09 viruses belonged to genetic group 6, represented by A/St Petersburg/27/2011; 1 influenza virus belonged to clade 1A of the B/Victoria lineage, represented by B/Brisbane/60/2008; of 9 B/Yamagata lineage viruses 6 belonged to clade 2, represented by B/Massachusetts/02/2012 and 3 to clade 3, represented by B/Wisconsin/1/2010.

Since week 40/2013, 5 countries (the Netherlands, Norway, Spain, Sweden and the United Kingdom (England)) have screened 35 influenza A(H1N1)pdm09, 20 influenza A(H3N2) and 2 influenza B viruses for susceptibility to oseltamivir and zanamivir. All showed susceptibility to both drugs. The 14 influenza A(H1N1)pdm09 and 12 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and

B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

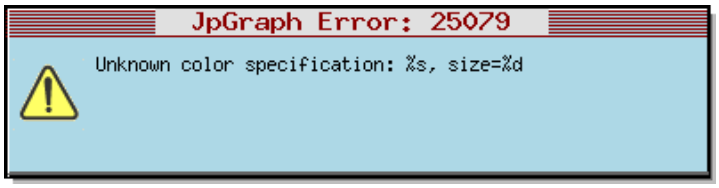
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 52/2013 all European countries continued to report low influenza activity (Map 2) and mainly stable trends (Map 4), with predominantly no or sporadic influenza activity (Map 3).

During week 52/2013, consultation rates for ILI and/or ARI remained below the national baselines or at pre-season levels in all countries reporting clinical data, but this might be due to decreased reporting during the Christmas/New Year holiday period.

Click on the maps for more detailed information.

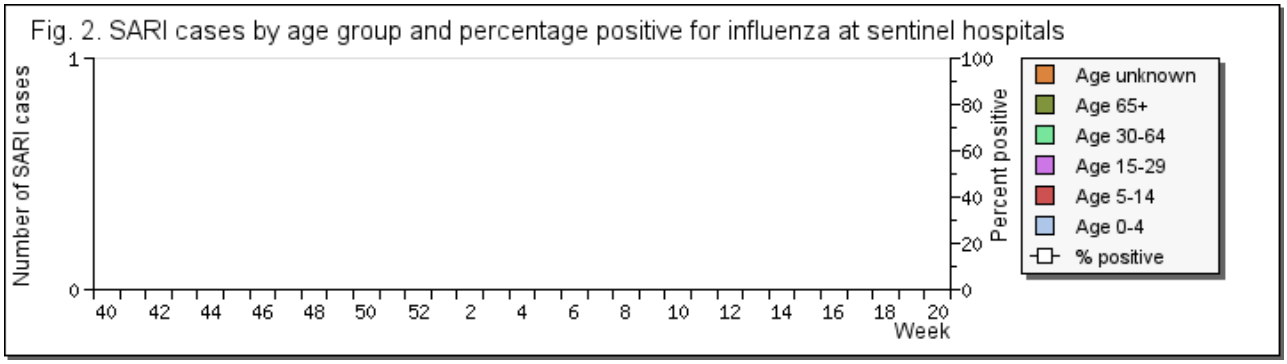
The number of ILI and ARI cases testing positive for influenza in the Region has been slowly increasing since week 48/2013. During week 52/2013, 89 sentinel samples tested positive for influenza; these were reported mainly by western European countries, but the number of specimens tested was less than in previous weeks due to the Christmas/New Year holidays.



During week 52/2013, 89 (23%) of the 387 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A(H3) (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations has been slowly increasing since week 40/2013. However, it remains at low levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



During week 52/2013, 4 of the 60 SARI samples collected in Belarus, Kazakhstan, the Republic of Moldova, Romania, the Russian Federation, and Ukraine tested positive for influenza A (2 • H3N2 and 2 • A(H1N1)pdm09) (Fig. 8a), which is in line with the results of outpatient surveillance. Click here for a detailed overview in table format.

Since week 40/2013, Ireland, France, Spain, Sweden and the United Kingdom have reported 59 hospitalized laboratory-confirmed influenza cases in total: 12 influenza B, 16 A(H1N1)pdm09, 4 A(H3) and 27 type A not subtyped. 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 has been gradually increasing since week 40/2013 and picked up in week 50/2013 giving a slightly later start compared to the previous season. (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.

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.

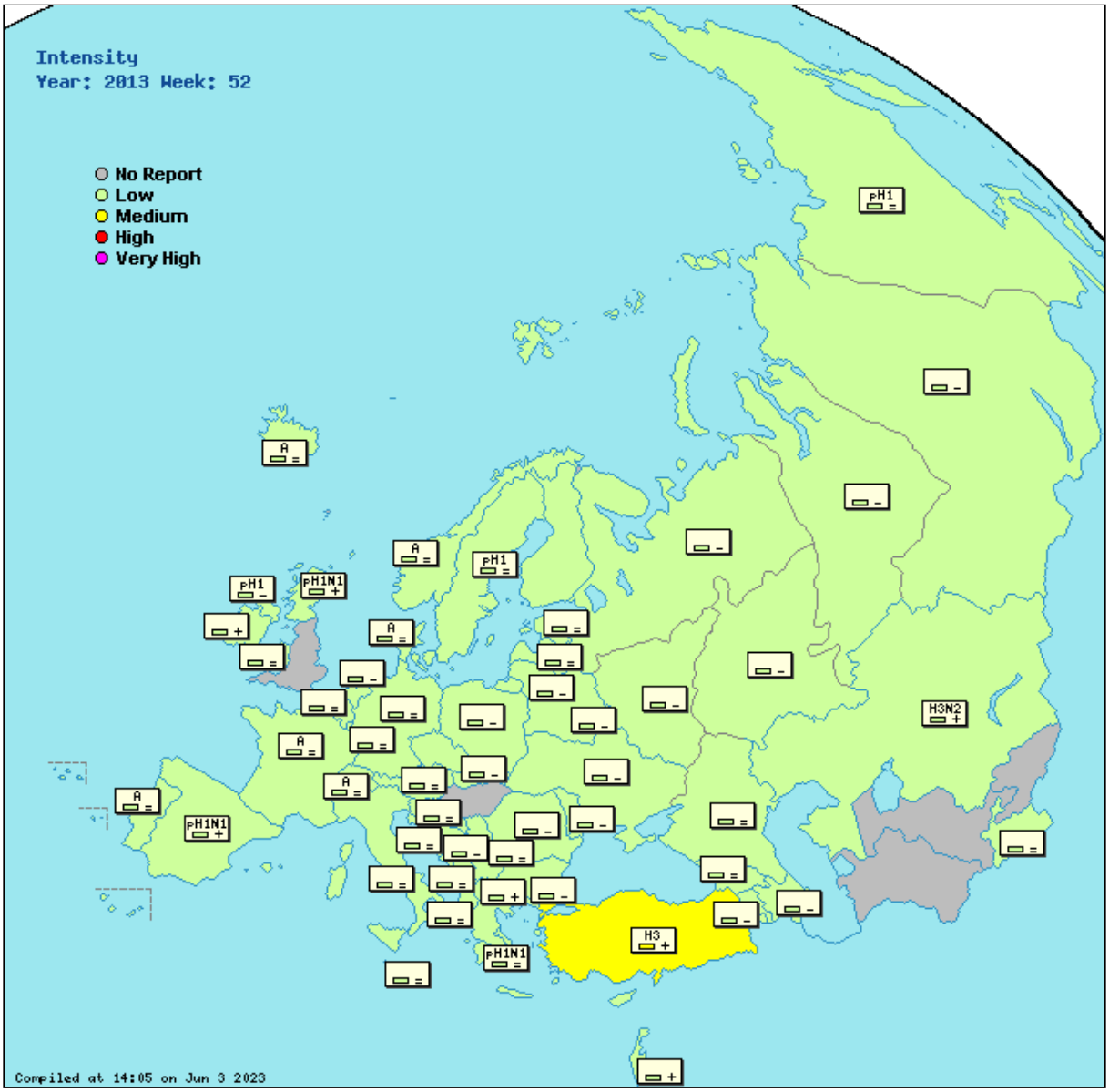
Map

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

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.

= : stable clinical activity
+ : increasing clinical activity
- : decreasing clinical 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
18 samples were tested for Influenza A and B - none of them were positive. 2 samples were positive for RNA hRSV, and 2- positive for RNA hParainfluenza virus type 3.
Scotland
Please note that the GP consultation rates for ILI and ARI were adjusted to account for the reduced number of working days in week 52. The data for this week must be interpreted with caution.

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					62.4 (graphs)	sari	Click here
Azerbaijan	Low	None	Low	Decreasing	32	0%	None	177.6 (graphs)	(graphs)		Click here
Belarus					34	0%	None		(graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Decreasing			None	21.1 (graphs)	99.8 (graphs)		Click here
Bulgaria	Low	Sporadic		Decreasing	0	-	None	(graphs)	345.5 (graphs)		Click here
Croatia	Low	Sporadic		Stable			None	(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				1.6 * (graphs)	10.5 * (graphs)		Click here
Denmark					0	-	None	(graphs)			Click here
Estonia	Low	Sporadic		Stable				4.7 (graphs)	126.1 (graphs)		Click here
Georgia	Low	None	Low	Stable				212.4 (graphs)	(graphs)	sari	Click here
Germany					20	0%	None		(graphs)		Click here
Greece					2	50.0%	Type A, Subtype pH1N1	(graphs)			Click here
Iceland	Low	Local	Low	Stable				3.4 (graphs)	(graphs)		Click here
Israel	Low	Sporadic	Low	Increasing	67	6.0%	None	25.0 (graphs)			Click here
Kazakhstan	Low	Sporadic	Low	Increasing	14	7.1%	None	142.7 (graphs)	19.9 (graphs)	sari	Click here
Lithuania	Low	None	Low	Decreasing	0	-	None	0.3 (graphs)	244.2 (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Increasing			None	11.2 (graphs)	(graphs)		Click here
Montenegro	Low	None	Low	Stable			None	4.4 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	4	0%	None	15.7 (graphs)	(graphs)		Click here
Northern Ireland	Low	None	Low	Decreasing	0	-	None	7.6 (graphs)	322.4 (graphs)		Click here
Norway					5	40.0%	Type A	(graphs)			Click here
Poland	Low	None	Low	Decreasing	4	25.0%	None	161.1 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	0	-	None	0.0 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Decreasing	13	0%	None	(graphs)	148.2 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Decreasing	29	6.9%	Type A, Subtype pH1 and H3	0.1 (graphs)	528.5 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Increasing	7	0%	None	10.3 (graphs)	547.5 (graphs)		Click here
Serbia	Low	None	Low	Stable	3	0%	None	30.8 (graphs)	(graphs)	sari	Click here
Slovenia	Low	None		Stable	4	50.0%	None	0.0 (graphs)	654.4 (graphs)		Click here
Switzerland	Low	Sporadic		Stable	5	20.0%	Type A	9.8 (graphs)	(graphs)		Click here
Turkey					122	54.1%	Type A, Subtype H3	(graphs)			Click here
Ukraine	Low	None	Low	Decreasing	7	0%	None	4.1 * (graphs)	443.9 (graphs)	sari	Click here
Uzbekistan					15	60.0%	None	0.1 (graphs)	25.7 (graphs)		Click here
Europe					387	23.0%					Click here

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.

Influenza activity increasing in western Europe and Turkey

Summary, week 1/2014

The reporting of influenza surveillance data for week 1/2014 is incomplete due to the holidays, and the data should be interpreted with caution. While the consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) in outpatient clinics increased in Spain, Portugal and Turkey, low levels were generally reported throughout the WHO European Region. The numbers of influenza A(H3N2), A(H1N1)pdm09 and influenza B detections have increased, with the majority being influenza A. The number of reported hospitalizations due to severe acute respiratory infection (SARI) remained low, but 2 cases associated with influenza A infection were reported for week 1/2014.

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

During week 1/2014 the number of influenza detections in the WHO European Region increased from those in previous weeks. In total, 5899 specimens from sentinel and non-sentinel sources were tested for influenza during week 1/2014, 615 (10.4%) of which were positive: 574 (93%) influenza A and 41 (7%) influenza B (Fig. 1 and 2). Detections are probably low due to underreporting by several countries during the holidays.

Of the 352 influenza A viruses that were subtyped during week 1/2014, 165 (47%) were A(H1N1)pdm09 and 187 (53%) A(H3N2) (Fig. 2a).

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 2580 influenza detections: 2290 (89%) were influenza A viruses and 290 (11%) influenza B (Fig. 2b). Of the 1546 influenza A viruses that have been subtyped, 724 (47%) were A(H1N1)pdm09 and 822 (53%) were A(H3N2) (Fig. 2b).

9 countries (Bulgaria, France, Italy, Norway, Portugal, Spain, Sweden, Turkey and the United Kingdom) reported influenza A to be the dominant virus, as shown in Map 1 and the tabulated country-specific data.

Virus strain characterizations

Circulating 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 40/2013, 6 countries (Denmark, Germany, Latvia, Portugal, the Russian Federation and the United Kingdom (England)) have characterized 26 influenza viruses antigenically: 16 were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like); 6 were A(H3N2) viruses (A/Texas/50/2012 (H3N2)-like); 2 B/Yamagata/16/88 lineage viruses (1 B/Massachusetts/2/2012-like and 1 B/Wisconsin/1/2010-like) and 2 B/Victoria/2/87 lineage viruses (B/Brisbane/60/2008-like). 10 countries (Belgium, Denmark, Finland, Germany, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom (Scotland)) have characterized 70 influenza viruses genetically: 28 A(H3N2), 33 A(H1N1)pdm09, and 9 influenza B viruses. The 28 A(H3N2) viruses belonged to genetic subgroup 3C, represented by A/Texas/50/2012 in the A/Perth/16/2009 clade; the 33 A(H1N1)pdm09 viruses belonged to genetic group 6, represented by A/St Petersburg/27/2011; 1 influenza virus belonged to clade 1A of the B/Victoria lineage, represented by B/Brisbane/60/2008; of 8 B/Yamagata lineage viruses, 5 belonged to clade 2, represented by B/Massachusetts/02/2012 and 3 to clade 3, represented by B/Wisconsin/1/2010.

Since week 40/2013, 6 countries (the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom (England)) have screened 44 influenza A(H1N1)pdm09, 27 influenza A(H3N2) and 6 influenza B viruses for susceptibility to oseltamivir and zanamivir. All showed susceptibility to both drugs. The 24 influenza A(H1N1)pdm09 and 18 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

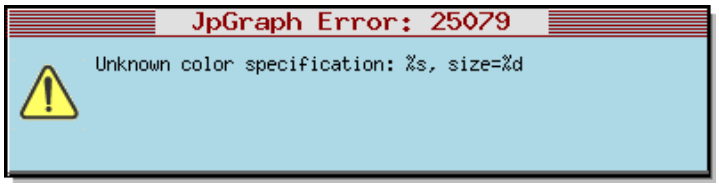
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 1/2014, 2 countries (Spain and Turkey) reported medium intensity of influenza (Map 2). Portugal reported widespread activity; Turkey reported regional activity, and several countries in western Europe reported local influenza activity (Map 3) with associated increasing trends (Map 4).

During week 1/2014, consultation rates for ILI and/or ARI remained below the national baselines, and the rate appeared to be decreasing in some countries, but this might be due to decreased reporting during the holiday period.

Click on the maps for more detailed information.

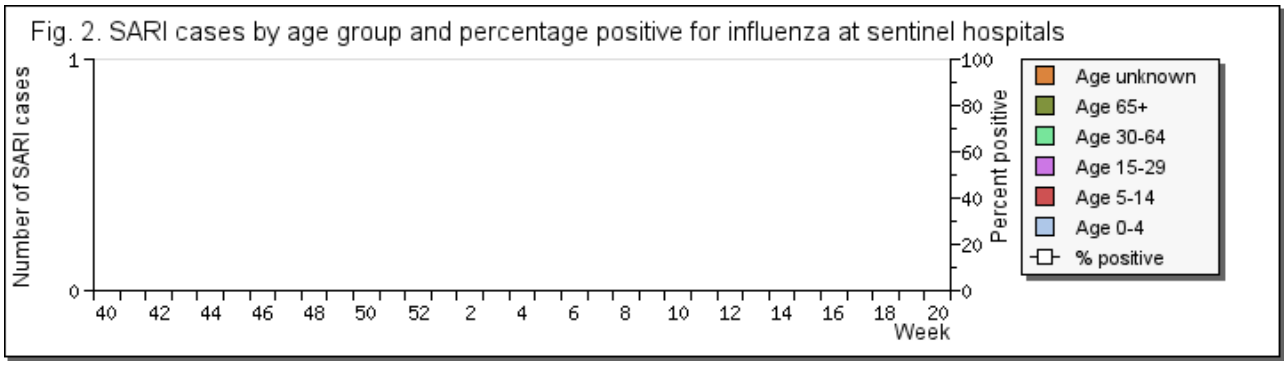
The number of ILI and ARI cases testing positive for influenza in the Region has slowly increased since week 48/2013 (Fig. 5). During week 1/2014, 545 sentinel specimens tested positive for influenza; they were derived mainly from specimens collected in western European countries.



During week 1/2014, 158 (29%) of the 545 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A(H3) (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations has slowly increased since week 40/2013, but it remains at low levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region (Fig. 7).



During week 1/2014, 2 of the 28 SARI samples collected in Kazakhstan, the Republic of Moldova and Serbia tested positive for influenza A (1 H3N2 and 1 H1N1pdm09) (Fig. 8a), which is in line with the results of outpatient surveillance. Click here for a detailed overview in table format.

Since week 40/2013, Ireland, France, Spain, Sweden and the United Kingdom have reported 173 hospitalized laboratory-confirmed influenza cases in total: 13 influenza B, 75 A(H1N1)pdm09, 15 A(H3) and 70 type A not subtyped. 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 has been gradually increasing since week 40/2013 and picked up in week 50/2013 giving a slightly later start compared to the previous season. (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. For week 1, all-cause mortality has been within the normal range for all reporting countries.

For the latest news on EUROMOMO 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.

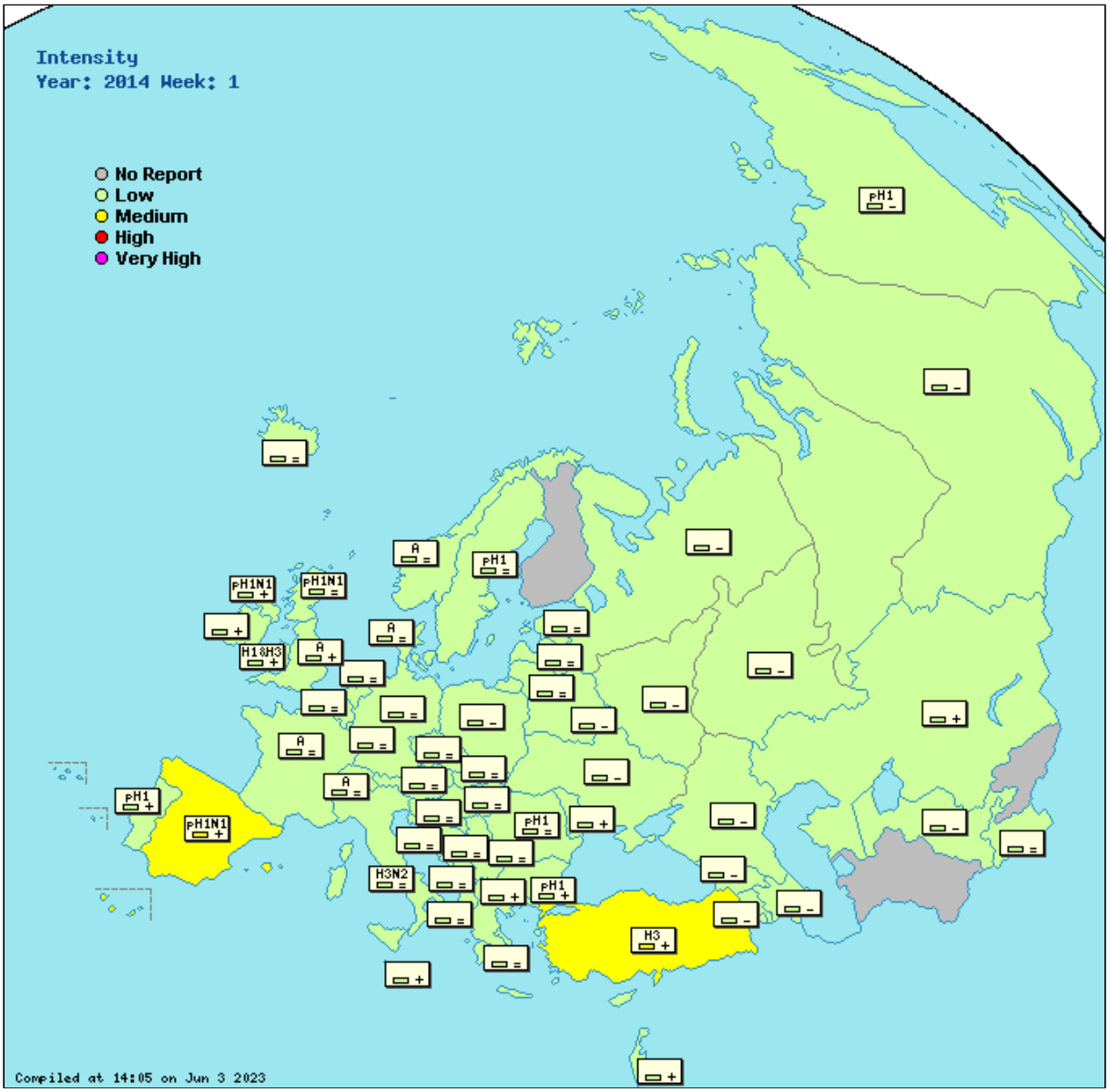
Map

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
1 sample was tested for Influenza A and B - none of them were positive.
Scotland
Please note that the GP consultation rates for ILI and ARI were adjusted to account for the reduced number of working days in week 01. The data for this week must be interpreted with caution.
Sweden
The epidemic in Sweden is thus far concentrated in Northern Sweden.

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					325.7 (graphs)	sari	Click here
Armenia	Low	None	Low	Decreasing	0	-	None	(graphs)	0.0 (graphs)	sari	Click here
Austria	Low	None	Low	Stable	1	0%	None	147.2 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Decreasing	0	-	None	74.7 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Decreasing				10.3 (graphs)	532.9 (graphs)	sari	Click here
Belgium	Low	None		Stable	7	42.9%	None	22.1 (graphs)	1179.1 (graphs)	sari	Click here
Bosnia and Herzegovina							None	(graphs)			Click here
Bulgaria	Low	Sporadic		Increasing	0	-	Type A, Subtype pH1	(graphs)	669.5 (graphs)		Click here
Croatia	Low	Sporadic		Stable			None	(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				3.4 * (graphs)	13.3 * (graphs)		Click here
Czech Republic	Low	None		Stable	2	0%	None	17.7 (graphs)	566.0 (graphs)		Click here
Denmark	Low	Sporadic		Stable	5	20.0%	None	28.6 (graphs)	(graphs)		Click here
England	Low	Local		Increasing	67	3.0%	Type A	7.3 (graphs)	292.2 (graphs)		Click here
Estonia	Low	Sporadic		Stable	4	0%	None	4.4 (graphs)	201.2 (graphs)		Click here
Finland					3	0%	None	(graphs)			Click here
France	Low	Local	Low	Stable	26	19.2%	Type A	(graphs)	1793.8 (graphs)		Click here
Georgia	Low	None	Low	Decreasing	3	0%	None	100.5 (graphs)	(graphs)	sari	Click here
Germany	Low	Sporadic		Stable	22	4.6%	None	(graphs)	698.2 (graphs)		Click here
Greece	Low	Sporadic		Stable	1	0%	None	108.1 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable	2	0%	None	56.8 (graphs)	(graphs)		Click here
Iceland	Low	Sporadic	Low	Stable	0	-		2.5 (graphs)	(graphs)		Click here
Ireland	Low	Sporadic	Low	Increasing	7	42.9%	None	11.2 (graphs)	(graphs)		Click here
Israel	Low	Sporadic	Low	Increasing	86	5.8%	None	32.6 (graphs)			Click here
Italy	Low	Sporadic	Low	Stable	10	30.0%	Type A, Subtype H3N2	233.5 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Decreasing	3	0%	None	82.3 (graphs)	8.7 (graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	0	-	None	0.0 (graphs)	373.3 (graphs)		Click here
Lithuania	Low	None	Low	Stable	1	0%	None	0.5 (graphs)	325.6 (graphs)		Click here
Luxembourg	Low	None			2	0%		0.4 * (graphs)	31.1 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Local	Low	Increasing			None	17.8 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Increasing	3	0%	None	4.5 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Stable				1.9 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	2	0%	None	21.7 (graphs)	(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Increasing	4	0%	Type A, Subtype H3 and H1N1	22.8 (graphs)	495.9 (graphs)		Click here
Norway	Low	Sporadic		Stable	4	0%	Type A	19.9 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Decreasing	7	0%	None	130.8 (graphs)	(graphs)		Click here
Portugal	Low	Widespread		Increasing	8	75.0%	Type A	43.6 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Increasing	0	-	None	(graphs)	218.0 (graphs)	sari	Click here
Romania	Low	None	Low	Stable	1	0%		0.5 (graphs)	327.1 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	2	0%	None	9.9 (graphs)	657.1 (graphs)		Click here
Serbia	Low	None	Low	Stable	0	-	None	24.9 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	0	-	None	68.6 (graphs)	883.7 (graphs)	sari	Click here
Slovenia	Low	Sporadic		Stable	7	28.6%	None	0.0 (graphs)	860.8 (graphs)		Click here
Spain	Medium	Local		Increasing	92	44.6%	Type A, Subtype pH1N1	91.9 (graphs)	(graphs)		Click here
Sweden	Low	Local		Stable	15	20.0%	Type A, Subtype pH1	1.7 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable				26.7 (graphs)	(graphs)		Click here
Tajikistan	Low	Sporadic	Low	Stable				0.0 (graphs)	(graphs)		Click here
Turkey	Medium	Regional	Moderate	Increasing	139	59.7%	Type A, Subtype H3	254.8 (graphs)	(graphs)		Click here
Ukraine	Low	Sporadic	Low	Decreasing			None	0 * (graphs)	288.5 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic		Decreasing	9	0%	None	(graphs)	21.1 (graphs)		Click here
Wales	Low	None	Low	Increasing	0	-	Type A, Subtype H1 and H3	7.0 (graphs)	(graphs)		Click here
Europe					545	29.0%					Click here

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.

Slow increase in influenza activity in Europe due to influenza A

Summary, week 2/2014

Despite an overall increasing trend in influenza detections, consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) and hospitalization rates for severe acute respiratory infection (SARI) remained at low levels in most countries in the WHO European Region. Influenza A(H3N2) accounted for most of the influenza detections in outpatient clinics and hospitals, in contrast to 2012/2013, when A(H1N1)pdm09 was the dominant 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

During week 02/2014 the number of influenza detections in the Region increased gradually from those in previous weeks. In total, 7648 specimens from sentinel and non-sentinel sources were tested for influenza, 999 (13.1%) of which were positive: 953 (95%) influenza A and 46 (5%) influenza B (Fig. 1 and 2). Influenza A has remained dominant since week 40/2013.

Of the 641 influenza A viruses that were subtyped during week 02/2014, 291(45%) were A(H1N1)pdm09 and 350(55%) A(H3N2) (Fig. 2a). This presents a very different picture from the same period in the 2012/2013 influenza season, when A(H1N1)pdm09 accounted for 84% of subtyped A viruses.

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 3888 influenza detections: 3546 (91%) were influenza A and 342 (9%) influenza B viruses (Fig. 2b). Of the 2466 influenza A viruses that have been subtyped, 1199 (49%) were A(H1N1)pdm09 and 1267 (51%) were A(H3N2).

With an increase in the number of influenza detections, more countries reported data on dominant viruses during week 02/2014 than in previous weeks. All countries (N=12) reported influenza A as the dominant type (Map 1 and Country table). In countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in Armenia and Turkey, while Bulgaria, Greece and Spain reported A(H1N1)pdm09 as dominant. The Russian Federation and Switzerland reported A (H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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 40/2013, 6 countries (Denmark, Germany, Latvia, Portugal, the Russian Federation and the United Kingdom (England)) have characterized 34 influenza viruses antigenically: 22 were A(H1N1)pdm09 viruses (A/California/7/2009 (H1N1)-like); 9 were A(H3N2) viruses (A/Texas/50/2012 (H3N2)-like); 2 B/Yamagata/16/88 lineage virus (1 B/Massachusetts/2/2012-like and 1 B/Wisconsin/1/2010-like) and 1 B/Victoria/2/87 lineage viruses (B/Brisbane/60/2008-like). 10 countries (Belgium, Denmark, Finland, Germany, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom (Scotland)) have characterized 71 influenza viruses genetically: 28 A(H3N2), 31 A(H1N1)pdm09 and 12 influenza B viruses. The 28 A(H3N2) viruses belonged to genetic subgroup 3C, represented by A/Texas/50/2012 in the A/Perth/16/2009 clade; the 31 A(H1N1)pdm09 viruses belonged to genetic group 6, represented by A/St Petersburg/27/2011. Of the 12 influenza B viruses, 1 belonged to clade 1A of the B/Victoria lineage, represented by B/Brisbane/60/2008; the 8 B/Yamagata lineage viruses belonged to clade 2, represented by B/Massachusetts/02/2012; and 3 belonged to clade 3, represented by B/Wisconsin/1/2010.

Since week 40/2013, 6 countries (the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom (England)) have screened 72 influenza A(H1N1)pdm09, 36 influenza A(H3N2) and 7 influenza B viruses for susceptibility to oseltamivir and zanamivir. All showed susceptibility to both drugs. The 24 influenza A(H1N1)pdm09 and 18 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and

B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

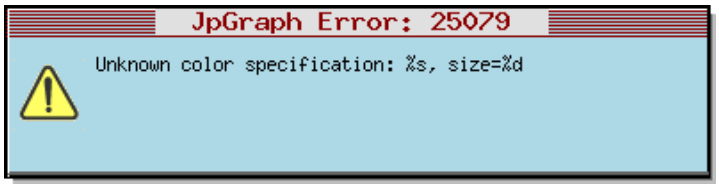
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 02/2014, most European countries continued to report low-intensity influenza activity (Map 2), although with increasing trends (Map 4). As to geographic spread, influenza activity was predominantly sporadic (Map 3), with only Portugal, Spain and the United Kingdom (England) reporting widespread activity.

During week 02/2014, consultation rates for ILI and/or ARI continued to increase, but remained below the national thresholds or at low levels in all countries reporting clinical data, except Israel and the Netherlands.

Click on the maps for more detailed information.

The proportion of ILI and ARI cases testing positive for influenza in the Region has slowly increased since week 48/2013 (Fig. 5). During week 02/2014, 373 sentinel samples tested positive for influenza, with the majority reported by Spain and Turkey.

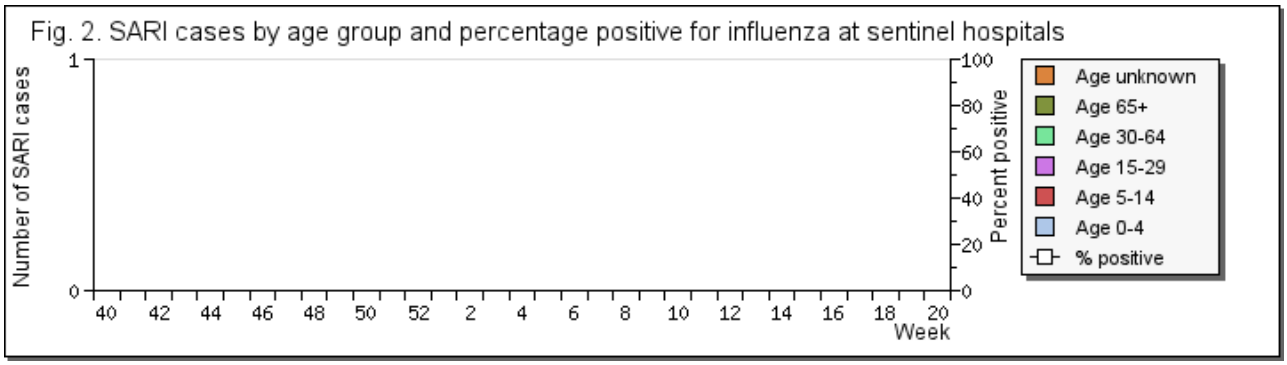


During week 2/2014, 373 (30%) of the 1261 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A(H3N2), similarly to previous weeks (Fig. 6a). (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations remains at low levels in reporting countries participating in hospital surveillance for SARI in the WHO European Region. A slight increase in influenza positivity rate was noted from week 50/2013 (Fig. 7).

In comparison with previous weeks, the SARI hospitalization rate appeared to decrease, but this might be due to decreased reporting during the holiday period.



During week 2/2014, 10 of the 98 (10%) SARI samples collected in Armenia, Belarus, Georgia, Kazakhstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza A with the majority being A(H3N2) (Fig. 8a), which is in line with the results of outpatient surveillance. Click here for a detailed overview in table format.

Since week 40/2013, Ireland, France, Romania, Spain, Sweden and the United Kingdom have reported 383 hospitalized laboratory-confirmed influenza cases in total: 14 influenza B, 191 A(H1N1)pdm09, 54 A(H3) and 124 type A not subtyped.

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 has been gradually increasing since week 40/2013 and picked up in week 50/2013 giving a slightly later start compared to the previous season. (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 2/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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.

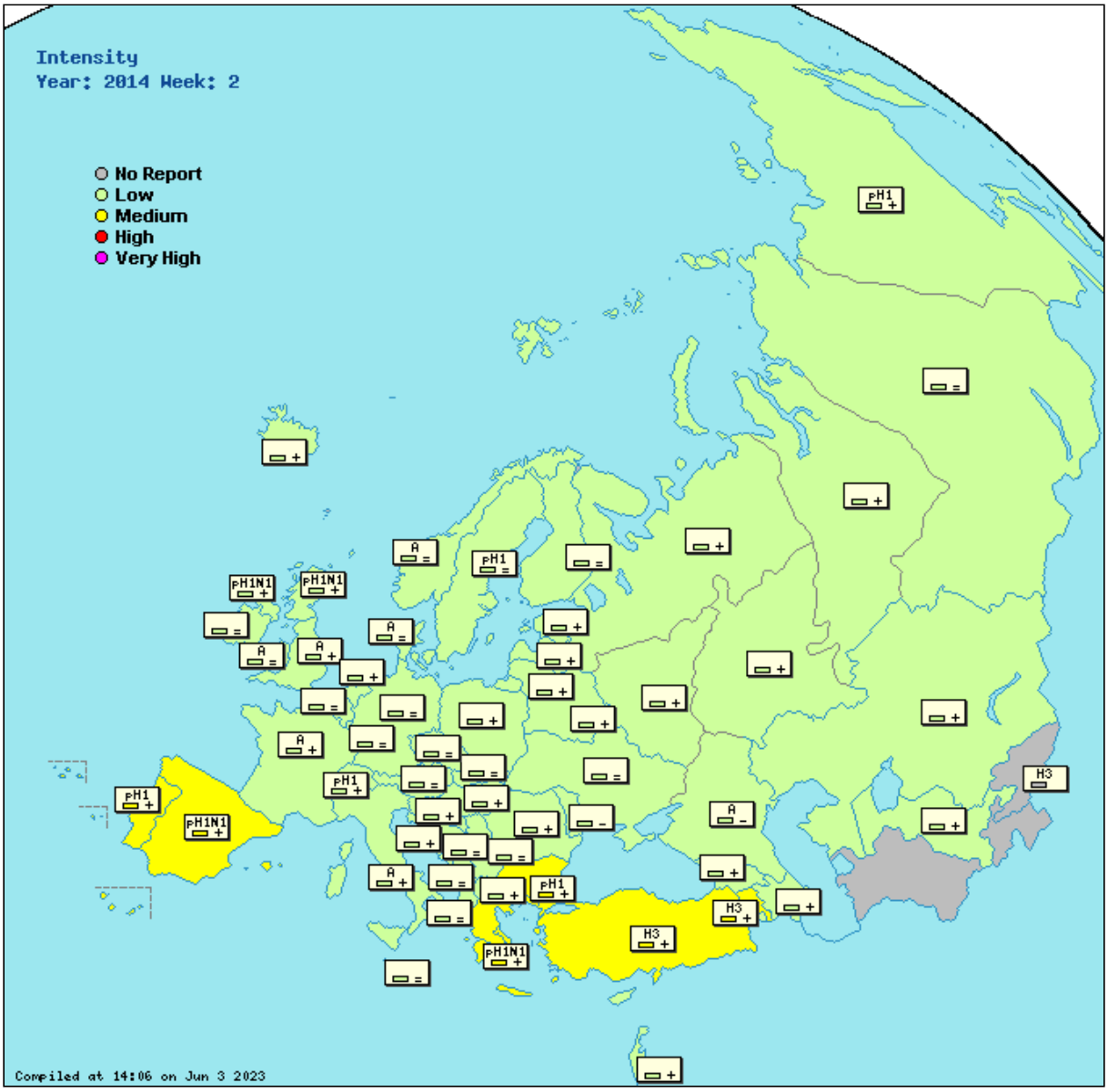
Map

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
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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)

Norway
Low-level co-circulation of influenza A(H1N1), A(H3N2) and B/Yamagata lineage viruses
Republic of Moldova
1 sample was tested for Influenza A and B - none of them were positive.

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					392.6 (graphs)	sari	Click here
Armenia	Medium	Sporadic	Moderate	Increasing	0	-	Type A, Subtype H3		69.7 (graphs)	sari	Click here
Austria	Low	None	Low	Stable	5	0%	None	683.2 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Increasing	18	0%	None	183.0 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Increasing	12	0%	None	13.8 (graphs)	631.8 (graphs)	sari	Click here
Belgium	Low	None		Stable	15	6.7%	None	32.3 (graphs)	1627.0 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Stable			None	19.1 (graphs)	102.8 (graphs)		Click here
Bulgaria	Medium	Local		Increasing	30	0%	Type A, Subtype pH1	(graphs)	1435.2 (graphs)		Click here
Croatia	Low	Sporadic		Increasing	51	0%	None	(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				0.8 * (graphs)	7.0 * (graphs)		Click here
Czech Republic	Low	Sporadic		Stable	15	0%	None	24.3 (graphs)	842.6 (graphs)		Click here
Denmark	Low	Sporadic		Stable	4	0%	None	44.2 (graphs)	(graphs)		Click here
England	Low	Widespread		Increasing	93	14.0%	Type A	5.7 (graphs)	270.8 (graphs)		Click here
Estonia	Low	Sporadic		Increasing	5	20.0%	None	5.5 (graphs)	214.7 (graphs)		Click here
Finland	Low	Sporadic		Stable	6	16.7%	None	(graphs)			Click here
France	Low	Local	Low	Increasing	75	34.7%	Type A	(graphs)	1620.0 (graphs)		Click here
Georgia	Low	None	Low	Increasing	7	28.6%	None	189.7 (graphs)	(graphs)	sari	Click here
Germany	Low	Sporadic		Stable	54	7.4%	None	(graphs)	1052.9 (graphs)		Click here
Greece	Medium	Local		Increasing	9	55.6%	Type A, Subtype pH1N1	140.1 (graphs)	(graphs)		Click here
Hungary	Low	Sporadic	Low	Increasing	16	6.3%	None	101.2 (graphs)	(graphs)		Click here
Iceland	Low	Sporadic	Low	Increasing	0	-		5.9 (graphs)	(graphs)		Click here
Ireland	Low	Sporadic	Low	Stable	12	41.7%	None	11.6 (graphs)	(graphs)		Click here
Israel	Low	Sporadic	Low	Increasing	84	8.3%	None	45.1 (graphs)			Click here
Italy	Low	Sporadic	Low	Increasing	46	26.1%	Type A	361.4 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Decreasing	15	20.0%	None	76.2 (graphs)	2.9 (graphs)	sari	Click here
Kyrgyzstan								42.1 (graphs)	3.2 (graphs)	sari	Click here
Latvia	Low	Local		Increasing	0	-	None	4.5 (graphs)	784.7 (graphs)		Click here
Lithuania	Low	Sporadic	Low	Increasing	3	0%	None	0.8 (graphs)	446.6 (graphs)		Click here
Luxembourg	Low	Sporadic			6	16.7%		0.5 * (graphs)	20.8 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Regional	Low	Increasing			None	28.9 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable	0	-	None	1.8 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Stable			None	1.5 (graphs)	(graphs)		Click here
Netherlands	Low	Regional		Increasing	10	30.0%	None	50.4 (graphs)	(graphs)		Click here
Norway	Low	Sporadic		Stable	9	33.3%	Type A	37.3 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Increasing	9	0%	None	187.9 (graphs)	(graphs)		Click here
Portugal	Medium	Widespread		Increasing	8	75.0%	Type A	46.6 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Decreasing	0	-	None	(graphs)	148.0 (graphs)	sari	Click here
Romania	Low	Sporadic	Low	Increasing	1	0%		2.2 (graphs)	640.7 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Increasing	15	0%	Type A, Subtype pH1 and H3	0.1 (graphs)	317.6 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Increasing	27	7.4%	Type A, Subtype pH1N1	14.0 (graphs)	519.9 (graphs)		Click here
Serbia	Low	None	Low	Stable	2	50.0%	None	31.9 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	3	0%	None	131.3 (graphs)	1370.6 (graphs)	sari	Click here
Slovenia	Low	Sporadic		Increasing	27	22.2%	None	13.2 (graphs)	1254.8 (graphs)		Click here
Spain	Medium	Widespread		Increasing	302	42.1%	Type A, Subtype pH1N1	160.5 (graphs)	(graphs)		Click here
Sweden	Low	Local		Stable				4.8 (graphs)	(graphs)		Click here
Switzerland	Low	Local		Increasing	26	30.8%	Type A, Subtype pH1 and H3	50.1 (graphs)	(graphs)		Click here
Turkey	Medium	Regional	Moderate	Increasing	212	59.4%	Type A, Subtype H3	329.1 (graphs)	(graphs)		Click here
Ukraine	Low	Local	Low	Stable	3	0%	None	0 * (graphs)	286.6 (graphs)	sari	Click here

Uzbekistan	Low	Sporadic	Increasing	15	60.0%	None	0.1 (graphs)	33.4 (graphs)	Click here
Wales	Low	None	Stable	1	0%	Type A	8.4 (graphs)	(graphs)	Click here
Europe				1251	29.8%				Click here

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.

Influenza season has begun in some European countries

Summary, week 3/2014

The influenza season has begun in some countries in the WHO European Region. Growing numbers of countries in the Region reported increasing consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI). The percentage of influenza-positive sentinel samples has gradually increased over recent weeks, along with the number of specimens tested for influenza. The number of reported hospitalised laboratory-confirmed and fatal influenza cases increased over the last several weeks in western European countries. This week Spain and France reported 33 fatal cases, 19 (58%) of them infected with influenza A(H1)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

During week 03/2014 the numbers of specimens tested and influenza detections in the Region continued to increase from those in recent weeks. In total, 10 447 specimens from sentinel and non-sentinel sources were tested for influenza, 1628 (16%) of which were positive: 1573 (97%) influenza A and 55 (3%) influenza B (Fig. 1 and 2). Influenza A has remained dominant since week 40/2013.

Of the 978 influenza A viruses that were subtyped during week 03/2014, 608 (62%) were A(H1N1)pdm09 and 370 (38%) A(H3N2) (Fig. 2a), showing a higher proportion of A(H1N1)pdm09 viruses than in previous weeks.

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 5972 influenza detections, with an increasing proportion of influenza A viruses detected: 5571 (93%) were influenza A and 401 (7%) influenza B viruses (Fig. 2b). Of the 3899 influenza A viruses that have been subtyped, 2110 (54%) were A(H1N1)pdm09 and 1789 (46%) were A(H3N2).

In addition, since week 40/2013, the lineage of 46 influenza B viruses has been determined: 42 (91%) belonged to the B/Yamagata lineage and 4 (9%) to B/Victoria.

With an increase in the number of influenza detections, more countries reported data on dominant viruses during week 03/2014 than in previous weeks. All countries (N=17) reported influenza A as the dominant type (Map 1 and country table). In countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in Slovenia, the former Yugoslav Republic of Macedonia and Turkey, while Bulgaria, Greece, Portugal, Sweden, Spain and the United Kingdom (Scotland) reported A(H1N1)pdm09 as dominant. The Russian Federation and Switzerland reported A (H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

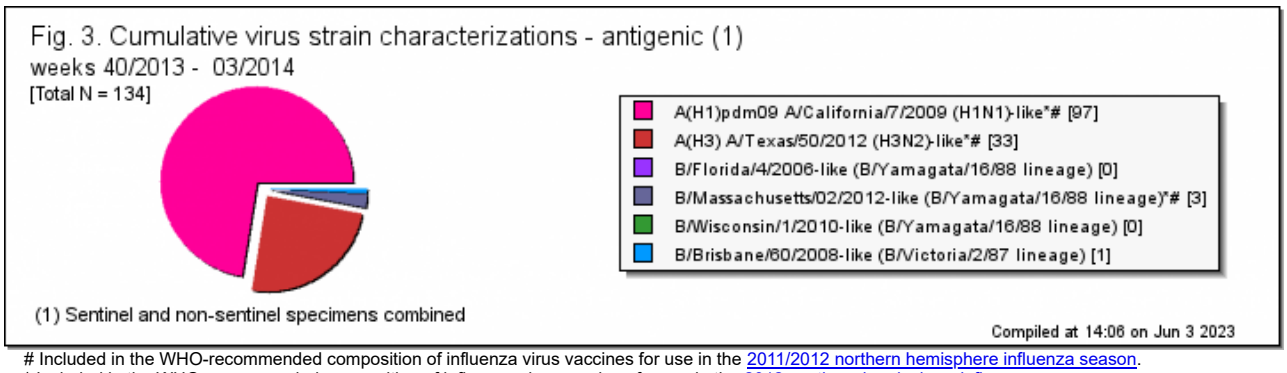
Circulating influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic similarity to the viruses included in the seasonal influenza vaccine, and determine the prevalence of mutations that affect pathogenicity or are associated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

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like (an egg-adapted virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011) and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (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 40/2013, 93 influenza viruses characterized antigenically by 9 countries (Denmark, Finland, Germany, Latvia, Norway, Portugal, Romania, the Russian Federation and the United Kingdom (England)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). 8 countries (Belgium, Denmark, Finland, the Netherlands, Norway, Portugal, Spain and Sweden) have characterized 173 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 40/2013, 6 countries (the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom (England)) have screened 126 influenza A(H1N1)pdm09, 56 influenza A(H3N2) and 13 influenza B viruses for susceptibility to oseltamivir and zanamivir. All showed susceptibility to both drugs. The 57 influenza A(H1N1)pdm09 and 47 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

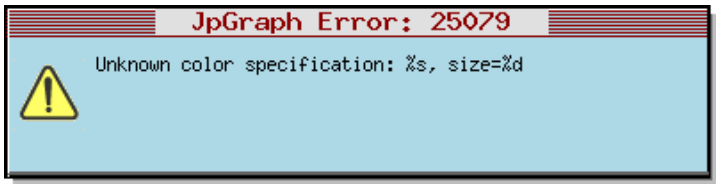
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 03/2014, most European countries continued to report low-intensity influenza activity (Map 2), although the majority reported increasing trends (Map 4). Regarding geographic spread, influenza activity was predominantly sporadic (Map 3), with only Portugal, Spain and the United Kingdom (England) reporting widespread activity.

