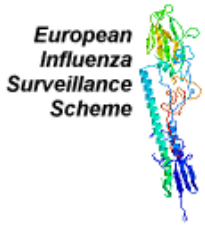
# Low levels of influenza activity in Europe as influenza surveillance season starts




**Summary:** Levels of influenza activity in Europe are currently low, and all countries reporting no or only sporadic influenza activity this week. There have been sporadic laboratory confirmed cases of influenza across Europe in the past four weeks.

**Epidemiological situation - week 40/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all of the 21 countries providing these data. For the geographical spread indicator, sporadic influenza activity was reported in Norway and Sweden and no activity in 20 countries. Definitions for the epidemiological indicators can be found here.

**Virological situation - week 40/2008:** The total number of respiratory specimens collected by sentinel physicians in week 40/2008 was 105, of which one was influenza virus positive (type A not subtyped in Spain).

**Comment:** There have only been sporadic laboratory confirmed cases of influenza reported to EISS in the last month. A number of these cases were reported to be infections acquired outside of Europe (e.g. a person returning from holiday in Africa). Therefore it is currently too early to say which virus type or subtype will become dominant in Europe this season.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. In week 40/2008, 22 countries reported clinical data and 24 countries reported virological data to EISS. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the coordination of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (United Kingdom).
**Other bulletins:** To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

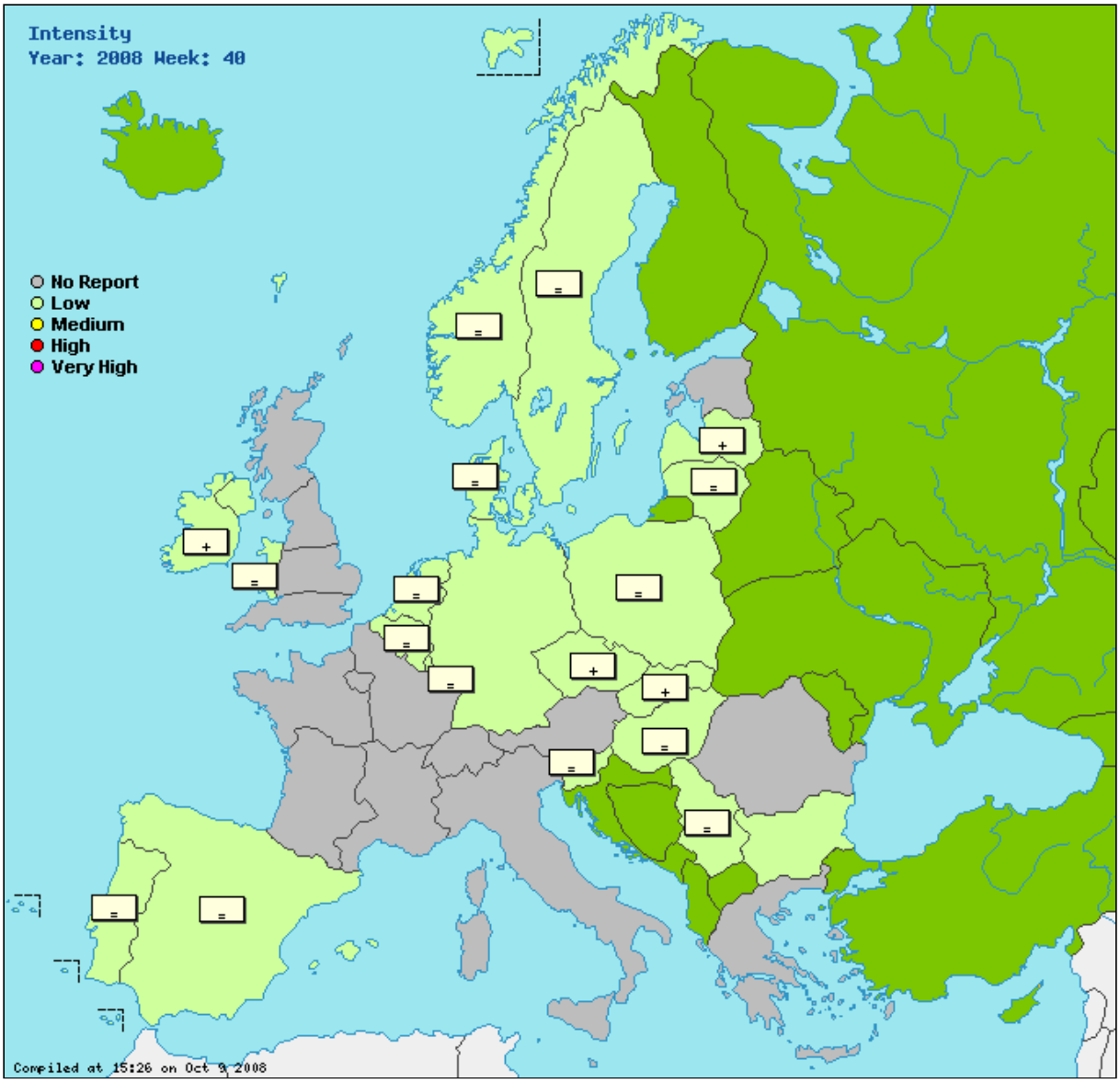
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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)

**Latvia**
No influenza activity in Latvia.Local outbreaks of ARI due to parainfluenza 3 virus circulation
**Switzerland**
No influenza activity was observed

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | None | | | 5 | 0% | None | 67.5 (graphs) | 1790.2 (graphs) | Click here |
| Bulgaria | Low | None | | | 0 | 0% | None | (graphs) | 482.5 (graphs) | Click here |
| Czech Republic | Low | None | | | 0 | 0% | None | 20.3 (graphs) | 938.3 (graphs) | Click here |
| Denmark | Low | None | | | 0 | 0% | None | 16.2 (graphs) | (graphs) | Click here |
| England | | | | | 8 | 0% | None | 6.4 (graphs) | 532.2 (graphs) | Click here |
| Estonia | | | | | 0 | 0% | None | (graphs) | | Click here |
| France | | | | | 16 | 0% | None | | (graphs) | Click here |
| Germany | Low | None | | | 11 | 0% | None | (graphs) | 731.0 (graphs) | Click here |
| Greece | | None | | | | | | 69.5 (graphs) | (graphs) | Click here |

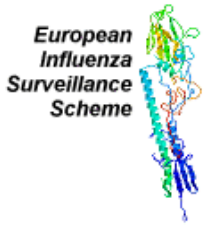
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Hungary | Low | None | 0 | 0% | None | 128.3 (graphs) | (graphs) | Click here |
| Ireland | Low | None | 2 | 0% | None | 8.9 (graphs) | (graphs) | Click here |
| Latvia | Low | None | 0 | 0% | None | 0.0 (graphs) | 1145.1 (graphs) | Click here |
| Lithuania | Low | None | 0 | 0% | None | 0.2 (graphs) | 329.7 (graphs) | Click here |
| Luxembourg | Low | None | 1 | 0% | None | 0.0 (graphs) | 1965.2 (graphs) | Click here |
| Netherlands | Low | None | 11 | 0% | None | 17.1 (graphs) | (graphs) | Click here |
| Northern Ireland | Low | None | 0 | 0% | None | 19.6 (graphs) | (graphs) | Click here |
| Norway | Low | Sporadic | 0 | 0% | None | 424.6 (graphs) | (graphs) | Click here |
| Poland | Low | None | 18 | 0% | None | 55.5 (graphs) | (graphs) | Click here |
| Portugal | Low | None | 3 | 0% | None | 12.5 (graphs) | (graphs) | Click here |
| Romania | | None | 0 | 0% | None | 0.0 (graphs) | 1027.0 (graphs) | Click here |
| Serbia | Low | None | 0 | 0% | None | 34.6 (graphs) | (graphs) | Click here |
| Slovakia | Low | None | 1 | 0% | None | 210.2 (graphs) | 1728.5 (graphs) | Click here |
| Slovenia | Low | None | 2 | 0% | None | 0.0 (graphs) | 1170.6 (graphs) | Click here |
| Spain | Low | None | 9 | 11.1% | None | 7.7 (graphs) | (graphs) | Click here |
| Sweden | Low | Sporadic | 18 | 0% | None | 5.2 (graphs) | (graphs) | Click here |
| Switzerland | | | 0 | 0% | None | (graphs) | | Click here |
| Wales | Low | None | | | | 0.7 (graphs) | (graphs) | Click here |
| Europe | | | 105 | 1.0% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Continuing low levels of influenza activity in Europe




**Summary:** Levels of influenza activity in Europe are low, with all countries reporting no or only sporadic influenza activity in week 41/2008. There have been sporadic laboratory confirmed cases of influenza in weeks 40-41/2008: 12 cases of influenza A and one case of influenza B.

**Epidemiological situation - week 41/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all of the 26 countries providing these data. For the geographical spread indicator, sporadic influenza activity was reported in two countries (England and Sweden) and no activity in 24 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (since week 40/2008):** So far this season, the consultation rates for ILI and/or ARI are at levels usually seen outside the winter period (e.g. below the national baseline threshold).

**Virological situation - week 41/2008:** The total number of respiratory specimens collected by sentinel physicians in week 41/2008 was 159, of which two (1.3%) were influenza virus positive [types A (H1) and A (H3), respectively]. In addition, five influenza virus detections were reported from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals), of which four were type A not subtyped and one was type B.

**Cumulative virological situation – 2008-2009 season (since week 40/2008):** In the first two weeks of the current season, 13 influenza viruses were detected in three countries: eight in England, three in Spain and two in Sweden. Of the detected viruses, eight were type A not subtyped, two type A subtype H1, two type A subtype H3 and one type B.

**Comment:** There have only been a few sporadic laboratory confirmed cases of influenza reported to EISS in this surveillance season (the past two weeks). Hence, it is currently too early to comment on which virus type or subtype may become dominant in Europe this season.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. In week 41/2008, 26 countries reported clinical data and 25 countries reported virological data to EISS. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the responsibility of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (United Kingdom).

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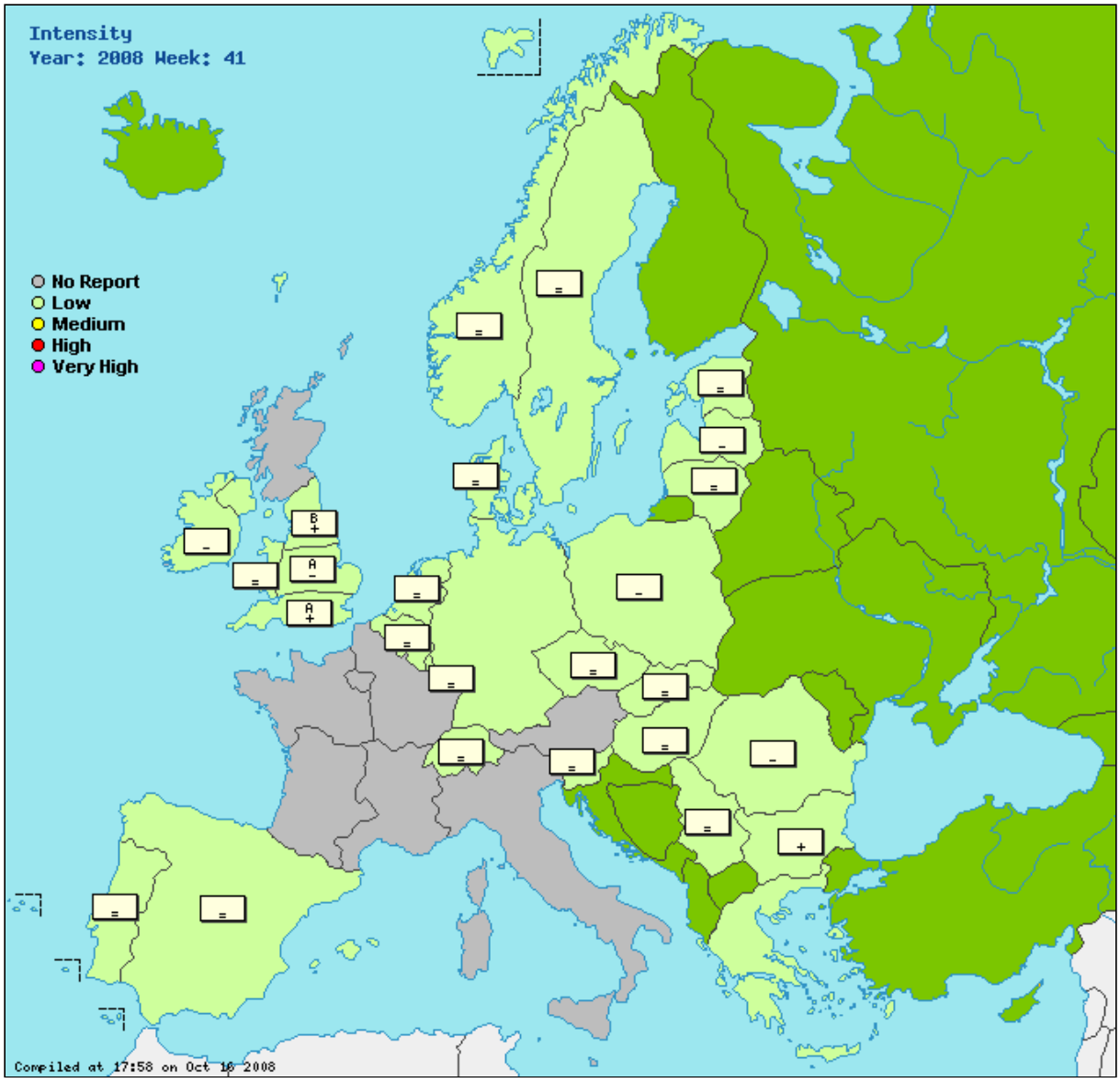
You may select the type of map : **Intensity** ◉ **Geographical spread** ○

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## Country comments (where available)

**Switzerland**
No activity detected last week.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | None | | | 14 | 0% | None | 87.4 (graphs) | 1680.6 (graphs) | Click here |
| Bulgaria | Low | None | | | 0 | 0% | None | (graphs) | 575.8 (graphs) | Click here |
| Czech Republic | Low | None | | | 7 | 0% | None | 21.7 (graphs) | 908.4 (graphs) | Click here |
| Denmark | Low | None | | | 0 | 0% | None | 15.3 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | | 29 | 6.9% | Type A, Subtype H1 and H3 | 6.9 (graphs) | 468.1 (graphs) | Click here |
| Estonia | Low | None | | | 4 | 0% | None | 1.3 (graphs) | 291.1 (graphs) | Click here |
| Germany | Low | None | | | 11 | 0% | None | (graphs) | 858.0 (graphs) | Click here |
| Greece | Low | None | | | 0 | 0% | None | 60.9 (graphs) | (graphs) | Click here |
| Hungary | Low | None | | | 3 | 0% | None | 123.5 (graphs) | (graphs) | Click here |
| Ireland | Low | None | | | 1 | 0% | None | 6.2 (graphs) | (graphs) | Click here |
| Latvia | Low | None | | | 0 | 0% | None | 0.0 (graphs) | 992.3 (graphs) | Click here |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lithuania | Low | None | 0 | 0% | None | 0.2 (graphs) | 470.1 (graphs) | Click here |
| Luxembourg | Low | None | 4 | 0% | None | 43.2 (graphs) | 2202.6 (graphs) | Click here |
| Netherlands | Low | None | 7 | 0% | None | 42.2 (graphs) | (graphs) | Click here |
| Northern Ireland | Low | None | 3 | 0% | None | 16.2 (graphs) | (graphs) | Click here |
| Norway | Low | None | 0 | 0% | None | 24.1 (graphs) | (graphs) | Click here |
| Poland | Low | None | 17 | 0% | None | 33.9 (graphs) | (graphs) | Click here |
| Portugal | Low | None | 3 | 0% | None | 7.5 (graphs) | (graphs) | Click here |
| Romania | Low | None | 0 | 0% | None | 0.0 (graphs) | 970.3 (graphs) | Click here |
| Serbia | Low | None | 0 | 0% | None | 40.2 (graphs) | (graphs) | Click here |
| Slovakia | Low | None | 0 | 0% | None | 192.2 (graphs) | 1600.4 (graphs) | Click here |
| Slovenia | Low | None | 2 | 0% | None | 0.0 (graphs) | 963.6 (graphs) | Click here |
| Spain | Low | None | 13 | 0% | None | 8.8 (graphs) | (graphs) | Click here |
| Sweden | Low | Sporadic | 28 | 0% | None | 1.6 (graphs) | (graphs) | Click here |
| Switzerland | Low | None | 6 | 0% | None | 10.7 (graphs) | | Click here |
| Wales | Low | None | | | | 2.7 (graphs) | (graphs) | Click here |
| Europe | | | 159 | 1.3% | | | | 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).
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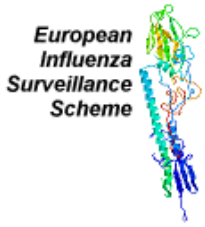


**Summary:** Levels of influenza activity in Europe are low, with all countries reporting no or only sporadic influenza activity in week 42/2008. Only a few laboratory confirmed cases of influenza have been reported during the weeks 40-42/2008.

**Epidemiological situation - week 42/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all of the 23 countries providing these data. For the geographical spread indicator, sporadic influenza activity was reported in two countries (England and Ireland) and no activity in 21 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-42/2008):** So far this season, the consultation rates for ILI and/or ARI are at levels usually seen outside the winter period (e.g. below the national baseline threshold).

**Virological situation - week 42/2008:** The total number of respiratory specimens collected by sentinel physicians in week 42/2008 was 199, of which four (2%) were influenza virus positive, two type A not subtyped in Ireland and two subtype A(H3N2), one each in The Netherlands and Sweden. In addition, six influenza virus detections were reported from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals), of which three were type A not subtyped,[two in England and one in Sweden], one subtype A(H1) in Germany, one A(H3N2) in Sweden and one was type B in England.

**Cumulative virological situation – 2008-2009 season (weeks 40-42/2008):** During the first three weeks of the current season, 22 influenza viruses were detected in six countries: 11 type A not subtyped, three subtype A(H1), five A(H3) [of which three were A(H3N2)] and three type B. In addition to England, Spain and Sweden, virus has now also been detected in Germany, Ireland and The Netherlands.

**Comment:** There have only been a few sporadic laboratory confirmed cases of influenza reported to EISS in this surveillance season (the past three weeks). Hence, it is currently too early to comment on which virus type or subtype may become dominant in Europe this season.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. In week 42/2008, 23 countries reported clinical data and 24 countries reported virological data to EISS. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the responsibility of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (United Kingdom).

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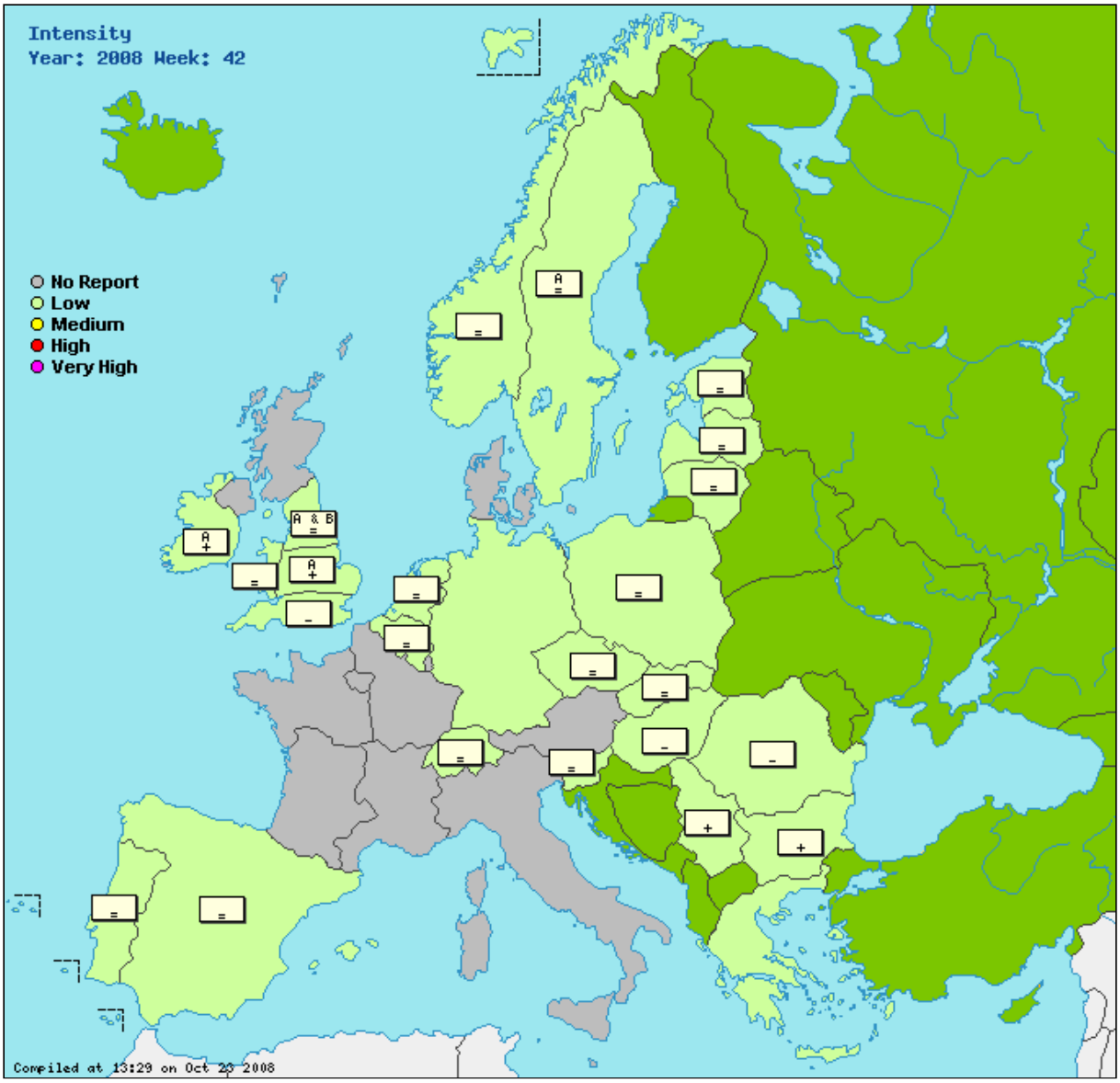


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**H1N1** = Dominant virus A(H1N1)
**H3N2** = Dominant virus A(H3N2)
**H1N2** = Dominant virus A(H1N2)
**B** = Dominant virus B
**A & B** = Dominant virus A & B

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## Country comments (where available)

**Netherlands**
In week 42, a specimen from a sentinel boy patient of 3 years old with ILI was positive for infleunza virus A(H3N2). The patient got ill on the day of returning from Mexico. This is the first influenza virus positive sentinel patient this season in the Netherlands.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | None | | | 8 | 0% | None | 42.2 (graphs) | 1467.7 (graphs) | Click here |
| Bulgaria | Low | None | | | 0 | 0% | None | (graphs) | 641.3 (graphs) | Click here |
| Czech Republic | Low | None | | | 18 | 0% | None | 20.6 (graphs) | 922.6 (graphs) | Click here |
| Denmark | | | | | 0 | 0% | None | (graphs) | | Click here |
| England | Low | Sporadic | | | 37 | 0% | Type A | 6.9 (graphs) | 556.8 (graphs) | Click here |
| Estonia | Low | None | | | 5 | 0% | None | 0.5 (graphs) | 297.1 (graphs) | Click here |
| Germany | Low | None | | | 14 | 0% | None | (graphs) | 776.0 (graphs) | Click here |
| Greece | Low | None | | | 0 | 0% | None | 0.0 (graphs) | 64.0 (graphs) | Click here |
| Hungary | Low | None | | | 3 | 0% | None | 115.1 (graphs) | (graphs) | Click here |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Ireland | Low | Sporadic | 3 | 66.7% | Type A | 7.3 (graphs) | | (graphs) | Click here |
| Latvia | Low | None | 0 | 0% | None | 0.0 (graphs) | 1009.1 | (graphs) | Click here |
| Lithuania | Low | None | 0 | 0% | None | 0.4 (graphs) | 484.4 | (graphs) | Click here |
| Netherlands | Low | None | 7 | 14.3% | None | 28.0 (graphs) | | (graphs) | Click here |
| Northern Ireland | | | 1 | 0% | None | (graphs) | | | Click here |
| Norway | Low | None | 2 | 0% | None | 23.0 (graphs) | | (graphs) | Click here |
| Poland | Low | None | 10 | 0% | None | 33.8 (graphs) | | (graphs) | Click here |
| Portugal | Low | None | 4 | 0% | None | 9.2 (graphs) | | (graphs) | Click here |
| Romania | Low | None | 7 | 0% | None | 0.0 (graphs) | 944.1 | (graphs) | Click here |
| Serbia | Low | None | 0 | 0% | None | 73.8 (graphs) | | (graphs) | Click here |
| Slovakia | Low | None | 2 | 0% | None | 171.5 (graphs) | 1584.4 | (graphs) | Click here |
| Slovenia | Low | None | 3 | 0% | None | 0.0 (graphs) | 775.3 | (graphs) | Click here |
| Spain | Low | None | 30 | 0% | None | 14.1 (graphs) | | (graphs) | Click here |
| Sweden | Low | None | 43 | 2.3% | Type A | 1.3 (graphs) | | (graphs) | Click here |
| Switzerland | Low | None | 2 | 0% | None | 9.0 (graphs) | | | Click here |
| Wales | Low | None | | | | 1.0 (graphs) | | (graphs) | Click here |
| Europe | | | 199 | 2.0% | | | | | Click here |

*Preliminary data*

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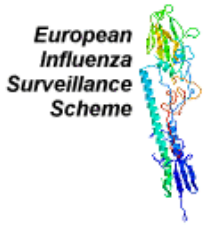
**ILI:** influenza-like illness
**Sentinel SARI:** severe acute respiratory illness
**Population:** per 100,000 population
*: the value in the table for these countries reflects the percent (e.g. from 0.0 to 100.0) of total outpatient encounters that were due to ILI/ARI rather than a consultation rate per 100,000

The bulletin text was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Continuing low levels of influenza activity in Europe




**Summary:** Levels of influenza activity in Europe were low, with all countries reporting no or only sporadic influenza activity in week 43/2008. Only a few laboratory confirmed cases of influenza were reported during the weeks 40-43/2008.

**Epidemiological situation - week 43/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all of the 25 countries providing these data. For the geographical spread indicator, sporadic influenza activity was reported in England and no activity in the remaining 24 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-43/2008):** So far this season, the consultation rates for ILI and/or ARI are at levels usually seen outside the winter period (e.g. below the national baseline threshold).

**Virological situation - week 43/2008:** The total number of respiratory specimens collected by sentinel physicians in week 43/2008 was 209, of which five (2.4%) were influenza virus positive: one subtype A(H3) in England, two type B in Germany as well as one subtype A(H1N1) and one subtype A(H3N2) in Spain. In addition, 19 influenza virus detections were reported from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals): 11 in England and three in Sweden were type A not subtyped, three were subtype A(H1) and one subtype A(H3) in England, and one in Germany was type B.

**Cumulative virological situation – 2008-2009 season (weeks 40-43/2008):** During the first three weeks of the current season, 51 influenza viruses were detected in six countries: 26 type A not subtyped, seven subtype A(H1) [of which one was A(H1N1)], 11 A(H3) [of which four were A(H3N2)] and seven type B. These detections were reported from England, Germany, Ireland, Spain, Sweden and The Netherlands.

**Comment:** Only comparably few laboratory confirmed cases of influenza have so far been reported to EISS in this surveillance season. Hence, it is too early to comment on which virus type or subtype may become dominant in Europe this season.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. In week 43/2008, 25 countries reported clinical data and 23 countries reported virological data to EISS. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the responsibility of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (United Kingdom).

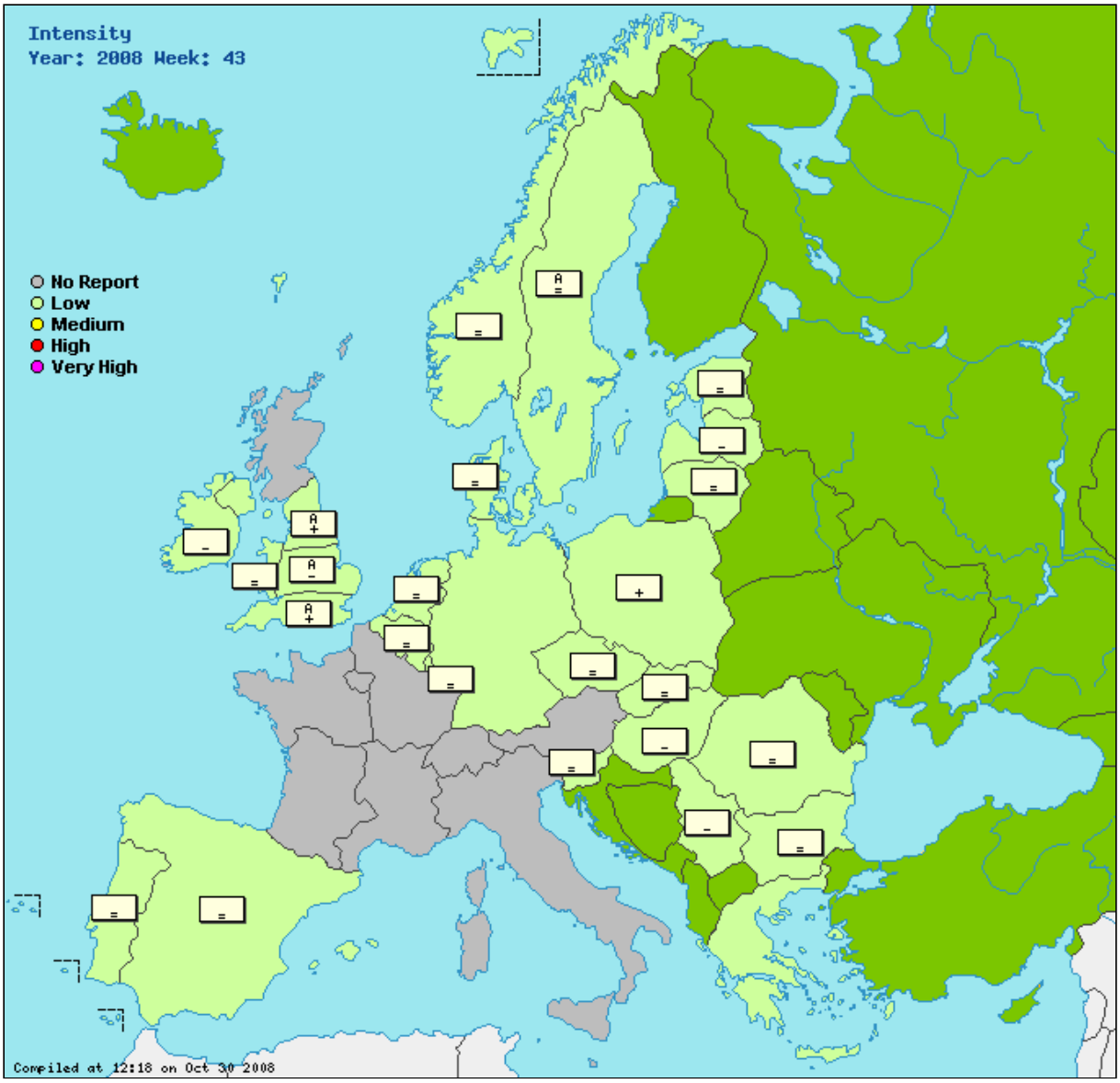
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | None | | | 15 | 0% | None | 38.6 (graphs) | 270.3 (graphs) | Click here |
| Bulgaria | Low | None | | | 0 | 0% | None | (graphs) | 589.0 (graphs) | Click here |
| Czech Republic | Low | None | | | 20 | 0% | None | 22.6 (graphs) | 935.7 (graphs) | Click here |
| Denmark | Low | None | | | 2 | 0% | None | 9.9 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | | 35 | 2.9% | Type A | 7.8 (graphs) | 532.5 (graphs) | Click here |
| Estonia | Low | None | | | 1 | 0% | None | 0.5 (graphs) | 266.5 (graphs) | Click here |
| Germany | Low | None | | | 18 | 11.1% | None | (graphs) | 772.0 (graphs) | Click here |
| Greece | Low | None | | | | | | 0.0 (graphs) | | Click here |
| Hungary | Low | None | | | 2 | 0% | None | 72.6 (graphs) | (graphs) | Click here |
| Ireland | Low | None | | | 1 | 0% | None | 5.6 (graphs) | (graphs) | Click here |
| Latvia | Low | None | | | 0 | 0% | None | 0.0 (graphs) | 868.6 (graphs) | Click here |
| Lithuania | Low | None | | | 0 | 0% | None | 0.2 (graphs) | 476.8 (graphs) | Click here |

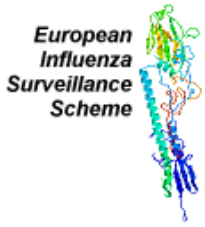
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Luxembourg | Low | None | 3 | 0% | None | 0.0 | (graphs) | 2418.4 | (graphs) | Click here |
| Netherlands | Low | None | 7 | 0% | None | 21.7 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | None | 4 | 0% | None | 22.4 | (graphs) | | (graphs) | Click here |
| Norway | Low | None | 0 | 0% | None | 28.1 | (graphs) | | (graphs) | Click here |
| Poland | Low | None | 15 | 0% | None | 41.0 | (graphs) | | (graphs) | Click here |
| Portugal | Low | None | 1 | 0% | None | 0.0 | (graphs) | | (graphs) | Click here |
| Romania | Low | None | 10 | 0% | None | 0.3 | (graphs) | 978.2 | (graphs) | Click here |
| Serbia | Low | None | 0 | 0% | None | 49.7 | (graphs) | | (graphs) | Click here |
| Slovakia | Low | None | 1 | 0% | None | 181.2 | (graphs) | 1561.9 | (graphs) | Click here |
| Slovenia | Low | None | 4 | 0% | None | 0.0 | (graphs) | 660.9 | (graphs) | Click here |
| Spain | Low | None | 39 | 5.1% | None | 15.5 | (graphs) | | (graphs) | Click here |
| Sweden | Low | None | 31 | 0% | Type A | 1.0 | (graphs) | | (graphs) | Click here |
| Wales | Low | None | | | | 2.0 | (graphs) | | (graphs) | Click here |
| Europe | | | 209 | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Continuing low levels of influenza activity in Europe




**Summary:** Levels of influenza activity in Europe were low in all countries reporting data in week 44/2008. Since week 40/2008, only sporadic laboratory confirmed cases of influenza have been reported.

**Epidemiological situation - week 44/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all of the 26 countries providing these data. For the geographical spread indicator, sporadic influenza activity was reported in England, Ireland and Poland and no activity in the remaining 23 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-44/2008):** So far this season, the consultation rates for ILI and/or ARI are at levels usually seen outside the winter period (i.e. below the national baseline threshold).

**Virological situation - week 44/2008:** The total number of respiratory specimens collected by sentinel physicians in week 44/2008 was 224, of which eight (3.6%) were influenza virus positive; one was type A not subtyped, six A (H3) and one type B. In addition, ten influenza virus detections were reported from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) of which eight were type A not subtyped, one A(H1N1) and one A(H3N2). Influenza virus detections were reported from six countries across Europe (Belgium, Denmark, England, Ireland, Norway and Poland).

**Cumulative virological situation – 2008-2009 season (weeks 40-44/2008):** Based on virus detections since week 40/2008, (N=75 sentinel and non-sentinel data), 34 were type A not subtyped, nine were A(H1) [of which two were A(H1N1)], 24 were A(H3) and eight were B.
Based on the antigenic and/or genetic characterisation of 13 influenza viruses, two were A/Brisbane /59/2007 (H1N1)-like, nine were A/Brisbane /10/2007 (H3N2)-like, one was B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and one was B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). Information on antiviral resistance in influenza viruses for last northern hemisphere season and in the rest of the world is available here.

**Comment:** Only a small proportion of the tested sentinel specimens was positive for influenza this week and relatively few influenza detections were reported from non-sentinel sources. Hence, it is too early to comment on which virus type or subtype may become dominant in Europe this season or on whether viruses will show antiviral resistance. However, 12 of 13 of the antigenically and/or genetically characterised viruses so far seem to be a good match to the corresponding vaccine strains recommended for inclusion in the 2008-2009 influenza vaccine.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. In week 44/2008, 26 countries reported clinical data and 24 countries reported virological data to EISS. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the responsibility of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (United Kingdom).

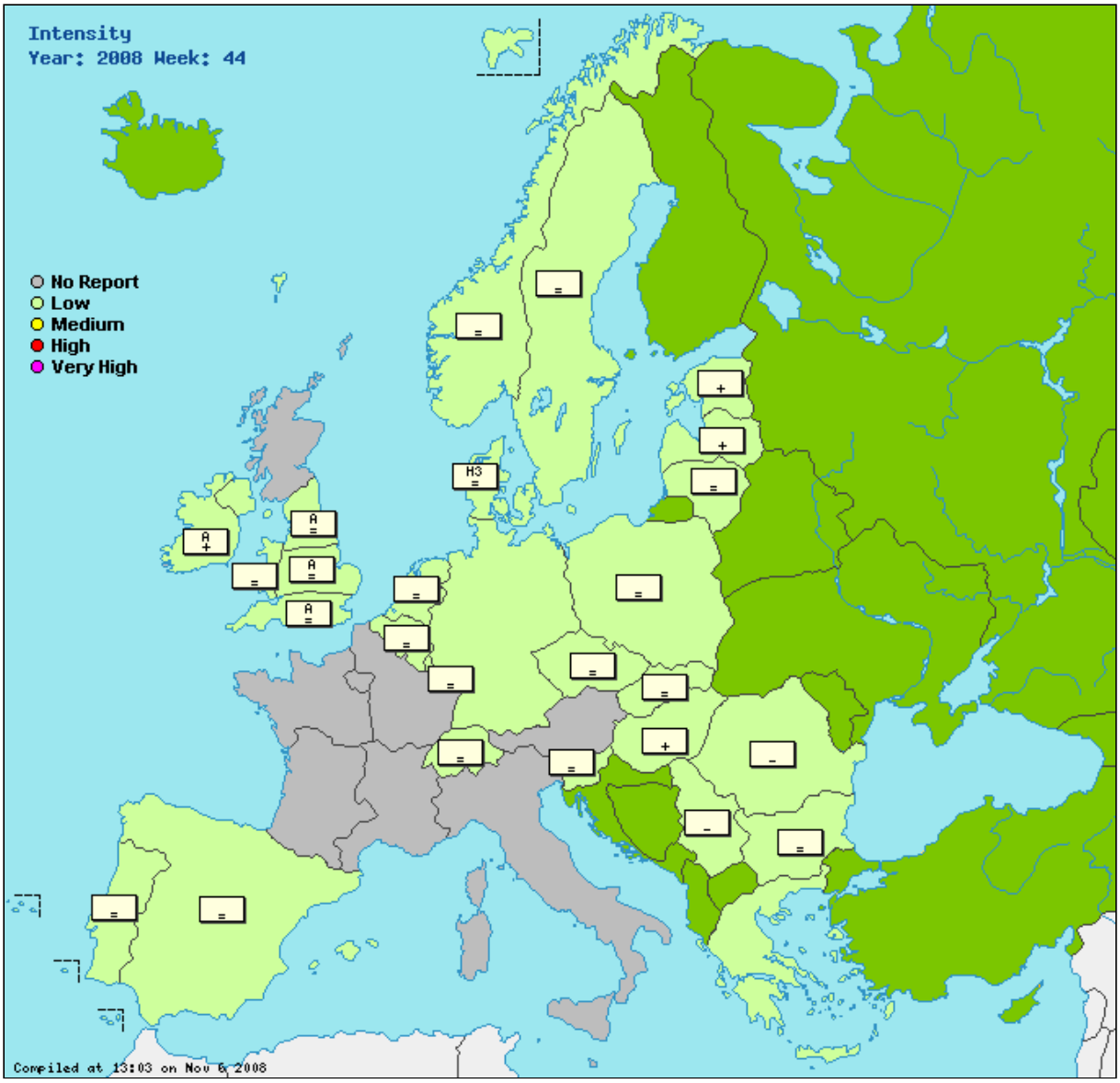
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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

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**+** : increasing clinical activity
**-** : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels
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**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)

**Belgium**
The sentinel network of GPs detected one isolated case of influenza B in an adult.
**Denmark**
The single positive influenza A H3N2 sample from Denmark was from a traveller from the Philippines.
**Norway**
One case of influenza A(H1N1) virus, patient returning from travel abroad (USA)
**Switzerland**
No influenza activity detected in Switzerland this week.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | None | | | 11 | 9.1% | None | 59.3 (graphs) | 1374.8 (graphs) | Click here |
| Bulgaria | Low | None | | | 0 | 0% | None | (graphs) | 462.6 (graphs) | Click here |
| Czech Republic | Low | None | | | 12 | 0% | None | 20.6 (graphs) | 834.3 (graphs) | Click here |
| Denmark | Low | None | | | 5 | 0% | Type A, Subtype H3 | 24.3 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | | 45 | 13.3% | None | 6.8 (graphs) | 504.7 (graphs) | Click here |

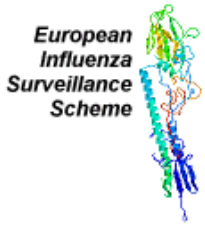
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Estonia | Low | None | 3 | 0% | None | 0.7 (graphs) | 298.0 (graphs) | Click here |
| Germany | Low | None | 22 | 0% | None | (graphs) | 700.0 (graphs) | Click here |
| Greece | Low | None | | | | (graphs) | (graphs) | Click here |
| Hungary | Low | None | 3 | 0% | None | 82.6 (graphs) | (graphs) | Click here |
| Ireland | Low | Sporadic | 5 | 0% | Type A | 6.4 (graphs) | (graphs) | Click here |
| Latvia | Low | None | 0 | 0% | None | 0.0 (graphs) | 907.2 (graphs) | Click here |
| Lithuania | Low | None | 0 | 0% | None | 0.1 (graphs) | 383.0 (graphs) | Click here |
| Luxembourg | Low | None | 1 | 0% | None | 0.0 (graphs) | 2682.8 (graphs) | Click here |
| Netherlands | Low | None | 9 | 0% | None | 22.9 (graphs) | (graphs) | Click here |
| Northern Ireland | Low | None | 3 | 0% | None | 18.8 (graphs) | (graphs) | Click here |
| Norway | Low | None | 0 | 0% | None | 23.7 (graphs) | (graphs) | Click here |
| Poland | Low | Sporadic | 15 | 6.7% | None | 37.5 (graphs) | (graphs) | Click here |
| Portugal | Low | None | 3 | 0% | None | 4.8 (graphs) | (graphs) | Click here |
| Romania | Low | None | 8 | 0% | None | 0.5 (graphs) | 969.0 (graphs) | Click here |
| Serbia | Low | None | 0 | 0% | None | 44.5 (graphs) | (graphs) | Click here |
| Slovakia | Low | None | 0 | 0% | None | 163.8 (graphs) | 1456.3 (graphs) | Click here |
| Slovenia | Low | None | 2 | 0% | None | 0.0 (graphs) | 578.0 (graphs) | Click here |
| Spain | Low | None | 28 | 0% | None | 13.2 (graphs) | (graphs) | Click here |
| Sweden | Low | None | 44 | 0% | None | 1.4 (graphs) | (graphs) | Click here |
| Switzerland | Low | None | 5 | 0% | None | 6.7 (graphs) | | Click here |
| Wales | Low | None | | | | (graphs) | (graphs) | Click here |
| Europe | | | 224 | 3.6% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Continuing low levels of influenza activity in Europe – more countries reporting virus detections




**Summary:** Levels of influenza activity were low in all European countries reporting data in week 45/2008. Since week 40/2008, sporadic laboratory-confirmed cases of influenza have been reported from 15 countries across Europe.

**Epidemiological situation - week 45/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all the 26 countries providing data. For the geographical spread indicator, sporadic influenza activity was reported in England, Ireland, Northern Ireland, Norway and Portugal and no activity in 21 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-45/2008):** So far this season, the consultation rates for ILI and/or ARI are at levels usually seen outside the winter period (i.e. below the national baseline threshold).

**Virological situation - week 45/2008:** The total number of respiratory specimens collected by sentinel physicians in week 45/2008 was 273, of which 17 (6.2%) were influenza virus positive; 16 type A (12 subtype H3, one subtype H1 and three not subtyped), and one type B. In addition, 24 influenza virus detections were reported from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals); 22 type A (two subtype H1 and 20 not subtyped), and two type B. Detection of influenza viruses was reported from ten countries across Europe, which, with two exceptions, were located along the western borders of Europe (England, Ireland, Northern Ireland, Norway, Portugal, Romania, Spain, Sweden, Switzerland, Wales).

**Cumulative virological situation – 2008-2009 season (weeks 40-45/2008):** Of virus detections since week 40/2008, (N=125, sentinel and non-sentinel data), 111 were type A (39 subtype H3, 15 subtype H1 and 57 not subtyped), and 14 were type B.
Based on the antigenic and/or genetic characterisation of 23 influenza viruses, six were reported as A/Brisbane/59/2007 (H1N1)-like, 14 as A/Brisbane/10/2007 (H3N2)-like, one as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and two as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here).
Analyses of antiviral susceptibility by genetic or phenotypic methods have been reported for nine influenza viruses, five A(H1N1) and three A(H3N2) from the UK and one A(H1N1) from Norway. Five of the six A(H1N1) viruses were shown to be resistant to oseltamivir (4 from the UK and 1 from Norway) and one to be sensitive; all those tested against zanamivir (4) and amantadine (2) were shown to be sensitive. The two A(H3N2) viruses tested against amantadine were shown to be resistant; all three A(H3N2) viruses were shown to be sensitive to oseltamivir and zanamivir.

**Comment:** An increasing number of countries reported sporadic influenza virus detection compared to previous weeks, although this was not accompanied by significant increases in consultation rates. Most of the countries (11/15) in which influenza viruses have been detected since week 40/2008 are located along the western borders of Europe. The majority (89%; 111/125) of virus detections have been type A and 72% (39/54) of those subtyped were shown to be H3. It is too soon, however, to conclude which virus type or subtype may become dominant in Europe this season. Similarly, limited data are available on antiviral resistance and although most (5/6) of the A(H1N1) viruses analysed to date are oseltamivir-resistant it is too early to comment on the resistance pattern for Europe as a whole.

Whilst influenza activity in Europe is currently low, reports of RSV (respiratory syncytial virus), a respiratory virus with clinical symptoms similar to influenza, are increasing in several countries in Europe that report RSV detections to EISS, notably for the UK (e.g. England and Northern Ireland), Ireland and the the Netherlands. The increase in RSV detections at this time of the year is a normal phenomenon in these countries.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. In week 45/2008, 26 countries reported clinical data and 24 countries reported virological data to EISS. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (United Kingdom).

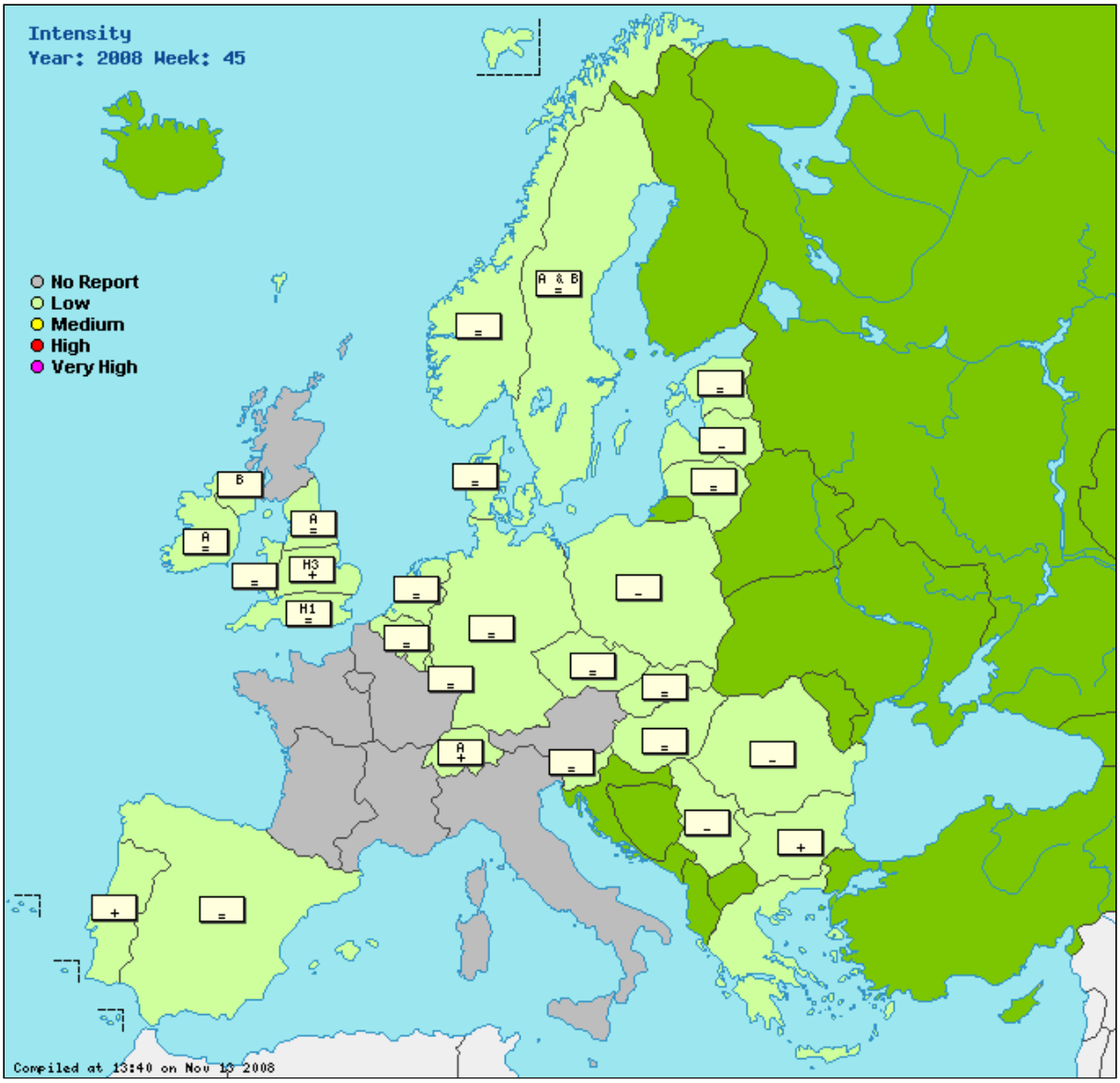
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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

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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**
One case of influenza A detected by a laboratory in Northern Norway
**Spain**
Sporadic AH3 isolates in the North of Spain

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | None | | | 10 | 0% | None | 48.9 (graphs) | 1465.1 (graphs) | Click here |
| Bulgaria | Low | None | | | 4 | 0% | None | (graphs) | 956.0 (graphs) | Click here |
| Czech Republic | Low | None | | | | | | 20.0 (graphs) | 868.9 (graphs) | Click here |
| Denmark | Low | None | | | 5 | 0% | None | 15.7 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | | 50 | 10.0% | Type A | 9.6 (graphs) | 574.6 (graphs) | Click here |
| Estonia | Low | None | | | 2 | 0% | None | 0.7 (graphs) | 246.0 (graphs) | Click here |
| Germany | Low | None | | | 25 | 0% | None | (graphs) | 737.0 (graphs) | Click here |
| Greece | Low | None | | | 0 | 0% | None | 49.1 (graphs) | (graphs) | Click here |
| Hungary | Low | None | | | 2 | 0% | None | 81.6 (graphs) | (graphs) | Click here |

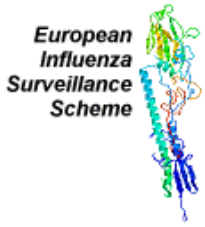
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Ireland | Low | Sporadic | 2 | 0% | Type A | 6.5 (graphs) | | (graphs) | Click here |
| Latvia | Low | None | 0 | 0% | None | 0.0 (graphs) | 870.9 | (graphs) | Click here |
| Lithuania | Low | None | 0 | 0% | None | 0.5 (graphs) | 364.7 | (graphs) | Click here |
| Luxembourg | Low | None | 1 | 0% | None | 0.0 (graphs) | 1883.7 | (graphs) | Click here |
| Netherlands | Low | None | 8 | 0% | None | 34.6 (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | 1 | 100.0% | Type B | 27.9 (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | 0 | 0% | None | 12.4 (graphs) | | (graphs) | Click here |
| Poland | Low | None | 18 | 0% | None | 29.9 (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | 3 | 33.3% | None | 23.1 (graphs) | | (graphs) | Click here |
| Romania | Low | None | 9 | 33.3% | None | 0.3 (graphs) | 928.4 | (graphs) | Click here |
| Serbia | Low | None | | | | 44.5 (graphs) | | (graphs) | Click here |
| Slovakia | Low | None | 0 | 0% | None | 149.2 (graphs) | 1321.4 | (graphs) | Click here |
| Slovenia | Low | None | 4 | 0% | None | 0.0 (graphs) | 846.0 | (graphs) | Click here |
| Spain | Low | None | 65 | 4.6% | None | 24.1 (graphs) | | (graphs) | Click here |
| Sweden | Low | None | 57 | 3.5% | Type A and B | 2.0 (graphs) | | (graphs) | Click here |
| Switzerland | Low | None | 7 | 28.6% | Type A | 14.2 (graphs) | | | Click here |
| Wales | Low | None | 0 | 0% | None | 3.0 (graphs) | | (graphs) | Click here |
| Europe | | | 273 | 6.2% | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Influenza activity in Europe continues to be low – more countries report initial virus detections




**Summary:** The level of influenza activity was low in all countries reporting data in week 46/2008. Since week 40/2008, sporadic laboratory-confirmed cases of influenza have been reported from 18 countries across Europe.