During week 03/2014, consultation rates for ILI and/or ARI continued to increase, but remained below the national thresholds or at low levels in all countries reporting clinical data, except for Albania and Israel.

Click on the maps for more detailed information.

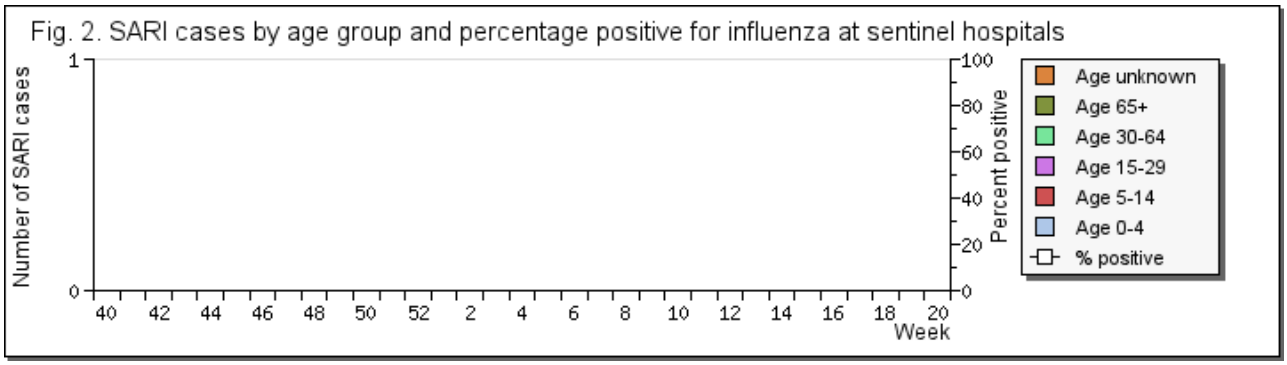
During week 03/2014, 568 sentinel samples tested positive for influenza, with the majority being reported by Spain and Turkey.



During week 03/2014, 568 (30%) of the 1892 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A(H1N1)pdm09 and reported mainly by Spain (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations has started to increase in reporting countries participating in hospital surveillance for SARI in the WHO European Region. (Fig. 7). The majority of cases are in the group aged 0–4 years.



During week 03/2014, 3 (2%) of the 129 SARI samples collected in Albania, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine tested positive for influenza A, with 2 being A(H3N2) (Fig. 8a). Click here for a detailed overview in table format.

Since week 40/2013, France, Ireland, Romania, Spain, Sweden and the United Kingdom have reported 759 hospitalized laboratory-confirmed influenza cases in total: 14 influenza B, 388 A(H1N1)pdm09, 96 A(H3) and 261 type A not subtyped.

During week 03/2014 France and Spain reported 33 fatal cases, 19 (58%) of these being infected with influenza A(H1N1)pdm09 virus.

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 has been gradually increasing since week 40/2013 and picked up in week 50/2013 giving a slightly later start compared to the previous season. (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 3/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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.

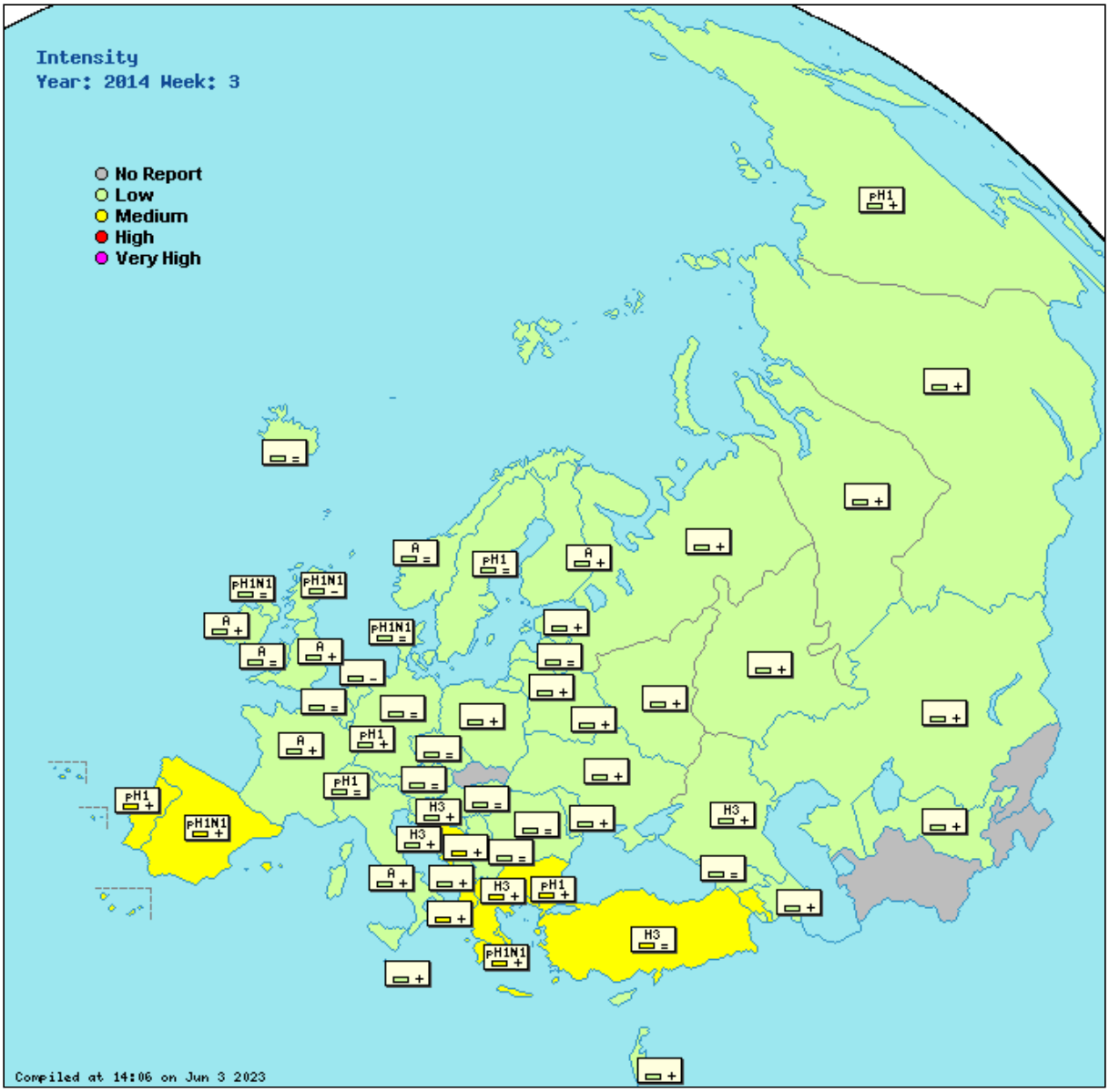
Map

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
26 samples were tested for Influenza A and B - 3 of them were positive for RNA Influenza A(H3N2). 2 samples were positive for RNA hRSV, and 2 - for RNA Parainfluenza virus type 1.

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	Medium	Sporadic	Low	Increasing	20	0%	None		428.8 (graphs)	sari	Click here
Armenia	Medium	Sporadic	Moderate	Increasing					89.0 (graphs)	sari	Click here
Austria	Low	Sporadic	Low	Stable	8	25.0%	None	755.7 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Increasing	11	0%	None	272.5 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Increasing	30	0%	None	14.8 (graphs)	751.5 (graphs)	sari	Click here
Belgium	Low	None		Stable	8	12.5%	None	32.1 (graphs)	1416.0 (graphs)	sari	Click here
Bosnia and Herzegovina	Medium	None	Low	Increasing			None	44.6 (graphs)	84.1 (graphs)		Click here

Bulgaria	Medium	Regional		Increasing	64	45.3%	Type A, Subtype pH1	(graphs)	1695.8	(graphs)		Click here
Croatia	Low	Sporadic		Increasing	62	0%	None	(graphs)		(graphs)		Click here
Cyprus	Low	None	Low	Stable				2.1 * (graphs)	8.7 *	(graphs)		Click here
Czech Republic	Low	Sporadic		Stable	17	0%	None	24.2 (graphs)	832.3	(graphs)		Click here
Denmark	Low	Sporadic		Stable	3	33.3%	Type A	40.6 (graphs)		(graphs)		Click here
England	Low	Widespread		Increasing	58	17.2%	Type A	8.7 (graphs)	216.3	(graphs)		Click here
Estonia	Low	Sporadic		Increasing	9	11.1%	None	7.1 (graphs)	216.7	(graphs)		Click here
Finland	Low	Sporadic		Increasing	6	16.7%	Type A	(graphs)				Click here
France	Low	Local	Low	Increasing	139	31.7%	Type A	(graphs)	1666.7	(graphs)		Click here
Georgia	Low	Sporadic	Low	Stable	4	25.0%	None	183.8 (graphs)		(graphs)	sari	Click here
Germany	Low	Sporadic		Stable	81	4.9%	None	(graphs)	964.4	(graphs)		Click here
Greece	Medium	Local		Increasing	6	83.3%	Type A, Subtype pH1N1	175.0 (graphs)		(graphs)		Click here
Hungary	Low	Sporadic	Low	Stable	32	3.1%	None	104.9 (graphs)		(graphs)		Click here
Iceland	Low	Sporadic	Low	Stable	0	-		6.8 (graphs)		(graphs)		Click here
Ireland	Low	Local	Low	Increasing	16	43.8%	Type A	13.7 (graphs)		(graphs)		Click here
Israel	Low	Sporadic	Low	Increasing	96	17.7%	None	48.9 (graphs)				Click here
Italy	Low	Regional	Low	Increasing	56	28.6%	Type A	454.0 (graphs)		(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Increasing	17	11.8%	None	139.5 (graphs)	23.4	(graphs)	sari	Click here
Kyrgyzstan					9	0%	None			(graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	0	-	None	1.8 (graphs)	812.2	(graphs)		Click here
Lithuania	Low	Sporadic	Low	Increasing	2	0%	None	1.1 (graphs)	511.3	(graphs)		Click here
Luxembourg	Low	Sporadic			8	25.0%		0.9 * (graphs)	21.7 *	(graphs)		Click here
The former Yugoslav Republic of Macedonia	Medium	Regional	Low	Increasing			Type A, Subtype H3	67.4 (graphs)		(graphs)		Click here
Malta	Low	None	Low	Increasing	2	0%	None	2.1 * (graphs)	0 *	(graphs)		Click here
Montenegro	Low	None	Low	Increasing				2.7 (graphs)		(graphs)		Click here
Netherlands	Low	Regional		Stable	17	5.9%	None	41.1 (graphs)		(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Stable	8	50.0%	Type A	23.6 (graphs)	400.7	(graphs)		Click here
Norway	Low	Sporadic		Stable	16	25.0%	Type A	35.2 (graphs)		(graphs)		Click here
Poland	Low	None	Low	Increasing	7	0%	None	270.9 (graphs)		(graphs)		Click here
Portugal	Medium	Widespread		Increasing	10	70.0%	Type A, Subtype pH1	60.5 (graphs)		(graphs)		Click here
Republic of Moldova	Low	Sporadic	Low	Increasing	22	13.6%	None	0.8 (graphs)	245.7	(graphs)	sari	Click here
Romania	Low	Sporadic	Low	Stable	7	14.3%		2.5 (graphs)	660.7	(graphs)	sari	Click here
Russian Federation	Low	Sporadic		Increasing	45	15.6%	Type A, Subtype pH1 and H3	0.2 (graphs)	474.1	(graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Decreasing	14	7.1%	Type A, Subtype pH1N1	7.9 (graphs)	437.4	(graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	7	14.3%	None	33.7 (graphs)		(graphs)	sari	Click here
Slovakia					1	0%	None	0.0 (graphs)		(graphs)	sari	Click here
Slovenia	Low	Sporadic		Increasing	29	31.0%	Type A, Subtype H3	8.4 (graphs)	1267.8	(graphs)		Click here
Spain	Medium	Widespread		Increasing	669	43.7%	Type A, Subtype pH1N1	282.9 (graphs)		(graphs)		Click here
Sweden	Low	Local		Stable	39	10.3%	Type A, Subtype pH1	5.2 (graphs)		(graphs)		Click here
Switzerland	Low	Local		Stable	42	33.3%	Type A, Subtype pH1 and H3	61.4 (graphs)		(graphs)		Click here
Turkey	Medium	Regional	Moderate	Stable	170	37.7%	Type A, Subtype H3	310.1 (graphs)		(graphs)		Click here
Ukraine	Low	Local	Low	Increasing	5	0%	None	2.5 * (graphs)	387.1	(graphs)	sari	Click here
Uzbekistan	Low	Sporadic		Increasing	20	60.0%	None	0.1 (graphs)	35.5	(graphs)		Click here
Wales	Low	None		Stable	0	-	Type A	6.8 (graphs)		(graphs)		Click here
Europe					1892	30.0%						Click here

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.

Slowly increasing influenza activity in Europe

Summary, week 04/2014

Influenza activity has increased slowly but steadily over the past weeks, mainly in the southern countries in the WHO European Region. Activity in the remaining countries has been lower than in the same period of the 2012/2013 season. Nevertheless, in week 04/2014 most countries reported increasing trends. Since the beginning of the season, influenza A has been predominant in the Region, with the majority of outpatient detections reported by Spain, where the influenza season started earlier than in other countries. The number of hospitalized laboratory-confirmed influenza cases reported has increased over the last several weeks in southern and western European countries, with 87% of the cases during week 04/2014 being associated with A(H1N1)pdm09 infection.

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

During week 04/2014 a total of 10 749 specimens from sentinel and non-sentinel sources was tested for influenza, 1568 (15%) of which were positive: 1513 (96%) influenza A and 55 (4%) influenza B (Fig. 1 and 2). France and Spain reported the majority of influenza-positive cases.

Influenza A has remained dominant since week 40/2013. Of the 1060 influenza A viruses that were subtyped during week 04/2014, 638 (60%) were A(H1N1)pdm09 and 422 (40%) A(H3N2) (Fig. 2a).

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 7969 influenza detections, with an increasing proportion of influenza A viruses: 7513 (94%) were influenza A and 456 (6%) influenza B viruses (Fig. 2b). Of the 5473 influenza A viruses that have been subtyped, 3076 (56%) were A(H1N1)pdm09 and 2397 (44%) were A(H3N2).

In addition, since week 40/2013, the lineage of 54 influenza B viruses has been determined: 50 (93%) belonged to the B/Yamagata lineage (the B lineage virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 4 (7%) to B/Victoria.

Similarly to week 03/2014, 17 countries reported influenza A as the dominant type during week 04/2014 (Map 1 and country table). In countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in Ireland, Slovenia, the former Yugoslav Republic of Macedonia and Turkey, while Bulgaria, Greece, Latvia, Norway, Spain and the United Kingdom (Scotland) reported A(H1N1)pdm09 as dominant. France, Italy, the Russian Federation and Switzerland reported A (H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

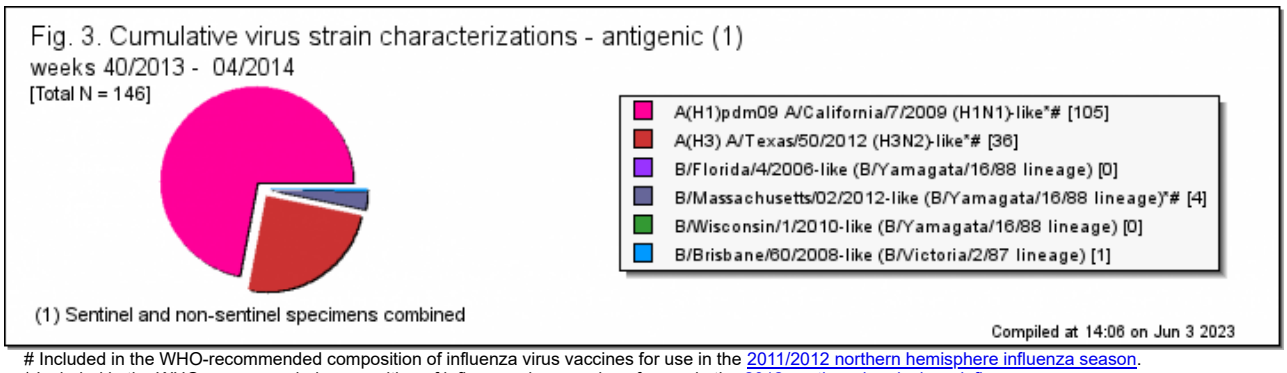
Circulating influenza viruses are assessed each season for their antigenic and genetic characteristics, to determine the extent of their antigenic similarity to the viruses included in the seasonal influenza vaccine, and determine the prevalence of mutations that affect pathogenicity or are associated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

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (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 40/2013, 122 influenza viruses characterized antigenically by 9 countries (Denmark, Finland, Germany, Latvia, Portugal, Romania, the Russian Federation, Switzerland and the United Kingdom (England)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). 8 countries (Belgium, Denmark, Finland, the Netherlands, Norway, Portugal, Spain and Sweden) have characterized 224 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 40/2013, 6 countries (the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom (England)) have screened 288 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 203 A(H1N1)pdm09 viruses tested, 201 showed susceptibility to both drugs. 2 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected in the United Kingdom in hospitalized patients with no known exposure to neuraminidase inhibitors.

There is no indication of the spread of resistant viruses.

Of the 64 influenza A(H3N2) viruses tested, 63 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 21 influenza B viruses tested showed susceptibility to oseltamivir and zanamivir. All 57 influenza A(H1N1)pdm09 and 47 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

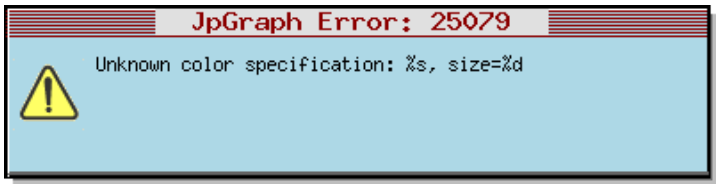
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 04/2014, most European countries continued to report low-intensity influenza activity (Map 2), with increasing trends (Map 4). Regarding geographic spread, influenza activity was predominantly sporadic (Map 3), with only Bulgaria, Greece, Spain and the United Kingdom (England) reporting widespread activity.

During week 04/2014, despite an overall increasing trend, ILI and ARI consultation rates remained below the national thresholds in the 17 countries in the WHO European Region that have established epidemic thresholds, except Albania, Israel and Switzerland.

Click on the maps for more detailed information.

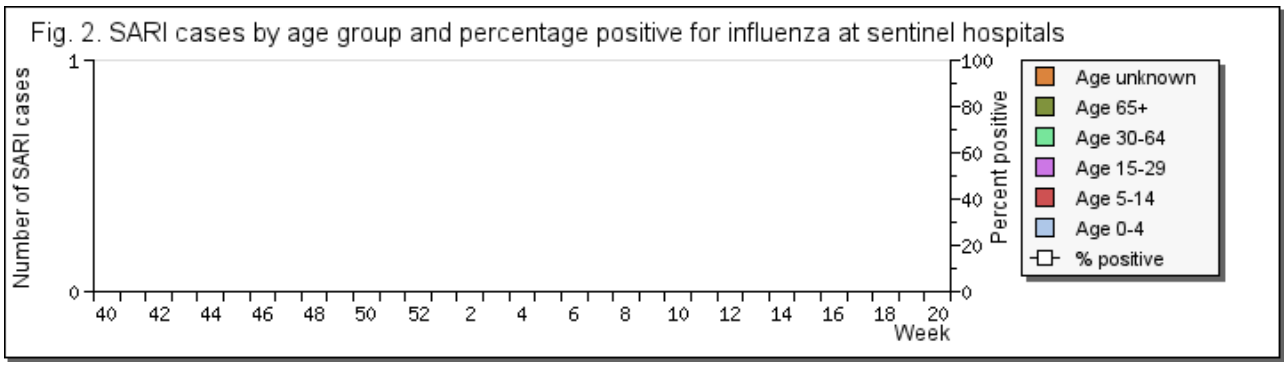
During week 04/2014, 554 sentinel specimens tested positive for influenza, with 252 (45%) being reported by Spain.



During week 04/2014, 554 (28%) of the 1958 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A (H3N2) (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations decreased slightly compared to the previous week, with most cases occurring in the group aged 0–4 years (Fig. 7).



During week 04/2014, 11 (7%) of the 148 SARI samples collected in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza A, with 7 being A(H1N1)pdm09 (Fig. 8a), correlating with the late start of the season in central and eastern parts of the Region. (Fig. 8a). Click here for a detailed overview in table format.

Since week 40/2013, France, Ireland, Romania, Spain, Sweden and the United Kingdom have reported 1177 hospitalized laboratory-confirmed influenza cases in total: 17 influenza B, 633 A(H1N1)pdm09, 152 A(H3) and 375 type A not subtyped.

Since week 40/2013. France, Spain and Ireland reported 71 fatal cases in total. All fatal cases were associated with influenza type A infection and 50 were subtyped: 39 (78%) as A(H1)pdm09 and 11 (22%) A(H3).

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 has been gradually increasing since week 40/2013 and peaked in week 50/2013 giving a slightly later start compared to the previous season. (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 04/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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.

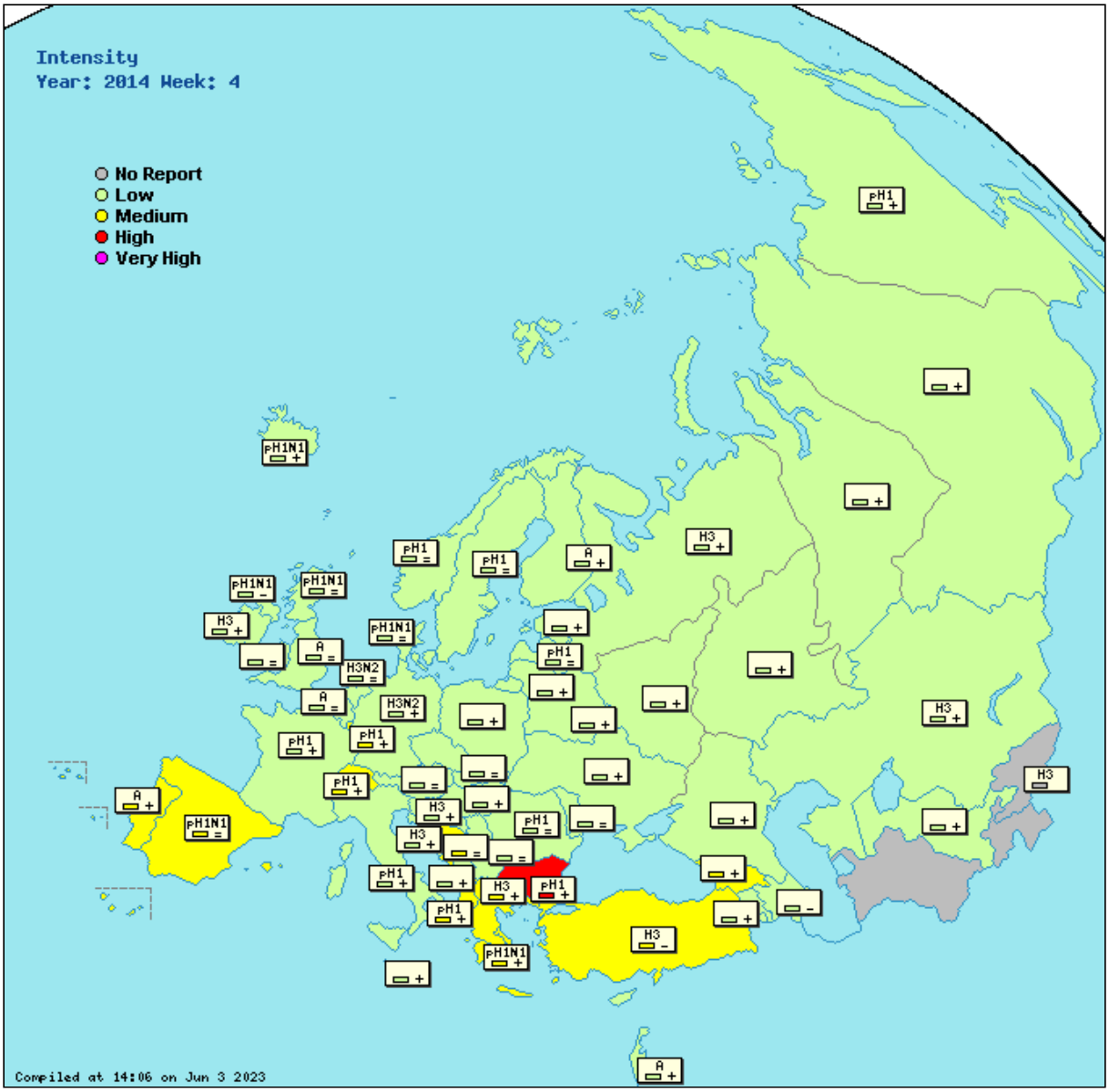
Map

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 were tested for Influenza A and B 22 samples: 6 of them were positive for RNA Influenza A(H3N2); 1 sample was positive for RNA hRSV, and 2 - 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	Medium	Sporadic	Low	Increasing					441.5 (graphs)	sari	Click here
Armenia					0	-	None		(graphs)	sari	Click here
Austria	Low	Sporadic	Low	Stable	23	26.1%	None	917.0 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Decreasing	36	0%	None	203.3 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Increasing	23	0%	None	13.8 (graphs)	917.9 (graphs)	sari	Click here
Belgium					20	25.0%	Type A	(graphs)		sari	Click here
Bosnia and Herzegovina	Medium	Sporadic	Low	Stable			None	28.1 (graphs)	137.7 (graphs)		Click here

Bulgaria	High	Widespread		Increasing	53	34.0%	Type A, Subtype pH1		(graphs)	2356.4	(graphs)		Click here
Croatia	Low	Sporadic		Increasing	91	0%	None		(graphs)		(graphs)		Click here
Cyprus	Low	None	Low	Stable				1.6 *	(graphs)	10.0 *	(graphs)		Click here
Czech Republic	Low	Sporadic		Stable				27.6	(graphs)	888.0	(graphs)		Click here
Denmark	Low	Sporadic		Stable	4	0%	Type A	50.8	(graphs)		(graphs)		Click here
England	Low	Widespread		Stable				7.2	(graphs)	217.0	(graphs)		Click here
Estonia	Low	Sporadic		Increasing	10	10.0%	None	6.2	(graphs)	255.6	(graphs)		Click here
Finland	Low	Sporadic		Increasing	21	14.3%	Type A		(graphs)				Click here
France	Low	Local	Low	Increasing	169	37.9%	Type A, Subtype pH1 and H3N2		(graphs)	1925.4	(graphs)		Click here
Georgia	Medium	Local	Moderate	Increasing	17	11.8%	None	278.1	(graphs)		(graphs)	sari	Click here
Germany	Low	Local		Increasing	103	7.8%	None		(graphs)	1096.4	(graphs)		Click here
Greece	Medium	Widespread		Increasing	11	54.6%	Type A, Subtype pH1N1	215.4	(graphs)		(graphs)		Click here
Hungary	Low	Sporadic	Low	Increasing	35	17.1%	None	128.4	(graphs)		(graphs)		Click here
Iceland					0	-			(graphs)				Click here
Ireland	Low	Local	Low	Increasing	15	60.0%	Type A, Subtype H3	17.7	(graphs)		(graphs)		Click here
Israel	Low	Regional	Low	Increasing	69	23.2%	Type A	61.3	(graphs)				Click here
Italy	Low	Regional	Low	Increasing	84	34.5%	Type A, Subtype pH1 and H3N2	521.7	(graphs)		(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Increasing	17	23.5%	None	149.3	(graphs)	23.7	(graphs)	sari	Click here
Kyrgyzstan					5	0%	None				(graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	0	-	Type A, Subtype pH1	1.8	(graphs)	960.8	(graphs)		Click here
Lithuania	Low	Sporadic	Low	Increasing	3	0%	None	1.9	(graphs)	640.6	(graphs)		Click here
Luxembourg	Medium	Local			22	45.5%		1.6 *	(graphs)	23.9 *	(graphs)		Click here
The former Yugoslav Republic of Macedonia	Medium	Regional	Low	Increasing			Type A, Subtype H3	101.7	(graphs)		(graphs)		Click here
Malta	Low	Sporadic	Low	Increasing	0	-	None	3.4 *	(graphs)	0 *	(graphs)		Click here
Montenegro	Low	None	Low	Increasing				3.2	(graphs)		(graphs)		Click here
Netherlands	Low	Regional		Stable	13	0%	None	40.7	(graphs)		(graphs)		Click here
Northern Ireland					8	37.5%	Type A		(graphs)				Click here
Norway	Low	Sporadic		Stable	16	18.8%	Type A, Subtype pH1	36.4	(graphs)		(graphs)		Click here
Poland	Low	Local	Low	Increasing	6	0%	None	362.6	(graphs)		(graphs)		Click here
Portugal	Medium	Widespread		Increasing				69.1	(graphs)		(graphs)		Click here
Republic of Moldova	Low	Sporadic	Low	Stable	17	29.4%	None	2.6	(graphs)	237.9	(graphs)	sari	Click here
Romania	Low	Sporadic	Low	Stable	3	33.3%		1.9	(graphs)	706.1	(graphs)	sari	Click here
Russian Federation	Low	Sporadic		Increasing	53	9.4%	Type A, Subtype pH1 and H3	0.2	(graphs)	541.3	(graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	34	8.8%	Type A, Subtype pH1N1	8.4	(graphs)	392.2	(graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	8	37.5%	None	41.1	(graphs)		(graphs)	sari	Click here
Slovakia	Low	None	Low	Stable	1	0%	None	165.9	(graphs)	1537.6	(graphs)	sari	Click here
Slovenia	Low	Local		Increasing	38	34.2%	Type A, Subtype H3	11.5	(graphs)	1418.7	(graphs)		Click here
Spain	Medium	Widespread		Stable	660	38.3%	Type A, Subtype pH1N1	292.2	(graphs)		(graphs)		Click here
Sweden	Low	Local		Stable	41	17.1%		5.6	(graphs)		(graphs)		Click here
Switzerland	Low	Local		Increasing	36	33.3%	Type A, Subtype pH1 and H3	75.3	(graphs)		(graphs)		Click here
Turkey	Medium	Regional	Moderate	Decreasing	170	30.6%	Type A, Subtype H3	272.1	(graphs)		(graphs)		Click here
Ukraine	Low	Local	Low	Increasing	3	0%	None	2.5 *	(graphs)	439.1	(graphs)	sari	Click here
Uzbekistan	Low	Sporadic		Increasing	16	43.8%	None	0.2	(graphs)	38.8	(graphs)		Click here
Wales	Low	None		Stable	4	0%	None	5.7	(graphs)		(graphs)		Click here
Europe					1958	28.3%							Click here

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.

Variable influenza activity in Europe

Summary, week 05/2014

Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) increased in most countries in the WHO European Region, but started to decrease in Bulgaria, Spain and Turkey, whose influenza seasons started earlier. Nevertheless, the percentage of sentinel specimens testing positive for influenza decreased for the second consecutive week, although the number of countries with regional or widespread geographic influenza activity increased from the previous week. Influenza A remained predominant in the Region. The number of reported hospitalized laboratory-confirmed influenza cases increased over the last several weeks in southern and western European countries, with 80% of the cases during week 05/2014 being associated with A(H1N1)pdm09 infection. At the same time, 54% of influenza positive cases of severe acute respiratory infection (SARI) in eastern European countries were associated with A(H3N2).

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

For week 05/2014 a total of 12 647 specimens from sentinel and non-sentinel sources were tested for influenza, 2282 (18%) of which were positive: 2194 (96%) influenza A and 88 (4%) influenza B (Fig. 1 and 2). France, Norway, Portugal, Spain and Sweden reported more than half the influenza-positive cases.

Influenza A has remained dominant since week 40/2013. Of the 1403 influenza A viruses that were subtyped during week 05/2014, 909 (65%) were A(H1N1)pdm09 and 494 (35%) A(H3N2) (Fig. 2a).

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 11 304 influenza detections, with an increasing proportion of influenza A viruses detected: 10 743 (95%) were influenza A and 561 (5%) influenza B viruses (Fig. 2b). The proportion of influenza A viruses subtyped as A(H1N1)pdm09 has increased: of the 7644 influenza A viruses subtyped, 4507 (59%) were A(H1N1)pdm09 and 3137 (41%) were A(H3N2).

In addition, since week 40/2013, the lineage of 74 influenza B viruses has been determined: 69 (93%) belonged to the B/Yamagata lineage (the B lineage virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 5 (7%) to B/Victoria.

For week 05/2014, 23 countries reported influenza A as the dominant type (Map 1 and country table), an increase from the previous week. In countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in Georgia, Italy, Slovenia and the former Yugoslav Republic of Macedonia, while Bulgaria, Greece, Hungary, Iceland, Latvia, Norway, Spain, Sweden and the United Kingdom (Scotland) reported A(H1N1)pdm09 as dominant. Albania, France, Ireland, the Russian Federation and Switzerland reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

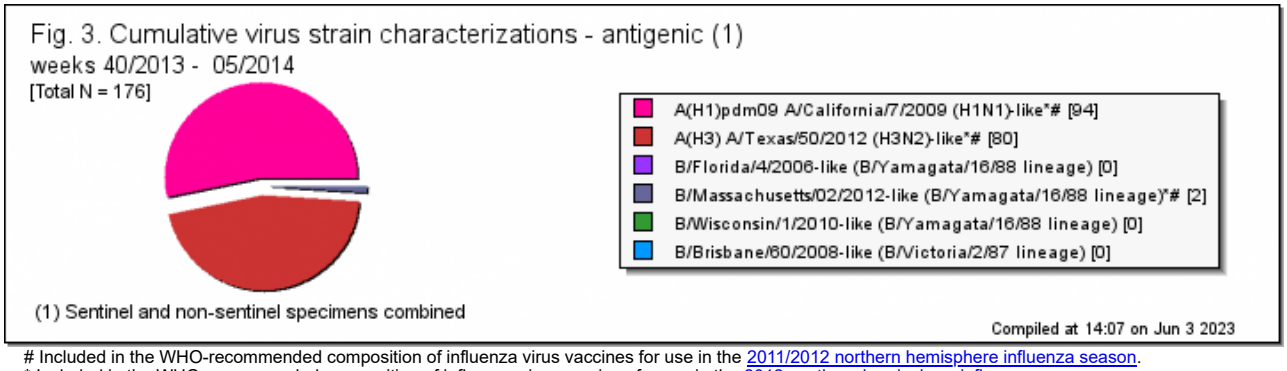
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

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 40/2013, 258 influenza viruses characterized antigenically by 10 countries (Denmark, Finland, Germany, Latvia, Norway, Portugal, Romania, the Russian Federation, Switzerland and the United Kingdom (England)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). 10 countries (Belgium, Denmark, Finland, Germany, the Netherlands, Norway, Portugal, the Russian Federation, Spain and Sweden) have characterized 318

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 40/2013, 7 countries (the Netherlands, Norway, Portugal, Spain, Sweden, the Russian Federation and the United Kingdom (England)) have screened 306 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 220 A(H1N1)pdm09 viruses tested, 218 showed susceptibility to both drugs. 2 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected in the United Kingdom in hospitalized patients.

Of the 65 influenza A(H3N2) viruses tested, 64 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 21 influenza B viruses tested showed susceptibility to oseltamivir and zanamivir.

There is no indication of the spread of resistant viruses. All 60 influenza A(H1N1)pdm09 and 47 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

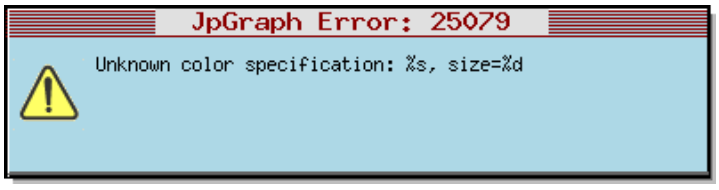
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 05/2014, most European countries continued to report low-intensity influenza activity (Map 2), with increasing trends (Map 4). Regarding geographic spread, influenza activity was predominantly sporadic (Map 3), but more countries than last week reported widespread activity.

During week 5/2014, consultation rates increased in the majority of countries in the Region. Of 13 countries with established national thresholds, however, the rates were above the threshold only in Albania, Israel and Switzerland. In Bulgaria, Spain and Turkey, where the influenza season started earlier than in other countries, the consultation rates showed decreases.

Click on the maps for more detailed information.

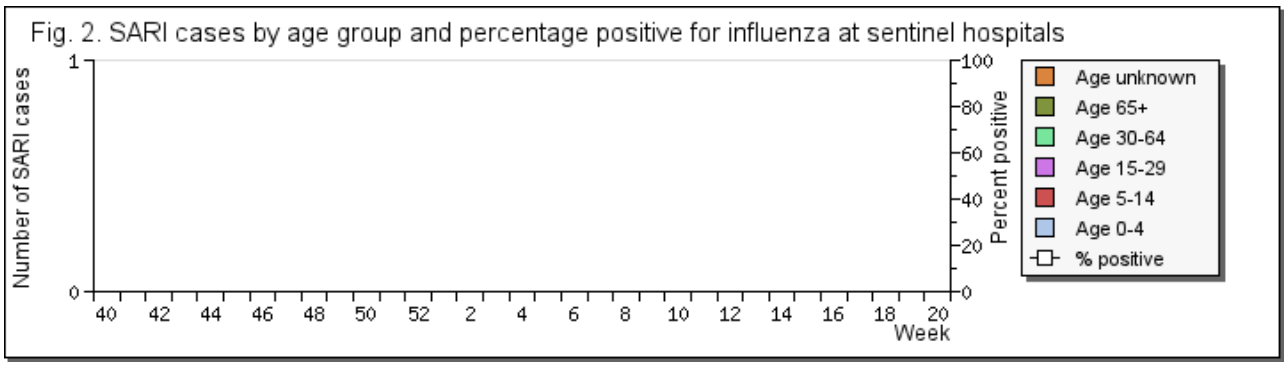
During week 05/2014, 518 sentinel specimens tested positive for influenza, with 156 (30%) reported by Spain. The percentage of sentinel specimens testing positive for influenza decreased in the last two weeks, probably owing to the differences in influenza activity among countries in the Region: the influenza season has not progressed much in many countries and may have peaked in others.



During week 05/2014, 518 (26%) of the 1988 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A(H3N2) (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

The number of SARI hospitalizations increased slightly from that in the previous week, with most cases occurring in the group aged 0–4 years (Fig. 7). At the same time, the number of cases in the group aged 5–14 increased, reported mainly by Armenia, Belarus and the Republic of Moldova.



During week 05/2014, 30 (18%) of the 171 SARI samples collected in Albania, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza A, with majority being influenza A(H3N2) (Fig. 8a), correlating with the results of sentinel surveillance (Fig. 8a). Click here for a detailed overview in table format.

Since week 40/2013, 6 countries have reported 1605 hospitalized laboratory-confirmed influenza cases: 1588 (99%) were related to influenza type A and 17 (1%) to type B. Of 1078 subtyped influenza A viruses, 878 (81%) were A(H1)pdm09 and 200 (19%) were A(H3) viruses.

5 countries reported a total of 124 fatal cases, all associated with influenza type A infection, of which 86 were subtyped: 70 (56%) as A(H1)pdm09 and 16 (13%) as A(H3).

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 has been gradually increasing since week 40/2013 and peaked in week 50/2013 decreasing in all the reporting countries since than. This represents a slightly later start than in the previous season (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 05/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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.

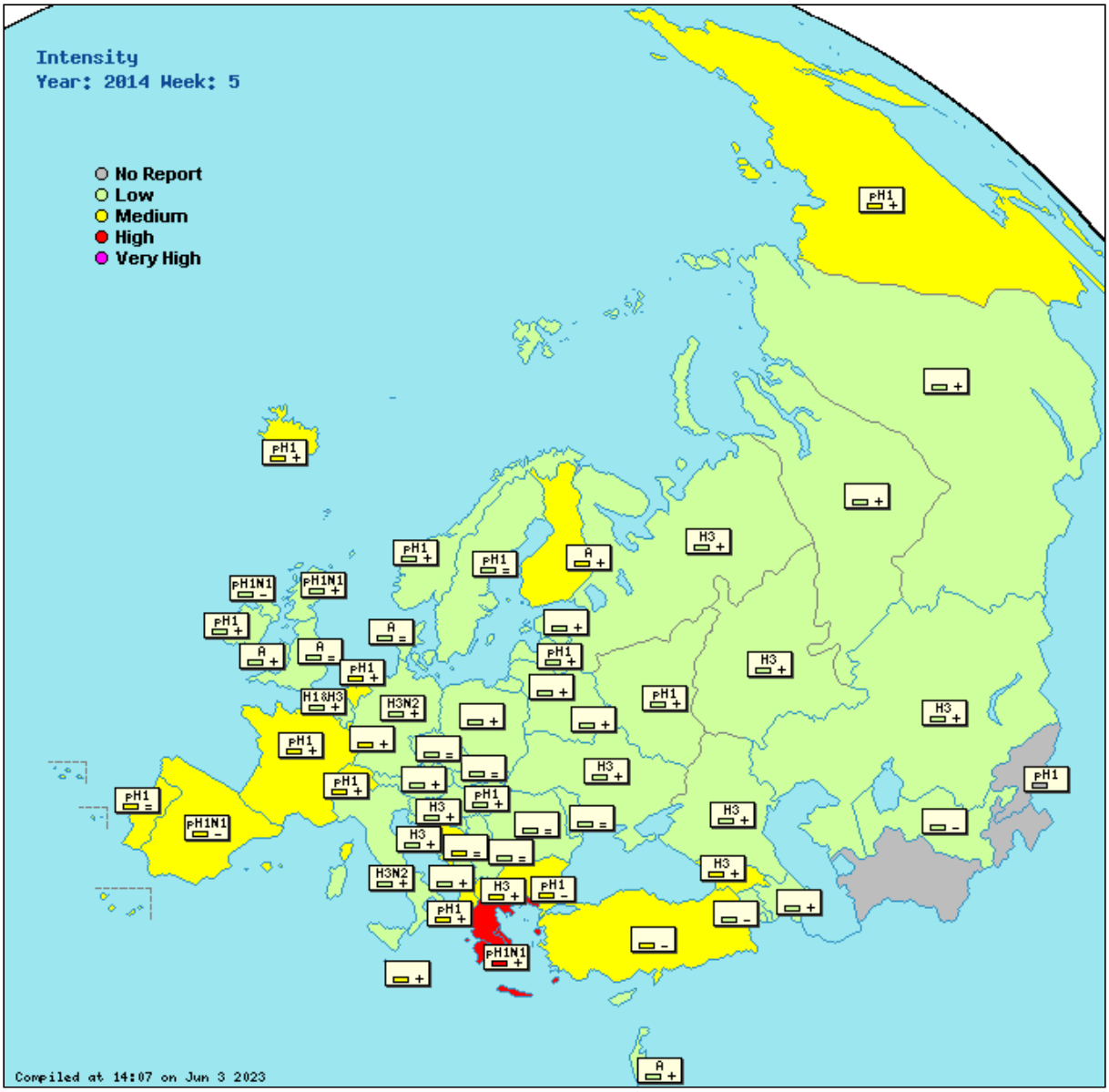
Map

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 were tested for Influenza A and B 28 samples: 9 of them were positive for RNA Influenza virus A(H3N2); 3 samples were positive for RNA hRSV, and 1 - for RNA Influenza A(H3N2) and RNA h RSV.

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	Medium	Sporadic	Low	Increasing	19	21.1%	Type A, Subtype pH1 and H3		452.1 (graphs)	sari	Click here
Armenia	Low	Sporadic	Low	Decreasing	0	-	None		87.0 (graphs)	sari	Click here
Austria	Low	Sporadic	Low	Stable	19	57.9%	None	1013.0 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Increasing	20	0%	None	229.2 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Increasing	31	0%	None	13.6 (graphs)	981.8 (graphs)	sari	Click here
Belgium	Low	None		Increasing	28	28.6%	Type A	82.2 (graphs)	1806.6 (graphs)	sari	Click here
Bosnia and Herzegovina	Medium	None	Low	Stable			None	47.2 (graphs)	96.7 (graphs)		Click here

Bulgaria	Medium	Widespread		Decreasing	29	13.8%	Type A, Subtype pH1		(graphs)	1855.8	(graphs)		Click here
Croatia	Low	Sporadic		Increasing	62	0%	None		(graphs)		(graphs)		Click here
Cyprus	Low	None	Low	Stable				1.3 *	(graphs)	11.0 *	(graphs)		Click here
Czech Republic	Low	Sporadic		Stable	12	8.3%	None	29.8	(graphs)	948.0	(graphs)		Click here
Denmark	Low	Sporadic		Stable	0	-	Type A	28.0	(graphs)		(graphs)		Click here
England	Low	Widespread		Stable	68	11.8%	Type A	5.8	(graphs)	213.3	(graphs)		Click here
Estonia	Low	Sporadic		Increasing	12	33.3%	None	9.4	(graphs)	339.7	(graphs)		Click here
Finland	Medium	Widespread		Increasing	28	17.9%	Type A		(graphs)				Click here
France	Medium	Widespread	Moderate	Increasing	207	22.7%	Type A, Subtype pH1 and H3N2		(graphs)	2042.9	(graphs)		Click here
Georgia	Medium	Regional	Moderate	Increasing	8	62.5%	Type A, Subtype H3	324.1	(graphs)		(graphs)	sari	Click here
Germany	Low	Local		Increasing	99	13.1%	None		(graphs)	1209.5	(graphs)		Click here
Greece	High	Widespread		Increasing	13	38.5%	Type A, Subtype pH1N1	271.7	(graphs)		(graphs)		Click here
Hungary	Low	Regional	Low	Increasing	50	16.0%	Type A, Subtype pH1	144.0	(graphs)		(graphs)		Click here
Iceland					0	-	Type A, Subtype pH1		(graphs)				Click here
Ireland	Low	Local	Low	Increasing	24	58.3%	Type A, Subtype pH1 and H3N2	19.0	(graphs)		(graphs)		Click here
Israel	Low	Widespread	Low	Increasing	78	37.2%	Type A	63.3	(graphs)				Click here
Italy	Low	Widespread	Low	Increasing	97	46.4%	Type A, Subtype H3N2	618.0	(graphs)		(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Increasing	17	47.1%	None	157.5	(graphs)	23.6	(graphs)	sari	Click here
Kyrgyzstan					6	0%	None				(graphs)	sari	Click here
Latvia	Low	Sporadic		Increasing	0	-	Type A, Subtype pH1	5.3	(graphs)	999.1	(graphs)		Click here
Lithuania	Low	Sporadic	Low	Increasing	2	0%	None	1.6	(graphs)	682.0	(graphs)		Click here
Luxembourg	Medium	Regional			40	35.0%		2.0 *	(graphs)	21.9 *	(graphs)		Click here
The former Yugoslav Republic of Macedonia	Medium	Regional	Low	Increasing			Type A, Subtype H3	114.4	(graphs)		(graphs)		Click here
Malta	Medium	None	Moderate	Increasing	1	100.0%	None	3.5 *	(graphs)	0 *	(graphs)		Click here
Montenegro	Low	None	Low	Increasing					(graphs)		(graphs)		Click here
Netherlands	Low	Regional		Stable	15	6.7%	None	43.7	(graphs)		(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Decreasing	6	16.7%	Type A	19.8	(graphs)	390.4	(graphs)		Click here
Norway	Low	Sporadic		Increasing	14	14.3%	Type A, Subtype pH1	44.5	(graphs)		(graphs)		Click here
Poland	Low	Local	Low	Increasing	26	11.5%	None	376.2	(graphs)		(graphs)		Click here
Portugal	Low	Widespread		Stable	6	83.3%	Type A	61.2	(graphs)		(graphs)		Click here
Republic of Moldova	Low	Sporadic	Low	Stable	21	38.1%	None	4.1	(graphs)	238.2	(graphs)	sari	Click here
Romania	Low	Sporadic	Low	Stable	2	50.0%		2.8	(graphs)	659.9	(graphs)	sari	Click here
Russian Federation	Low	Sporadic		Increasing	51	11.8%	Type A, Subtype pH1 and H3	0.3	(graphs)	616.9	(graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Increasing	21	19.1%	Type A, Subtype pH1N1	12.6	(graphs)	448.3	(graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	5	0%	None	54.5	(graphs)		(graphs)	sari	Click here
Slovakia	Low	None	Low	Stable	3	0%	None	195.0	(graphs)	1709.9	(graphs)	sari	Click here
Slovenia	Low	Local		Increasing	46	47.8%	Type A, Subtype H3	14.2	(graphs)	1372.9	(graphs)		Click here
Spain	Medium	Widespread		Decreasing	542	28.8%	Type A, Subtype pH1N1	213.5	(graphs)		(graphs)		Click here
Sweden	Low	Regional		Stable	45	28.9%	Type A, Subtype pH1	6.4	(graphs)		(graphs)		Click here
Switzerland	Low	Local		Increasing	29	37.9%	Type A, Subtype pH1 and H3	99.0	(graphs)		(graphs)		Click here
Turkey	Medium	Regional	Moderate	Decreasing	149	28.2%	None	170.0	(graphs)		(graphs)		Click here
Ukraine	Low	Local	Low	Increasing	15	6.7%	None	3.8 *	(graphs)	508.7	(graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Decreasing	17	41.2%	None	0.1	(graphs)	37.0	(graphs)		Click here
Wales	Low	Sporadic		Increasing	5	20.0%	Type A	8.2	(graphs)		(graphs)		Click here
Europe					1988	26.1%							Click here

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.

Influenza activity continues to increase across Europe

Summary, week 06/2014

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) are increasing in most countries in the WHO European Region. Overall, influenza activity across the Region appears less than that seen in the 2012–2013 season. Influenza activity is migrating from south to north, with some countries in the south probably having reached peak activity while those in the north show slow increases. While A(H1N1)pdm09 and A(H3N2) viruses are co-circulating, A(H1N1)pdm09 remains predominant in all parts of the Region but western Asia, where most influenza cases were due to A(H3N2). Influenza detections in the hospital sector show a similar situation, in which most severe acute respiratory infection (SARI) cases reported by countries in eastern Europe and western Asia were due to A(H3N2) and most hospitalized laboratory-confirmed influenza cases reported by western European countries were due to A(H1N1)pdm09. Overall, countries with SARI surveillance reported fewer influenza detections; this can be explained by low influenza activity in most of these countries up to week 06/2014.

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

During week 06/2014, a total of 12 748 specimens from sentinel and non-sentinel sources was tested for influenza, 2636 (21%) of which were positive: 2551 (97%) influenza A and 85 (3%) influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type across the Region since week 40/2013. Of the 1538 influenza A viruses that were subtyped during week 06/2014, 1047 (68%) were A(H1N1)pdm09 and 491 (32%) A(H3N2) (Fig. 2a).

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 14 743 influenza detections, with an increasing proportion of influenza A viruses: 14 094 (96%) were influenza A and 649 (4%) influenza B viruses (Fig. 2b). Of the 10 292 influenza A viruses that have been subtyped, 6360 (62%) were A(H1N1)pdm09 and 3932 (38%) were A(H3N2).

In addition, since week 40/2013, the lineage of 76 influenza B viruses has been determined: 70 (92%) belonged to the B/Yamagata lineage (the B lineage virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 6 (8%) to B/Victoria.

For week 06/2014, 25 countries reported influenza A as the dominant type (Map 1 and country table). In countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in 6 countries (Georgia, Germany, Italy, Romania, Slovenia and Ukraine), while 13 countries (Bulgaria, Denmark, Estonia, Finland, Greece, Hungary, Iceland, Latvia, the Netherlands, Norway, Spain, Sweden and the United Kingdom (Scotland)) reported A(H1N1)pdm09 as dominant. 5 countries (France, Ireland, Luxembourg, the Russian Federation and Switzerland) reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

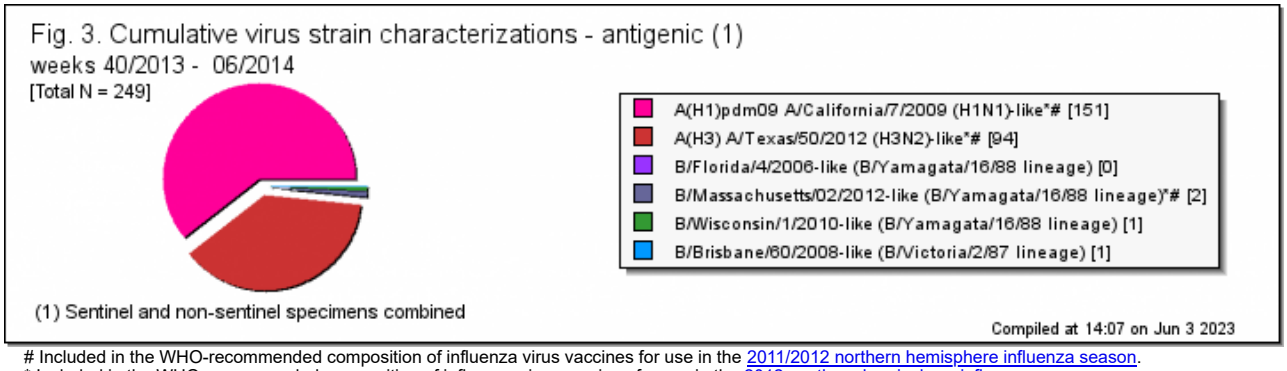
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

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 40/2013, 341 influenza viruses characterized antigenically by 11 countries (Denmark, Finland, Germany, Latvia, Norway, Portugal, Romania, the Russian Federation, Slovakia, Switzerland and the United Kingdom (England)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). 11 countries (Belgium, Denmark, Finland, Germany, Greece, the Netherlands, Norway, Portugal, the Russian Federation, Spain and Sweden) have

characterized 361 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 40/2013, 8 countries (Greece, the Netherlands, Norway, Portugal, Spain, Sweden, the Russian Federation and the United Kingdom (England)) have screened 434 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 327 A(H1N1)pdm09 viruses tested, 325 showed susceptibility to both drugs. 2 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected in the United Kingdom in hospitalized patients treated with oseltamivir.

Of the 84 influenza A(H3N2) viruses tested, 83 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 23 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the winter of 2013–2014. All 62 influenza A(H1N1)pdm09 and 49 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

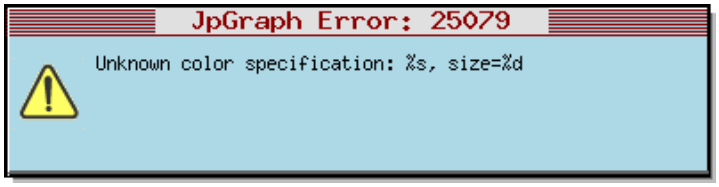
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 06/2014, most European countries continued to report low-intensity influenza activity (Map 2), with increasing trends (Map 4). Regarding geographic spread, influenza activity was predominantly regional or widespread, particularly in countries in southern and western Europe (Map 3).

During week 06/2014, consultation rates increased in most countries in the Region. In most of the 22 countries with established national thresholds, the rates had reached or surpassed threshold levels. At the same time, however, consultation rates continued to decrease in Bulgaria, Portugal, Spain and Turkey, where the influenza season started earlier.

Click on the maps for more detailed information.

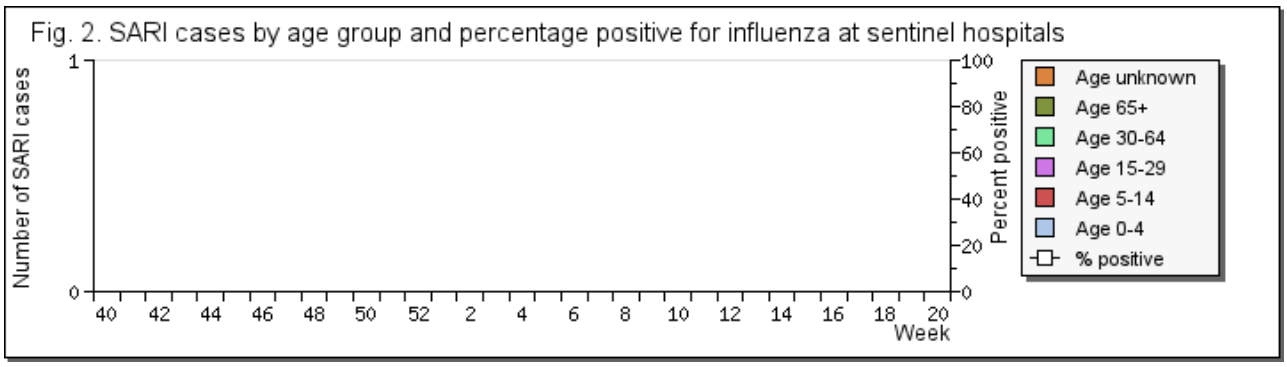
During week 06/2014, 557 sentinel specimens tested positive for influenza. The percentage of sentinel ILI/ARI specimens testing positive for influenza in week 06/2014 is much lower than that reported in week 06/2013 (Fig. 5). The proportions of influenza-positive respiratory specimens from ILI and ARI patients have most likely peaked in some countries, while increasing in others.



During week 06/2014, 557 (30%) of the 1876 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A(H1N1)pdm09 (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

Within the surveillance of severe disease due to influenza, the number of SARI hospitalizations and the percentage positive for influenza increased slightly from previous weeks, with most cases occurring in those aged 0–4 years (Fig. 7).



During week 06/2014, 52 (29%) of the 182 SARI samples collected in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza A, the majority being A(H3N2) (Fig. 8a). Click here for a detailed overview in table format.

For week 06/2014, 5 countries (France, Ireland, Romania, Spain, and Sweden) reported 165 hospitalized laboratory-confirmed influenza cases, including 53 cases admitted to intensive care units (ICUs).

Since week 40/2013, 6 countries have reported 1941 hospitalized, laboratory-confirmed influenza cases: 1920 (99%) were related to influenza virus type A infection and 21 (1%) to type B. Of 1322 subtyped influenza A viruses, 1054 (80%) were A(H1)pdm09 and 268 (20%) were A(H3N2). 5 countries reported a total of 158 fatal cases, all of which were associated with influenza A infection. Of these, 117 were subtyped: 94 (80%) as A(H1)pdm09 and 23 (20%) as A(H3).

SARI and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza B and a lower proportion of influenza A(H1N1)pdm09 than the latter. Overall, fewer influenza detections were reported in countries with SARI surveillance, which can be explained by low influenza activity in most of these countries up to week 06/2014. Further, the participating countries use different surveillance systems and this may lead to differences in influenza (sub)type detections.

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 had been gradually increasing since week 40/2013, peaked in week 50/2013 and has decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 06/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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.

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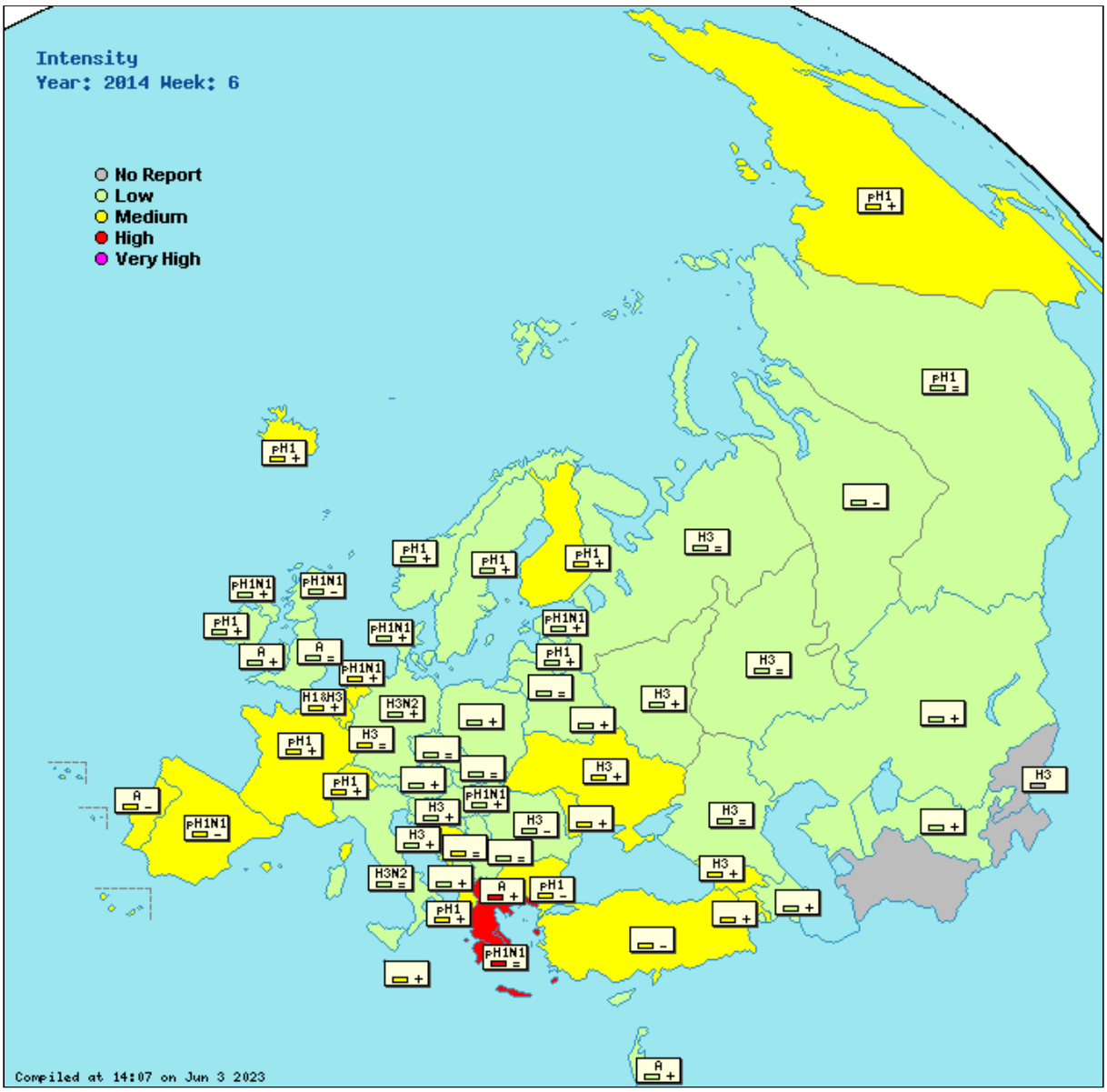
Type of map : **Intensity** ○ **+ virological** ◉ **Geographical spread** ○ **+ virological** ○ **Impact** ○



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
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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 were tested for Influenza A and B 30 samples: 12 of them were positive for RNA Influenza virus A(H3N2) and 1 - for RNA h RSV.

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	Medium	Local	Low	Increasing					493.8 (graphs)	sari	Click here
Armenia					1	0%	None		(graphs)	sari	Click here
Austria	Low	Regional	Low	Increasing	22	31.8%	None	1014.8 (graphs)	(graphs)		Click here

Azerbaijan	Low	None	Low	Increasing	52	0%	None	235.3 (graphs)		(graphs)		Click here
Belarus	Low	Sporadic	Low	Increasing	28	14.3%	None	14.8 (graphs)	1002.8 (graphs)		sari	Click here
Belgium	Medium	Widespread		Increasing	21	47.6%	Type A	164.9 (graphs)	2080.2 (graphs)		sari	Click here
Bosnia and Herzegovina	Medium	None	Low	Stable			None	23.2 (graphs)	120.7 (graphs)			Click here
Bulgaria	Medium	Widespread		Decreasing	41	48.8%	Type A, Subtype pH1	(graphs)	1600.2 (graphs)			Click here
Croatia	Low	Widespread		Increasing	83	0%	None	(graphs)		(graphs)		Click here
Cyprus	Low	None	Low	Stable				2.3 * (graphs)	10.3 * (graphs)			Click here
Czech Republic	Low	Sporadic		Stable	8	0%	None	30.6 (graphs)	949.6 (graphs)			Click here
Denmark	Low	Sporadic		Increasing	15	60.0%	Type A, Subtype pH1N1	53.4 (graphs)		(graphs)		Click here
England					87	32.2%	Type A	(graphs)				Click here
Estonia	Low	Local		Increasing	27	40.7%	Type A, Subtype pH1N1	10.8 (graphs)	323.4 (graphs)			Click here
Finland	Medium	Widespread		Increasing	21	42.9%	Type A, Subtype pH1	(graphs)				Click here
France	Medium	Widespread	Moderate	Increasing	200	51.5%	Type A, Subtype pH1 and H3N2	(graphs)	2263.0 (graphs)			Click here
Georgia	Medium	Widespread	Moderate	Increasing	9	77.8%	Type A, Subtype H3	390.1 (graphs)		(graphs)	sari	Click here
Germany	Low	Local		Increasing	131	13.7%	Type A, Subtype H3N2	(graphs)	1264.8 (graphs)			Click here
Greece	High	Widespread		Stable	12	75.0%	Type A, Subtype pH1N1	263.3 (graphs)		(graphs)		Click here
Hungary	Low	Widespread	Low	Increasing	42	9.5%	Type A, Subtype pH1N1	171.9 (graphs)		(graphs)		Click here
Iceland	Medium	Regional	Low	Increasing	0	-	Type A, Subtype pH1	27.3 (graphs)		(graphs)		Click here
Ireland	Low	Widespread	Low	Increasing	26	57.7%	Type A, Subtype pH1 and H3N2	32.4 (graphs)		(graphs)		Click here
Israel	Low	Widespread	Low	Increasing				92.9 (graphs)				Click here
Italy	Low	Widespread	Low	Stable	103	38.8%	Type A, Subtype H3N2	610.4 (graphs)		(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Decreasing	28	14.3%	None	153.2 (graphs)	27.3 (graphs)		sari	Click here
Kyrgyzstan					6	0%	None	95.1 (graphs)	46.8 (graphs)		sari	Click here
Latvia	Low	Sporadic		Increasing	0	-	Type A, Subtype pH1	12.8 (graphs)	1066.2 (graphs)			Click here
Lithuania	Low	Sporadic	Low	Stable	8	12.5%	None	2.1 (graphs)	672.0 (graphs)			Click here
Luxembourg	Medium	Regional			24	20.8%	Type A, Subtype pH1N1 and H3	3.0 * (graphs)	21.9 * (graphs)			Click here
The former Yugoslav Republic of Macedonia	High	Widespread	Moderate	Increasing			Type A	153.6 (graphs)		(graphs)		Click here
Malta	Medium	Sporadic	Moderate	Increasing	3	0%	None	5.3 * (graphs)	0 * (graphs)			Click here
Montenegro	Low	None	Low	Increasing				4.4 (graphs)		(graphs)		Click here
Netherlands	Low	Sporadic	Low	Increasing	21	23.8%	Type A, Subtype pH1N1	48.8 (graphs)		(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Increasing	3	0%	Type A	25.0 (graphs)	472.3 (graphs)			Click here
Norway	Low	Local		Increasing	12	16.7%	Type A, Subtype pH1	51.4 (graphs)		(graphs)		Click here
Poland	Low	Local	Low	Increasing	19	15.8%	None	412.8 (graphs)		(graphs)		Click here
Portugal	Medium	Widespread		Decreasing	7	57.1%	Type A	58.5 (graphs)		(graphs)		Click here
Republic of Moldova	Low	Regional	Low	Increasing	22	45.5%	None	11.2 (graphs)	412.9 (graphs)		sari	Click here
Romania	Low	Sporadic	Low	Decreasing	6	50.0%	Type A, Subtype H3	4.2 (graphs)	580.8 (graphs)		sari	Click here
Russian Federation	Low	Sporadic		Stable	39	15.4%	Type A, Subtype pH1 and H3	0.5 (graphs)	656.4 (graphs)		sari	Click here
Scotland	Low	Sporadic	Low	Decreasing	23	13.0%	Type A, Subtype pH1N1	8.0 (graphs)	500.0 (graphs)			Click here
Serbia	Low	Sporadic	Low	Stable	2	50.0%	None	70.1 (graphs)		(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	6	16.7%	None	197.7 (graphs)	1698.6 (graphs)		sari	Click here
Slovenia	Low	Regional		Increasing	53	62.3%	Type A, Subtype H3	21.0 (graphs)	1635.4 (graphs)			Click here
Spain	Medium	Widespread		Decreasing	398	33.9%	Type A, Subtype pH1N1	150.8 (graphs)		(graphs)		Click here
Sweden	Low	Regional		Increasing	51	21.6%	Type A, Subtype pH1	8.5 (graphs)		(graphs)		Click here
Switzerland	Low	Widespread		Increasing	58	36.2%	Type A, Subtype pH1 and H3	133.8 (graphs)		(graphs)		Click here
Turkey	Medium	Regional	Moderate	Decreasing	122	9.0%	None	154.8 (graphs)		(graphs)		Click here
Ukraine	Medium	Local	Moderate	Increasing	15	6.7%	Type A, Subtype H3	2.9 * (graphs)	560.9 (graphs)		sari	Click here
Uzbekistan	Low	Sporadic	Low	Increasing	10	10.0%	None	0.3 (graphs)	48.4 (graphs)			Click here
Wales	Low	Sporadic		Increasing	11	18.2%	Type A	9.1 (graphs)		(graphs)		Click here
Europe					1876	29.7%						Click here

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.

Influenza activity continues to increase across Europe

Summary, week 07/2014

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) have continued to increase in most of the WHO European Region. Nevertheless, there is evidence of Influenza activity migrating from south to north, as activity decreased in some southern countries where the season started earlier. Influenza A(H1N1)pdm09 and A(H3N2) viruses continued to co-circulate in the Region, with A(H1N1)pdm09 remaining predominant. The number of reported hospitalizations due to severe acute respiratory infection (SARI) has increased slowly over the last several weeks in association with increasing influenza activity in the eastern part of the Region. The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place, and the WHO expert group recommended no change compared to the vaccine composition for the 2013-2014 season.

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

During week 07/2014, a total of 14 357 specimens from sentinel and non-sentinel sources was tested for influenza, 3029 (21%) of which were positive: 2904 (96%) influenza A and 125 (4%) influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type across the Region since week 40/2013. Of the 1851 influenza A viruses that were subtyped during week 07/2014, 1106 (60%) were A(H1N1)pdm09 and 745 (40%) A(H3N2), showing an increase in the proportion of influenza A(H3N2) viruses from the previous week (Fig. 2a).

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 18 614 influenza detections: 17 793 (96%) were influenza A and 821 (4%) influenza B viruses (Fig. 2b). Of the 12 969 influenza A viruses that have been subtyped, 8024 (62%) were A(H1N1)pdm09 and 4945 (38%) were A(H3N2).

In addition, since week 40/2013, the lineage of 83 influenza B viruses has been determined: 76 (92%) belonged to the B/Yamagata lineage (the B lineage virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 7 (8%) to B/Victoria.

For week 07/2014, 27 countries reported influenza A as the dominant type (Map 1 and country table). In countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in 7 countries (Armenia, Georgia, Ireland, Luxembourg, the Republic of Moldova, Slovenia and Ukraine), while 11 countries (Bulgaria, Estonia, Finland, Germany, Iceland, Latvia, Norway, Portugal, Spain, Sweden and the United Kingdom (Scotland)) reported A(H1N1)pdm09 as dominant. 6 countries (Belgium, France, Greece, Italy, the Russian Federation and Switzerland) reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

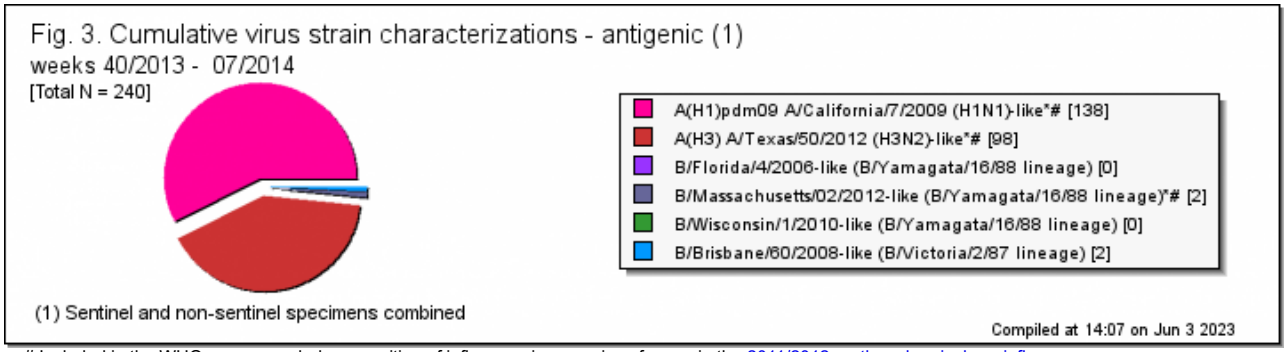
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 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 40/2013, 463 influenza viruses characterized antigenically by 11 countries (Denmark, Finland, Germany, Latvia, Norway, Portugal, Romania, the Russian Federation, Slovakia, Switzerland and the United Kingdom (England)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). 12 countries (Belgium, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain and Sweden) have characterized 438 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 40/2013, 8 countries (Greece, the Netherlands, Norway, Portugal, Spain, Sweden, the Russian Federation and the United Kingdom (England)) have screened 498 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 387 A(H1N1)pdm09 viruses tested, 385 showed susceptibility to both drugs. 2 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected in the United Kingdom in hospitalized patients treated with oseltamivir.

Of the 88 influenza A(H3N2) viruses tested, 87 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 23 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the winter of 2013–2014. All 80 influenza A(H1N1)pdm09 and 64 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

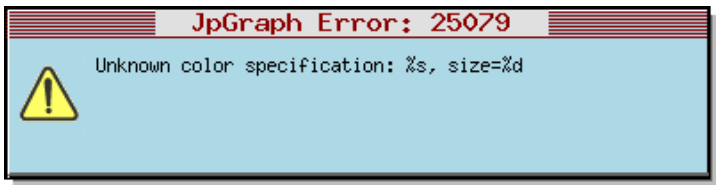
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 07/2014, most European countries continued to report low-intensity influenza activity (Map 2), but with more countries reporting increasing trends than during previous weeks (Map 4). Regarding geographic spread, influenza activity was predominantly regional or widespread, particularly in countries in southern and western Europe (Map 3).

During week 07/2014, consultation rates increased in most countries in the Region. In most of the 22 countries with established national thresholds, the rates had reached or surpassed threshold levels. At the same time, however, consultation rates continued to decrease in Bulgaria, Portugal and Spain, where the influenza season started earlier.

Click on the maps for more detailed information.

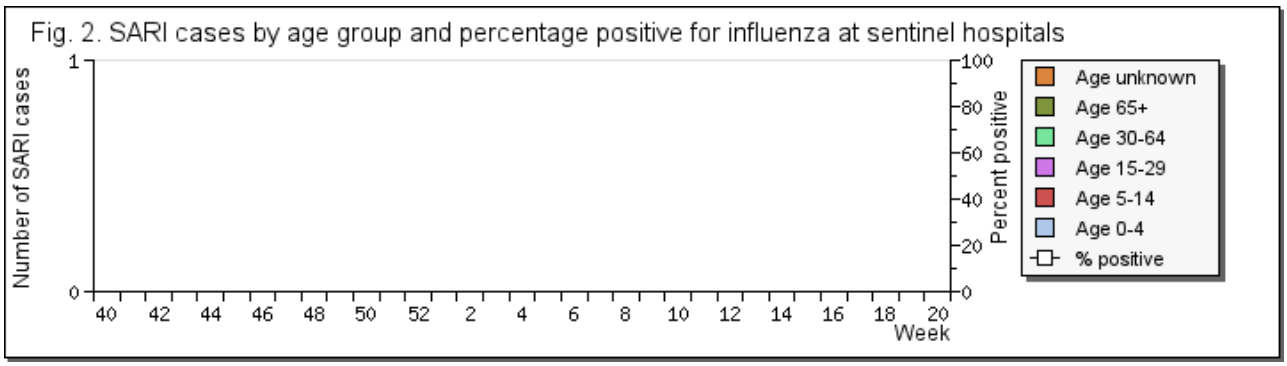
During week 07/2014, 652 sentinel specimens tested positive for influenza. The percentage of sentinel ILI/ARI specimens testing positive for influenza in week 07/2014 was much lower to that reported in week 07/2013 (Fig. 5).



During week 07/2014, 652 (35%) of the 1848 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

For surveillance of severe disease due to influenza, the number of SARI hospitalizations for influenza was similar to those in previous weeks, and the percentage testing positive has increased to 36% in the past 2 weeks. Most SARI cases were reported in those aged 0–4 years (Fig. 7).



During week 07/2014, 81 (36%) of the 224 SARI samples collected in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza A, the majority being A(H3N2) (Fig. 8a). Click here for a detailed overview in table format.

For week 7/2014, 6 countries (Finland, Ireland, Romania, Spain, Sweden and the United Kingdom) reported 221 hospitalized, laboratory-confirmed influenza cases, including 117 cases admitted to intensive care units (ICUs).

Since week 40/2013, 7 countries have reported 2531 hospitalized, laboratory-confirmed influenza cases: 2508 (99%) were related to influenza virus type A infection and 23 (1%) to type B virus infection. A total of 1695 influenza A viruses has been subtyped, 1339 (79%) were A(H1)pdm09 and 356 (21%) were A(H3). Since week 40/2013, 7 countries have reported a total of 209 fatal cases. All were associated with influenza virus type A infection and 154 of them were subtyped: 125 (81%) as A(H1)pdm09 and 29 (19%) as A(H3).

SARI and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza B and a lower proportion of influenza A(H1N1)pdm09 than the latter. Overall, fewer influenza detections were reported in countries with SARI surveillance, which can be explained by low influenza activity in most of these countries up to week 06/2014. Further, the participating countries use different surveillance systems and this may lead to differences in influenza (sub)type detections.

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 had been gradually increasing since week 40/2013, peaked in week 50/2013 and has decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 07/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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

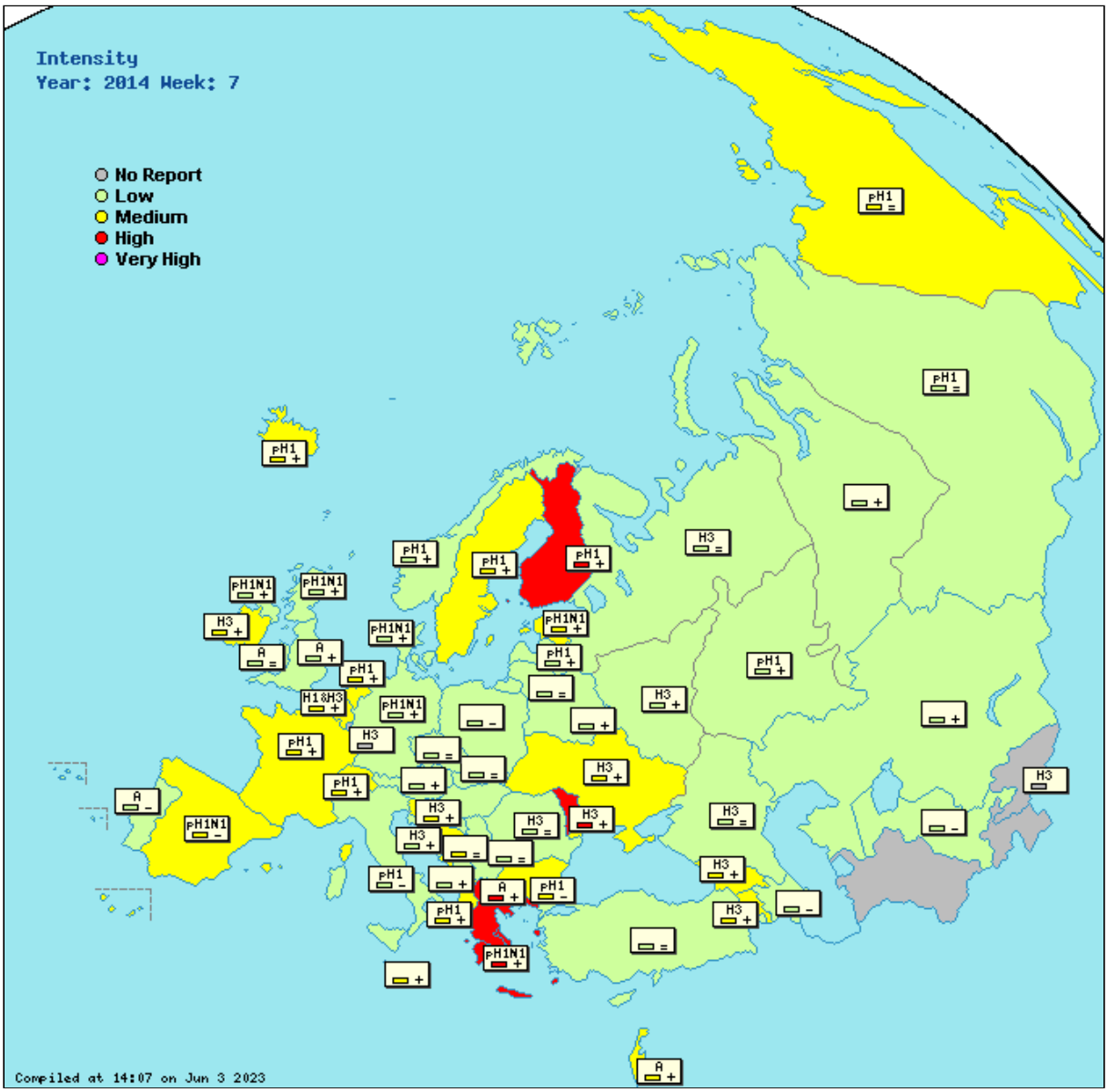
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

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
41 samples were tested for Influenza A and B: 21 - were positive for RNA Influenza virus A(H3N2), 1 - positive for RNA Influenza virus A(H1N1)pdm, 1 -positive for RNA A(H3N2)+DNA Adenovirus, and 2 - for RNA RSV.

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	Medium	Local	Low	Increasing					481.5 (graphs)	sari	Click here
Armenia	Medium	Sporadic	Moderate	Increasing	3	66.7%	Type A, Subtype H3		127.4 (graphs)	sari	Click here

Austria	Low	Regional	Low	Increasing	33	39.4%	None	1087.7	(graphs)		(graphs)		Click here
Azerbaijan	Low	None	Low	Decreasing	32	0%	None	232.1	(graphs)		(graphs)		Click here
Belarus	Low	Sporadic	Low	Increasing	36	2.8%	None	17.9	(graphs)	1042.2	(graphs)	sari	Click here
Belgium	Medium	Widespread		Increasing	57	50.9%	Type A, Subtype H1 and H3	226.9	(graphs)	1907.2	(graphs)	sari	Click here
Bosnia and Herzegovina	Medium	None	Moderate	Stable			None	30.5	(graphs)	125.0	(graphs)		Click here
Bulgaria	Medium	Regional		Decreasing	2	50.0%	Type A, Subtype pH1		(graphs)	1360.5	(graphs)		Click here
Croatia	Low	Widespread		Increasing					(graphs)		(graphs)		Click here
Cyprus	Low		Low	Stable				2.9 *	(graphs)	14.0 *	(graphs)		Click here
Czech Republic	Low	Sporadic		Stable				32.6	(graphs)	960.1	(graphs)		Click here
Denmark	Low	Widespread		Increasing	10	40.0%	Type A	95.0	(graphs)		(graphs)		Click here
England	Low	Widespread		Increasing	69	42.0%	Type A	3.4	(graphs)	227.8	(graphs)		Click here
Estonia	Medium	Widespread		Increasing	40	57.5%	Type A, Subtype pH1N1	14.0	(graphs)	380.8	(graphs)		Click here
Finland	High	Widespread		Increasing	31	32.3%	Type A, Subtype pH1		(graphs)				Click here
France	Medium	Widespread	Moderate	Increasing	237	42.2%	Type A, Subtype pH1 and H3N2		(graphs)	2263.1	(graphs)		Click here
Georgia	Medium	Widespread	Moderate	Increasing	17	70.6%	Type A, Subtype H3	479.2	(graphs)		(graphs)	sari	Click here
Germany	Low	Local		Increasing	135	11.9%	Type A, Subtype pH1N1		(graphs)	1343.9	(graphs)		Click here
Greece	High	Widespread		Increasing	8	62.5%	Type A, Subtype pH1 and H3N2	300.6	(graphs)		(graphs)		Click here
Hungary	Low	Widespread	Low	Increasing				224.4	(graphs)		(graphs)		Click here
Iceland	Medium	Widespread	Low	Increasing	0	-	Type A, Subtype pH1	41.6	(graphs)		(graphs)		Click here
Ireland	Medium	Widespread	Low	Increasing	28	64.3%	Type A, Subtype H3	42.5	(graphs)		(graphs)		Click here
Israel	Low	Widespread	Low	Increasing	102	64.7%	Type A	127.4	(graphs)				Click here
Italy	Low	Widespread	Low	Decreasing	77	37.7%	Type A, Subtype pH1 and H3N2	575.5	(graphs)		(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Increasing	21	28.6%	None	160.5	(graphs)	29.3	(graphs)	sari	Click here
Kyrgyzstan					7	0%	None	86.0	(graphs)	8.2	(graphs)	sari	Click here
Latvia	Low	Sporadic		Increasing	1	100.0%	Type A, Subtype pH1	10.0	(graphs)	1064.2	(graphs)		Click here
Lithuania	Low	Sporadic	Low	Stable	13	15.4%	None	2.9	(graphs)	649.4	(graphs)		Click here
Luxembourg					28	21.4%	Type A, Subtype H3		(graphs)				Click here
The former Yugoslav Republic of Macedonia	High	Widespread	Moderate	Increasing			Type A	193.4	(graphs)		(graphs)		Click here
Malta	Medium	Sporadic	Moderate	Increasing	13	38.5%	None	4.0 *	(graphs)	0 *	(graphs)		Click here
Montenegro	Low	None	Low	Increasing				10.3	(graphs)		(graphs)		Click here
Netherlands	Medium	Regional		Increasing	16	0%	None	69.2	(graphs)		(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Increasing	5	20.0%	Type A	35.3	(graphs)	430.5	(graphs)		Click here
Norway	Low	Regional		Increasing	9	55.6%	Type A, Subtype pH1	66.2	(graphs)		(graphs)		Click here
Poland	Low	Local	Low	Decreasing	28	10.7%	None	394.2	(graphs)		(graphs)		Click here
Portugal	Low	Widespread		Decreasing	10	40.0%	Type A, Subtype pH1	42.5	(graphs)		(graphs)		Click here
Republic of Moldova	High	Regional	Moderate	Increasing	22	59.1%	Type A, Subtype H3	19.0	(graphs)	539.9	(graphs)	sari	Click here
Romania	Low	Sporadic	Low	Stable	0	-		2.2	(graphs)	552.0	(graphs)	sari	Click here
Russian Federation	Low	Sporadic		Increasing	64	34.4%	Type A, Subtype pH1 and H3	0.7	(graphs)	710.0	(graphs)	sari	Click here
Scotland	Low	Sporadic	Moderate	Increasing	39	15.4%	Type A, Subtype pH1N1	15.2	(graphs)	479.6	(graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	22	59.1%	None	92.6	(graphs)		(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	9	11.1%	None	212.3	(graphs)	1782.2	(graphs)	sari	Click here
Slovenia	Medium	Widespread		Increasing	67	76.1%	Type A, Subtype H3	58.3	(graphs)	1681.1	(graphs)		Click here
Spain	Medium	Widespread		Decreasing	282	36.2%	Type A, Subtype pH1N1	101.2	(graphs)		(graphs)		Click here
Sweden	Medium	Widespread		Increasing	80	28.8%	Type A, Subtype pH1	13.3	(graphs)		(graphs)		Click here
Switzerland	Medium	Widespread		Increasing	43	30.2%	Type A, Subtype pH1 and H3	152.9	(graphs)		(graphs)		Click here
Turkey	Low	Regional	Low	Stable	112	9.8%	None	162.1	(graphs)		(graphs)		Click here
Ukraine	Medium	Regional	Moderate	Increasing	13	30.8%	Type A, Subtype H3	4.0 *	(graphs)	637.9	(graphs)	sari	Click here
Uzbekistan	Low	Sporadic		Decreasing	22	4.6%	None	0.2	(graphs)		(graphs)		Click here
Wales	Low	Sporadic		Stable	5	20.0%	Type A	9.2	(graphs)		(graphs)		Click here
Europe					1848	35.3%							Click here

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.

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.

Varying levels of influenza activity across Europe

Summary, week 08/2014

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) continued to increase in the central, northern and eastern parts of the WHO European Region, but decreased in some southern countries, where the season started earlier. Based on the results of outpatient and hospital surveillance, influenza A(H1N1)pdm09 and A(H3N2) viruses continued to co-circulate in the Region, with A(H1N1)pdm09 remaining predominant in northern Europe while A(H3N2) predominated in most of the countries in eastern 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

During week 08/2014, 15 591 specimens from sentinel and non-sentinel sources were tested for influenza, 3466 (22%) of which were positive: 3345 (97%) influenza A and 121 (3%) influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type across the Region since week 40/2013. Of the 2065 influenza A viruses that were subtyped during week 08/2014, 1237 (60%) were A(H1N1)pdm09 and 828 (40%) A(H3N2) • a distribution similar to that in the previous week (Fig. 2a).

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 23 164 influenza detections: 22 209 (96%) were influenza A and 955 (4%) influenza B viruses (Fig. 2b). Of the 16 029 influenza A viruses that have been subtyped, 9884 (62%) were A(H1N1)pdm09 and 6145 (38%) were A(H3N2).

In addition, since week 40/2013, the lineage of 100 influenza B viruses has been determined: 91 (91%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 9 (9%) to B/Victoria.

For week 08/2014, 29 countries reported influenza A as the dominant type. Turkey reported influenza B as dominant, despite having a low level of detections (Map 1 and country table). In countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in 10 countries (Armenia, Georgia, Germany, Ireland, Italy, Luxembourg, the Netherlands, the Republic of Moldova, Slovenia and Ukraine), while 11 countries (Bulgaria, Denmark, Estonia, Finland, Greece, Iceland, Kazakhstan, Norway, Spain, Sweden and the United Kingdom (Wales)) reported A(H1N1)pdm09 as dominant. 6 countries (Albania, Belgium, France, Latvia, the Russian Federation and Switzerland) reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

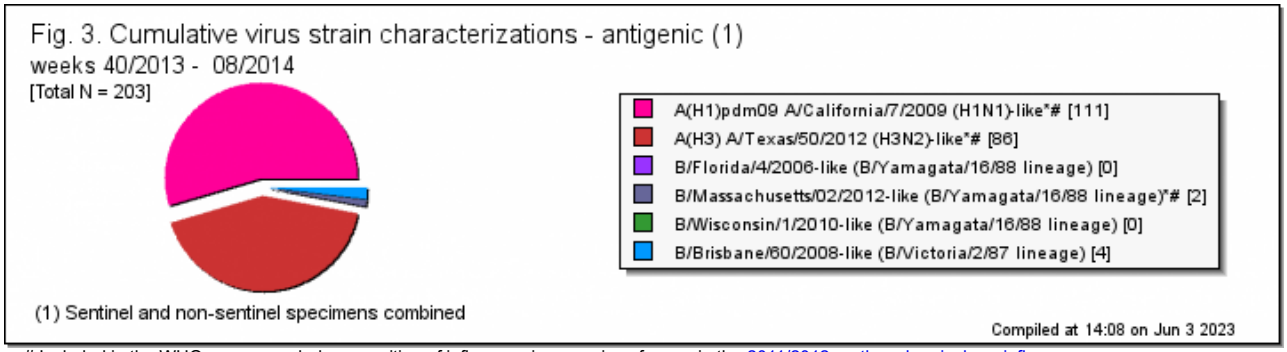
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014•2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013•2014 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 40/2013, 597 influenza viruses characterized antigenically by 13 countries (the Czech Republic, Denmark, Finland, Germany, Latvia, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Slovakia, Switzerland and the United Kingdom (England)) corresponded with the viruses recommended by WHO for inclusion in the current northern hemisphere seasonal influenza vaccine (Fig. 3). 14 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden and Switzerland) have characterized 480 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 40/2013, 8 countries (Greece, the Netherlands, Norway, Portugal, Spain, Sweden, the Russian Federation and the United Kingdom (England)) have screened 530 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 400 A(H1N1)pdm09 viruses tested, 398 showed susceptibility to both drugs. 2 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected in the United Kingdom in hospitalized patients treated with oseltamivir.

Of the 105 influenza A(H3N2) viruses tested, 104 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 25 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the winter of 2013–2014. All 84 influenza A(H1N1)pdm09 and 66 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

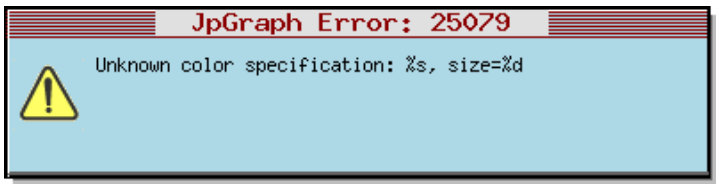
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 08/2014, most European countries continued to report low-intensity influenza activity (Map 2), with fewer countries reporting increasing trends than in previous weeks (Map 4). Regarding geographic spread, influenza activity remained predominantly regional or widespread all over the Region (Map 3).