**Epidemiological situation - week 46/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all the 25 countries providing data. However, marked increases in the consultation rates for ILI and/or ARI within the 0-4 age group were reported by Austria, Belgium, Bulgaria, England and Spain. For the geographical spread indicator, sporadic influenza activity was reported in 12 countries (Czech Republic, Denmark, England, Hungary, Ireland, Netherlands, Northern Ireland, Norway, Portugal, Spain, Sweden and Switzerland) and no activity in the other 13 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-46/2008):** So far this season, the consultation rates for ILI and/or ARI are at levels usually seen outside the winter period (i.e. below the national baseline threshold).

**Virological situation - week 46/2008:** The total number of respiratory specimens collected by sentinel physicians in week 46/2008 was 451, of which 32 (7.1%) were positive for influenza virus: 29 type A (22 subtype H3 and seven not subtyped) and three type B. In addition, 30 influenza virus detections were reported from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals): 28 type A (six subtype H3 and 22 not subtyped) and two type B. Detection of influenza viruses was reported from 13 countries across Europe and included the first detections in Czech Republic, Hungary and Italy.

**Cumulative virological situation – 2008-2009 season (weeks 40-46/2008):** Of 192 virus detections (sentinel and non-sentinel) since week 40/2008, 171 were type A (73 subtype H3, 15 subtype H1 and 83 not subtyped) and 21 were type B.
Based on the antigenic and/or genetic characterisation of 41 influenza viruses, three were reported as A/Brisbane/59/2007 (H1N1)-like, 35 as A/Brisbane/10/2007 (H3N2)-like, one as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and two as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here).
Analyses of antiviral susceptibility by genetic or phenotypic methods have been reported for 26 influenza viruses, 11 A(H1N1) and 15 A(H3N2) from England and one A(H1N1) from Norway. Eleven of the 12 A(H1N1) viruses were shown to be resistant to oseltamivir (10 from England and 1 from Norway) and one to be sensitive; all those tested against zanamivir (12) and amantadine (4) were shown to be sensitive. The six A(H3N2) viruses tested against amantadine were shown to be resistant; all 15 A(H3N2) viruses were shown to be sensitive to oseltamivir and zanamivir.

**Comment:** An increasing number of countries reported sporadic influenza virus detection compared to previous weeks (12 versus five or less in previous weeks), although this was not accompanied by significant increases in overall consultation rates. The 18 countries that have detected influenza viruses since week 40/2008 are geographically distributed throughout Europe. The majority (89%; 171/192) of virus detections up to week 46 have been type A, a percentage unchanged since week 45. The proportion of type A viruses subtyped as H3 has increased from 72% up to week 45 to 83% (73/88) at week 46. Although this represents an apparent increase in prevalence of the H3 subtype, it is too soon to conclude which virus type or subtype may become dominant in Europe this season.
Similarly, limited data from only two countries (England and Norway) are available for antiviral resistance and although most (11/12) of the A(H1N1) viruses analysed to date are oseltamivir-resistant, these represent very early-season isolates. It is too early to comment on the antiviral-resistance pattern for Europe as a whole.

Whilst influenza activity in Europe is currently low, reports of RSV (Respiratory Syncytial Virus which induces clinical symptoms similar to influenza) from countries in Europe that report RSV detections to EISS showed continued increases in the Netherlands and Northern Ireland). Increase in RSV detections at this time of the year is a normal phenomenon in these countries.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. In week 46/2008, 25 countries reported clinical data and 26 countries reported virological data to EISS. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

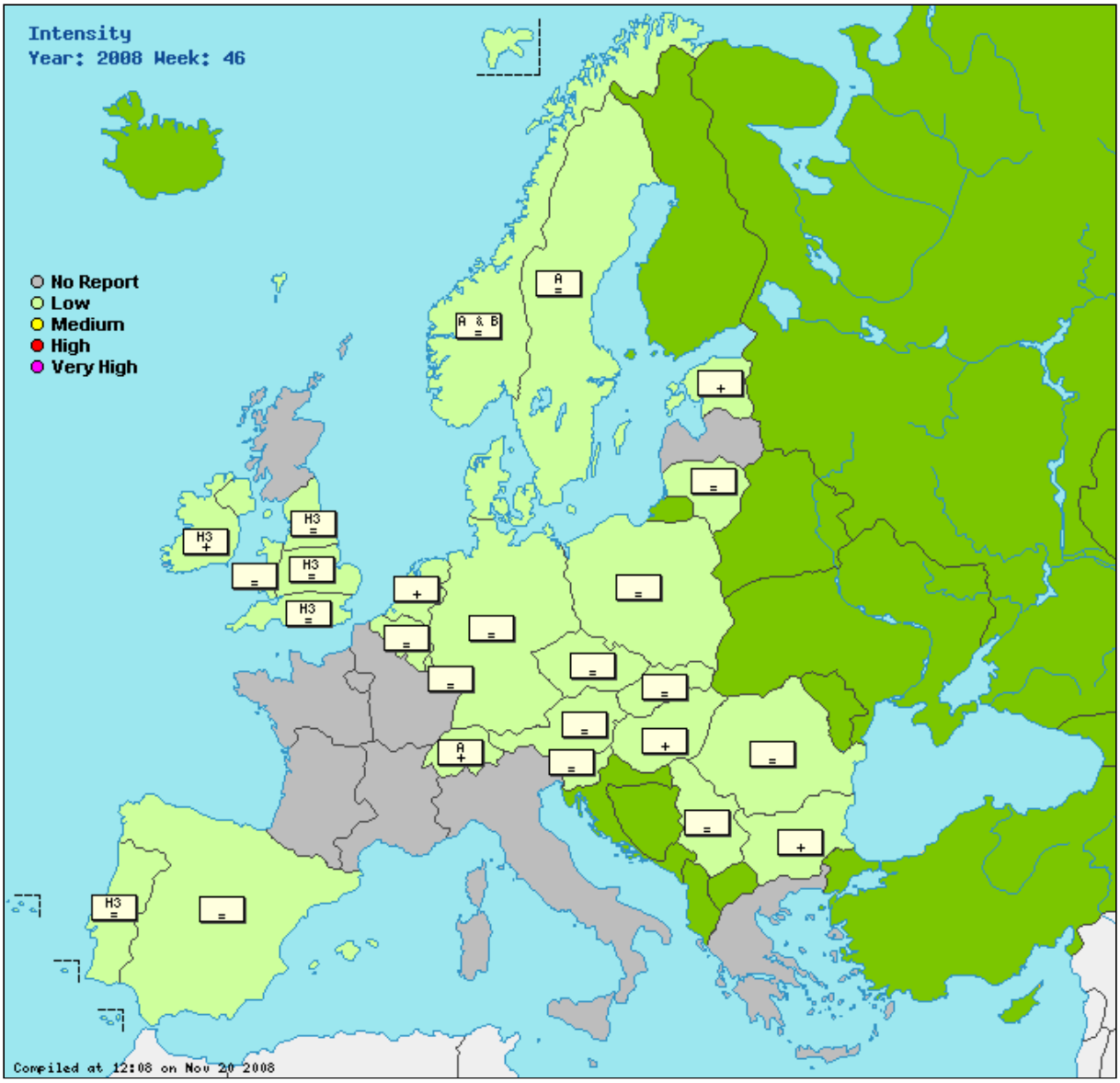
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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)

**Italy**
Two A/H3N2 influenza viruses have been isolated during this week. One further A/H3N2 virus had been previously isolated from a sample collected in week 43/08.

**Netherlands**
In week 46, a specimen from a sentinel boy patient of 10 years old with ILI was positive for infleunza virus A(H3N2). The patient has not visited foreign countries recently.

**Spain**
Sporadic B and AH3 isolates with a dispersed geographic distribution

**Switzerland**
Positive specimen were detected for the second consecutive week. 3 Influenza A viruses were detected during the week 46. However, clinical declarations remained below the epidemic threshold.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | Low | None | | | 43 | 0% | None | 943.7 (graphs) | (graphs) | Click here |
| Belgium | Low | None | | | 5 | 0% | None | 50.9 (graphs) | 1405.3 (graphs) | Click here |

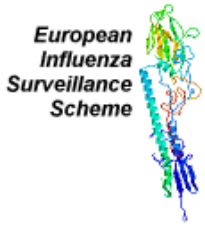
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bulgaria | Low | None | 0 | 0% | None | (graphs) | 957.2 (graphs) | Click here |
| Czech Republic | Low | Sporadic | 78 | 2.6% | None | 21.0 (graphs) | 871.7 (graphs) | Click here |
| Denmark | Low | Sporadic | 11 | 18.2% | None | 16.5 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | 68 | 17.7% | Type A, Subtype H3 | 10.9 (graphs) | 638.3 (graphs) | Click here |
| Estonia | Low | None | | | | 1.3 (graphs) | 273.8 (graphs) | Click here |
| Germany | Low | None | 17 | 5.9% | None | (graphs) | 799.0 (graphs) | Click here |
| Greece | | | 0 | 0% | None | (graphs) | | Click here |
| Hungary | Low | Sporadic | 12 | 0% | None | 85.7 (graphs) | (graphs) | Click here |
| Ireland | Low | Sporadic | 6 | 33.3% | Type A, Subtype H3 | 8.7 (graphs) | (graphs) | Click here |
| Italy | | | 4 | 50.0% | None | (graphs) | | Click here |
| Lithuania | Low | None | 0 | 0% | None | 0.4 (graphs) | 388.6 (graphs) | Click here |
| Luxembourg | Low | None | 5 | 0% | None | 55.0 (graphs) | 2225.9 (graphs) | Click here |
| Malta | | | 3 | 0% | None | (graphs) | | Click here |
| Netherlands | Low | Sporadic | 12 | 8.3% | None | 55.0 (graphs) | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | 6 | 0% | None | 27.3 (graphs) | (graphs) | Click here |
| Norway | Low | Sporadic | 4 | 25.0% | Type A and B | 25.9 (graphs) | (graphs) | Click here |
| Poland | Low | None | 4 | 0% | None | 25.7 (graphs) | (graphs) | Click here |
| Portugal | Low | Sporadic | 7 | 14.3% | Type A, Subtype H3 | 15.0 (graphs) | (graphs) | Click here |
| Romania | Low | None | 9 | 0% | None | 0.0 (graphs) | 940.5 (graphs) | Click here |
| Serbia | Low | None | 0 | 0% | None | 45.5 (graphs) | (graphs) | Click here |
| Slovakia | Low | None | 2 | 0% | None | 159.8 (graphs) | 1381.0 (graphs) | Click here |
| Slovenia | Low | None | 4 | 0% | None | 0.0 (graphs) | 828.7 (graphs) | Click here |
| Spain | Low | Sporadic | 67 | 4.5% | None | 25.2 (graphs) | (graphs) | Click here |
| Sweden | Low | Sporadic | 80 | 2.5% | Type A | 3.0 (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | 4 | 75.0% | Type A | 7.3 (graphs) | | Click here |
| Wales | Low | None | | | | 3.7 (graphs) | (graphs) | Click here |
| Europe | | | 451 | 7.1% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Influenza activity in Europe continues to be low




**Summary:** The level of influenza activity was low in all countries reporting data in week 47/2008. Since week 40/2008, sporadic laboratory-confirmed cases of influenza have been reported from 19 countries across Europe.

**Epidemiological situation - week 47/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all the 27 countries providing data. For the geographical spread indicator, sporadic influenza activity was reported in nine countries (Belgium, Denmark, England, Ireland, Northern Ireland, Norway, Spain, Sweden and Switzerland) with no activity in the other 18 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-47/2008):** So far this season, the consultation rates for ILI and/or ARI are at levels usually seen outside the winter period (i.e. below the national baseline threshold).

**Virological situation - week 47/2008:** The total number of respiratory specimens collected by sentinel physicians in week 47/2008 was 435, of which 40 (9.2%) were positive for influenza virus: 38 type A (32 subtype H3 and six not subtyped) and two type B. In addition, 35 influenza virus detections were reported from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals): 34 type A (one subtype H1, eight subtype H3 and 25 not subtyped), and one type B. Detection of influenza viruses was reported from nine countries across Europe.

**Cumulative virological situation – 2008-2009 season (weeks 40-47/2008):** Of 281 virus detections (sentinel and non-sentinel) since week 40/2008, 255 were type A (118 subtype H3, 19 subtype H1 and 118 not subtyped) and 26 were type B.
Based on the antigenic and/or genetic characterisation of 55 influenza viruses, three were reported as A/Brisbane/59/2007 (H1N1)-like, 49 as A/Brisbane/10/2007 (H3N2)-like, one as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and two as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here).
The number of viruses tested for antiviral resistance remained unchanged compared to those reported in week 46 (click here).

**Comment:** Many countries continue to report sporadic influenza virus detection, although this has not been accompanied by significant increases in overall consultation rates. The 19 countries that have detected influenza viruses since week 40/2008 are geographically distributed throughout Europe. The majority (91%; 255/281) of virus detections up to week 47 have been type A. The proportion of type A viruses subtyped as H3 has increased from 83% (73/88) at week 45 to 86% (118/137) at week 47. However, while this subtype seems to account for a majority of viruses in some countries (e.g. UK, Spain, Sweden), it is still too soon to conclude which virus type or subtype may become dominant in Europe this season, as data remain less clear for many other larger countries..

Whilst influenza activity in Europe is currently low, reports of Respiratory Syncytial Virus (RSV) detections from countries in Europe that report them to EISS, showed continued increases in England, Ireland, the Netherlands and Northern Ireland). RSV infections induce clinical symptoms similar to influenza. Increase in RSV detections at this time of the year is a normal phenomenon in these countries.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. In week 47/2008, 27 countries reported both clinical and virological data to EISS. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

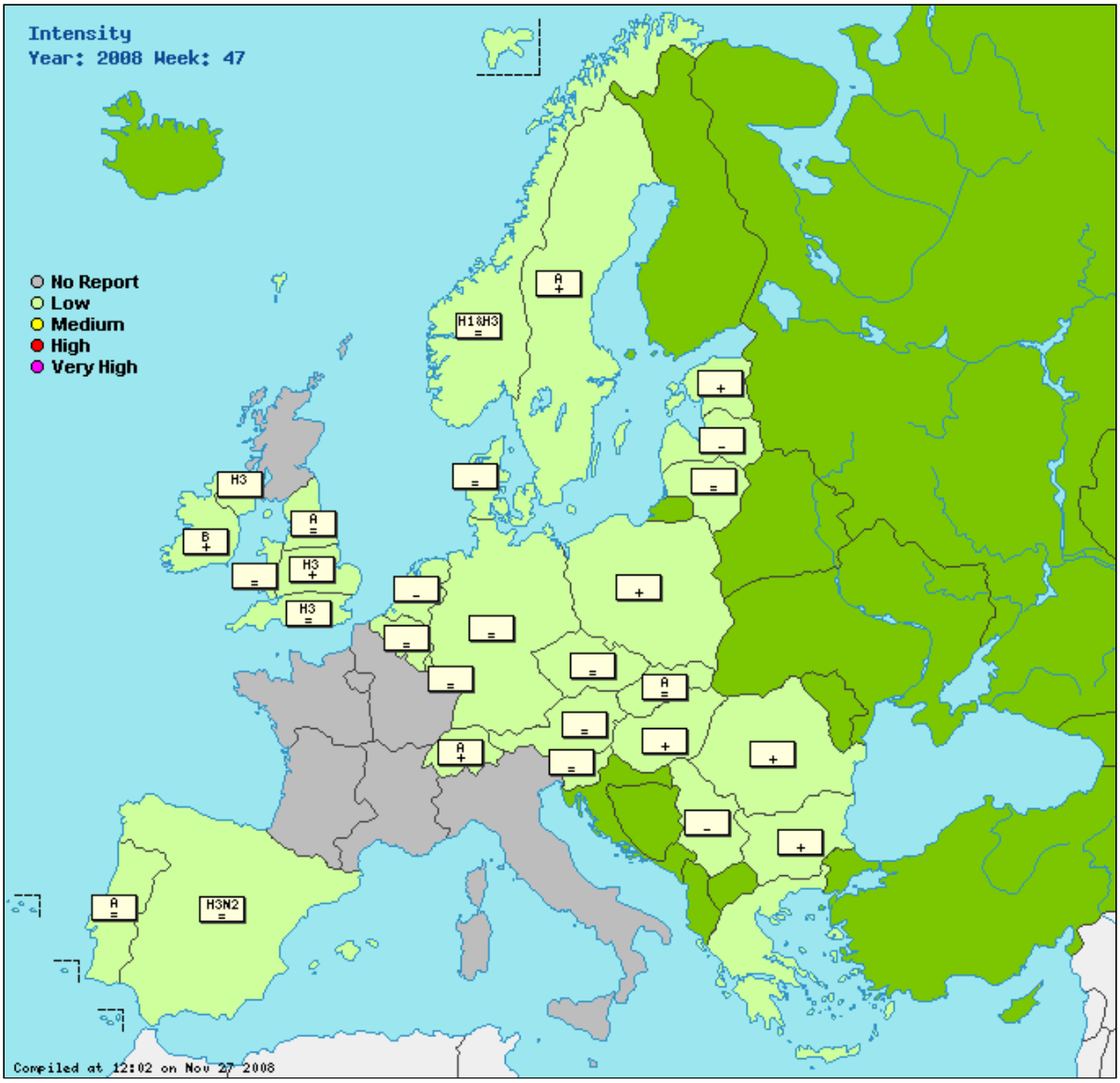
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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)

**Italy**
Three further A/H3N2 influenza viruses have been isolated during this week.
**Latvia**
In week 47,a specimen from non-sentinel girl of 13 years old ,patient with ARI ,was positive for influenza A.It was the first laboratory- confirmed influenza case in Latvia
**Switzerland**
no influenza virus was detected during the week 47. One additional influenza A virus was detected during the week 46.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | Low | None | | | 48 | 2.1% | None | 876.8 (graphs) | (graphs) | Click here |
| Belgium | Low | Sporadic | | | 9 | 0% | None | 90.7 (graphs) | 1834.3 (graphs) | Click here |
| Bulgaria | Low | None | | | 0 | 0% | None | (graphs) | 1007.9 (graphs) | Click here |
| Czech Republic | Low | None | | | 34 | 0% | None | 22.4 (graphs) | 948.3 (graphs) | Click here |
| Denmark | Low | Sporadic | | | 4 | 0% | None | 30.1 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | | 69 | 23.2% | Type A, Subtype H3 | 12.6 (graphs) | 703.5 (graphs) | Click here |

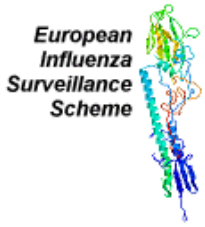
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Estonia | Low | None | 6 | 0% | None | 0.8 (graphs) | 293.0 (graphs) | Click here |
| Germany | Low | None | 30 | 3.3% | None | (graphs) | 854.0 (graphs) | Click here |
| Greece | Low | None | 0 | 0% | None | 52.5 (graphs) | (graphs) | Click here |
| Hungary | Low | None | 15 | 0% | None | 100.6 (graphs) | (graphs) | Click here |
| Ireland | Low | Sporadic | 8 | 12.5% | Type B | 10.8 (graphs) | (graphs) | Click here |
| Italy | | | 11 | 9.1% | None | (graphs) | | Click here |
| Latvia | Low | None | 1 | 0% | None | 0.0 (graphs) | 717.2 (graphs) | Click here |
| Lithuania | Low | None | 0 | 0% | None | 0.2 (graphs) | 446.4 (graphs) | Click here |
| Luxembourg | Low | None | 6 | 0% | None | 46.5 (graphs) | 2604.7 (graphs) | Click here |
| Netherlands | Low | None | 6 | 0% | None | 45.4 (graphs) | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | 5 | 40.0% | Type A, Subtype H3 | 41.4 (graphs) | (graphs) | Click here |
| Norway | Low | Sporadic | 0 | 0% | Type A, Subtype H1 and H3 | 35.9 (graphs) | (graphs) | Click here |
| Poland | Low | None | 21 | 0% | None | 33.1 (graphs) | (graphs) | Click here |
| Portugal | Low | None | 7 | 28.6% | Type A | 3.2 (graphs) | (graphs) | Click here |
| Romania | Low | None | 12 | 0% | None | 0.2 (graphs) | 981.5 (graphs) | Click here |
| Serbia | Low | None | 3 | 0% | None | 40.3 (graphs) | (graphs) | Click here |
| Slovakia | Low | None | 1 | 0% | Type A | 161.4 (graphs) | 1430.4 (graphs) | Click here |
| Slovenia | Low | None | 6 | 0% | None | 0.0 (graphs) | 1017.1 (graphs) | Click here |
| Spain | Low | Sporadic | 69 | 17.4% | Type A, Subtype H3N2 | 32.1 (graphs) | (graphs) | Click here |
| Sweden | Low | Sporadic | 52 | 7.7% | Type A | 3.1 (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | 12 | 0% | Type A | 14.5 (graphs) | | Click here |
| Wales | Low | None | | | | 2.7 (graphs) | (graphs) | Click here |
| Europe | | | 435 | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Overall low levels of influenza activity in Europe, despite slowly increasing activity in some countries




**Summary:** The level of influenza activity was low in all countries reporting data in week 48/2008. Since week 40/2008, sporadic laboratory-confirmed cases of influenza have been reported from 20 countries across Europe.

**Epidemiological situation - week 48/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all the 25 countries providing data. Eleven countries, however, reported increasing clinical activity (Estonia, Hungary, Latvia, Lithuania, Poland, Serbia, Slovakia, Spain, Sweden, England (two out of three regions) and Portugal). For the geographical spread indicator, sporadic influenza activity was reported in 11 countries (Belgium, Denmark, England, Germany, Hungary, Ireland, Northern Ireland, Norway, Portugal, Spain and Sweden) with no activity in the other 14 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-48/2008):** So far this season, the consultation rates for ILI and/or ARI are at levels usually seen outside the winter period (i.e. below the national baseline threshold).

**Virological situation - week 48/2008:** The total number of respiratory specimens collected by sentinel physicians in week 48/2008 was 536, of which 65 (12.1%) were positive for influenza virus: 63 type A (49 subtype H3, two H1 and 12 not subtyped) and two type B. In addition, 72 influenza virus detections were reported from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals): 68 type A (20 subtype H3, one subtype H1 and 47 not subtyped) and four type B. Detection of influenza viruses was reported from 11 countries across Europe.

**Cumulative virological situation – 2008-2009 season (weeks 40-48/2008):** Of 430 virus detections (sentinel and non-sentinel) since week 40/2008, 395 were type A (197 subtype H3, 23 subtype H1 and 175 not subtyped) and 35 were type B.
Based on the antigenic and/or genetic characterisation of 79 influenza viruses, 70 were reported as A/Brisbane/10/2007 (H3N2)-like, five as A/Brisbane/59/2007 (H1N1)-like, three as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and one as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) (click here).
Limited antiviral resistance data are available from only three countries (Austria, England and Norway). Most (18/19) of the A(H1N1) viruses analysed to date are oseltamivir-resistant but all 19 remain sensitive to zanamivir. Of 27 A(H3N2) viruses analysed to date for neuraminidase inhibitor susceptibility, all are sensitive to both oseltamivir and zanamivir. Of 26 A(H3N2) viruses analysed for adamantane susceptibility, all are resistant. Whilst these data represent early-season isolates from few countries, it appears that H1N1 is a minority circulating subtype. Most circulating influenza A at present appears to be H3N2 which remains fully sensitive to oseltamivir and zanamivir.

**Comment:** Many countries continue to report sporadic influenza virus detection, although this has not been accompanied by significant increases in overall consultation rates. Of the 11 countries that reported increasing clinical activity during week 48/2008, only four (Spain, Sweden, England and Portugal) also reported influenza virus detections. The 20 countries that have detected influenza viruses since week 40/2008 are geographically distributed throughout Europe. The majority (92%; 395/430) of virus detections up to week 48 have been type A. The proportion of type A viruses subtyped as H3 has increased from 86% (118/137) in week 47 to 90% (205/228) in week 48. Virological subtype analysis indicates that whilst there is mixed circulation of H1 and H3 in countries reporting isolates, the distribution so far appears to be mainly H3.

Whilst influenza activity in Europe is currently low, reports of Respiratory Syncytial Virus (RSV) detections from countries in Europe that report RSV detections to EISS, showed continued increases in England, Ireland, the Netherlands, Northern Ireland and Spain). Increase in RSV detections at this time of the year is a normal phenomenon in these countries. RSV infections induce clinical symptoms similar to influenza.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. In week 48/2008, 27 countries reported either clinical and/or virological data to EISS. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

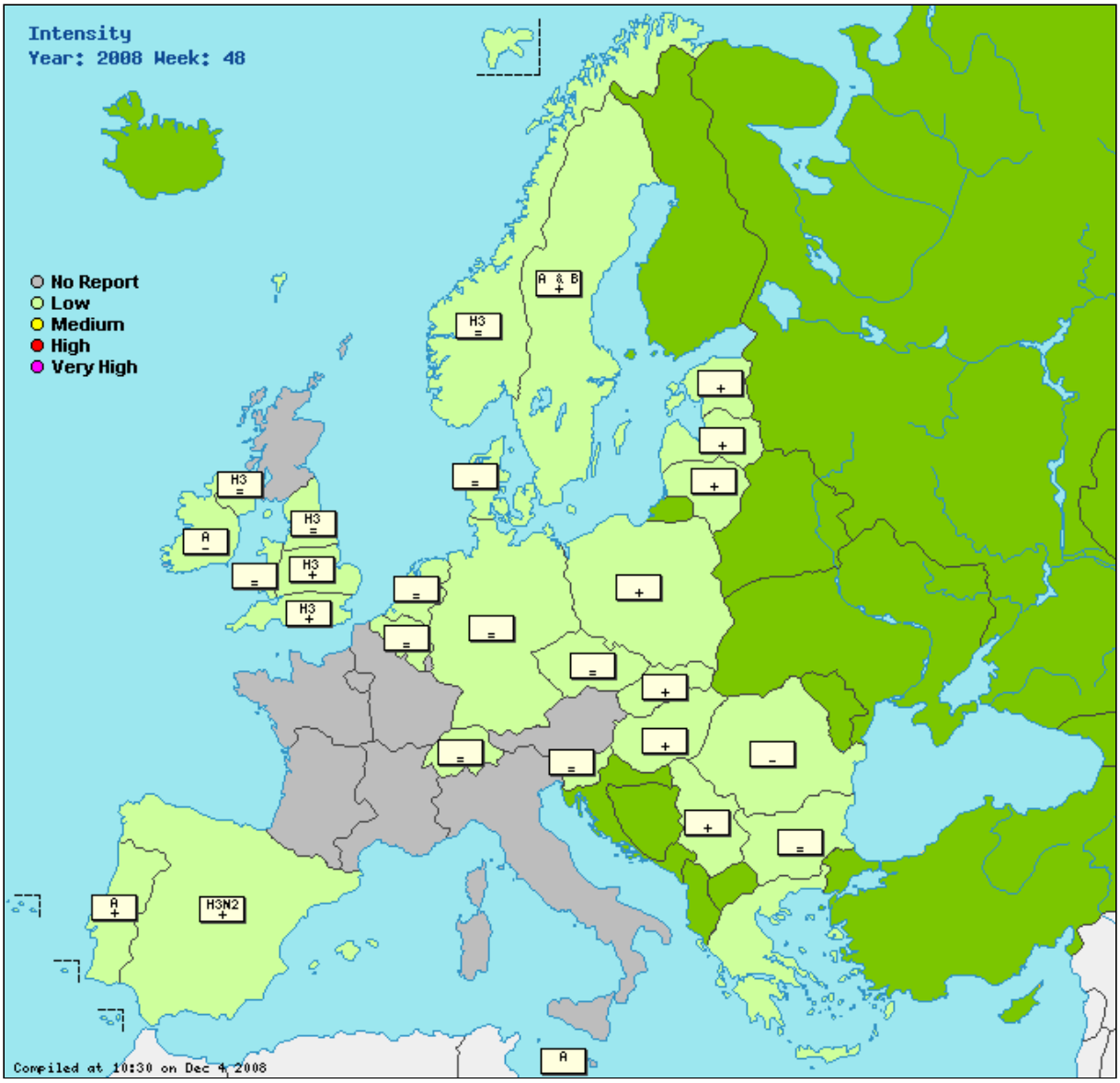
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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)

**Bulgaria**
No detection or isolation of Influenza viruses in sentinel and nonsentinel samples.
**Italy**
Three further A/H3N2 influenza viruses have been isolated during this last week.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | Sporadic | | | 13 | 7.7% | None | 105.0 (graphs) | 1995.7 (graphs) | Click here |
| Bulgaria | Low | None | | | 88 | 0% | None | (graphs) | 0.0 (graphs) | Click here |
| Czech Republic | Low | None | | | 39 | 0% | None | 29.1 (graphs) | 1032.3 (graphs) | Click here |
| Denmark | Low | Sporadic | | | 5 | 0% | None | 27.6 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | | 104 | 24.0% | Type A, Subtype H3 | 16.9 (graphs) | 823.3 (graphs) | Click here |
| Estonia | Low | None | | | 5 | 0% | None | 0.8 (graphs) | 367.4 (graphs) | Click here |
| Germany | Low | Sporadic | | | 42 | 14.3% | None | (graphs) | 849.0 (graphs) | Click here |
| Greece | Low | None | | | 0 | 0% | None | 58.7 (graphs) | (graphs) | Click here |
| Hungary | Low | Sporadic | | | | | | 114.6 (graphs) | (graphs) | Click here |

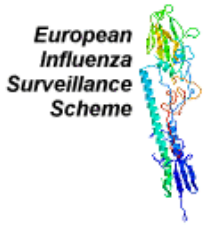
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Ireland | Low | Sporadic | 4 | 25.0% | Type A | 8.5 (graphs) | | (graphs) | Click here |
| Italy | | | 23 | 13.0% | None | | (graphs) | | Click here |
| Latvia | Low | None | | | | 0.0 (graphs) | 856.8 | (graphs) | Click here |
| Lithuania | Low | None | 0 | 0% | None | 0.8 (graphs) | 520.6 | (graphs) | Click here |
| Malta | | | 0 | 0% | Type A | | (graphs) | | Click here |
| Netherlands | Low | None | 18 | 0% | None | 36.5 (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | 0 | 0% | Type A, Subtype H3 | 38.1 (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | 1 | 100.0% | Type A, Subtype H3 | 35.3 (graphs) | | (graphs) | Click here |
| Poland | Low | None | 12 | 0% | None | 41.0 (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | 8 | 50.0% | Type A | 28.2 (graphs) | | (graphs) | Click here |
| Romania | Low | None | 7 | 0% | None | 0.0 (graphs) | 946.4 | (graphs) | Click here |
| Serbia | Low | None | 2 | 0% | None | 46.9 (graphs) | | (graphs) | Click here |
| Slovakia | Low | None | 5 | 0% | None | 191.8 (graphs) | 1547.4 | (graphs) | Click here |
| Slovenia | Low | None | 12 | 0% | None | 0.0 (graphs) | 1000.3 | (graphs) | Click here |
| Spain | Low | Sporadic | 103 | 21.4% | Type A, Subtype H3N2 | 43.5 (graphs) | | (graphs) | Click here |
| Sweden | Low | Sporadic | 44 | 4.6% | Type A and B | 2.6 (graphs) | | (graphs) | Click here |
| Switzerland | Low | None | | | | 12.4 (graphs) | | | Click here |
| Wales | Low | None | 1 | 0% | None | 5.7 (graphs) | | (graphs) | Click here |
| Europe | | | 536 | 12.1% | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Influenza activity in Europe remains low but steadily rising – more countries report initial virus detections




**Summary:** A total of 23 countries reported influenza activity in week 49/2008. This activity was low in all but three countries where medium activity was recorded. Since week 40/2008, sporadic laboratory-confirmed cases of influenza have been reported from 23 countries across Europe. Two of these countries, neighbouring, are now reporting local outbreaks (Spain) and widespread increased influenza activity above baseline levels (Portugal).

**Epidemiological situation - week 49/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in 20 of the 23 countries providing data, with Ireland, Northern Ireland and Portugal reporting medium intensity. Eight countries, however, reported increasing clinical activity (England, Ireland, Latvia, Netherlands, Northern Ireland, Portugal, Spain, Wales), but only for England, Ireland, Netherlands, Northern Ireland and Portugal was this elevated compared to the 2007-8 season. For the geographical spread indicator, sporadic influenza activity was reported in 11 countries (Bulgaria, Denmark, England, Germany, Hungary, Ireland, Luxembourg, Northern Ireland, Slovenia, Sweden and Switzerland) whereas Spain reported local outbreaks and Portugal widespread increased influenza activity above baseline levels. The other ten countries reported no activity. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-49/2008):** So far this season, the consultation rates for ILI and/or ARI are generally at levels usually seen outside the winter period (i.e. below the national baseline threshold).

**Virological situation - week 49/2008:** The total number of respiratory specimens collected by sentinel physicians in week 49/2008 was 615, of which 118 (19.2%) were positive for influenza virus: 114 type A (85 subtype H3, one H1 and 28 not subtyped) and four type B. In addition, from 665 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) 96 (14.4%) influenza virus detections were reported: 92 type A (11 subtype H3, three subtype H1 and 78 not subtyped) and four type B. Detection of influenza viruses was reported from 15 countries across Europe and included the first influenza detections from Bulgaria, Luxembourg and Slovenia.

**Cumulative virological situation – 2008-2009 season (weeks 40-49/2008):** Of 668 virus detections (sentinel and non-sentinel) since week 40/2008, 621 were type A (317 subtype H3, 26 subtype H1 and 278 not subtyped) and 47 were type B.
Based on the antigenic and/or genetic characterisation of 106 influenza viruses, 100 were reported as A/Brisbane/10/2007 (H3N2)-like, two as A/Brisbane/59/2007 (H1N1)-like, two as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and two as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) (click here).
No additional antiviral resistance data has been uploaded in the last week so the situation is as reported in week 48/2008. Data from Austria, England and Norway shows most (18/19) of the A (H1N1) viruses analysed to be oseltamivir-resistant with all 19 remaining sensitive to zanamivir. Of 27 A (H3N2) viruses analysed for neuraminidase inhibitor susceptibility, all are sensitive to both oseltamivir and zanamivir. Of 26 A (H3N2) viruses analysed for adamantane susceptibility, all are resistant. Most circulating influenza A at present is H3N2 that remains fully sensitive to oseltamivir and zanamivir.

**Comment:** Many countries reporting influenza virus detection continue to classify this as sporadic with only Spain (local) and Portugal (widespread) changing their classifications, although this has not been accompanied by significant increases in overall consultation rates. Of the eight countries that reported increasing clinical activity during week 49/2008, six (England, Ireland, Northern Ireland, Portugal, Spain and Wales) also reported influenza virus detections. The 23 countries that have detected influenza viruses since week 40/2008 are geographically distributed throughout Europe. The majority (93%; 621/668) of virus detections up to week 49 have been type A. The cumulative proportion of type A viruses subtyped as H3 has increased from 90% (205/228) at week 48 to 92.4% (317/343) at week 49. Virological subtype analysis indicates that whilst there is mixed circulation of H1 and H3 in countries reporting isolates, the H1 detections have been made at a stable rate of one to five per week since week 40 whereas H3 detections have been rising consistently since week 41 to reach 96 in week 49. This is an early indication of the 2008-9 influenza season in Europe being dominated by H3.

Whilst influenza activity in Europe remains low currently, Respiratory Syncytial Virus (RSV) infections induce clinical symptoms similar to influenza. Earlier weekly reports of RSV detections from countries in Europe that report RSV detections to EISS, showed increased detections in a number of countries which have now stabilised or declined in all but the Netherlands. Increase in RSV detections at this time of the year is a normal phenomenon in these countries.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. Of these countries, 23 reported clinical data, 26 virological data and 22 both data sets to EISS in week 49/2008. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

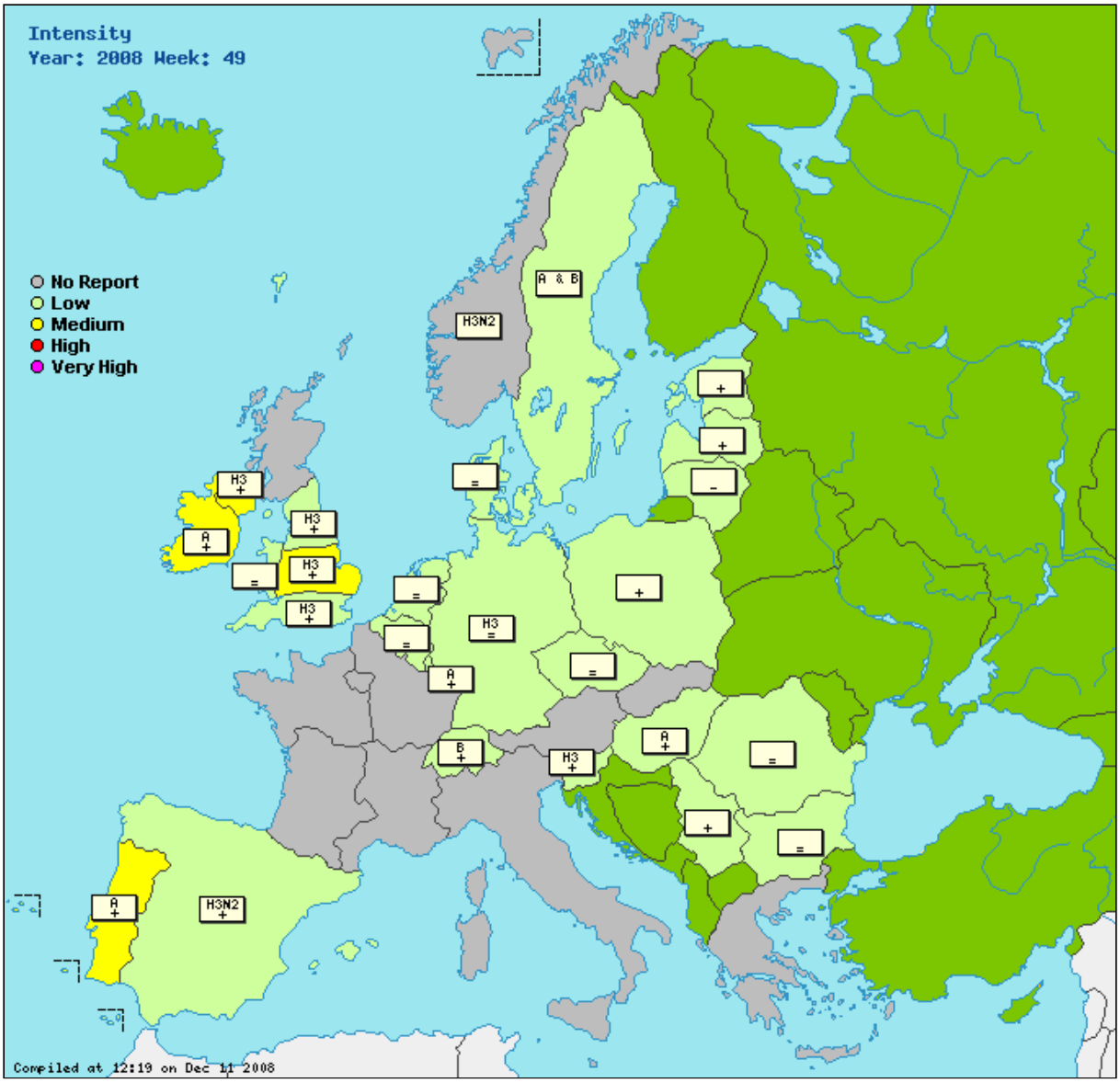
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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)

**Italy**
Only one A/H3N2 influenza viruses have been isolated during this week.
**Switzerland**
Influenza activity is very low. An influenza B virus has been detected last week.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | None | | | 14 | 0% | None | 73.3 (graphs) | 1859.8 (graphs) | Click here |
| Bulgaria | Low | Sporadic | | | 83 | 1.2% | None | (graphs) | 987.7 (graphs) | Click here |
| Czech Republic | Low | None | | | 37 | 0% | None | 29.9 (graphs) | 1047.1 (graphs) | Click here |
| Denmark | Low | Sporadic | | | | | | 24.1 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | | 119 | 42.9% | Type A, Subtype H3 | 27.6 (graphs) | 901.7 (graphs) | Click here |
| Estonia | Low | None | | | 6 | 0% | None | 1.2 (graphs) | 300.7 (graphs) | Click here |
| Germany | Low | Sporadic | | | 46 | 30.4% | Type A, Subtype H3 | (graphs) | 910.0 (graphs) | Click here |
| Greece | | | | | 0 | 0% | None | (graphs) | | Click here |
| Hungary | Low | Sporadic | | | 23 | 4.4% | Type A | 120.0 (graphs) | (graphs) | Click here |

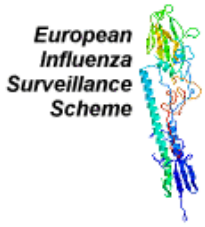
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Ireland | Medium | Sporadic | 12 | 50.0% | Type A | 20.3 (graphs) | (graphs) | Click here |
| Italy | | | 25 | 4.0% | None | (graphs) | | Click here |
| Latvia | Low | None | 0 | 0% | None | 0.0 (graphs) | 995.9 (graphs) | Click here |
| Lithuania | Low | None | 0 | 0% | None | 0.6 (graphs) | 508.9 (graphs) | Click here |
| Luxembourg | Low | Sporadic | 10 | 20.0% | Type A | 43.2 (graphs) | 2807.2 (graphs) | Click here |
| Netherlands | Low | None | 18 | 0% | None | 61.5 (graphs) | (graphs) | Click here |
| Northern Ireland | Medium | Sporadic | 6 | 33.3% | Type A, Subtype H3 | 69.2 (graphs) | (graphs) | Click here |
| Norway | | | 6 | 16.7% | Type A, Subtype H3N2 | (graphs) | | Click here |
| Poland | Low | None | 13 | 0% | None | 48.0 (graphs) | (graphs) | Click here |
| Portugal | Medium | Widespread | 6 | 66.7% | Type A | 40.8 (graphs) | (graphs) | Click here |
| Romania | Low | None | 12 | 0% | None | 0.0 (graphs) | 947.0 (graphs) | Click here |
| Serbia | Low | None | 2 | 0% | None | 48.4 (graphs) | (graphs) | Click here |
| Slovakia | | | 7 | 0% | None | (graphs) | | Click here |
| Slovenia | Low | Sporadic | 9 | 11.1% | Type A, Subtype H3 | 92.1 (graphs) | 1027.3 (graphs) | Click here |
| Spain | Low | Local | 87 | 35.6% | Type A, Subtype H3N2 | 53.1 (graphs) | (graphs) | Click here |
| Sweden | Low | Sporadic | 59 | 3.4% | Type A and B | 2.3 (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | 15 | 6.7% | Type B | 16.8 (graphs) | | Click here |
| Wales | Low | None | 0 | 0% | None | 7.4 (graphs) | (graphs) | Click here |
| Europe | | | 615 | 19.2% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Influenza season started in three European countries while more countries report increasing activity




**Summary:** In week 50/2008 influenza activity reached medium intensity in England, Ireland, Northern Ireland and Portugal and has been reported as increasing in additional 11 countries. There is currently widespread activity in England in the UK and Portugal and outbreaks are reported in France and Spain. Most of the influenza virus detections so far have been type A viruses of which the majority were A(H3) viruses. Given the current epidemiological and virological situation it is anticipated that in the coming weeks seasonal epidemic levels of influenza activity will be reached in a number of European countries

**Epidemiological situation - week 50/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were medium in Ireland, Portugal and in two of the four parts of the UK (England and Northern Ireland), and low in the remaining 24 countries providing data. Increasing clinical activity, but below baseline levels, was reported in additional 11 countries (Denmark, Italy, Hungary, Lithuania, Poland, Romania, Spain, Slovakia, Slovenia, Sweden and Switzerland). For the geographical spread indicator, widespread influenza activity was reported in the largest part of the UK (England) and in Portugal, while regional activity was reported in another part of the UK (Northern Ireland) and local activity in Spain and France. Sporadic activity was reported in 11 countries (Belgium, Denmark, Germany, Hungary, Ireland, Italy, Luxembourg, Norway, Slovenia, Sweden and Switzerland) while no activity was reported in the remaining 12 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-50/2008):** The consultation rates for ILI and/or ARI are at levels usually seen outside the winter period (i.e. below the national baseline threshold) in the majority of EU countries. However from week 50/2008 medium intensity has been reported in Ireland, Portugal and most of the UK with Portugal and the largest part of the UK (England) also reporting widespread activity. In addition, consultation rates have been reported as increasing in an additional 11 countries.

**Virological situation - week 50/2008:** The total number of respiratory specimens collected by sentinel physicians in week 50/2008 was 757, of which 196 (25.9%) were positive for influenza virus: 186 type A (135 subtype H3, six H1 and 45 not subtyped) and ten type B. In addition, 159 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 155 type A (15 subtype H3, one subtype H1 and 139 not subtyped) and four type B. Overall, detection of influenza viruses was reported from 15 countries across Europe.

**Cumulative virological situation – 2008-2009 season (weeks 40-50/2008):** Of 1087 virus detections (sentinel and non-sentinel) since week 40/2008, 1022 were type A (516 subtype H3, 34 subtype H1 and 472 not subtyped) and 65 were type B.
Based on the antigenic and/or genetic characterisation of 129 influenza viruses, 122 were reported as A/Brisbane/10/2007 (H3N2)-like, three as A/Brisbane/59/2007 (H1N1)-like, two as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and two as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) (click here).
No antiviral resistance against neuraminidase inhibitors was detected in the 27 A(H3N2) virus isolates tested so far this season. Of the 26 A(H3N2) isolates that were also tested for adamantanes susceptibility, all were resistant. In addition, out of the 20 A(H1N1) virus isolates tested for resistance against neuraminidase inhibitors, 19 were oseltamivir-resistant, but all were sensitive to zanamivir and only 1 of 11 tested was resistant to adamantanes. The one type B isolate tested was sensitive to both oseltamivir and zanamivir.