During week 08/2014, consultation rates stabilized in most countries in the Region. Of the 22 countries with established national thresholds, the consultation rates remained above or at threshold levels in most. Nevertheless, consultation rates continued to decrease in the southern part of the Region (Bulgaria, Italy, Portugal and Spain), where the influenza season started earlier.

Click on the maps for more detailed information.

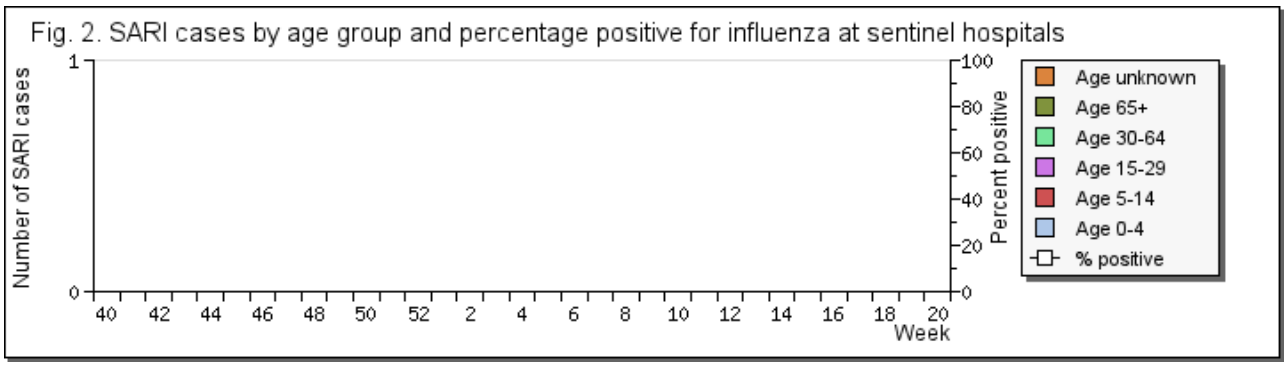
During week 08/2014, 646 sentinel specimens tested positive for influenza. The percentage of sentinel ILI/ARI specimens testing positive for influenza in week 08/2014 remained much lower than in the same week in the 4 preceding seasons (Fig. 5).



During week 08/2014, 646 (32%) of the 2036 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A(H3N2) (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

For surveillance of severe disease due to influenza, the number of SARI hospitalizations associated with influenza infection slightly increased from those in previous weeks, in association with increasing influenza activity in the eastern part of the Region. Most SARI cases were reported in those aged 0–4 years (Fig. 7).



During week 08/2014, 920 SARI cases were reported; 87 (32%) of the 275 SARI samples collected in Albania, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza A, the majority being A(H3N2), in line with the results of outpatient sentinel surveillance (Fig. 8a). Click here for a detailed overview in table format.

For week 8/2014, 7 countries (Finland, France, Ireland, Romania, Spain, Sweden and the United Kingdom) reported 213 hospitalized, laboratory-confirmed influenza cases, including 112 cases admitted to intensive care units (ICUs).

Since week 40/2013, 7 countries have reported 3024 hospitalized, laboratory-confirmed influenza cases: 2997 (99%) were related to influenza virus type A infection and 27 (1%) to type B infection. A total of 2013 influenza A viruses has been subtyped; 1573 (78%) were A(H1)pdm09 and 440 (22%) were A(H3). 7 countries reported a total of 254 fatal influenza cases. All were associated with type A virus infection and 191 of the viruses were subtyped: 157 (82%) as A(H1N1)pdm09 and 34 (18%) as A(H3).

SARI and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza B and a lower proportion of influenza A(H1N1)pdm09 than the latter. Overall, fewer influenza detections were reported in countries with SARI surveillance, which can be explained by low influenza activity in most of these countries up to week 06/2014. Further, the participating countries use different surveillance systems and this may lead to differences in influenza (sub)type detections.

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 had been gradually increasing since week 40/2013, peaked in week 50/2013 and has decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 08/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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

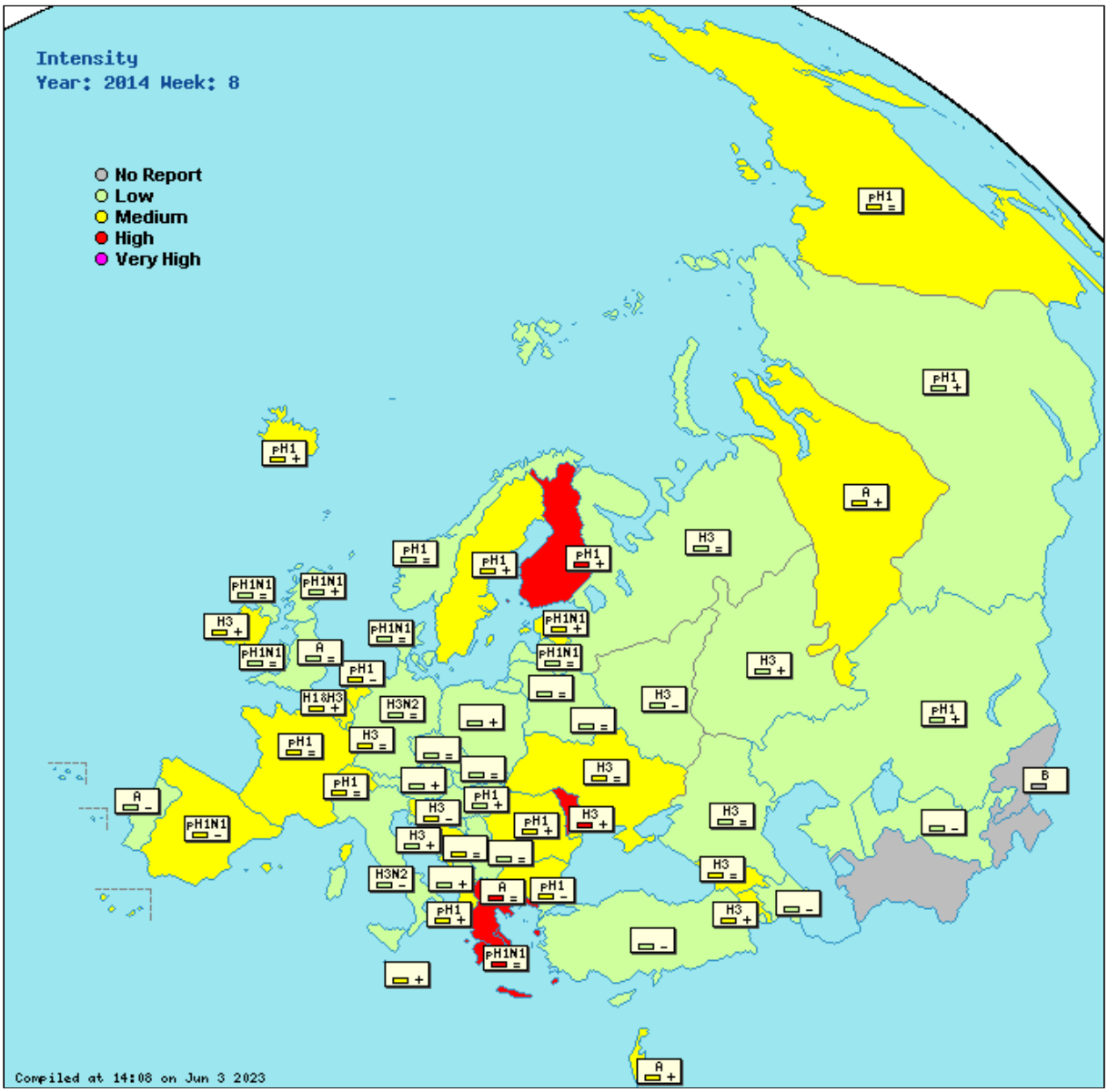
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

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
33 samples were tested for Influenza A and B: 17 - were positive for RNA Influenza virus A(H3N2), 1 -positive for RNA A(H3N2)+RNA hRSV, 1 -positive for DNA Adenovirus, and 3 - for RNA hRSV.

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					61	36.1%	Type A, Subtype pH1 and H3		(graphs)	sari	Click here
Armenia	Medium	Sporadic	Low	Increasing	6	83.3%	Type A, Subtype H3		195.7 (graphs)	sari	Click here

Azerbaijan	Low	None	Low	Decreasing	78	0%	None	216.9	(graphs)		(graphs)	Click here
Belarus	Low	Sporadic	Low	Stable	27	0%	None	17.3	(graphs)	1053.5	(graphs) sari	Click here
Belgium	Medium	Widespread		Increasing	56	53.6%	Type A, Subtype H1 and H3	309.0	(graphs)	1926.1	(graphs) sari	Click here
Bosnia and Herzegovina	Medium	None	Moderate	Stable			None	29.5	(graphs)	129.6	(graphs)	Click here
Bulgaria	Medium	Regional		Decreasing	9	11.1%	Type A, Subtype pH1		(graphs)	1228.6	(graphs)	Click here
Croatia	Low	Widespread		Increasing	169	0%	None		(graphs)		(graphs)	Click here
Cyprus	Low	None	Low	Stable				1.3 *	(graphs)	12.5 *	(graphs)	Click here
Czech Republic	Low	Sporadic		Stable	19	15.8%	None	32.7	(graphs)	947.2	(graphs)	Click here
Denmark	Low	Widespread		Stable	23	43.5%	Type A, Subtype pH1N1	78.9	(graphs)		(graphs)	Click here
England	Low	Widespread		Stable	69	26.1%	Type A	2.0	(graphs)	187.9	(graphs)	Click here
Estonia	Medium	Widespread		Increasing	63	47.6%	Type A, Subtype pH1N1	15.9	(graphs)	387.6	(graphs)	Click here
Finland	High	Widespread		Increasing	37	24.3%	Type A, Subtype pH1		(graphs)			Click here
France	Medium	Widespread	Moderate	Stable	191	47.6%	Type A, Subtype pH1 and H3N2		(graphs)	2165.3	(graphs)	Click here
Georgia	Medium	Widespread	Moderate	Stable	8	25.0%	Type A, Subtype H3	470.9	(graphs)		(graphs) sari	Click here
Germany	Low	Regional		Stable	126	19.1%	Type A, Subtype H3N2		(graphs)	1332.0	(graphs)	Click here
Greece	High	Widespread		Stable	10	50.0%	Type A, Subtype pH1N1	320.1	(graphs)		(graphs)	Click here
Hungary	Low	Widespread	Low	Increasing				263.8	(graphs)		(graphs)	Click here
Iceland	Medium	Widespread	Moderate	Increasing	0	-	Type A, Subtype pH1	52.5	(graphs)		(graphs)	Click here
Ireland	Medium	Widespread	Low	Increasing	28	60.7%	Type A, Subtype H3	48.8	(graphs)		(graphs)	Click here
Israel	Medium	Widespread	Low	Increasing	112	62.5%	Type A	133.1	(graphs)			Click here
Italy	Low	Widespread	Low	Decreasing	79	43.0%	Type A, Subtype H3N2	494.5	(graphs)		(graphs)	Click here
Kazakhstan	Low	Sporadic	Low	Increasing	30	50.0%	Type A, Subtype pH1N1	172.3	(graphs)	46.5	(graphs) sari	Click here
Kyrgyzstan					9	0%	None	75.5	(graphs)	10.1	(graphs) sari	Click here
Latvia	Low	Sporadic		Stable	1	100.0%	Type A, Subtype pH1N1 and H3	8.0	(graphs)	1005.3	(graphs)	Click here
Lithuania	Low	Sporadic	Low	Stable	12	25.0%	None	4.2	(graphs)	624.1	(graphs)	Click here
Luxembourg	Medium	Widespread			16	50.0%	Type A, Subtype H3	3.0 *	(graphs)	25.2 *	(graphs)	Click here
The former Yugoslav Republic of Macedonia	High	Widespread	Moderate	Stable				193.3	(graphs)		(graphs)	Click here
Malta	Medium	Sporadic	Moderate	Increasing				5.5 *	(graphs)	0 *	(graphs)	Click here
Montenegro	Low	Sporadic	Low	Increasing				14.2	(graphs)		(graphs)	Click here
Netherlands	Low	Regional		Decreasing	15	26.7%	Type A, Subtype H3N2	49.1	(graphs)		(graphs)	Click here
Northern Ireland	Low	Sporadic	Low	Stable	4	25.0%	Type A	33.9	(graphs)	408.6	(graphs)	Click here
Norway	Low	Local		Stable	13	69.2%	Type A, Subtype pH1	59.9	(graphs)		(graphs)	Click here
Poland	Low	Local	Low	Increasing	25	8.0%	None	407.6	(graphs)		(graphs)	Click here
Portugal	Low	Widespread		Decreasing	5	40.0%	Type A	42.7	(graphs)		(graphs)	Click here
Republic of Moldova	High	Regional	Moderate	Increasing	21	61.9%	Type A, Subtype H3	24.7	(graphs)	550.5	(graphs) sari	Click here
Romania					0	-		0.0	(graphs)		(graphs) sari	Click here
Russian Federation	Low	Local		Stable	58	31.0%	Type A, Subtype pH1 and H3	1.0	(graphs)	728.9	(graphs) sari	Click here
Scotland	Low	Sporadic	Moderate	Increasing	27	25.9%	None	21.5	(graphs)	490.8	(graphs)	Click here
Serbia	Low	Sporadic	Low	Stable	6	50.0%	None	97.1	(graphs)		(graphs) sari	Click here
Slovakia	Low	None	Low	Stable	6	33.3%	None	212.6	(graphs)	1779.2	(graphs) sari	Click here
Slovenia					43	83.7%	Type A, Subtype H3		(graphs)			Click here
Spain	Medium	Local		Decreasing	220	29.1%	Type A, Subtype pH1N1	69.5	(graphs)		(graphs)	Click here
Sweden	Medium	Widespread		Increasing	86	32.6%	Type A, Subtype pH1	18.2	(graphs)		(graphs)	Click here
Switzerland					26	65.4%	Type A, Subtype pH1 and H3		(graphs)			Click here
Turkey	Low	Local	Low	Decreasing	95	8.4%	Type B	147.4	(graphs)		(graphs)	Click here
Ukraine	Medium	Regional	Moderate	Stable	8	37.5%	Type A, Subtype H3	3.5 *	(graphs)	687.6	(graphs) sari	Click here
Uzbekistan	Low	Sporadic		Decreasing	18	16.7%	None	0.1	(graphs)	32.8	(graphs)	Click here
Wales	Low	Sporadic	Low	Stable	1	100.0%	Type A, Subtype pH1N1	6.5	(graphs)		(graphs)	Click here
Europe					1924	32.2%						Click here

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.

Influenza activity declining in south-western Europe

Summary, week 09/2014

During week 09/2014 consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) continued to decline in most southern and western countries in the WHO European Region, with fewer countries in the rest of the Region reporting increasing activity than in the previous week. In a number of north-western countries (the Czech Republic, Denmark, Germany Latvia, Lithuania Luxembourg, the Netherlands, Norway, Slovakia, Switzerland and the United Kingdom (England)) consultation rates have been very low since the beginning of the season (mostly below threshold) and much lower than last season. The percentage of sentinel influenza detections decreased in some southern countries, but increased in others. Based on the results of outpatient and hospital surveillance, influenza A(H1N1)pdm09 and A(H3N2) viruses continued to co-circulate in the Region, with A(H1N1)pdm09 remaining predominant in most northern European countries while A(H3N2) predominated in eastern European countries and Ireland, Germany and Luxembourg. There have been very few reports of influenza B this season; about 40% of virus detections were influenza B at the same time last year.

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

During week 09/2014, 14 459 specimens from sentinel and non-sentinel sources were tested for influenza, 3161 (22%) of which were positive: 3018 (95%) influenza A and 143 (5%) influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type across the Region since week 40/2013. Of the 1869 influenza A viruses that were subtyped during week 09/2014, 1102 (59%) were A(H1N1)pdm09 and 767 (41%) A(H3N2) • similar to the ratio in the previous week (Fig. 2a).

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 27 488 influenza detections: 26 365 (96%) were influenza A and 1123 (4%) influenza B viruses (Fig. 2b). Of the 18 800 influenza A viruses that have been subtyped, 11 558 (61%) were A(H1N1)pdm09 and 7242 (39%) were A(H3N2).

In addition, since week 40/2013, the lineage of 110 influenza B viruses has been determined: 100 (91%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 10 (9%) to the B/Victoria lineage.

Similarly to the previous week, 30 countries reported influenza A as the dominant type in week 09/2014. Turkey reported influenza B as dominant, despite having a low level of detections (Map 1 and country table). In countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in 9 countries (Georgia, Germany, Ireland, Luxembourg, the Republic of Moldova, Romania, Slovenia, the former Yugoslav Republic of Macedonia and Ukraine), while 11 countries (Bulgaria, Denmark, Estonia, Finland, Greece, Hungary, Iceland, Norway, Spain, Sweden and the United Kingdom (Scotland and Wales)) reported A(H1N1)pdm09 as dominant. 8 countries (Albania, Belgium, France, Italy, Kazakhstan, Latvia, the Russian Federation and Switzerland) reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

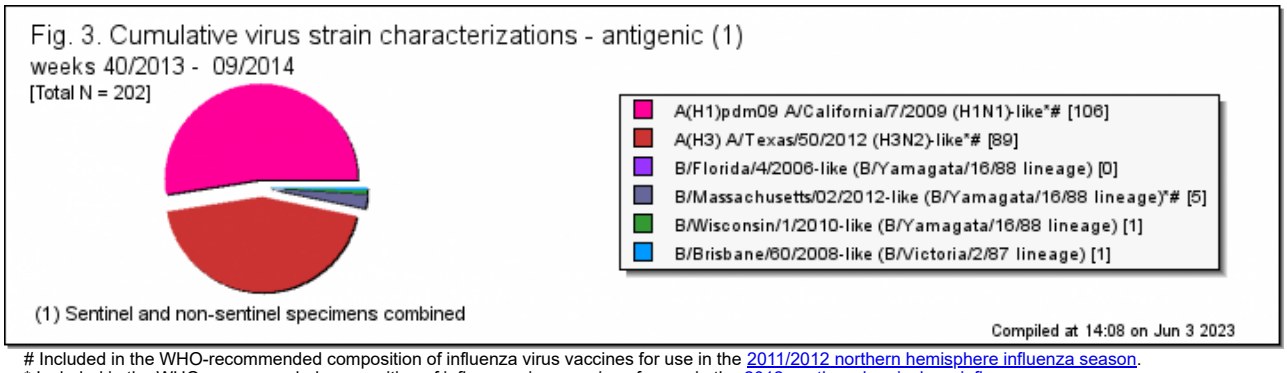
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014•2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013•2014 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 40/2013, 853 influenza viruses characterized antigenically by 13 countries (the Czech Republic, Denmark, Finland, Germany, Latvia, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Slovakia, 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). 15 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 574 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 40/2013, 8 countries (Greece, the Netherlands, Norway, Portugal, Spain, Sweden, the Russian Federation and the United Kingdom (England)) have screened 728 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 587 A(H1N1)pdm09 viruses tested, 582 showed susceptibility to both drugs. 5 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected in the United Kingdom in hospitalized patients treated with oseltamivir.

Of the 112 influenza A(H3N2) viruses tested, 111 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 29 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the winter of 2013–2014. All 96 influenza A(H1N1)pdm09 and 75 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

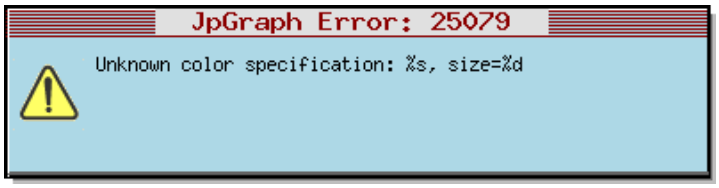
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 09/2014, most European countries continued to report low-intensity influenza activity (Map 2), with fewer countries reporting increasing trends than in previous weeks (Map 4). Regarding geographic spread, influenza activity remained predominantly regional or widespread all over the Region (Map 3).

During week 09/2014, consultation rates stabilized in most countries in the Region. Of the 22 countries with established national thresholds, the consultation rates remained above or at threshold levels inmost. At the same time, more countries reported decreasing consultation rates than in previous weeks, mostly in the southern part of the Region (Bulgaria, Italy, Portugal, the Republic of Moldova and Spain), where the influenza season started earlier than elsewhere in the Region.

Click on the maps for more detailed information.

During week 09/2014, the percentage of positive sentinel ILI/ARI specimens decreased slightly from previous weeks, and remained lower than in the same week of the four preceding seasons (Fig. 5).

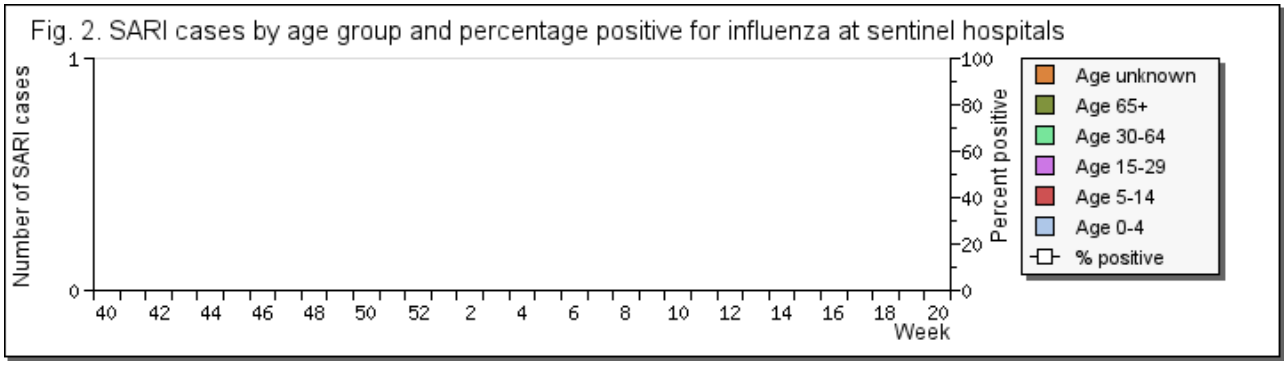


During week 09/2014, 575 (34%) of the 1717 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A(H3N2) similar to the previous week (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

For surveillance of severe disease due to influenza, the number of SARI hospitalizations associated with influenza infection decreased slightly in comparison with the previous week. Most SARI cases were reported in those aged 0–4 years, and a decreasing percentage of SARI patients tested positive for influenza (Fig. 7). For several weeks, coinciding with increased positivity rates, 3 countries (Georgia, Serbia and Romania) 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 Albania, Armenia and the Russian Federation.



During week 09/2014, 88 (30%) of the 298 SARI samples collected in Albania, Armenia, Belarus, Georgia, Kazakhstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza A, the majority being A(H3N2), in line with the results of outpatient surveillance (Fig. 8a). Click here for a detailed overview in table format.

For week 09/2014, 7 countries (Finland, France, Ireland, Romania, Spain, Sweden and the United Kingdom) reported 217 hospitalized, laboratory-confirmed influenza cases, including 100 cases admitted to intensive care units (ICUs).

Since week 40/2013, 7 countries have reported 3400 hospitalized, laboratory-confirmed influenza cases: 3367 (99%) were associated with influenza virus type A infection and 33 (1%) with type B virus. A total of 2275 influenza A viruses have been subtyped, 1758 (77%) were A(H1)pdm09 and 517 (23%) were A(H3N2), which is in general inline with the results of outpatient surveillance in these countries. 7 countries reported a total of 284 fatal cases: 282 (99%) were associated with influenza virus type A infection and 2 (1%) with type B virus. Of 218 influenza A viruses subtyped in fatal cases, 182 (83%) were A(H1)pdm09 and 36 (17%) as A(H3).

SARI and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 09/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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.

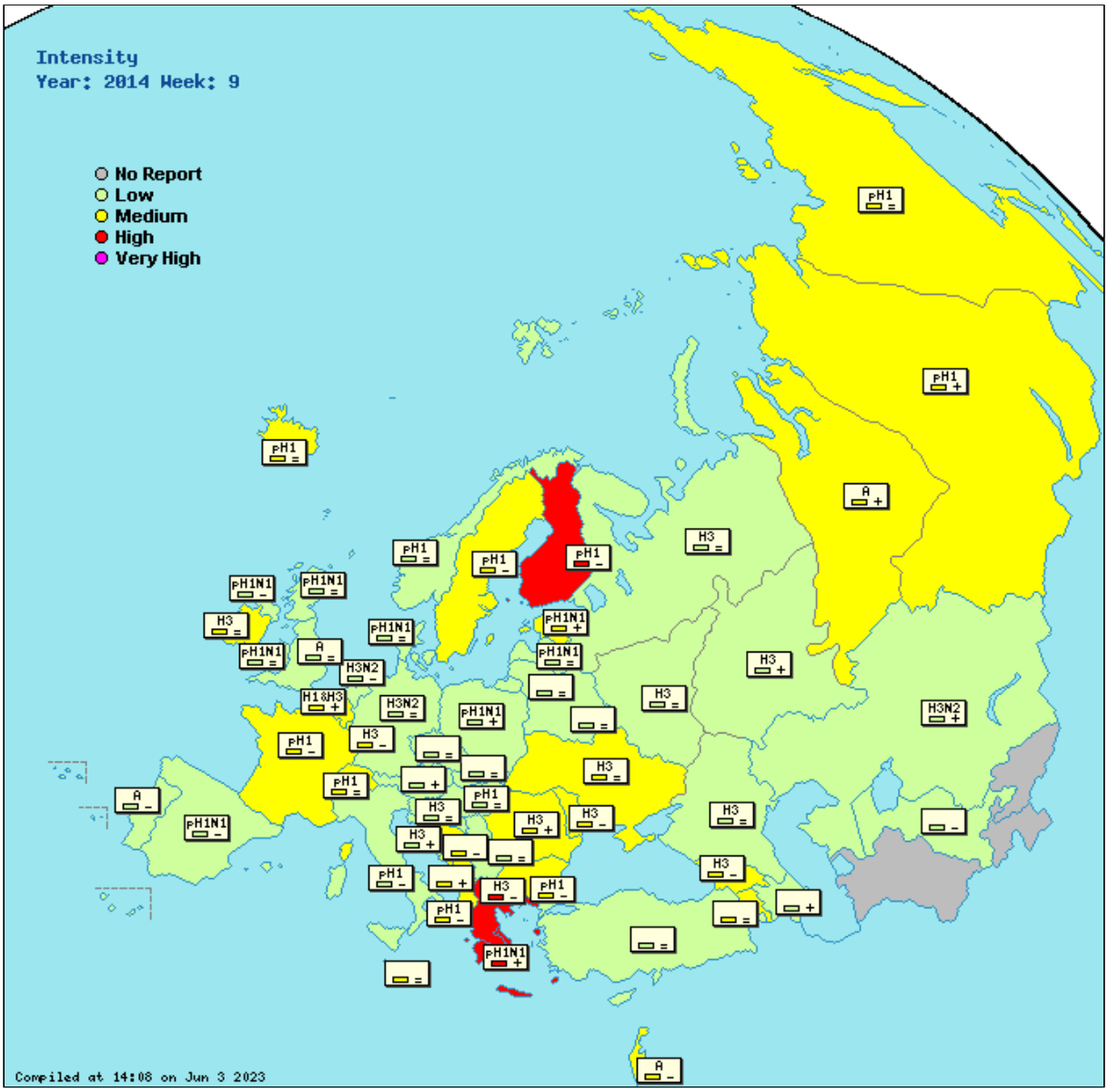
Map

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
In week 09 were tested 30 samples for influenza viruses: 15 were positive for RNA A(H3N2); 1 sample - RNA hRSV; 1 sample - DNA Adenovirus, and 1 sample was positive for RNA hRSV+ RNA hPiv1.

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	Medium	Widespread	Low	Increasing	126	26.2%	Type A, Subtype pH1 and H3		541.9 (graphs)	sari	Click here
Armenia	Medium	Sporadic	Moderate	Stable	1	100.0%	None		190.6 (graphs)	sari	Click here
Austria	Low	Widespread	Low	Increasing	25	56.0%	None	1005.4 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Increasing	55	0%	None	230.9 (graphs)	(graphs)		Click here
Belarus	Low	Sporadic	Low	Stable	38	2.6%	None	16.7 (graphs)	1017.1 (graphs)	sari	Click here
Belgium	Medium	Widespread		Increasing	63	47.6%	Type A, Subtype H1 and H3	314.8 (graphs)	1914.5 (graphs)	sari	Click here
Bosnia and Herzegovina	Medium	Sporadic	Moderate	Decreasing			None	20.9 (graphs)	93.2 (graphs)		Click here
Bulgaria	Medium	Regional		Decreasing	0	-	Type A, Subtype pH1	(graphs)	1019.5 (graphs)		Click here
Croatia	Low	Widespread		Increasing	132	0%	None	(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				1.6 * (graphs)	14.1 * (graphs)		Click here
Czech Republic	Low	Sporadic		Stable	13	7.7%	None	28.4 (graphs)	887.1 (graphs)		Click here
Denmark	Low	Widespread		Stable	18	38.9%	Type A, Subtype pH1N1	77.2 (graphs)	(graphs)		Click here
England	Low	Widespread		Stable	60	31.7%	Type A	3.7 (graphs)	210.3 (graphs)		Click here
Estonia	Medium	Widespread		Increasing	32	43.8%	Type A, Subtype pH1N1	17.0 (graphs)	456.9 (graphs)		Click here
Finland	High	Widespread		Decreasing	29	24.1%	Type A, Subtype pH1	(graphs)			Click here
France	Medium	Widespread	Moderate	Decreasing	159	57.2%	Type A, Subtype pH1 and H3N2	(graphs)	1840.8 (graphs)		Click here
Georgia	Medium	Widespread	Moderate	Decreasing	12	58.3%	Type A, Subtype H3	385.2 (graphs)	(graphs)	sari	Click here
Germany	Low	Regional		Stable	108	18.5%	Type A, Subtype H3N2	(graphs)	1251.7 (graphs)		Click here
Greece	High	Widespread		Increasing	8	50.0%	Type A, Subtype pH1N1	329.8 (graphs)	(graphs)		Click here
Hungary	Low	Widespread	Low	Stable	66	24.2%	Type A, Subtype pH1	254.8 (graphs)	(graphs)		Click here
Iceland	Medium	Widespread	Moderate	Stable	0	-	Type A, Subtype pH1	55.3 (graphs)	(graphs)		Click here
Ireland	Medium	Widespread	Low	Stable	32	65.6%	Type A, Subtype H3	53.6 (graphs)	(graphs)		Click here
Israel	Medium	Widespread	Low	Decreasing	92	71.7%	Type A	125.3 (graphs)			Click here
Italy	Low	Widespread	Low	Decreasing	57	49.1%	Type A, Subtype pH1 and H3N2	432.8 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Increasing	34	55.9%	Type A, Subtype pH1 and H3N2	185.2 (graphs)	65.2 (graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	0	-	Type A, Subtype pH1N1 and H3	5.4 (graphs)	1027.3 (graphs)		Click here
Lithuania	Low	Sporadic	Low	Stable	10	50.0%	None	4.1 (graphs)	745.1 (graphs)		Click here
Luxembourg	Medium	Regional			15	33.3%	Type A, Subtype H3	1.3 * (graphs)	20.0 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	High	Widespread	Moderate	Decreasing			Type A, Subtype H3	(graphs)	(graphs)		Click here
Malta	Medium	Sporadic	Moderate	Stable				4.8 * (graphs)	0 * (graphs)		Click here
Montenegro	Medium	Regional	Low	Increasing			None	21.6 (graphs)	(graphs)		Click here
Netherlands	Low	Regional		Decreasing	6	16.7%	None	21.5 (graphs)	(graphs)		Click here
Northern Ireland	Low	Sporadic	Moderate	Decreasing	4	25.0%	Type A	24.1 (graphs)	436.7 (graphs)		Click here
Norway	Low	Local		Stable	7	57.1%	Type A, Subtype pH1	57.6 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Increasing	39	30.8%	None	414.6 (graphs)	(graphs)		Click here
Portugal	Low	Sporadic		Decreasing	4	25.0%	Type A	13.0 (graphs)	(graphs)		Click here
Republic of Moldova	Medium	Regional	Moderate	Decreasing	21	52.4%	Type A, Subtype H3	20.3 (graphs)	454.3 (graphs)	sari	Click here
Romania	Medium	Local	Low	Increasing	11	72.7%	Type A, Subtype H3	4.3 (graphs)	745.6 (graphs)	sari	Click here
Russian Federation	Low	Local		Stable	55	32.7%	Type A, Subtype pH1 and H3	1.0 (graphs)	776.0 (graphs)	sari	Click here
Scotland	Low	Regional	Moderate	Stable	37	21.6%	Type A, Subtype pH1N1	21.3 (graphs)	468.0 (graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	9	55.6%	None	97.4 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	10	30.0%	None	166.2 (graphs)	1607.0 (graphs)	sari	Click here
Slovenia	Low	Widespread		Stable	27	55.6%	Type A, Subtype H3	28.6 (graphs)	1134.8 (graphs)		Click here
Spain	Low	Regional		Decreasing	121	36.4%	Type A, Subtype pH1N1	47.2 (graphs)	(graphs)		Click here
Sweden	Medium	Widespread		Decreasing	54	20.4%	Type A, Subtype pH1	12.0 (graphs)	(graphs)		Click here
Switzerland	Medium	Widespread		Stable	26	46.2%	Type A, Subtype pH1 and H3	139.4 (graphs)	(graphs)		Click here
Turkey	Low	Local	Low	Stable	79	12.7%	Type B	148.4 (graphs)	(graphs)		Click here
Ukraine	Medium	Regional	Moderate	Stable	12	0%	Type A, Subtype H3	4.6 * (graphs)	652.2 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic		Decreasing	7	0%	None	0.2 (graphs)	29.5 (graphs)		Click here
Wales	Low	Sporadic	Low	Stable	3	66.7%	Type A, Subtype pH1N1	6.8 (graphs)	(graphs)		Click here
Europe					1717	33.5%					Click here

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.

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.

Stable or decreasing Influenza activity in most countries of the WHO European Region

Summary, week 10/2014

Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) continue to decrease throughout most parts of the WHO European Region with the majority of countries reporting low intensity during week 10/2014. For the last four consecutive weeks, the percentage of positive sentinel ILI/ARI specimens has been decreasing indicating that the influenza season in the European Region has passed its peak. Based on the results of outpatient and hospital surveillance, influenza A(H1N1)pdm09 and A(H3N2) viruses continue to co-circulate in the Region, with A(H1N1)pdm09 remaining predominant in most northern European countries while A(H3N2) predominated in eastern European countries and in Germany, Ireland and Italy. In contrast to the previous season, very few influenza B detections have been reported this season.

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

During week 10/2014, the total number of specimens tested for influenza as well as the positivity rate decreased in comparison with previous weeks: 13 443 specimens from sentinel and non-sentinel sources were tested for influenza, 2693 (20%) of which were positive ◆ 2555 (95%) influenza A and 138 (5%) influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type across the Region since week 40/2013. Of the 1579 influenza A viruses that were subtyped during week 10/2014, 843 (53%) were A(H1N1)pdm09 and 736 (47%) A(H3N2) (Fig. 2a).

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 30 968 influenza detections: 29 675 (96%) were influenza A and 1293 (4%) influenza B viruses (Fig. 2b). Of the 21 087 influenza A viruses that have been subtyped, 12 836 (61%) were A(H1N1)pdm09 and 8251 (39%) were A(H3N2).

In addition, since week 40/2013, the lineage of 129 influenza B viruses has been determined: 118 (91%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 11 (9%) to the B/Victoria lineage.

Similar to the previous week, 29 countries reported influenza A as the dominant type in week 10/2014. Turkey was the only country reporting influenza B as dominant, but the number of detections was low (Map 1 and country table). Of the 26 countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in eight countries (Georgia, Germany, Ireland, Italy, the Republic of Moldova, Romania, Slovenia and Ukraine), while nine countries (Denmark, Hungary, Iceland, Kazakhstan, Norway, Spain, Sweden, the former Yugoslav Republic of Macedonia and the United Kingdom (Scotland and Wales)) reported A(H1N1)pdm09 as dominant. Nine countries (Albania, Belgium, Bulgaria, France, Greece, Latvia, Luxembourg, the Netherlands and the Russian Federation) reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

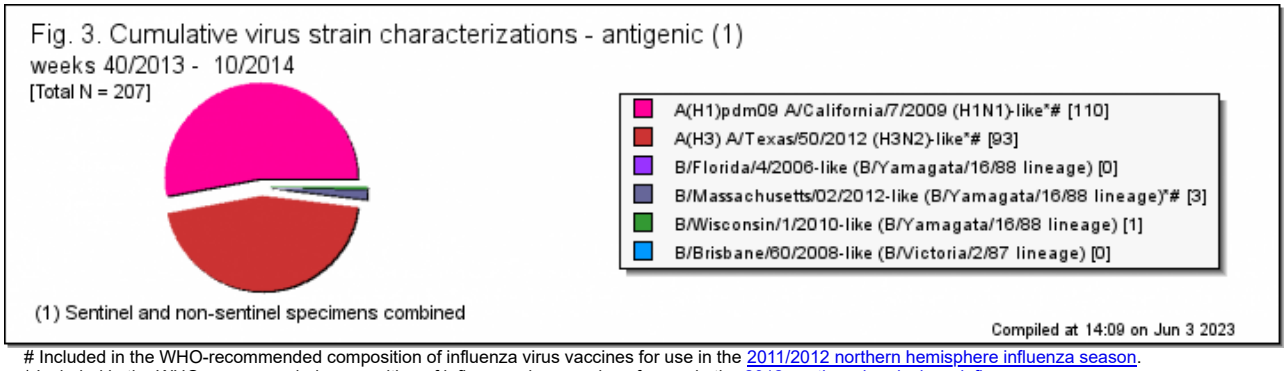
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014◆2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013◆2014 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 40/2013, 1005 influenza viruses characterized antigenically by 13 countries (the Czech Republic, Denmark, Finland, Germany, Latvia, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Slovakia, 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). 15 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (Scotland)) have characterized 659 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 40/2013, eight countries (Greece, the Netherlands, Norway, Portugal, Spain, Sweden, the Russian Federation and the United Kingdom (England)) have screened 800 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 629 A(H1N1)pdm09 viruses tested, 621 showed susceptibility to both drugs. Eight viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors.

Of the 136 influenza A(H3N2) viruses tested, 135 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 35 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the winter of 2013–2014. All 102 influenza A(H1N1)pdm09 and 75 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)

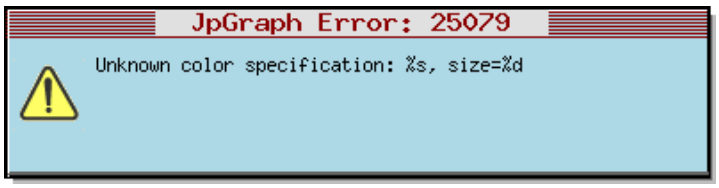
During week 10/2014, most European countries continued to report low-intensity influenza activity (Map 2), with only a few countries reporting increasing trends (Map 4). Regarding geographic spread, influenza activity was predominantly regional or sporadic in most countries (Map 3).

During week 10/2014, ILI/ARI consultation rates either stabilized or decreased in most countries in the Region. Of the 22 countries with established national thresholds, consultation rates still remained above or at threshold levels in most. In a number of northern and western countries (the Czech Republic, Denmark, Germany, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Slovakia, Switzerland and the United Kingdom (England)) consultation rates have been very low since the beginning of the season (mostly below threshold) and much lower than last season.

For the last four consecutive weeks, the percentage of influenza-positive sentinel ILI/ARI specimens has been decreasing, indicating that the influenza season has passed its peak and is potentially coming to an end in Bulgaria and Spain, where the influenza season started earlier than elsewhere in the Region.

Click on the maps for more detailed information.

The percentage of positive sentinel ILI/ARI specimens remained lower than in the same week of the four preceding seasons (Fig. 5).

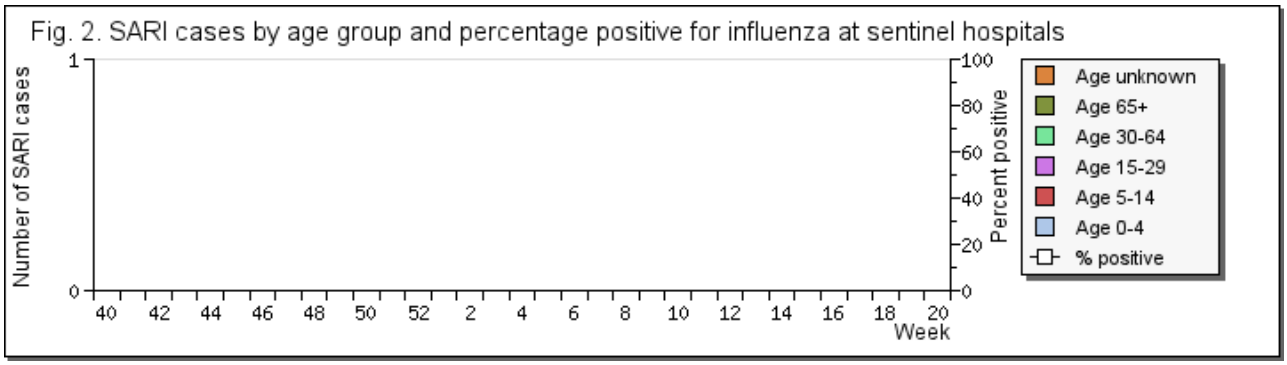


During week 10/2014, 429 (29%) of the 1475 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A(H3N2) similar to previous weeks (Fig. 6a). The number of influenza B detections has remained low since the beginning of the season in contrast to the same period last year, when more than half of sentinel influenza detections were influenza B. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

Among countries performing surveillance of severe disease due to influenza, the number of SARI hospitalizations as well as the positivity rate decreased slightly in comparison with the previous weeks (Fig. 7). Most SARI cases were reported in those aged 0–4 years.

Albania, Belarus, Georgia, Romania and Serbia reported increases in SARI cases in the age groups 15–64 years as well as ?65 years. Only in Serbia did this coincide with an increase in the influenza positivity rate.



During week 10/2014, 70 (26%) of the 266 SARI samples collected in Albania, Armenia, Belarus, Georgia, Kazakhstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine tested positive for influenza A, the majority being A(H3N2), similar to the situation in outpatient surveillance (Fig. 8a). Click here for a detailed overview in table format.

For week 10/2014, 6 countries (France, Ireland, Romania, Spain, Sweden and the United Kingdom) reported 206 hospitalized, laboratory-confirmed influenza cases ; 204 cases tested positive for influenza A virus and 2 for influenza B virus.

Since week 40/2013, 7 countries have reported 3707 hospitalized, laboratory-confirmed influenza cases: 3684 (99%) were related to influenza virus type A infection and 23 (1%) to type B virus infection. Of 2496 subtyped influenza A viruses, 1887 (76%) were A(H1N1)pdm09 and 609 (24%) were A(H3N2). 5 countries reported a total of 306 fatal cases, and 303 (99%) cases were associated with influenza virus type A infection and 3 (1%) with type B virus. Of 237 influenza A viruses subtyped for fatal cases, 194 (82%) were A(H1N1)pdm09 and 43 (18%) were A(H3N2).

SARI and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. These findings are similar to the results of outpatient surveillance in individual countries.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 10/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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.