**Comment:** This week for the first time this season three countries reported levels of influenza activity above their national baseline levels and in two of them a widespread geographical spread was also reported. Despite the remaining countries are still reporting low clinical influenza activity, 11 of them reported increasing activity in week 50/2008 compared to week 49. The current epidemiological situation suggests that in the coming weeks clinical influenza activity may reach seasonal epidemic levels in a substantial number of EU countries. The overall number of sentinel specimens collected for virological testing increased sharply during week 50/2008 compared to week 49/2008 as did the proportion of sentinel specimens which tested positive for influenza virus (from 19% in week49 to 26% in week 50). So far this season, the majority (94%) of viruses subtyped were A(H3). This observation consolidates the earlier indication that the 2008-9 influenza season at this early stage is dominated by A(H3) viruses.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. Of these countries, 29 reported clinical data and 26 reported both virological and clinical data to EISS in week 50/2008. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

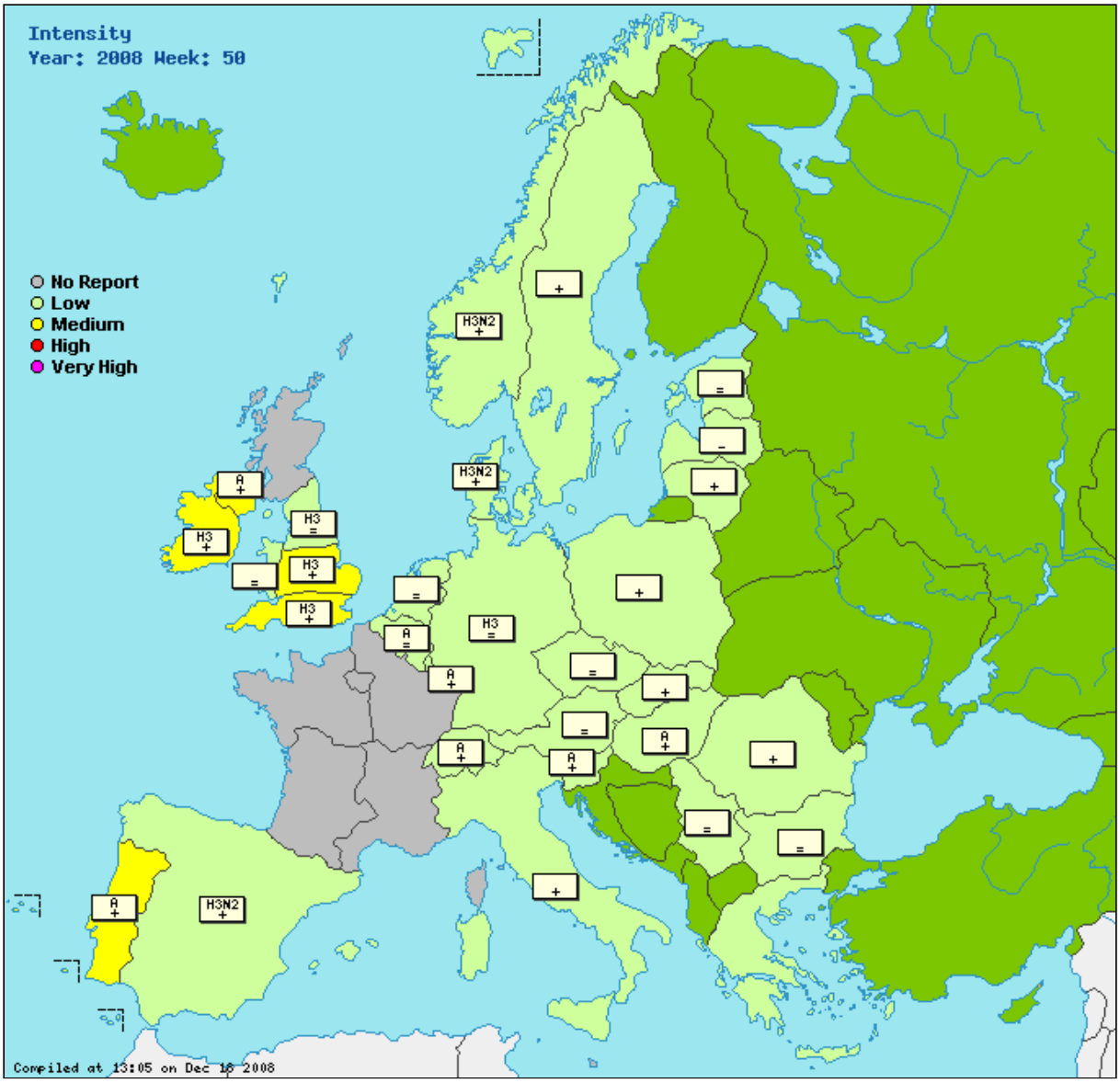
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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)

**Italy**
Only one A/H3N2 influenza isolate has been reported during this week. Three further A/H3N2 viruses have been isolated from samples collected in week 49.
**Switzerland**
Sporadic influenza activity in Switzerland

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | Low | None | | | 57 | 0% | None | 1376.7 (graphs) | (graphs) | Click here |
| Belgium | Low | Sporadic | | | 31 | 9.7% | Type A | 87.0 (graphs) | 2039.3 (graphs) | Click here |
| Bulgaria | Low | None | | | 36 | 0% | None | (graphs) | 983.7 (graphs) | Click here |
| Czech Republic | Low | None | | | 45 | 2.2% | None | 32.0 (graphs) | 1105.0 (graphs) | Click here |
| Denmark | Low | Sporadic | | | 10 | 50.0% | Type A, Subtype H3N2 | 35.8 (graphs) | (graphs) | Click here |
| England | Medium | Widespread | | | 180 | 48.3% | Type A, Subtype H3 | 39.5 (graphs) | 1059.3 (graphs) | Click here |
| Estonia | Low | None | | | 7 | 0% | None | 1.5 (graphs) | 316.2 (graphs) | Click here |
| France | Low | Local | | | | | | (graphs) | 2381.2 (graphs) | Click here |

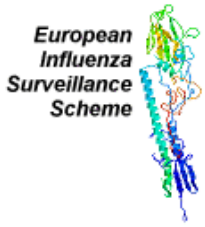
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Germany | Low | Sporadic | 80 | 26.3% | Type A, Subtype H3 | (graphs) | 926.0 | (graphs) | Click here |
| Greece | Low | None | 0 | 0% | None | 62.1 (graphs) | | (graphs) | Click here |
| Hungary | Low | Sporadic | 19 | 0% | Type A | 126.4 (graphs) | | (graphs) | Click here |
| Ireland | Medium | Sporadic | 20 | 70.0% | Type A, Subtype H3 | 41.3 (graphs) | | (graphs) | Click here |
| Italy | Low | Sporadic | 30 | 3.3% | None | 106.5 (graphs) | | (graphs) | Click here |
| Latvia | Low | None | | | | 0.0 (graphs) | 806.7 | (graphs) | Click here |
| Lithuania | Low | None | 0 | 0% | None | 0.4 (graphs) | 530.5 | (graphs) | Click here |
| Luxembourg | Low | Sporadic | 8 | 12.5% | Type A | 0.0 (graphs) | 3325.3 | (graphs) | Click here |
| Netherlands | Low | None | 12 | 0% | None | 45.1 (graphs) | | (graphs) | Click here |
| Northern Ireland | Medium | Regional | 16 | 68.8% | Type A | 129.5 (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | 8 | 25.0% | Type A, Subtype H3N2 | 52.4 (graphs) | | (graphs) | Click here |
| Poland | Low | None | 18 | 0% | None | 57.6 (graphs) | | (graphs) | Click here |
| Portugal | Medium | Widespread | 21 | 76.2% | Type A | 83.4 (graphs) | | (graphs) | Click here |
| Romania | Low | None | 19 | 0% | None | 0.0 (graphs) | 982.8 | (graphs) | Click here |
| Serbia | Low | None | 3 | 0% | None | 48.6 (graphs) | | (graphs) | Click here |
| Slovakia | Low | None | 7 | 0% | None | 212.0 (graphs) | 1685.6 | (graphs) | Click here |
| Slovenia | Low | Sporadic | 13 | 7.7% | Type A | 10.4 (graphs) | 1145.3 | (graphs) | Click here |
| Spain | Low | Local | 98 | 30.6% | Type A, Subtype H3N2 | 70.5 (graphs) | | (graphs) | Click here |
| Sweden | Low | Sporadic | | | | 4.9 (graphs) | | (graphs) | Click here |
| Switzerland | Low | Sporadic | 17 | 17.7% | Type A | 24.4 (graphs) | | | Click here |
| Wales | Low | None | 2 | 0% | None | 9.1 (graphs) | | (graphs) | Click here |
| Europe | | | 757 | 25.9% | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Influenza season started in five European countries and many countries report increasing activity




**Summary:** In week 51/2008, influenza activity reached high intensity in Portugal and medium intensity in Bulgaria, Ireland, Spain and the UK (England and Northern Ireland). Geographical spread was reported as local in France and Switzerland, regional in Spain and Wales, and widespread in England, Northern Ireland and Portugal. Most of the viruses isolated so far are type A of which the majority are of the H3 subtype. Given the current epidemiological and virological situation it is anticipated that in the coming weeks seasonal influenza will reach epidemic levels in a number of European countries

**Epidemiological situation - week 51/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Portugal and medium in Bulgaria, Ireland, Spain and the UK (England and Northern Ireland). The remaining 16 countries providing data reported low intensity with increasing trends in Denmark, France, Germany, Italy, Sweden and Switzerland. For the geographical spread indicator, widespread influenza activity occurred in Portugal and the UK (England and Northern Ireland), while regional activity was reported in Spain and the UK (Wales) and local activity in France and Switzerland. Sporadic activity was observed in ten countries while no activity was reported in Estonia, Greece, Hungary, Poland and Romania. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-51/2008):** The majority of countries participating in European influenza surveillance continue to report low intensity of influenza activity with some local spread at most. Four Western European countries and Bulgaria are currently experiencing medium to high intensity which is reported to be widespread in Portugal and the UK (England and Northern Ireland).

**Virological situation - week 51/2008:** The total number of respiratory specimens collected by sentinel physicians in week 51/2008 was 1062, of which 346 (32.6%) were positive for influenza virus: 334 type A (223 subtype H3, six H1 and 105 not subtyped) and 12 type B. In addition, 354 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 341 type A (27 subtype H3, four subtype H1 and 310 not subtyped) and 13 type B. Overall, across Europe detection of influenza viruses was reported from 21 of 29 countries providing virological data for week 51/2008.

**Cumulative virological situation – 2008-2009 season (weeks 40-51/2008):** Of 2026 virus detections (sentinel and non-sentinel) since week 40/2008, 1929 were type A (838 subtype H3, 55 subtype H1 and 1036 not subtyped) and 97 were type B.
Based on the antigenic and/or genetic characterisation of 234 influenza viruses, 206 were reported as A/Brisbane/10/2007 (H3N2)-like, 16 as A/Brisbane/59/2007 (H1N1)-like, eight as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and four as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) (click here).
Forty-two A(H3N2) viruses have been tested for antiviral susceptibility so far this season; all those tested were sensitive to neuraminidase inhibitors (42 for oseltamivir, 40 for zanamivir) and resistant to the M2 inhibitor amantadine (40). Of 29 A(H1N1) viruses tested, all were sensitive to zanamivir and 28 were resistant to oseltamivir, whilst all of the 19 tested against amantadine were sensitive. Both B viruses tested have been sensitive to neuraminidase inhibitors (one was tested against both zanamivir and oseltamivir and one against oseltamivir only). But for two oseltamivir resistant A(H1N1) viruses from Norway, all other viruses tested have been from the UK.

**Comment:** Four countries are now reporting medium influenza intensity and for the first time this season one country, Portugal, has reported widespread activity with high intensity in week 51/2008. Four of these five countries are in Western Europe, most of the neighbouring central and Northern European countries as well as Italy are observing increasing ILI/ARI consultation rates whereas most Eastern European countries continue to report low influenza intensity with no signs of increasing trends. The number of countries with epidemic levels of influenza activity is expected to grow over the coming weeks. The overall number of sentinel specimens collected for virological testing increased during from week 50 to week 51/2008 as did the proportion of sentinel specimens which tested positive for Influenza (from 26% in week 50 to 33% in week 51). So far this season, the majority (97%) of H-subtyped type A viruses have beenH3. This observation consolidates earlier indications that the 2008-9 influenza season in Europe is very likely to be dominated by H3 viruses.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. Of these countries, 29 reported virological data and 22 reported both clinical and virological data to EISS in week 51/2008. The spread of influenza virus viruses and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

**Other bulletins:** To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

## Map

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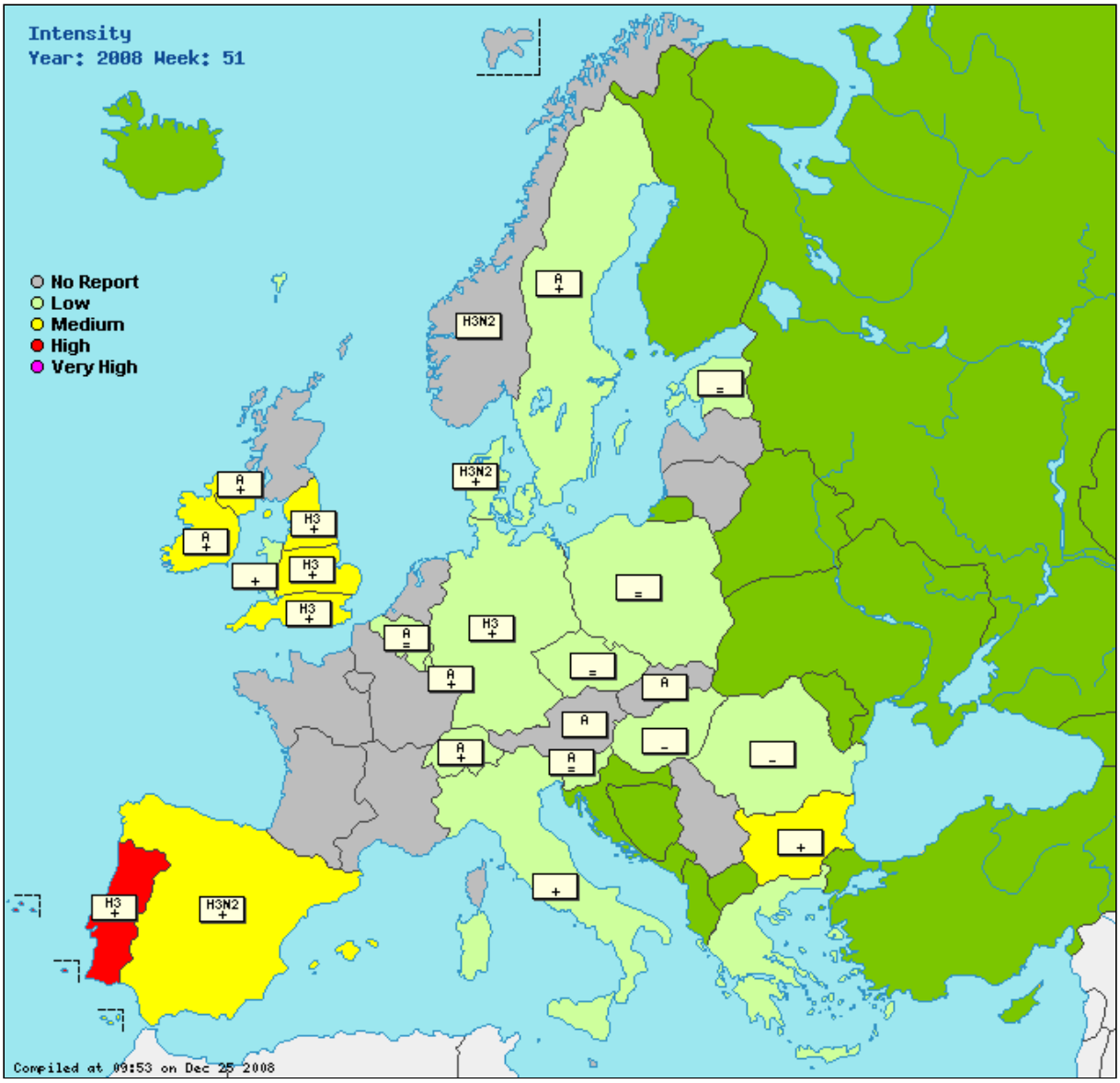
Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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

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**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)

**Italy**
Six A/H3N2 influenza isolates have been reported.
**Norway**
Due to the Christmas holidays, data for week 51 are preliminary and incomplete
**Switzerland**
An increase of the number of samples received at the laboratory has been observed in Sentinel network.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | | | | | 108 | 6.5% | Type A | (graphs) | | Click here |
| Belgium | Low | Sporadic | | | 25 | 4.0% | Type A | 107.9 (graphs) | 1951.7 (graphs) | Click here |
| Bulgaria | Medium | Sporadic | | | 34 | 5.9% | None | (graphs) | 1044.8 (graphs) | Click here |
| Czech Republic | Low | Sporadic | | | 48 | 2.1% | None | 32.9 (graphs) | 1090.4 (graphs) | Click here |
| Denmark | Low | Sporadic | | | 9 | 55.6% | Type A, Subtype H3N2 | 63.0 (graphs) | (graphs) | Click here |
| England | Medium | Widespread | | | 237 | 53.2% | Type A, Subtype H3 | 53.1 (graphs) | 946.3 (graphs) | Click here |
| Estonia | Low | None | | | 4 | 0% | None | 1.3 (graphs) | 320.1 (graphs) | Click here |

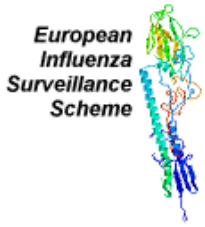
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| France | Low | Local | 98 | 30.6% | Type A, Subtype H3N2 | (graphs) | 2595.2 | (graphs) | Click here |
| Germany | Low | Sporadic | 103 | 45.6% | Type A, Subtype H3 | (graphs) | 977.0 | (graphs) | Click here |
| Greece | Low | None | 3 | 0% | None | 57.0 (graphs) | | (graphs) | Click here |
| Hungary | Low | None | | | | 112.8 (graphs) | | (graphs) | Click here |
| Ireland | Medium | Sporadic | 7 | 85.7% | Type A | 61.6 (graphs) | | (graphs) | Click here |
| Italy | Low | Sporadic | 35 | 14.3% | None | 121.6 (graphs) | | (graphs) | Click here |
| Latvia | | | 0 | 0% | None | (graphs) | | | Click here |
| Lithuania | | | 1 | 0% | None | (graphs) | | | Click here |
| Luxembourg | Low | Sporadic | 20 | 20.0% | Type A | 25.2 (graphs) | 3376.2 | (graphs) | Click here |
| Malta | | | 0 | 0% | None | (graphs) | | | Click here |
| Netherlands | | | 14 | 7.1% | None | (graphs) | | | Click here |
| Northern Ireland | Medium | Widespread | 14 | 92.9% | Type A | 196.5 (graphs) | | (graphs) | Click here |
| Norway | | | 10 | 60.0% | Type A, Subtype H3N2 | (graphs) | | | Click here |
| Poland | Low | None | 29 | 0% | None | 51.9 (graphs) | | (graphs) | Click here |
| Portugal | High | Widespread | 14 | 35.7% | Type A, Subtype H3 | 113.4 (graphs) | | (graphs) | Click here |
| Romania | Low | None | 15 | 0% | None | 0.2 (graphs) | 925.7 | (graphs) | Click here |
| Scotland | | | 36 | 0% | None | (graphs) | | | Click here |
| Serbia | | | 0 | 0% | None | (graphs) | | | Click here |
| Slovakia | | | 7 | 14.3% | Type A | (graphs) | | | Click here |
| Slovenia | Low | Sporadic | 10 | 20.0% | Type A | 0.0 (graphs) | 891.6 | (graphs) | Click here |
| Spain | Medium | Regional | 148 | 53.4% | Type A, Subtype H3N2 | 129.2 (graphs) | | (graphs) | Click here |
| Sweden | Low | Sporadic | 0 | 0% | Type A | 6.5 (graphs) | | (graphs) | Click here |
| Switzerland | Low | Local | 33 | 15.2% | Type A | 33.1 (graphs) | | | Click here |
| Wales | Low | Regional | | | | 13.8 (graphs) | | (graphs) | Click here |
| Europe | | | 1062 | 32.6% | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Influenza season started in seven countries of Western/Southern Europe.




**Summary:** In week 52/2008, influenza activity of high intensity in Portugal and medium intensity in Ireland, Spain and the UK (England and Northern Ireland) was maintained, whilst activity reached medium intensity in France and Italy. Most of the viruses isolated so far are type A of which the majority are of the H3 subtype. Given the current epidemiological and virological situation, and despite lowered reporting over the Christmas holiday period, it is anticipated that in the coming weeks seasonal influenza will continue to spread and become more intense in a number of Eastern-Northern European countries. Vaccination of those still at risk should be expedited.

**Epidemiological situation - week 52/2008:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Portugal and medium in France, Ireland, Italy, Spain and the UK (England and Northern Ireland). The remaining 17 countries providing data reported low intensity with increasing trends, compared to week 51/2008, in Ireland, Italy, Luxembourg, Portugal, Spain and Wales. For the geographical spread indicator, widespread influenza activity occurred in France, Portugal and the UK (England and Northern Ireland), while regional activity was reported in Netherlands, Spain and the UK (Wales) and local activity in Italy. Sporadic activity was observed in five countries (Belgium, Luxembourg, Slovakia, Slovenia and Switzerland) while no activity was apparent in the other 11 countries reporting for week 52/2008. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40-52/2008):** The majority of countries participating in European influenza surveillance continue to report low intensity of influenza activity with sporadic/regional cases at most. Seven Western/Southern European countries are currently experiencing medium to high intensity which is also reported to be widespread in France, Portugal and the UK (England and Northern Ireland).
The first countries in Europe to report medium intensity of influenza activity (i.e. consultation rates being above the national baseline thresholds that are set at levels usually seen outside the winter period) were Ireland, Northern Ireland and Portugal (in week 49/2008) and England (in week 50/2008). Subsequently, Spain (since week 51/2008), France and Italy (in week 52/2008) have reported influenza activities greater than baseline levels. Portugal has reported high activity since week 51/2008. Generally, the highest consultation rates have been reported for the 0-4 age group, but England, Ireland, Northern Ireland, Portugal, Switzerland and Wales have been reporting high ILI consultation rates in the 15-64 age group compared to the other age groups.

**Virological situation - week 52/2008:** The total number of respiratory specimens collected by sentinel physicians in week 52/2008 was 435, of which 224 (51.5%) were positive for influenza virus: 218 type A (140 subtype H3, seven H1 and 71 not subtyped) and six type B. In addition, 223 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 211 type A (14 subtype H3, one subtype H1 and 196 not subtyped) and 12 type B. Overall, across Europe detection of influenza viruses was reported from 16 of 21 countries providing virological data for week 52/2008 and included the first 2008-2009 seasonal-influenza detections for Greece and Malta.

**Cumulative virological situation – 2008-2009 season (weeks 40-52/2008):** Of 2650 virus detections (sentinel and non-sentinel) since week 40/2008, 2534 were type A (1030 subtype H3, 71 subtype H1 and 1433 not subtyped) and 116 were type B. Based on the antigenic and/or genetic characterisation of 262 influenza viruses, 233 were reported as A/Brisbane/10/2007 (H3N2)-like, 19 as A/Brisbane/59/2007 (H1N1)-like, six as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and four as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) (click here). These characterisations match the current WHO recommendations for H1N1, H3N2 and B/Yamagata lineage virus components for the Northern Hemisphere vaccine.
Three countries (Norway, Sweden and UK) have reported sequence-based antiviral testing with the majority of those viruses analysed from the UK also being assessed phenotypically for neuraminidase inhibitor susceptibility. Fifty-eight A(H3N2) viruses have been tested for antiviral susceptibility so far this season; all those tested were sensitive to neuraminidase inhibitors (58 for oseltamivir, 56 for zanamivir) and resistant to the M2 inhibitors (56). Of 30 A(H1N1) viruses analysed, all were sensitive to zanamivir and 29 were resistant to oseltamivir, whilst all of the 19 tested were M2 inhibitor sensitive. Both B viruses tested were sensitive to neuraminidase inhibitors (one was tested against both zanamivir and oseltamivir and one against oseltamivir only). But for oseltamivir resistant A(H1N1) viruses from Norway (two) and Sweden (one), all other viruses tested have been from the UK.

**Comment:** Six countries are now reporting medium influenza intensity and Portugal has reported maintained widespread high intensity in week 52/2008. Six of these seven countries are on the western seaboard of Europe, whilst Italy has a Mediterranean coastline. Whilst some of the neighbouring Central and Northern European countries continued to show rising ILI/ARI consultation rates in week 52/2008 the majority, together with most Eastern European countries, continued to report low influenza intensity. However, consultation rates for week 52/2008 should be interpreted with caution since this week spans the Christmas holiday period when access to primary care and patient swabbing procedures is likely to have been sub-optimal. This is reflected in the overall number of sentinel specimens collected for virological testing decreasing from 1062 in week 51 to 435 (a 59% reduction) in week 52/2008. Despite lower sentinel sampling, the proportion of specimens testing positive for influenza virus detection rose from 32.6% in week 51 to 51.5% in week 52/2008. With this rising trend, the number of countries, especially in the Eastern-Northern parts of Europe, with levels of influenza activity above their baseline thresholds is expected to grow over the coming weeks. So far this season, the majority (93.6%) of H-subtyped type A viruses have been H3. These observations consolidate earlier indications that the 2008-2009 influenza season in Europe will probably be dominated by H3 viruses.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. Of these countries, 24 reported clinical data, 21 reported virological data and 18 reported both clinical and virological data to EISS in week 52/2008. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

**Other bulletins:** To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

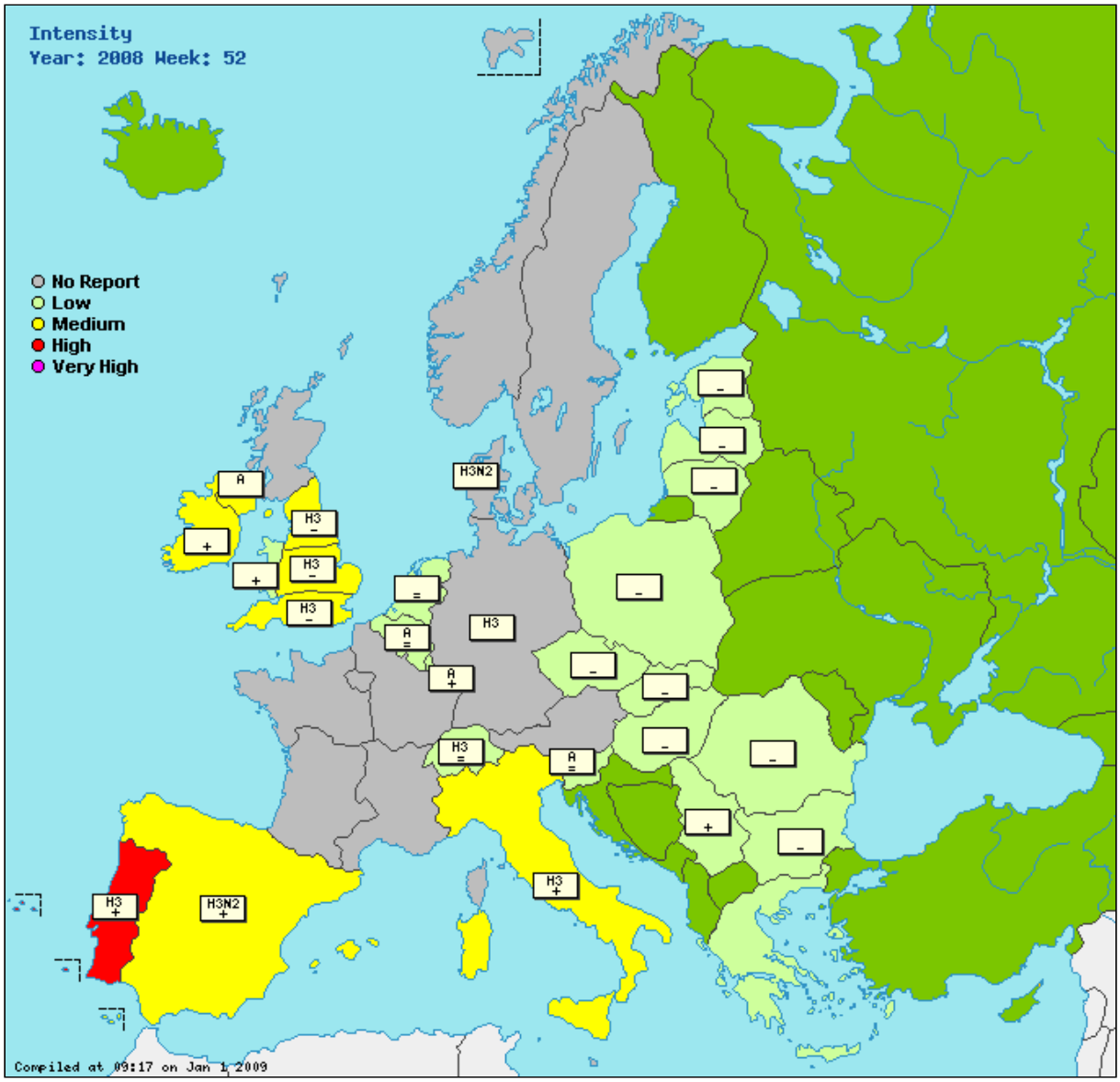
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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)**

**Italy**
Three A/H3N2 influenza isolates have been reported during this week.
**Latvia**
Influenza activity is still very low .Second influenza A virus in this season , has been detected in last week from patient getting ill on the day of returning from England.
**Netherlands**

First week this season that a substantial proportion of specimens from sentinel ILI patients contained influenza virus: in 5 of 11 specimens A(H3N2) was detected. So far this season all influenza viruses detected in specimens from sentinel ILI patients were A(H3N2).

**Switzerland**

Influenza A, and exclusively influenza A (H3N2) are detected in Switzerland. Medical consultations remained below threshold last week.

## Table and graphs (where available)

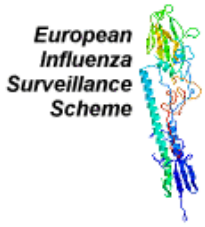
| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | Sporadic | | | 10 | 20.0% | Type A | 63.5 (graphs) | 1518.7 (graphs) | Click here |
| Bulgaria | Low | None | | | | | | (graphs) | 476.3 (graphs) | Click here |
| Czech Republic | Low | None | | | 11 | 0% | None | 12.9 (graphs) | 565.2 (graphs) | Click here |
| Denmark | | | | | 3 | 100.0% | Type A, Subtype H3N2 | (graphs) | | Click here |
| England | Medium | Widespread | | | 146 | 65.8% | Type A, Subtype H3 | 41.3 (graphs) | 701.1 (graphs) | Click here |
| Estonia | Low | None | | | 2 | 0% | None | 1.3 (graphs) | 114.8 (graphs) | Click here |
| France | Medium | Widespread | | | 51 | 27.5% | Type A, Subtype H3N2 | (graphs) | 2516.5 (graphs) | Click here |
| Germany | | | | | 54 | 74.1% | Type A, Subtype H3 | | (graphs) | Click here |
| Greece | Low | None | | | 0 | 0% | None | 63.8 (graphs) | (graphs) | Click here |
| Hungary | Low | None | | | | | | 36.8 (graphs) | (graphs) | Click here |
| Ireland | Medium | None | | | | | | 72.8 (graphs) | (graphs) | Click here |
| Italy | Medium | Local | | | 15 | 13.3% | Type A, Subtype H3 | 138.0 (graphs) | (graphs) | Click here |
| Latvia | Low | None | | | 0 | 0% | None | 0.0 (graphs) | 452.9 (graphs) | Click here |
| Lithuania | Low | None | | | 0 | 0% | None | 0.5 (graphs) | 212.6 (graphs) | Click here |
| Luxembourg | Low | Sporadic | | | 14 | 50.0% | Type A | 151.2 (graphs) | 3282.2 (graphs) | Click here |
| Malta | | | | | 2 | 100.0% | None | (graphs) | | Click here |
| Netherlands | Low | Regional | | | 11 | 45.5% | None | 47.6 (graphs) | (graphs) | Click here |
| Northern Ireland | Medium | Widespread | | | 25 | 56.0% | Type A | 68.5 (graphs) | (graphs) | Click here |
| Poland | Low | None | | | 1 | 0% | None | 36.4 (graphs) | (graphs) | Click here |
| Portugal | High | Widespread | | | 32 | 84.4% | Type A, Subtype H3 | 165.8 (graphs) | (graphs) | Click here |
| Romania | Low | None | | | 0 | 0% | None | 0.0 (graphs) | 694.6 (graphs) | Click here |
| Serbia | Low | None | | | | | | 55.2 (graphs) | (graphs) | Click here |
| Slovakia | Low | Sporadic | | | | | | 120.8 (graphs) | 1116.4 (graphs) | Click here |
| Slovenia | Low | Sporadic | | | 1 | 0% | Type A | 0.0 (graphs) | 728.4 (graphs) | Click here |
| Spain | Medium | Regional | | | 48 | 16.7% | Type A, Subtype H3N2 | 148.2 (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | | | 9 | 44.4% | Type A, Subtype H3 | 22.2 (graphs) | | Click here |
| Wales | Low | Regional | | | | | | 21.5 (graphs) | (graphs) | Click here |
| Europe | | | | | 435 | 51.5% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Influenza activity increasing across Western/Central Europe.




**Summary:** In week 01/2009, influenza activity continued to increase with most countries in western and central Europe reporting influenza activity of medium intensity. The majority of the viruses typed/subtyped were influenza A (H3) which continue to be the predominant influenza viruses circulating in Europe. Given the continuing increase in influenza activity, vaccination of those designated as “at risk” remains recommended.

**Epidemiological situation - week 01/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Portugal and Ireland. Medium intensity activity was reported in 11 countries (Austria, Denmark, France, Germany, Italy, Luxembourg, Spain, Sweden, Switzerland, the Netherlands and UK (England and Northern Ireland)), with all except UK reporting increasing trends. The remaining 15 countries providing data reported low intensity. For the geographical spread indicator, widespread influenza activity occurred in Denmark, France, Italy, Portugal, Sweden and UK (England and Northern Ireland), while regional activity was reported in Germany, Spain, the Netherlands and the UK (Wales). Local activity was observed in Luxembourg and Switzerland, and sporadic activity was reported in nine countries (Austria, Belgium, Czech Republic, Estonia, Ireland, Latvia, Slovakia, Slovenia and UK (Scotland)) while no activity was apparent in the other seven countries reporting for week 01/2009. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40/2008-01/2009):** The majority of western and central European countries participating in influenza surveillance are now reporting medium intensity of influenza with increasing trends and regional/widespread activity. The first countries to report high intensity of influenza activity were Portugal (since week 51/2008) and Ireland (since week 52/2008). Medium intensity activity has been reported in the UK (England and Northern Ireland) (since week 49/2008), Spain (since week 51/2008), France and Italy (since week 52/2008) and Austria, Denmark, Germany, Sweden, Switzerland and the Netherlands (in week 01/2009). All other countries are reporting influenza activity of low intensity. Generally, the highest consultation rates have been reported for the 0-4 age group, but Ireland, Switzerland and UK (Scotland) have reported high ILI consultation rates in the 15-64 age group, whilst Portugal and UK (England, Northern Ireland and Wales) have reported their highest rates amongst both the 15-64 age group and those aged 65 years and over.

**Virological situation - week 01/2009:** The total number of respiratory specimens collected by sentinel physicians in week 01/2009 was 662, of which 239 (36.1%) were positive for influenza virus: 221 type A (141 subtype H3, five subtype H1 and 75 not subtyped) and 18 type B. In addition, 531 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 522 type A (52 subtype H3, three subtype H1 and 467 not subtyped) and nine type B. Overall, across Europe detection of influenza viruses was reported from 19 of 26 countries providing virological data for week 01/2009 and included the first influenza detections in Estonia this season.

**Cumulative virological situation – 2008-2009 season (weeks 40/2008-01/2009):** Of 3918 virus detections (sentinel and non-sentinel) since week 40/2008, 3754 were type A (1534 subtype H3, 117 subtype H1 and 2103 not subtyped) and 164 were type B. Based on the antigenic and/or genetic characterisation of 362 influenza viruses, 313 were reported as A/Brisbane/10/2007 (H3N2)-like, 27 as A/Brisbane/59/2007 (H1N1)-like, 12 as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 10 as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). Available data indicate that, with the exception of the B/Victoria lineage, the circulating viruses are similar to the three components (A/H1N1, A/H3N2 and B/Yamagata lineage) in the current influenza vaccine.
Data relating to influenza antiviral-susceptibility testing is unchanged compared to week 52/2008.

**Comment:** Two countries are now reporting influenza activity of high intensity. Eleven are reporting medium intensity with all except one of these reporting an increasing trend in week 01/2009. These 13 countries are located predominantly in western/central Europe. Most eastern European countries have continued to report influenza activity of low intensity. The proportion of sentinel specimens testing positive for influenza virus has declined from 51.5% in week 52/2008 to 36.1% in week 01/2009. Consultation rates for week 01/2009 should, however, be interpreted with caution since this week spans the New Year holiday period when access to primary care and patient swabbing procedures is likely to have been sub-optimal.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. Of these countries, 25 reported both clinical and virological data, four reported clinical data only and one reported virological data only to EISS in week 01/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

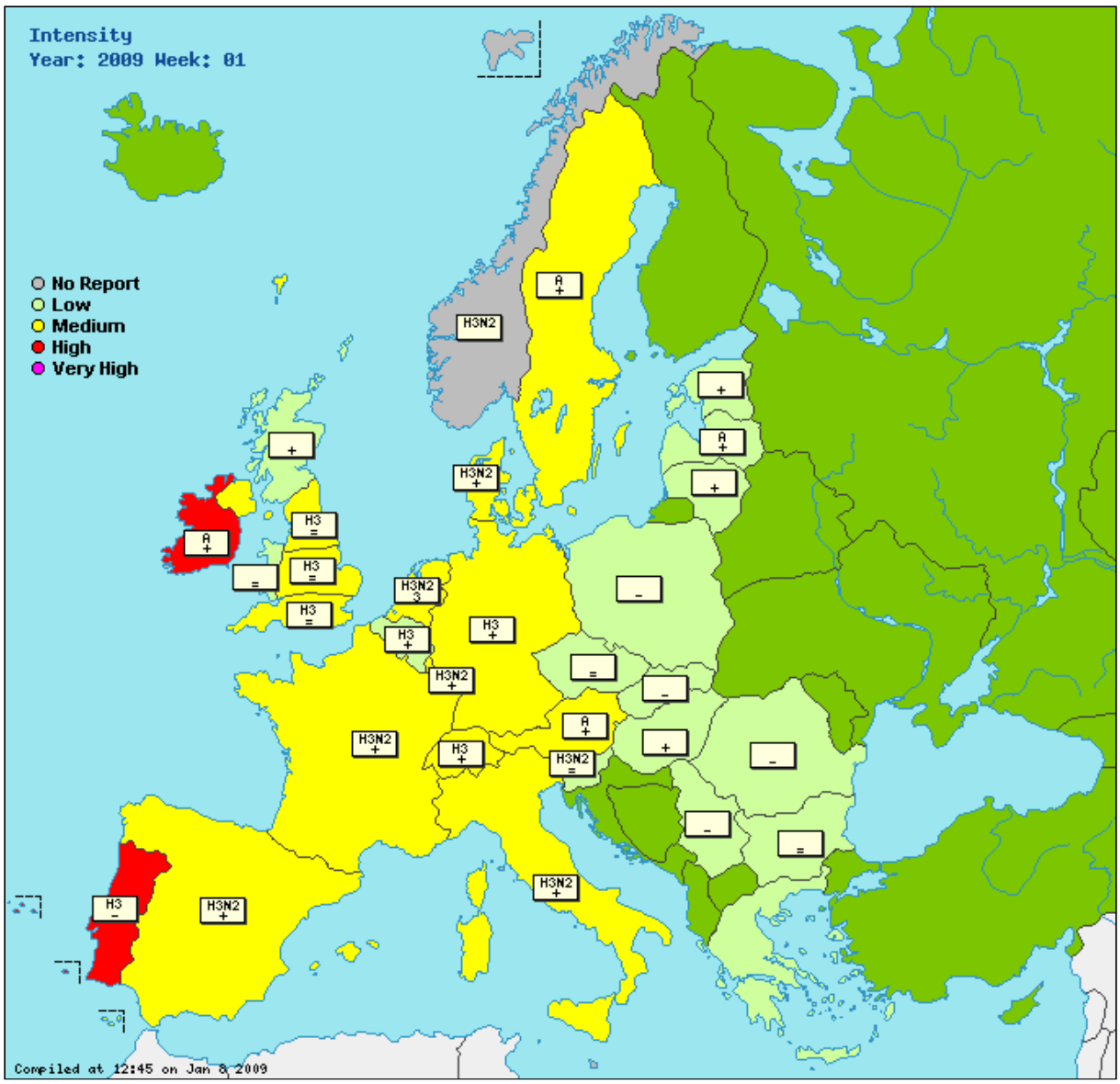
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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

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**+** : increasing clinical activity
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**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)

**Estonia**
The first influenzaviruses of this season have been detected from non-sentinel specimens (inflA&B) in Estonia.
**Italy**
A total of 11 A/H3N2 influenza isolates have been reported during this week. Furthermore, 6 A viruses, still not subtyped, have been identified.
**Sweden**
Only a few helth units have reported due to Christmas holidays.
**Switzerland**
An increase of the activity has been observed. Influenza A (H3N2) viruses have been detected in majority until now. 4 influenza A (H3N2) have been characterized as antigenically related to the vaccine strain influenza A/Brisbane/10/2007.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | Medium | Sporadic | | | 100 | 9.0% | Type A | 1004.2 (graphs) | (graphs) | Click here |
| Belgium | Low | Sporadic | | | 32 | 46.9% | Type A, Subtype H3 | 121.1 (graphs) | 1534.6 (graphs) | Click here |
| Bulgaria | Low | None | | | | | | (graphs) | 453.9 (graphs) | Click here |

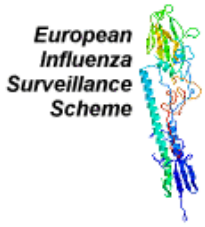
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Czech Republic | Low | Sporadic | 24 | 0% | None | 15.5 (graphs) | 597.4 (graphs) | Click here |
| Denmark | Medium | Widespread | 18 | 77.8% | Type A, Subtype H3N2 | 90.7 (graphs) | (graphs) | Click here |
| England | Medium | Widespread | 136 | 48.5% | Type A, Subtype H3 | 51.0 (graphs) | 954.6 (graphs) | Click here |
| Estonia | Low | Sporadic | 0 | 0% | None | 1.3 (graphs) | 251.4 (graphs) | Click here |
| France | Medium | Widespread | 51 | 27.5% | Type A, Subtype H3N2 | (graphs) | 2722.6 (graphs) | Click here |
| Germany | Medium | Regional | 39 | 59.0% | Type A, Subtype H3 | (graphs) | 1183.0 (graphs) | Click here |
| Greece | Low | None | 6 | 0% | None | 57.3 (graphs) | (graphs) | Click here |
| Hungary | Low | None | 2 | 0% | None | 40.9 (graphs) | (graphs) | Click here |
| Ireland | High | Sporadic | 24 | 25.0% | Type A | 100.6 (graphs) | (graphs) | Click here |
| Italy | Medium | Widespread | 27 | 48.2% | Type A, Subtype H3N2 | 265.2 (graphs) | (graphs) | Click here |
| Latvia | Low | Sporadic | 3 | 33.3% | Type A | 0.0 (graphs) | 523.0 (graphs) | Click here |
| Lithuania | Low | None | 0 | 0% | None | 0.3 (graphs) | 252.3 (graphs) | Click here |
| Luxembourg | Medium | Local | 11 | 36.4% | Type A, Subtype H3N2 | 259.2 (graphs) | 4578.8 (graphs) | Click here |
| Netherlands | Medium | Regional | 7 | 57.1% | Type A, Subtype H3N2 | 62.5 (graphs) | (graphs) | Click here |
| Northern Ireland | Medium | Widespread | 32 | 71.9% | None | 192.1 (graphs) | (graphs) | Click here |
| Norway | | | 6 | 83.3% | Type A, Subtype H3N2 | (graphs) | | Click here |
| Poland | Low | None | 6 | 0% | None | 27.5 (graphs) | (graphs) | Click here |
| Portugal | High | Widespread | 29 | 41.4% | Type A, Subtype H3 | 124.0 (graphs) | (graphs) | Click here |
| Romania | Low | None | 0 | 0% | None | 0.0 (graphs) | 654.9 (graphs) | Click here |
| Scotland | Low | Sporadic | | | | 0.0 (graphs) | (graphs) | Click here |
| Serbia | Low | None | | | | 37.3 (graphs) | (graphs) | Click here |
| Slovakia | Low | Sporadic | 0 | 0% | None | 91.8 (graphs) | 924.3 (graphs) | Click here |
| Slovenia | Low | Sporadic | 3 | 33.3% | Type A, Subtype H3N2 | 14.2 (graphs) | 669.2 (graphs) | Click here |
| Spain | Medium | Regional | 75 | 29.3% | Type A, Subtype H3N2 | 191.0 (graphs) | (graphs) | Click here |
| Sweden | Medium | Widespread | 0 | 0% | Type A | 7.9 (graphs) | (graphs) | Click here |
| Switzerland | Medium | Local | 13 | 53.9% | Type A, Subtype H3 | 62.9 (graphs) | | Click here |
| Wales | Low | Regional | | | | 18.8 (graphs) | (graphs) | Click here |
| Europe | | | 662 | 36.1% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Medium influenza activity in most European countries




**Summary:** In week 02/2009, influenza activity continued to spread across Europe with most countries now reporting medium intensity. Some eastern and north-eastern countries reported low level influenza intensity. In Portugal the epidemic has passed its peak. The majority of the viruses typed/subtyped were influenza A (H3) which continues to be the predominant influenza virus circulating in Europe. Vaccination of risk groups according to national recommendations remains indicated.

**Epidemiological situation - week 02/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Ireland and Switzerland, medium in 17 countries and low in the other nine countries and one part of the UK (Wales) that reported this indicator. Of the 19 countries that reported medium to high influenza activity this week, seven (Belgium, Bulgaria, Greece, Norway, Poland, Slovenia and Scotland in the UK) did so for the first time during the current season. For the geographical spread indicator, widespread influenza activity was reported in 14 countries, regional activity in two countries and one part of the UK (Wales), local activity in two countries and sporadic activity in the remaining 5 countries and one part of the UK (Scotland). Eight of the nine countries reporting low intensity during week 02/2009 are located in the eastern and north-eastern part of Europe. Consultation rates for ILI in Portugal peaked in week 52 and have decreased since then. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40/2008-02/2009):** Consultation rates for ILI and/or ARI above baseline levels were first reported in Portugal, Ireland and parts of the UK (England and Northern Ireland) in week 49/2008. Subsequently consultations rates rose above baseline levels in Spain (week 51/2008), France and Italy (week 52/2008), Austria, Denmark, Germany, Sweden, Switzerland and the Netherlands (week 01/2009) and in Belgium, Bulgaria, Greece, Norway, Poland, Slovenia and Scotland in the UK (week 02/2009). High influenza intensity was first reported in Portugal (week 51/2008), Ireland (week 01/2009), and Switzerland (week 02/2009). Portugal is the first country that has passed its peak influenza activity, as since week 52 the consultation rates have continuously decreased. Generally, the highest consultation rates have been reported for the 0-4 age group, but Ireland, UK and Norway have reported their highest ILI consultation rates in the 15-64 age group.

**Virological situation - week 02/2009:** The total number of respiratory specimens collected by sentinel physicians in week 02/2009 was 1448, of which 573 (39.6%) were positive for influenza virus: 543 type A (262 subtype H3, seven subtype H1 and 274 not subtyped) and 30 type B. In addition, 702 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 686 type A (98 subtype H3, four subtype H1 and 584 not subtyped) and 16 type B.
**Cumulative virological situation – 2008-2009 season (weeks 40/2008-02/2009):** Of 5693 virus detections (sentinel and non-sentinel) since week 40/2008, 5474 were type A (2128 subtype H3, 141 subtype H1 and 3205 not subtyped) and 219 were type B. Based on the antigenic and/or genetic characterisation of 374 influenza viruses, 321 were reported as A/Brisbane/10/2007 (H3N2)-like, 32 as A/Brisbane/59/2007 (H1N1)-like, seven as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 14 as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here).
More countries have reported on antiviral susceptibility based on genotyping (Norway, Spain, Sweden), phenotyping (Italy) or both techniques (UK). All 93 influenza A(H3N2) and three influenza B viruses tested were sensitive to oseltamivir and zanamivir. Of these, the 88 A(H3N2) viruses tested were resistant to M2 inhibitors. Fifty-one of 52 influenza A(H1N1) viruses analysed (98%) were resistant to oseltamivir but all those tested were sensitive to zanamivir, while 23 of these tested were sensitive to M2 inhibitors.

**Comment:** Most European countries are now experiencing influenza activity of medium intensity. Only a limited number of countries mostly in the east and north-east of Europe are still reporting low influenza activity this season. A much higher number of sentinel specimens has been collected for virological testing during the current week as compared to the previous, and the proportion testing positive for influenza remained high (39.6%). So far type A (H3) has been the dominant influenza virus circulating in Europe. Available data indicate that, with the exception of the B/Victoria lineage, the majority of circulating viruses are similar to the three components (A(H1N1), A(H3N2) and B/Yamagata lineage) included in the current influenza vaccine.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. Of these countries, 28 reported both clinical and virological data and two reported clinical data only to EISS in week 02/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

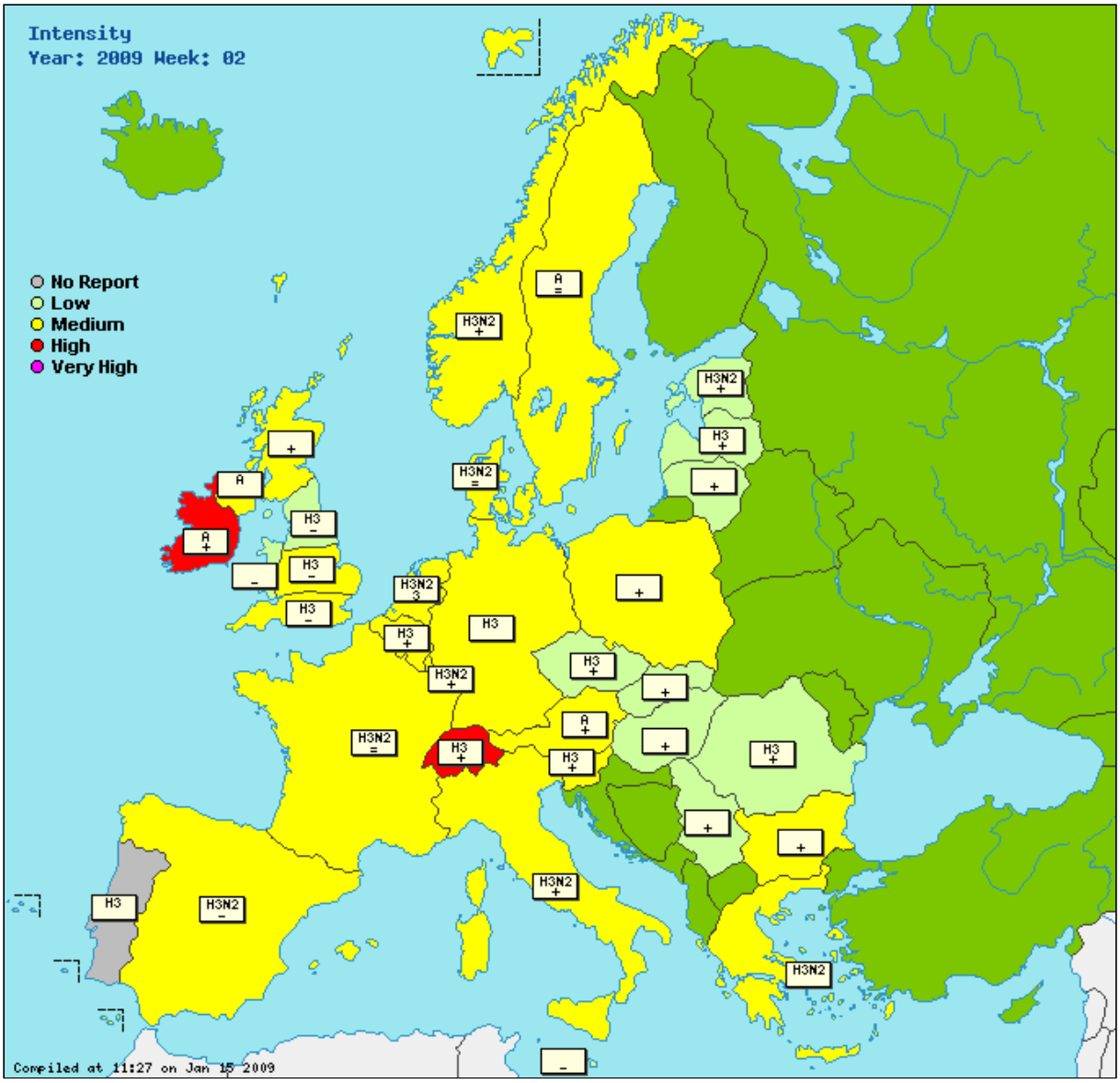
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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)

**Italy**
During this last week, a slight increase in the number of collected samples has been observed. Out of 100 samples tested, 30 resulted positive for influenza A (11 subtyped as H3N2).

**Sweden**
We had a medium level of inluenza actvity among ILI cases BUT a hig level of non-sentinel laboratory diagnoses during the week 2.

**Switzerland**
Medical consultations and influenza virus detection rate increased a lot this week.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | Medium | Regional | | | 90 | 30.0% | Type A | 1320.9 (graphs) | (graphs) | Click here |
| Belgium | Medium | Widespread | | | 50 | 22.0% | Type A, Subtype H3 | 257.2 (graphs) | 1915.3 (graphs) | Click here |
| Bulgaria | Medium | None | | | 9 | 0% | None | (graphs) | 1078.2 (graphs) | Click here |
| Czech Republic | Low | Local | | | 68 | 10.3% | Type A, Subtype H3 | 32.9 (graphs) | 963.5 (graphs) | Click here |
| Denmark | Medium | Widespread | | | 56 | 55.4% | Type A, Subtype H3N2 | 168.9 (graphs) | (graphs) | Click here |

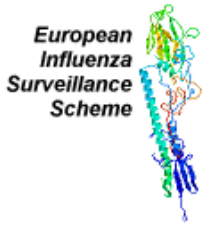
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| England | Medium | Widespread | 157 | 30.6% | Type A, Subtype H3 | 44.3 (graphs) | 881.3 (graphs) | Click here |
| Estonia | Low | Local | 13 | 38.5% | Type A, Subtype H3N2 | 1.9 (graphs) | 294.5 (graphs) | Click here |
| France | Medium | Widespread | 289 | 36.3% | Type A, Subtype H3N2 | (graphs) | 2858.5 (graphs) | Click here |
| Germany | Medium | Regional | 169 | 60.4% | Type A, Subtype H3 | (graphs) | 1329.0 (graphs) | Click here |
| Greece | Medium | Sporadic | 4 | 75.0% | Type A, Subtype H3N2 | 80.8 (graphs) | (graphs) | Click here |
| Hungary | Low | None | 7 | 0% | None | 118.8 (graphs) | (graphs) | Click here |
| Ireland | High | Widespread | 34 | 76.5% | Type A | 124.4 (graphs) | (graphs) | Click here |
| Italy | Medium | Widespread | 79 | 35.4% | Type A, Subtype H3N2 | 421.3 (graphs) | (graphs) | Click here |
| Latvia | Low | Sporadic | 1 | 100.0% | Type A, Subtype H3 | 1.4 (graphs) | 701.2 (graphs) | Click here |
| Lithuania | Low | None | 1 | 0% | None | 1.1 (graphs) | 512.7 (graphs) | Click here |
| Luxembourg | Medium | Widespread | 28 | 50.0% | Type A, Subtype H3N2 | 161.2 (graphs) | 3526.8 (graphs) | Click here |
| Malta | Low | None | | | | 0.0 (graphs) | (graphs) | Click here |
| Netherlands | Medium | Widespread | 40 | 50.0% | Type A, Subtype H3N2 | 103.9 (graphs) | (graphs) | Click here |
| Northern Ireland | Medium | Widespread | 14 | 42.9% | Type A | 157.3 (graphs) | (graphs) | Click here |
| Norway | Medium | Widespread | 8 | 75.0% | Type A, Subtype H3N2 | 163.5 (graphs) | (graphs) | Click here |
| Poland | Medium | Sporadic | 28 | 0% | None | 73.7 (graphs) | (graphs) | Click here |
| Portugal | | | 27 | 55.6% | Type A, Subtype H3 | (graphs) | | Click here |
| Romania | Low | Sporadic | 11 | 18.2% | Type A, Subtype H3 | 1.0 (graphs) | 1058.9 (graphs) | Click here |
| Scotland | Medium | Sporadic | | | | 0.0 (graphs) | (graphs) | Click here |
| Serbia | Low | None | | | | 54.5 (graphs) | (graphs) | Click here |
| Slovakia | Low | Sporadic | 1 | 100.0% | None | 125.7 (graphs) | 1134.7 (graphs) | Click here |
| Slovenia | Medium | Widespread | 40 | 65.0% | Type A, Subtype H3 | 49.3 (graphs) | 1714.1 (graphs) | Click here |
| Spain | Medium | Widespread | 93 | 33.3% | Type A, Subtype H3N2 | 183.7 (graphs) | (graphs) | Click here |
| Sweden | Medium | Widespread | 0 | 0% | Type A | 9.0 (graphs) | (graphs) | Click here |
| Switzerland | High | Widespread | 86 | 54.7% | Type A, Subtype H3 | 161.1 (graphs) | | Click here |
| Wales | Low | Regional | 0 | 0% | None | 11.6 (graphs) | (graphs) | Click here |
| Europe | | | 1457 | 39.7% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Medium to high influenza activity in most European countries




**Summary:** In week 03/2009, influenza activity continued to intensify and spread across Europe with most countries now reporting medium to high intensity. In Portugal and the UK (England) activity has continued to decrease. The majority of the viruses identified were influenza A(H3) that continues to be the predominant circulating virus. All the A(H3N2) viruses tested for antiviral resistance were susceptible to neuraminidase inhibitors. Vaccination of risk groups according to national recommendations remains indicated.

**Epidemiological situation - week 03/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Austria, Denmark, Ireland, Luxembourg and Switzerland, medium in 15 countries and the UK (England, Northern Ireland and Scotland), and low in the other seven countries and one part of the UK (Wales) that reported this indicator. Of the 21 countries that reported medium or high influenza activity this week, two (Czech Republic and Romania) did so for the first time during the current season. For the geographical spread indicator, widespread influenza activity was reported in 15 countries and the UK (Northern Ireland), regional activity in one country and the UK (England), local activity in three countries and sporadic or no activity in the remaining eight countries and the UK (Scotland and Wales). Six of the seven countries (Estonia, Hungary, Latvia, Lithuania, Serbia and Slovakia) where the influenza season has not started yet are located in the eastern and north-eastern part of Europe. All of these reported increasing intensity during week 03/2009 as compared with the previous week. Consultation rates for ILI in the UK (England) peaked in week 1/2009 and have decreased since then. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40/2008-03/2009):** Consultation rates for ILI and/or ARI above baseline levels were first reported in Portugal, Ireland and the UK (England and Northern Ireland) in week 49/2008. Subsequently consultations rates rose above baseline levels in Spain (week 51/2008), France and Italy (week 52/2008), Austria, Denmark, Germany, Sweden, Switzerland and the Netherlands (week 01/2009), Belgium, Bulgaria, Greece, Norway, Poland, Slovenia and the UK (Scotland; week 02/2009) and Czech Republic and Romania (week 3/2009) . High influenza activity has been reported in Portugal (week 51/2008), Ireland (week 01/2009), Switzerland (week 02/2009), Austria, Denmark and Luxembourg (week 3/2009). Influenza activity is now declining in Portugal (since week 52/2008) and the UK (England; since week 2/2009). Generally, the highest consultation rates have been reported for the 0-4 age group, but Ireland, UK and Norway have reported their highest ILI consultation rates in the 15-64 age group.

**Virological situation - week 03/2009:** The total number of respiratory specimens collected by sentinel physicians in week 03/2009 was 2287, of which 968 (42.3%) were positive for influenza virus: 932 type A (492 subtype H3, 31 subtype H1 and 409 not subtyped) and 36 type B. In addition, 742 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 731 type A (185 subtype H3, six subtype H1 and 540 not subtyped) and 11 type B.

**Cumulative virological situation – 2008-2009 season (weeks 40/2008-03/2009):** Of 7951 virus detections (sentinel and non-sentinel) since week 40/2008, 7662 were type A (3130 subtype H3, 199 subtype H1 and 4333 not subtyped) and 289 were type B. Based on the antigenic and/or genetic characterisation of 794 influenza viruses, 714 were reported as A/Brisbane/10/2007(H3N2)-like, 47 as A/Brisbane/59/2007(H1N1)-like, 11 as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 22 as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here).
All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, whereas 99% of those tested were resistant to M2 inhibitors. The few influenza B viruses analysed were sensitive to oseltamivir and zanamivir. All influenza A(H1N1) viruses analysed were sensitive to zanamivir and M2 inhibitors but 98% were resistant to oseltamivir (click here).

**Comment:** Influenza activity has continued to intensify in Europe with three additional countries reporting high intensity. The west-to-east spread of influenza has continued with two additional countries in eastern Europe reporting medium influenza intensity. It is anticipated that influenza activity will spread further in the coming weeks and affect the few remaining eastern countries. In a few western countries recent influenza activity has already peaked and started to decline. The proportion of sentinel specimens which tested positive for influenza this week remained high (42.3%). So far type A(H3) has been the dominant influenza virus circulating in Europe. A higher number of viruses have now been antigenically and/or genetically characterised. These data indicate that, with the exception of the few B/Victoria lineage viruses, the viruses circulating are similar to the three components (A(H1N1), A(H3N2) and B/Yamagata lineage) included in the current influenza vaccine.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. Of these countries, 28 reported both clinical and virological data and two reported clinical data only to EISS in week 03/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

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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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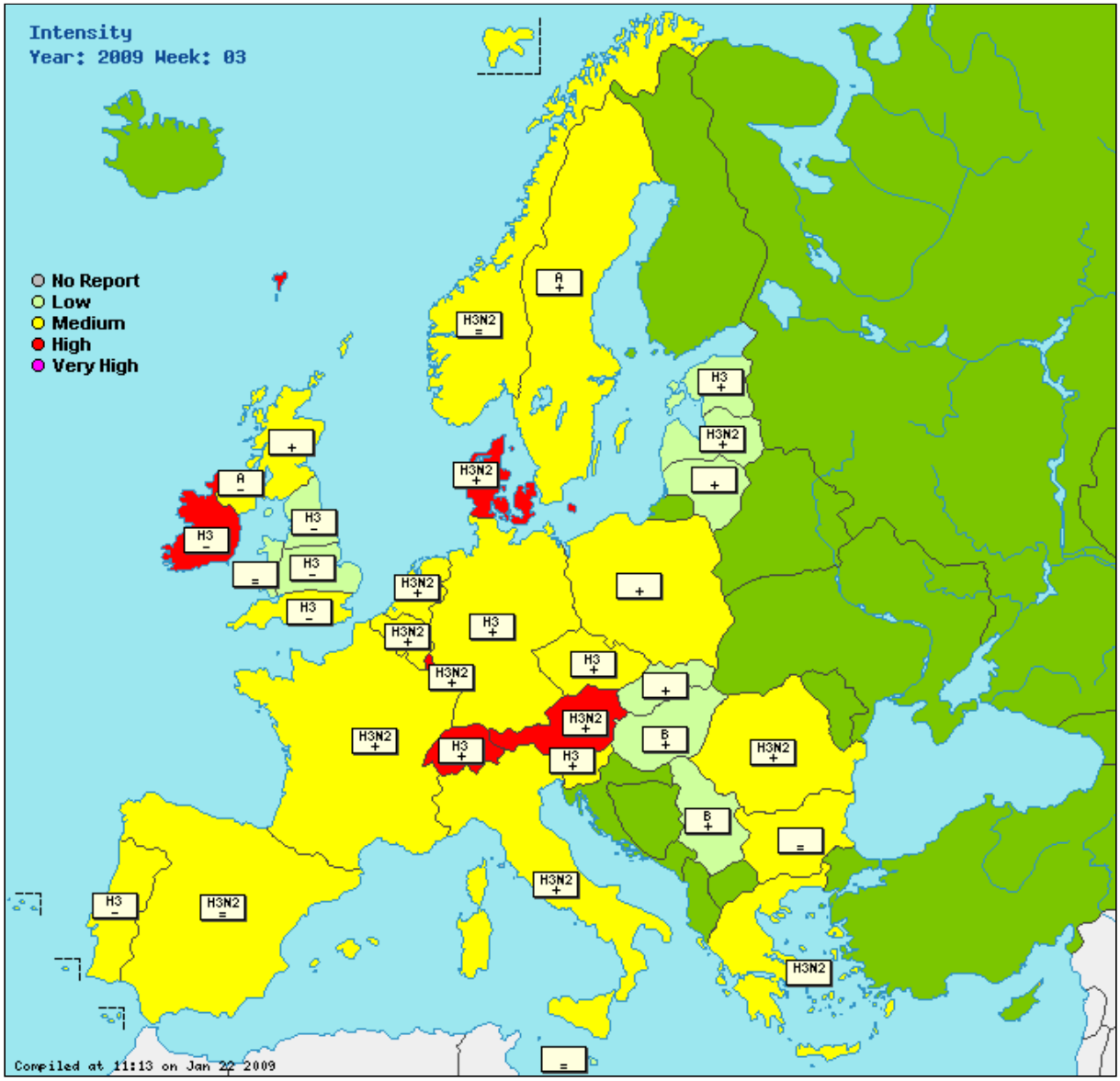
You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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

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**+** : increasing clinical activity
**-** : decreasing clinical activity

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**No activity** = no evidence of influenza virus activity (clinical activity remains at baseline levels)
**Sporadic** = isolated cases of laboratory confirmed influenza infection
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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)

**Italy**
During this last week, among the 40 samples resulted positive for influenza A, the first isolates belonging to H1N1 subtype have been reported in Italy, together with further 27 H3N2 viruses.

**Serbia**
Influenza B/Malaysia/2506/2004-like virus strains were confirmed by Real-time PCR and isolation in MDCK cells in two patients (12 years and 23 years old). Influenza A(H3) was confirmed by Real-time PCR in the samples of a 24 year-old patient

**Sweden**
We had a medium level of inluenza actvity among ILI cases BUT a continue high level of non-sentinel laboratory diagnoses.

**Switzerland**
Influenza activity continued to increase last week. Influenza A are mainly detected. B remained reall sporadic. Influenza A are related to influenza A/Brisbane/10/07 (H3N2) vaccine strain.

# Table and graphs (where available)

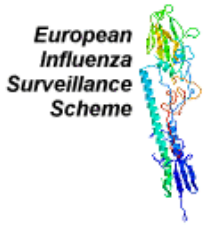
| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | High | Widespread | | Increasing | 220 | 38.6% | Type A, Subtype H3N2 | 1840.3 (graphs) | (graphs) | Click here |
| Belgium | Medium | Widespread | | Increasing | 126 | 54.0% | Type A, Subtype H3N2 | 658.8 (graphs) | 2138.5 (graphs) | Click here |
| Bulgaria | Medium | None | | Stable | 65 | 0% | None | (graphs) | 1039.0 (graphs) | Click here |
| Czech Republic | Medium | Local | | Increasing | 53 | 28.3% | Type A, Subtype H3 | 48.6 (graphs) | 1060.9 (graphs) | Click here |
| Denmark | High | Widespread | | Increasing | 44 | 52.3% | Type A, Subtype H3N2 | 311.8 (graphs) | (graphs) | Click here |
| England | Medium | Regional | | Decreasing | 123 | 25.2% | Type A, Subtype H3 | 31.6 (graphs) | 702.6 (graphs) | Click here |
| Estonia | Low | Local | | Increasing | 16 | 25.0% | Type A, Subtype H3 | 3.3 (graphs) | 341.5 (graphs) | Click here |
| France | Medium | Widespread | | Increasing | 175 | 42.9% | Type A, Subtype H3N2 | (graphs) | 3298.8 (graphs) | Click here |
| Germany | Medium | Widespread | | Increasing | 362 | 67.1% | Type A, Subtype H3 | (graphs) | 1365.0 (graphs) | Click here |
| Greece | Medium | Sporadic | | | 22 | 31.8% | Type A, Subtype H3N2 | 97.2 (graphs) | (graphs) | Click here |
| Hungary | Low | Sporadic | | Increasing | 22 | 13.6% | Type B | 147.3 (graphs) | (graphs) | Click here |
| Ireland | High | Widespread | | Decreasing | 28 | 50.0% | Type A, Subtype H3 | 103.1 (graphs) | (graphs) | Click here |
| Italy | Medium | Widespread | | Increasing | 111 | 27.9% | Type A, Subtype H3N2 | 597.0 (graphs) | (graphs) | Click here |
| Latvia | Low | Regional | | Increasing | 2 | 100.0% | Type A, Subtype H3N2 | 887.2 (graphs) | 13.6 (graphs) | Click here |
| Lithuania | Low | None | | Increasing | | | | 2.1 (graphs) | 541.1 (graphs) | Click here |
| Luxembourg | High | Widespread | | | 92 | 63.0% | Type A, Subtype H3N2 | 826.3 (graphs) | 3929.9 (graphs) | Click here |
| Malta | Low | Sporadic | | Stable | | | | (graphs) | (graphs) | Click here |
| Netherlands | Medium | Widespread | | Increasing | 52 | 42.3% | Type A, Subtype H3N2 | 131.3 (graphs) | (graphs) | Click here |
| Northern Ireland | Medium | Widespread | | Decreasing | 5 | 60.0% | Type A | 112.6 (graphs) | (graphs) | Click here |
| Norway | Medium | Widespread | | Stable | 13 | 69.2% | Type A, Subtype H3N2 | 149.4 (graphs) | (graphs) | Click here |
| Poland | Medium | Sporadic | | Increasing | 84 | 1.2% | None | 137.5 (graphs) | (graphs) | Click here |
| Portugal | Medium | Widespread | | Decreasing | 24 | 41.7% | Type A, Subtype H3 | 73.8 (graphs) | (graphs) | Click here |
| Romania | Medium | Local | | Increasing | 37 | 51.4% | Type A, Subtype H3N2 | 1.8 (graphs) | 1177.4 (graphs) | Click here |
| Scotland | Medium | Sporadic | | Increasing | 14 | 35.7% | None | 9.5 (graphs) | (graphs) | Click here |
| Serbia | Low | Sporadic | | Increasing | 6 | 50.0% | Type B | 69.6 (graphs) | (graphs) | Click here |
| Slovakia | Low | Sporadic | | Increasing | 10 | 20.0% | None | 176.0 (graphs) | 1498.4 (graphs) | Click here |
| Slovenia | Medium | Widespread | | Increasing | 65 | 84.6% | Type A, Subtype H3 | 76.7 (graphs) | 1698.7 (graphs) | Click here |
| Spain | Medium | Widespread | | Stable | 192 | 38.0% | Type A, Subtype H3N2 | 208.8 (graphs) | (graphs) | Click here |
| Sweden | Medium | Widespread | | Increasing | 96 | 37.5% | Type A | 17.6 (graphs) | (graphs) | Click here |
| Switzerland | High | Widespread | | Increasing | 106 | 43.4% | Type A, Subtype H3 | 368.8 (graphs) | | Click here |
| Wales | Low | None | | Stable | | | | 12.8 (graphs) | (graphs) | Click here |
| Europe | | | | | 2495 | 41.2% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Influenza activity increasing across Europe but activity is now decreasing in some countries




**Summary:** In week 04/2009, influenza activity continued to intensify and progress across Europe with most countries now reporting medium to high intensity. However, influenza activity has peaked and declined in Ireland, Portugal and the UK (England). Influenza A (H3) continues to be the predominant circulating virus and all the A(H3N2) viruses tested for antiviral resistance were susceptible to neuraminidase inhibitors but resistant to M2 inhibitors. Although low numbers of A(H1N1) viruses are circulating, over 97% of those tested are resistant to oseltamivir, but sensitive to zanamivir.

**Epidemiological situation - week 04/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Germany, Luxembourg, Poland, Sweden and Switzerland, medium in 16 countries and the UK (Northern Ireland and Scotland), and low in the other five countries and two parts of the UK (England and Wales) that reported this indicator. Of the 22 countries that reported medium to high influenza activity this week, two (Estonia and Hungary) did so for the first time during the current season. The majority of countries reported increasing or stable trends for intensity in week 04/2009 compared to the previous week, but four countries (Denmark, Ireland, Portugal and Spain) and the UK (England, Northern Ireland and Wales) reported decreasing intensity. For the geographical spread indicator, widespread influenza activity was reported in 13 countries and the UK (Northern Ireland), regional activity in three countries, local activity in four countries and sporadic or no activity in the remaining six countries and the UK (England, Scotland and Wales). Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40/2008-04/2009):** Consultation rates for ILI and/or ARI above baseline levels, corresponding to influenza activity of medium intensity, were first reported in Portugal, Ireland and the UK (England and Northern Ireland) in week 49/2008, which peaked in weeks 52/2008 to 1/2009, and have declined since. Subsequent to week 49/2008 consultation rates rose above baseline levels in most European countries following a general west to east progression. Of the countries reporting in week 4/2009, Latvia, Lithuania, Serbia and Slovakia continue to report low intensity. High influenza intensity has been reported in Portugal (week 51/2008), Ireland (week 01/2009), Switzerland (week 02/2009), Austria, Denmark and Luxembourg (week 3/2009), Germany, Poland and Sweden (week 4/2009), but this status has now declined for Portugal and Ireland. Generally, the highest consultation rates have been in the 0-4 age group, but Ireland, UK and Norway have reported their highest ILI consultation rates in the 15-64 age group.

**Virological situation - week 04/2009:** The total number of respiratory specimens collected by sentinel physicians in week 04/2009 was 2874, of which 999 (34.8%) were positive for influenza virus: 939 type A (586 subtype H3, 53 subtype H1 and 300 not subtyped) and 60 type B. In addition, 905 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 885 type A (217 subtype H3, six subtype H1 and 662 not subtyped) and 20 type B.

**Cumulative virological situation – 2008-2009 season (weeks 40/2008-04/2009):** Of 11028 virus detections (sentinel and non-sentinel) since week 40/2008, 10643 were type A (4518 subtype H3, 268 subtype H1 and 5857 not subtyped) and 385 were type B. Based on the antigenic and/or genetic characterisation of 1040 influenza viruses, 944 (90.7%) were reported as A/Brisbane/10/2007 (H3N2)-like, 58 (5.6%) as A/Brisbane/59/2007 (H1N1)-like, 12 (1.2%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 26 (2.5%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here).
Eight countries have reported antiviral susceptibility data. Ninety-seven percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir , but all those tested against zanamivir and M2 inhibitors were sensitive. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. The few influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Influenza activity has continued to rise in Europe, following a west-to-east trend, with three additional countries reporting high intensity. The four countries still reporting low activity are all based in eastern Europe. In some western countries influenza activity has already peaked and declined. In week 4/2009 34.8% of sentinel specimens tested positive for influenza showing a decrease from 42.3% in week 3/2009. Whereas type A (H3N2) continues to be the clearly dominant influenza virus circulating in Europe, type B, following a rising trend in recent weeks and a reduction in type A detection in week 4/2009, were the majority of viruses identified in sentinel specimens from Greece in week 4/2009. Antigenic and/or genetic characterisation indicates that, with the exception of the few B/Victoria lineage viruses, the viruses circulating are similar to the three components (A(H1N1), A(H3N2) and B/Yamagata lineage) included in the current influenza vaccine.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 30 European countries that are members of EISS. Of these countries, 27 reported both clinical and virological data, one reported virological data only and one reported clinical data only to EISS in week 04/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

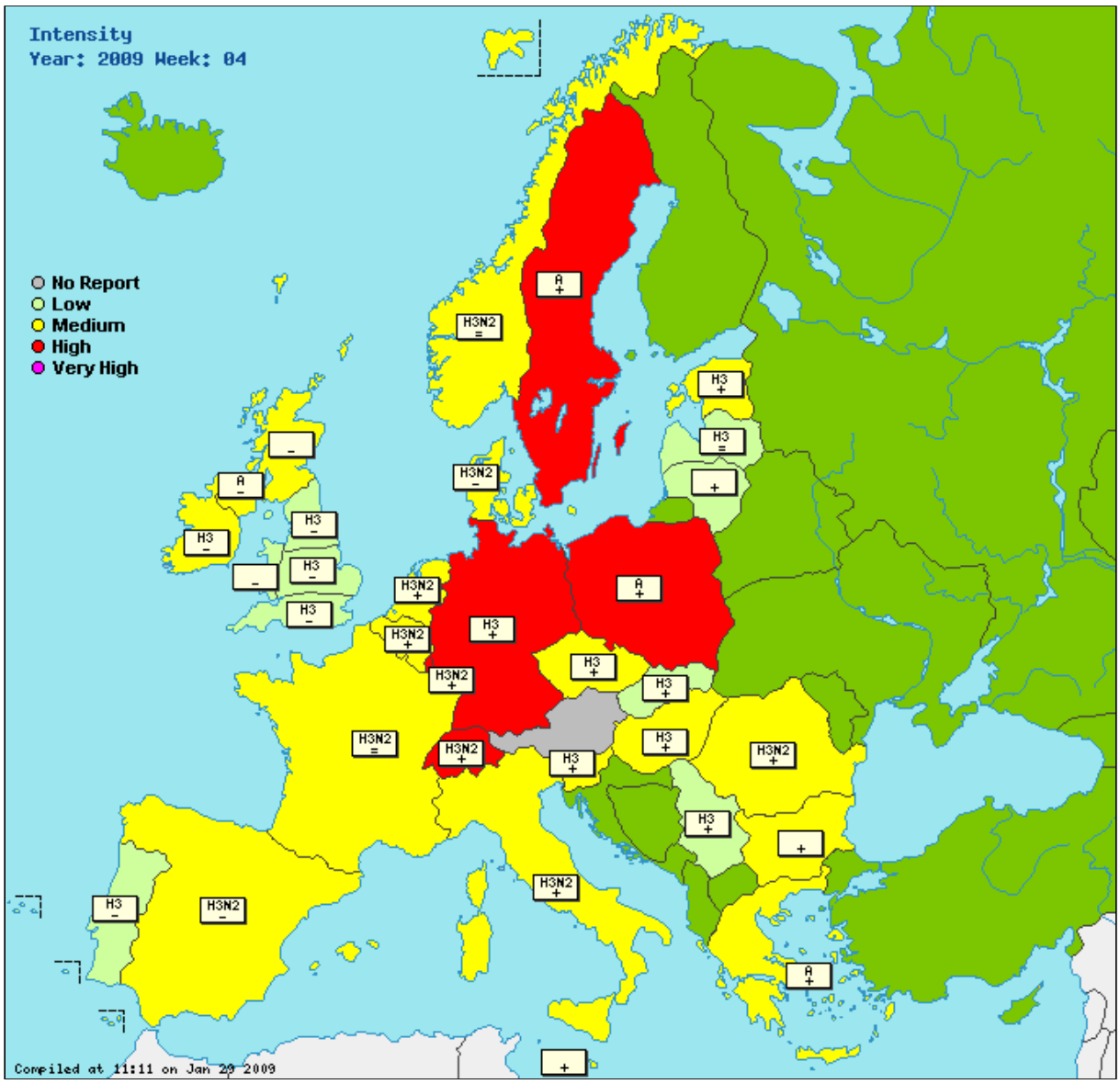
## Map

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.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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)

**Greece**
In Southern Greece, the total number of sentinel swabs collected by sentinel physicians in week 04/2009 was 30, of which 11 (36.7%) were positive for influenza virus: 3 type A (subtype H3N2) and 8 type B. In addition, 13 non-sentinel source swabs were collected by children's Hospital, none of which were positive for influenza virus. So far type A(H3) has been the dominant influenza virus circulating. Interestingly in week 4/2009, type B is the dominant influenza virus. Based on the antigenic characterisation all 3 flu A isolates were A/Brisbane/10/2007 (H3N2)-like. Their HA sequences were found A/Brisbane/10/2007 (H3N2)-like, characterized by the amino acid changes G50E and K140I and differed from the vaccine strain by 2 amino acids. Based on the genetic characterisation all flu B isolates were B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage).

**Italy**
Further 19 type A influenza viruses (18 H3 and 1 H1) were isolated together with 1 influenza type B.

**Latvia**
Influenza activity continued to increase last week.Influenza A/H3 are mainly detected.Firsts cases of influenza B and A/H1 have been detected .

**Sweden**
The virological laboratory in the south of Sweden had a substantial increase of laboratory confirmed influenza A cases. The data has beeen therefore updated.
**Switzerland**
Epidemic activity increased highly these two last week. Influenza A (H3N2) are mainly detected. Influenza A viruses are antigenically related to influenza A/Brisbane/10/07 (H3N2) viruses.

## Table and graphs (where available)

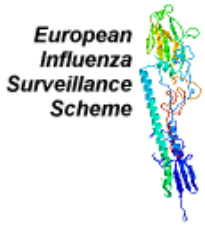
| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Medium | Widespread | | Increasing | 131 | 43.5% | Type A, Subtype H3N2 | 942.4 (graphs) | 2465.4 (graphs) | Click here |
| Bulgaria | Medium | None | | Increasing | 69 | 0% | None | (graphs) | 1096.1 (graphs) | Click here |
| Czech Republic | Medium | Regional | | Increasing | 106 | 27.4% | Type A, Subtype H3 | 104.7 (graphs) | 1276.7 (graphs) | Click here |
| Denmark | Medium | Widespread | | Decreasing | 28 | 57.1% | Type A, Subtype H3N2 | 272.9 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | Decreasing | 55 | 9.1% | Type A, Subtype H3 | 16.8 (graphs) | 640.8 (graphs) | Click here |
| Estonia | Medium | Widespread | | Increasing | 57 | 36.8% | Type A, Subtype H3 | 16.0 (graphs) | 401.3 (graphs) | Click here |
| France | Medium | Widespread | | Stable | 153 | 52.9% | Type A, Subtype H3N2 | (graphs) | 3403.3 (graphs) | Click here |
| Germany | High | Widespread | | Increasing | 490 | 64.5% | Type A, Subtype H3 | (graphs) | 1663.0 (graphs) | Click here |
| Greece | Medium | Sporadic | | Increasing | 33 | 33.3% | Type A | 138.8 (graphs) | (graphs) | Click here |
| Hungary | Medium | Regional | | Increasing | 27 | 29.6% | Type A, Subtype H3 | 213.3 (graphs) | (graphs) | Click here |
| Ireland | Medium | Local | | Decreasing | 14 | 64.3% | Type A, Subtype H3 | 43.4 (graphs) | (graphs) | Click here |
| Italy | Medium | Widespread | | Increasing | 124 | 26.6% | Type A, Subtype H3N2 | 797.0 (graphs) | (graphs) | Click here |
| Latvia | Low | Regional | | Stable | 5 | 40.0% | Type A, Subtype H3 | 10.5 (graphs) | 939.1 (graphs) | Click here |
| Lithuania | Low | Sporadic | | Increasing | 10 | 20.0% | None | 3.8 (graphs) | 608.6 (graphs) | Click here |
| Luxembourg | High | Widespread | | | 109 | 67.9% | Type A, Subtype H3N2 | 947.2 (graphs) | 3385.7 (graphs) | Click here |
| Malta | Medium | Local | | Increasing | 2 | 50.0% | None | (graphs) | (graphs) | Click here |
| Netherlands | Medium | Widespread | | Increasing | 42 | 45.2% | Type A, Subtype H3N2 | 153.2 (graphs) | (graphs) | Click here |
| Northern Ireland | Medium | Widespread | | Decreasing | 10 | 50.0% | Type A | 89.4 (graphs) | (graphs) | Click here |
| Norway | Medium | Widespread | | Stable | 25 | 64.0% | Type A, Subtype H3N2 | 186.4 (graphs) | (graphs) | Click here |
| Poland | High | Local | | Increasing | 201 | 4.0% | Type A | 392.5 (graphs) | (graphs) | Click here |
| Portugal | Low | Sporadic | | Decreasing | 16 | 81.3% | Type A, Subtype H3 | 50.9 (graphs) | (graphs) | Click here |
| Romania | Medium | Local | | Increasing | 68 | 38.2% | Type A, Subtype H3N2 | 4.8 (graphs) | 1250.9 (graphs) | Click here |
| Scotland | Medium | Sporadic | | Decreasing | | | | (graphs) | (graphs) | Click here |
| Serbia | Low | Sporadic | | Increasing | 13 | 46.2% | Type A, Subtype H3 | 79.7 (graphs) | (graphs) | Click here |
| Slovakia | Low | Sporadic | | Increasing | 14 | 57.1% | Type A, Subtype H3 | 242.4 (graphs) | 1741.1 (graphs) | Click here |
| Slovenia | Medium | Widespread | | Increasing | 56 | 71.4% | Type A, Subtype H3 | 176.6 (graphs) | 1969.2 (graphs) | Click here |
| Spain | Medium | Widespread | | Decreasing | 154 | 43.5% | Type A, Subtype H3N2 | 161.8 (graphs) | (graphs) | Click here |
| Sweden | High | Widespread | | Increasing | 0 | 0% | Type A | 17.9 (graphs) | (graphs) | Click here |
| Switzerland | High | Widespread | | Increasing | 70 | 67.1% | Type A, Subtype H3N2 | 503.1 (graphs) | | Click here |
| Wales | Low | None | | Decreasing | | | | 6.8 (graphs) | (graphs) | Click here |
| Europe | | | | | 3057 | 34.5% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Influenza activity increasing in eastern Europe while starting to decrease in the west




**Summary:** In week 05/2009, influenza activity continued to intensify across eastern Europe with most countries now reporting medium to high intensity. There are indications that activity may have peaked in countries in western Europe during week 5. Influenza A(H3) continues to be the predominant circulating virus and all the A(H3N2) viruses tested for antiviral resistance were resistant to M2 inhibitors but susceptible to neuraminidase inhibitors. Although low numbers of influenza B viruses are circulating, these have increased during week 05/2009 compared to previous weeks.

**Epidemiological situation - week 05/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Austria, Estonia, Germany, Luxembourg, Poland, Sweden and Switzerland, medium in 18 countries, and low in the other six countries that reported this indicator. Of the 25 countries that reported medium to high influenza activity this week, two (Estonia and Lithuania) did so for the first time during the current season. The majority of countries reporting increasing trends for the intensity indicator in week 05/2009 were located in eastern Europe, while most countries in western Europe reported unchanging or decreasing intensity compared to the previous week; only Belgium in the west reported a slight increase in activity compared to the previous week. For the geographical spread indicator, widespread influenza activity was reported in 15 countries covering most of Europe, regional activity in four countries, local activity in five countries and sporadic or no activity in the remaining seven countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation – 2008-2009 season (weeks 40/2008-05/2009):** Consultation rates for ILI and/or ARI above baseline levels, corresponding to influenza activity of medium intensity, were first reported in Portugal, Ireland and the UK (England and Northern Ireland) in week 49/2008, which peaked in weeks 52/2008 to 01/2009, and have since declined. Since week 49/2008 consultation rates rose above baseline levels in most European countries following a general west to east progression. Of the countries reporting in week 05/2009, Latvia, Serbia and Slovakia continued to report low intensity. High influenza intensity has been reported in Portugal (week 51/2008), Ireland (week 01/2009), Switzerland (week 02/2009), Austria, Denmark and Luxembourg (week 03/2009), Germany, Poland and Sweden (week 04/2009) and Estonia (week 05/2009), but this status has now declined for Denmark, Portugal and Ireland. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group.

**Virological situation - week 05/2009:** The total number of respiratory specimens collected by sentinel physicians in week 05/2009 was 2345, of which 999 (42.6%) were positive for influenza virus: 909 type A (388 subtype H3, 33 subtype H1 and 488 not subtyped) and 90 type B. In addition, 1056 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 1019 type A (165 subtype H3, six subtype H1 and 848 not subtyped) and 37 type B.

**Cumulative virological situation – 2008-2009 season (weeks 40/2008-05/2009):** Of 14321 virus detections (sentinel and non-sentinel) since week 40/2008, 13768 (96%) were type A (5463 subtype H3, 333 subtype H1 and 7972 not subtyped) and 553 (4%) were type B. Based on the antigenic and/or genetic characterisation of 1563 influenza viruses, 1417 (90.7%) were reported as A/Brisbane/10/2007 (H3N2)-like, 73 (4.7%) as A/Brisbane/59/2007 (H1N1)-like, 19 (1.2%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 54 (3.4%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here).
Eight countries have reported antiviral susceptibility data. Ninety-seven percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir, but all those tested against zanamivir and M2 inhibitors were sensitive. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Influenza activity has continued to increase in eastern Europe, following a west-to-east trend, with one additional country reporting high intensity. The three countries still reporting low activity are in eastern Europe. Influenza activity has peaked or has started to decline in most western countries. Whilst type A(H3N2) continues to be the dominant influenza virus circulating in Europe, the number of type B viruses continues to show a rising trend. Antigenic and/or genetic characterisation indicates that, with the exception of the B/Victoria lineage viruses (3.4% of the viruses subjected to antigenic and/or genetic characterization), the viruses circulating are similar to the three components (A(H1N1), A(H3N2) and B/Yamagata lineage) included in the current influenza vaccine.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 31 European countries that are members of EISS. Of these countries, 28 reported both clinical and virological data and three reported clinical data only to EISS in week 05/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by EISS under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) in collaboration with the WHO Collaborating Centre in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

## Map

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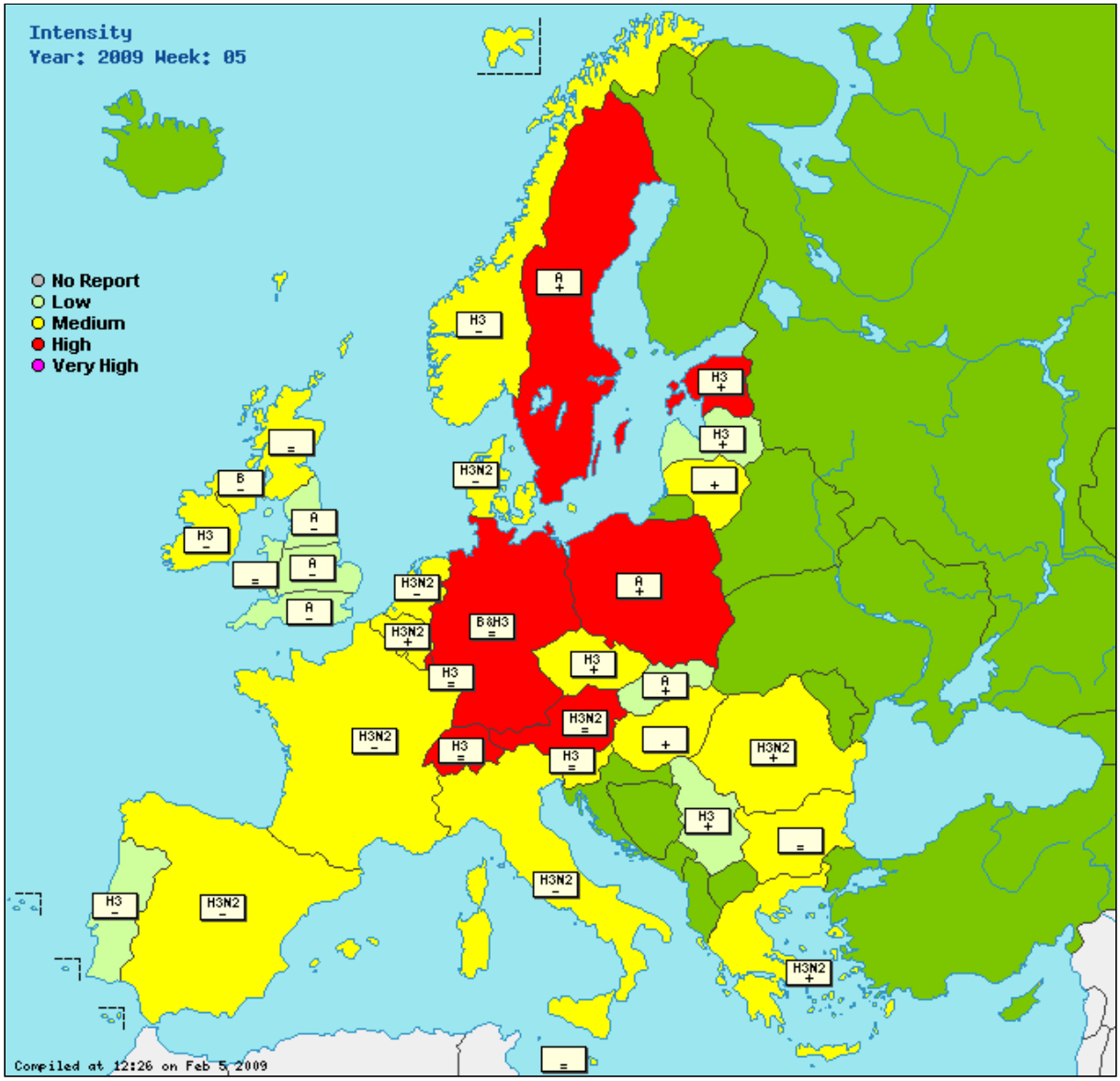
Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

You may select the type of map : **Intensity** ◉ **Geographical spread** ○




**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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**Low** = no influenza activity or influenza at baseline levels
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**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)

**Italy**
Further 19 type A influenza viruses (12 H3) were isolated together with 2 influenza type B. Since the start of this season H3 strains have been always prevalent ( 81%) among the A viruses.

**Switzerland**
Influenza activity reached a peak during the week 4 and started to decrease during the week 5.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | High | Widespread | | Stable | 280 | 56.1% | Type A, Subtype H3N2 | 1996.8 (graphs) | (graphs) | Click here |
| Belgium | Medium | Widespread | | Increasing | 96 | 40.6% | Type A, Subtype H3N2 | 911.5 (graphs) | 2205.8 (graphs) | Click here |
| Bulgaria | Medium | None | | Stable | 4 | 0% | None | (graphs) | 1081.9 (graphs) | Click here |
| Czech Republic | Medium | Widespread | | Increasing | 94 | 35.1% | Type A, Subtype H3 | 205.1 (graphs) | 1531.9 (graphs) | Click here |
| Denmark | Medium | Widespread | | Decreasing | 20 | 50.0% | Type A, Subtype H3N2 | 181.7 (graphs) | (graphs) | Click here |

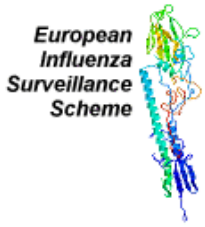
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| England | Low | Sporadic | Decreasing | 42 | 11.9% | Type A | 12.7 | (graphs) | 618.6 | (graphs) | Click here |
| Estonia | High | Widespread | Increasing | 58 | 43.1% | Type A, Subtype H3 | 28.9 | (graphs) | 497.0 | (graphs) | Click here |
| France | Medium | Widespread | Decreasing | 236 | 47.0% | Type A, Subtype H3N2 | | (graphs) | 2779.0 | (graphs) | Click here |
| Germany | High | Widespread | Stable | 426 | 63.9% | Type B and Type A, Subtype H3 | | (graphs) | 1602.0 | (graphs) | Click here |
| Greece | Medium | Local | Increasing | 28 | 46.4% | Type A, Subtype H3N2 | 129.9 | (graphs) | | (graphs) | Click here |
| Hungary | Medium | Widespread | Increasing | | | | 305.7 | (graphs) | | (graphs) | Click here |
| Ireland | Medium | Sporadic | Decreasing | 18 | 44.4% | Type A, Subtype H3 | 34.6 | (graphs) | | (graphs) | Click here |
| Italy | Medium | Widespread | Decreasing | 102 | 13.7% | Type A, Subtype H3N2 | 725.8 | (graphs) | | (graphs) | Click here |
| Latvia | Low | Regional | Increasing | 7 | 71.4% | Type A, Subtype H3 | 30.5 | (graphs) | 1125.1 | (graphs) | Click here |
| Lithuania | Medium | Local | Increasing | 21 | 19.1% | None | 6.6 | (graphs) | 726.1 | (graphs) | Click here |
| Luxembourg | High | Widespread | | 98 | 64.3% | Type A, Subtype H3 | | (graphs) | | | Click here |
| Malta | Medium | Local | Stable | 0 | 0% | None | | (graphs) | | (graphs) | Click here |
| Netherlands | Medium | Widespread | Decreasing | 37 | 37.8% | Type A, Subtype H3N2 | 115.3 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Medium | Local | Decreasing | 8 | 0% | Type B | 42.1 | (graphs) | | (graphs) | Click here |
| Norway | Medium | Widespread | Decreasing | 10 | 60.0% | Type A, Subtype H3 | 154.3 | (graphs) | | (graphs) | Click here |
| Poland | High | Regional | Increasing | 306 | 3.3% | Type A | 456.4 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Decreasing | 10 | 30.0% | Type A, Subtype H3 | 33.4 | (graphs) | | (graphs) | Click here |
| Romania | Medium | Regional | Increasing | 87 | 40.2% | Type A, Subtype H3N2 | 6.4 | (graphs) | 1221.1 | (graphs) | Click here |
| Scotland | Medium | Sporadic | Stable | | | | 3.9 | (graphs) | | (graphs) | Click here |
| Serbia | Low | Sporadic | Increasing | 11 | 45.5% | Type A, Subtype H3 | 92.6 | (graphs) | | (graphs) | Click here |
| Slovakia | Low | Local | Increasing | 22 | 22.7% | Type A | 326.6 | (graphs) | 2018.9 | (graphs) | Click here |
| Slovenia | Medium | Widespread | Stable | 35 | 94.3% | Type A, Subtype H3 | 139.6 | (graphs) | 1844.5 | (graphs) | Click here |
| Spain | Medium | Regional | Decreasing | 143 | 41.3% | Type A, Subtype H3N2 | 122.2 | (graphs) | | (graphs) | Click here |
| Sweden | High | Widespread | Increasing | 102 | 41.2% | Type A | 30.6 | (graphs) | | (graphs) | Click here |
| Switzerland | High | Widespread | Stable | 44 | 63.6% | Type A, Subtype H3 | 461.5 | (graphs) | | | Click here |
| Wales | Low | Sporadic | Stable | | | | | (graphs) | | (graphs) | Click here |
| Europe | | | | 2345 | 42.6% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). Team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio from ECDC, and Adam, Meijer Rod Daniels Alan Hay and Maria Zambon from CNRL. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), and Anne Mazick (Statens Serum Institut, Copenhagen, Denmark) on behalf of the EISS members.

# Influenza activity increasing in central Europe while generally decreasing in western Europe




*This is the first regional bulletin published jointly by the ECDC and the WHO Regional Office for Europe. It includes all 53 countries of the European Region, constituting a considerable expansion in geographic coverage and marking a new period in influenza surveillance in Europe.*

**Summary:** In week 06/2009, influenza activity continued to intensify across central Europe, with most countries now reporting medium to high intensity. Influenza activity is generally declining in western Europe and is low to medium in eastern Europe (e.g. Russia and Ukraine). Influenza A(H3) continues to be the predominant circulating virus and all the A(H3N2) viruses tested for antiviral resistance were resistant to M2 inhibitors but susceptible to neuraminidase inhibitors.

**Epidemiological situation - week 06/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Austria, Croatia, Finland, Luxembourg, Poland and Switzerland, medium in 19 countries, and low in the other seven countries that reported this indicator. The majority of countries reporting increasing trends for the intensity indicator in week 06/2009 were located in central and eastern Europe, while most countries in western Europe reported decreasing or stable intensity compared to the previous week.

For the geographical spread indicator, widespread influenza activity was reported in 18 countries, regional activity in three countries, local activity in six countries and sporadic or no activity in the remaining five countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-06/2009):** Consultation rates for ILI and/or ARI above baseline levels, corresponding to influenza activity of medium intensity, were first reported in Portugal, Ireland and the UK (England and Northern Ireland) in week 49/2008. Since week 49/2008 consultation rates rose above baseline levels in most western and central European countries following a general west to east progression.

High influenza intensity has been reported in Portugal (week 51/2008), Ireland (week 01/2009), Switzerland (week 02/2009), Austria, Denmark and Luxembourg (week 03/2009), Germany, Poland and Sweden (week 04/2009), Estonia (week 05/2009), Croatia and Finland (week 06/2009), but this status has declined for Denmark, Estonia, Germany, Portugal, Ireland and Sweden. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group.