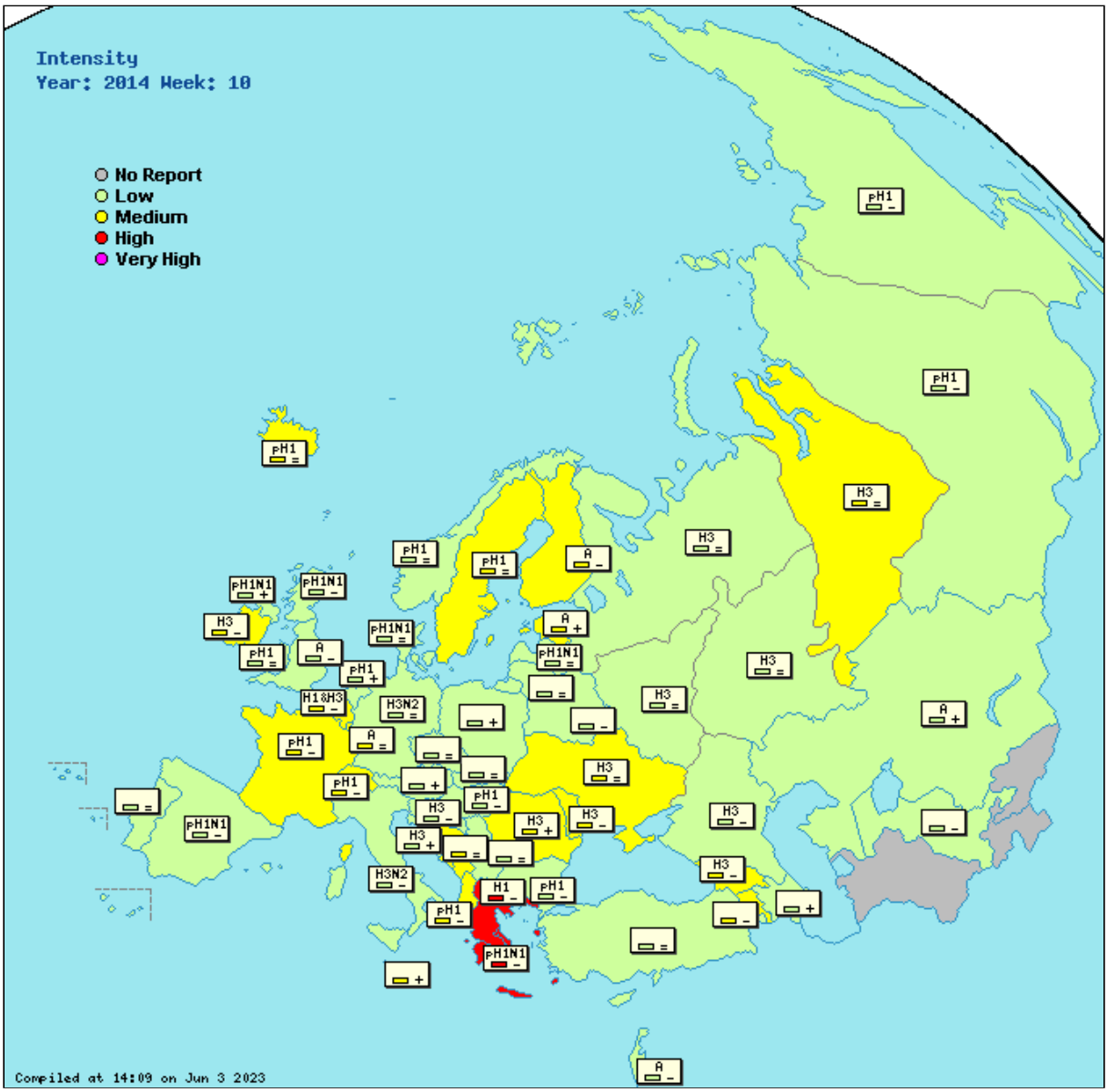
Map

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
In week 10 were tested 28 samples for influenza viruses: 13 were positive for RNA A(H3N2); 1 sample - RNA hRSV;
Romania
We report in TESSy only data from sentinel SARI Surveillance, but we also monitor the confirmed SARI cases detected by routine surveillance.Including Week 10, we have a total number of 44 confirmed SARI cases, 22 with A(H1)pdm09, 21 with A(H3) and 1 with coinfection A(H1)pdm09&A(H3).The total number of death is 11, all confirmed with influenza virus A(H1)pdm09. Nine out of 11 cases who died are females, the median age is 53 years and the average is 49. Nine out of 11 cases who died had underlying risk conditions, but none of them had been previously vaccinated against influenza. In the same period of the previous season, the same number of death (11) confirmed with influenza had been registered, but 9 with influenza A(H1)pdm09 and 2 with influenza 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	Medium	Regional	Low	Decreasing	176	22.2%	Type A, Subtype pH1 and H3		488.5 (graphs)	sari	Click here
Armenia	Medium	Sporadic	Moderate	Decreasing	1	100.0%	None	5.7 * (graphs)	174.5 (graphs)	sari	Click here
Austria	Low	Widespread	Low	Increasing	37	43.2%	None	1037.0 (graphs)	(graphs)		Click here
Azerbaijan	Low	Sporadic	Low	Increasing	57	8.8%	None	198.4 (graphs)	(graphs)		Click here
Belarus	Low	Sporadic	Low	Decreasing	34	8.8%	None	13.6 (graphs)	947.5 (graphs)	sari	Click here
Belgium	Medium	Widespread		Decreasing	36	58.3%	Type A, Subtype H1 and H3	247.1 (graphs)	1654.1 (graphs)	sari	Click here
Bosnia and Herzegovina	Medium	None	Moderate	Stable			None	23.8 (graphs)	102.9 (graphs)		Click here
Bulgaria	Low	Local		Decreasing	0	-	Type A, Subtype pH1 and H3N2	(graphs)	834.5 (graphs)		Click here
Croatia	Low	Widespread		Increasing				(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				0.9 * (graphs)	8.6 * (graphs)		Click here
Czech Republic	Low	Sporadic		Stable				26.6 (graphs)	880.6 (graphs)		Click here
Denmark	Low	Widespread		Stable	13	46.2%	Type A, Subtype pH1N1	76.2 (graphs)	(graphs)		Click here
England	Low	Regional		Decreasing	55	34.6%	Type A	2.9 (graphs)	203.0 (graphs)		Click here
Estonia	Medium	Widespread		Increasing	30	36.7%	Type A	18.4 (graphs)	394.8 (graphs)		Click here
Finland	Medium	Regional		Decreasing	20	15.0%	Type A	(graphs)			Click here
France	Medium	Widespread	Low	Decreasing	118	36.4%	Type A, Subtype pH1 and H3N2	(graphs)	1579.1 (graphs)		Click here
Georgia	Medium	Widespread	Moderate	Decreasing	8	25.0%	Type A, Subtype H3	306.9 (graphs)	(graphs)	sari	Click here
Germany	Low	Regional		Stable	112	20.5%	Type A, Subtype H3N2	(graphs)	1127.1 (graphs)		Click here
Greece	High	Widespread		Decreasing	9	22.2%	Type A, Subtype pH1 and H3N2	249.5 (graphs)	(graphs)		Click here
Hungary	Low	Widespread	Low	Decreasing	69	29.0%	Type A, Subtype pH1	220.4 (graphs)	(graphs)		Click here
Iceland	Medium	Widespread	Moderate	Stable	0	-	Type A, Subtype pH1	55.9 (graphs)	(graphs)		Click here
Ireland	Medium	Widespread	Low	Decreasing	29	55.2%	Type A, Subtype H3	49.1 (graphs)	(graphs)		Click here
Israel	Low	Regional	Low	Decreasing	70	45.7%	Type A	102.2 (graphs)			Click here
Italy	Low	Regional	Low	Decreasing	55	29.1%	Type A, Subtype H3N2	353.4 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Increasing	36	36.1%	Type A, Subtype pH1	163.1 (graphs)	61.4 (graphs)	sari	Click here
Kyrgyzstan					0	-	None		(graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	0	-	Type A, Subtype pH1N1 and H3	3.7 (graphs)	984.2 (graphs)		Click here
Lithuania	Low	Sporadic	Low	Stable	26	7.7%	None	6.7 (graphs)	686.3 (graphs)		Click here
Luxembourg	Medium	Widespread			28	42.9%	Type A, Subtype pH1N1 and H3	3.1 * (graphs)	23.3 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	High	Widespread	Moderate	Decreasing			Type A, Subtype H1	121.8 (graphs)	(graphs)		Click here
Malta	Medium	Sporadic	Moderate	Increasing				5.5 * (graphs)	0 * (graphs)		Click here
Montenegro	Medium	Regional	Low	Increasing				40.3 (graphs)	(graphs)		Click here
Netherlands	Low	Regional		Increasing	17	29.4%	Type A, Subtype pH1N1 and H3	39.0 (graphs)	(graphs)		Click here
Northern Ireland	Low	Sporadic	Moderate	Increasing				35.0 (graphs)	423.2 (graphs)		Click here
Norway	Low	Local		Stable	9	55.6%	Type A, Subtype pH1	60.0 (graphs)	(graphs)		Click here
Portugal	Low	Sporadic		Stable	2	50.0%	None	18.6 (graphs)	(graphs)		Click here
Republic of Moldova	Medium	Regional	Low	Decreasing	19	36.8%	Type A, Subtype H3N2	13.2 (graphs)	385.2 (graphs)	sari	Click here
Romania	Medium	Local	Low	Increasing	10	60.0%	Type A, Subtype H3	3.9 (graphs)	797.4 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Stable	63	36.5%	Type A, Subtype pH1 and H3	1.0 (graphs)	754.3 (graphs)	sari	Click here
Scotland	Low	Regional	Moderate	Decreasing	34	32.4%	Type A, Subtype pH1N1	14.5 (graphs)	439.1 (graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	9	77.8%	None	86.2 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	15	26.7%	None	164.1 (graphs)	1512.4 (graphs)	sari	Click here
Slovenia	Low	Regional		Decreasing	32	50.0%	Type A, Subtype H3	23.3 (graphs)	1097.4 (graphs)		Click here
Spain	Low	Sporadic		Decreasing	92	21.7%	Type A, Subtype pH1N1	35.1 (graphs)	(graphs)		Click here
Sweden	Medium	Widespread		Stable	49	18.4%	Type A, Subtype pH1	10.4 (graphs)	(graphs)		Click here
Switzerland	Medium	Local		Decreasing				100.3 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	82	8.5%	Type B	169.4 (graphs)	(graphs)		Click here
Ukraine	Medium	Regional	Moderate	Stable	9	0%	Type A, Subtype H3	5.3 * (graphs)	631.3 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Decreasing	12	16.7%	None	0.1 (graphs)	23.2 (graphs)		Click here
Wales	Low	Sporadic		Stable	2	50.0%	Type A, Subtype pH1	5.5 (graphs)	(graphs)		Click here
Europe					1475	29.1%					Click here

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.

Low influenza activity in Europe with co-circulation of influenza A(H1N1)pdm09 and A(H3N2)

Summary, week 11/2014

Consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) continue to decline throughout most parts of the WHO European Region, with most countries reporting low intensity during week 11/2014. While the percentage of positive sentinel ILI/ARI specimens had been decreasing, this week it remained at a similar level to the previous week. Based on the results of outpatient and hospital surveillance, influenza A(H1N1)pdm09 and A(H3N2) viruses continued to co-circulate in the Region, with the former remaining predominant in most northern European countries and the latter in eastern European countries and Ireland, Germany, Luxembourg and Spain. In contrast to this time last season, very few influenza B detections have been reported.

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

During week 11/2014, the total number of specimens testing positive for influenza continued to decrease, with the positivity rate remaining stable compared to week 10: 13 561 specimens from sentinel and non-sentinel sources were tested for influenza, 2784 (20.5%) of which were positive: 2602 (93%) influenza A and 182 (7%) influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type in circulation across the Region since week 40/2013. Of the 1505 influenza A viruses that were subtyped during week 11/2014, 722 (48%) were A(H1N1)pdm09 and 783 (52%) A(H3N2) (Fig. 2a). Influenza B accounted for a small proportion of influenza detections and has remained steady over the past weeks.

Since the beginning of weekly monitoring (week 40/2013), sentinel and non-sentinel sources have yielded 33 044 influenza detections: 31 556 (95%) were influenza A and 1488 (5%) influenza B viruses (Fig. 2b). Of the 21 566 influenza A viruses that have been subtyped, 12 216 (57%) were A(H1N1)pdm09 and 9350 (43%) were A(H3N2).

In addition, since week 40/2013, the lineage of 129 influenza B viruses has been determined: 118 (91%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 11 (9%) to the B/Victoria lineage.

Similarly to the previous week, 27 countries reported influenza A as the dominant type in week 11/2014. Turkey reported influenza B as dominant, although it had few detections (Map 1 and country table). In countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in 12 countries (Croatia, Georgia, Germany, Ireland, Lithuania, Luxembourg, the Republic of Moldova, Romania, the Russian Federation, Slovenia, Spain and Ukraine), while 6 countries (Bosnia and Herzegovina, Denmark, Hungary, Norway, Sweden and the United Kingdom (Scotland)) reported A(H1N1)pdm09 as dominant. 5 countries (Belgium, France, Italy, Latvia and Switzerland) reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

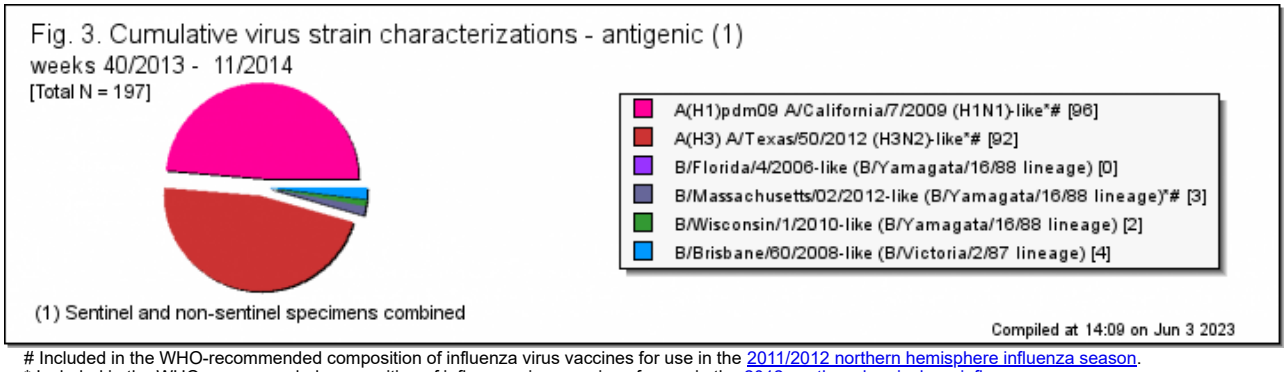
The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 season. (see the WHO headquarters web site).

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 40/2013, 1227 influenza viruses characterized antigenically by 13 countries (the Czech Republic, Denmark, Finland, Germany, Latvia, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Slovakia, 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). 14 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden and Switzerland) have characterized 703 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 40/2013, 8 countries (Greece, the Netherlands, Norway, Portugal, Spain, Sweden, the Russian Federation and the United Kingdom (England)) have screened 885 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 671 A(H1N1)pdm09 viruses tested, 663 showed susceptibility to both drugs; 8 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors.

Of the 179 influenza A(H3N2) viruses tested, 178 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 35 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the winter of 2013–2014. All 107 influenza A(H1N1)pdm09 and 75 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 11/2014, most European countries continued to report low-intensity influenza activity (Map 2), with very few reporting increasing trends (Map 4). Regarding geographic spread, influenza activity varied between widespread, regional or sporadic among countries (Map 3).

During week 11/2014, consultation rates stabilized in most countries in the Region. Of the 22 countries with established national thresholds, the rates remained above or at threshold levels in most countries. At the same time, more countries reported decreasing consultation rates than in previous weeks, mostly in the southern part of the Region. In a number of northern and western countries (the Czech Republic, Denmark, Germany, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Slovakia, Switzerland and the United Kingdom (England)), consultation rates have remained very low since the beginning of the season (mostly below the threshold) and much lower than last season.

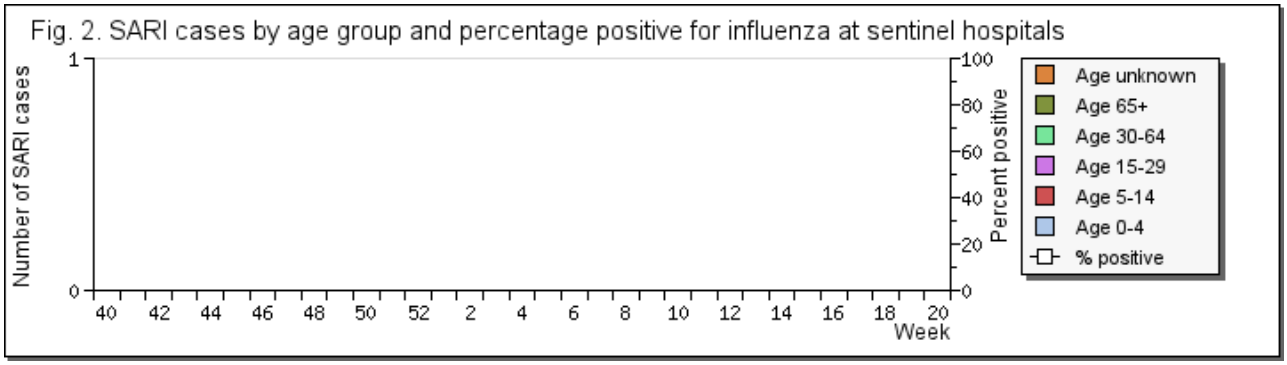
Click on the maps for more detailed information.

For the last 4 consecutive weeks, the percentage of positive sentinel ILI/ARI specimens has decreased, probably indicating that the influenza season has peaked. The percentage of positive sentinel ILI/ARI specimens was similar to that in the previous week (Fig. 5).

During week 11/2014, 403 (33%) of the 1225 specimens collected from sentinel sources tested positive for influenza, the majority being influenza A(H3N2) (Fig. 6a) similar to the previous weeks. The number of influenza B detections remained low. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

For sentinel surveillance of severe disease due to influenza, in week 11/2014 most SARI cases were reported in those aged 0–4 years. A decreasing percentage of SARI patients tested positive for influenza for the second week in a row (Fig. 7).



During week 11/2014, 61 (26%) of the 234 SARI samples collected in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine tested positive for influenza A, the majority being A(H3N2) (Fig. 8a), in line with the results of sentinel ILI/ARI surveillance. Click here for a detailed overview in table format.

For week 11/2014, 6 countries (France, Ireland, Romania, Spain, Sweden and the United Kingdom) reported 152 hospitalized, laboratory-confirmed influenza cases, including 71 cases admitted to intensive care units (ICUs).

Since week 40/2013, 7 countries have reported 3945 hospitalized, laboratory-confirmed influenza cases: 3904 (99%) were associated with influenza virus type A infection and 41 (1%) with type B virus. A total of 2654 influenza A viruses has been subtyped; 1982 (75%) were A(H1N1)pdm09 and 672 (25%) A(H3N2). 5 countries reported a total of 324 fatal cases: 321 (99%) were associated with influenza virus type A infection and 3 (1%) with type B virus. Of 247 influenza A viruses subtyped in fatal cases, 200 (81%) were A(H1N1)pdm09 and 47 (19%) A(H3N2).

The results from SARI surveillance at sentinel hospitals reported to the WHO Regional Office for Europe (EuroFlu) and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. This pattern is most likely due to the circulation of the different influenza virus subtypes in countries.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 11/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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

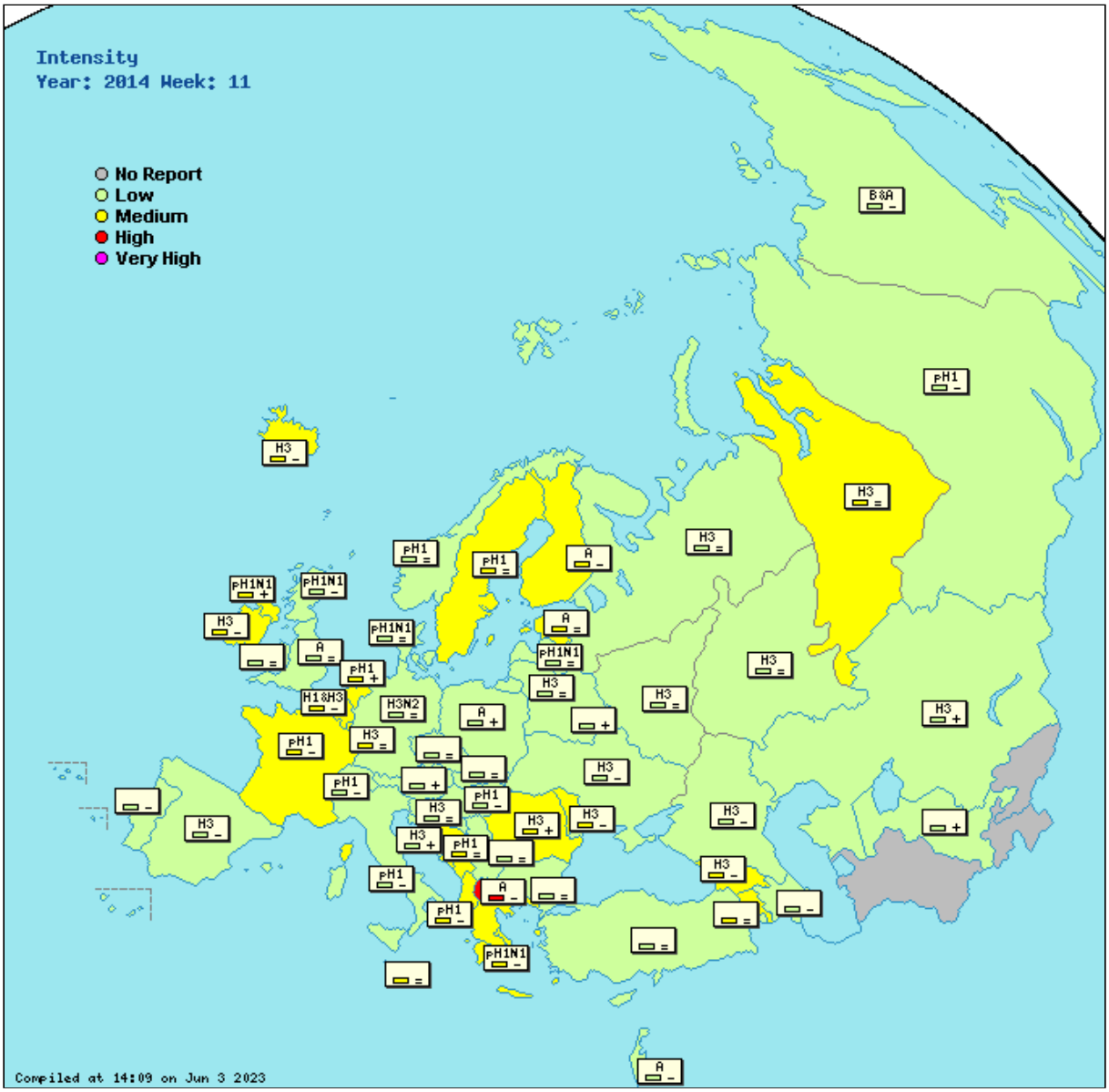
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant

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
27 samples were tested for influenza viruses: 17 were positive for RNA A(H3N2); 1 sample - RNA hRSV;
Romania
We report in TESSy only data from sentinel SARI Surveillance, but we also monitor the confirmed SARI cases, including deaths, detected by routine surveillance. Including Week 11, we have a total number of 55 confirmed SARI cases, 26 with A(H1)pdm09, 28 with A(H3) and 1 with coinfection A(H1)pdm09&A(H3). The total number of death is 15, 12 confirmed with influenza virus A(H1)pdm09 and 3 with A(H3). Nine out of din 12 cases who died with A(H1)pdm09 are females, the median age is 53 years and the average is 51. Ten out of 12 cases who died with A(H1)pdm09 had underlying risk

conditions, but none of them had been previously vaccinated against influenza. We have 2 cases confirmed with A(H3)previously vaccinated, one of whom died. In the same period of the previous season, the number of registered deaths confirmed with influenza was 14, 11 with influenza A(H1)pdm09 and 3 with influenza 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	Sporadic	Low	Decreasing					466.6 (graphs)	sari	Click here
Armenia					9	44.4%	None		(graphs)	sari	Click here
Austria	Low	Widespread	Low	Increasing	28	57.1%	None	1137.4 (graphs)	(graphs)		Click here
Azerbaijan	Low	Sporadic	Low	Decreasing	56	16.1%	None	170.6 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Increasing	37	0%	None	11.7 (graphs)	1009.4 (graphs)	sari	Click here
Belgium	Medium	Widespread		Decreasing	35	57.1%	Type A, Subtype H1 and H3	169.9 (graphs)	1481.5 (graphs)	sari	Click here
Bosnia and Herzegovina	Medium	None	Moderate	Stable			Type A, Subtype pH1	21.2 (graphs)	104.5 (graphs)		Click here
Bulgaria	Low	Local		Stable	0	-	None	(graphs)	929.1 (graphs)		Click here
Croatia	Low	Widespread		Increasing			Type A, Subtype H3	(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				1.6 * (graphs)	7.2 * (graphs)		Click here
Czech Republic					16	0%	None		(graphs)		Click here
Denmark					9	55.6%	Type A, Subtype pH1N1	(graphs)			Click here
England	Low	Regional		Stable	46	45.7%	Type A	3.1 (graphs)	187.5 (graphs)		Click here
Estonia	Medium	Widespread		Stable	33	39.4%	Type A	16.3 (graphs)	378.4 (graphs)		Click here
Finland	Medium	Regional		Decreasing	16	0%	Type A	(graphs)			Click here
France	Medium	Widespread	Low	Decreasing	72	34.7%	Type A, Subtype pH1 and H3N2	(graphs)	1280.3 (graphs)		Click here
Georgia					16	18.8%	Type A, Subtype H3	301.8 (graphs)	(graphs)	sari	Click here
Germany	Low	Regional		Stable	118	20.3%	Type A, Subtype H3N2	(graphs)	1240.7 (graphs)		Click here
Hungary	Low	Regional	Low	Decreasing	46	15.2%	Type A, Subtype pH1	157.8 (graphs)	(graphs)		Click here
Iceland	Medium	Widespread	Low	Decreasing	0	-		45.7 (graphs)	(graphs)		Click here
Ireland	Medium	Widespread	Low	Decreasing	24	54.2%	Type A, Subtype H3	38.2 (graphs)	(graphs)		Click here
Israel	Low	Regional	Low	Decreasing	93	61.3%	Type A	68.7 (graphs)			Click here
Italy	Low	Regional	Low	Decreasing	42	35.7%	Type A, Subtype pH1 and H3N2	307.1 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Decreasing	29	34.5%	?? ????	121.9 (graphs)	44.3 (graphs)	sari	Click here
Kyrgyzstan					1	0%	None	48.8 (graphs)	48.0 (graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	0	-	Type A, Subtype pH1N1 and H3	9.8 (graphs)	1015.1 (graphs)		Click here
Lithuania	Low	Sporadic	Low	Stable	36	66.7%	Type A, Subtype H3	10.1 (graphs)	656.2 (graphs)		Click here
Luxembourg	Medium	Regional			21	28.6%	Type A, Subtype H3	2.8 * (graphs)	24.0 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	High	Widespread	Moderate	Decreasing				85.1 (graphs)	(graphs)		Click here
Malta	Medium	Sporadic	Moderate	Stable				4.4 * (graphs)	0 * (graphs)		Click here
Netherlands	Low	Regional		Increasing	8	50.0%	None	49.6 (graphs)	(graphs)		Click here
Northern Ireland	Medium	Sporadic	Moderate	Increasing	6	50.0%	Type A	39.2 (graphs)	432.0 (graphs)		Click here
Norway	Low	Local		Stable	13	69.2%	Type A, Subtype pH1	65.6 (graphs)	(graphs)		Click here
Poland	Low	Local	Low	Increasing	49	26.5%	Type A	464.5 (graphs)	(graphs)		Click here
Portugal	Low	Sporadic		Decreasing	1	0%	None	4.1 (graphs)	(graphs)		Click here
Republic of Moldova	Medium	Regional	Low	Decreasing	21	0%	Type A, Subtype H3	8.3 (graphs)	305.6 (graphs)	sari	Click here
Romania	Medium	Regional	Low	Increasing	17	76.5%	Type A, Subtype H3	6.2 (graphs)	850.3 (graphs)	sari	Click here
Russian Federation	Low	Local		Stable	58	25.9%	Type A, Subtype H3	1.1 (graphs)	723.3 (graphs)	sari	Click here
Scotland	Low	Regional	Moderate	Decreasing	25	48.0%	Type A, Subtype pH1N1	12.7 (graphs)	442.3 (graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	13	76.9%	None	74.7 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable				151.7 (graphs)	1480.9 (graphs)	sari	Click here
Slovenia					16	81.3%	Type A, Subtype H3	(graphs)			Click here
Spain	Low	Sporadic		Decreasing	64	21.9%	Type A, Subtype H3	21.0 (graphs)	(graphs)		Click here
Sweden	Medium	Widespread		Stable	39	7.7%	Type A, Subtype pH1	10.7 (graphs)	(graphs)		Click here
Switzerland	Medium	Local		Decreasing	28	57.1%	Type A, Subtype pH1 and H3	76.6 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	66	7.6%	Type B	169.9 (graphs)	(graphs)		Click here
Ukraine	Low	Regional	Low	Decreasing	8	0%	Type A, Subtype H3	3.5 * (graphs)	511.9 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Increasing	10	0%	None	0.1 (graphs)	27.4 (graphs)		Click here
Europe					1225	32.8%					Click here

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.

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.

Low influenza activity reported in most European countries

Summary, week 12/2014

Clinical consultation rates for influenza-like illness (ILI) and/or acute respiratory infection (ARI) returned to pre-season or below baseline levels in most of the countries in the WHO European Region. This is consistent with the decline in the percentage of ILI and ARI sentinel specimens testing positive for influenza. Based on the results of outpatient and hospital surveillance, influenza A(H1N1)pdm09 and A(H3N2) viruses continued to co-circulate in the Region, with very few influenza B detections having been reported during this season.

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

During week 12/2014, both the total number of specimens tested for influenza and the influenza positivity rate decreased from those in previous weeks: 13 193 specimens from sentinel and non-sentinel sources were tested for influenza, 2398 (18%) of which were positive: 2212 (92%) influenza A and 186 (8%) influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013. Of the 1342 influenza A viruses that were subtyped during week 12/2014, 594 (44%) were A(H1N1)pdm09 and 748 (56%) A(H3N2) (Fig. 2a). Influenza B accounted for a small proportion of influenza detections, which remained steady over the past weeks.

Since week 40/2013, sentinel and non-sentinel sources have yielded 37 583 influenza detections: 35 897 (95%) were influenza A and 1686 (5%) influenza B viruses (Fig. 2b). Of the 25 143 influenza A viruses that have been subtyped, 14 835 (59%) were A(H1N1)pdm09 and 10 308 (41%) were A(H3N2).

In addition, the lineage of 169 influenza B viruses has been determined: 155 (92%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 14 (8%) to the B/Victoria lineage.

Of the 41 countries that reported data on the dominant type of influenza virus, 26 reported influenza A as dominant in week 12/2014. Turkey was the only country reporting influenza B as dominant (Map 1 and country table). In countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in 14 countries (Belgium, Croatia, Georgia, Germany, Hungary, Ireland, Lithuania, Luxembourg, Romania, the Russian Federation, Slovenia, Spain, the former Yugoslav Republic of Macedonia and Ukraine), while only 4 Member States (Bosnia and Herzegovina, Greece, Norway and the United Kingdom (Scotland and Wales)) reported A(H1N1)pdm09 as dominant. 3 countries (France, Latvia and the Netherlands) reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

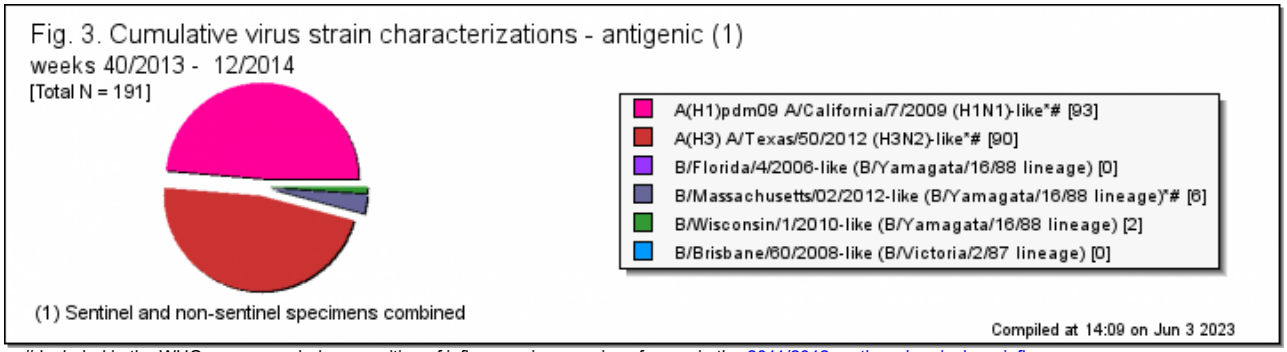
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 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 40/2013, 1406 influenza viruses characterized antigenically by 14 countries (the Czech Republic, Denmark, Finland, Germany, Ireland, Latvia, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Slovakia, 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). 14 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden and Switzerland) have characterized 780 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 40/2013, 9 countries (Greece, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the Russian Federation and the United Kingdom (England)) have screened 885 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 740 A(H1N1)pdm09 viruses tested, 731 showed susceptibility to both drugs; 9 viruses carried the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir. Of these viruses, 8 were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors, and 1 virus from Switzerland was detected in a hospitalized immunocompromised patient treated with oseltamivir.

Of the 204 influenza A(H3N2) viruses tested, 203 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 38 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the winter of 2013–2014. All 130 influenza A(H1N1)pdm09 and 85 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

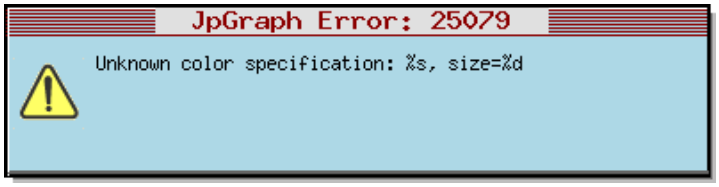
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 12/2014, most European countries reported low-intensity influenza activity (Map 2), with very few reporting increasing trends (Map 4). As to geographic spread, influenza activity varied between sporadic and regional (Map 3).

During week 12/2014, consultation rates stabilized in most countries in the Region. Of the 22 countries with established national thresholds, the rates returned to or below the threshold levels in most. In a number of northern and western countries (the Czech Republic, Denmark, Germany, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Slovakia, Switzerland and the United Kingdom (England)), consultation rates have remained very low since the beginning of the season (mostly below the threshold) and much lower than last season.

Click on the maps for more detailed information.

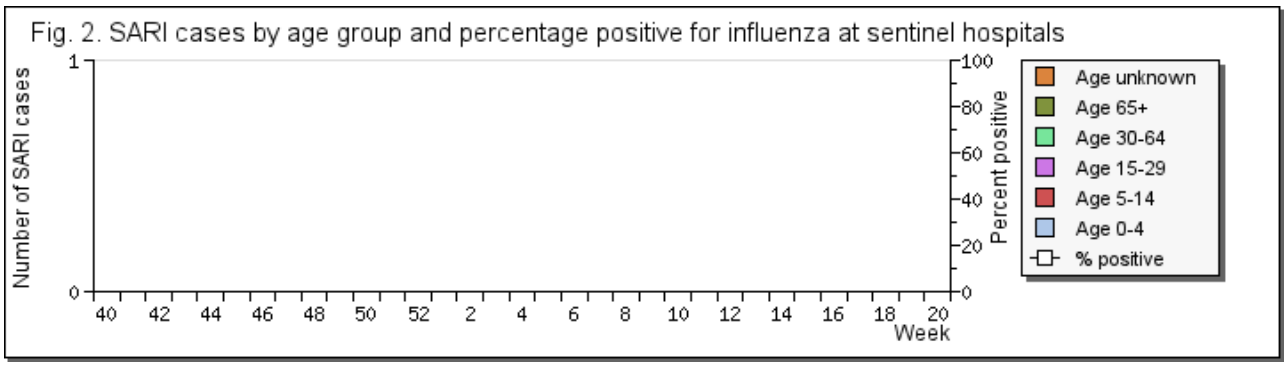
The percentage of positive sentinel ILI/ARI specimens decreased slightly in comparison with the previous week and remained lower than at the same period last season (Fig. 5).



During week 12/2014, 295 (30%) of the 970 specimens collected from sentinel sources tested positive for influenza; the majority contained influenza A(H3N2) virus (Fig. 6a), similarly to the previous weeks. The number of influenza B detections remained low but has slightly increased over the last several weeks. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

For sentinel surveillance of severe disease due to influenza, in week 12/2014 the number of SARI hospitalizations decreased, with most cases reported in those aged 0–4 years. The percentage of SARI patients who tested positive for influenza decreased for the third consecutive week (Fig. 7).



During week 12/2014, 47 (22%) of the 212 SARI samples collected from sentinel surveillance in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza A, the majority being A(H3N2) (Fig. 8a), in line with the results of sentinel ILI/ARI surveillance. Click here for a detailed overview in table format.

For week 12/2014, 6 countries (France, Ireland, Romania, Spain, Sweden and the United Kingdom) reported 117 hospitalized laboratory-confirmed influenza cases. Influenza A virus was detected in 113 cases and influenza B virus in 4. Of the hospitalized cases, 67 were admitted to intensive care units (ICUs).

Since week 40/2013, 7 countries have reported 4232 hospitalized, laboratory-confirmed influenza cases: 4184 (99%) were related to influenza virus type A infection and 48 (1%) to type B virus infection. Of 2853 subtyped influenza A viruses, 2138 (75%) were A(H1N2)pdm09 and 715 (25%) were A(H3N2). A higher proportion of A(H1)pdm09 viruses was detected in patients in ICUs (1212 (85%) of 1420 subtyped) than in other wards (926 (65%) of 1433 subtyped). The reasons for these differences have not yet been identified.

5 countries reported a total of 351 fatal laboratory-confirmed influenza cases; 348 (99%) were associated with influenza virus type A infection and 3 (1%) with type B virus. Of 258 influenza A viruses subtyped from fatal cases, 209 (81%) were A(H1N1)pdm09 and 49 (19%) were A(H3N2).

The results from SARI surveillance at sentinel hospitals reported to the WHO Regional Office for Europe (EuroFlu) and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. This pattern is most likely due to the circulation of the different influenza virus subtypes in countries.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 12/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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.

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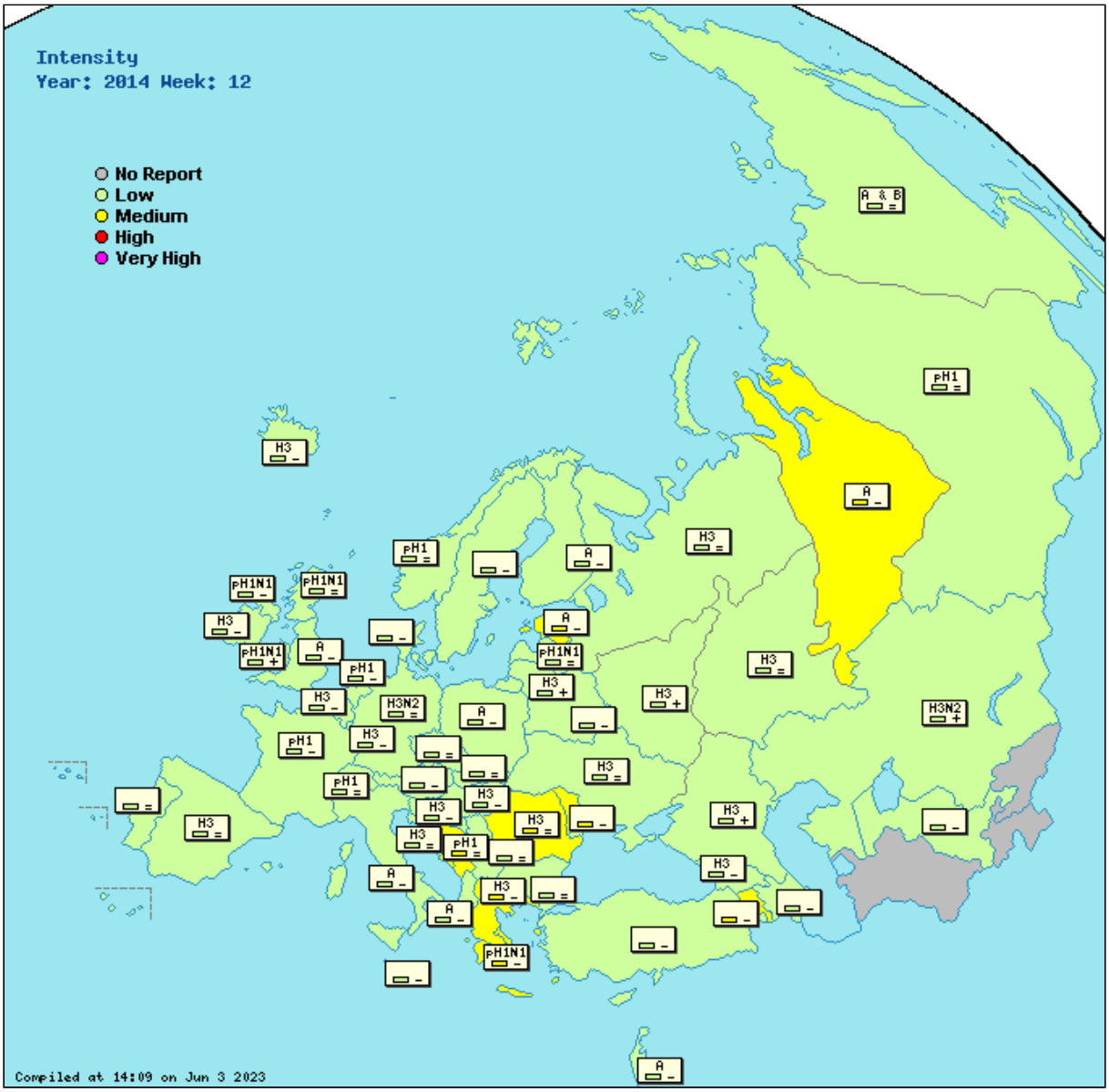
Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

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
In week 12 were tested 24 samples for influenza viruses: 6 were positive for RNA A(H3N2); 2 samples - RNA hRSV; 2 samples - DNA Adenovirus, and 1 sample was positive for RNA hPiv1.

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	Medium	Sporadic	Moderate	Decreasing	2	0%	None	3.3 * (graphs)	151.3 (graphs)	sari	Click here
Austria	Low	Widespread	Low	Decreasing	26	34.6%	None	955.6 (graphs)	(graphs)		Click here
Azerbaijan	Low	None	Low	Decreasing				48.8 (graphs)	(graphs)		Click here
Belarus	Low	Sporadic	Low	Decreasing	34	8.8%	None	14.2 (graphs)	984.0 (graphs)	sari	Click here
Belgium	Low	Sporadic		Decreasing	23	65.2%	Type A, Subtype H3	125.4 (graphs)	1574.0 (graphs)	sari	Click here
Bosnia and Herzegovina	Medium	None	Moderate	Stable			Type A, Subtype pH1	29.2 (graphs)	120.0 (graphs)		Click here
Bulgaria	Low	Sporadic		Stable	0	-	None	(graphs)	831.4 (graphs)		Click here
Croatia	Low	Widespread		Stable			Type A, Subtype H3	(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				0.5 * (graphs)	8.4 * (graphs)		Click here
Czech Republic	Low	Sporadic		Stable	16	12.5%	None	23.7 (graphs)	817.3 (graphs)		Click here
Denmark	Low	Sporadic		Decreasing	2	50.0%	None	50.7 (graphs)	(graphs)		Click here
England	Low	Regional		Decreasing	51	25.5%	Type A	1.3 (graphs)	163.7 (graphs)		Click here
Estonia	Medium	Widespread		Decreasing	14	14.3%	Type A	16.0 (graphs)	335.2 (graphs)		Click here
Finland	Low	Local		Decreasing	21	4.8%	Type A	(graphs)			Click here
France	Low	Local	Low	Decreasing	61	32.8%	Type A, Subtype pH1 and H3N2	(graphs)	1259.7 (graphs)		Click here
Georgia	Low	Widespread	Low	Decreasing	8	12.5%	Type A, Subtype H3	242.7 (graphs)	(graphs)	sari	Click here
Germany	Low	Regional		Stable	103	29.1%	Type A, Subtype H3N2	(graphs)	1134.1 (graphs)		Click here
Greece	Medium	Widespread		Decreasing	5	20.0%	Type A, Subtype pH1N1	158.7 (graphs)	(graphs)		Click here
Hungary	Low	Regional	Low	Decreasing	47	21.3%	Type A, Subtype H3	113.1 (graphs)	(graphs)		Click here
Iceland	Low	Regional	Low	Decreasing	0	-		31.7 (graphs)	(graphs)		Click here
Ireland	Low	Widespread	Low	Decreasing	15	86.7%	Type A, Subtype H3	23.3 (graphs)	(graphs)		Click here
Israel	Low	Regional	Low	Decreasing	58	51.7%	Type A	50.7 (graphs)			Click here
Italy	Low	Regional	Low	Decreasing	25	28.0%	Type A	251.7 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Increasing	19	15.8%	None	131.3 (graphs)	56.7 (graphs)	sari	Click here
Kyrgyzstan					0	-	None		(graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	0	-	Type A, Subtype pH1N1 and H3	1.8 (graphs)	924.8 (graphs)		Click here
Lithuania	Low	Local	Low	Increasing	23	60.9%	Type A, Subtype H3	14.5 (graphs)	726.1 (graphs)		Click here
Luxembourg	Low	Local			22	31.8%	Type A, Subtype H3	1.3 * (graphs)	22.1 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Medium	Widespread	Low	Decreasing			Type A, Subtype H3	55.6 (graphs)	(graphs)		Click here
Montenegro	Medium	Regional	Low	Increasing				(graphs)	(graphs)		Click here
Netherlands	Low	Regional		Decreasing	9	11.1%	Type A, Subtype pH1N1 and H3	34.5 (graphs)	(graphs)		Click here
Northern Ireland	Low	Sporadic	Moderate	Decreasing				20.6 (graphs)	335.8 (graphs)		Click here
Norway	Low	Local		Stable	13	23.1%	Type A, Subtype pH1	61.8 (graphs)	(graphs)		Click here
Poland	Low	Sporadic	Low	Decreasing	43	34.9%	Type A	402.9 (graphs)	(graphs)		Click here
Portugal	Low	Sporadic		Stable	1	100.0%	None	7.5 (graphs)	(graphs)		Click here
Republic of Moldova	Low	Regional	Low	Decreasing	16	25.0%	None	1.0 (graphs)	274.9 (graphs)	sari	Click here
Romania	Medium	Regional	Low	Stable	12	41.7%	Type A, Subtype H3	5.0 (graphs)	811.7 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Stable	67	34.3%	Type A, Subtype H3	1.3 (graphs)	767.8 (graphs)	sari	Click here
Scotland	Low	Regional	Moderate	Stable	24	16.7%	Type A, Subtype pH1N1	13.7 (graphs)	416.5 (graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	12	83.3%	None	62.9 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	8	62.5%	None	150.3 (graphs)	1524.5 (graphs)	sari	Click here
Slovenia	Low	Regional		Decreasing	22	54.6%	Type A, Subtype H3	18.0 (graphs)	1043.2 (graphs)		Click here
Spain	Low	Sporadic		Stable	55	20.0%	Type A, Subtype H3	17.2 (graphs)	(graphs)		Click here
Sweden	Low	Regional		Decreasing	32	15.6%	None	4.1 (graphs)	(graphs)		Click here
Switzerland	Low	Local		Stable				62.2 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Decreasing	60	21.7%	Type B	140.7 (graphs)	(graphs)		Click here
Ukraine	Low	Regional	Low	Stable	7	0%	Type A, Subtype H3	4.7 * (graphs)	536.8 (graphs)	sari	Click here
Uzbekistan					12	8.3%	None		(graphs)		Click here
Wales	Low	Sporadic	Low	Increasing	2	0%	Type A, Subtype pH1N1	7.9 (graphs)	(graphs)		Click here
Europe					970	30.4%					Click here

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.

Influenza activity returns to pre-season levels in Europe

Summary, week 13/2014

Recent declines in clinical indicators have been observed in nearly all countries in the WHO European Region, and influenza activity returned to pre-season levels or below seasonal thresholds in the majority. The percentages of sentinel influenza-like illness (ILI), acute respiratory infection (ARI) and severe acute respiratory infection (SARI) specimens testing positive for influenza, have also declined during recent weeks. Influenza A(H1N1)pdm09 and A(H3N2) viruses continue to co-circulate in the Region, with very few influenza B detections reported during this season.

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

During week 13/2014, both the total number of specimens tested for influenza and the influenza positivity rate continued to decline, with a slightly increasing number of influenza B detections in comparison with previous weeks. 11 189 specimens from sentinel and non-sentinel sources were tested for influenza, 1797 (16%) of which were positive: 1594 (89%) for influenza A and 203 (11%) for influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013. Of the 948 influenza A viruses that were subtyped during week 13/2014, 418 (44%) were A(H1N1)pdm09 and 530 (56%) A(H3N2) (Fig. 2a).

Since week 40/2013, sentinel and non-sentinel sources have yielded 40 088 influenza detections: 38 182 (95%) were influenza A and 1906 (5%) influenza B viruses (Fig. 2b). Of the 26 546 influenza A viruses that have been subtyped, 15 459 (58%) were A(H1N1)pdm09 and 11 087 (42%) were A(H3N2).

In addition, the lineage of 172 influenza B viruses has been determined: 158 (92%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 14 (8%) to the B/Victoria lineage.