**Virological situation - week 06/2009:** The total number of respiratory specimens collected by sentinel physicians in week 06/2009 was 3474, of which 1038 (30%) were positive for influenza virus: 877 type A (396 subtype H3, 58 subtype H1 and 423 not subtyped) and 161 type B. In addition, 799 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 747 type A (170 subtype H3, five subtype H1 and 572 not subtyped) and 52 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-06/2009):** Of 16959 virus detections (sentinel and non-sentinel) since week 40/2008, 16114 (95%) were type A (6502 subtype H3, 523 subtype H1 and 9089 not subtyped) and 845 (5%) were type B. Based on the antigenic and/or genetic characterisation of 1806 influenza viruses, 1617 (89.5%) were reported as A/Brisbane/10/2007 (H3N2)-like, 87 (4.8%) as A/Brisbane/59/2007 (H1N1)-like, 20 (1.1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 82 (4.5%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here).

Eight countries have reported antiviral susceptibility data. Ninety-seven percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir, but all those tested against zanamivir and M2 inhibitors were sensitive. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Influenza activity continued to decline in western Europe and has continued to increase in most of central Europe, following a general west-to-east trend. In several countries that experienced the influenza epidemic first this season (Ireland, Portugal, the UK) activity has decreased to baseline levels.Activity in eastern Europe (e.g. Russia and Ukraine) is low to medium but is gradually increasing. Whilst A(H3N2) continues to be the dominant influenza virus circulating in the Europe region, the number of type B virus detections per week, which remains low, continues to show a rising trend. Antigenic and/or genetic characterisation indicates that, with the exception of the B/Victoria lineage viruses (4.5% of the viruses subjected to antigenic and/or genetic characterisation), the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 31 reported both clinical and virological data, three reported virological data only and one reported clinical data only to EISS in week 06/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

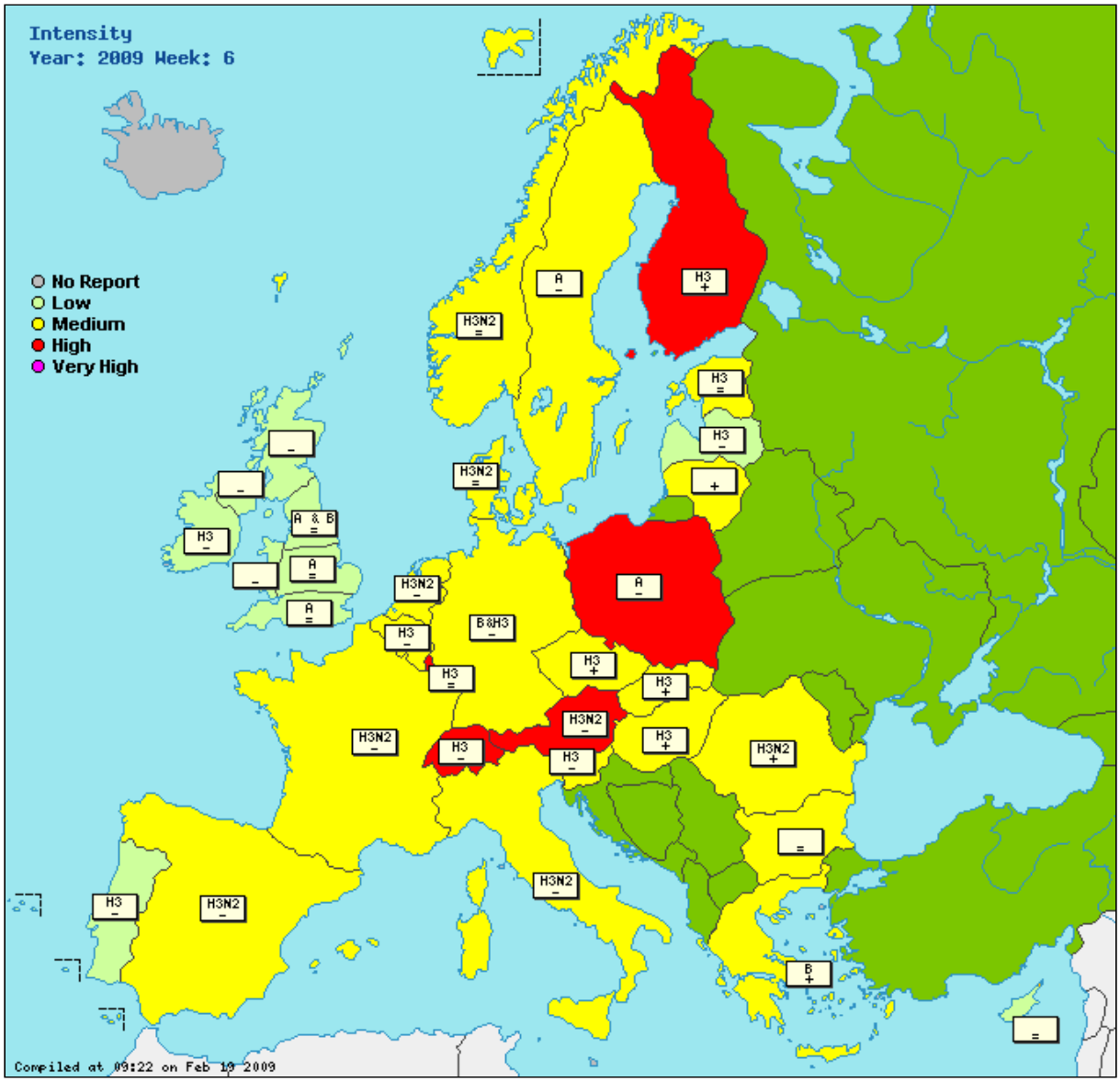
## Map

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.

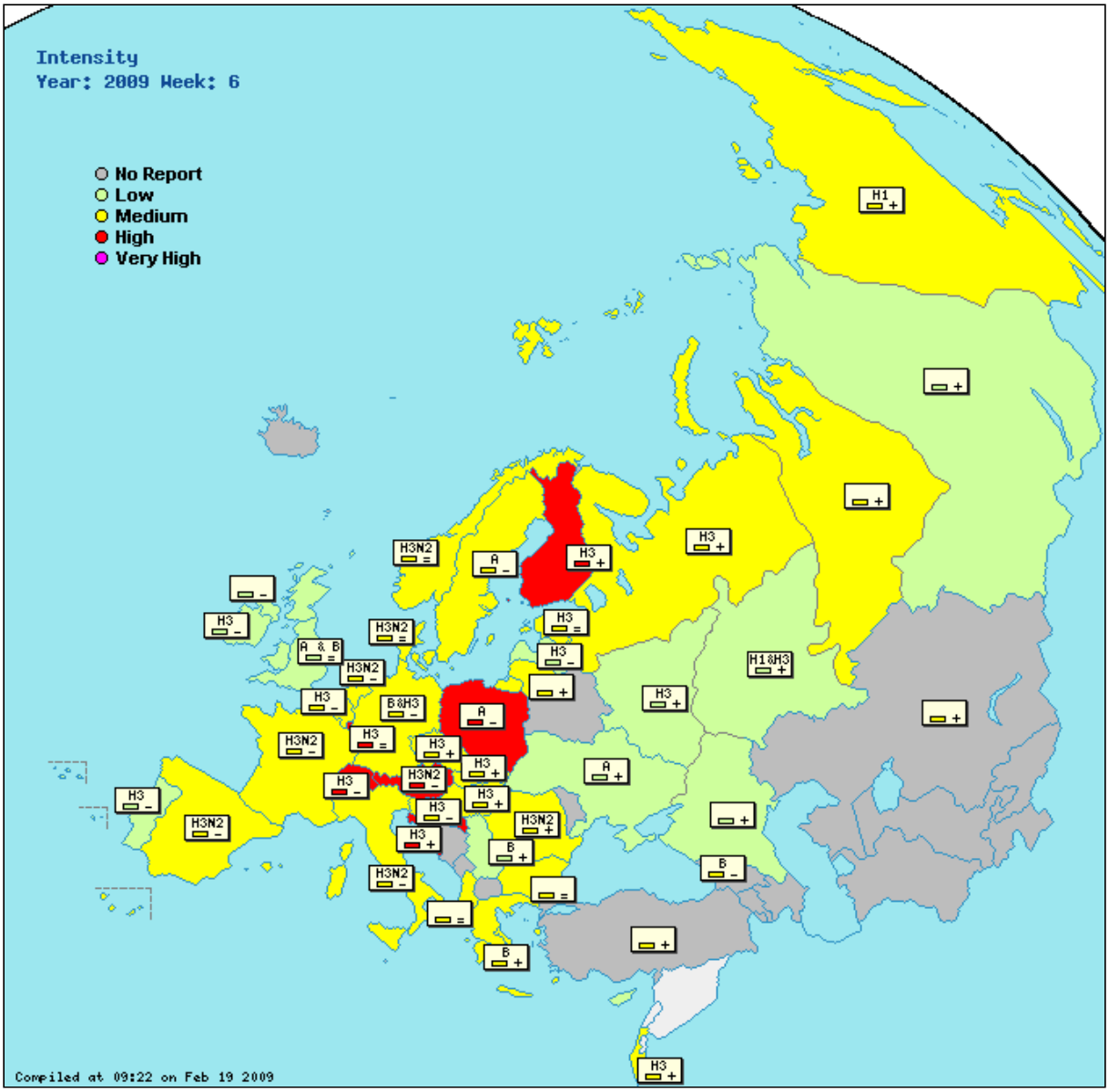
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Finland**
During week 6, the number of patient visits because of respiratory symptoms at the surveillance site reached 420, the highest number since the beginning of October 2008. Almost 20 % of the patients seen during week 6 had respiratory symptoms. During October and November 2008 this fraction was between 10 and 13 %. The first influenza B cases this season have been detected in the northern part of Finland, most cases were in army training centers

**Italy**
14 type A influenza viruses (9 H3 and 3 H1) were isolated during this week. The H3 strains remain still prevalent.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | | | | | 35 | 0% | None | (graphs) | | Click here |
| Austria | High | Widespread | | Decreasing | 250 | 44.4% | Type A, Subtype H3N2 | 1756.6 (graphs) | (graphs) | Click here |
| Belgium | Medium | Widespread | | Decreasing | 77 | 48.1% | Type A, Subtype H3 | 803.2 (graphs) | 1942.8 (graphs) | Click here |
| Bulgaria | Medium | None | | Stable | 15 | 0% | None | (graphs) | 1076.9 (graphs) | Click here |

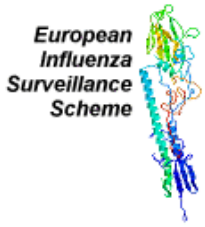
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Croatia | High | Widespread | Increasing | 130 | 16.9% | Type A, Subtype H3 | 102.1 | (graphs) | | (graphs) | Click here |
| Czech Republic | Medium | Widespread | Increasing | 158 | 23.4% | Type A, Subtype H3 | 253.0 | (graphs) | 1581.3 | (graphs) | Click here |
| Denmark | Medium | Widespread | Stable | 15 | 66.7% | Type A, Subtype H3N2 | 221.1 | (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 22 | 13.6% | Type A and B | 7.5 | (graphs) | 557.4 | (graphs) | Click here |
| Estonia | Medium | Widespread | Stable | 50 | 42.0% | Type A, Subtype H3 | 21.0 | (graphs) | 446.6 | (graphs) | Click here |
| Finland | High | Widespread | Increasing | 59 | 54.2% | Type A, Subtype H3 | 0.0 | (graphs) | | (graphs) | Click here |
| France | Medium | Widespread | Decreasing | 218 | 28.4% | Type A, Subtype H3N2 | | (graphs) | 2371.7 | (graphs) | Click here |
| Georgia | | | | 27 | 33.3% | Type B | | (graphs) | | | Click here |
| Germany | Medium | Widespread | Decreasing | 362 | 54.7% | Type B and Type A, Subtype H3 | | (graphs) | 1471.0 | (graphs) | Click here |
| Greece | Medium | Local | Increasing | 61 | 39.3% | Type B | 165.9 | (graphs) | | (graphs) | Click here |
| Hungary | Medium | Widespread | Increasing | 62 | 40.3% | Type A, Subtype H3 | 404.6 | (graphs) | | (graphs) | Click here |
| Ireland | Low | Sporadic | Decreasing | 4 | 100.0% | Type A | 15.9 | (graphs) | | (graphs) | Click here |
| Israel | Medium | Widespread | Increasing | 67 | 94.0% | Type A, Subtype H3 | 76.0 | (graphs) | | (graphs) | Click here |
| Italy | Medium | Widespread | Decreasing | 71 | 15.5% | Type A, Subtype H3N2 | 624.8 | (graphs) | | (graphs) | Click here |
| Latvia | Low | Regional | Decreasing | 17 | 70.6% | Type A, Subtype H3 | 26.8 | (graphs) | 1166.5 | (graphs) | Click here |
| Lithuania | Medium | Local | Increasing | 6 | 33.3% | None | 28.2 | (graphs) | 830.3 | (graphs) | Click here |
| Luxembourg | High | Widespread | | 86 | 61.6% | Type A, Subtype H3 | 428.3 | (graphs) | 3426.6 | (graphs) | Click here |
| Malta | | | | 4 | 100.0% | None | | (graphs) | | | Click here |
| Netherlands | Medium | Widespread | Decreasing | 33 | 30.3% | Type A, Subtype H3N2 | 97.0 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | Decreasing | 6 | 16.7% | None | 32.1 | (graphs) | | (graphs) | Click here |
| Norway | Medium | Widespread | Stable | 10 | 30.0% | Type A, Subtype H3N2 | 148.3 | (graphs) | | (graphs) | Click here |
| Poland | High | Regional | Decreasing | 183 | 1.6% | Type A | 281.6 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Decreasing | 13 | 53.9% | Type A, Subtype H3 | 22.6 | (graphs) | | (graphs) | Click here |
| Romania | Medium | Regional | Increasing | 90 | 43.3% | Type A, Subtype H3N2 | 8.5 | (graphs) | 1252.8 | (graphs) | Click here |
| Russian Federation | Low | Local | Increasing | 1114 | 12.6% | Type A, Subtype H3 | | (graphs) | 591.5 | (graphs) | Click here |
| Scotland | Low | Sporadic | Decreasing | | | | 0.8 | (graphs) | | (graphs) | Click here |
| Serbia | Low | Sporadic | Increasing | 19 | 52.6% | Type B | 128.2 | (graphs) | | (graphs) | Click here |
| Slovakia | Medium | Local | Increasing | 24 | 41.7% | Type A, Subtype H3 | 460.3 | (graphs) | 2367.5 | (graphs) | Click here |
| Slovenia | Medium | Widespread | Decreasing | 14 | 78.6% | Type A, Subtype H3 | 74.3 | (graphs) | 1835.8 | (graphs) | Click here |
| Spain | Medium | Local | Decreasing | 86 | 31.4% | Type A, Subtype H3N2 | 85.0 | (graphs) | | (graphs) | Click here |
| Sweden | Medium | Widespread | Decreasing | 86 | 43.0% | Type A | 16.6 | (graphs) | | (graphs) | Click here |
| Switzerland | High | Widespread | Decreasing | | | | 382.7 | (graphs) | | | Click here |
| Ukraine | Low | Local | Increasing | 0 | 0% | Type A | | (graphs) | 546.8 | (graphs) | Click here |
| Wales | Low | None | Decreasing | | | | 2.0 | (graphs) | | (graphs) | Click here |
| Europe | | | | 3474 | 29.9% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza activity increasing in central and eastern Europe while continuing to decrease in western Europe




**Summary:** In week 07/2009, influenza activity continued to intensify across central Europe, with most countries now reporting medium to high intensity. Influenza activity is generally declining in western Europe, with a couple of countries reporting continuing high intensity activity, while in eastern Europe it continues to be low but increasing (e.g. Russia and Ukraine). Influenza A(H3) continues to be the predominant circulating virus and all the A(H3N2) viruses tested for antiviral resistance were resistant to M2 inhibitors but susceptible to neuraminidase inhibitors.

**Epidemiological situation - week 07/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Croatia and Finland, medium in 24 countries, and low in the other ten countries that reported this indicator. The majority of countries reporting increasing trends for the intensity indicator in week 07/2009 were located in central and eastern Europe, while most countries in western Europe reported decreasing or stable intensity compared to the previous week.

For the geographical spread indicator, widespread influenza activity was reported in 16 countries, regional activity in two countries, local activity in seven countries and sporadic or no activity in the remaining ten countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-07/2009):** Since week 49/2008 consultation rates for ILI and/or ARI rose above baseline levels in most western and central European countries following a general west to east progression. High influenza intensity, again following a general west to east progression, has been reported in 12 countries since week 51/2008, but intensity has declined in all but Croatia and Finland. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group.

**Virological situation - week 07/2009:** The total number of respiratory specimens collected by sentinel physicians in week 07/2009 was 2369, of which 630 (27%) were positive for influenza virus: 506 (80%) type A (213 subtype H3, 7 subtype H1 and 286 not subtyped) and 124 (20%) type B. In addition, 812 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 713 (88%) type A (213 subtype H3, 64 subtype H1 and 436 not subtyped) and 99 (14%) type B. A continued increase in influenza B detections over recent weeks resulted in six countries reporting a prevalence of influenza B, generally in combination with influenza A subtype H3, in week 07/2009.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-07/2009):** Of 19033 virus detections (sentinel and non-sentinel) since week 40/2008, 17914 (94%) were type A (7403 subtype H3, 625 subtype H1 and 9886 not subtyped) and 1119 (6%) were type B. Based on the antigenic and/or genetic characterisation of 2349 influenza viruses, 2113 (89.9%) were reported as A/Brisbane/10/2007 (H3N2)-like, 98 (4.2%) as A/Brisbane/59/2007 (H1N1)-like, 25 (1.1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 113 (4.8%) as either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here).

Twelve countries have reported antiviral susceptibility data. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir, but all those tested were sensitive to zanamivir and M2 inhibitors. All influenza A(H3N2) viruses tested were resistant to M2 inhibitors but sensitive to oseltamivir and zanamivir. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Influenza activity has continued to decline in western Europe while increasing in several countries in central and eastern Europe, following a general west-to-east progression. In several countries that experienced the influenza epidemic early during this season (Ireland, Portugal, the UK) activity has decreased to baseline levels. Activity in eastern Europe is low but is gradually increasing. While A(H3N2) viruses continue to be the dominant influenza viruses circulating in the Europe region, the proportion of B viruses, particularly in some countries, continue to show rising trends. Antigenic and/or genetic characterisation indicates that, with the exception of the B/Victoria lineage viruses (4.8% of the viruses characterised), the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 33 reported both clinical and virological data, four reported virological data only and two reported clinical data only to EISS in week 07/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual co untry arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

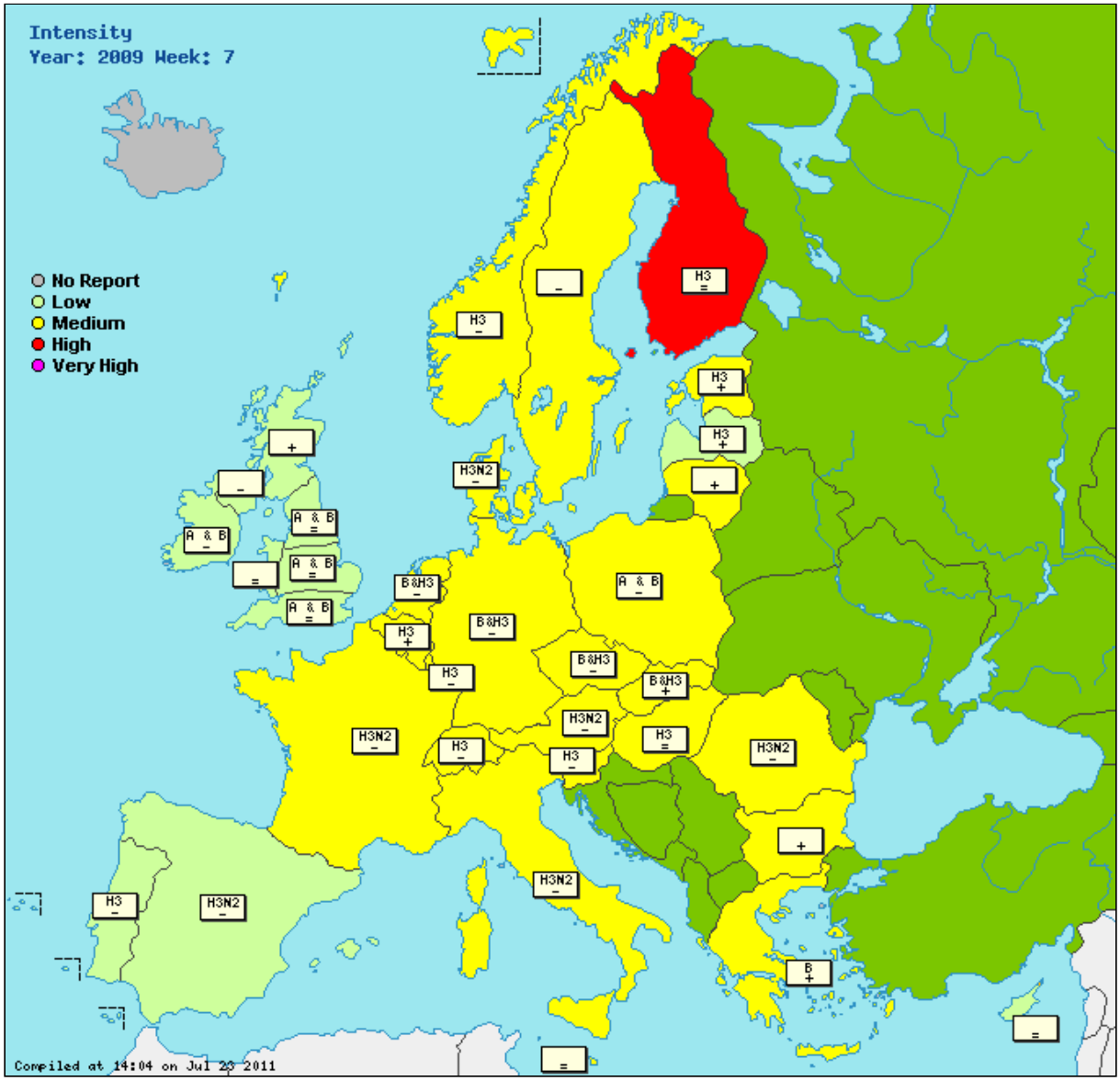
## Map

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.

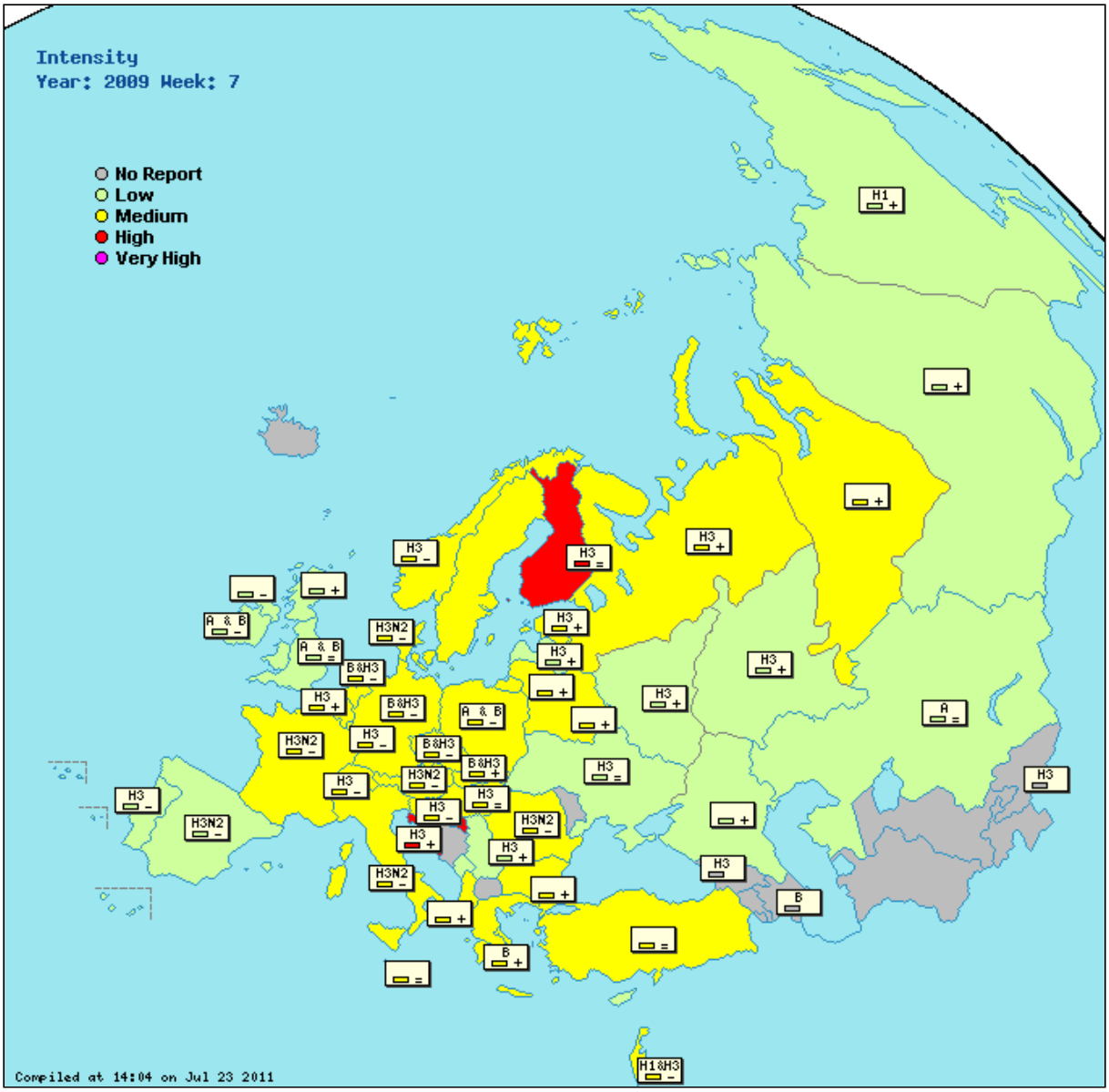
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Finland**
At the surveillance site, 340 patients have been seen for respiratory tract infections during week 7, this is down from 420 during week 6. 17 % of all patient visits at the health care center were due to respiratory tract infections, down from 19 % during week 6.

**Greece**
In Southern Greece, influenza B continues to be the predominant circulating virus detected by real time PCR. Based on the genetic characterisation, all influenza B isolates are B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage).

**Italy**
15 type A influenza viruses (14 H3) were isolated during this week.

**Switzerland**
Influenza activity is now decreasing in Switzerland.

## Table and graphs (where available)

| Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|

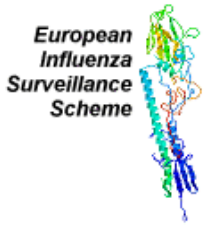
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Medium | Sporadic | Increasing | 17 | 0% | None | | (graphs) | 14.0 | (graphs) | Click here |
| Austria | Medium | Widespread | Decreasing | 244 | 36.1% | Type A, Subtype H3N2 | 1394.5 | (graphs) | | (graphs) | Click here |
| Belgium | Medium | Widespread | Decreasing | 61 | 26.2% | Type A, Subtype H3 | 491.7 | (graphs) | 1787.5 | (graphs) | Click here |
| Bulgaria | Medium | None | Increasing | 28 | 0% | None | | (graphs) | 1123.0 | (graphs) | Click here |
| Croatia | High | Widespread | Increasing | 150 | 18.7% | Type A, Subtype H3 | 192.6 | (graphs) | | (graphs) | Click here |
| Czech Republic | Medium | Widespread | Decreasing | 116 | 32.8% | Type B and Type A, Subtype H3N2 | 209.4 | (graphs) | 1481.5 | (graphs) | Click here |
| Denmark | Medium | Widespread | Decreasing | 9 | 77.8% | Type A, Subtype H3N2 | 136.8 | (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 19 | 15.8% | Type A and B | 7.8 | (graphs) | 555.5 | (graphs) | Click here |
| Estonia | Medium | Widespread | Increasing | 47 | 38.3% | Type A, Subtype H3 | 28.2 | (graphs) | 555.7 | (graphs) | Click here |
| Finland | High | Widespread | Decreasing | 37 | 27.0% | Type A, Subtype H3 | 0.0 | (graphs) | | (graphs) | Click here |
| France | Medium | Widespread | Decreasing | 158 | 24.1% | Type A, Subtype H3N2 | | (graphs) | 2013.7 | (graphs) | Click here |
| Georgia | | | | 29 | 24.1% | Type A, Subtype H3 | | (graphs) | | | Click here |
| Germany | Medium | Widespread | Decreasing | 269 | 42.0% | Type B and Type A, Subtype H3 | | (graphs) | 1319.0 | (graphs) | Click here |
| Greece | Medium | Local | Increasing | 46 | 28.3% | Type B | 180.4 | (graphs) | | (graphs) | Click here |
| Hungary | Medium | Widespread | Stable | 70 | 30.0% | Type A, Subtype H3 | 401.7 | (graphs) | | (graphs) | Click here |
| Ireland | Low | Sporadic | Decreasing | 2 | 50.0% | Type A | 9.1 | (graphs) | | (graphs) | Click here |
| Israel | Medium | Widespread | Decreasing | 54 | 64.8% | Type A | 59.0 | (graphs) | | (graphs) | Click here |
| Italy | Medium | | Decreasing | 28 | 21.4% | Type A, Subtype H3N2 | 473.5 | (graphs) | | (graphs) | Click here |
| Kazakhstan | | | | 311 | 2.9% | None | | | | (graphs) | Click here |
| Latvia | Low | Regional | Increasing | 7 | 57.1% | Type A, Subtype H3 | 66.9 | (graphs) | 1197.8 | (graphs) | Click here |
| Lithuania | Medium | Local | Increasing | 14 | 64.3% | None | 76.7 | (graphs) | 862.1 | (graphs) | Click here |
| Luxembourg | Medium | Widespread | | 57 | 52.6% | Type A, Subtype H3 | 624.8 | (graphs) | 3184.2 | (graphs) | Click here |
| Netherlands | Medium | Widespread | Decreasing | 37 | 32.4% | Type B and Type A, Subtype H3N2 | 57.4 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | Decreasing | 3 | 0% | None | 21.5 | (graphs) | | (graphs) | Click here |
| Norway | Medium | Widespread | Decreasing | 4 | 75.0% | Type A, Subtype H3 | 123.6 | (graphs) | | (graphs) | Click here |
| Poland | Medium | Local | Decreasing | 162 | 3.1% | Type A | 189.5 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Decreasing | 1 | 100.0% | Type A, Subtype H3 | 62.2 | (graphs) | | (graphs) | Click here |
| Romania | Medium | Regional | Decreasing | 109 | 22.9% | Type A, Subtype H3N2 | 6.6 | (graphs) | 1138.1 | (graphs) | Click here |
| Russian Federation | Low | Local | Increasing | 0 | 0% | Type A, Subtype H1 and H3 | | (graphs) | 759.7 | (graphs) | Click here |
| Scotland | Medium | Sporadic | Increasing | | | | 3.9 | (graphs) | | (graphs) | Click here |
| Serbia | Low | Sporadic | Increasing | 11 | 18.2% | Type A, Subtype H3 | 143.9 | (graphs) | | (graphs) | Click here |
| Slovakia | Medium | Local | Increasing | 30 | 26.7% | Type B and Type A, Subtype H3 | 544.7 | (graphs) | 2571.2 | (graphs) | Click here |
| Slovenia | Medium | Widespread | Decreasing | 13 | 61.5% | Type A, Subtype H3 | 47.8 | (graphs) | 1415.0 | (graphs) | Click here |
| Spain | Low | Local | Decreasing | 91 | 34.1% | Type A, Subtype H3N2 | 58.8 | (graphs) | | (graphs) | Click here |
| Sweden | Medium | Sporadic | Decreasing | 65 | 30.8% | Type A | 19.9 | (graphs) | | (graphs) | Click here |
| Switzerland | Medium | Widespread | Decreasing | 30 | 50.0% | Type A, Subtype H3 | 236.1 | (graphs) | | | Click here |
| Turkey | | | | 40 | 15.0% | None | | (graphs) | | | Click here |
| Ukraine | Low | Local | Stable | 0 | 0% | Type A, Subtype H3 | | (graphs) | 566.6 | (graphs) | Click here |
| Wales | Low | None | Stable | | | | 1.3 | (graphs) | | (graphs) | Click here |
| Europe | | | | 2369 | 26.6% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza activity increasing in central and eastern Europe while continuing to decrease in western Europe




**Summary:** In week 08/2009, influenza activity remained little changed across Europe compared to last week. Most countries in central Europe continue to report medium intensity activity, and activity is low but increasing in eastern Europe. Influenza activity is generally declining in western Europe. Influenza A(H3) continues to be the predominant circulating virus although the proportion of influenza B virus detections continues to increase. All the A(H3N2) viruses tested for antiviral resistance were resistant to M2 inhibitors but susceptible to neuraminidase inhibitors.

**Epidemiological situation - week 08/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Slovakia for the first time this season, medium in 20 countries, and low in the other twelve countries that reported this indicator. The majority of countries reporting increasing trends for the intensity indicator in week 08/2009 were located in central and eastern Europe, while most countries in western Europe reported unchanged or decreasing intensity compared to the previous week. There has been a sharp increase in consultation rates in Greece where influenza virus type B is now the dominant type and influenza A detections continue to decrease.

For the geographical spread indicator, widespread influenza activity was reported in nine countries, regional activity in nine countries, local activity in six countries and sporadic or no activity in the remaining ten countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-08/2009):** Since week 49/2008 consultation rates for ILI and/or ARI rose above baseline levels in most western and central European countries following a general west to east progression. High influenza intensity, again following a general west to east progression, has been reported in 13 countries since week 51/2008, but intensity has declined in all but Slovakia. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group.

**Virological situation - week 08/2009:** The total number of respiratory specimens collected by sentinel physicians in week 08/2009 was 1960, of which 518 (26%) were positive for influenza virus: 349 type A (133 subtype H3, 9 subtype H1 and 207 not subtyped) and 169 type B. In addition, 674 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 584 type A (150 subtype H3, 61 subtype H1 and 373 not subtyped) and 90 type B. A total of 13 countries reported that influenza virus typeB, generally in combination with influenza virus type A subtype H3, was dominant in week 08/2009.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-08/2009):** Of 20698 virus detections (sentinel and non-sentinel) since week 40/2008, 19280 (93%) were type A (7843 subtype H3, 703 subtype H1 and 10734 not subtyped) and 1418 (7%) were type B. Based on the antigenic and/or genetic characterisation of 2784 influenza viruses, 2441 (87.7%) were reported as A/Brisbane/10/2007 (H3N2)-like, 117 (4.2%) as A/Brisbane/59/2007 (H1N1)-like, 28 (1.0%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 198 (7.1%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here).

Twelve countries have reported antiviral susceptibility data. All influenza A(H3N2) viruses tested were sensitive to oseltamivir (324) and zanamivir (303), but resistant to M2 inhibitors (198). Ninety-eight percent of influenza A(H1N1) viruses analysed (150/153) were resistant to oseltamivir, but all those tested against zanamivir and M2 inhibitors were sensitive. The small number of influenza B viruses analysed (27) were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Influenza activity continued to decline in western Europe and has continued to increase in several countries in central (Greece and Slovakia) and eastern (Lithuania, Russia and Ukraine) Europe, following a general west-to-east trend. For Russia as a whole, influenza activity is increasing; by region, influenza activity is increasing in all regions except the Far East where it appears to be declining. Activity has decreased to baseline levels in countries that experienced the influenza epidemic first this season (Ireland, Portugal, the UK).

Whilst A(H3N2) continues to be the dominant influenza virus circulating in the Europe region, the proportion of type B influenza virus detections per week continues to show a rising trend, with an increasing number of countries reporting type B as the dominant or co-dominant virus type. Antigenic and/or genetic characterisation indicates that, with the exception of the B/Victoria lineage viruses (7.1% of the viruses subjected to antigenic and/or genetic characterisation), the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 32 reported both clinical and virological data, four reported virological data only and two reported clinical data only to EISS in week 08/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

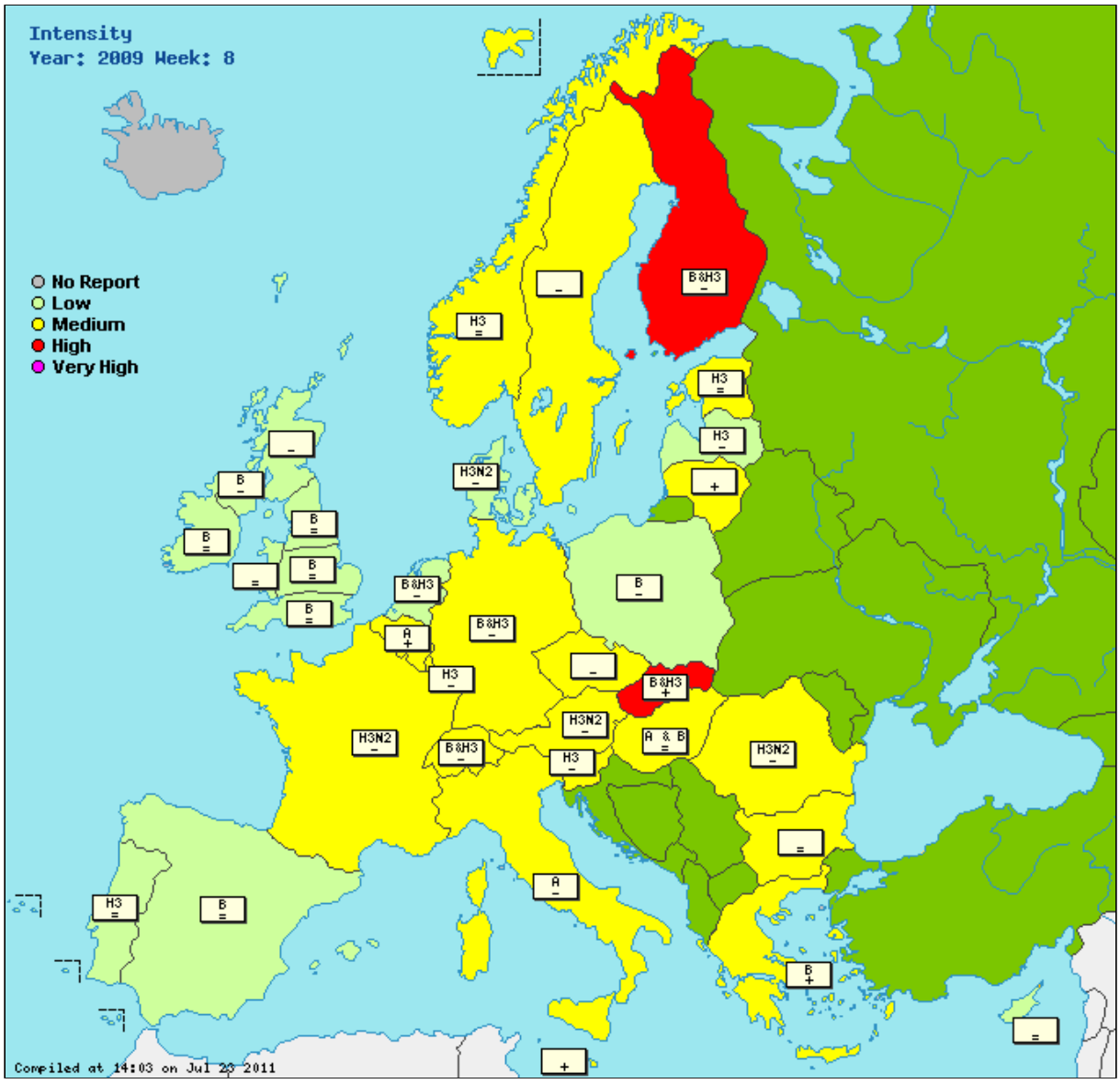
## Map

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.

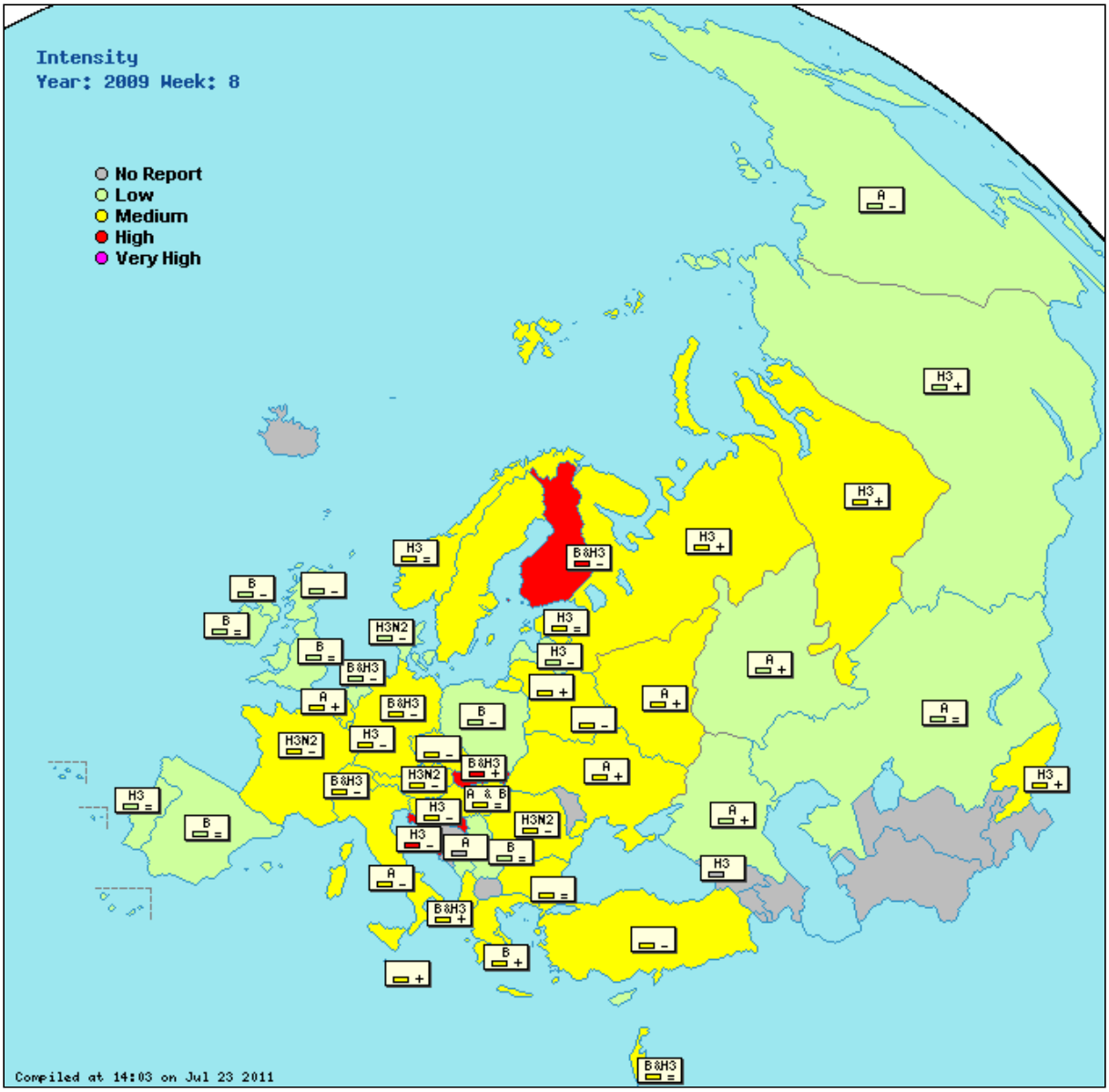
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Italy**
During this week, the number of influenza positive samples remarkably decreased. Only 5 type A influenza viruses (3 H3 and 2 H1) were isolated.

**Russian Federation**
12 (66.7%) strains of influenza A(H1N1) virus from 16 viruses of this subtype isolated earlier in Vladivostok and analyzed during week 8 appeared to be resistant to oseltamivir.

**Serbia**
All B viruses detected in week 8. originated from the southern parts of Serbia. In additions to A (H3) viruses detected up to now, the number of type B viruses continues to show rising trends, from north to south part of country.

**Switzerland**
Influenza activity is now decreasing in Switzerland. Influenza B viruses started to predominate now.

## Table and graphs (where available)

| Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Medium | Local | Increasing | 15 | 20.0% | Type B and Type A, Subtype H3N2 | (graphs) | 449.1 | (graphs) | Click here |
| Austria | Medium | Widespread | Decreasing | 150 | 22.7% | Type A, Subtype H3N2 | 1213.0 (graphs) | | (graphs) | Click here |
| Belgium | Medium | Widespread | Decreasing | 36 | 19.4% | Type A | 315.1 (graphs) | 1680.6 | (graphs) | Click here |
| Bulgaria | Medium | None | Stable | 12 | 0% | None | (graphs) | 1088.5 | (graphs) | Click here |
| Croatia | | | | 107 | 27.1% | Type A, Subtype H3 | (graphs) | | | Click here |
| Czech Republic | Medium | Regional | Decreasing | 92 | 21.7% | None | 159.6 (graphs) | 1324.1 | (graphs) | Click here |
| Denmark | Low | Sporadic | Decreasing | 8 | 37.5% | Type A, Subtype H3N2 | 93.0 (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 12 | 25.0% | Type B | 7.3 (graphs) | 526.9 | (graphs) | Click here |
| Estonia | Medium | Widespread | Stable | 77 | 50.7% | Type A, Subtype H3 | 25.4 (graphs) | 583.2 | (graphs) | Click here |
| Finland | | Regional | Decreasing | 36 | 50.0% | Type A, Subtype H3 | 0.0 (graphs) | | (graphs) | Click here |
| France | Medium | Regional | Decreasing | 125 | 27.2% | Type A, Subtype H3N2 | (graphs) | 1721.9 | (graphs) | Click here |
| Georgia | | | | 26 | 26.9% | Type A, Subtype H3 | (graphs) | | | Click here |
| Germany | Medium | Regional | Decreasing | 198 | 55.6% | Type B and Type A, Subtype H3 | (graphs) | 1096.0 | (graphs) | Click here |
| Greece | Medium | Regional | Increasing | | | | 309.6 (graphs) | | (graphs) | Click here |
| Hungary | Medium | Widespread | Stable | 78 | 28.2% | Type A and B | 405.0 (graphs) | | (graphs) | Click here |
| Ireland | Low | Sporadic | Decreasing | 3 | 66.7% | Type A and B | 8.0 (graphs) | | (graphs) | Click here |
| Israel | Medium | Widespread | Stable | 37 | 56.8% | Type A and B | 63.2 (graphs) | | (graphs) | Click here |
| Italy | Medium | Widespread | Decreasing | 18 | 11.1% | Type A | 383.9 (graphs) | | (graphs) | Click here |
| Kazakhstan | | | | 431 | 2.3% | Type A | | | (graphs) | Click here |
| Latvia | Low | Regional | Decreasing | 18 | 22.2% | Type A, Subtype H3 | 60.0 (graphs) | 1250.1 | (graphs) | Click here |
| Lithuania | Medium | Local | Increasing | 12 | 58.3% | None | 106.1 (graphs) | 883.2 | (graphs) | Click here |
| Luxembourg | Medium | Widespread | | 39 | 48.7% | Type A, Subtype H3 | 418.6 (graphs) | 2697.7 | (graphs) | Click here |
| Netherlands | Low | Regional | Decreasing | 20 | 35.0% | Type B and Type A, Subtype H3N2 | 43.5 (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | Decreasing | 1 | 0% | Type B | 20.2 (graphs) | | (graphs) | Click here |
| Norway | Medium | Widespread | Stable | 2 | 0% | Type A, Subtype H3 | 114.9 (graphs) | | (graphs) | Click here |
| Poland | Low | Sporadic | Decreasing | 76 | 4.0% | Type B | 99.9 (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 4 | 0% | Type A, Subtype H3 | 10.3 (graphs) | | (graphs) | Click here |
| Romania | Medium | Regional | Decreasing | 88 | 26.1% | Type A, Subtype H3N2 | 4.3 (graphs) | 1223.2 | (graphs) | Click here |
| Russian Federation | Low | Local | Increasing | 0 | 0% | Type A | (graphs) | 859.6 | (graphs) | Click here |
| Scotland | Low | Sporadic | Decreasing | | | | 0.4 (graphs) | | (graphs) | Click here |
| Serbia | Low | Local | Stable | 6 | 83.3% | Type B | 138.5 (graphs) | | (graphs) | Click here |
| Slovakia | High | Regional | Increasing | 29 | 48.3% | Type B and Type A, Subtype H3 | 596.5 (graphs) | 2613.1 | (graphs) | Click here |
| Slovenia | Medium | Sporadic | Decreasing | 7 | 57.1% | Type A, Subtype H3 | 16.3 (graphs) | 1156.3 | (graphs) | Click here |
| Spain | Low | Sporadic | Stable | 78 | 35.9% | Type B | 54.8 (graphs) | | (graphs) | Click here |
| Sweden | Medium | Local | Decreasing | 58 | 43.1% | Type A | 11.9 (graphs) | | (graphs) | Click here |
| Switzerland | Medium | Widespread | Decreasing | 21 | 47.6% | Type B and Type A, Subtype H3 | 168.2 (graphs) | | | Click here |
| Turkey | | | | 20 | 15.0% | None | (graphs) | | | Click here |
| Ukraine | Medium | Local | Increasing | 20 | 10.0% | Type A | (graphs) | 599.1 | (graphs) | Click here |
| Europe | | | | 1960 | 26.4% | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Declining influenza activity in western and central Europe accompanied by an increase in the relative prevalence of type B viruses

**Summary:** In week 09/2009, influenza activity was little changed across Europe compared to the previous week. Most countries in central/eastern Europe continue to report medium influenza intensity while activity continues to decline to low levels in western Europe. While influenza A(H3) continues to be the predominant circulating virus, the proportion of influenza B virus detections continues to increase, notably for the B/Victoria/2/87 lineage viruses.

**Epidemiological situation - week 09/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Croatia and Slovakia, medium in 18 countries, and low in the other seventeen countries that reported this indicator. Intensity levels for the majority of countries across Europe were unchanged compared to week 08/2009 while a few western European countries reported lower intensity. Five of the seven regions of the Russian Federation show increasing activity while the remaining two (Central and Far Eastern) show a decrease in influenza activity.

For the geographical spread indicator, widespread influenza activity was reported in 11 countries, regional activity in nine countries, local activity in six countries and sporadic or no activity in the remaining 13 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-09/2009):** Since week 49/2008 consultation rates for ILI and/or ARI have risen above baseline levels in most western and central European countries following a general west to east progression. High influenza intensity, again following a general west to east progression, has been reported in 13 countries since week 51/2008, but intensity has declined in all but Croatia and Slovakia. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group.

**Virological situation - week 09/2009:** The total number of respiratory specimens collected by sentinel physicians in week 09/2009 was 1850, of which 423 (23%) were positive for influenza virus: 228 type A (91 subtype H3, 14 subtype H1 and 123 not subtyped) and 195 type B. In addition, 735 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 584 type A (206 subtype H3, 79 subtype H1 and 299 not subtyped) and 151 type B. The number of type B detections has continued to rise and surpassed type A detections for the week in ten countries (England, Estonia, Germany, Greece, Netherlands, Northern Ireland, Serbia, Slovakia, Spain and Turkey).

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-09/2009):** Of 22410 virus detections (sentinel and non-sentinel) since week 40/2008, 20556 (92%) were type A (8419 subtype H3, 867 subtype H1 and 11270 not subtyped) and 1854 (8%) were type B. Based on the antigenic and/or genetic characterisation of 3153 influenza viruses, 2656 (84.2%) were reported as A/Brisbane/10/2007 (H3N2)-like, 142 (4.5%) as A/Brisbane/59/2007 (H1N1)-like, 37 (1.1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 318 (10.2%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses are either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER, 2009, 84(9), pp65-76).

Influenza isolates from 12 countries have been assessed for antiviral susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir (352) and zanamivir (331), but resistant to M2 inhibitors (225). Ninety-eight percent of influenza A(H1N1) viruses analysed (185/188) were resistant to oseltamivir, but all those tested against zanamivir (188) and M2 inhibitors (60) were sensitive. The small number of influenza B viruses analysed (27) were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Influenza activity has continued to decline in western Europe and is below baseline levels in countries that experienced the influenza epidemic first this season (Ireland, Portugal, the UK). For many of the remaining countries activity has shown relatively little change compared to week 08/2009 although some central European countries as well as in a large part of the Russian Federation increased activity has been reported.

While A(H3N2) is still the dominant influenza virus circulating in the Europe region, the proportion of type B influenza virus detections per week continues to show a rising trend, with an increasing number of countries reporting type B as the dominant or co-dominant virus type. The proportion of B/Victoria lineage viruses has risen to 90% (318/355) for those type B viruses that have been antigenically and/or genetically characterised. With the exception of these B/Victoria lineage viruses, the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 34 reported both clinical and virological data, four reported virological data only and two reported clinical data only to EISS in week 09/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

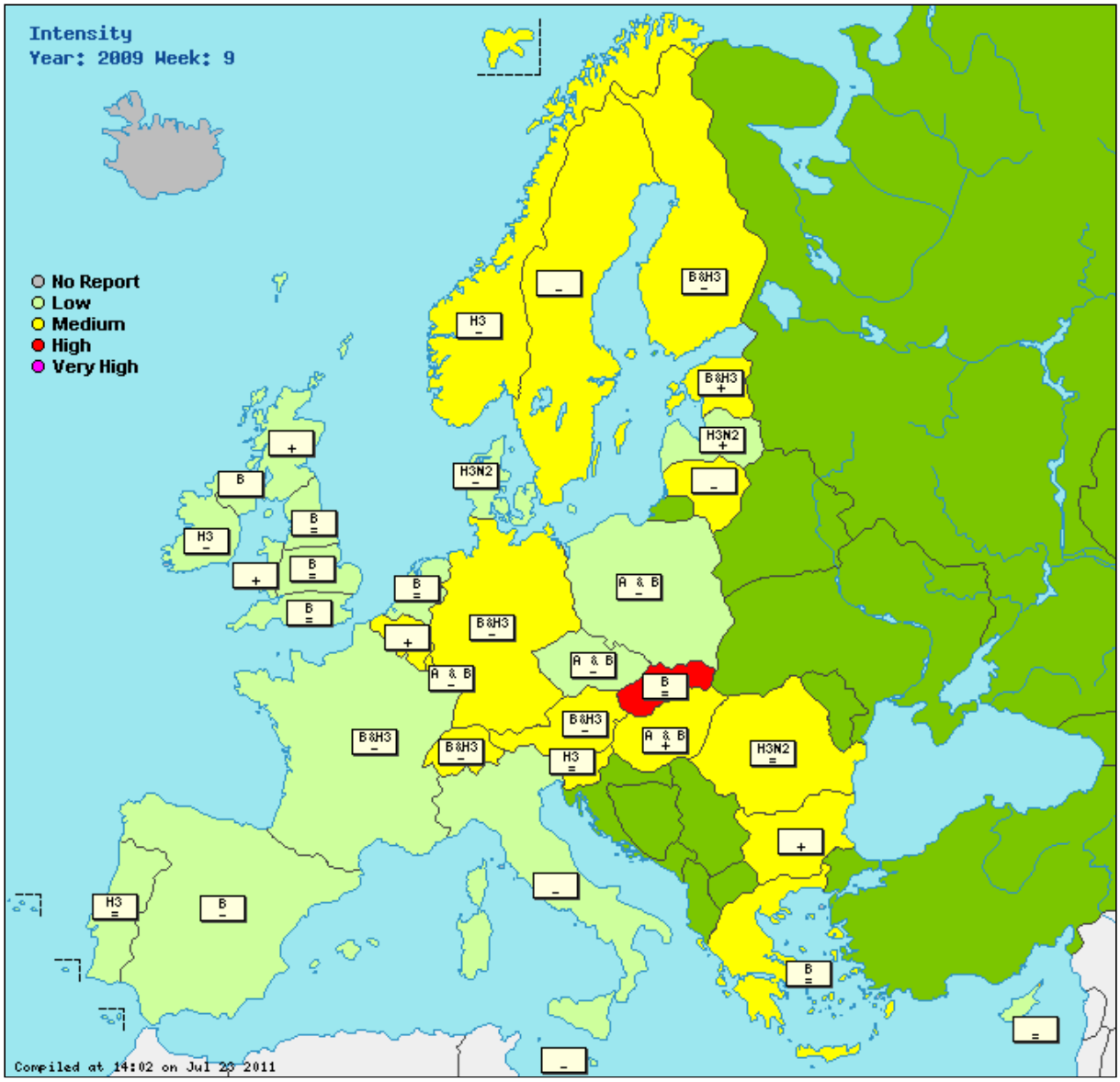
## Map

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.

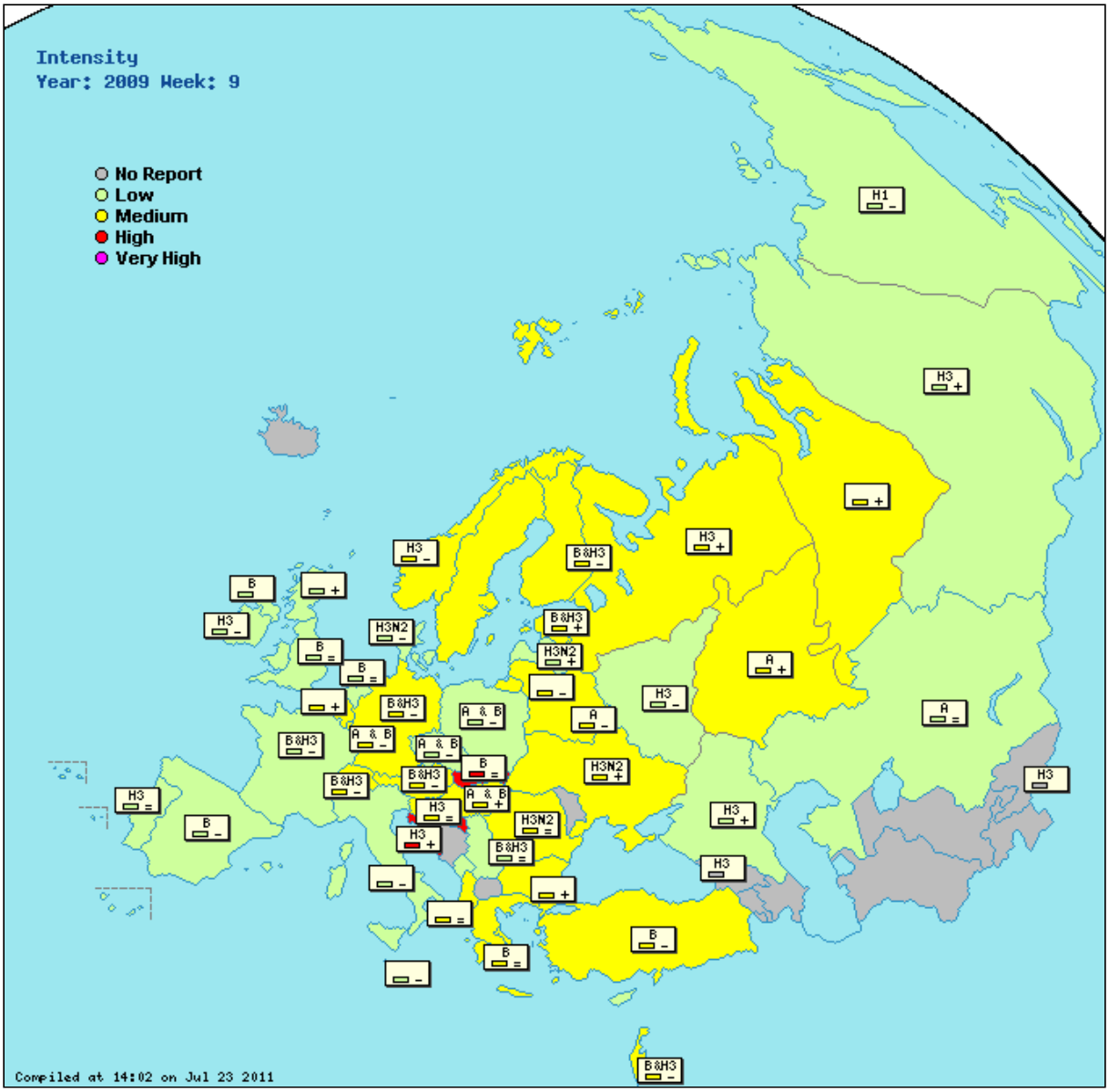
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Finland**
310 patients with respiratory tract infections were seen at the surveillance site during week 9, down from 360 during week 8. The proportion of respiratory patients has remained stable at approximately 17 % during the last three weeks.
**Italy**
Influenza activity continues to decrease all over the country. Just one influenza A/H3N2 and one influenza B virus detected during this week.
**Russian Federation**
A total of 41(83.7%) influenza A(H1N1) viruses from 49 ones tested which were isolated in Vladivostok and Moscow appeared to be resistant to oseltamivir.
**Switzerland**
Influenza activity is decreasing in Switzerland. Influenza A and B viruses have been detected.

## Table and graphs (where available)

| Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|

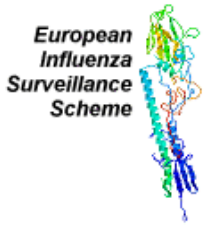
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Medium | Local | Stable | 7 | 0% | None | | (graphs) | 446.2 | (graphs) | Click here |
| Austria | Medium | Sporadic | Decreasing | 98 | 24.5% | Type B and Type A, Subtype H3N2 | 1033.5 | (graphs) | | (graphs) | Click here |
| Belarus | | Widespread | Decreasing | 293 | 7.5% | Type A | | (graphs) | 1651.7 | (graphs) | Click here |
| Belgium | Medium | Widespread | Decreasing | 15 | 13.3% | Type A | 143.1 | (graphs) | 1287.6 | (graphs) | Click here |
| Bulgaria | Medium | None | Increasing | 52 | 0% | None | | (graphs) | 1174.1 | (graphs) | Click here |
| Croatia | High | Widespread | Increasing | | | | 153.3 | (graphs) | | (graphs) | Click here |
| Czech Republic | Low | Local | Decreasing | 58 | 19.0% | Type A and B | 117.4 | (graphs) | 1217.7 | (graphs) | Click here |
| Denmark | Low | Sporadic | Decreasing | 9 | 22.2% | Type A, Subtype H3N2 | 44.8 | (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 16 | 18.8% | None | 7.1 | (graphs) | 552.7 | (graphs) | Click here |
| Estonia | Medium | Widespread | Stable | 41 | 73.2% | Type B and Type A, Subtype H3 | 26.7 | (graphs) | | (graphs) | Click here |
| Finland | Medium | Regional | Decreasing | 38 | 21.1% | Type B and Type A, Subtype H3 | 0.0 | (graphs) | | (graphs) | Click here |
| France | Low | Local | Decreasing | 102 | 27.5% | Type B and Type A, Subtype H3N2 | | (graphs) | 1476.8 | (graphs) | Click here |
| Georgia | | | | 12 | 0% | None | | (graphs) | | | Click here |
| Germany | Medium | Regional | Decreasing | 117 | 37.6% | Type B and Type A, Subtype H3 | | (graphs) | 990.0 | (graphs) | Click here |
| Greece | Medium | Regional | Stable | 52 | 46.2% | Type B | 279.0 | (graphs) | | (graphs) | Click here |
| Hungary | Medium | Widespread | Increasing | 82 | 13.4% | Type A and B | 428.1 | (graphs) | | (graphs) | Click here |
| Ireland | Low | Sporadic | Decreasing | 4 | 25.0% | Type A, Subtype H3 | 8.0 | (graphs) | | (graphs) | Click here |
| Israel | Medium | Widespread | Decreasing | 37 | 127.0% | Type A, Subtype H3 | 53.6 | (graphs) | | (graphs) | Click here |
| Italy | Low | Widespread | Decreasing | 22 | 9.1% | None | 340.6 | (graphs) | | (graphs) | Click here |
| Kazakhstan | | Sporadic | | 400 | 4.3% | Type A, Subtype H3 | | (graphs) | 0.0 | (graphs) | Click here |
| Latvia | Low | Regional | Increasing | 8 | 25.0% | Type A, Subtype H3N2 | 73.2 | (graphs) | 1312.0 | (graphs) | Click here |
| Lithuania | Medium | Local | Decreasing | 3 | 33.3% | None | 102.6 | (graphs) | 834.5 | (graphs) | Click here |
| Luxembourg | Medium | Regional | | 22 | 45.5% | Type A and B | 340.1 | (graphs) | 1889.6 | (graphs) | Click here |
| Malta | Low | None | Decreasing | | | | 0.0 | (graphs) | | (graphs) | Click here |
| Netherlands | Low | Widespread | Stable | 15 | 20.0% | Type B | 46.4 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | | 1 | 100.0% | Type B | 31.4 | (graphs) | | (graphs) | Click here |
| Norway | Medium | Widespread | Decreasing | 1 | 100.0% | Type A, Subtype H3 | 225.8 | (graphs) | | (graphs) | Click here |
| Poland | Low | Sporadic | Decreasing | 59 | 3.4% | Type A and B | 81.4 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 4 | 25.0% | Type A, Subtype H3 | 14.0 | (graphs) | | (graphs) | Click here |
| Romania | Medium | Regional | Stable | 82 | 32.9% | Type A, Subtype H3N2 | 4.8 | (graphs) | 1255.4 | (graphs) | Click here |
| Russian Federation | Low | Local | Stable | 0 | 0% | Type A | | (graphs) | 872.6 | (graphs) | Click here |
| Scotland | Low | Sporadic | Increasing | | | | 2.2 | (graphs) | | (graphs) | Click here |
| Serbia | Low | Local | Stable | 16 | 75.0% | Type B and Type A, Subtype H3 | 139.8 | (graphs) | | (graphs) | Click here |
| Slovakia | High | Regional | Stable | 16 | 75.0% | Type B | 553.5 | (graphs) | 2559.1 | (graphs) | Click here |
| Slovenia | Medium | Widespread | Stable | 7 | 85.7% | Type A, Subtype H3 | 62.1 | (graphs) | 1006.3 | (graphs) | Click here |
| Spain | Low | Sporadic | Decreasing | 82 | 48.8% | Type B | 46.5 | (graphs) | | (graphs) | Click here |
| Sweden | Medium | Regional | Decreasing | 0 | 0% | Type A | 12.4 | (graphs) | | (graphs) | Click here |
| Switzerland | Medium | Widespread | Decreasing | 16 | 25.0% | Type B and Type A, Subtype H3N2 | 122.3 | (graphs) | | | Click here |
| Turkey | | | | 49 | 38.8% | Type B | | (graphs) | | | Click here |
| Ukraine | Medium | Regional | Increasing | 14 | 42.9% | Type A, Subtype H3N2 | | (graphs) | 661.1 | (graphs) | Click here |
| Wales | Low | None | Increasing | | | | 4.2 | (graphs) | | (graphs) | Click here |
| Europe | | | | 1850 | 22.9% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza activity increasing in eastern Europe while continuing to decline in most western and central countries




**Summary:** In week 10/2009, influenza activity was little changed across Europe compared to the previous week. Most countries in central/eastern Europe continue to report medium influenza intensity while activity continues to decline to low levels in western Europe. While influenza A(H3) continues to be the predominant circulating virus, the proportion of influenza B virus detections continues to increase.

**Epidemiological situation - week 10/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Croatia and Greece, medium in 16 countries, and low in the other 19 countries that reported this indicator. Intensity levels for the majority of countries across Europe were unchanged compared to week 09/2009 while the majority of western European countries reported lower intensity. Croatia, Estonia, Greece, Romania, Turkey, Ukraine and five of the seven regions of the Russian Federation, show increasing activity.

For the geographical spread indicator, widespread influenza activity was reported in 10 countries, regional activity in seven countries, local activity in eight countries and sporadic or no activity in the remaining 12 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-10/2009):** Since week 49/2008 consultation rates for ILI and/or ARI have risen above baseline levels in most western and central European countries following a general west to east progression. High influenza intensity, again following a general west to east progression, has been reported in 14 countries since week 51/2008, Greece reported high intensity this season for the first time in week ten, however intensity has declined in all other countries except Croatia. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group.

**Virological situation - week 10/2009:** The total number of respiratory specimens collected by sentinel physicians in week 10/2009 was 1747, of which 472 (27%) were positive for influenza virus: 222 type A (118 subtype H3, 3 subtype H1 and 101 not subtyped) and 250 type B. In addition, 644 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 512 type A (251 subtype H3, 72 subtype H1 and 189 not subtyped) and 132 type B. The number of type B detections has continued to rise and surpassed type A detections for the week in 18 countries.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-10/2009):** Of 24045 virus detections (sentinel and non-sentinel) since week 40/2008, 21694 (90%) were type A (9033 subtype H3, 955 subtype H1 and 11706 not subtyped) and 2351 (10%) were type B. Based on the antigenic and/or genetic characterisation of 3056 influenza viruses, 2440 (79.8%) were reported as A/Brisbane/10/2007 (H3N2)-like, 161 (5.3%) as A/Brisbane/59/2007 (H1N1)-like, 22 (0.7%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 433 (14.2%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses are either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza isolates from 17 countries have been assessed for antiviral susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir, all those tested against zanamivir and all but one tested against M2 inhibitors were sensitive. The M2 inhibitor resistant A(H1N1) virus was sensitive to the neuraminidase inhibitors. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Influenza activity has continued to decline in western Europe and is below baseline levels in most countries. For many of the remaining countries activity has shown relatively little change compared to week 09/2009 although some central and eastern European countries as well as in a large part of the Russian Federation increased activity has been reported.

While A(H3N2) is still the dominant influenza virus circulating in the Europe region, the proportion of type B influenza virus detections per week continues to show a rising trend, with an increasing number of countries reporting type B as the dominant or co-dominant virus type. The proportion of B/Victoria lineage viruses has risen to 95% (433/455) for those type B viruses that have been antigenically and/or genetically characterised. With the exception of these B/Victoria lineage viruses, the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The seeming mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance and overall this season's vaccine can be expected to be effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 34 reported both clinical and virological data, four reported virological data only and two reported clinical data only to EISS in week 10/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

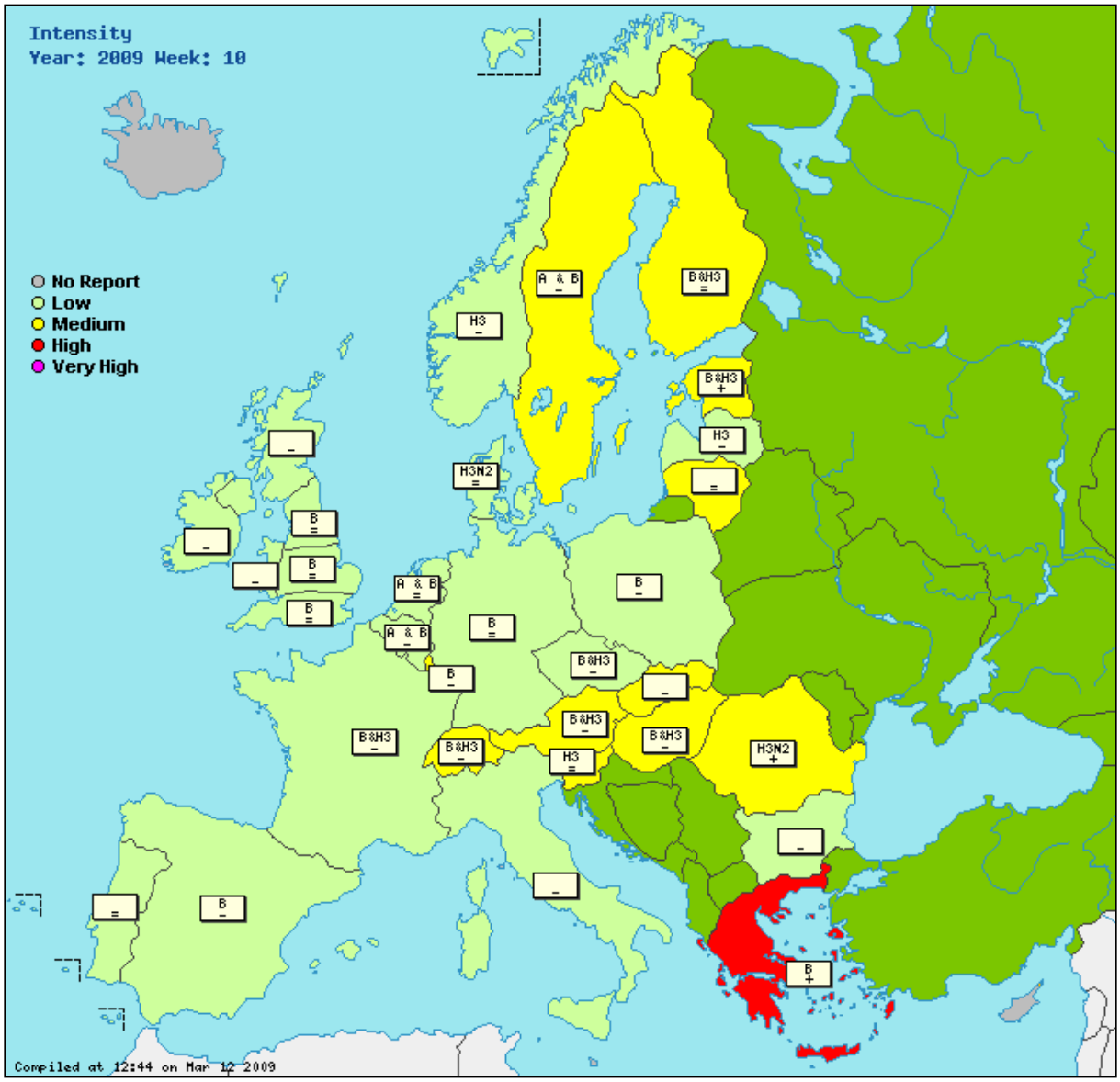
## Map

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.

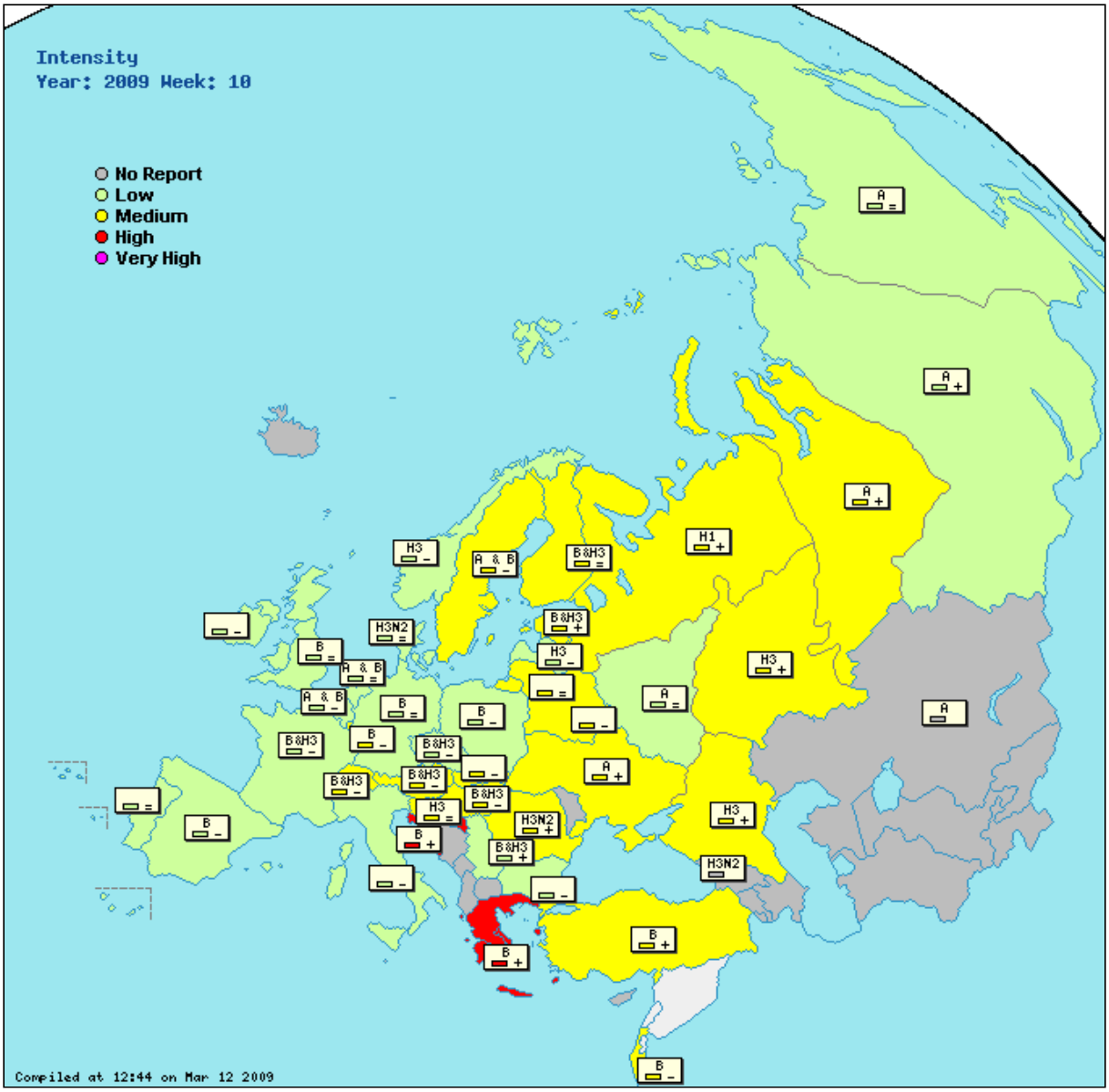
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Italy**
Only two influenza viruses were identified and/or isolated during last week.
**Russian Federation**
As a result of 21 strains of influenza A(H3) virus testing it was shown that all isolates from St. Petersburg and Kaliningrad were drift variants of the reference virus A/Brisbane/10/07 and reacted with antiserum to these strains up to 1/4 - 1/16 of homologous titer. All 19 isolates of influenza B virus belonged to the Victoria lineage. Four of ten influenza A(H1) viruses and 22 of 28 influenza A(H3) viruses isolated in Russia appeared to be resistant to rimantadine.
**Switzerland**
Influenza activity continued to decrease. Influenza B are detected in majority.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | | | | | 3 | 0% | None | | (graphs) | Click here |
| Austria | Medium | Sporadic | | Decreasing | 120 | 25.0% | Type B and Type A, Subtype H3N2 | 1110.0 (graphs) | (graphs) | Click here |

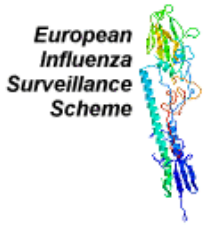
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Belarus | Medium | Regional | Decreasing | 187 | 9.1% | None | | (graphs) | 1613.3 | (graphs) | Click here |
| Belgium | Low | Widespread | Decreasing | 10 | 20.0% | Type A and B | 95.0 | (graphs) | 1412.4 | (graphs) | Click here |
| Bulgaria | Low | None | Decreasing | 0 | 0% | None | | (graphs) | 896.3 | (graphs) | Click here |
| Croatia | High | Widespread | Increasing | 109 | 18.4% | Type B | 154.7 | (graphs) | | (graphs) | Click here |
| Czech Republic | Low | Local | Decreasing | 87 | 14.9% | Type B and Type A, Subtype H3N2 | 89.1 | (graphs) | 1116.4 | (graphs) | Click here |
| Denmark | Low | Sporadic | Stable | 2 | 0% | Type A, Subtype H3N2 | 77.0 | (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 17 | 5.9% | Type B | 7.7 | (graphs) | 567.8 | (graphs) | Click here |
| Estonia | Medium | Widespread | Increasing | 94 | 63.8% | Type B and Type A, Subtype H3 | 29.5 | (graphs) | 574.2 | (graphs) | Click here |
| Finland | Medium | Regional | Stable | 46 | 37.0% | Type B and Type A, Subtype H3 | 0.0 | (graphs) | | (graphs) | Click here |
| France | Low | Local | Decreasing | 60 | 23.3% | Type B and Type A, Subtype H3N2 | | (graphs) | 1408.4 | (graphs) | Click here |
| Georgia | | | | 25 | 44.0% | Type A, Subtype H3N2 | | (graphs) | | | Click here |
| Germany | Low | Regional | Stable | 109 | 45.9% | Type B | | (graphs) | 1037.0 | (graphs) | Click here |
| Greece | High | Regional | Increasing | 27 | 77.8% | Type B | 351.6 | (graphs) | | (graphs) | Click here |
| Hungary | Medium | Widespread | Decreasing | 114 | 22.8% | Type B and Type A, Subtype H3 | 373.4 | (graphs) | | (graphs) | Click here |
| Ireland | Low | None | Decreasing | 1 | 0% | None | 3.4 | (graphs) | | (graphs) | Click here |
| Israel | Medium | Widespread | Decreasing | 33 | 48.5% | Type B | 48.1 | (graphs) | | (graphs) | Click here |
| Italy | Low | Widespread | Decreasing | 18 | 11.1% | None | 254.3 | (graphs) | | (graphs) | Click here |
| Kazakhstan | | Sporadic | | 233 | 7.3% | Type A | | (graphs) | 0.0 | (graphs) | Click here |
| Latvia | Low | Regional | Decreasing | 5 | 60.0% | Type A, Subtype H3 | 65.0 | (graphs) | 1110.1 | (graphs) | Click here |
| Lithuania | Medium | Local | Stable | 12 | 25.0% | None | 93.2 | (graphs) | 834.0 | (graphs) | Click here |
| Luxembourg | Medium | Local | | 15 | 40.0% | Type B | 226.8 | (graphs) | 2519.5 | (graphs) | Click here |
| Netherlands | Low | Widespread | Stable | 13 | 38.5% | Type A and B | 41.3 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | None | | 6 | 0% | None | 21.8 | (graphs) | | (graphs) | Click here |
| Norway | Low | Regional | Decreasing | 1 | 0% | Type A, Subtype H3 | 38.3 | (graphs) | | (graphs) | Click here |
| Poland | Low | Sporadic | Decreasing | 42 | 2.4% | Type B | 57.9 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 1 | 0% | None | 8.3 | (graphs) | | (graphs) | Click here |
| Romania | Medium | Regional | Increasing | 142 | 33.8% | Type A, Subtype H3N2 | 7.8 | (graphs) | 1432.3 | (graphs) | Click here |
| Russian Federation | Medium | Widespread | Increasing | 0 | 0% | Type A | | (graphs) | 965.8 | (graphs) | Click here |
| Scotland | Low | Sporadic | Decreasing | | | | 1.5 | (graphs) | | (graphs) | Click here |
| Serbia | Low | Local | Increasing | 12 | 75.0% | Type B and Type A, Subtype H3 | 151.3 | (graphs) | | (graphs) | Click here |
| Slovakia | Medium | Local | Decreasing | 10 | 0% | None | 419.9 | (graphs) | 2183.5 | (graphs) | Click here |
| Slovenia | Medium | Local | Stable | 6 | 50.0% | Type A, Subtype H3 | 22.6 | (graphs) | 990.6 | (graphs) | Click here |
| Spain | Low | Sporadic | Decreasing | 75 | 44.0% | Type B | 35.0 | (graphs) | | (graphs) | Click here |
| Sweden | Medium | Sporadic | Decreasing | 0 | 0% | Type A and B | 8.8 | (graphs) | | (graphs) | Click here |
| Switzerland | Medium | Widespread | Decreasing | 23 | 56.5% | Type B and Type A, Subtype H3 | 82.2 | (graphs) | | | Click here |
| Turkey | Medium | Local | Increasing | 68 | 42.7% | Type B | 39.7 | (graphs) | | (graphs) | Click here |
| Ukraine | Medium | Widespread | Increasing | 21 | 9.5% | Type A | | (graphs) | 693.7 | (graphs) | Click here |
| Wales | Low | None | Decreasing | | | | 1.7 | (graphs) | | (graphs) | Click here |
| Europe | | | | 1747 | 27.0% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza activity high in the Russian Federation while being low or continuing to decline in most western, central and northern European countries




**Summary:** In week 11/2009, the Russian Federation reported high influenza activity for the first time this season. Other countries in eastern Europe as well as some in central, northern and south eastern Europe maintained medium intensity levels whereas all countries in western Europe continued to report low levels. While influenza A(H3) remains the predominant circulating virus overall, influenza B virus detections are currently dominant in some countries.

**Epidemiological situation - week 11/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Croatia, Greece and, for the first time this season, in the Russian Federation (five of seven regions), medium in 12 countries, and low in the other 21 countries. Of the countries with a medium or high intensity level, Belarus, Bulgaria, Romania and the Urals region of the Russian Federation reported an increasing trend. Overall, most countries reported stable or decreasing trends. For the geographical spread indicator, widespread influenza activity was reported in six countries, regional activity in seven countries, local activity in six countries and sporadic or no activity in the remaining 16 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-11/2009):** Since week 49/2008 consultation rates for ILI and/or ARI have risen above baseline levels in most European countries following a general west to east progression. High influenza intensity has been reported in 15 countries since week 51/2008. In most of western and central Europe, the season now seems to be over. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, the United Kingdom, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group.

**Virological situation - week 11/2009:** The total number of respiratory specimens collected by sentinel physicians in week 11/2009 was 1463, of which 342 (23%) were positive for influenza virus: 153 type A (72 subtype H3, three subtype H1 and 78 not subtyped) and 189 type B. In addition, 579 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 462 type A (169 subtype H3, 71 subtype H1 and 222 not subtyped) and 117 type B.

Since week 06/2009 an increase in type B detections as a proportion of influenza-positive sentinel and non-sentinel specimens has been observed (12%, 15%, 23%, 30%, 34%, 33%) and in week 11/2009 type B detections surpassed or equalled type A detections in 18 countries. Notably, Croatia and Greece reported high influenza activity with 50% and 78% of influenza detections being type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-11/2009):** Of 25017 virus detections (sentinel and non-sentinel) since week 40/2008, 22292 (89%) were type A (9614 subtype H3, 1058 subtype H1 and 11620 not subtyped) and 2725 (11%) were type B. Based on the antigenic and/or genetic characterisation of 3185 influenza viruses, 2460 (77%) were reported as A/Brisbane/10/2007 (H3N2)-like, 155 (5%) as A/Brisbane/59/2007 (H1N1)-like, 24 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 546 (17%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses are either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza isolates from 18 countries were assessed for antiviral susceptibility. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor resistant but sensitive to the neuraminidase inhibitors. All influenza A(H3N2) viruses tested were resistant to M2 inhibitors but sensitive to oseltamivir and zanamivir. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** The eastward progression of high influenza activity has now reached the Russian Federation, whereas most eastern and northern European countries report medium activity. Whilst influenza activity in the Russian Federation is high in five of the seven regions, it has been declining in the Far Eastern Region for the past four weeks. Interestingly, in that region, influenza A(H1N1) viruses have predominated. In most western and central European countries, influenza activity is below baseline levels.

While A(H3N2) is still the dominant influenza virus circulating in the Europe region, including the Russian Federation, the proportion of type B influenza virus detections per week remains substantial, although in most countries their absolute numbers are still low compared to influenza A(H3N2) virus detections. The proportion of B/Victoria lineage viruses has risen to 96% (546/570) for those type B viruses that were antigenically and/or genetically characterised. With the exception of these B/Victoria lineage viruses, the viruses circulating are similar to the three components included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of the B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance in most countries, and overall this season's vaccine can be expected to be effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 31 reported both clinical and virological data, five reported virological data only and two reported clinical data only to EISS in week 11/2009. The spread of influenza virus strains and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

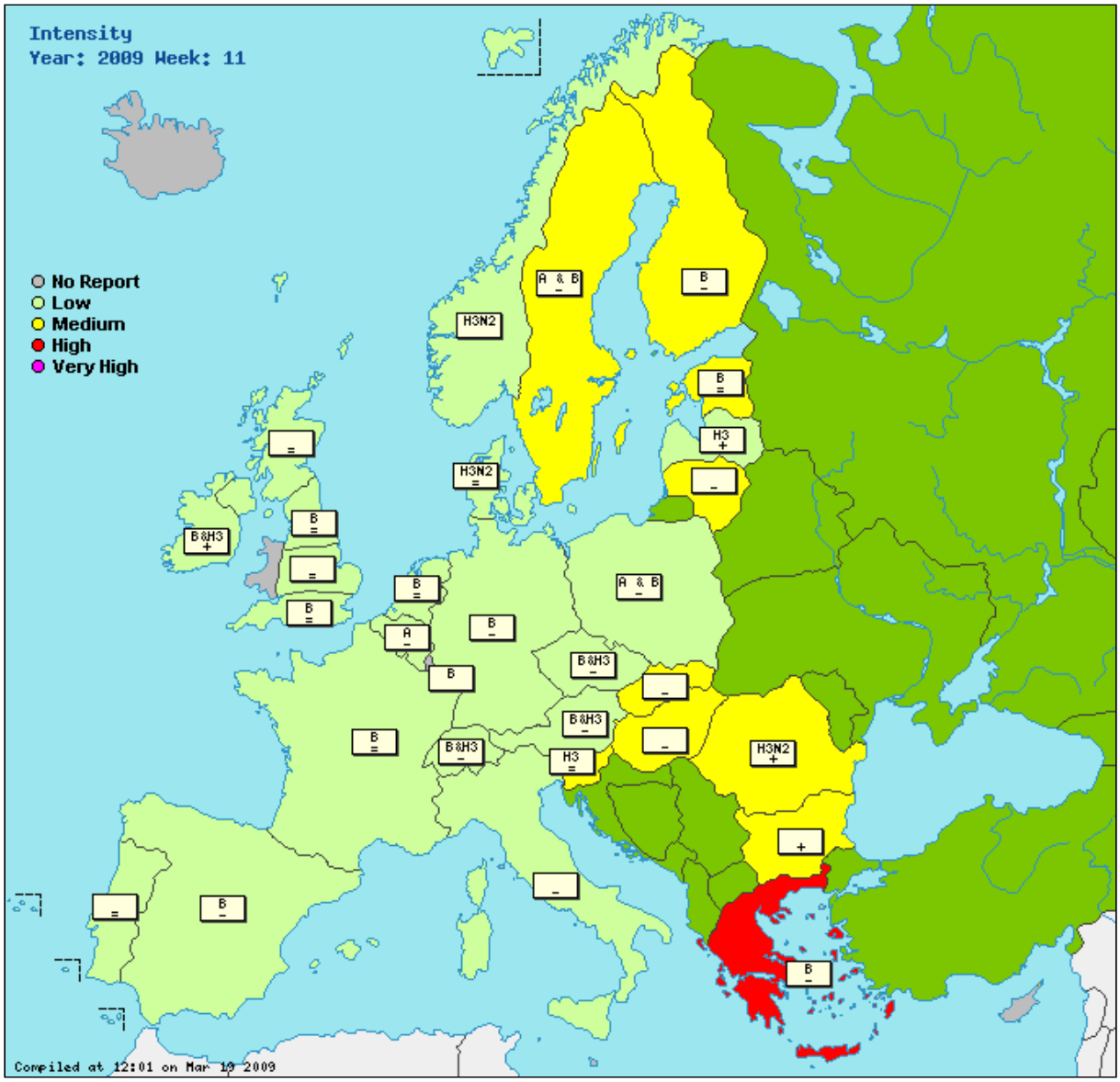
## Map

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.

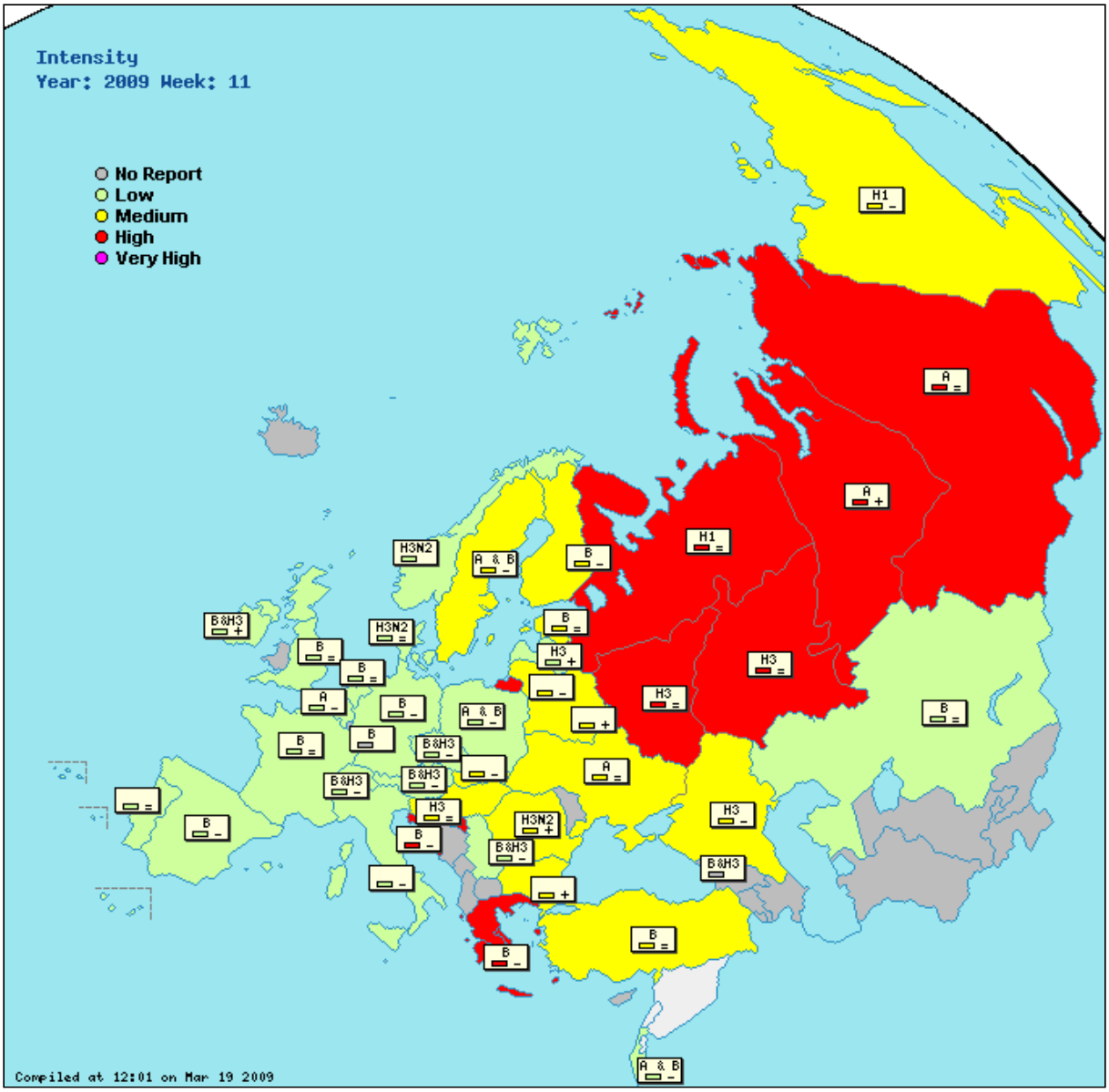
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Finland**
15 % of all visits at the surveillance site during week 11 were due to respiratory infections, stable from week 10, but down 2.5 % from week 9.
**Italy**
During this week, 3 influenza viruses were identified and/or isolated.
**Switzerland**
Influenza activity is decreasing. Influenza B viruses remained predominant.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | Low | Sporadic | | Decreasing | 89 | 14.6% | Type B and Type A, Subtype H3N2 | 1036.3 (graphs) | (graphs) | Click here |
| Belarus | Medium | Regional | | Increasing | 331 | 5.1% | None | (graphs) | (graphs) | Click here |
| Belgium | Low | Widespread | | Decreasing | 11 | 9.1% | Type A | 87.5 (graphs) | 1351.5 (graphs) | Click here |
| Bulgaria | Medium | None | | Increasing | 6 | 0% | None | (graphs) | 1222.5 (graphs) | Click here |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Croatia | High | | Decreasing | 59 | 30.5% | Type B | 142.7 | (graphs) | | (graphs) | Click here |
| Czech Republic | Low | Local | Decreasing | 57 | 22.8% | Type B and Type A, Subtype H3 | 65.0 | (graphs) | 1029.5 | (graphs) | Click here |
| Denmark | Low | Sporadic | Stable | 4 | 0% | Type A, Subtype H3N2 | 41.6 | (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 17 | 17.7% | Type B | 7.4 | (graphs) | 661.0 | (graphs) | Click here |
| Estonia | Medium | Widespread | Stable | 54 | 59.3% | Type B | 29.0 | (graphs) | 624.9 | (graphs) | Click here |
| Finland | Medium | Regional | Decreasing | 50 | 32.0% | Type B | | (graphs) | | (graphs) | Click here |
| France | Low | Sporadic | Stable | 27 | 33.3% | Type B | | (graphs) | 1452.6 | (graphs) | Click here |
| Georgia | | | | 6 | 66.7% | Type B and Type A, Subtype H3 | | (graphs) | | | Click here |
| Germany | Low | Sporadic | Decreasing | 49 | 38.8% | Type B | | (graphs) | 871.0 | (graphs) | Click here |
| Greece | High | Regional | Decreasing | 37 | 10.8% | Type B | 310.9 | (graphs) | | (graphs) | Click here |
| Hungary | Medium | Widespread | Decreasing | | | | 281.9 | (graphs) | | (graphs) | Click here |
| Ireland | Low | Sporadic | Increasing | 2 | 100.0% | Type B and Type A, Subtype H3 | 6.8 | (graphs) | | (graphs) | Click here |
| Israel | Low | Regional | Decreasing | 29 | 48.3% | Type A and B | 27.9 | (graphs) | | (graphs) | Click here |
| Italy | Low | Widespread | Decreasing | 13 | 0% | None | 180.6 | (graphs) | | (graphs) | Click here |
| Kazakhstan | Low | Sporadic | Stable | 176 | 10.2% | Type B | | (graphs) | 0.0 | (graphs) | Click here |
| Latvia | Low | Regional | Increasing | 4 | 75.0% | Type A, Subtype H3 | 83.2 | (graphs) | 1097.8 | (graphs) | Click here |
| Lithuania | Medium | Local | Decreasing | 15 | 60.0% | None | 49.2 | (graphs) | 618.4 | (graphs) | Click here |
| Luxembourg | | | | 16 | 25.0% | Type B | | (graphs) | | | Click here |
| Netherlands | Low | Regional | Stable | 8 | 12.5% | Type B | 41.3 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | None | | 2 | 0% | None | 15.5 | (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | | 4 | 0% | Type A, Subtype H3N2 | 57.9 | (graphs) | | (graphs) | Click here |
| Poland | Low | Sporadic | Decreasing | 28 | 0% | Type A and B | 43.9 | (graphs) | | (graphs) | Click here |
| Portugal | Low | None | Stable | 2 | 0% | None | 7.6 | (graphs) | | (graphs) | Click here |
| Romania | Medium | Regional | Increasing | 113 | 45.1% | Type A, Subtype H3N2 | 7.5 | (graphs) | 1512.9 | (graphs) | Click here |
| Russian Federation | High | Widespread | Stable | 0 | 0% | Type A | | (graphs) | 871.8 | (graphs) | Click here |
| Scotland | Low | Sporadic | Stable | | | | 1.4 | (graphs) | | (graphs) | Click here |
| Serbia | Low | Sporadic | Decreasing | 9 | 77.8% | Type B and Type A, Subtype H3 | 123.7 | (graphs) | | (graphs) | Click here |
| Slovakia | Medium | Local | Decreasing | 7 | 0% | None | 325.6 | (graphs) | 1935.8 | (graphs) | Click here |
| Slovenia | Medium | Local | Stable | 5 | 40.0% | Type A, Subtype H3 | 6.5 | (graphs) | 984.5 | (graphs) | Click here |
| Spain | Low | Sporadic | Decreasing | 65 | 50.8% | Type B | 31.1 | (graphs) | | (graphs) | Click here |
| Sweden | Medium | Sporadic | Decreasing | 0 | 0% | Type A and B | 5.3 | (graphs) | | (graphs) | Click here |
| Switzerland | Low | Local | Decreasing | 25 | 48.0% | Type B and Type A, Subtype H3 | 72.2 | (graphs) | | | Click here |
| Turkey | Medium | Local | Stable | 57 | 0% | Type B | 29.3 | (graphs) | | (graphs) | Click here |
| Ukraine | Medium | Widespread | Stable | 63 | 27.0% | Type A | | (graphs) | 605.3 | (graphs) | Click here |
| Europe | | | | 1440 | 22.4% | | | | | | 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).
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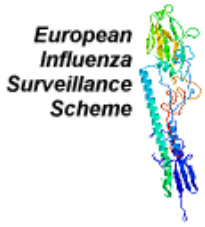
**Trend:** Increasing = evidence that the level of respiratory disease activity is increasing compared with the previous week; Stable = evidence that the level of respiratory disease activity is unchanged compared with the previous week; Decreasing = evidence that the level of respiratory disease activity 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza activity high in the Russian Federation while continuing to decline or remain low in most western, central and northern European countries




**Summary:** In week 12/2009, the Russian Federation continued to report high influenza activity in four of seven regions. Several other countries in eastern, central, northern and southern Europe reported medium intensity activity, while in all countries in western Europe the seasonal epidemic is over. While influenza A(H3) continues to be the predominant circulating virus overall this season, influenza B virus detections are currently dominant in over 50% of the countries. However, total weekly virus detections have declined to 22% of peak level detections in week 05/2009.