With the decline of influenza activity in the Region, fewer countries than in previous weeks are reporting on dominant influenza type. Of the 41 countries supplying such data, only 22 reported influenza A as dominant in week 13/2014. Turkey was the only country reporting influenza B as dominant, but the number of detections was low (Map 1 and country table). Of countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in 12 countries (Belgium, Croatia, Germany, Hungary, Ireland, Lithuania, Romania, the Russian Federation, Slovenia, Spain, Switzerland and Ukraine), while only 4 countries (Denmark, Greece, Norway and the United Kingdom (Scotland)) reported A(H1N1)pdm09 as dominant. 3 countries (France, Italy and Latvia) reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

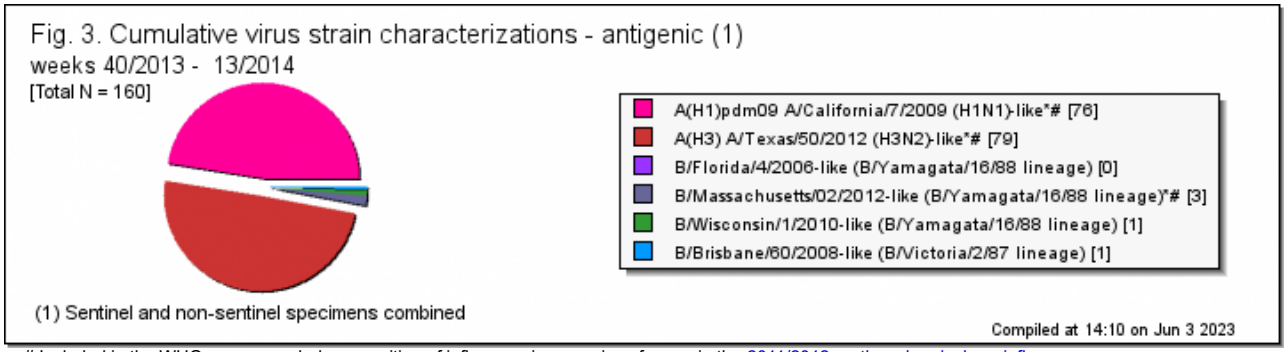
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 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 40/2013, 1565 influenza viruses characterized antigenically by 13 countries (the Czech Republic, Denmark, Finland, Germany, Ireland, Latvia, the Netherlands, Portugal, Romania, the Russian Federation, Slovakia, 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). 14 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden and Switzerland) have characterized 820 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 40/2013, 9 countries (Greece, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the Russian Federation and the United Kingdom (England)) have screened 885 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 740 A(H1N1)pdm09 viruses tested, 731 showed susceptibility to both drugs; 9 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were identified. Of these 9 viruses, 8 were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors, and 1 virus from Switzerland was detected in a hospitalized immunocompromised patient treated with oseltamivir.

Of the 204 influenza A(H3N2) viruses tested, 203 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 38 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the winter of 2013◆2014. All 130 influenza A(H1N1)pdm09 and 85 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

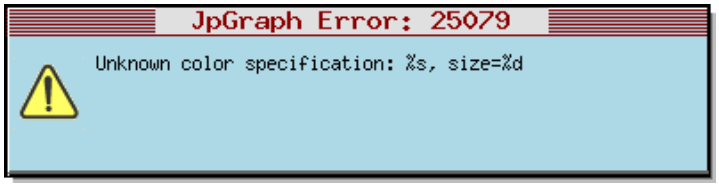
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 13/2014, most European countries reported low-intensity influenza activity (Map 2), with only 3 countries reporting increasing trends (Map 4). As to geographic spread, influenza activity was mainly sporadic in the majority of countries (Map 3).

During week 13/2014, consultation rates continued to decline in most countries in the Region. Of the 22 countries with established national thresholds, the rates returned to or were below the threshold levels in the majority. In a number of northern and western countries (the Czech Republic, Denmark, Germany, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Slovakia, Switzerland and the United Kingdom (England)), consultation rates have remained very low since the beginning of the season (mostly below the threshold) and much lower than last season.

Click on the maps for more detailed information.

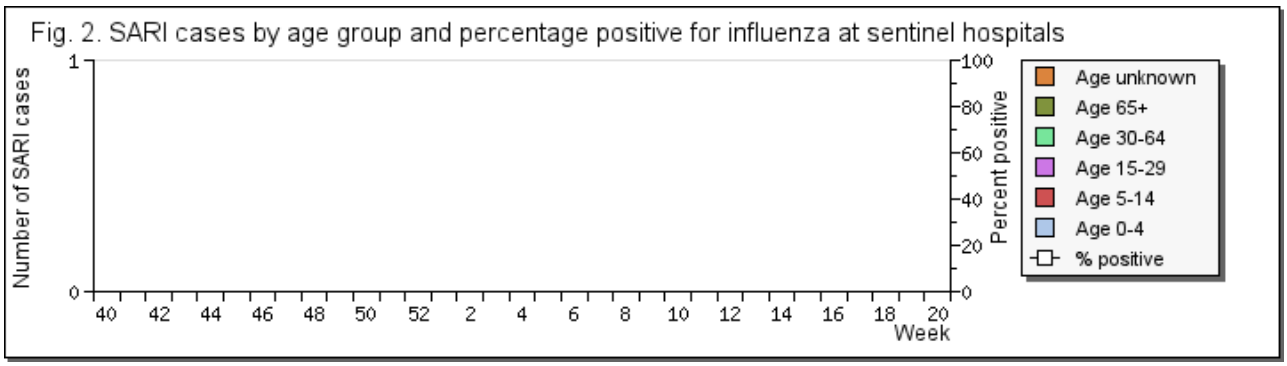
The percentage of positive sentinel ILI/ARI specimens decreased in comparison with the previous week and remained much lower than at the same period last season (Fig. 5).



During week 13/2014, 187 (18%) of the 1017 specimens collected from sentinel sources tested positive for influenza virus; the majority were influenza A(H3N2) (Fig. 6a), similar to the previous weeks. The number of influenza B detections remained low but has increased slightly over recent weeks. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

For sentinel surveillance of severe disease due to influenza, in week 13/2014 the number of SARI hospitalizations continued to decrease, with most cases reported in those aged 0◆4 years. The percentage of SARI patients who tested positive for influenza remained at the same level as the previous week (Fig. 7).



During week 13/2014, 38 (23%) of the 162 SARI samples collected from sentinel surveillance in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine tested positive for influenza A, the majority being A(H3N2) (Fig. 8a), in line with the results of sentinel ILI/ARI surveillance. Click here for a detailed overview in table format.

For week 13/2014, 5 countries (France, Ireland, Romania, Spain and the United Kingdom) reported 92 hospitalized laboratory-confirmed influenza cases . Influenza A virus was detected in 89 cases and influenza B virus in 3.

Since week 40/2013, 7 countries have reported 4390 hospitalized, laboratory-confirmed influenza cases: 4339 (99%) were related to influenza virus type A infection and 51 (1%) to type B . Of 2956 subtyped influenza A viruses, 2209 (75%) were A(H1)pdm09 and 747 (25%) were A(H3). A higher proportion of A(H1)pdm09 viruses has been detected in patients in intensive care units (ICUs) (1265 out of 1481 subtyped: 85%) than in other hospitalized patients (944 out of 1475 subtyped: 64%).

5 countries reported a total of 368 fatal cases: 365 (99%) were associated with influenza virus type A infection and 3 (1%) with type B. Of 269 influenza A viruses subtyped from fatal cases, 218 (81%) were A(H1)pdm09 and 51 (19%) were A(H3).

The results from SARI surveillance at sentinel hospitals reported to the WHO Regional Office for Europe (EuroFlu) and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. This pattern is most likely due to the circulation of the different influenza virus subtypes in countries.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 13/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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.

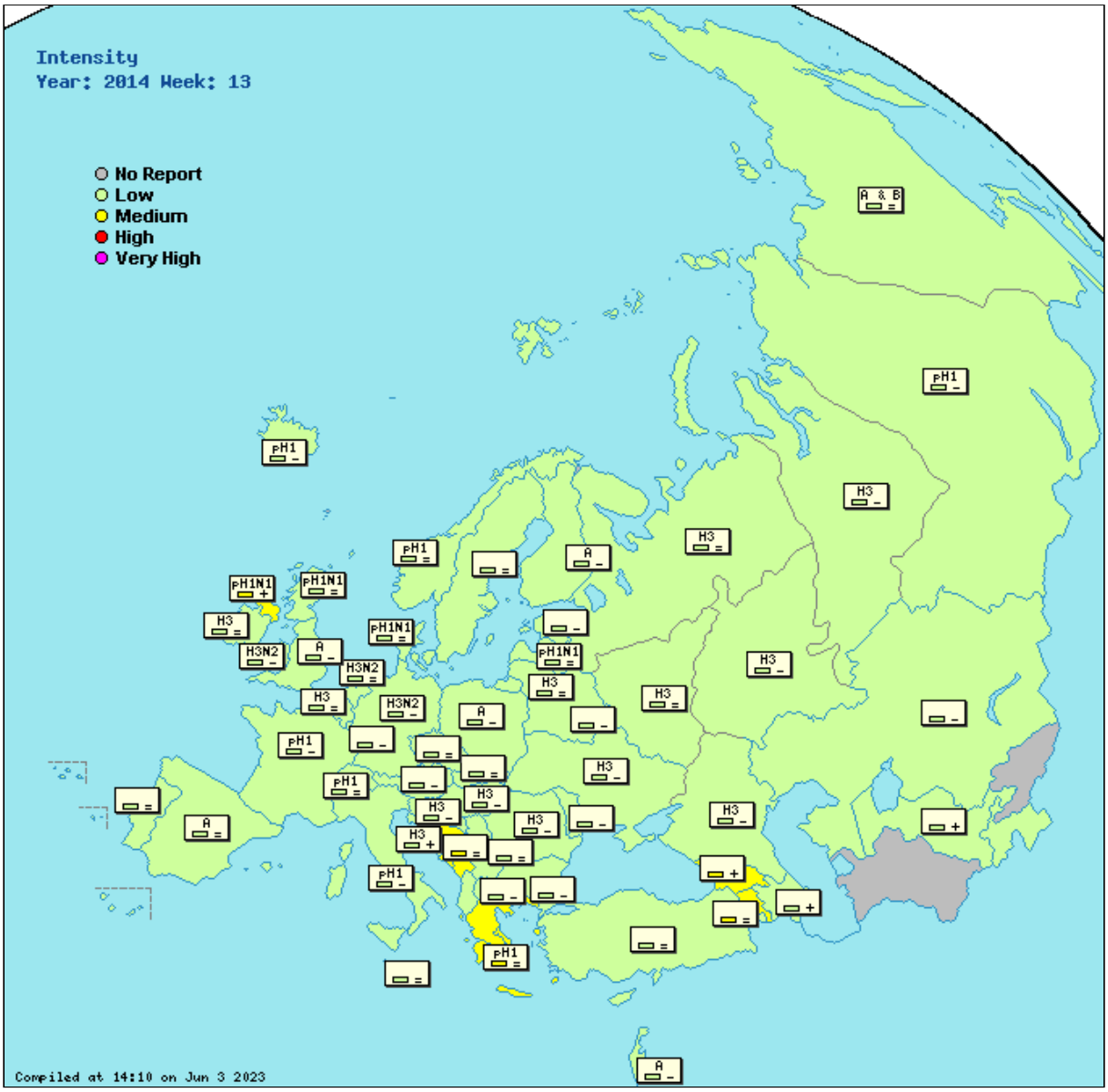
Map

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
In week 13 were tested 18 samples for influenza viruses: 1 was positive for RNA A(H3N2); 1 sample was positive for RNA A(H3N2) and RNA hRSV; 2 samples - DNA Adenovirus, and 1 sample was positive for RNA hRSV and 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	Sporadic	Low	Decreasing						412.6	(graphs)	sari	Click here
Armenia	Medium	Sporadic	Moderate	Stable	1	0%	None	6.3 *	(graphs)	146.7	(graphs)	sari	Click here
Austria	Low	Regional	Low	Decreasing	26	46.2%	None	873.8	(graphs)		(graphs)		Click here
Azerbaijan	Low	Sporadic	Low	Increasing	7	28.6%	None	127.6	(graphs)		(graphs)		Click here
Belarus	Low	Sporadic	Low	Decreasing	41	7.3%	None	9.7	(graphs)	826.7	(graphs)	sari	Click here
Belgium	Low	Sporadic		Stable	13	53.9%	Type A, Subtype H3	102.3	(graphs)	1654.3	(graphs)	sari	Click here
Bosnia and Herzegovina	Medium	None	Moderate	Stable			None	33.8	(graphs)	129.0	(graphs)		Click here
Bulgaria	Low	Sporadic		Decreasing	0	-	None		(graphs)	769.1	(graphs)		Click here
Croatia	Low	Widespread		Increasing	129	0%	Type A, Subtype H3		(graphs)		(graphs)		Click here
Cyprus	Low	None	Low	Stable				0.6 *	(graphs)	7.6 *	(graphs)		Click here
Czech Republic	Low	Sporadic		Stable	12	8.3%	None	21.4	(graphs)	790.9	(graphs)		Click here
Denmark	Low	Sporadic		Stable	17	11.8%	Type A, Subtype pH1N1	40.0	(graphs)		(graphs)		Click here
England	Low	Regional		Decreasing	45	26.7%	Type A	1.2	(graphs)	190.5	(graphs)		Click here
Estonia	Low	Widespread		Decreasing	11	36.4%		14.2	(graphs)	370.4	(graphs)		Click here
Finland	Low	Sporadic		Decreasing	20	5.0%	Type A		(graphs)				Click here
France	Low	Local	Low	Decreasing	120	11.7%	Type A, Subtype pH1 and H3N2		(graphs)	1249.7	(graphs)		Click here
Georgia					14	7.1%	None	286.6	(graphs)		(graphs)	sari	Click here
Germany	Low	Regional		Decreasing	84	14.3%	Type A, Subtype H3N2		(graphs)	1090.7	(graphs)		Click here
Greece	Medium	Widespread		Stable	5	40.0%	Type A, Subtype pH1	126.7	(graphs)		(graphs)		Click here
Hungary	Low	Sporadic	Low	Decreasing	35	17.1%	Type A, Subtype H3	86.5	(graphs)		(graphs)		Click here
Iceland					0	-			(graphs)				Click here
Ireland	Low	Widespread	Low	Stable	17	41.2%	Type A, Subtype H3	26.6	(graphs)		(graphs)		Click here
Israel	Low	Regional	Low	Decreasing	55	40.0%	Type A	34.4	(graphs)				Click here
Italy	Low	Local	Low	Decreasing	24	16.7%	Type A, Subtype pH1 and H3N2	198.2	(graphs)		(graphs)		Click here
Kazakhstan					7	14.3%	None				(graphs)	sari	Click here
Kyrgyzstan					0	-	None				(graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	0	-	Type A, Subtype pH1N1 and H3	0.9	(graphs)	870.1	(graphs)		Click here
Lithuania	Low	Sporadic	Low	Stable	17	47.1%	Type A, Subtype H3	16.0	(graphs)	727.4	(graphs)		Click here
Luxembourg	Low	Sporadic			7	28.6%		1.1 *	(graphs)	25.9 *	(graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Regional	Low	Decreasing			None	32.9	(graphs)		(graphs)		Click here
Malta	Low	None	Low	Stable				0.9 *	(graphs)	0 *	(graphs)		Click here
Montenegro	Medium	Local	Low	Decreasing				80.8	(graphs)		(graphs)		Click here
Netherlands	Low	Sporadic		Stable	10	30.0%	None	36.0	(graphs)		(graphs)		Click here
Northern Ireland	Medium	Sporadic	Moderate	Increasing	6	33.3%	Type A	32.6	(graphs)	418.9	(graphs)		Click here
Norway					4	50.0%	Type A, Subtype pH1		(graphs)				Click here
Poland	Low	None	Low	Decreasing	28	17.9%	Type A	370.7	(graphs)		(graphs)		Click here
Portugal	Low	Sporadic		Stable	1	0%	None	6.5	(graphs)		(graphs)		Click here
Republic of Moldova	Medium	Regional	Low	Decreasing	12	16.7%	None	3.1	(graphs)	208.0	(graphs)	sari	Click here
Romania	Low	Local	Low	Decreasing	6	50.0%	Type A, Subtype H3	4.3	(graphs)	750.1	(graphs)	sari	Click here
Russian Federation	Low	Sporadic		Decreasing	68	22.1%	Type A, Subtype H3	1.0	(graphs)	708.1	(graphs)	sari	Click here
Scotland	Low	Regional	Moderate	Stable	20	5.0%	Type A, Subtype pH1N1	13.1	(graphs)	404.5	(graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	15	33.3%	None	47.0	(graphs)		(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	6	33.3%	None	156.1	(graphs)	1528.2	(graphs)	sari	Click here
Slovenia	Low	Local		Decreasing	8	37.5%	Type A, Subtype H3	4.9	(graphs)	1006.1	(graphs)		Click here
Spain	Low	Sporadic		Stable	35	14.3%	Type A, Subtype H3	12.8	(graphs)		(graphs)		Click here
Sweden	Low	Regional		Stable	12	8.3%	None	5.7	(graphs)		(graphs)		Click here
Switzerland	Low	Sporadic		Stable	15	60.0%	Type A, Subtype H3	30.8	(graphs)		(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	57	10.5%	Type B	160.6	(graphs)		(graphs)		Click here
Ukraine	Low	Regional	Low	Decreasing	7	0%	Type A, Subtype H3	3.6 *	(graphs)	442.6	(graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Increasing	0	-	None	0.1	(graphs)	22.8	(graphs)		Click here
Europe					1017	18.4%							Click here

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.

Influenza activity returns to pre-season levels in most countries in the WHO European Region

Summary, week 14/2014

Influenza activity has decreased in recent weeks in the majority of countries in the WHO European Region. Clinical influenza-like illness (ILI) and/or acute respiratory infection (ARI) rates were below epidemic thresholds in 19 of 20 countries. A small rise in the percentage of positive specimens was observed in week 14/2014 despite a further reduction in the number of specimens tested positive for influenza. The number of cases with severe acute respiratory infection (SARI) has been decreasing and specimens testing positive for influenza have also declined during recent weeks. Influenza A(H1N1)pdm09 and A(H3N2) viruses continue to co-circulate in the Region, with very few influenza B detections having been reported throughout the season.

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

During week 14/2014, the total number of specimens tested for influenza continued to decline: 9512 specimens from sentinel and non-sentinel sources were tested. Only 1485 (16%) were positive: 1316 (89%) for influenza A and 169 (11%) for influenza B (Fig. 1 and 2). The apparent rise in percentage of influenza B viruses is due to falling numbers of influenza A viruses being detected; the actual numbers of influenza B detections have been low but similar for a number of weeks.

Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013. Of the 716 influenza A viruses that were subtyped during week 14/2014, 318 (44%) were A(H1N1)pdm09 and 398 (56%) A(H3N2) (Fig. 2a).

Since week 40/2013, sentinel and non-sentinel sources have yielded 41 860 influenza detections: 39 772 (95%) were influenza A and 2088 (5%) influenza B viruses (Fig. 2b). Of the 27 576 influenza A viruses that have been subtyped, 15 939 (58%) were A(H1N1)pdm09 and 11 637 (42%) were A(H3N2).

In addition, the lineage of 172 influenza B viruses has been determined: 158 (92%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 14 (8%) to the B/Victoria lineage.

With the decline of influenza activity in the Region, fewer countries than in previous weeks reported on dominant influenza type. Of the 38 countries supplying such data, only 20 reported influenza A as dominant in week 14/2014. Turkey was the only country reporting influenza B as dominant, but the number of detections was low (Map 1 and country table). Of countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in 9 countries (Belgium, Germany, Ireland, Lithuania, the Netherlands, Romania, the Russian Federation, Slovenia and Switzerland), while only 3 countries (Denmark, Spain and the United Kingdom (Scotland and Wales)) reported A(H1N1)pdm09 as dominant. 4 countries (Estonia, France, Greece and Latvia) reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

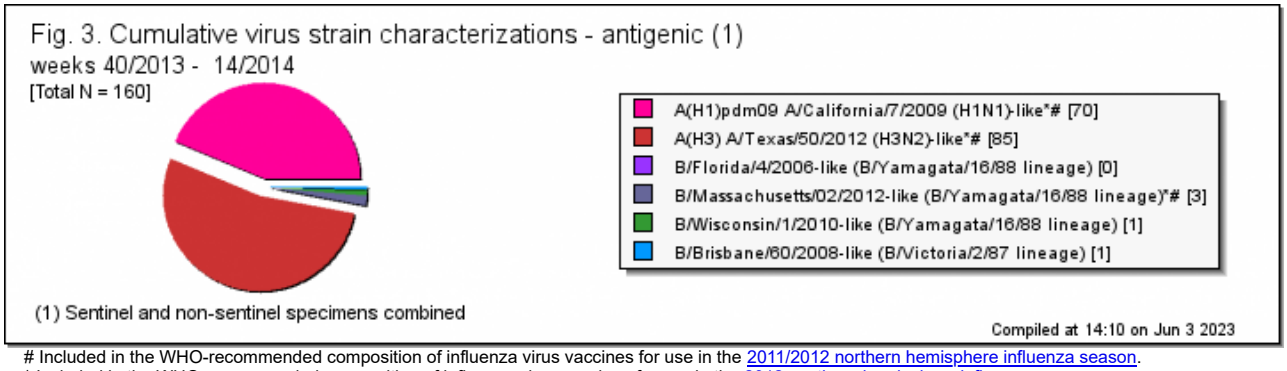
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 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 40/2013, 1906 influenza viruses characterized antigenically by 15 countries (the Czech Republic, Denmark, Finland, Germany, Ireland, Latvia, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, 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). 14 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden and Switzerland) have characterized 937 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 40/2013, 9 countries (Greece, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the Russian Federation and the United Kingdom (England)) have screened 1296 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 990 A(H1N1)pdm09 viruses tested, 975 showed susceptibility to both drugs; 15 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were identified. Of these 15 viruses, 14 were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors, and 1 virus from Switzerland was detected in a hospitalized immunocompromised patient treated with oseltamivir.

Of the 261 influenza A(H3N2) viruses tested, 260 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 45 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the winter of 2013/2014. All 135 influenza A(H1N1)pdm09 and 84 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 14/2014, most European countries reported low-intensity influenza activity (Map 2), but with 4 countries reporting increasing trends (Map 4). In terms of geographic spread, influenza activity was sporadic in the majority of countries (Map 3).

During week 14/2014, consultation rates continued to decline in most countries in the Region. Of the 20 countries with established national epidemic thresholds, the rates were below threshold levels in 19 countries. In a number of northern, western and central countries (the Czech Republic, Denmark, Germany, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Slovakia, Switzerland and the United Kingdom (England)), consultation rates have remained very low since the beginning of the season (mostly below the threshold) and much lower than last season.

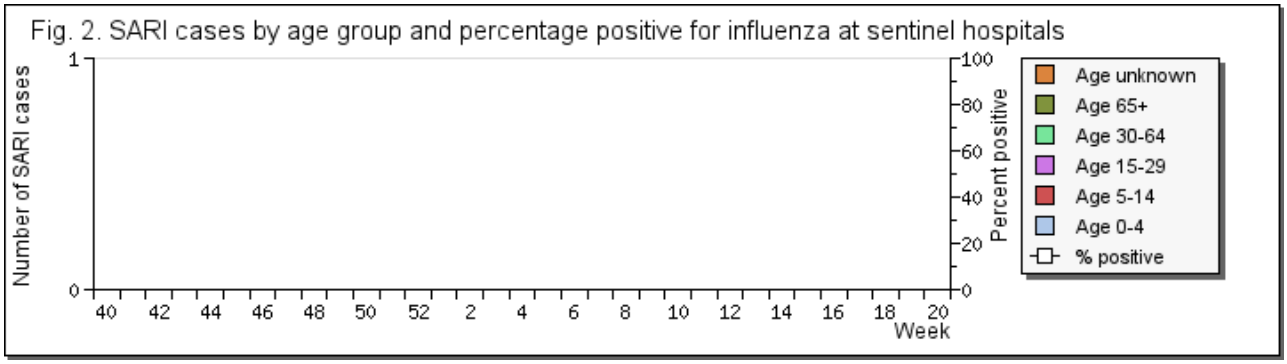
Click on the maps for more detailed information.

The percentage of positive sentinel ILI/ARI specimens decreased slowly between week 8 and week 13/2014, but increased in week 14/2014 (Fig. 5).

During week 14/2014, 178 (27%) of the 654 specimens collected from sentinel sources tested positive for influenza virus; the majority were influenza A(H3N2) (Fig. 6a), similar to immediately preceding weeks. The number of influenza B detections remained low but has increased slightly over recent weeks. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

For sentinel surveillance of severe disease due to influenza, in week 14/2014 the number of SARI hospitalizations continued to decrease, with most cases reported being in those aged 0–4 years. The percentage of SARI patients who tested positive for influenza also decreased (Fig. 7).



During week 14/2014, 25 (18%) of the 141 SARI samples collected through sentinel surveillance in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza. 23 were influenza A (1 A not subtyped, 10 A(H3N2), 12 A(H1N1)pdm09) and 2 were influenza B (Fig. 8a). Click here for a detailed overview in table format.

For week 14/2014, 5 countries (France, Ireland, Romania, Spain and the United Kingdom) reported 75 hospitalized laboratory-confirmed influenza cases. Influenza A virus was detected in 73 cases and influenza B in 2.

Since week 40/2013, 7 countries have reported 4524 hospitalized laboratory-confirmed influenza cases: 4471 (99%) were related to influenza virus type A infection and 53 (1%) to type B. Of 3047 subtyped influenza A viruses, 2269 (74%) were A(H1)pdm09 and 778 (26%) were A(H3). A higher proportion of A(H1)pdm09 viruses has been detected in patients in intensive care units (ICUs) (1308 out of 1527 subtyped: 86%) than in other hospitalized patients (961 out of 1520 subtyped: 63%).

5 countries reported a total of 384 fatal cases: 381 (99%) were associated with influenza virus type A infection and 3 (1%) with type B. Of 280 influenza A viruses subtyped from fatal cases, 227 (81%) were A(H1)pdm09 and 53 (19%) were A(H3).

The results from SARI surveillance at sentinel hospitals reported to the WHO Regional Office for Europe (EuroFlu) and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. This pattern is most likely due to the circulation of the different influenza virus subtypes in countries.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 14/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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.

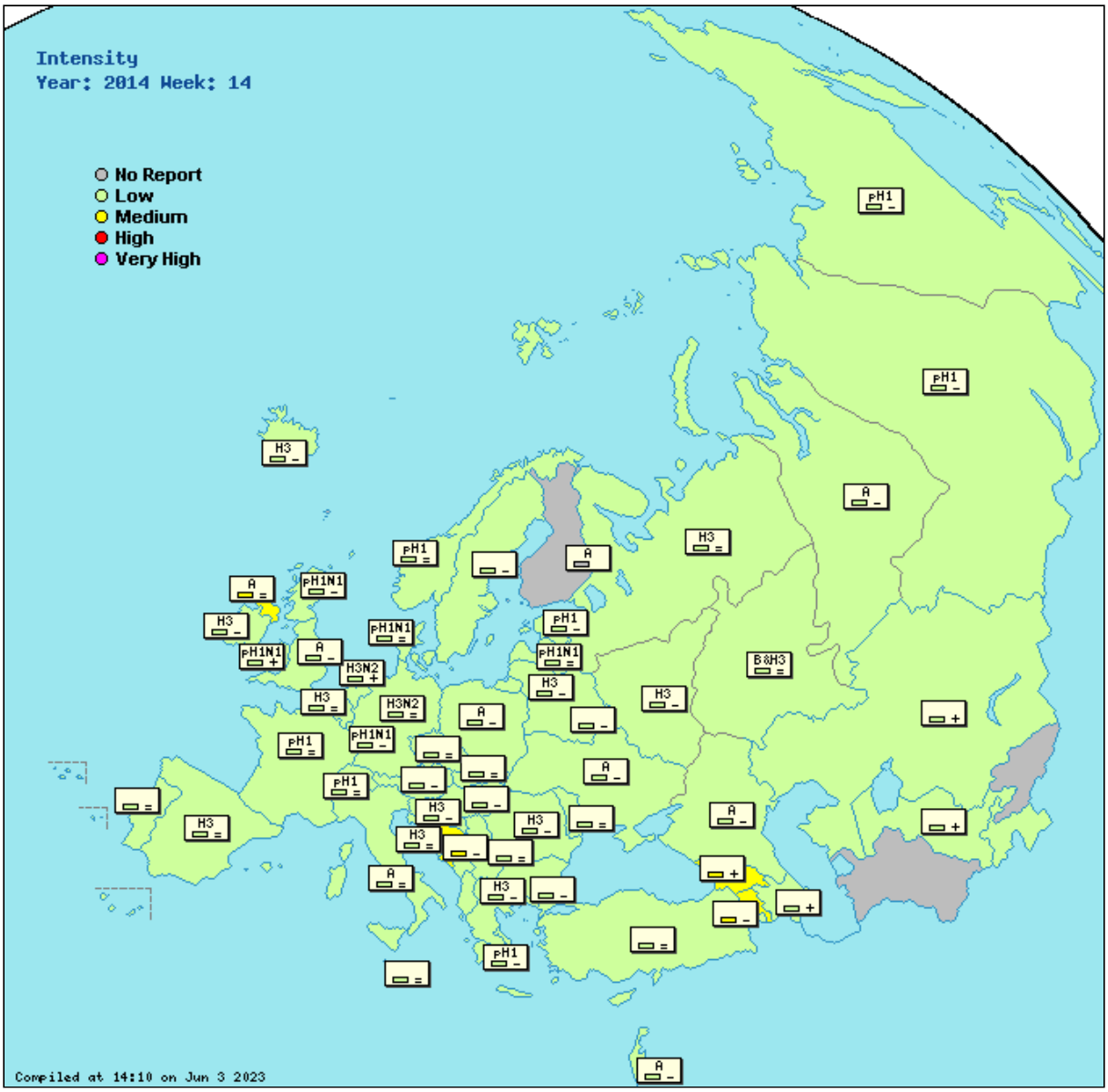
Map

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
In week 14 were tested 19 samples for influenza viruses: 1 was positive for RNA A(H3N2) and 1 sample 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
Albania	Low	None	Low	Stable					358.7 (graphs)	sari	Click here
Armenia	Medium	Sporadic	Moderate	Decreasing	0	-	None	3.0 * (graphs)	128.2 (graphs)	sari	Click here
Austria	Low	Regional	Low	Decreasing	14	42.9%	None	434.4 (graphs)	(graphs)		Click here
Azerbaijan	Low	Sporadic	Low	Increasing	55	30.9%	None	195.0 (graphs)	(graphs)		Click here
Belarus	Low	Sporadic	Low	Decreasing	24	12.5%	None	8.9 (graphs)	812.6 (graphs)	sari	Click here
Belgium	Low	Sporadic		Stable	8	75.0%	Type A, Subtype H3	64.8 (graphs)	1615.3 (graphs)	sari	Click here
Bosnia and Herzegovina	Medium	None	Moderate	Decreasing			None	22.9 (graphs)	101.5 (graphs)		Click here
Bulgaria	Low	None		Decreasing	0	-	None	(graphs)	481.4 (graphs)		Click here
Croatia	Low	Widespread		Stable				(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				1.4 * (graphs)	5.2 * (graphs)		Click here
Czech Republic	Low	Sporadic		Stable	10	10.0%	None	18.4 (graphs)	741.9 (graphs)		Click here
Denmark	Low	Sporadic		Stable	12	16.7%	Type A, Subtype pH1N1	22.7 (graphs)	(graphs)		Click here
England	Low	Regional		Decreasing	42	11.9%	Type A	1.7 (graphs)	213.4 (graphs)		Click here
Estonia	Low	Local		Decreasing	9	111.1%	Type A, Subtype pH1 and H3N2	12.9 (graphs)	308.6 (graphs)		Click here
Finland					6	16.7%	Type A	(graphs)			Click here
France	Low	Sporadic	Low	Stable	48	41.7%	Type A, Subtype pH1 and H3N2	(graphs)	1167.2 (graphs)		Click here
Georgia	Medium	Regional	Moderate	Increasing	9	11.1%	None	294.1 (graphs)	(graphs)	sari	Click here
Germany	Low	Regional		Stable	72	18.1%	Type A, Subtype H3N2	(graphs)	1092.4 (graphs)		Click here
Greece	Low	Regional		Decreasing	3	0%	Type A, Subtype pH1 and H3N2	113.7 (graphs)	(graphs)		Click here
Hungary	Low	Sporadic	Low	Decreasing	13	30.8%	None	53.4 (graphs)	(graphs)		Click here
Iceland	Low	Local	Low	Decreasing	0	-		8.4 (graphs)	(graphs)		Click here
Ireland	Low	Local	Low	Decreasing	17	64.7%	Type A, Subtype H3	16.2 (graphs)	(graphs)		Click here
Israel	Low	Local	Low	Decreasing				21.2 (graphs)			Click here
Italy	Low	None	Low	Stable	17	23.5%	Type A	146.4 (graphs)	(graphs)		Click here
Kazakhstan					11	18.2%	?? ????		(graphs)	sari	Click here
Kyrgyzstan					2	0%	None		(graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	0	-	Type A, Subtype pH1N1 and H3	0.0 (graphs)	883.7 (graphs)		Click here
Lithuania	Low	Local	Low	Decreasing	13	69.2%	Type A, Subtype H3	15.5 (graphs)	649.5 (graphs)		Click here
Luxembourg	Low	Sporadic			8	37.5%		0.3 * (graphs)	22.7 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Regional	Low	Decreasing				14.5 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable				1.5 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	Sporadic	Low	Decreasing				56.0 (graphs)	(graphs)		Click here
Netherlands	Low	Regional		Increasing	12	41.7%	Type A, Subtype H3N2	49.9 (graphs)	(graphs)		Click here
Northern Ireland	Medium	Sporadic	Moderate	Stable	4	25.0%	Type A	32.6 (graphs)	418.9 (graphs)		Click here
Norway					0	-		(graphs)			Click here
Poland	Low	Local	Low	Decreasing	17	29.4%	Type A	306.9 (graphs)	(graphs)		Click here
Portugal	Low	Sporadic		Stable	2	50.0%	None	12.7 (graphs)	(graphs)		Click here
Republic of Moldova	Medium	Regional	Low	Stable	12	8.3%	None	0.5 (graphs)	197.7 (graphs)	sari	Click here
Romania	Low	Sporadic	Low	Decreasing	5	20.0%	Type A, Subtype H3	2.1 (graphs)	670.2 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Decreasing	53	28.3%	Type A, Subtype H3	0.8 (graphs)	628.2 (graphs)	sari	Click here
Scotland	Low	Sporadic	Moderate	Decreasing	15	13.3%	Type A, Subtype pH1N1	10.4 (graphs)	399.5 (graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	5	40.0%	None	36.4 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	3	33.3%	None	(graphs)	1500.8 (graphs)	sari	Click here
Slovenia	Low	Local		Decreasing	9	55.6%	Type A, Subtype H3	1.2 (graphs)	919.8 (graphs)		Click here
Spain	Low	Sporadic		Stable	33	18.2%	Type A, Subtype pH1N1	13.8 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Decreasing	6	66.7%	None	2.4 (graphs)	(graphs)		Click here
Switzerland	Low	Sporadic		Stable	12	25.0%	Type A, Subtype H3	26.1 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	54	11.1%	Type B	144.2 (graphs)	(graphs)		Click here
Ukraine	Low	Local	Low	Decreasing	8	12.5%	Type A	3.0 * (graphs)	458.5 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Increasing	5	20.0%	None	(graphs)	22.6 (graphs)		Click here
Wales	Low	Sporadic	Low	Increasing	6	16.7%	Type A, Subtype pH1N1	5.9 (graphs)	(graphs)		Click here
Europe					654	27.4%					Click here

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.

Sporadic influenza activity in Europe

Summary, week 15/2014

Influenza activity has returned to preseason level in most countries across the WHO European Region, while the percentages of influenza-like illness (ILI) and/or acute respiratory infection (ARI) sentinel specimens testing positive for influenza continued to decrease. Influenza A(H1N1)pdm09 and A(H3N2) viruses continue to co-circulate in the Region, with very few influenza B detections having been reported throughout the season. Countries with hospital surveillance for severe acute respiratory infection (SARI) continue to report SARI hospitalizations, but the numbers are declining overall, as are the proportion of samples testing positive for influenza. The results of influenza activity for week 15/2014 should be interpreted with caution, since reporting by some countries was incomplete due to the holidays.

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

During week 15/2014, both the total number of specimens tested for influenza and the positivity rate decreased, with a slight increase in the number of influenza B detections in comparison with previous weeks. 7772 specimens from sentinel and non-sentinel sources were tested for influenza, 1084 (14%) of which were positive: 939 (87%) for influenza A and 145 (13%) for influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013. Of the 541 influenza A viruses that were subtyped during week 15/2014, 217(40%) were A(H1N1)pdm09 and 324 (60%) A(H3N2) (Fig. 2a).

Since week 40/2013, sentinel and non-sentinel sources have yielded 43385 influenza detections: 41118 (95%) were influenza A and 2267 (5%) influenza B viruses (Fig. 2b). Of the 28626 influenza A viruses that have been subtyped, 16417 (57%) were A(H1N1)pdm09 and 12209 (43%) were A(H3N2).

In addition, the lineage of 176 influenza B viruses has been determined: 162 (92%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 14 (8%) to the B/Victoria lineage.

With the decline of influenza activity in the Region, fewer countries than in previous weeks reported on dominant influenza type. Of the 29 countries supplying such data, only 12 reported influenza A as dominant in week 15/2014. Of countries providing data on dominant subtypes, influenza A(H3N2) was reported as dominant in 5 countries (Croatia, Germany, Ireland, Romania and the Russian Federation), while only Belarus and the United Kingdom (Wales) reported A(H1N1)pdm09 as dominant. France and Switzerland reported A(H1N1)pdm09 and A(H3N2) as co-dominant.

Virus strain characterizations

Circulating 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.

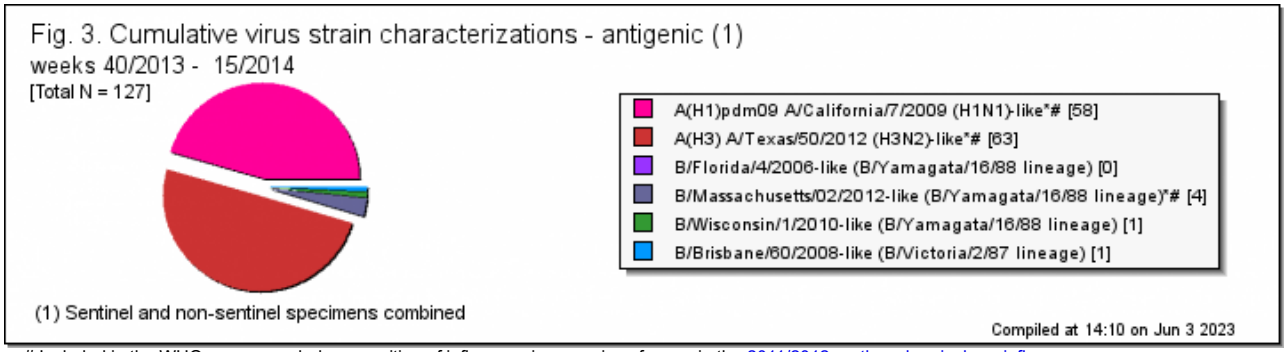
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 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 40/2013, 1941 influenza viruses characterized antigenically by 15 countries (the Czech Republic, Denmark, Finland, Germany, Ireland, Latvia, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, 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). 14 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden and Switzerland) have characterized 949 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 40/2013, 12 countries (Germany, Greece, Italy, the Netherlands, Norway, Portugal, Romania, Spain, Sweden, Switzerland, the Russian Federation and the United Kingdom (England)) have screened 1469 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 1019 A(H1N1)pdm09 viruses tested, 1003 showed susceptibility to both drugs; 16 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were identified. Of these 16 viruses, 15 were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors, and 1 virus from Switzerland was detected in a hospitalized immunocompromised patient treated with oseltamivir.

Of the 307 influenza A(H3N2) viruses tested, 306 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 43 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the season of 2013/2014. All 135 influenza A(H1N1)pdm09 and 96 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

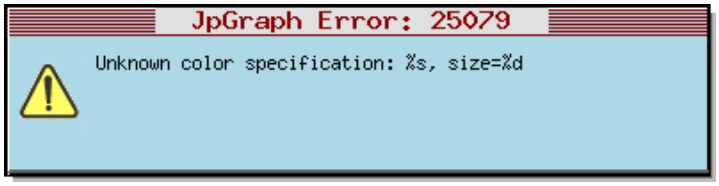
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 15/2014, most European countries reported low-intensity influenza activity (Map 2), with only 3 countries reporting increasing trends (Map 4). As for geographic spread, influenza activity remained sporadic in most countries (Map 3).

During week 15/2014, consultation rates continued to decline in most countries in the Region. Of the 22 countries with established national epidemic thresholds, the rates were had returned to or below the threshold level in almost all. In a number of northern, western and central countries (the Czech Republic, Denmark, Germany, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Slovakia, Switzerland and the United Kingdom (England)), consultation rates have remained very low since the beginning of the season (mostly below the threshold) and much lower than last season.

Click on the maps for more detailed information.

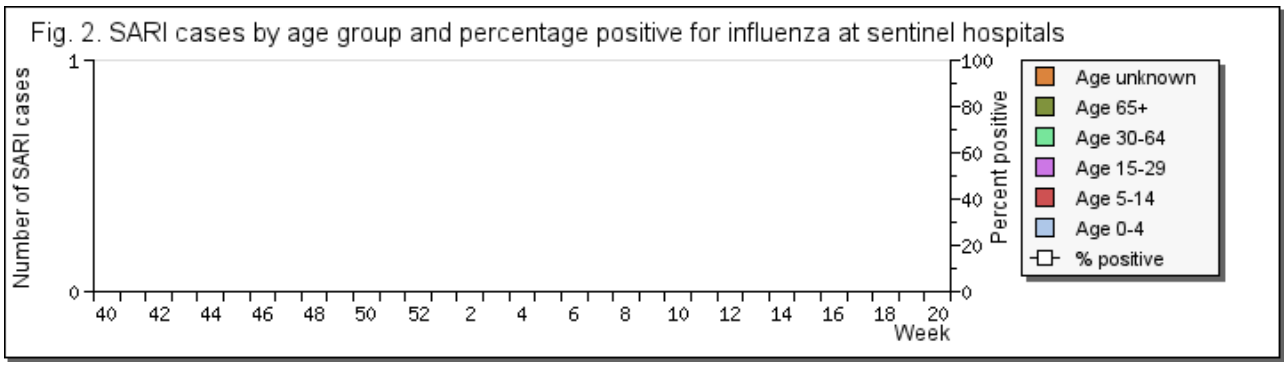
The percentage of positive sentinel ILI/ARI specimens continued to decrease. The percentage of positive specimens shows a very similar profile to that of the previous season, but at a significantly lower level throughout (Fig. 5).



During week 15/2014, 68 (14%) of the 489 specimens collected from sentinel sources tested positive for influenza virus; the majority were influenza A(H3N2) (Fig. 6a), similar to immediately preceding weeks. The number of influenza B detections remained low but has increased slightly over recent weeks. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

For sentinel surveillance of severe disease due to influenza, in week 15/2014 the number of SARI hospitalizations continued to decrease, with most cases reported being in those aged 0–4 years. The percentage of SARI patients who tested positive for influenza also decreased (Fig. 7).



During week 15/2014, 12(11%) of the 112 SARI samples collected through sentinel surveillance in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza. the majority being influenza A(H3N2) in line with the results of sentinel ILI/ARI surveillance (Fig. 8a). Click here for a detailed overview in table format.

For week 15/2014, 4 countries (France, Ireland, Spain and Sweden) reported 40 hospitalized laboratory-confirmed influenza cases. Influenza A virus was detected in 39 cases and influenza B in 1.

Since week 40/2013, 7 countries have reported 4582 hospitalized laboratory-confirmed influenza cases: 4527 (99%) were related to influenza virus type A infection and 55 (1%) to type B. Of 3100 subtyped influenza A viruses, 2299 (74%) were A(H1N1)pdm09 and 801 (26%) were A(H3N2). A higher proportion of A(H1N1)pdm09 viruses has been detected in patients in intensive care units (ICUs) (1326 out of 1550 subtyped: 86%) than in other hospitalized patients (973 out of 1550 subtyped: 63%).

5 countries reported a total of 391 fatal case: 388 (99%) were associated with influenza virus type A infection and 3 (1%) with type B. Of 285 influenza A viruses subtyped from fatal cases, 230 (81%) were A(H1N1)pdm09 and 55 (19%) were A(H3N2).

The results from SARI surveillance at sentinel hospitals reported to the WHO Regional Office for Europe (EuroFlu) and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. This pattern is most likely due to the circulation of the different influenza virus subtypes in countries.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 14/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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.

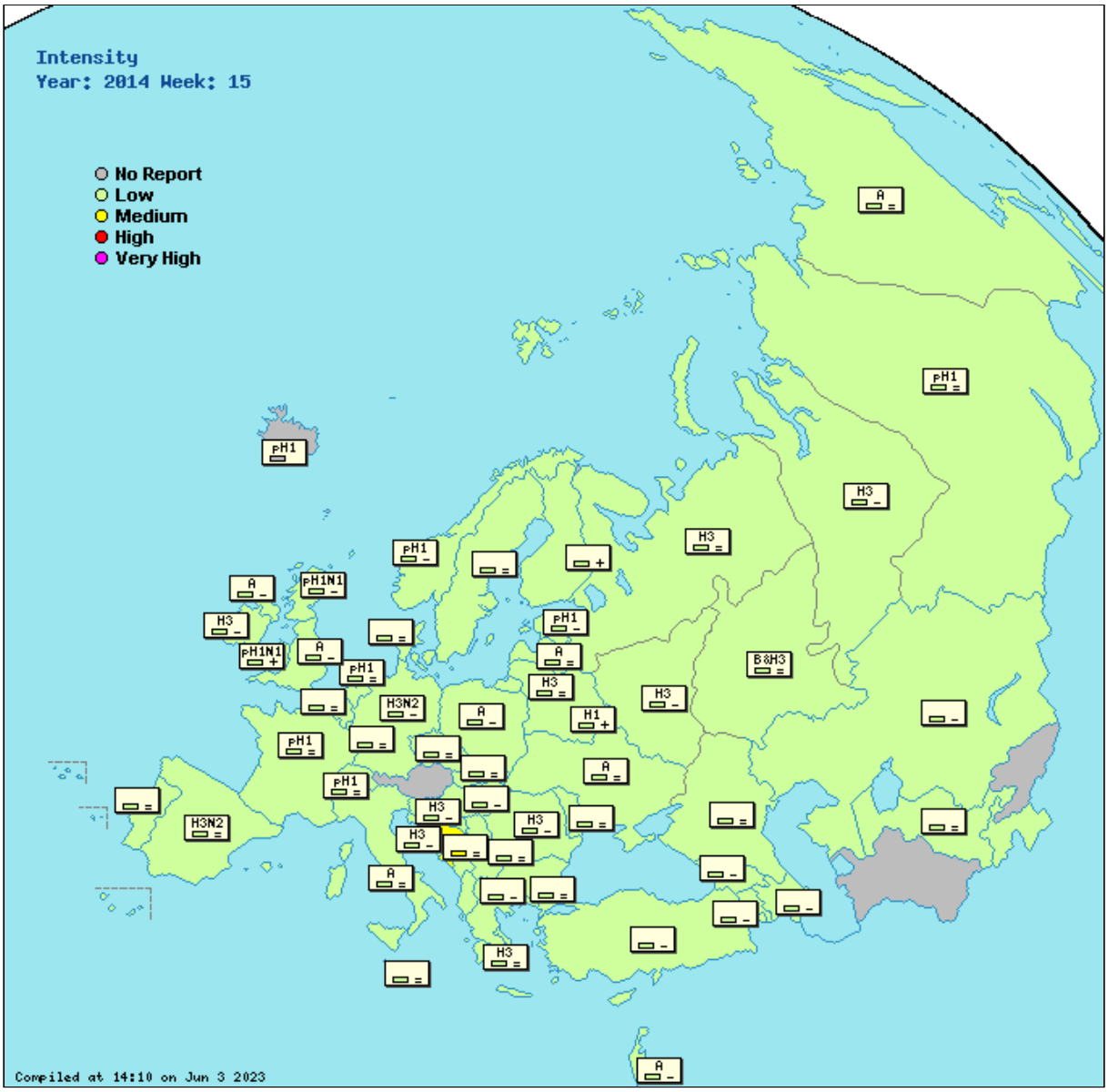
Map

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
In week 15 were tested 13 samples for influenza viruses: 2 were positive for RNA A(H3N2).