**Epidemiological situation - week 12/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Croatia and in four of seven regions of the Russian Federation, medium in 13 countries, and low in the other 25 countries that reported this indicator. In the Russian Federation, the Northwest, Urals and Siberian regions, but not Volga, all reported an increasing trend; all other countries reporting high or medium intensity reported a stable or decreasing trend.
For the geographical spread indicator, widespread influenza activity was reported in four countries, regional activity in five countries, local activity in six countries and sporadic or no activity in the remaining 23 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-12/2009):** Since week 49/2008 consultation rates for ILI and/or ARI have risen above baseline levels in most western and central European countries following a general west to east progression. High influenza intensity, again with peak activity following a general west to east progression, has been reported in 15 countries since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. In most countries in western, central, northern and southern Europe the seasonal epidemic appears to be over, with consultation rates for ILI and/or ARI having returned to baseline levels.

**Virological situation - week 12/2009:** The total number of respiratory specimens collected by sentinel physicians in week 12/2009 was 1261, of which 274 (22%) were positive for influenza virus: 89 type A (48 subtype H3, one subtype H1 and 40 not subtyped) and 185 type B. In addition, 533 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 396 type A (171 subtype H3, 67 subtype H1 and 158 not subtyped) and 137 type B. Compared to week 11, the number of type B detections has increased slightly, accounting for 322 (40%) of 807 influenza-positive sentinel and non-sentinel specimens overall and exceeded type A detections for the week in 20 countries. Influenza B was the only virus type detected in 16 out of 27 (59.2%) countries reporting influenza virus detections. Overall, total weekly virus detections have now declined to 22% of the peak level detections in week 05/2009.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-12/2009):** Of 26457 virus detections (sentinel and non-sentinel) since week 40/2008, 23289 (88%) were type A (10294 subtype H3, 1142 subtype H1 and 11853 not subtyped) and 3168 (12%) were type B. Based on the antigenic and/or genetic characterisation of 3110 influenza viruses, 2337 (75.1%) were reported as A/Brisbane/10/2007 (H3N2)-like, 161 (5.2%) as A/Brisbane/59/2007 (H1N1)-like, 24 (0.8%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 588 (18.9%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses were either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza isolates from 18 countries were assessed for antiviral drug susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor resistant, but sensitive to the neuraminidase inhibitors. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** High intensity influenza activity has been maintained in four of the seven regions of the Russian Federation, with an increasing trend reported in three of these regions. Medium intensity influenza activity, with a decreasing trend is reported in the central region while the far eastern and southern regions both report low intensity activity.

While A(H3N2) is still the dominant influenza virus circulating in the European region, including the Russian Federation, the proportion of type B influenza virus detections per week remains substantial in a few countries (Estonia, Finland, France, Germany and Spain). Of the influenza B viruses that were antigenically and/or genetically characterised, 96% (588/612) were B/Victoria lineage. With the exception of these B/Victoria lineage viruses, the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance and overall this season's vaccine is expected to be effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 35 reported both clinical and virological data, one reported virological data only and four reported clinical data only to EISS in week 12/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

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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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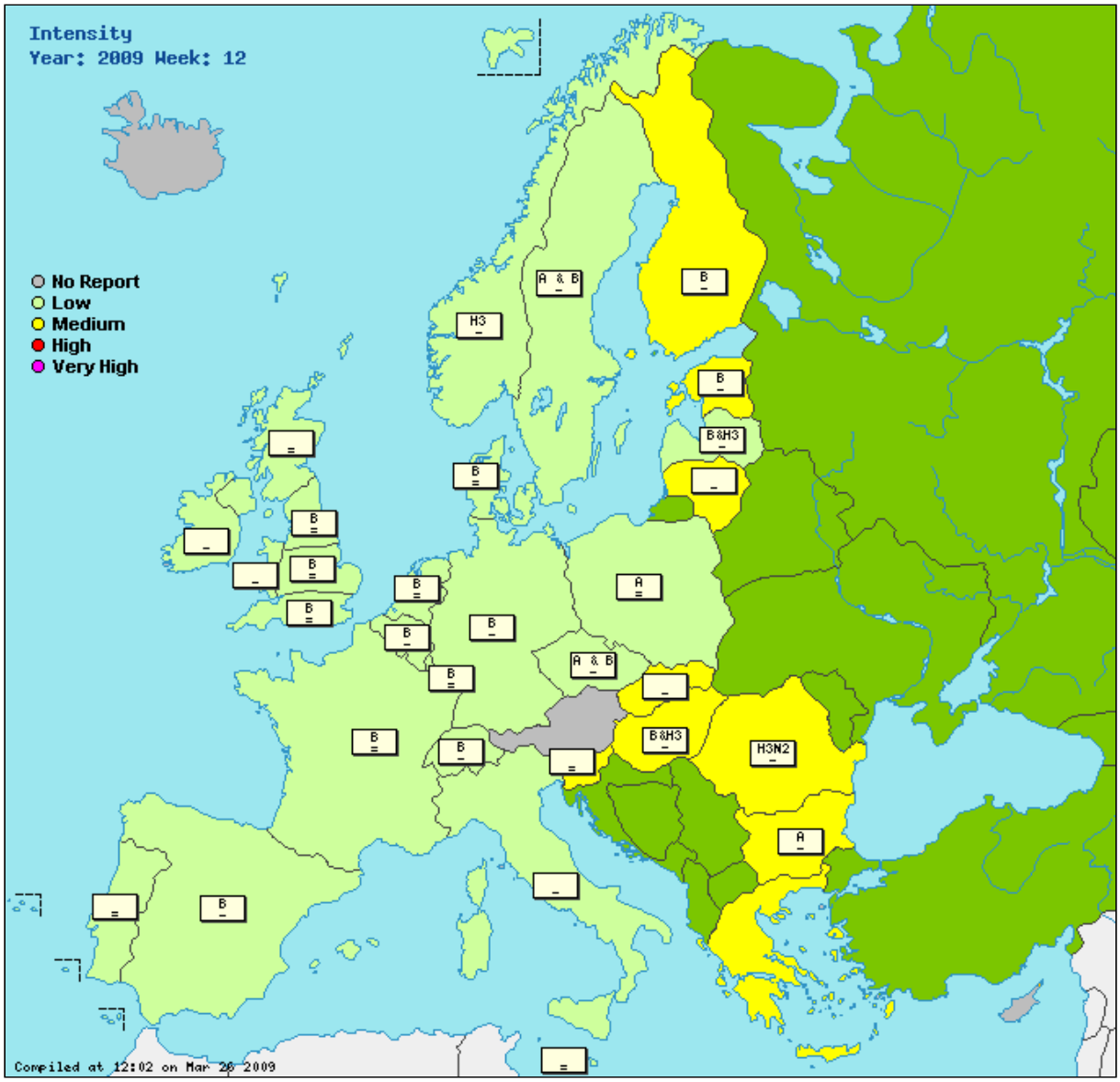
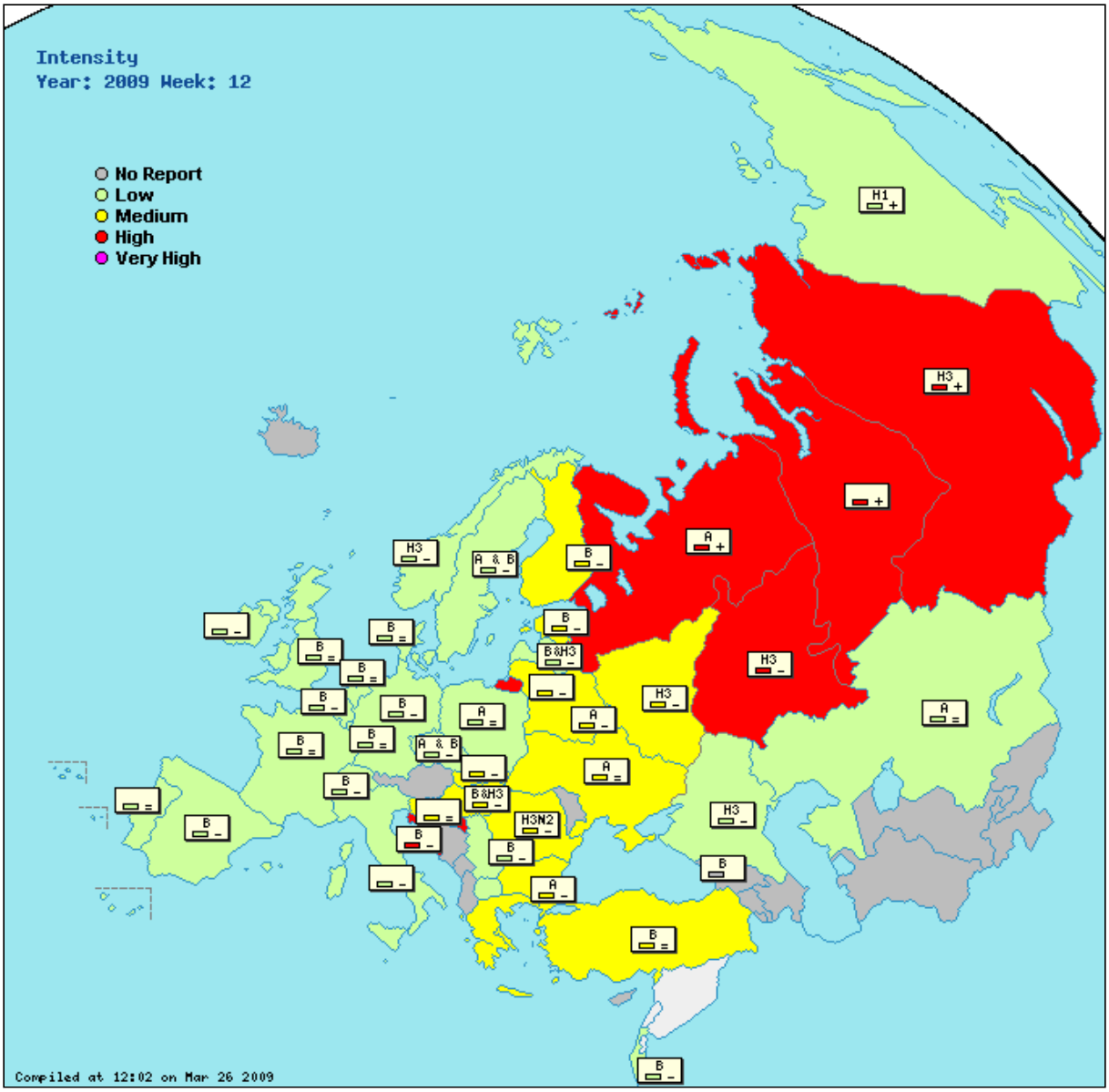
Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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
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**High** = higher than usual levels of influenza activity
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**No activity** = no evidence of influenza virus activity (clinical activity remains at baseline levels)
**Sporadic** = isolated cases of laboratory confirmed influenza infection
**Local outbreak** = increased influenza activity in local areas (e.g. a city) within a region, or outbreaks in two or more institutions (e.g. schools) within a region. Laboratory confirmed.
**Regional activity** = influenza activity above baseline levels in one or more regions with a population comprising less than 50% of the country's total population. Laboratory confirmed.
**Widespread** = influenza activity above baseline levels in one or more regions with a population comprising 50% or more of the country's population. Laboratory confirmed.

## Country comments (where available)

**Denmark**
Note: Week 12, shift from influenza A to influenza B Victoria-like as dominant influenza in Denmark
**Italy**
Low influenza activity is reported. One influenza B virus has been detected during this week.
**Switzerland**
Influenza activity is below threshold now.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belarus | Medium | Regional | | Decreasing | 217 | 6.5% | Type A | (graphs) | 1302.2 (graphs) | Click here |
| Belgium | Low | Sporadic | | Decreasing | 6 | 0% | Type B | 50.9 (graphs) | 1337.9 (graphs) | Click here |
| Bulgaria | Medium | Sporadic | | Decreasing | 25 | 0% | Type A | (graphs) | 1095.9 (graphs) | Click here |
| Croatia | High | Widespread | | Decreasing | 48 | 10.4% | Type B | 122.2 (graphs) | (graphs) | Click here |
| Czech Republic | Low | Sporadic | | Decreasing | 82 | 12.2% | Type A and B | 52.5 (graphs) | 999.4 (graphs) | Click here |

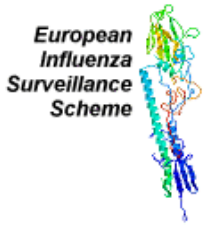
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Denmark | Low | Sporadic | Stable | 3 | 33.3% | Type B | 21.1 | (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 17 | 11.8% | Type B | 6.1 | (graphs) | 510.0 | (graphs) | Click here |
| Estonia | Medium | Widespread | Decreasing | 42 | 78.6% | Type B | 18.9 | (graphs) | 535.0 | (graphs) | Click here |
| Finland | Medium | Local | Decreasing | 34 | 35.3% | Type B | 0.0 | (graphs) | | (graphs) | Click here |
| France | Low | Sporadic | Stable | 63 | 28.6% | Type B | | (graphs) | 1429.4 | (graphs) | Click here |
| Georgia | | | | 9 | 11.1% | Type B | | (graphs) | | | Click here |
| Germany | Low | Sporadic | Decreasing | 65 | 38.5% | Type B | | (graphs) | 738.0 | (graphs) | Click here |
| Greece | Medium | Local | | 30 | 50.0% | None | 248.1 | (graphs) | | (graphs) | Click here |
| Hungary | Medium | Regional | Decreasing | 44 | 18.2% | Type B and Type A, Subtype H3 | 206.6 | (graphs) | | (graphs) | Click here |
| Ireland | Low | None | Decreasing | 0 | 0% | None | 2.7 | (graphs) | | (graphs) | Click here |
| Israel | Low | Sporadic | Decreasing | 12 | 66.7% | Type B | 21.0 | (graphs) | | (graphs) | Click here |
| Italy | Low | Local | Decreasing | 1 | 0% | None | 141.8 | (graphs) | | (graphs) | Click here |
| Kazakhstan | Low | Sporadic | Stable | 306 | 4.3% | Type A | | (graphs) | 0.0 | (graphs) | Click here |
| Latvia | Low | Regional | Decreasing | 1 | 100.0% | Type B and Type A, Subtype H3 | 47.8 | (graphs) | 987.3 | (graphs) | Click here |
| Lithuania | Medium | Sporadic | Decreasing | 12 | 58.3% | None | 27.2 | (graphs) | 579.0 | (graphs) | Click here |
| Luxembourg | Low | Sporadic | | 11 | 45.5% | Type B | | (graphs) | | | Click here |
| Malta | Low | None | Stable | | | | 0.0 | (graphs) | | (graphs) | Click here |
| Netherlands | Low | Widespread | Stable | 16 | 12.5% | Type B | 38.5 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | None | | 0 | 0% | None | 46.3 | (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | Decreasing | 0 | 0% | Type A, Subtype H3 | 51.0 | (graphs) | | (graphs) | Click here |
| Poland | Low | Sporadic | Stable | 9 | 0% | Type A | 42.0 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 1 | 100.0% | None | 5.5 | (graphs) | | (graphs) | Click here |
| Romania | Medium | Regional | Decreasing | 53 | 73.6% | Type A, Subtype H3N2 | 4.9 | (graphs) | 1349.6 | (graphs) | Click here |
| Russian Federation | Medium | Regional | Stable | 0 | 0% | Type A, Subtype H3 | | (graphs) | 838.7 | (graphs) | Click here |
| Scotland | Low | Sporadic | Stable | | | | 1.7 | (graphs) | | (graphs) | Click here |
| Serbia | Low | Sporadic | Decreasing | 2 | 50.0% | Type B | 124.9 | (graphs) | | (graphs) | Click here |
| Slovakia | Medium | Local | Decreasing | 5 | 0% | None | 288.6 | (graphs) | 1797.0 | (graphs) | Click here |
| Slovenia | Medium | Local | Stable | 3 | 66.7% | None | 2.8 | (graphs) | 1046.9 | (graphs) | Click here |
| Spain | Low | Sporadic | Decreasing | 47 | 40.4% | Type B | 21.4 | (graphs) | | (graphs) | Click here |
| Sweden | Low | Sporadic | Decreasing | 0 | 0% | Type A and B | 4.6 | (graphs) | | (graphs) | Click here |
| Switzerland | Low | Sporadic | Decreasing | 22 | 50.0% | Type B | 42.6 | (graphs) | | | Click here |
| Turkey | Medium | Local | Stable | 56 | 33.9% | Type B | 66.1 | (graphs) | | (graphs) | Click here |
| Ukraine | Medium | Widespread | Stable | 19 | 10.5% | Type A | | (graphs) | 629.2 | (graphs) | Click here |
| Wales | Low | None | Decreasing | | | | 1.8 | (graphs) | | (graphs) | Click here |
| Europe | | | | 1261 | 21.7% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Two regions of the Russian Federation report high influenza activity, while activity has returned to out of season levels or further declined in the rest of Europe




**Summary:** In week 13/2009, only two (North Western and Urals) of the seven regions of the Russian Federation reported high influenza activity and four countries (Belarus, Croatia, Hungary and Lithuania) reported decreased intensity compared to the previous week. While most countries have indicated decreasing trends, associated with the seasonal epidemic being effectively over in western European countries, several countries in eastern, central, northern and southern Europe reported medium influenza activity. Influenza A(H3) continues to be the predominant circulating virus in week 13/2009 as for the season as a whole, while the observed increase in proportion of influenza B virus detections since week 4/2009 has decreased in week 13/2009.

**Epidemiological situation - week 13/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were medium in 11 countries and low in the other 27 countries that reported this indicator. While the Russian Federation reported medium intensity as a whole two regions, North Western and Urals, continued to report high intensity, but with decreasing trends for consultation rates. All other countries (and regions) reported decreasing or stable trends.

For the geographical spread indicator, widespread influenza activity was reported in three countries, regional activity in three countries, local activity in six countries and sporadic or no activity in the remaining 27 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-13/2009):** Since week 49/2008 consultation rates for ILI and/or ARI rose above baseline levels in most European countries following a general west to east progression. High influenza intensity has been reported in 15 countries, also following a general west to east progression, since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. In most countries in western, central, northern and southern Europe the seasonal epidemic appears to be over, with consultation rates for ILI and/or ARI having returned to baseline levels.

**Virological situation - week 13/2009:** The total number of respiratory specimens collected by sentinel physicians in week 13/2009 was 1126, of which 238 (21%) were positive for influenza virus: 111 type A (71 subtype H3, four subtype H1 and 36 not subtyped) and 127 type B. In addition, 377 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 281 type A (119 subtype H3, 48 subtype H1 and 114 not subtyped) and 96 type B. The number of influenza detections dropped by 24% (807 to 615) compared to week 12 and was approximately 20% of the peak level in week 05/2009. The proportion of type B detections has decreased from 40% (week 12) to 36% (223 of 615 influenza-positive sentinel and non-sentinel specimens) but exceeded type A detections in 20 countries and was the only virus type detected in eight out of 32 (25%) countries.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-13/2009):** Of 27247 virus detections (sentinel and non-sentinel) since week 40/2008, 23748 (87%) were type A (10544 subtype H3, 1202 subtype H1 and 12002 not subtyped) and 3499 (13%) were type B. Based on the antigenic and/or genetic characterisation of 4999 influenza viruses, 3974 (79%) were reported as A/Brisbane/10/2007 (H3N2)-like, 196 (4%) as A/Brisbane/59/2007 (H1N1)-like, 43 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 786 (16%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses were either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza isolates from 19 countries were assessed for antiviral drug susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, and all but one of 415 tested were resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor-resistant, but sensitive to the neuraminidase inhibitors. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** While weekly detections of influenza virus in all countries have continued to fall, A(H3N2) remains the dominant influenza virus circulating in the European region, including the Russian Federation. The proportion of type B influenza virus detections, which showed a rising trend since week 4/2009 (4%) to week 12/2009 (40%), has now dropped to 36% in week 13/2009. Of influenza B viruses that have been antigenically and/or genetically characterised, 95% (786/829) were B/Victoria lineage. With the exception of these B/Victoria lineage viruses, most of the viruses characterised are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance and overall vaccine used this season is expected to have been effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 36 reported both clinical and virological data, two reported virological data only and two reported clinical data only to EISS in week 13/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

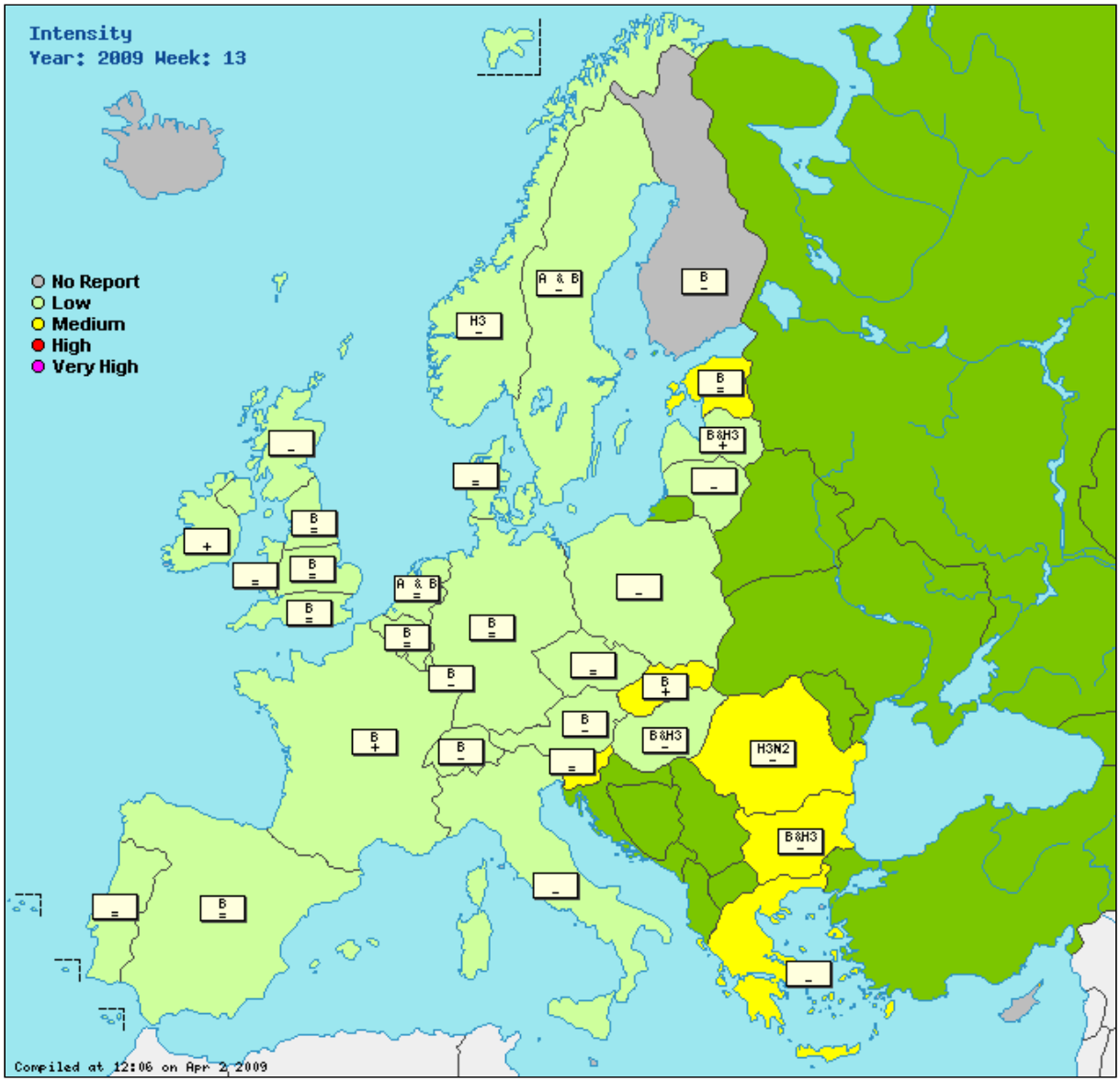
## Map

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.

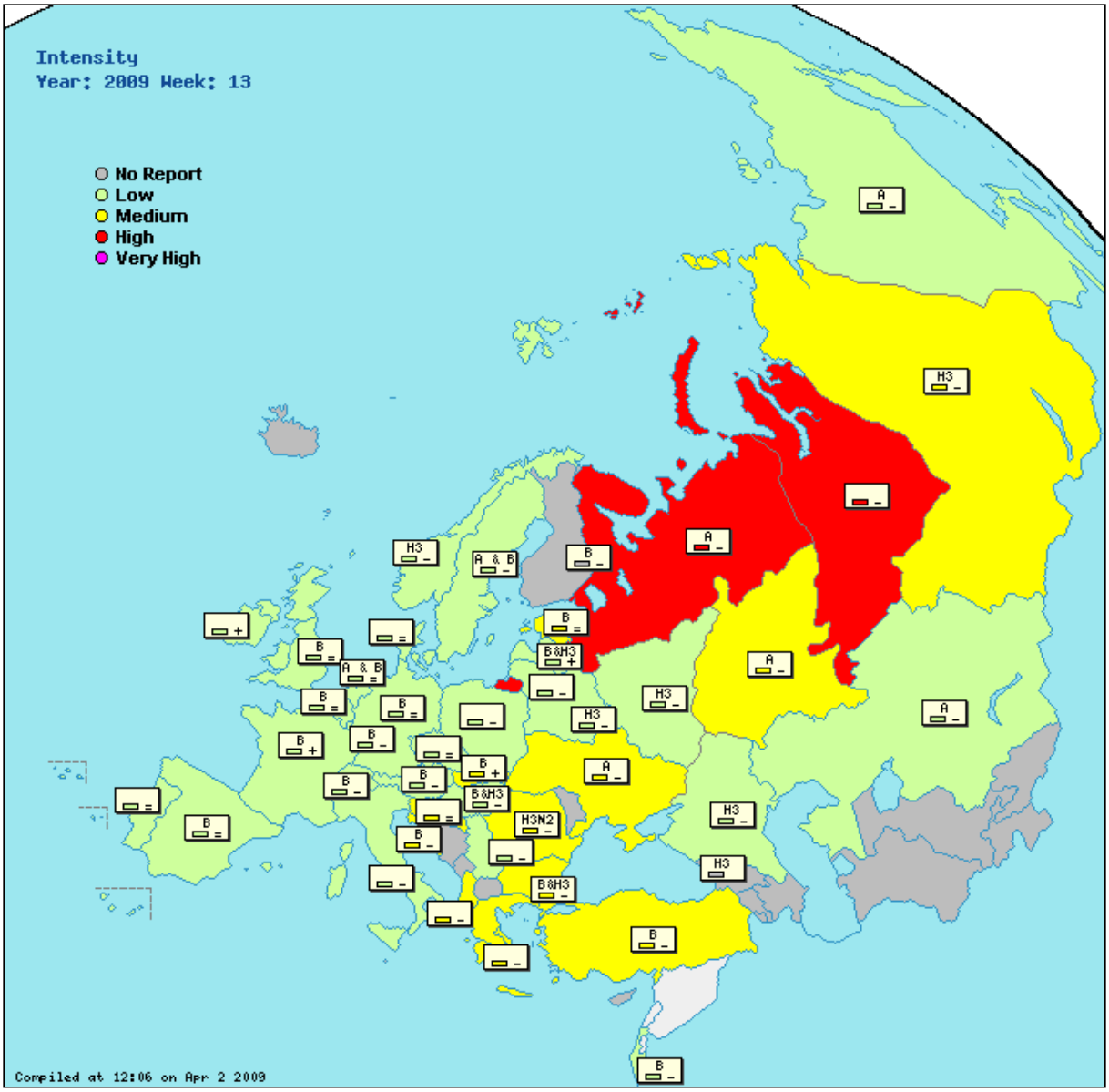
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Bulgaria**
During last week the number of positive for influenza viruses samples is increasing. From total of 25 samples obtained from hospitalized children up to age of five, three A/H3 and two B positive for influenza were detected.The detection of RSV continues.

**Italy**
Low influenza activity is reported. Only 1 A/H3 influenza virus has been detected during this week.

**Switzerland**
Influenza B viruses continued to be detected. However, medical consultations are below threshold now.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Medium | Sporadic | | Decreasing | 3 | 0% | None | (graphs) | 379.8 (graphs) | Click here |
| Austria | Low | Sporadic | | Decreasing | 65 | 10.8% | Type B | 792.8 (graphs) | (graphs) | Click here |
| Belarus | Low | Sporadic | | Decreasing | 292 | 8.2% | Type A, Subtype H3 | (graphs) | 1127.3 (graphs) | Click here |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | Sporadic | Stable | 0 | 0% | Type B | 62.4 | (graphs) | 1443.5 | (graphs) | Click here |
| Bulgaria | Medium | Sporadic | Decreasing | 5 | 0% | Type B and Type A, Subtype H3 | | (graphs) | 1041.9 | (graphs) | Click here |
| Croatia | Medium | Widespread | Decreasing | 43 | 9.3% | Type B | 89.1 | (graphs) | | (graphs) | Click here |
| Czech Republic | Low | Sporadic | Stable | 21 | 4.8% | None | 37.2 | (graphs) | 992.0 | (graphs) | Click here |
| Denmark | Low | Sporadic | Stable | 0 | 0% | None | 26.5 | (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 6 | 50.0% | Type B | 3.1 | (graphs) | 597.0 | (graphs) | Click here |
| Estonia | Medium | Widespread | Stable | 40 | 57.5% | Type B | 24.8 | (graphs) | 510.2 | (graphs) | Click here |
| Finland | | Local | Decreasing | 43 | 14.0% | Type B | 537.0 | (graphs) | | (graphs) | Click here |
| France | Low | Sporadic | Increasing | 19 | 31.6% | Type B | | (graphs) | 1651.0 | (graphs) | Click here |
| Georgia | | | | 22 | 59.1% | Type A, Subtype H3 | | (graphs) | | | Click here |
| Germany | Low | Sporadic | Stable | 34 | 52.9% | Type B | | (graphs) | 759.0 | (graphs) | Click here |
| Greece | Medium | Local | Decreasing | 13 | 61.5% | None | 195.2 | (graphs) | | (graphs) | Click here |
| Hungary | Low | Sporadic | Decreasing | 41 | 19.5% | Type B and Type A, Subtype H3 | 184.8 | (graphs) | | (graphs) | Click here |
| Ireland | Low | None | Increasing | 1 | 0% | None | 3.8 | (graphs) | | (graphs) | Click here |
| Israel | Low | Sporadic | Decreasing | 12 | 58.3% | Type B | 18.0 | (graphs) | | (graphs) | Click here |
| Italy | Low | Local | Decreasing | 6 | 0% | None | 134.6 | (graphs) | | (graphs) | Click here |
| Kazakhstan | Low | None | Decreasing | 210 | 4.3% | Type A | | (graphs) | 0.0 | (graphs) | Click here |
| Latvia | Low | Regional | Increasing | 2 | 50.0% | Type B and Type A, Subtype H3 | 59.0 | (graphs) | 1213.7 | (graphs) | Click here |
| Lithuania | Low | Sporadic | Decreasing | 5 | 80.0% | None | 10.4 | (graphs) | 501.7 | (graphs) | Click here |
| Luxembourg | Low | Sporadic | | 11 | 45.5% | Type B | | (graphs) | | | Click here |
| Netherlands | Low | Widespread | Stable | 8 | 0% | Type A and B | 18.3 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | None | | 0 | 0% | None | 23.2 | (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | Decreasing | 9 | 100.0% | Type A, Subtype H3 | 32.8 | (graphs) | | (graphs) | Click here |
| Poland | Low | Sporadic | Decreasing | 29 | 0% | None | 35.6 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 1 | 0% | None | 11.3 | (graphs) | | (graphs) | Click here |
| Romania | Medium | Regional | Decreasing | 52 | 76.9% | Type A, Subtype H3N2 | 3.1 | (graphs) | 1369.1 | (graphs) | Click here |
| Russian Federation | Medium | Regional | Decreasing | 0 | 0% | Type A | | (graphs) | 710.5 | (graphs) | Click here |
| Scotland | Low | None | Decreasing | | | | 0.0 | (graphs) | | (graphs) | Click here |
| Serbia | Low | Sporadic | Decreasing | 0 | 0% | None | 97.6 | (graphs) | | (graphs) | Click here |
| Slovakia | Medium | Local | Increasing | 5 | 60.0% | Type B | 317.3 | (graphs) | 1867.4 | (graphs) | Click here |
| Slovenia | Medium | Sporadic | Stable | 1 | 0% | None | 1.4 | (graphs) | 1017.1 | (graphs) | Click here |
| Spain | Low | Sporadic | Stable | 40 | 32.5% | Type B | 19.2 | (graphs) | | (graphs) | Click here |
| Sweden | Low | Sporadic | Decreasing | 0 | 0% | Type A and B | 2.9 | (graphs) | | (graphs) | Click here |
| Switzerland | Low | Sporadic | Decreasing | 16 | 43.8% | Type B | 26.2 | (graphs) | | | Click here |
| Turkey | Medium | Local | Decreasing | 50 | 26.0% | Type B | 66.6 | (graphs) | | (graphs) | Click here |
| Ukraine | Medium | Local | Decreasing | 21 | 28.6% | Type A | | (graphs) | 519.8 | (graphs) | Click here |
| Wales | Low | None | Stable | | | | 2.7 | (graphs) | | (graphs) | Click here |
| Europe | | | | 1126 | 21.1% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza activity in Europe is coming to an end for the 2008-2009 season: only two regions of the Russian Federation report high influenza activity while activity has returned to out of season levels

**Summary:** In week 14/2009, only two (Northwestern and Urals) of the seven regions of the Russian Federation reported high influenza activity. All other countries (and regions) in Europe, including all of the EU/EEA, reported decreasing influenza activity or baseline activity. Total weekly influenza virus detections have been declining since week 04/2009, indicating that influenza activity is coming to an end in Europe for the 2008-2009 season.

**Epidemiological situation - week 14/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were medium in eight countries and low in the other 27 countries that reported this indicator. While the Russian Federation reported medium intensity as a whole two regions, Northwestern and Urals, continued to report high intensity, but with decreasing trends for consultation rates. All other countries (and regions) reported decreasing or stable trends at baseline levels of clinical activity, with the exception of Luxembourg which reported an increase in consultation rates but still had baseline levels of influenza actvity.

For the geographical spread indicator, widespread influenza activity was only reported in Croatia, regional activity in three countries, local activity in six countries and sporadic or no activity in the remaining 25 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-14/2009):** Since week 49/2008 consultation rates for ILI and/or ARI rose above baseline levels in most European countries following a general west to east progression. High influenza intensity has been reported in 16 countries, also following a general west to east progression, since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. In most countries in western, central, northern and southern Europe the seasonal epidemic appears to be over, with consultation rates for ILI and/or ARI having returned to baseline levels.

**Virological situation - week 14/2009:** The total number of respiratory specimens collected by sentinel physicians in week 14/2009 was 875, of which 167 (19%) were positive for influenza virus: 70 type A (21 subtype H3, four subtype H1 and 45 not subtyped) and 97 type B. In addition, 306 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 204 type A (94 subtype H3, 53 subtype H1 and 57 not subtyped) and 102 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-14/2009):** Of 28158 virus detections (sentinel and non-sentinel) since week 40/2008, 24261 (86%) were type A (10681 subtype H3, 1272 subtype H1 and 12308 not subtyped) and 3897 (14%) were type B. Based on the antigenic and/or genetic characterisation of 3220 influenza viruses, 2268 (70%) were reported as A/Brisbane/10/2007 (H3N2)-like, 154 (5%) as A/Brisbane/59/2007 (H1N1)-like, 33 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 765 (24%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses were either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza virus isolates from 19 countries were assessed for antiviral drug susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, and all but one of those tested were resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor-resistant, but sensitive to the neuraminidase inhibitors. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Influenza activity in Europe is coming to an end. Only two regions of Russia (Northwestern and Urals) reported high influenza activity in week14/2009. In all other countries (and regions), influenza activity is declining and in many areas of Europe (e.g. Western Europe) the seasonal epidemic is effectively over with consultation rates for ILI and/or ARI at baseline levels.

Influenza A(H3N2) has been the dominant virus in Europe, accounting for an estimated 77% of total viruses typed/subtyped this season. Detections of influenza A virus peaked in week 04/2009 and influenza B virus detections peaked around week 11/2009. Of influenza B viruses that have been antigenically and/or genetically characterised, 96% (765/798) were B/Victoria lineage. With the exception of these B/Victoria lineage viruses, most of the viruses characterised are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance and vaccine used this season is expected to have been effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 32 reported both clinical and virological data, four reported virological data and four reported clinical data only to EISS in week 14/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

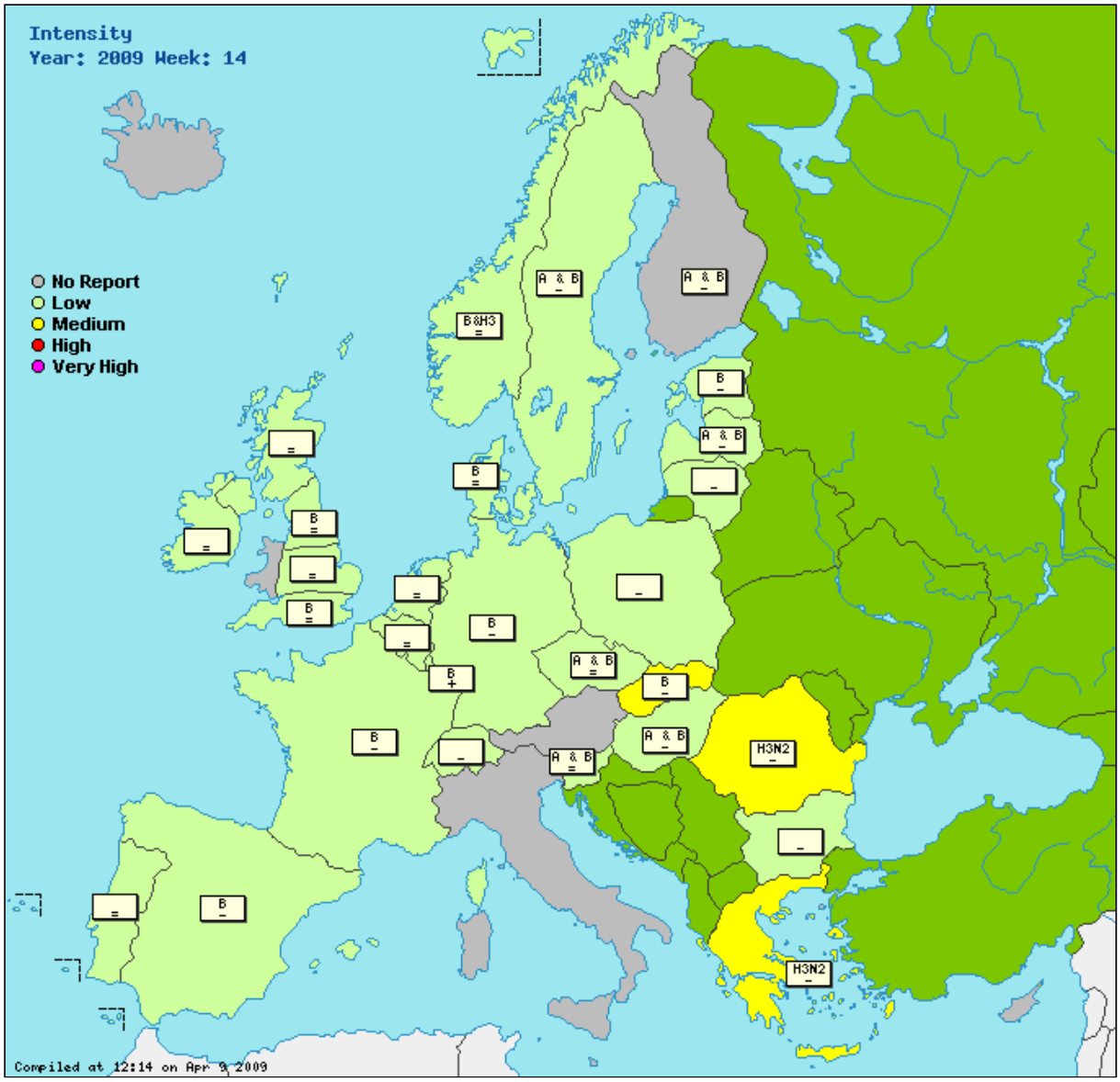
## Map

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.

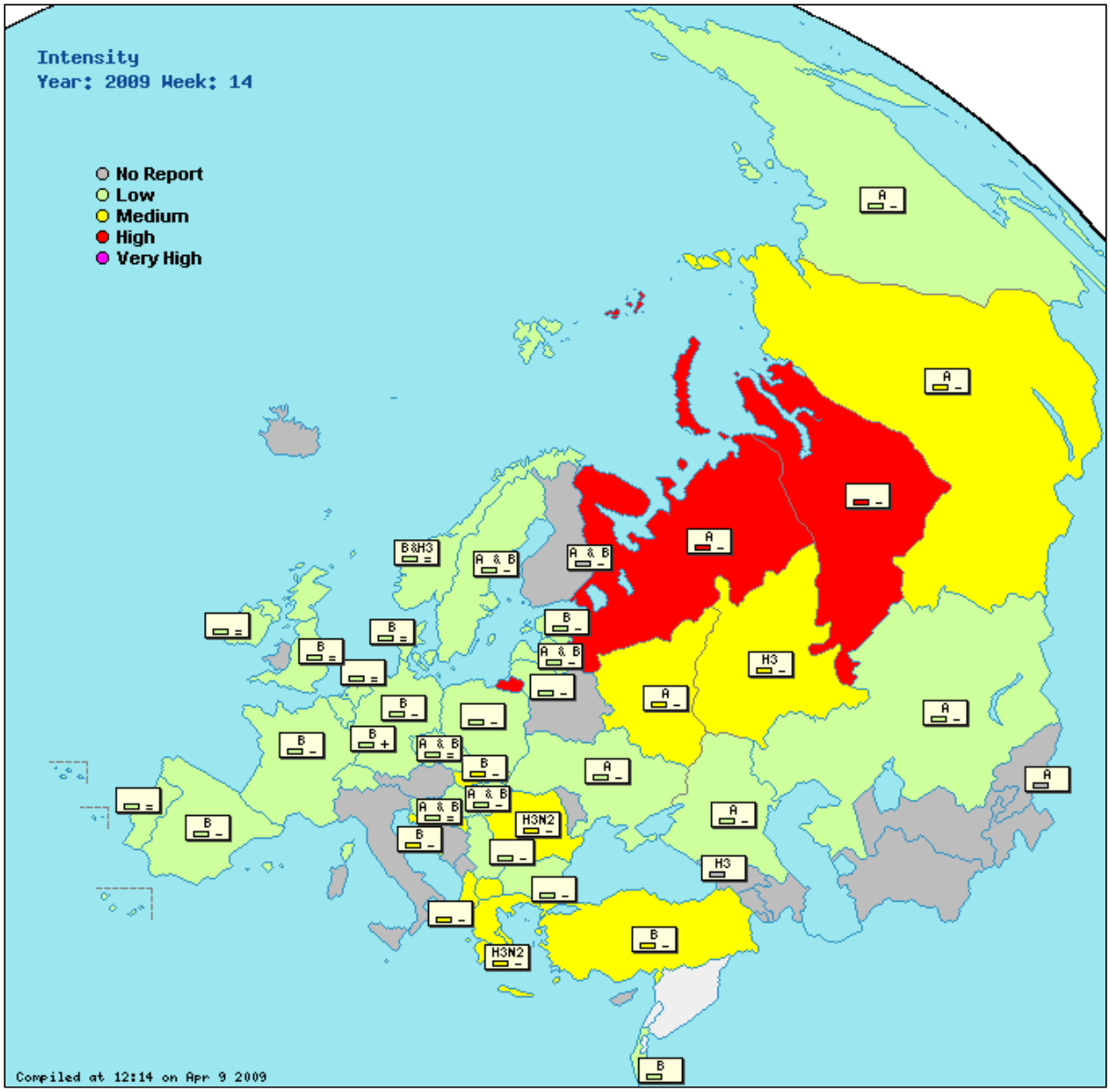
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Italy**
Low influenza activity is reported. During this week 2 A/H3 and 5 B influenza viruses have been detected.

**Russian Federation**
On the week 14 morbidity decrease was observed in all regions of Russia, that was partly connected with school holidays. However, in 2 regions of the country, the Urals and the North-West, morbidity was qualified as high, because its level exceeded 900 cases per 100 000 of population.

**Slovenia**
Higher number of influenza A/H1 in week 14 are due to the localized outbreak in one nursing facility for the handicapped children. No A/H1 was detected outside this facility.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Medium | Sporadic | | Decreasing | 5 | 0% | None | (graphs) | 379.6 (graphs) | Click here |
| Belgium | Low | Sporadic | | Stable | | | | 29.7 (graphs) | 1403.7 (graphs) | Click here |

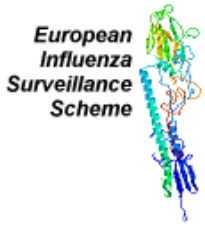
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Bulgaria | Low | None | Decreasing | 0 | 0% | None | (graphs) | 786.2 | (graphs) | Click here |
| Croatia | Medium | Widespread | Decreasing | 39 | 2.6% | Type B | (graphs) | | (graphs) | Click here |
| Czech Republic | Low | Sporadic | Stable | 125 | 6.4% | Type A and B | 31.1 (graphs) | 920.5 | (graphs) | Click here |
| Denmark | Low | Sporadic | Stable | 3 | 0% | Type B | 17.9 (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 4 | 25.0% | Type B | 4.5 (graphs) | 604.9 | (graphs) | Click here |
| Estonia | Low | Local | Decreasing | 30 | 56.7% | Type B | 16.7 (graphs) | 437.1 | (graphs) | Click here |
| Finland | | Local | Decreasing | 24 | 33.3% | Type A and B | 0.0 (graphs) | | (graphs) | Click here |
| France | Low | Sporadic | Decreasing | 46 | 17.4% | Type B | (graphs) | 1517.3 | (graphs) | Click here |
| Georgia | | | | 11 | 9.1% | Type A, Subtype H3 | (graphs) | | | Click here |
| Germany | Low | Sporadic | Decreasing | 22 | 31.8% | Type B | (graphs) | 608.0 | (graphs) | Click here |
| Greece | Medium | Sporadic | Decreasing | 7 | 57.1% | Type A, Subtype H3N2 | 102.9 (graphs) | | (graphs) | Click here |
| Hungary | Low | Sporadic | Decreasing | 36 | 8.3% | Type A and B | 99.8 (graphs) | | (graphs) | Click here |
| Ireland | Low | None | Stable | 2 | 0% | None | 3.9 (graphs) | | (graphs) | Click here |
| Israel | Low | Sporadic | | 14 | 28.6% | Type B | 12.2 (graphs) | | (graphs) | Click here |
| Italy | | | | 16 | 25.0% | None | (graphs) | | | Click here |
| Kazakhstan | Low | None | Decreasing | 220 | 1.8% | Type A | (graphs) | 0.0 | (graphs) | Click here |
| Kyrgyzstan | | | | 20 | 5.0% | Type A | | | (graphs) | Click here |
| Latvia | Low | Regional | Decreasing | 1 | 100.0% | Type A and B | 38.2 (graphs) | 959.5 | (graphs) | Click here |
| Lithuania | Low | Sporadic | Decreasing | 0 | 0% | None | 5.3 (graphs) | 447.3 | (graphs) | Click here |
| Luxembourg | Low | Local | | 20 | 55.0% | Type B | (graphs) | | | Click here |
| Malta | | | | 0 | 0% | None | (graphs) | | | Click here |
| Netherlands | Low | Regional | Stable | 8 | 25.0% | None | 25.4 (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | None | | 1 | 0% | None | 17.2 (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | Stable | 1 | 0% | Type B and Type A, Subtype H3 | 35.6 (graphs) | | (graphs) | Click here |
| Poland | Low | None | Decreasing | 7 | 0% | None | 23.7 (graphs) | | (graphs) | Click here |
| Portugal | Low | None | Stable | 2 | 0% | None | 1.8 (graphs) | | (graphs) | Click here |
| Romania | Medium | Local | Decreasing | 31 | 61.3% | Type A, Subtype H3N2 | 1.3 (graphs) | 1187.0 | (graphs) | Click here |
| Russian Federation | Medium | Regional | Decreasing | 0 | 0% | Type A | (graphs) | 630.9 | (graphs) | Click here |
| Scotland | Low | None | Stable | | | | 0.0 (graphs) | | (graphs) | Click here |
| Serbia | Low | Sporadic | Decreasing | 0 | 0% | None | 61.8 (graphs) | | (graphs) | Click here |
| Slovakia | Medium | Local | Decreasing | 9 | 44.4% | Type B | 288.8 (graphs) | 1741.0 | (graphs) | Click here |
| Slovenia | Low | Sporadic | Stable | 3 | 33.3% | Type A and B | 1.4 (graphs) | 1077.0 | (graphs) | Click here |
| Spain | Low | None | Decreasing | 26 | 19.2% | Type B | 13.0 (graphs) | | (graphs) | Click here |
| Sweden | Low | None | Decreasing | 16 | 18.8% | Type A and B | 2.5 (graphs) | | (graphs) | Click here |
| Switzerland | Low | Sporadic | Decreasing | | | | 17.1 (graphs) | | (graphs) | Click here |
| Turkey | Medium | Sporadic | Decreasing | 45 | 35.6% | Type B | 51.8 (graphs) | | (graphs) | Click here |
| Ukraine | Low | Local | Decreasing | 81 | 42.0% | Type A | (graphs) | 481.0 | (graphs) | Click here |
| Europe | | | | 875 | 19.1% | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza activity in most of Europe is coming to an end for the 2008-2009 season




**Summary:** In week 15/2009, all countries and regions in Europe, including all of the EU/EEA, reported decreasing influenza activity or baseline activity. One of the seven regions of the Russian Federation reported high influenza activity in week 15/2009, but has passed its peak two weeks ago. Sentinel virus detections have decreased from 1577 in week 04 to 46 in the current week.