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					371.5 (graphs)	sari	Click here

Armenia	Low	Sporadic	Low	Decreasing	2	0%	None	5.6 * (graphs)	124.0 (graphs)	sari	Click here
Azerbaijan	Low	None	Low	Decreasing	1	0%	None	186.9 (graphs)	(graphs)		Click here
Belarus	Low	Sporadic	Low	Increasing	33	21.2%	Type A, Subtype H1	8.0 (graphs)	843.5 (graphs)	sari	Click here
Belgium	Low	Sporadic		Stable	4	25.0%	None	29.6 (graphs)	1352.3 (graphs)	sari	Click here
Bosnia and Herzegovina	Medium	None	Low	Stable			None	33.5 (graphs)	104.6 (graphs)		Click here
Bulgaria	Low	None		Stable	0	-	None	(graphs)	532.1 (graphs)		Click here
Croatia	Low	Widespread		Decreasing	95	0%	Type A, Subtype H3	(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				1.2 * (graphs)	6.2 * (graphs)		Click here
Czech Republic	Low	Sporadic		Stable				16.9 (graphs)	740.9 (graphs)		Click here
Denmark	Low	Sporadic		Stable	5	0%	None	18.3 (graphs)	(graphs)		Click here
Finland	Low	Sporadic		Increasing	18	0%	None	(graphs)			Click here
France	Low	Sporadic	Low	Stable	47	34.0%	Type A, Subtype pH1 and H3N2	(graphs)	1141.6 (graphs)		Click here
Georgia					6	0%	None	263.4 (graphs)	(graphs)	sari	Click here
Germany	Low	Local		Decreasing	58	12.1%	Type A, Subtype H3N2	(graphs)	976.2 (graphs)		Click here
Greece	Low	Regional		Stable				94.7 (graphs)	(graphs)		Click here
Hungary	Low	Sporadic	Low	Decreasing				38.8 (graphs)	(graphs)		Click here
Iceland					0	-		(graphs)			Click here
Ireland	Low	Local	Low	Decreasing	10	10.0%	Type A, Subtype H3	8.9 (graphs)	(graphs)		Click here
Israel					20	15.0%	Type A	(graphs)			Click here
Italy	Low	None	Low	Stable	13	0%	Type A	113.6 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Decreasing	17	5.9%	None	77.0 (graphs)	23.0 (graphs)	sari	Click here
Kyrgyzstan					0	-	None	45.8 (graphs)	4.4 (graphs)	sari	Click here
Latvia	Low	Sporadic		Stable				8.2 (graphs)	808.8 (graphs)		Click here
Lithuania	Low	Sporadic	Low	Stable				14.4 (graphs)	666.2 (graphs)		Click here
Luxembourg	Low	Sporadic			4	25.0%		0 * (graphs)	22.8 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Regional	Low	Decreasing			None	10.9 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable				0.3 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	Sporadic	Low	Decreasing				39.2 (graphs)	(graphs)		Click here
Netherlands	Low	Regional		Stable	8	25.0%	None	52.0 (graphs)	(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Decreasing	5	0%	Type A	19.3 (graphs)	406.6 (graphs)		Click here
Norway					5	60.0%		(graphs)			Click here
Poland	Low	Sporadic	Low	Decreasing	8	12.5%	Type A	236.9 (graphs)	(graphs)		Click here
Portugal	Low	Sporadic		Stable				0.0 (graphs)	(graphs)		Click here
Republic of Moldova	Medium	Regional	Low	Stable	8	12.5%	None	0.5 (graphs)	213.4 (graphs)	sari	Click here
Romania	Low	Sporadic	Low	Decreasing	3	66.7%	Type A, Subtype H3	1.2 (graphs)	593.8 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Stable	53	11.3%	Type A, Subtype H3	0.7 (graphs)	596.8 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Decreasing	16	0%	Type A	7.5 (graphs)	348.5 (graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	2	50.0%	None	36.3 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	5	60.0%	None	146.3 (graphs)	1504.3 (graphs)	sari	Click here
Spain	Low	Sporadic		Stable	25	12.0%	None	9.2 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Stable				3.1 (graphs)	(graphs)		Click here
Switzerland	Low	Sporadic		Stable	8	75.0%	Type A, Subtype pH1 and H3	12.9 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Decreasing				119.3 (graphs)	(graphs)		Click here
Ukraine	Low	Local	Low	Stable	4	25.0%	Type A	2.5 * (graphs)	452.8 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Stable	2	0%	None	(graphs)	0.0 (graphs)		Click here
Wales	Low	Sporadic	Low	Increasing	4	50.0%	Type A, Subtype pH1N1	6.4 (graphs)	(graphs)		Click here
Europe					489	13.9%					Click here

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.

Influenza activity in Europe returns to preseason levels

Summary, week 16/2014

Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) are now low throughout the WHO European Region, with the majority of countries reporting sporadic influenza activity. The proportions of sentinel ILI, ARI and severe acute respiratory infection (SARI) specimens testing positive for influenza have declined in recent weeks. Influenza A(H3N2) remains the dominant virus in circulation, followed by A(H1N1)pdm09, with numbers of influenza B viruses remaining low. The results of influenza activity for week 16/2014 should be interpreted with caution, since the data for some countries over the holiday period might be incomplete.

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.

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Virological surveillance for influenza

During week 16/2014, both the total number of specimens tested for influenza and the positivity rate decreased, with a slight increase in the number of influenza B detections, in comparison with recent weeks. 5486 specimens from sentinel and non-sentinel sources were tested for influenza, 730 (13%) of which were positive: 590 (81%) for influenza A and 140 (19%) for influenza B (Fig. 1 and 2). The apparent rise in the percentage of influenza B viruses is due to falling numbers of influenza A viruses detected; the actual numbers of influenza B detections have been low but stable for a number of weeks.

Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013. Of the 370 influenza A viruses that were subtyped during week 16/2014, 124(34%) were A(H1N1)pdm09 and 246 (66%) A(H3N2) (Fig. 2a).

Since week 40/2013, sentinel and non-sentinel sources have yielded 44 539 influenza detections: 42 068 (94%) were influenza A and 2471 (6%) influenza B viruses (Fig. 2b). Of the 29 170 influenza A viruses that have been subtyped, 16 646 (57%) were A(H1N1)pdm09 and 12 524 (43%) were A(H3N2).

In addition, the lineage of 217 influenza B viruses has been determined: 196 (90%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 21 (10%) to the B/Victoria lineage.

With the decline of influenza activity in the Region, the number of influenza detections for week16/2014 was rather low, so only 7 WHO Member States reported on a dominant virus. Italy, Norway, Poland and the United Kingdom (Northern Ireland and Scotland)) reported influenza A as dominant; Lithuania, influenza A (subtype H3N2); and Turkey, influenza B. Switzerland reported co-dominance of influenza A, subtype H3N2 and subtype A(H1N1)pdm09, as shown in Map 1.

Virus strain characterizations

Circulating 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.

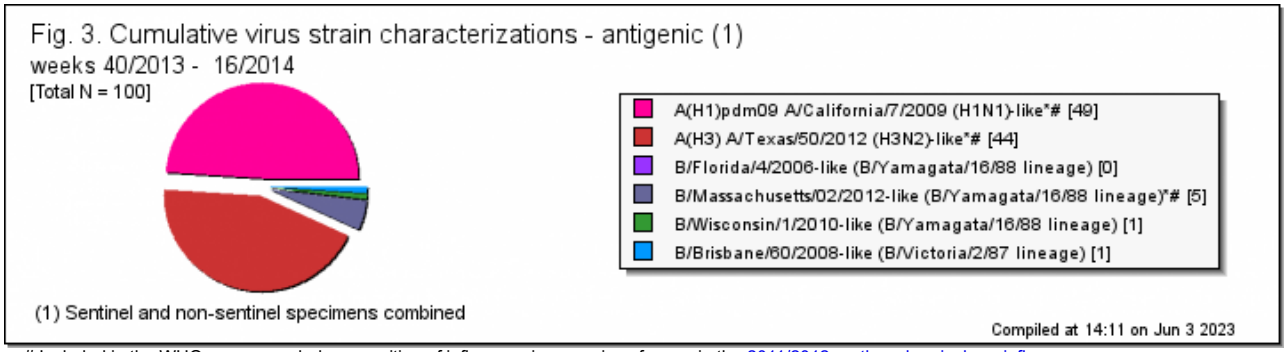
For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 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 40/2013, 2008 influenza viruses characterized antigenically by 15 countries (the Czech Republic, Denmark, Finland, Germany, Ireland, Latvia, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, 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). 14 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden and Switzerland) have characterized 985 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 40/2013, 12 countries (Germany, Greece, Italy, the Netherlands, Norway, Portugal, Romania, Spain, Sweden, Switzerland, the Russian Federation and the United Kingdom (England)) have screened 1469 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 1019 A(H1N1)pdm09 viruses tested, 1003 showed susceptibility to both drugs; 16 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were identified. Of these 16 viruses, 15 were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors, and 1 virus from Switzerland was detected in a hospitalized immunocompromised patient treated with oseltamivir.

Of the 307 influenza A(H3N2) viruses tested, 306 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 43 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the season of 2013/2014. All 135 influenza A(H1N1)pdm09 and 96 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

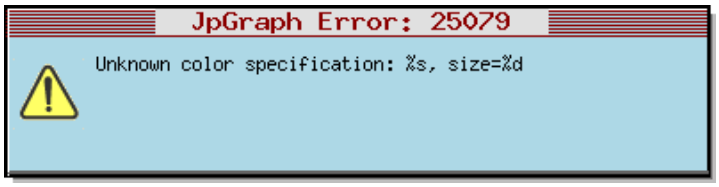
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 16/2014, most European countries reported low-intensity influenza activity (Map 2), with only 2 countries reporting increasing trends (Map 4). As for geographic spread, influenza activity remained sporadic in most countries (Map 3).

During week 16/2014, consultation rates continued to decline in most countries in the Region. Of the 22 countries with established national epidemic thresholds, the rates were had returned to or below the threshold level in almost all. In a number of northern, western and central countries (the Czech Republic, Denmark, Germany, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Slovakia, Switzerland and the United Kingdom (England)), consultation rates have remained very low since the beginning of the season (mostly below the threshold) and much lower than last season.

Click on the maps for more detailed information.

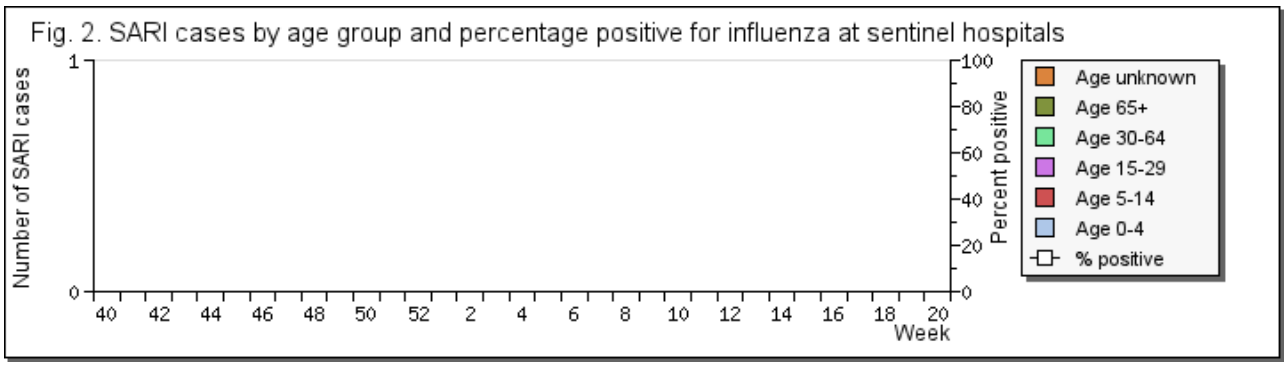
The percentage of positive sentinel ILI/ARI specimens continued decreasing. The percentage of positive specimens shows a very similar profile to that of the previous season, but at a significantly lower level throughout (Fig. 5).



During week 16/2014, 53 (16%) of the 341 specimens collected from sentinel sources tested positive for influenza virus; the majority were influenza A(H3N2) (Fig. 6a), The number of influenza B detections remained low but has increased slightly over recent weeks. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

In week 16/2014 the number of SARI hospitalizations increased slightly, with most cases reported in those aged 0–4 years. The percentage of SARI patients who tested positive for influenza also increased (Fig. 7).



During week 16/2014, 22 (16%) of the 129 SARI samples collected from sentinel surveillance in Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, and Ukraine tested positive for influenza A. Most were A(H3N2), in line with the results of outpatient surveillance (Fig. 8a). Click here for a detailed overview in table format.

For week 16/2014, 4 countries (Ireland, Romania, Spain and the United Kingdom) reported 23 hospitalized laboratory-confirmed influenza cases. Influenza A virus was detected in all 23.

Since week 40/2013, 8 countries have reported 4658 hospitalized, laboratory-confirmed influenza cases: 4603 (99%) were related to influenza virus type A infection and 55 (1%) to type B virus infection. Of 3155 subtyped influenza A viruses, 2334 (74%) were A(H1N1)pdm09 and 821 (26%) were A(H3N2). A higher proportion of A(H1N1)pdm09 viruses has been detected in patients in intensive care units (1357 out of 1587 subtyped: 86%) than those in acute hospital wards (977 out of 1568 subtyped: 62%).

5 countries have reported a total of 394 fatal cases in the course of the season: 391 (99%) were associated with influenza virus type A infection and 3 (1%) with type B. Of 285 influenza A viruses subtyped from fatal cases, 230 (81%) were A(H1N1)pdm09 and 55 (19%) were A(H3N2).

The results from SARI surveillance at sentinel hospitals reported to the WHO Regional Office for Europe (EuroFlu) and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. This pattern is most likely due to the circulation of the different influenza virus subtypes in countries.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 16/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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.

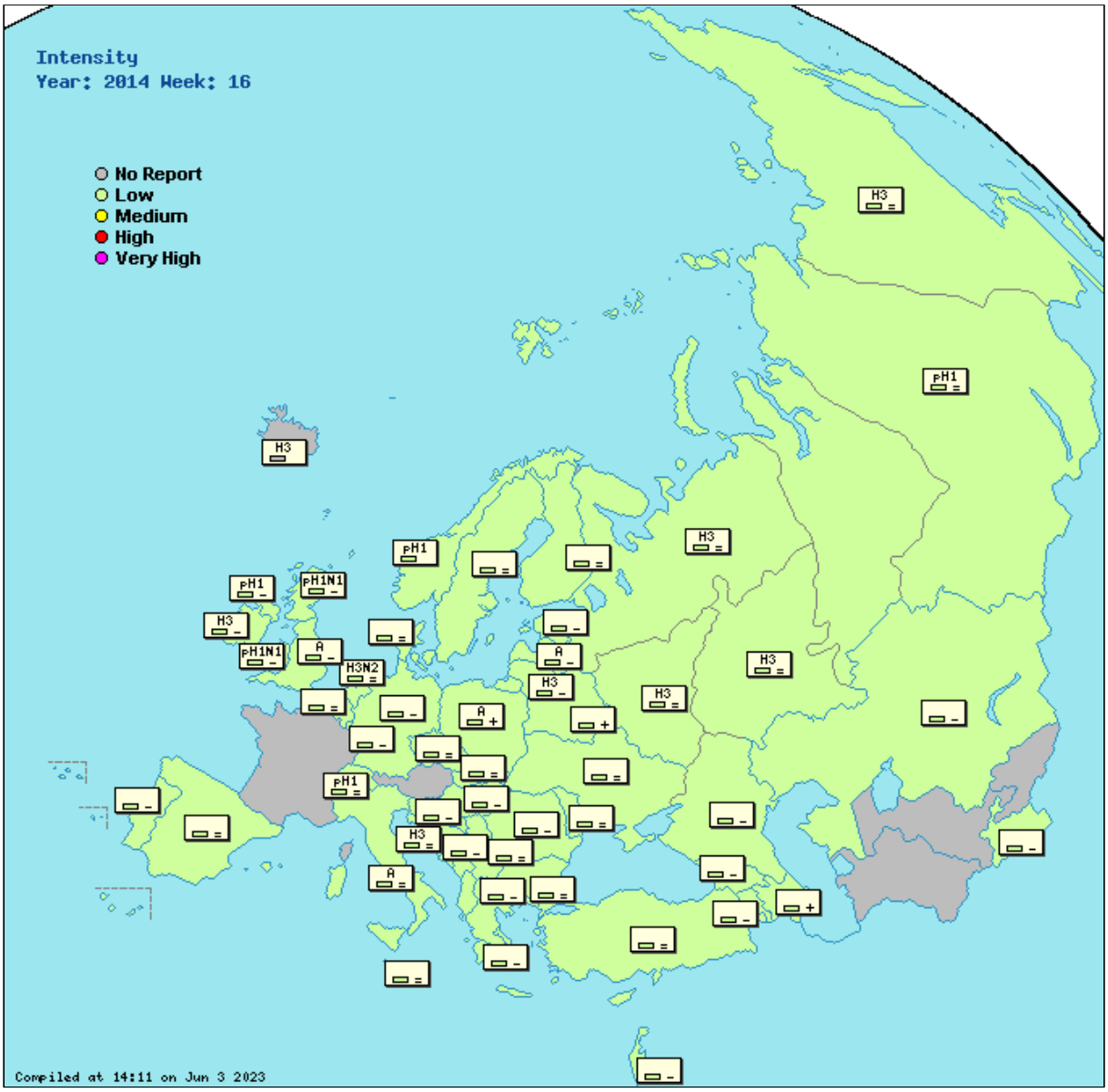
Map

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
In week 15 were tested 7 samples for influenza viruses: 1 was positive for RNA A(H3N2).
Scotland
Please note that the GP consultation rates for ILI and ARI were adjusted to account for the reduced number of working days in week 16. The data for this week must be interpreted with caution.

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	1	0%	None	6.8 * (graphs)	113.6 (graphs)	sari	Click here
Azerbaijan	Low	Sporadic	Low	Decreasing	16	31.3%	None	0.0 (graphs)	(graphs)		Click here
Belarus	Low	Sporadic	Low	Increasing	35	14.3%	None	8.4 (graphs)	845.5 (graphs)	sari	Click here
Belgium	Low	Sporadic		Stable	7	42.9%	None	24.1 (graphs)	1235.1 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Decreasing			None	8.6 (graphs)	62.5 (graphs)		Click here
Bulgaria	Low	None		Stable	0	-	None	(graphs)	470.6 (graphs)		Click here
Croatia	Low	Sporadic		Stable				(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				0.6 * (graphs)	6.7 * (graphs)		Click here
Czech Republic	Low	Sporadic		Stable	8	0%	None	16.4 (graphs)	692.5 (graphs)		Click here
Denmark	Low	Sporadic		Stable	0	-	None	3.2 (graphs)	(graphs)		Click here
England	Low	Local		Decreasing	15	20.0%	Type A	0.7 (graphs)	168.4 (graphs)		Click here
Estonia	Low	Local		Decreasing	4	75.0%	None	10.4 (graphs)	230.3 (graphs)		Click here
Finland	Low	Local		Stable	14	0%	None	(graphs)			Click here
Georgia	Low	Local	Low	Decreasing	7	0%	None	210.9 (graphs)	(graphs)	sari	Click here
Germany	Low	Local		Decreasing	27	14.8%	None	(graphs)	706.4 (graphs)		Click here
Greece	Low	Sporadic		Decreasing	1	0%	None	63.3 (graphs)	(graphs)		Click here
Hungary	Low	Sporadic	Low	Decreasing	2	0%	None	24.8 (graphs)	(graphs)		Click here
Iceland					0	-		(graphs)			Click here
Ireland	Low	Sporadic	Low	Decreasing	5	40.0%	None	4.9 (graphs)	(graphs)		Click here
Israel	Low	Sporadic	Low	Decreasing			None	4.2 (graphs)			Click here
Italy	Low	None	Low	Stable	5	20.0%	Type A	81.1 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Stable	11	9.1%	None	75.3 (graphs)	16.9 (graphs)	sari	Click here
Kyrgyzstan					1	0%	None	45.2 (graphs)	27.2 (graphs)	sari	Click here
Latvia	Low	Sporadic		Decreasing				1.8 (graphs)	641.9 (graphs)		Click here
Lithuania	Low	Sporadic	Low	Decreasing	12	58.3%	Type A, Subtype H3	8.2 (graphs)	485.6 (graphs)		Click here
Luxembourg	Low	None			1	0%	None	0 * (graphs)	14.8 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Local	Low	Decreasing			None	5.1 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable				0 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	Sporadic	Low	Decreasing				19.7 (graphs)	(graphs)		Click here
Netherlands	Low	Regional		Stable	13	23.1%	None	54.0 (graphs)	(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Decreasing	4	0%	Type A	14.8 (graphs)	329.8 (graphs)		Click here
Norway	Low	Local			0	-	Type A	18.6 (graphs)	(graphs)		Click here
Poland	Low	Sporadic	Low	Increasing	5	20.0%	Type A	265.8 (graphs)	(graphs)		Click here
Portugal	Low	None		Decreasing	0	-	None	6.3 (graphs)	(graphs)		Click here
Republic of Moldova	Medium	Local	Low	Stable	2	0%	None	0.3 (graphs)	210.8 (graphs)	sari	Click here
Romania	Low	None	Low	Decreasing	0	-	None	0.9 (graphs)	466.5 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Stable	42	9.5%	Type A, Subtype H3	0.6 (graphs)	602.1 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Decreasing	12	8.3%	Type A	5.2 (graphs)	329.4 (graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	0	-	None	29.9 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	3	66.7%	None	107.8 (graphs)	1286.2 (graphs)	sari	Click here
Slovenia	Low	Sporadic		Decreasing	6	0%	None	0.0 (graphs)	810.5 (graphs)		Click here
Spain	Low	Sporadic		Stable	11	18.2%	None	4.6 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Stable	5	0%	None	5.2 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable	1	0%	Type A, Subtype pH1 and H3	17.5 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	55	10.9%	Type B	121.6 (graphs)	(graphs)		Click here
Ukraine	Low	Local	Low	Stable	5	0%	None	2.3 * (graphs)	456.9 (graphs)	sari	Click here
Uzbekistan					4	0%	None		(graphs)		Click here
Wales	Low	Sporadic	Low	Decreasing	1	0%		2.1 (graphs)	(graphs)		Click here
Europe					341	15.5%					Click here

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.

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.

Sporadic influenza activity in Europe

Summary, week 17/2014

Influenza activity has returned to preseason levels in most countries across the WHO European Region, and the percentages of influenza-like illness (ILI), acute respiratory infection (ARI) and severe acute respiratory infection (SARI) sentinel specimens testing positive for influenza continue to decrease. Influenza A(H3N2) is the dominant virus in circulation, followed by A(H1N1)pdm09 and influenza B viruses. Countries with hospital-based sentinel surveillance continue to report SARI hospitalizations, although numbers are declining overall.

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

During week 17/2014, the influenza positivity rate among specimens tested for influenza continued decreasing. 5660 specimens from sentinel and non-sentinel sources were tested for influenza, 695 (12%) of which were positive: 545 (78%) for influenza A and 150 (22%) for influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013 (Fig. 2b). Of the 303 influenza A viruses that were subtyped during week 17/2014, 93 (31%) were A(H1N1)pdm09 and 210 (69%) A(H3N2).

Since week 40/2013, sentinel and non-sentinel sources have yielded 45 357 influenza detections: 42 712 (94%) were influenza A and 2645 (6%) influenza B viruses (Fig. 2b). Of the 29 661 influenza A viruses that have been subtyped, 16 811 (57%) were A(H1N1)pdm09 and 12 850 (43%) were A(H3N2).

In addition, the lineage of 217 influenza B viruses has been determined: 196 (90%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 21 (10%) to the B/Victoria lineage.

With the decline of influenza activity in the Region, the number of influenza detections for week17/2014 was rather low, so only 8 Member States reported a dominant virus (Map 1). Finland, Latvia and the United Kingdom (England, Northern Ireland and Scotland) reported influenza A as dominant; Croatia, Greece and the Russian Federation, influenza A (subtype H3N2); and Turkey, influenza B. Norway reported dominance of A(H1N1)pdm09.

Virus strain characterizations

Circulating 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.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

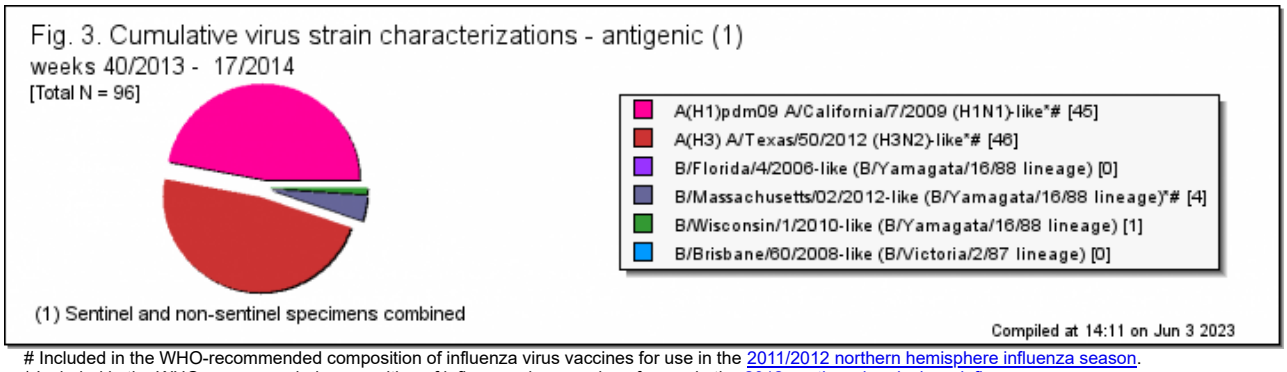
The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 season. (see the WHO headquarters web site).

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 40/2013, 2034 influenza viruses characterized antigenically by 15 countries (the Czech Republic, Denmark, Finland, Germany, Ireland, Latvia, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, 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). 14 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden and Switzerland) have characterized 1022 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 40/2013, 12 countries (Germany, Greece, Italy, the Netherlands, Norway, Portugal, Romania, Spain, Sweden, Switzerland, the Russian Federation and the United Kingdom (England)) have screened 1458 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 1047 A(H1N1)pdm09 viruses tested, 1031 showed susceptibility to both drugs; 16 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were identified. Of these 16 viruses, 15 were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors, and 1 virus from Switzerland was detected in a hospitalized immunocompromised patient treated with oseltamivir.

Of the 354 influenza A(H3N2) viruses tested, 353 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 57 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the season of 2013/2014. All 143 influenza A(H1N1)pdm09 and 107influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

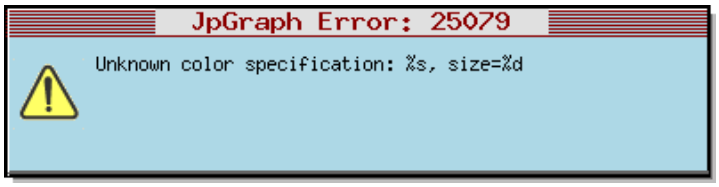
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 17/2014, all reporting countries reported low-intensity influenza activity (Map 2). As for geographic spread, most countries reported either no or sporadic activity (Map 3).

During week 17/2014, consultation rates were at preseason levels in most countries in the Region. Of the 22 countries with established national thresholds, the rates had returned to or were below the threshold level in almost all.

Click on the maps for more detailed information.

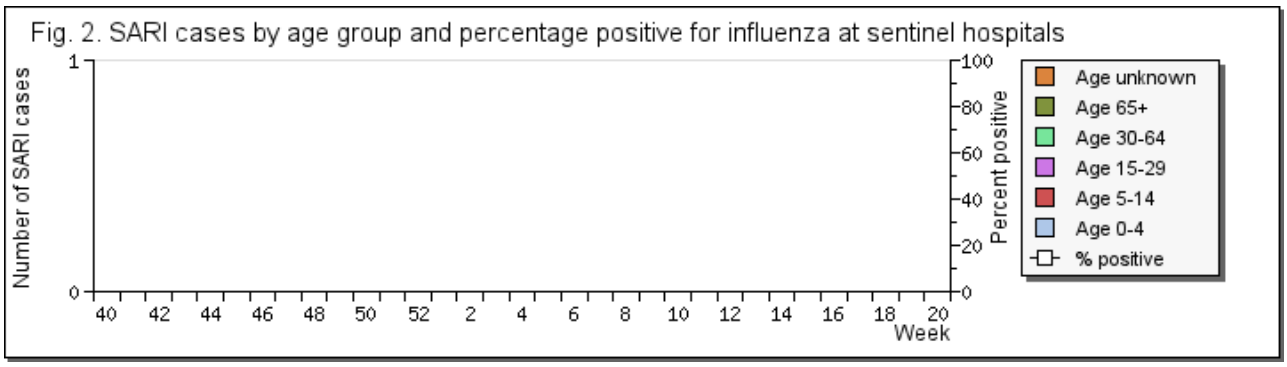
The percentage of positive sentinel ILI/ARI specimens continued to decrease. It shows a very similar profile to that of the previous season, but at a significantly lower level throughout (Fig. 5).



During week 17/2014, only 26 (9%) of the 283 specimens collected from sentinel sources tested positive for influenza virus; most, similarly to previous weeks, were influenza A(H3N2) (Fig. 6a). The number of influenza B detections remained low. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

As of week 17/2014 the number of SARI hospitalizations had been stable for several weeks, with most cases reported in those aged 0–4 years. The percentage of SARI patients testing positive for influenza also decreased (Fig. 7).



During week 17/2014, only 6 (7%) of the 85 SARI samples collected from sentinel surveillance in Armenia, Georgia, Kazakhstan, the Republic of Moldova, Romania, the Russian Federation, Serbia, Slovakia and Ukraine tested positive. Most were influenza B (Fig. 8a). Click here for a detailed overview in table format.

For week 17/2014, 2 countries (Ireland and the United Kingdom) reported a total of 15 hospitalized laboratory-confirmed influenza cases, all of which were influenza A infections.

Since week 40/2013, 8 countries have reported 4689 hospitalized, laboratory-confirmed influenza cases: 4633 (99%) were related to influenza virus type A infection and 56 (1%) to type B virus infection. Of 3175 subtyped influenza A viruses, 2350 (74%) were A(H1N1)pdm09 and 825 (26%) were A(H3N2). A higher proportion of A(H1N1)pdm09 viruses has been detected in patients in intensive care units (1373 out of 1606 subtyped: 85%) than in those in acute hospital wards (977 out of 1569 subtyped: 62%).

5 countries reported a total of 394 fatal cases in the course of the season: 391 (99%) were associated with influenza virus type A infection and 3 (1%) with type B. Of 285 influenza A viruses subtyped from fatal cases, 230 (81%) were A(H1N1)pdm09 and 55 (19%) were A(H3N2).

The results from SARI surveillance at sentinel hospitals reported to the WHO Regional Office for Europe (EuroFlu), mainly conducted in the eastern part of the Region, and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. This pattern is likely to be due to the circulation of different influenza virus subtypes in countries.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 16/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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.

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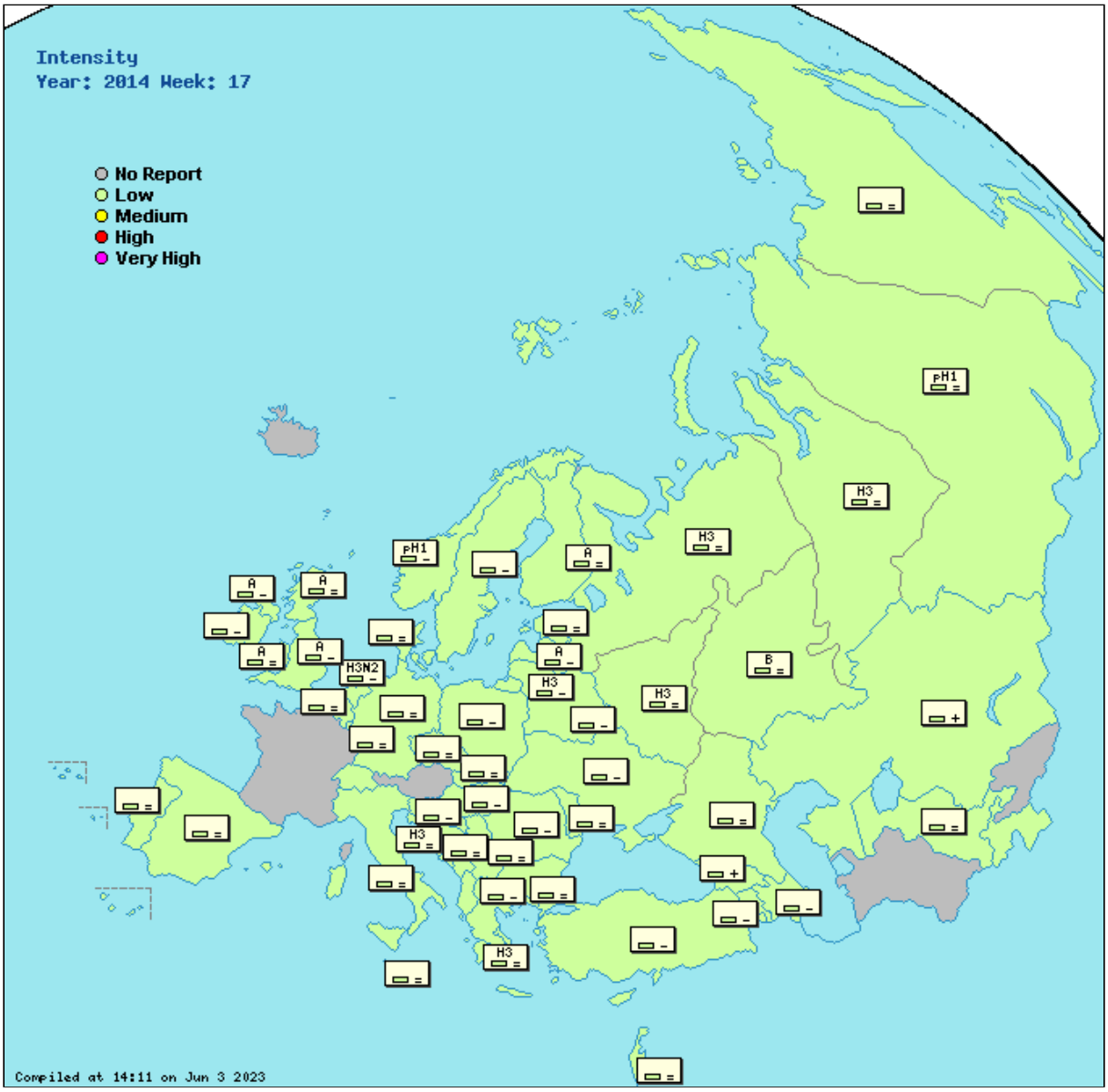
Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

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
In week 17 were tested 9 samples for influenza viruses: 1 was positive for RNA hRSV.
Scotland
Please note that the GP consultation rates for ILI and ARI were adjusted to account for the reduced number of working days in week 17. The data for this week must be interpreted with caution.

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	4.4 * (graphs)	82.7 (graphs)	sari	Click here
Azerbaijan	Low	Sporadic	Low	Decreasing	45	4.4%	None	224.5 (graphs)	(graphs)		Click here
Belgium	Low	Sporadic		Stable	6	33.3%	None	20.5 (graphs)	1089.0 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Stable			None	15.4 (graphs)	81.6 (graphs)		Click here
Bulgaria	Low	None		Stable				(graphs)	444.8 (graphs)		Click here
Croatia	Low	Sporadic		Stable			Type A, Subtype H3	(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				1.1 * (graphs)	5.9 * (graphs)		Click here
Czech Republic	Low	None		Stable				14.3 (graphs)	673.3 (graphs)		Click here
Denmark	Low	Sporadic		Stable	2	0%	None	9.0 (graphs)	(graphs)		Click here
England	Low	Sporadic		Decreasing	6	0%	Type A	0.4 (graphs)	165.3 (graphs)		Click here
Estonia	Low	Sporadic		Stable	5	20.0%	None	11.8 (graphs)	268.7 (graphs)		Click here
Finland					7	28.6%	Type A	(graphs)			Click here
Georgia	Low	None	Low	Increasing	10	0%	None	245.5 (graphs)	(graphs)	sari	Click here
Germany	Low	Local		Stable	27	7.4%	None	(graphs)	637.4 (graphs)		Click here
Greece					0	-	Type A, Subtype H3	(graphs)			Click here
Hungary	Low	None	Low	Decreasing	4	0%	None	21.3 (graphs)	(graphs)		Click here
Iceland					0	-		(graphs)			Click here
Ireland	Low	Sporadic	Low	Decreasing	3	33.3%	None	3.1 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Stable	9	33.3%	None	4.1 (graphs)			Click here
Italy	Low	None	Low	Stable				45.1 (graphs)	(graphs)		Click here
Kazakhstan	Low	Sporadic	Low	Increasing	14	0%	None	78.0 (graphs)	17.4 (graphs)	sari	Click here
Kyrgyzstan								47.0 (graphs)	1.9 (graphs)	sari	Click here
Latvia	Low	Sporadic		Decreasing	0	-	Type A	0.9 (graphs)	666.4 (graphs)		Click here
Lithuania	Low	Sporadic	Low	Decreasing				3.4 (graphs)	399.8 (graphs)		Click here
Luxembourg	Low	Local			5	20.0%		0.9 * (graphs)	18.9 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Decreasing			None	4.5 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable				0.3 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	Sporadic	Low	Decreasing				15.3 (graphs)	(graphs)		Click here
Netherlands	Low	Sporadic		Decreasing	3	33.3%	None	29.3 (graphs)	(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Decreasing	0	-	Type A	10.7 (graphs)	227.0 (graphs)		Click here
Norway	Low	Sporadic		Decreasing	1	100.0%	Type A, Subtype pH1	18.3 (graphs)	(graphs)		Click here
Poland	Low	Sporadic	Low	Decreasing	2	0%	None	188.0 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	0	-	None	0.0 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Stable	5	0%	None	(graphs)	180.1 (graphs)	sari	Click here
Romania	Low	None	Low	Decreasing	0	-	None	0.5 (graphs)	418.6 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Stable	45	4.4%	Type A, Subtype H3	0.4 (graphs)	588.0 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	7	0%	Type A	6.1 (graphs)	354.1 (graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	0	-	None	21.2 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	3	66.7%	None	90.6 (graphs)	1192.2 (graphs)	sari	Click here
Slovenia					0	-	None	(graphs)			Click here
Spain	Low	Sporadic		Stable	9	11.1%	None	4.4 (graphs)	(graphs)		Click here
Sweden	Low	Sporadic		Decreasing	2	0%	None	1.7 (graphs)	(graphs)		Click here
Switzerland	Low	None		Stable				2.5 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Decreasing	58	6.9%	Type B	108.1 (graphs)	(graphs)		Click here
Ukraine	Low	Sporadic	Low	Decreasing	3	0%	None	2.1 * (graphs)	385.8 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Stable	1	0%	None	(graphs)	(graphs)		Click here
Wales	Low	Sporadic	Low	Stable	1	100.0%		2.9 (graphs)	(graphs)		Click here
Europe					283	9.2%					Click here

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.

Influenza season ending in Europe

Summary, week 18/2014

Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) are now at low levels in all countries. Low percentages of sentinel samples from ILI, ARI, and severe acute respiratory infection (SARI) surveillance tested positive for influenza. As in recent weeks, influenza A(H3N2) was the most frequently detected influenza virus in specimens testing positive in week 18/2013. Countries with hospital-based sentinel surveillance continue to report SARI hospitalizations, although numbers are declining overall.

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

During week 18/2014, the positivity rate of specimens tested for influenza, as well as the number of specimens tested, continued to decrease. 4983 specimens from sentinel and non-sentinel sources were tested for influenza, 552 (11%) of which were positive: 381 (69%) for influenza A and 171 (31%) for influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013 (Fig. 2b). Of the 226 influenza A viruses that were subtyped during week 18/2014, 55 (24%) were A(H1N1)pdm09 and 171 (76%) A(H3N2).

Since week 40/2013, sentinel and non-sentinel sources have yielded 45 994 influenza detections: 43 168 (94%) were influenza A and 2826 (6%) influenza B viruses (Fig. 2b). Of the 29 970 influenza A viruses that have been subtyped, 16 903 (56%) were A(H1N1)pdm09 and 13 067 (44%) were A(H3N2).

In addition, the lineage of 222 influenza B viruses was determined: 204 (92%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 18 (8%) to the B/Victoria lineage.

Owing to the low number of virus detections, few countries reported on dominant type of influenza virus in week 18/2014 (Map 1); Croatia, Finland, Greece, Norway and the United Kingdom (except England) reported influenza A as dominant; Turkey reported influenza B as dominant, and the Russian Federation reported co-dominance of influenza A and B.

Virus strain characterizations

Circulating 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.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

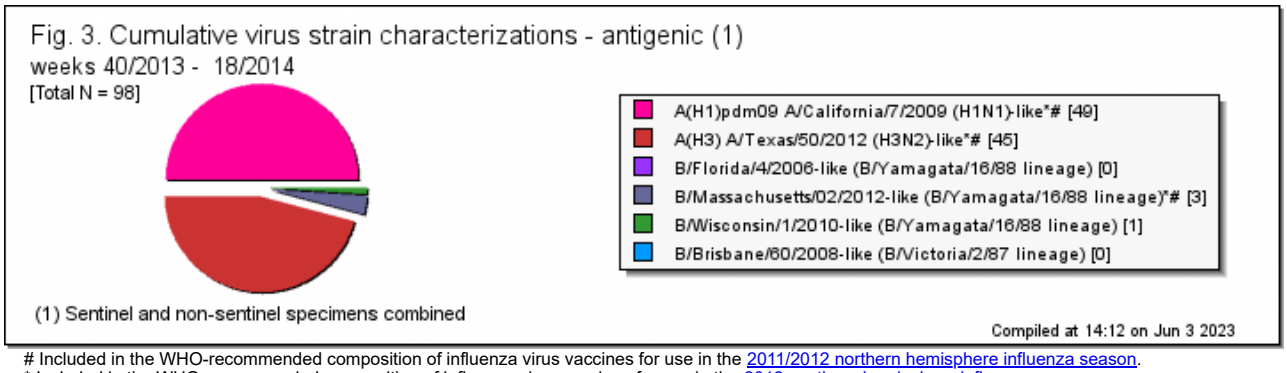
The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 season. (see the WHO headquarters web site).

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 40/2013, 2278 influenza viruses characterized antigenically by 15 countries (the Czech Republic, Denmark, Finland, Germany, Ireland, Latvia, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, 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). 14 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece,

Ireland, the Netherlands, Norway, Portugal, the Russian Federation, Spain, Sweden and Switzerland) have characterized 1043 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 40/2013, 12 countries (Germany, Greece, Italy, the Netherlands, Norway, Portugal, Romania, Spain, Sweden, Switzerland, the Russian Federation and the United Kingdom (England)) have screened 1463 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 1051 A(H1N1)pdm09 viruses tested, 1035 showed susceptibility to both drugs; 16 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were identified. Of these 16 viruses, 15 were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors, and 1 virus from Switzerland was detected in a hospitalized immunocompromised patient treated with oseltamivir.

Of the 353 influenza A(H3N2) viruses tested, 352 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 59 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the 2013–2014season. All 143 influenza A(H1N1)pdm09 and 107 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

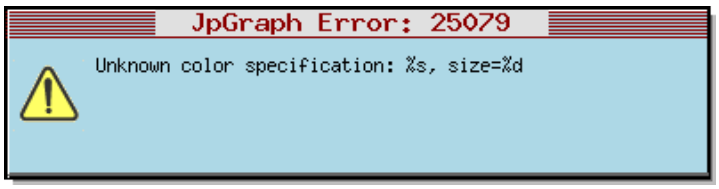
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 18/2014, all reporting countries continued reporting low-intensity influenza activity (Map 2). In relation to geographic spread, most countries reported either no or sporadic activity (Map 3).

During week 18/2014, consultation rates were at preseason levels in most countries in the Region. Of the 22 countries with established national thresholds, the rates had returned to or were below the threshold level in all.

Click on the maps for more detailed information.

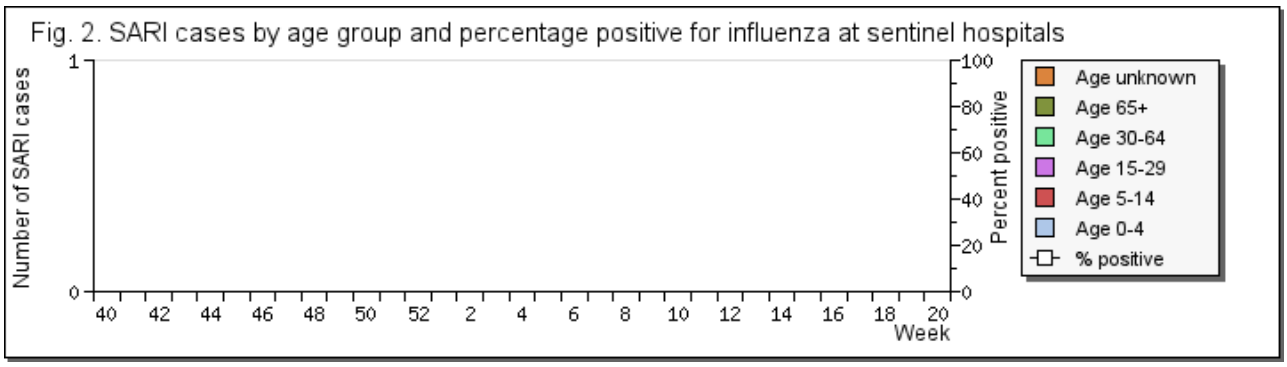
The percentage of positive sentinel ILI/ARI specimens continued to decrease, indicating that the influenza season in the Region is coming to an end. The percentage of positive sentinel specimens shows a very similar profile to that of the previous season, but at a lower level throughout (Fig. 5).



During week 18/2014, only 20 (7%) of the 269 specimens collected from sentinel sources tested positive for influenza virus; most, as in recent weeks, were influenza A (Fig. 6a). The number of influenza B detections remained low. Click here for a detailed overview in a table format.

Hospital surveillance for SARI

As of week 18/2014, the number of SARI hospitalizations had been stable for several weeks, with most cases reported in those aged 0–4 years. The percentage of SARI patients testing positive for influenza increased slightly, representing data from only a few countries (Fig. 7).



During week 18/2014, only 11 (15%) of the 78 SARI samples collected from sentinel surveillance only in Armenia, Georgia, Romania, the Russian Federation, Serbia, and Ukraine tested positive. Most were influenza A, in line with the results of outpatient surveillance (Fig. 8a). Click here for a detailed overview in table format.

For week 18/2014, 4 countries (Finland, Ireland, Romania and the United Kingdom) reported a total of 15 hospitalized laboratory-confirmed influenza cases, all of which were influenza A infections.

Since week 40/2013, 8 countries have reported 4716 hospitalized, laboratory-confirmed influenza cases: 4660 (99%) were related to influenza virus type A infection and 56 (1%) to type B virus infection. Of 3198 subtyped influenza A viruses, 2366 (74%) were A(H1N1)pdm09 and 832 (26%) were A(H3N2). A higher proportion of A(H1N1)pdm09 viruses has been detected in patients in intensive care units (1388 out of 1625 subtyped: 85%) than in those in acute hospital wards (978 out of 1573 subtyped: 62%).

5 countries reported a total of 396 fatal cases in the course of the season: 393 (99%) were associated with influenza virus type A infection and 3 (1%) with type B. Of 285 influenza A viruses subtyped from fatal cases, 230 (81%) were A(H1N1)pdm09 and 55 (19%) were A(H3N2).

The results from SARI surveillance at sentinel hospitals reported to the WHO Regional Office for Europe (EuroFlu), mainly conducted in the eastern part of the Region, and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. This pattern is likely to be due to differences in the two surveillance systems, which might result in bias towards certain subtypes of influenza viruses.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 18/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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

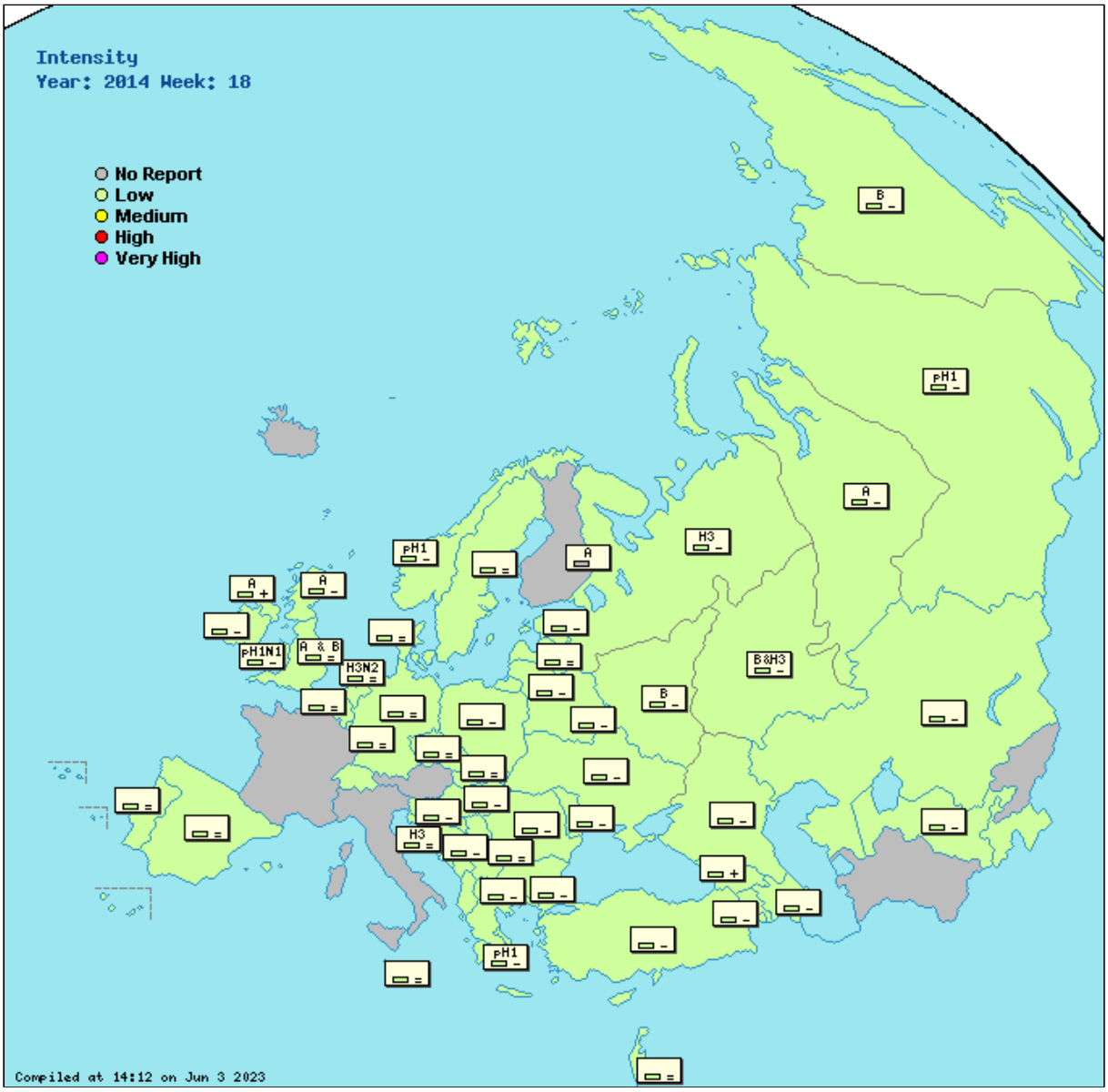
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant

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** ○



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

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- : decreasing clinical activity

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Very high = particularly severe levels of influenza activity

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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	4	0%	None	2.2 * (graphs)	60.4 (graphs)	sari	Click here

Azerbaijan	Low	Sporadic	Low	Decreasing	19	10.5%	None	179.4	(graphs)		(graphs)		Click here
Belarus	Low	Sporadic	Low	Decreasing				5.1	(graphs)	491.9	(graphs)	sari	Click here
Belgium					0	-	None		(graphs)			sari	Click here
Bosnia and Herzegovina	Low	None	Low	Decreasing			None	9.1	(graphs)	46.5	(graphs)		Click here
Bulgaria	Low	None		Decreasing	0	-	None		(graphs)	285.2	(graphs)		Click here
Croatia	Low	Sporadic		Stable	22	0%	Type A, Subtype H3		(graphs)		(graphs)		Click here
Cyprus	Low	None	Low	Stable				0.6 *	(graphs)	5.3 *	(graphs)		Click here
Czech Republic	Low	None		Stable	5	0%	None	11.8	(graphs)	548.0	(graphs)		Click here
Denmark	Low	Sporadic		Stable	1	0%	None	19.4	(graphs)		(graphs)		Click here
England	Low	Sporadic		Stable	14	0%	Type A and B	1.5	(graphs)	162.8	(graphs)		Click here
Estonia	Low	Sporadic		Decreasing	3	0%	None	8.5	(graphs)	214.9	(graphs)		Click here
Finland					3	66.7%	Type A		(graphs)				Click here
Georgia	Low	Local	Low	Increasing	12	8.3%	None	279.0	(graphs)		(graphs)	sari	Click here
Germany	Low	Sporadic		Stable	20	5.0%	None		(graphs)	539.9	(graphs)		Click here
Greece	Low	Sporadic		Decreasing	1	0%	Type A, Subtype pH1	66.3	(graphs)		(graphs)		Click here
Hungary	Low	None	Low	Decreasing	2	0%	None	12.6	(graphs)		(graphs)		Click here
Iceland					0	-			(graphs)				Click here
Ireland	Low	Sporadic	Low	Decreasing	3	33.3%	None	2.9	(graphs)		(graphs)		Click here
Israel	Low	None	Low	Stable	12	25.0%	None	4.0	(graphs)				Click here
Kazakhstan	Low	Sporadic	Low	Decreasing	8	0%	None	68.0	(graphs)	18.7	(graphs)	sari	Click here
Kyrgyzstan					0	-	None	31.0	(graphs)	1.3	(graphs)	sari	Click here
Latvia	Low	Sporadic		Stable	0	-	None	0.9	(graphs)	489.5	(graphs)		Click here
Lithuania	Low	Sporadic	Low	Decreasing	0	-		1.5	(graphs)	316.7	(graphs)		Click here
Luxembourg	Low	None			1	0%		0 *	(graphs)	12.2 *	(graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Decreasing			None	3.3	(graphs)		(graphs)		Click here
Malta	Low	None	Low	Stable	0	-	None	0 *	(graphs)	0 *	(graphs)		Click here
Montenegro	Low	None	Low	Decreasing				6.9	(graphs)		(graphs)		Click here
Netherlands	Low	Sporadic		Stable	5	20.0%	None	34.3	(graphs)		(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Increasing	4	0%	Type A and B	15.3	(graphs)	337.9	(graphs)		Click here
Norway	Low	Sporadic		Decreasing	0	-	Type A	19.1	(graphs)		(graphs)		Click here
Poland	Low	None	Low	Decreasing	2	0%	None	170.5	(graphs)		(graphs)		Click here
Portugal	Low	None		Stable	0	-	None	0.0	(graphs)		(graphs)		Click here
Republic of Moldova	Low	None	Low	Decreasing	0	-	None		(graphs)	63.2	(graphs)	sari	Click here
Romania	Low	None	Low	Decreasing	0	-	None	0.2	(graphs)	387.8	(graphs)	sari	Click here
Russian Federation	Low	Sporadic		Decreasing	35	11.4%	Type B and Type A, Subtype H3	0.2	(graphs)	453.8	(graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Decreasing	9	0%	Type A	2.8	(graphs)	291.9	(graphs)		Click here
Serbia	Low	None	Low	Stable	0	-	None	11.7	(graphs)		(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	6	0%	None	87.5	(graphs)	1110.6	(graphs)	sari	Click here
Slovenia	Low	None		Decreasing	1	0%	None	0.0	(graphs)	524.3	(graphs)		Click here
Spain	Low	None		Stable	11	9.1%	None	2.5	(graphs)		(graphs)		Click here
Sweden	Low	None		Stable	1	0%	None	0.0	(graphs)		(graphs)		Click here
Switzerland	Low			Stable				6.2	(graphs)		(graphs)		Click here
Turkey	Low	Sporadic	Low	Decreasing	59	5.1%	Type B	88.7	(graphs)		(graphs)		Click here
Ukraine	Low	Sporadic	Low	Decreasing	5	0%	None	2.2 *	(graphs)	258.8	(graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Decreasing	1	0%	None		(graphs)	19.1	(graphs)		Click here
Wales	Low	Sporadic	Low	Decreasing	0	-	Type A, Subtype pH1N1	1.3	(graphs)		(graphs)		Click here
Europe					269	7.4%							Click here

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.

Influenza activity in Europe approaching out-of-season levels

Summary, week 19/2014

Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) are approaching out-of-season levels in most countries of the WHO European Region. The percentages of sentinel samples from ILI, ARI, and severe acute respiratory infection (SARI) surveillance that tested positive for influenza were low. Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013. 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.

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

During week 19/2014, the positivity rate of specimens tested for influenza, continued to decrease. 5097 specimens from sentinel and non-sentinel sources were tested for influenza, 354 (7%) of which were positive: 224 (63%) for influenza A and 130 (37%) for influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013 (Fig. 2b). Of the 87 influenza A viruses that were subtyped during week 19/2014, 36 (41%) were A(H1N1)pdm09 and 51 (59%) A(H3N2).

Since week 40/2013, sentinel and non-sentinel sources have yielded 47 070 influenza detections: 44 073 (94%) were influenza A and 2997 (6%) influenza B viruses (Fig. 2b). Of the 30 345 influenza A viruses that have been subtyped, 17 075 (56%) were A(H1N1)pdm09 and 13 270 (44%) were A(H3N2).

In addition, the lineage of 232 influenza B viruses was determined: 214 (92%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 18 (8%) to the B/Victoria lineage.

Owing to the low number of virus detections, few countries reported on the dominant type of influenza virus in week 19/2014 (Map 1); Croatia, Greece, Norway and the United Kingdom (England and Scotland) reported influenza A as dominant; the Russian Federation and Turkey reported influenza B as dominant.

Virus strain characterizations

Circulating 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.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

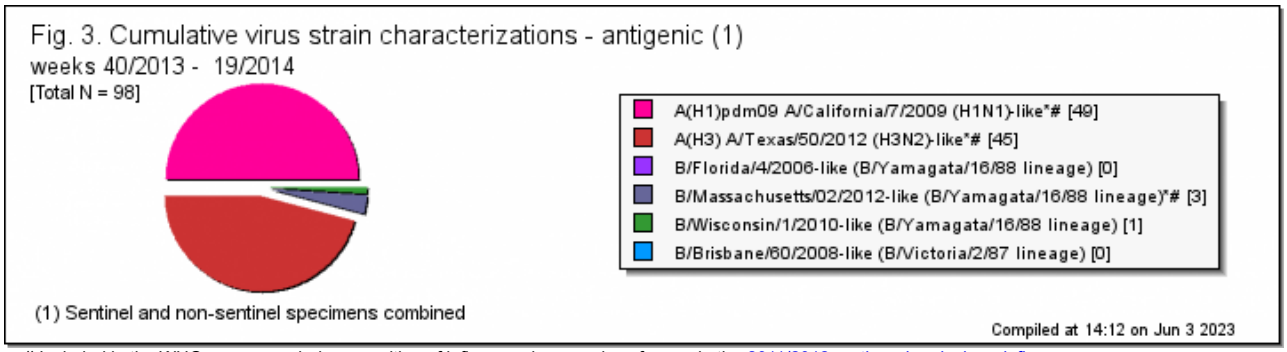
The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 season. (see the WHO headquarters web site).

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 40/2013, 2060 influenza viruses characterized antigenically by 16 countries (the Czech Republic, Denmark, Finland, Germany, Ireland, Latvia, the Netherlands, Norway, 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). 15 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden and Switzerland) have characterized 1090 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 40/2013, 13 countries (Finland, Germany, Greece, Italy, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland, and the United Kingdom (England)) have screened 1678 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 1197 A(H1N1)pdm09 viruses tested, 1181 showed susceptibility to both drugs; 16 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were identified. Of these 16 viruses, 15 were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors, and 1 virus from Switzerland was detected in a hospitalized immunocompromised patient treated with oseltamivir.

Of the 409 influenza A(H3N2) viruses tested, 408 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 72 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the 2013–2014 season. All 150 influenza A(H1N1)pdm09 and 111 influenza A(H3N2) viruses screened for susceptibility to adamantanes were found to be resistant.

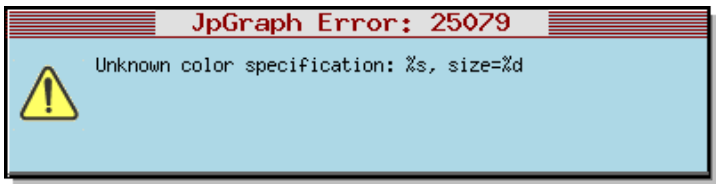
Outpatient surveillance for influenza-like illness (ILI) and/or acute respiratory infection (ARI)

During week 19/2014, all reporting countries continued to report low-intensity influenza activity (Map 2). In relation to geographic spread, most countries reported either no or sporadic activity (Map 3).

During week 19/2014, consultation rates were at pre-season levels in most countries of the Region. Of the 22 countries with established national thresholds, the rates had returned to or were below the threshold level in all.

Click on the maps for more detailed information.

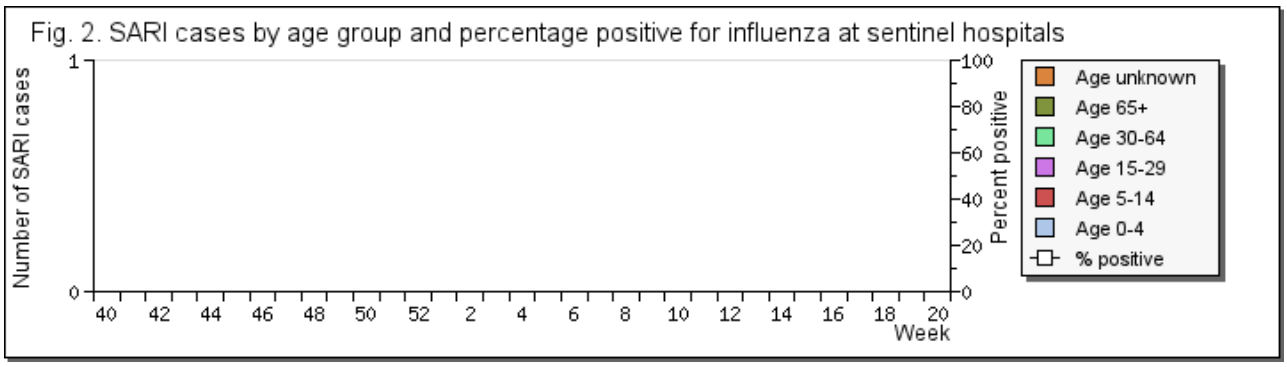
The percentage of positive sentinel ILI/ARI specimens continued to decrease, indicating that the influenza season in the Region is coming to an end. The percentage of positive sentinel specimens shows a very similar profile to that of the previous season, but at a lower level throughout (Fig. 5).



During week 19/2014, only 14 (7%) of the 215 specimens collected from sentinel sources tested positive for influenza virus (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

As of week 19/2014, the number of SARI hospitalizations has been stable for several weeks, with most cases reported in those aged 0–4 years. The number of influenza-positive detections among SARI cases has decreased (Fig. 7).



During week 19/2014, only 3 (5%) of the 66 SARI samples collected from sentinel surveillance in Belarus, Georgia, Kazakhstan, Republic of Moldova, Romania, the Russian Federation, Serbia and Ukraine tested positive for influenza. 2 of the 3 samples were influenza B (Fig. 8a). Click here for a detailed overview in table format.

For week 19/2014, 10 hospitalized laboratory-confirmed influenza cases were reported by 2 countries (Ireland and the United Kingdom). 9 of the 10 patients were infected by influenza A viruses and 1 by the B virus.

Since week 40/2013, 8 countries have reported 4755 hospitalized laboratory-confirmed influenza cases: 4696 (99%) were related to influenza virus type A infection and 59 (1%) to type B virus infection. Of 3220 subtyped influenza A viruses, 2385 (74%) were A(H1N1)pdm09 and 835 (26%) were A(H3N2). A higher proportion of A(H1N1)pdm09 viruses has been detected in patients in intensive care units (1403 out of 1640 subtyped: 86%) than in those in acute hospital wards (982 out of 1580 subtyped: 62%).

5 countries reported a total of 402 fatal cases in the course of the season: 398 (99%) were associated with influenza virus type A infection and 4 (1%) with type B. Of 290 influenza A viruses subtyped from fatal cases, 235 (81%) were A(H1N1)pdm09 and 55 (19%) were A(H3N2).

The results from SARI surveillance at sentinel hospitals reported to the WHO Regional Office for Europe (EuroFlu), mainly conducted in the eastern part of the Region, and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. This pattern is likely to be due to differences in the two surveillance systems, which might result in bias towards certain subtypes of influenza viruses.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 19/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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

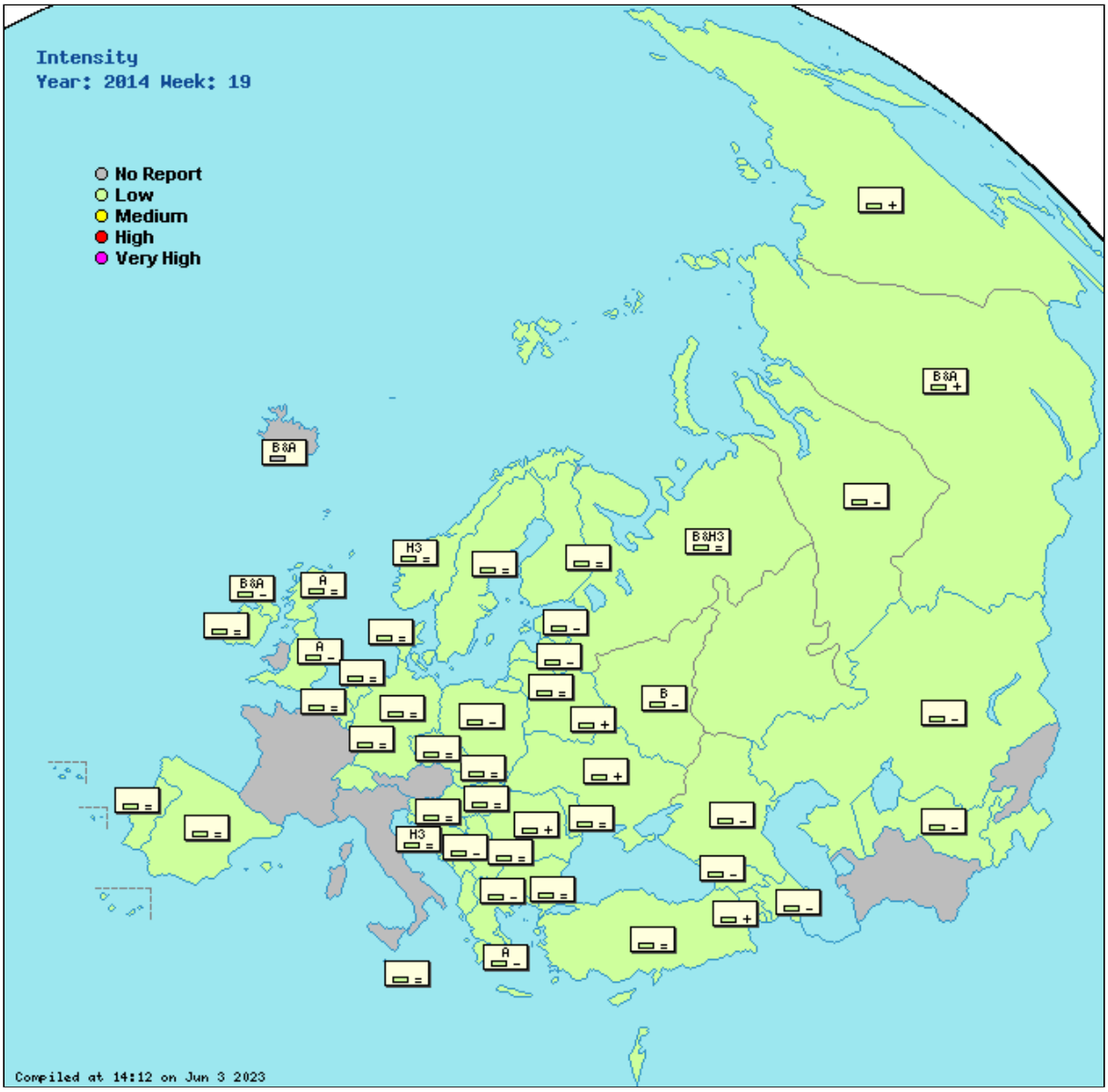
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant

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	Stable					338.1 (graphs)	sari	Click here

Armenia	Low	None	Low	Increasing	0	-	None	0.7 * (graphs)	65.7 (graphs)	sari	Click here
Azerbaijan	Low	None	Low	Decreasing	6	0%	None	158.6 (graphs)	(graphs)		Click here
Belarus	Low	None	Low	Increasing	24	0%	None	5.4 (graphs)	499.1 (graphs)	sari	Click here
Belgium	Low	None		Stable	5	0%	None	4.5 (graphs)	1243.6 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Decreasing			None	5.5 (graphs)	40.9 (graphs)		Click here
Bulgaria	Low	None		Stable	0	-		(graphs)	354.7 (graphs)		Click here
Croatia	Low	Sporadic		Stable	21	0%	Type A, Subtype H3	(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				0.2 * (graphs)	5.7 * (graphs)		Click here
Czech Republic	Low	None		Stable				10.7 (graphs)	539.1 (graphs)		Click here
Denmark	Low	Sporadic		Stable	1	0%	None	13.4 (graphs)	(graphs)		Click here
England	Low	Local	Low	Decreasing	0	-	Type A	2.5 (graphs)	(graphs)		Click here
Estonia	Low	Sporadic		Decreasing	1	0%	None	8.8 (graphs)	196.4 (graphs)		Click here
Finland	Low	Local		Stable	3	0%	None	(graphs)			Click here
France					2	0%			(graphs)		Click here
Georgia	Low	None	Low	Decreasing	5	0%	None	225.9 (graphs)	(graphs)	sari	Click here
Germany	Low	Sporadic		Stable	24	12.5%	None	(graphs)	720.2 (graphs)		Click here
Greece	Low	None		Decreasing	0	-	Type A	49.7 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Stable	0	-	None	16.4 (graphs)	(graphs)		Click here
Ireland	Low	None	Low	Stable	0	-	None	0.0 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Stable				2.5 (graphs)			Click here
Kazakhstan	Low	Sporadic	Low	Decreasing	4	0%	None	55.0 (graphs)	15.1 (graphs)	sari	Click here
Kyrgyzstan					0	-	None	31.0 (graphs)	0.0 (graphs)	sari	Click here
Latvia	Low	Sporadic		Decreasing	0	-	None	0.0 (graphs)	610.9 (graphs)		Click here
Lithuania	Low	Sporadic	Low	Stable	3	100.0%		0.7 (graphs)	415.9 (graphs)		Click here
Luxembourg	Low	None			2	0%		0.3 * (graphs)	13.2 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	Sporadic	Low	Decreasing			None	1.4 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable				0.4 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Decreasing				4.5 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	3	0%	None	26.9 (graphs)	(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Decreasing				6.9 (graphs)	234.9 (graphs)		Click here
Norway	Low	Sporadic		Stable	0	-	Type A	22.2 (graphs)	(graphs)		Click here
Poland	Low	None	Low	Decreasing	0	-	None	198.6 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	0	-	None	0.0 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Stable	2	0%	None	(graphs)	111.6 (graphs)	sari	Click here
Romania	Low	None	Low	Increasing	0	-	None	0.8 (graphs)	491.3 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Stable	35	8.6%	Type B	0.2 (graphs)	433.9 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	4	0%	Type A	3.4 (graphs)	313.8 (graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	1	100.0%	None	17.3 (graphs)	(graphs)	sari	Click here
Slovakia	Low	Sporadic	Low	Stable	0	-	None	74.9 (graphs)	1068.1 (graphs)	sari	Click here
Slovenia	Low	None		Stable	2	0%	None	0.0 (graphs)	702.7 (graphs)		Click here
Spain	Low	None		Stable	8	12.5%	None	3.4 (graphs)	(graphs)		Click here
Sweden	Low	None		Stable	0	-	None	1.4 (graphs)	(graphs)		Click here
Switzerland	Low			Stable				5.6 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Stable	53	5.7%	Type B	107.0 (graphs)	(graphs)		Click here
Ukraine	Low	Sporadic	Low	Increasing	5	0%	None	1.4 * (graphs)	286.1 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Decreasing	0	-	None	(graphs)	15.5 (graphs)		Click here
Europe					214	6.5%					Click here

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.

The 2013/2014 influenza season is coming to a close

Summary, week 20/2014

Consultation rates for influenza-like illness (ILI) and acute respiratory infection (ARI) are now at low levels in the WHO European Region with most countries having reported low influenza activity throughout the entire season. The percentages of sentinel samples from ILI, ARI, and severe acute respiratory infection (SARI) surveillance testing positive for influenza continued to decrease. Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013. 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. This is the last weekly EuroFlu bulletin for the 2013/2014 season. The format of the bulletin will change in the next influenza season 2014/2015. The plan is to publish it jointly with the European Centre for Disease Prevention and Control from week 40/2014 with no summer bulletin anticipated.

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

During week 20/2014, the percentage of specimens testing positive for influenza remained low. 4396 specimens from sentinel and non-sentinel sources were tested for influenza, 350 (8%) of which were positive: 225 (64%) for influenza A and 125 (36%) for influenza B (Fig. 1 and 2).

Influenza A has remained the dominant virus type in circulation across the Region since the start of weekly monitoring in week 40/2013 (Fig. 2b). Of the 99 influenza A viruses that were subtyped during week 20/2014, 36 (36%) were A(H1N1)pdm09 and 63 (64%) A(H3N2).

Since week 40/2013, sentinel and non-sentinel sources have yielded 47 694 influenza detections: 44 550 (93%) were influenza A and 3144 (7%) influenza B viruses (Fig. 2b). Of the 30 815 influenza A viruses that have been subtyped, 17 270 (56%) were A(H1N1)pdm09 and 13 545 (44%) were A(H3N2).

In addition, the lineage of 248 influenza B viruses was determined: 230 (93%) belonged to the B/Yamagata lineage (the lineage of the B virus recommended by WHO for inclusion in trivalent seasonal influenza vaccines) and 18 (7%) to the B/Victoria lineage.

Owing to the low number of virus detections, few countries reported a dominant type of influenza virus for week 20/2014 (Map 1); Norway, Poland and the United Kingdom reported influenza A as dominant; the Russian Federation reported influenza B as dominant.

Virus strain characterizations

Circulating 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.

For the 2013/2014 northern hemisphere influenza season, WHO recommended inclusion of A/California/7/2009 (H1N1)pdm09-like, A/Texas/50/2012 (H3N2)-like and B/Massachusetts/2/2012-like (Yamagata lineage) viruses in vaccines (see the WHO headquarters web site).

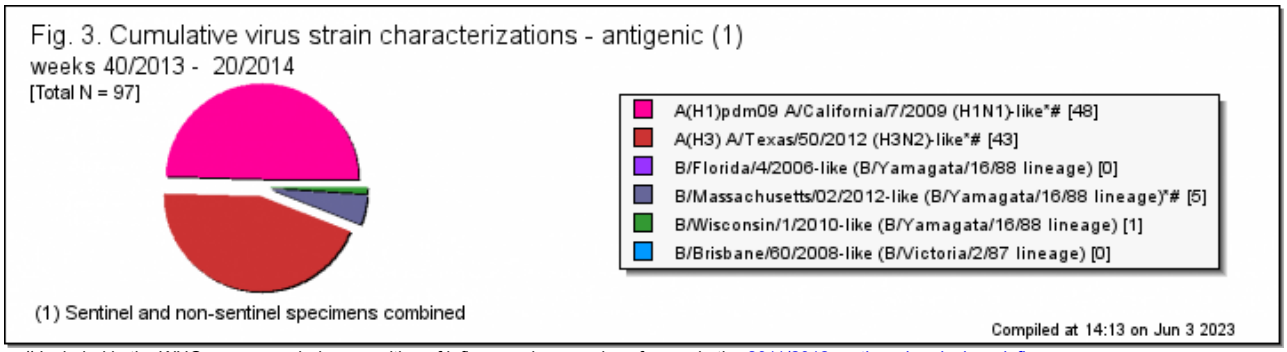
The WHO Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere 2014–2015 took place in week 7/2014, and the WHO expert group recommended no change from the vaccine composition for the 2013–2014 season. (see the WHO headquarters web site).

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 40/2013, 2094 influenza viruses characterized antigenically by 17 countries (the Czech Republic, Denmark, Finland, Germany, Ireland, Latvia, Luxembourg, the Netherlands, Norway, 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). 15 countries (Belgium, the Czech Republic, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden and Switzerland) have characterized 1147 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 40/2013, 13 countries (Finland, Germany, Greece, Italy, the Netherlands, Norway, Portugal, Romania, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom (England)) have screened 1694 viruses for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir. Of the 1212 A(H1N1)pdm09 viruses tested, 1196 showed susceptibility to both drugs; 16 viruses carrying the neuraminidase H275Y amino acid substitution, causing resistance to oseltamivir, were identified. Of these 16 viruses, 15 were detected in the United Kingdom in hospitalized patients, most of whom were treated with neuraminidase inhibitors, and 1 virus from Switzerland was detected in a hospitalized immunocompromised patient treated with oseltamivir.

Of the 410 influenza A(H3N2) viruses tested, 409 showed susceptibility to both drugs. The remaining virus, detected in the United Kingdom in a hospitalized immunocompromised patient treated with oseltamivir, carried the neuraminidase E119V amino acid substitution, and showed reduced inhibition by oseltamivir but normal inhibition by zanamivir. All 72 influenza B viruses tested showed susceptibility to both oseltamivir and zanamivir.

So far, there is no indication of increased resistance to the neuraminidase inhibitors during the 2013/2014 season. All 155 influenza A(H1N1)pdm09 and 111 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)

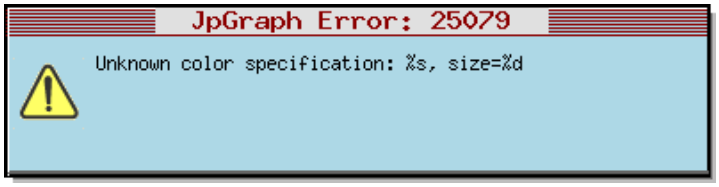
During week 20/2014, all reporting countries continued to report low-intensity influenza activity (Map 2). In relation to geographic spread, most countries reported no activity (Map 3).

During week 20/2014, consultation rates returned to pre-season levels in most countries of the Region. Of the 22 countries with established national thresholds, the rates had returned to or were below the threshold level in all.

Click on the maps for more detailed information.

The percentage of influenza-positive sentinel ILI/ARI specimens continued to decrease, indicating that the influenza season in the Region is coming to an end. The percentage of positive sentinel specimens shows a very similar profile to that of the previous season, but at a lower level throughout (Fig. 5).

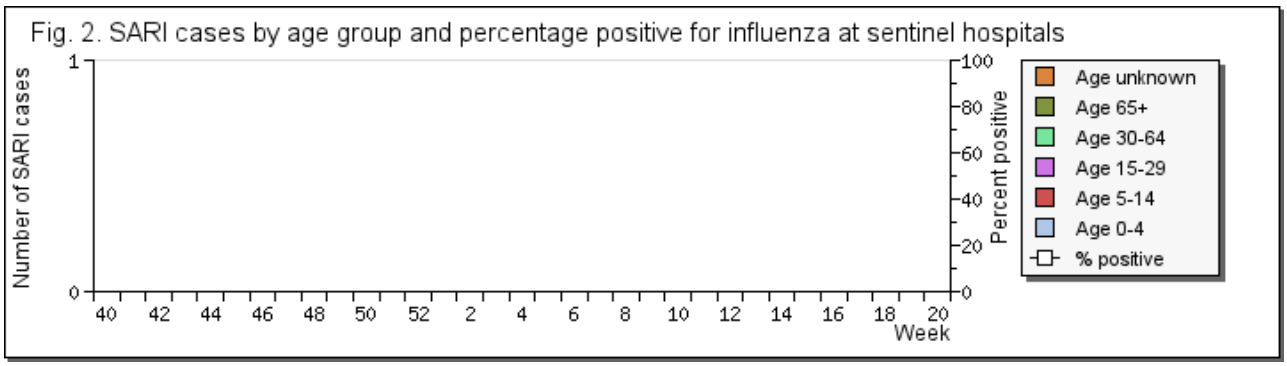
Fig. 5 presents historical data on the weekly percentage of influenza positive sentinel ILI/ARI specimens from the previous 4 seasons; the percentage of sentinel ILI/ARI influenza positive samples was not calculated in weeks 19–20 2014, because there were fewer than 20 influenza positive specimens each week.



During week 20/2014, only 10 (4%) of the 230 specimens collected from sentinel sources tested positive for influenza virus (Fig. 6a). Click here for a detailed overview in a table format.

Hospital surveillance for SARI

As of week 20/2014, the number of SARI hospitalizations has been stable for several weeks, with most cases reported in those aged 0–4 years. The number of influenza-positive detections among SARI cases has decreased (Fig. 7).



During week 20/2014, only 1 (2%) of the 61 SARI samples collected from sentinel surveillance in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, the Russian Federation, Serbia and Ukraine tested positive for influenza B (Fig. 8a). Click here for a detailed overview in table format.

For week 20/2014, no hospitalized laboratory-confirmed influenza cases were reported.

Since week 40/2013, 8 countries have reported 4770 hospitalized laboratory-confirmed influenza cases: 4711 (99%) were related to influenza virus type A infection and 59 (1%) to type B virus infection. Of 3229 subtyped influenza A viruses, 2391 (74%) were A(H1N1)pdm09 and 838 (26%) were A(H3N2). A higher proportion of A(H1N1)pdm09 viruses has been detected in patients in intensive care units (1409 out of 1640 subtyped: 86%) than in those in acute hospital wards (982 out of 1582 subtyped: 62%).

5 countries reported a total of 421 fatal cases in the course of the season: 416 (99%) were associated with influenza virus type A infection and 5 (1%) with type B. Of 302 influenza A viruses subtyped from fatal cases, 247 (82%) were A(H1N1)pdm09 and 55 (18%) were A(H3N2).

The results from SARI surveillance at sentinel hospitals reported to the WHO Regional Office for Europe (EuroFlu), mainly conducted in the eastern part of the Region, and hospitalized laboratory-confirmed influenza cases reported to the European Centre for Disease Prevention and Control (ECDC) differ in that the former include a higher proportion of influenza A(H3N2) and a lower proportion of influenza A(H1N1)pdm09 than the latter. This pattern is likely to be due to differences in the two surveillance systems, which might result in bias towards certain subtypes of influenza viruses.

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 reported by countries on RSV, detections peaked in week 50/2013 and have decreased in all the reporting countries since. This represents a slightly later start than in the previous season (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 20/2014 showed that all-cause mortality was within the normal range for all reporting countries. 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. In addition to the countries conducting sentinel SARI surveillance, a number of others collect data on laboratory-confirmed cases of influenza admitted to hospitals and/or intensive care units. 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.

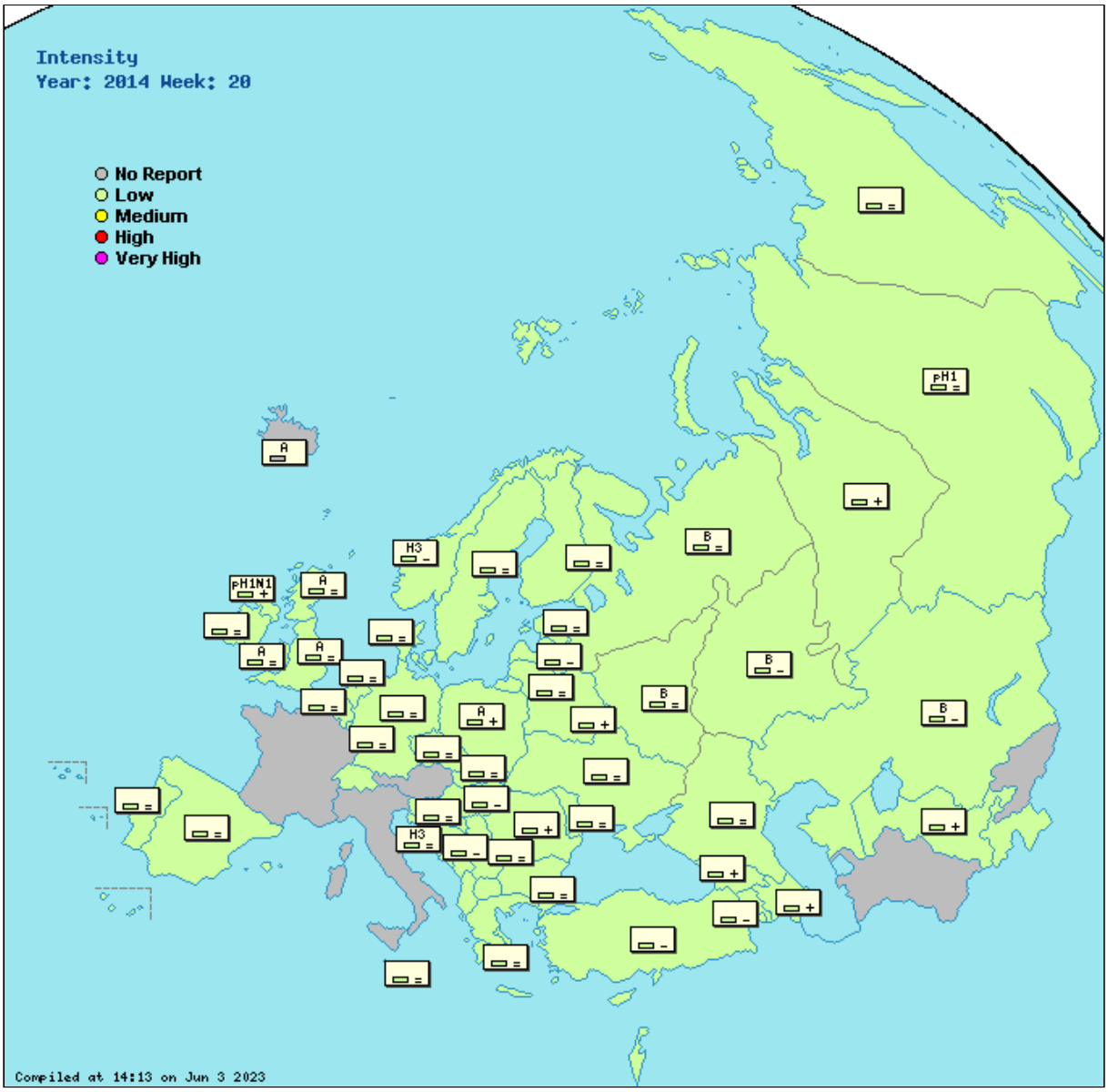
Map

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	0 * (graphs)	62.9 (graphs)	sari	Click here
Azerbaijan	Low	None	Low	Increasing	1	0%	None	164.0 (graphs)	(graphs)		Click here

Belarus	Low	None	Low	Increasing	28	0%	None	6.6 (graphs)	666.1 (graphs)	sari	Click here
Belgium	Low	None		Stable	5	0%	None	13.9 (graphs)	1404.6 (graphs)	sari	Click here
Bosnia and Herzegovina	Low	None	Low	Decreasing			None	3.3 (graphs)	31.2 (graphs)		Click here
Bulgaria	Low	None		Stable	0	-	None	(graphs)	387.6 (graphs)		Click here
Croatia	Low	Sporadic		Stable				(graphs)	(graphs)		Click here
Cyprus	Low	None	Low	Stable				0.3 * (graphs)	3.1 * (graphs)		Click here
Czech Republic	Low	None		Stable	0	-	None	11.3 (graphs)	639.1 (graphs)		Click here
Denmark	Low	None		Stable	1	0%	None	12.9 (graphs)	(graphs)		Click here
England	Low	Sporadic		Stable	0	-	Type A	0.9 (graphs)	186.0 (graphs)		Click here
Estonia	Low	None		Stable	1	0%	None	4.5 (graphs)	200.2 (graphs)		Click here
Finland	Low	None		Stable	2	0%	None	(graphs)			Click here
Georgia					10	0%	None	275.1 (graphs)	(graphs)	sari	Click here
Germany	Low	Sporadic		Stable	20	5.0%	None	(graphs)	684.9 (graphs)		Click here
Greece	Low	None		Stable	0	-	None	47.5 (graphs)	(graphs)		Click here
Hungary	Low	None	Low	Decreasing	0	-	None	8.6 (graphs)	(graphs)		Click here
Iceland					0	-		(graphs)			Click here
Ireland	Low	None	Low	Stable	1	100.0%	None	1.3 (graphs)	(graphs)		Click here
Israel	Low	None	Low	Stable				3.1 (graphs)			Click here
Kazakhstan	Low	Sporadic	Low	Decreasing	8	0%	?? ????	58.3 (graphs)	14.0 (graphs)	sari	Click here
Kyrgyzstan					0	-	None	41.0 (graphs)	0.6 (graphs)	sari	Click here
Latvia	Low	Sporadic		Decreasing	0	-	None	0.0 (graphs)	563.1 (graphs)		Click here
Lithuania	Low	Sporadic	Low	Stable	1	100.0%		0.9 (graphs)	396.8 (graphs)		Click here
Luxembourg	Low	None			2	0%		0.3 * (graphs)	15.9 * (graphs)		Click here
The former Yugoslav Republic of Macedonia	Low	None	Low	Decreasing				1.6 (graphs)	(graphs)		Click here
Malta	Low	None	Low	Stable				0 * (graphs)	0 * (graphs)		Click here
Montenegro	Low	None	Low	Decreasing				2.7 (graphs)	(graphs)		Click here
Netherlands	Low	None		Stable	4	0%	None	16.5 (graphs)	(graphs)		Click here
Northern Ireland	Low	Sporadic	Low	Increasing	2	0%	Type A, Subtype pH1N1	11.2 (graphs)	264.1 (graphs)		Click here
Norway	Low	Sporadic		Decreasing	2	50.0%	Type A, Subtype H3	19.5 (graphs)	(graphs)		Click here
Poland	Low	Sporadic	Low	Increasing	0	-	Type A	216.7 (graphs)	(graphs)		Click here
Portugal	Low	None		Stable	1	100.0%	None	6.3 (graphs)	(graphs)		Click here
Republic of Moldova	Low	None	Low	Stable	3	0%	None	(graphs)	139.5 (graphs)	sari	Click here
Romania	Low	None	Low	Increasing	2	0%	None	0.3 (graphs)	514.9 (graphs)	sari	Click here
Russian Federation	Low	Sporadic		Stable	47	6.4%	Type B	0.2 (graphs)	430.5 (graphs)	sari	Click here
Scotland	Low	Sporadic	Low	Stable	9	0%	Type A	2.9 (graphs)	297.3 (graphs)		Click here
Serbia	Low	Sporadic	Low	Stable	0	-	None	13.7 (graphs)	(graphs)	sari	Click here
Slovakia	Low	None	Low	Stable	3	0%	None	96.6 (graphs)	1231.4 (graphs)	sari	Click here
Slovenia	Low	None		Stable	2	0%	None	0.0 (graphs)	617.1 (graphs)		Click here
Spain	Low	None		Stable	8	12.5%	None	2.1 (graphs)	(graphs)		Click here
Sweden	Low	None		Stable	2	0%	None	1.8 (graphs)	(graphs)		Click here
Switzerland	Low			Stable				2.7 (graphs)	(graphs)		Click here
Turkey	Low	Sporadic	Low	Decreasing	60	1.7%	None	0.0 (graphs)	90.3 (graphs)		Click here
Ukraine	Low	Sporadic	Low	Stable			None	0 * (graphs)	299.1 (graphs)	sari	Click here
Uzbekistan	Low	Sporadic	Low	Increasing	0	-	None	(graphs)	18.0 (graphs)		Click here
Wales	Low	None		Stable	0	-	Type A	2.2 (graphs)	(graphs)		Click here
Europe					225	4.4%					Click here

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.