**Epidemiological situation - week 15/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were medium in six countries and low in the other 26 countries that reported this indicator. While the Russian Federation reported medium intensity as a whole, one region (Urals) continued to report high intensity. All countries (and regions) presented decreasing or stable trends at baseline levels of clinical activity.

For the geographical spread indicator, regional activity was reported in two countries, local activity in four countries and sporadic or no activity in the remaining 25 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-15/2009):** Since week 49/2008 consultation rates for ILI and/or ARI rose above baseline levels in most European countries following a general west to east progression. High influenza intensity has been reported in 16 countries since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. In most countries in western and central Europe the seasonal epidemic appears to be over, with consultation rates for ILI and/or ARI having returned to baseline levels. In Eastern Europe, e.g. the Russian Federation, the influenza activity has passed its peak and is declining. Five countries reported no more than sporadic influenza activity during this season: Bulgaria, Cyprus, Kazakhstan, Montenegro and Scotland.

**Virological situation - week 15/2009:** The total number of respiratory specimens collected by sentinel physicians in week 15/2009 was 243, of which 46 (19%) were positive for influenza virus: 14 type A (six subtype H3, one subtype H1 and 7 not subtyped) and 32 type B. In addition, 200 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 127 type A (42 subtype H3, 36 subtype H1 and 49 not subtyped) and 73 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-15/2009):** Of 28,495 virus detections (sentinel and non-sentinel) since week 40/2008, 24,428 (86%) were type A (10,744 subtype H3, 1315 subtype H1 and 12,369 not subtyped) and 4067 (14%) were type B. The number of influenza A virus detections peaked during week 04, and the peak for influenza B was seen in weeks 10 and 11. Based on the antigenic and/or genetic characterization of 3505 influenza viruses, 2443 (70%) were reported as A/Brisbane/10/2007 (H3N2)-like, 154 (4%) as A/Brisbane/59/2007 (H1N1)-like, 37 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 871 (25%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses resembled either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza virus isolates from 19 countries were assessed for antiviral drug susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, and all but one of those tested were resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor-resistant, but sensitive to the neuraminidase inhibitors. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Influenza activity in Europe is coming to an end, with most influenza virus detections occurring between weeks 48 and 15, or during 20 weeks in total (click here ). The influenza activity has returned to baseline levels for many countries in Europe. One region of Russia (Urals) reported high influenza activity in week 15/2009, but activity is decreasing.

Influenza A(H3N2) has been the dominant virus in Europe, accounting for an estimated 76% of total virus detections this season. Of influenza B viruses that have been antigenically and/or genetically characterized, 96% (871/908) were B/Victoria lineage. With the exception of these B/Victoria lineage viruses, most of the viruses characterized are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance and vaccine used this season is expected to have been effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 30 reported both clinical and virological data, three reported virological data and one reported clinical data only to EISS in week 15/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the World Health Organization (WHO) Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

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## Map

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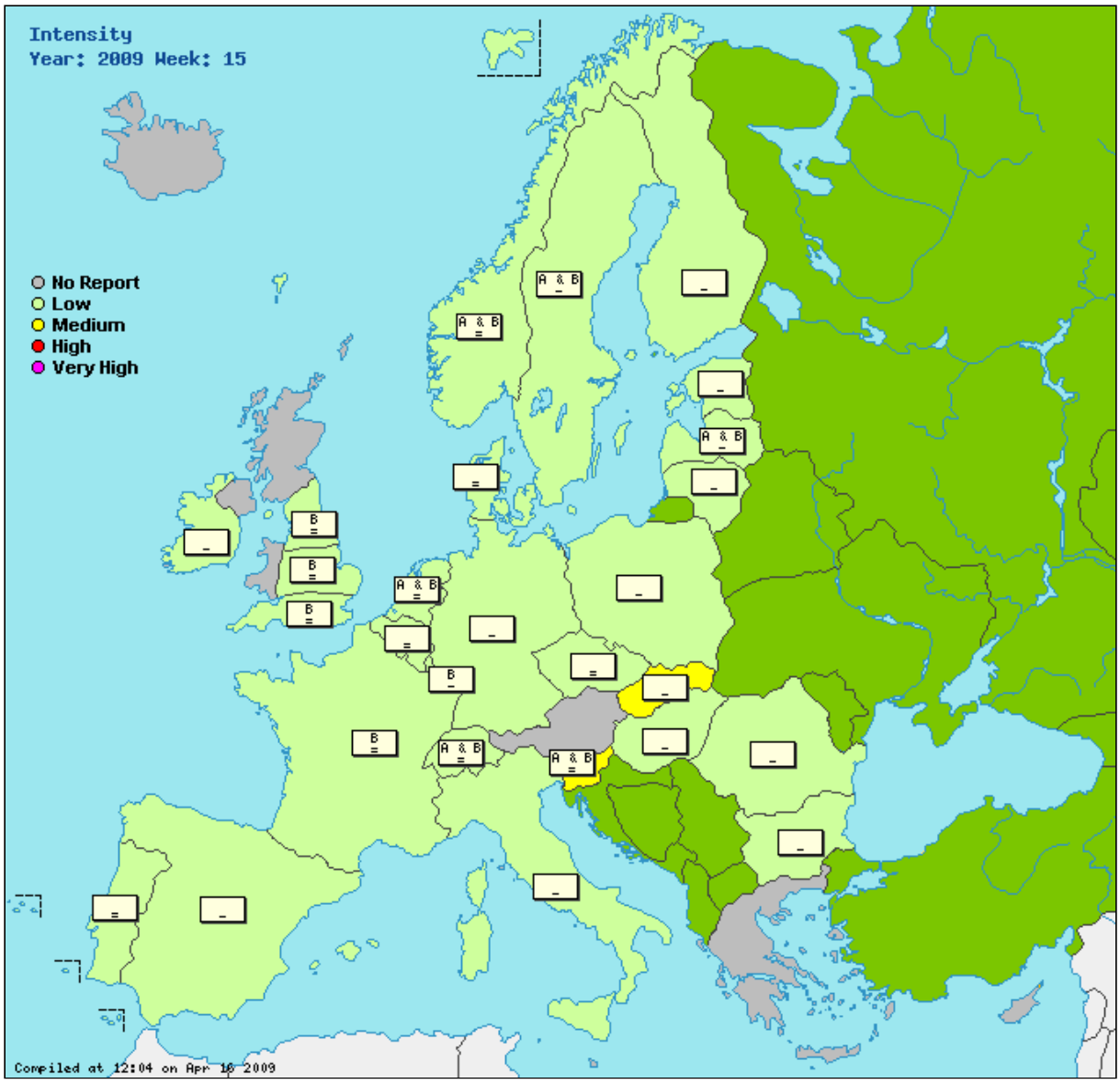
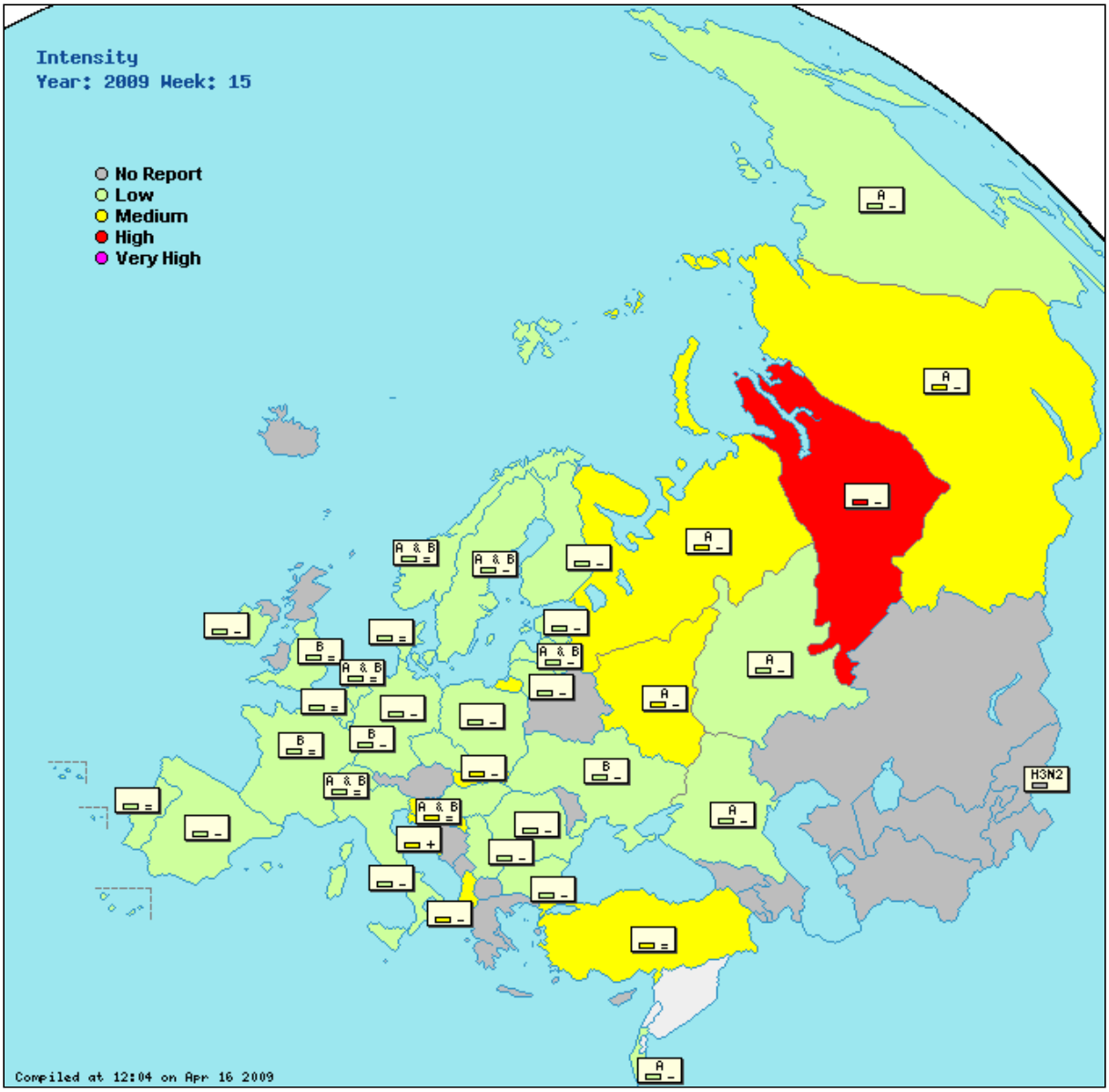
Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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

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**+** : increasing clinical activity
**-** : decreasing clinical activity

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## Country comments (where available)

**Georgia**
No samples of week 15 has been received at our lab, only specimens from regions of Georgia collected during the whole season were received. Work on those samples still continue and results will be submitted by the end of week 16.
**Italy**
No influenza positive samples have been detected.
**Kyrgyzstan**
sentinel samples from Bishkek we found using immunofluorescence 1 samples paragripp 1 type, adenovirus 1,
**Slovenia**
Higher number of influenza A/H1 in week 15 are still due to the localized outbreak in one nursing facility for the handicapped children. No A/H1 was detected outside this facility.
**Switzerland**
Influenza activity remained sporadic with few influenza B virus detected in 1/2 samples.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Medium | Sporadic | | Decreasing | 2 | 0% | None | (graphs) | 355.4 (graphs) | Click here |
| Belgium | Low | None | | Stable | 0 | 0% | None | 20.5 (graphs) | 1296.3 (graphs) | Click here |
| Bulgaria | Low | None | | Decreasing | 13 | 0% | None | (graphs) | 573.2 (graphs) | Click here |
| Croatia | Medium | | | Increasing | 32 | 0% | None | 0.0 (graphs) | (graphs) | Click here |
| Czech Republic | Low | Sporadic | | Stable | | | | 19.3 (graphs) | 812.8 (graphs) | Click here |
| Denmark | Low | Sporadic | | Stable | 0 | 0% | None | 15.8 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | Stable | 3 | 33.3% | Type B | 8.3 (graphs) | 1008.0 (graphs) | Click here |
| Estonia | Low | Local | | Decreasing | 9 | 66.7% | None | 10.7 (graphs) | 326.3 (graphs) | Click here |
| Finland | Low | Sporadic | | Decreasing | 12 | 8.3% | None | 574.1 (graphs) | (graphs) | Click here |
| France | Low | Sporadic | | Stable | 14 | 7.1% | Type B | (graphs) | 1485.2 (graphs) | Click here |
| Georgia | | | | | 0 | 0% | None | (graphs) | | Click here |
| Germany | Low | None | | Decreasing | 12 | 25.0% | None | (graphs) | 554.0 (graphs) | Click here |
| Greece | | | | | 13 | 0% | None | (graphs) | | Click here |
| Hungary | Low | Sporadic | | Decreasing | | | | 49.2 (graphs) | (graphs) | Click here |
| Ireland | Low | None | | Decreasing | 0 | 0% | None | 3.0 (graphs) | (graphs) | Click here |
| Israel | Low | Sporadic | | Decreasing | 10 | 10.0% | Type A | 4.9 (graphs) | (graphs) | Click here |
| Italy | Low | Local | | Decreasing | 0 | 0% | None | 62.4 (graphs) | (graphs) | Click here |
| Kyrgyzstan | | | | | 19 | 31.6% | Type A, Subtype H3N2 | | (graphs) | Click here |
| Latvia | Low | Regional | | Decreasing | 0 | 0% | Type A and B | 10.9 (graphs) | 695.8 (graphs) | Click here |
| Lithuania | Low | Sporadic | | Decreasing | 11 | 27.3% | None | 2.5 (graphs) | 339.4 (graphs) | Click here |
| Luxembourg | Low | Sporadic | | | 7 | 28.6% | Type B | (graphs) | | Click here |
| Netherlands | Low | Regional | | Stable | 6 | 50.0% | Type A and B | 28.9 (graphs) | (graphs) | Click here |
| Norway | Low | None | | Stable | 0 | 0% | Type A and B | 24.6 (graphs) | (graphs) | Click here |
| Poland | Low | None | | Decreasing | 3 | 0% | None | 14.1 (graphs) | (graphs) | Click here |
| Portugal | Low | None | | Stable | 1 | 0% | None | 3.7 (graphs) | (graphs) | Click here |
| Romania | Low | Sporadic | | Decreasing | 13 | 23.1% | None | 1.3 (graphs) | 1027.8 (graphs) | Click here |
| Russian Federation | Medium | Local | | Decreasing | 0 | 0% | Type A | (graphs) | 545.9 (graphs) | Click here |
| Serbia | Low | None | | Decreasing | 0 | 0% | None | 47.5 (graphs) | (graphs) | Click here |
| Slovakia | Medium | Local | | Decreasing | 1 | 0% | None | 139.1 (graphs) | 1294.2 (graphs) | Click here |
| Slovenia | Medium | Sporadic | | Stable | 2 | 0% | Type A and B | 4.3 (graphs) | 919.2 (graphs) | Click here |
| Spain | Low | None | | Decreasing | 4 | 0% | None | 8.4 (graphs) | (graphs) | Click here |
| Sweden | Low | None | | Decreasing | 0 | 0% | Type A and B | 0.4 (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | | Stable | 8 | 62.5% | Type A and B | 14.9 (graphs) | | Click here |
| Turkey | Medium | Sporadic | | Stable | 17 | 23.5% | None | 50.1 (graphs) | (graphs) | Click here |
| Ukraine | Low | Sporadic | | Decreasing | 31 | 22.6% | Type B | (graphs) | 431.8 (graphs) | Click here |
| Europe | | | | | 243 | 18.9% | | | | Click here |

*Preliminary data*

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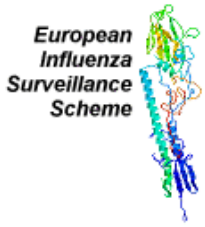
**Geographical spread:** No activity = no laboratory-confirmed cases, or evidence of increased or unusual respiratory disease activity; Sporadic = isolated cases of laboratory-confirmed influenza infection; Localized = limited to one administrative unit in the country (or reporting site) only; Regional = 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza activity in Europe is coming to an end for the 2008-2009 season




**Summary:** In week 16/2009, influenza activity remained at baseline levels in almost all countries and regions of Europe. Only Slovakia and the Russian Federation reported medium activity, but for both peak activity was several weeks ago. Sentinel virus detections continue to remain low.

**Epidemiological situation - week 16/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were medium in Slovakia and in five of seven regions of the Russian Federation, and low in the other 29 countries that reported this indicator. Of the Russian Federation regions, the Far Eastern reported an increasing trend while the other four reported a decreasing trend.

For the geographical spread indicator, local influenza activity was reported in five countries and sporadic or no activity in the remaining 25 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-16/2009):** Since week 49/2008 consultation rates for ILI and/or ARI have risen above baseline levels in most western and central European countries following a general west to east progression. High influenza intensity, again with peak activity following a general west to east progression, has been reported in 15 countries since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. In most countries in western and central Europe the seasonal epidemic appears to be over, with consultation rates for ILI and/or ARI having returned to baseline levels. In Eastern Europe, e.g. the Russian Federation, the influenza activity has passed its peak and is declining. Five countries experienced only sporadic influenza activity during the season: Bulgaria, Cyprus, Kazakhstan, Montenegro and Scotland.

**Virological situation - week 16/2009:** The total number of respiratory specimens collected by sentinel physicians in week 16/2009 was 326, of which 47 (14%) were positive for influenza virus: eight type A (two subtype H3, one subtype H1 and five not subtyped) and 39 type B. In addition, 162 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 108 type A (49 subtype H3, 17 subtype H1 and 42 not subtyped) and 54 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-16/2009):** Of 30394 virus detections (sentinel and non-sentinel) since week 40/2008, 25579 (84%) were type A (11623 subtype H3, 1364 subtype H1 and 12592 not subtyped) and 4815 (16%) were type B. Based on the antigenic and/or genetic characterisation of 1736 influenza viruses reported to EISS during week 16/2009, 1368 (78.8%) were reported as A/Brisbane/10/2007 (H3N2)-like, 91 (5.2%) as A/Brisbane/59/2007 (H1N1)-like, 24 (1.4%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 253 (14.6%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses resembled either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza isolates from 20 countries were assessed for antiviral drug susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor resistant, but sensitive to the neuraminidase inhibitors. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:**Influenza activity in Europe is coming to an end, with most influenza virus detections occurring between weeks 48/2008 and 15/2009, or during 20 weeks in total (click here ). The influenza activity has returned to baseline levels for most countries in Europe.

Influenza A has been the dominant virus type circulating in Europe, and the majority of these were characterised antigenically and/or genetically as A(H3N2). Of the influenza B viruses that were antigenically and/or genetically characterised the majority were B/Victoria lineage. With the exception of these B/Victoria lineage viruses, the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance because of limited circulation of influenza B viruses and the dominant circulation of influenza A(H3N2) viruses which matched the strain included in the vaccine. Therefore, the vaccine used this season is expected to have been effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 26 reported both clinical and virological data, five reported virological data only and five reported clinical data only to EISS in week 16/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

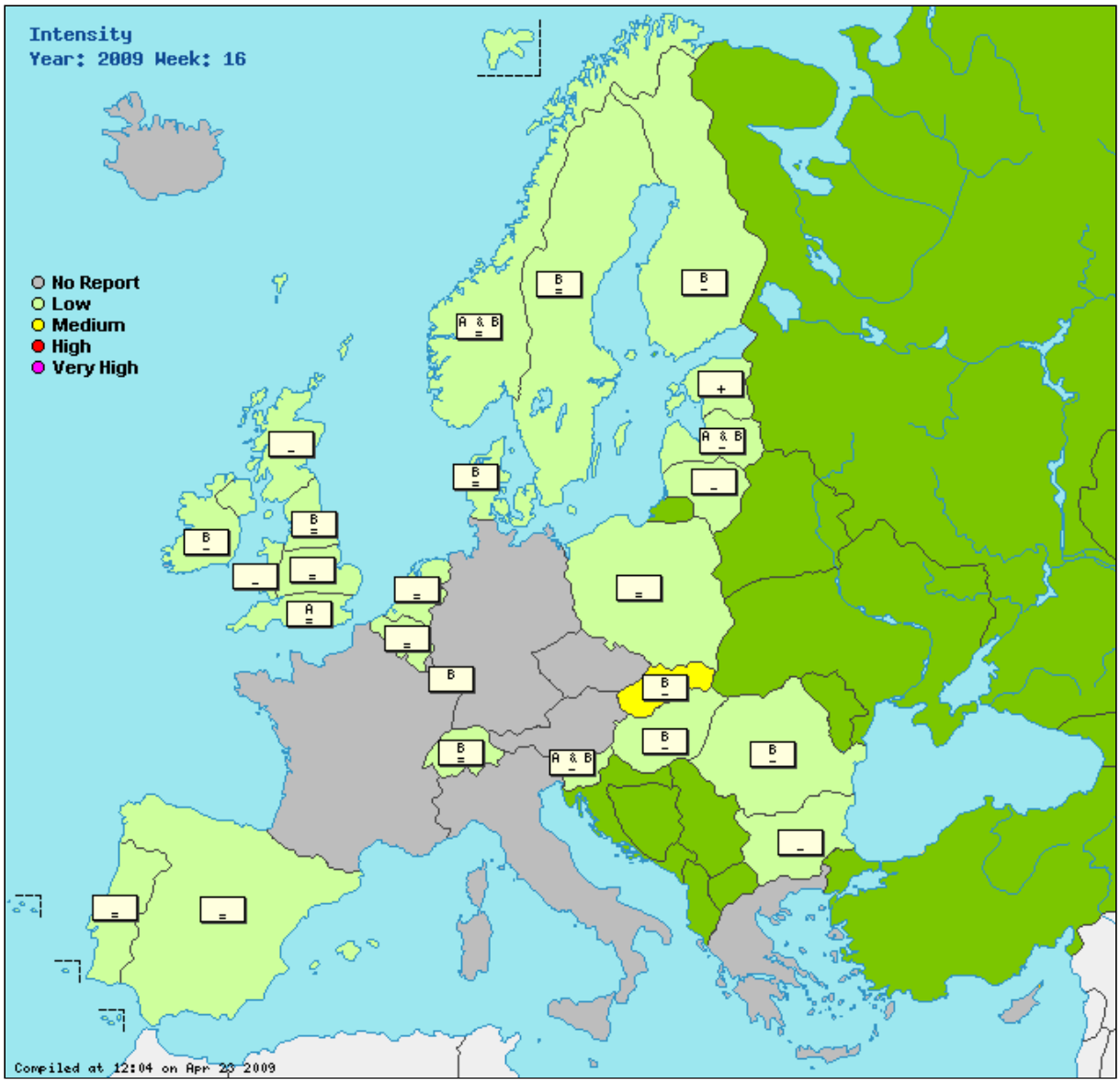
## Map

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.

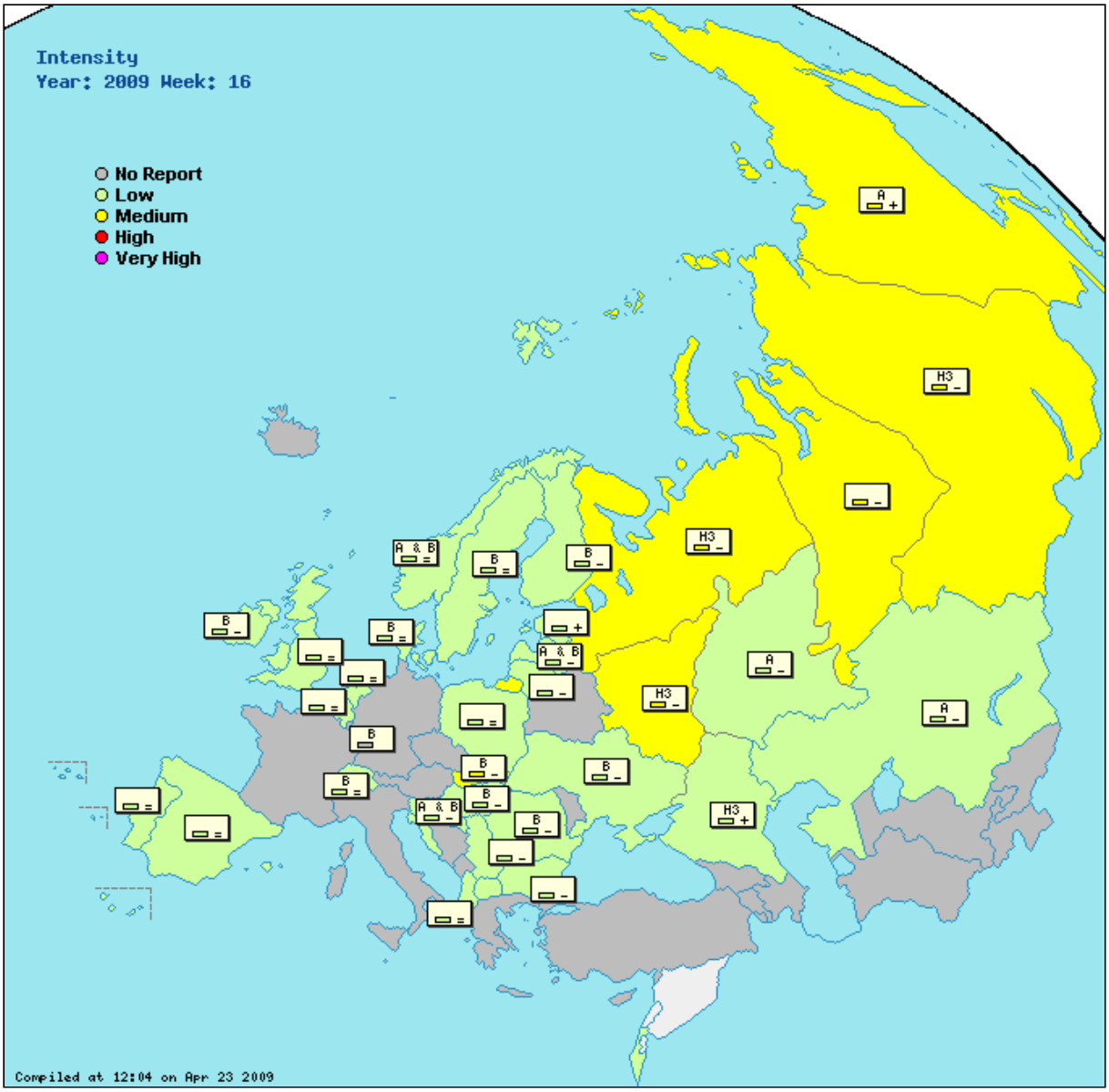
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Italy**
Low influenza activity is reported. Only one B influenza virus has been detected during this week.
**Switzerland**
Influenza season is now over in Switzerland since the week 12. Only sporadic influenza B viruses remain detected.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | None | | Stable | 0 | 0% | None | (graphs) | 355.4 (graphs) | Click here |
| Belgium | Low | None | | Stable | 0 | 0% | None | 6.7 (graphs) | 934.1 (graphs) | Click here |
| Bulgaria | Low | None | | Decreasing | 0 | 0% | None | (graphs) | 550.0 (graphs) | Click here |
| Croatia | Low | Local | | Decreasing | | | | 7.8 (graphs) | (graphs) | Click here |
| Czech Republic | | | | | 50 | 4.0% | None | | (graphs) | Click here |
| Denmark | Low | None | | Stable | 0 | 0% | Type B | 9.4 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | Stable | 6 | 0% | None | 3.9 (graphs) | 685.4 (graphs) | Click here |

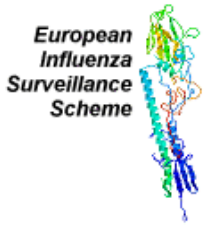
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Estonia | Low | Local | Increasing | 23 | 52.2% | None | 15.5 (graphs) | 366.9 (graphs) | Click here |
| Finland | Low | Sporadic | Decreasing | 6 | 33.3% | Type B | 574.1 (graphs) | (graphs) | Click here |
| Georgia | | | | 8 | 12.5% | None | (graphs) | | Click here |
| Hungary | Low | Sporadic | Decreasing | 15 | 0% | Type B | 38.4 (graphs) | (graphs) | Click here |
| Ireland | Low | Sporadic | Decreasing | 0 | 0% | Type B | 1.7 (graphs) | (graphs) | Click here |
| Israel | Low | None | | | | | 2.5 (graphs) | (graphs) | Click here |
| Italy | | | | 0 | 0% | None | (graphs) | | Click here |
| Kazakhstan | Low | None | Decreasing | 123 | 0% | Type A | (graphs) | 0.0 (graphs) | Click here |
| Latvia | Low | Sporadic | Decreasing | 0 | 0% | Type A and B | 12.3 (graphs) | 613.0 (graphs) | Click here |
| Lithuania | Low | Sporadic | Decreasing | 0 | 0% | None | 0.9 (graphs) | 294.8 (graphs) | Click here |
| Luxembourg | | | | 7 | 28.6% | Type B | (graphs) | | Click here |
| Netherlands | Low | Local | Stable | 3 | 33.3% | None | 19.9 (graphs) | (graphs) | Click here |
| Northern Ireland | Low | None | | 1 | 0% | None | 17.0 (graphs) | (graphs) | Click here |
| Norway | Low | None | Stable | 1 | 100.0% | Type A and B | 17.4 (graphs) | (graphs) | Click here |
| Poland | Low | Sporadic | Stable | 0 | 0% | None | 13.7 (graphs) | (graphs) | Click here |
| Portugal | Low | None | Stable | 0 | 0% | None | 3.6 (graphs) | (graphs) | Click here |
| Romania | Low | Sporadic | Decreasing | 9 | 88.9% | Type B | 0.5 (graphs) | 736.7 (graphs) | Click here |
| Russian Federation | Medium | Local | Decreasing | 0 | 0% | Type A | (graphs) | 529.3 (graphs) | Click here |
| Scotland | Low | None | Decreasing | | | | 0.0 (graphs) | (graphs) | Click here |
| Serbia | Low | None | Decreasing | 0 | 0% | None | 25.0 (graphs) | (graphs) | Click here |
| Slovakia | Medium | Local | Decreasing | 0 | 0% | Type B | 131.6 (graphs) | 1155.2 (graphs) | Click here |
| Slovenia | Low | Sporadic | Decreasing | 0 | 0% | Type A and B | 1.5 (graphs) | 651.1 (graphs) | Click here |
| Spain | Low | None | Stable | 10 | 10.0% | None | 8.8 (graphs) | (graphs) | Click here |
| Sweden | Low | None | Stable | 0 | 0% | Type B | 0.7 (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | Stable | 1 | 100.0% | Type B | 6.2 (graphs) | (graphs) | Click here |
| Turkey | | | | 32 | 28.1% | None | (graphs) | | Click here |
| Ukraine | Low | Sporadic | Decreasing | 31 | 22.6% | Type B | (graphs) | 423.2 (graphs) | Click here |
| Wales | Low | None | Decreasing | | | | 0.1 (graphs) | (graphs) | Click here |
| Europe | | | | 326 | 14.4% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Seasonal influenza activity in Europe continues to be low and declining but human infections with a novel influenza virus were reported




**Summary:** In week 17/2009, influenza activity remained at baseline levels, with sentinel virus detections being low, in almost all countries and regions of Europe. Only the Russian Federation reported a medium intensity of clinical activity. During the past week cases of infection with novel influenza A (H1N1) virus were reported. The World Health Organisation has raised the pandemic alert level. For further details please see the WHO website (click here).

**Epidemiological situation - week 17/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were medium in six of seven regions of the Russian Federation, and low in the other 32 countries that reported this indicator.

For the geographical spread indicator, local influenza activity was reported in the Russian Federation and sporadic or no activity in the other 31 countries. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-17/2009):** Consultation rates for ILI and/or ARI rose above baseline levels as of week 49/2008 in most western and central European countries following a general west to east progression. High influenza intensity, again with peak activity following a general west to east progression, has been reported in 15 countries since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. In most countries in western and central Europe the seasonal epidemic appears to be over, with consultation rates for ILI and/or ARI having returned to baseline levels. In Eastern Europe, including the Russian Federation, influenza activity has passed its peak and is declining. Five countries experienced only sporadic influenza activity during the season: Bulgaria, Cyprus, Kazakhstan, Montenegro and Scotland.

**Virological situation - week 17/2009:** The total number of respiratory specimens collected by sentinel physicians in week 17/2009 was 329, of which 24 (7.3%) were positive for influenza virus: five type A (one subtype H3, one subtype H1N1 and three not subtyped) and 19 type B. In addition, 84 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 58 type A (26 subtype H3, four subtype H1 and 28 not subtyped) and 26 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-17/2009):** Of 30575 virus detections (sentinel and non-sentinel) since week 40/2008, 25674 (84%) were type A (11659 subtype H3, 1383 subtype H1 and 12632 not subtyped) and 4901 (16%) were type B. Based on the antigenic and/or genetic characterisation of 3642 influenza viruses reported to EISS up to week 17/2009, 2519 (69%) were reported as A/Brisbane/10/2007 (H3N2)-like, 163 (5%) as A/Brisbane/59/2007 (H1N1)-like, 37 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 923 (25%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses resembled either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza isolates from 20 countries were assessed for antiviral drug susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor resistant, but sensitive to the neuraminidase inhibitors. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Influenza activity in Europe is coming to an end, with most influenza virus detections having occurred between weeks 48/2008 and 15/2009 (a 20-week period) (click here). Influenza activity has returned to baseline levels for most countries in Europe.

A new A(H1N1) subtype influenza virus strain with pandemic potential has emerged triggering vigorous public health actions. For more information please go to the dedicated web pages of ECDC (click here) or WHO (click here). European Member States have been requested to continue to perform seasonal influenza surveillance until further notice. As of week 18/2009, countries are able to report detections of the new virus to the EISS platform.

Influenza A has been the dominant virus type circulating in Europe, and the majority of these were characterised antigenically and/or genetically as A(H3N2). Of the influenza B viruses that were antigenically and/or genetically characterised the majority were B/Victoria lineage. With the exception of these B/Victoria lineage viruses, the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance because of limited circulation of influenza B viruses and the dominant circulation of influenza A(H3N2) viruses which matched the strain included in the vaccine. From a public health perspective, the vaccine used this season is therefore expected to have been effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 27 reported both clinical and virological data, six reported virological data only and five reported clinical data only to EISS in week 17/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

## Map

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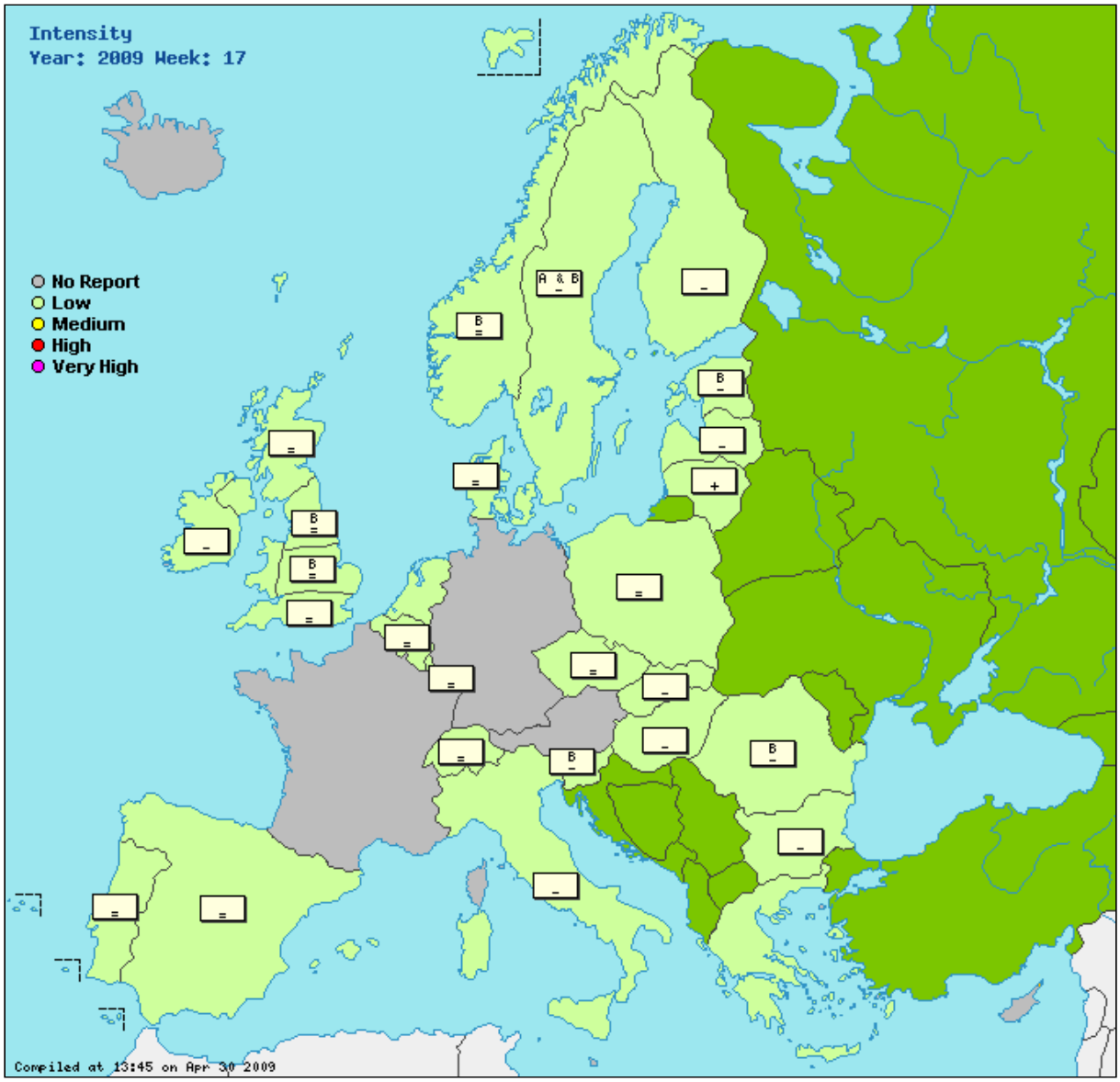
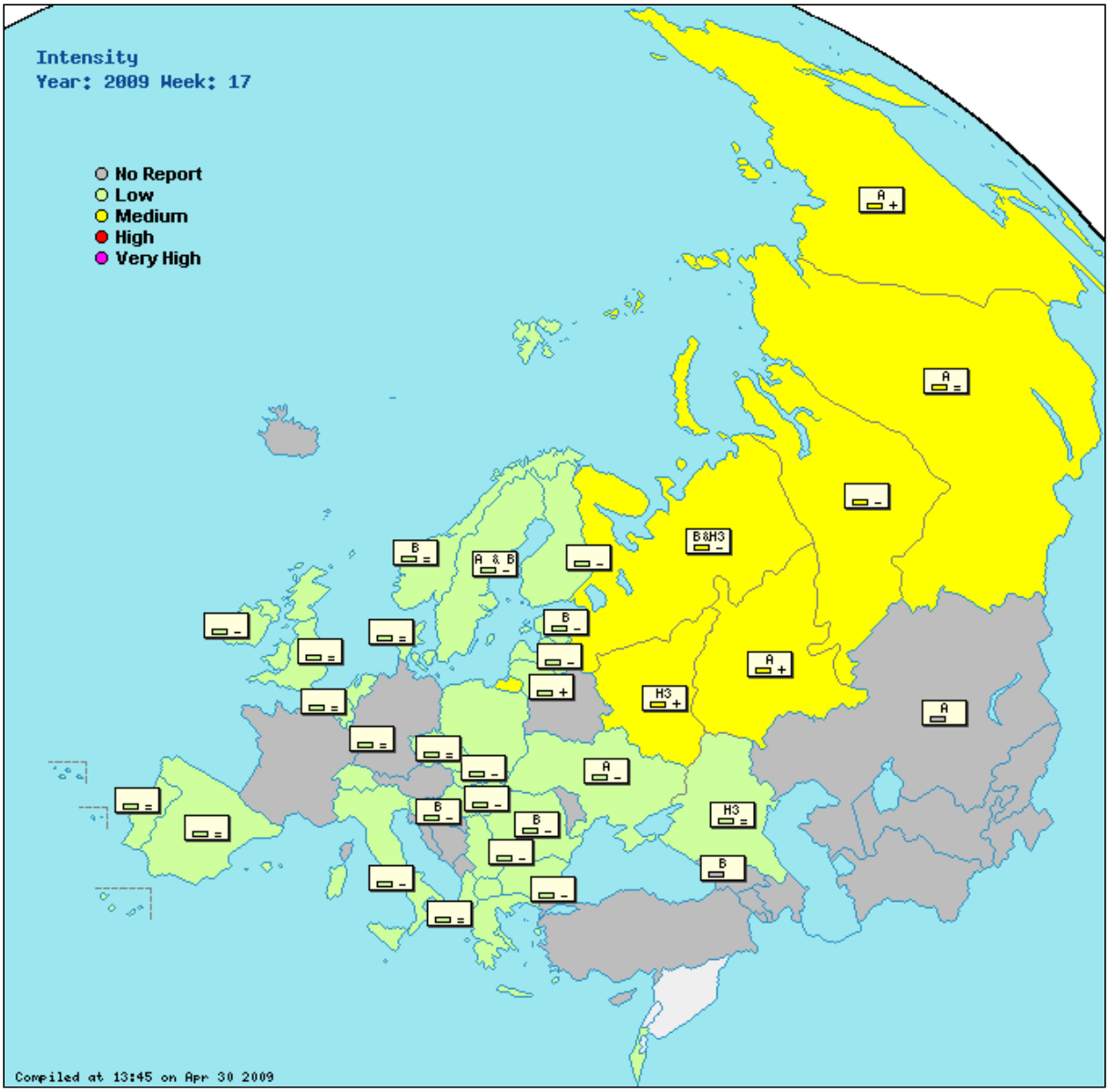
Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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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**-** : decreasing clinical activity

**Low** = no influenza activity or influenza at baseline levels
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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)

### Italy

No influenza positive samples have been detected during this week.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | None | | Stable | 0 | 0% | None | (graphs) | 298.6 (graphs) | Click here |
| Austria | | | | | 31 | 0% | None | (graphs) | | Click here |
| Belgium | Low | None | | Stable | 0 | 0% | None | 13.1 (graphs) | 881.9 (graphs) | Click here |
| Bulgaria | Low | None | | Decreasing | 0 | 0% | None | (graphs) | 538.7 (graphs) | Click here |
| Croatia | | | | | 24 | 0% | None | (graphs) | | Click here |
| Czech Republic | Low | Sporadic | | Stable | 17 | 5.9% | None | 12.5 (graphs) | 715.1 (graphs) | Click here |
| Denmark | Low | None | | Stable | 0 | 0% | None | 6.9 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | Stable | 3 | 0% | None | 4.0 (graphs) | 540.4 (graphs) | Click here |
| Estonia | Low | Sporadic | | Decreasing | 8 | 50.0% | Type B | 13.1 (graphs) | 318.1 (graphs) | Click here |

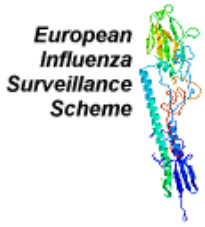
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Finland | Low | Sporadic | Decreasing | 17 | 5.9% | None | (graphs) | (graphs) | Click here |
| Georgia | | | | 5 | 80.0% | Type B | (graphs) | | Click here |
| Germany | | | | 6 | 0% | None | | (graphs) | Click here |
| Greece | Low | Sporadic | | 0 | 0% | None | 42.6 (graphs) | (graphs) | Click here |
| Hungary | Low | None | Decreasing | 5 | 0% | None | 35.4 (graphs) | (graphs) | Click here |
| Ireland | Low | None | Decreasing | 0 | 0% | None | 1.7 (graphs) | (graphs) | Click here |
| Israel | Low | None | | | | | 3.7 (graphs) | (graphs) | Click here |
| Italy | Low | Sporadic | Decreasing | 0 | 0% | None | 41.9 (graphs) | (graphs) | Click here |
| Kazakhstan | | | | 178 | 2.8% | Type A | | (graphs) | Click here |
| Kyrgyzstan | | | | 4 | 25.0% | None | | (graphs) | Click here |
| Latvia | Low | Sporadic | Decreasing | 0 | 0% | None | 0.9 (graphs) | 624.8 (graphs) | Click here |
| Lithuania | Low | Sporadic | Increasing | 3 | 0% | None | 0.1 (graphs) | 340.6 (graphs) | Click here |
| Luxembourg | Low | Sporadic | | 1 | 0% | None | (graphs) | | Click here |
| Netherlands | Low | None | | 1 | 0% | None | 0.0 (graphs) | (graphs) | Click here |
| Northern Ireland | Low | None | | 0 | 0% | None | 10.9 (graphs) | (graphs) | Click here |
| Norway | Low | None | Stable | 0 | 0% | Type B | 23.8 (graphs) | (graphs) | Click here |
| Poland | Low | None | Stable | | | | 13.3 (graphs) | (graphs) | Click here |
| Portugal | Low | None | Stable | 0 | 0% | None | 1.7 (graphs) | (graphs) | Click here |
| Romania | Low | Sporadic | Decreasing | 10 | 70.0% | Type B | 0.0 (graphs) | 805.9 (graphs) | Click here |
| Russian Federation | Medium | Local | Increasing | 0 | 0% | Type A | (graphs) | 544.9 (graphs) | Click here |
| Scotland | Low | None | Stable | | | | 0.7 (graphs) | (graphs) | Click here |
| Serbia | Low | None | Decreasing | 0 | 0% | None | 23.0 (graphs) | (graphs) | Click here |
| Slovakia | Low | Sporadic | Decreasing | 0 | 0% | None | 108.3 (graphs) | 1140.3 (graphs) | Click here |
| Slovenia | Low | Sporadic | Decreasing | 1 | 0% | Type B | 0.0 (graphs) | 726.4 (graphs) | Click here |
| Spain | Low | None | Stable | 0 | 0% | None | 6.7 (graphs) | (graphs) | Click here |
| Sweden | Low | None | Decreasing | 0 | 0% | Type A and B | 0.0 (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | Stable | | | | 2.0 (graphs) | (graphs) | Click here |
| Ukraine | Low | Sporadic | Decreasing | 15 | 6.7% | Type A | (graphs) | 350.8 (graphs) | Click here |
| Wales | Low | None | | | | | 1.1 (graphs) | (graphs) | Click here |
| Europe | | | | 327 | 7.3% | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Seasonal influenza activity in Europe continues to be low and declining but human infections with a novel influenza virus were reported




**Summary:** In week 18/2009, influenza activity remained at baseline levels, with sentinel virus detections being low, in almost all countries and regions of Europe. During the past week cases of infection with novel influenza A (H1N1) virus were reported. The World Health Organisation has raised the pandemic alert level to phase five. For further details please see the WHO website (click here).

**Epidemiological situation - week 18/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all countries that reported this indicator but medium in two of seven regions (Siberian and Urals) of the Russian Federation.

For the geographical spread indicator, the 32 countries reported sporadic or no activity and the Russian Federation reported local activity. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-18/2009):** Consultation rates for ILI and/or ARI rose above baseline levels as of week 49/2008 in most western and central European countries following a general west to east progression. High influenza intensity, with peak activity following a general west to east progression, has been reported in 15 countries since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. In most countries in western and central Europe the seasonal epidemic appears to be over, with consultation rates for ILI and/or ARI having returned to baseline levels. In Eastern Europe, including the Russian Federation, influenza activity has passed its peak and is declining. Five countries experienced only sporadic influenza activity during the season: Bulgaria, Cyprus, Kazakhstan, Montenegro and Scotland.

**Virological situation - week 18/2009:** The total number of respiratory specimens collected by sentinel physicians in week 18/2009 was 702, of which 43 (6.1%) were positive for influenza virus: 14 type A (three subtype H3, two subtype H3N2, one subtype H1, three subtype H1N1, nine subtype novel H1N1 and five not subtyped) and 20 type B. In addition, 147 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 82 type A (31 subtype H3, six subtype H3N2, 13 subtype H1, 10 subtype H1N1, seven subtype novel H1N1 and 22 not subtyped) and 58 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-18/2009):** Of 30760 virus detections (sentinel and non-sentinel) since week 40/2008, 25674 (84%) were type A (11702 subtype H3, 1408 subtype H1 and 12660 not subtyped) and 4990 (16%) were type B. Based on the antigenic and/or genetic characterisation of 3696 influenza viruses reported to EISS up to week 18/2009, 2564 (69%) were reported as A/Brisbane/10/2007 (H3N2)-like, 166 (4%) as A/Brisbane/59/2007 (H1N1)-like, 30 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage), 935 (25%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage). As of week 18/2009 a single virus was genetically characterised as A/California/4/2009 (H1N1)-like (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses resembled either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza isolates from 20 countries were assessed for antiviral drug susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor resistant, but sensitive to the neuraminidase inhibitors. The small number of influenza B viruses analysed were sensitive to oseltamivir and zanamivir (click here).

**Comment:**Influenza activity in Europe is coming to an end, with most influenza virus detections having occurred between weeks 48/2008 and 15/2009 (a 20-week period) (click here ). Influenza activity has returned to baseline levels for most countries in Europe.

A novel A(H1N1) subtype influenza virus strain with pandemic potential has emerged triggering vigorous public health actions. As of 07 May 148 confirmed cases have been reported in European region countries. No sustained human-to-human transmission has been recorded so far. For more information please go to the dedicated web pages of ECDC (click here) or WHO (click here). European Member States have been requested to continue to perform seasonal influenza surveillance until further notice. As of week 18/2009, countries are able to report detections of the new virus to the EISS platform.

The relatively high number of virus detections in week 18 is probably due to intensified surveillance due to the novel virus and the increased number of specimens tested, as the percentage of positive sentinel samples is low.

Influenza A has been the dominant virus type circulating in Europe, and the majority of these were characterised antigenically and/or genetically as A(H3N2). Of the influenza B viruses that were antigenically and/or genetically characterised the majority were B/Victoria lineage. With the exception of these B/Victoria lineage viruses, the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance because of limited circulation of influenza B viruses and the dominant circulation of influenza A(H3N2) viruses which matched the strain included in the vaccine. From a public health perspective, the vaccine used this season is therefore expected to have been effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 29 reported both clinical and virological data, four reported virological data only and four reported clinical data only to EISS in week 18/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

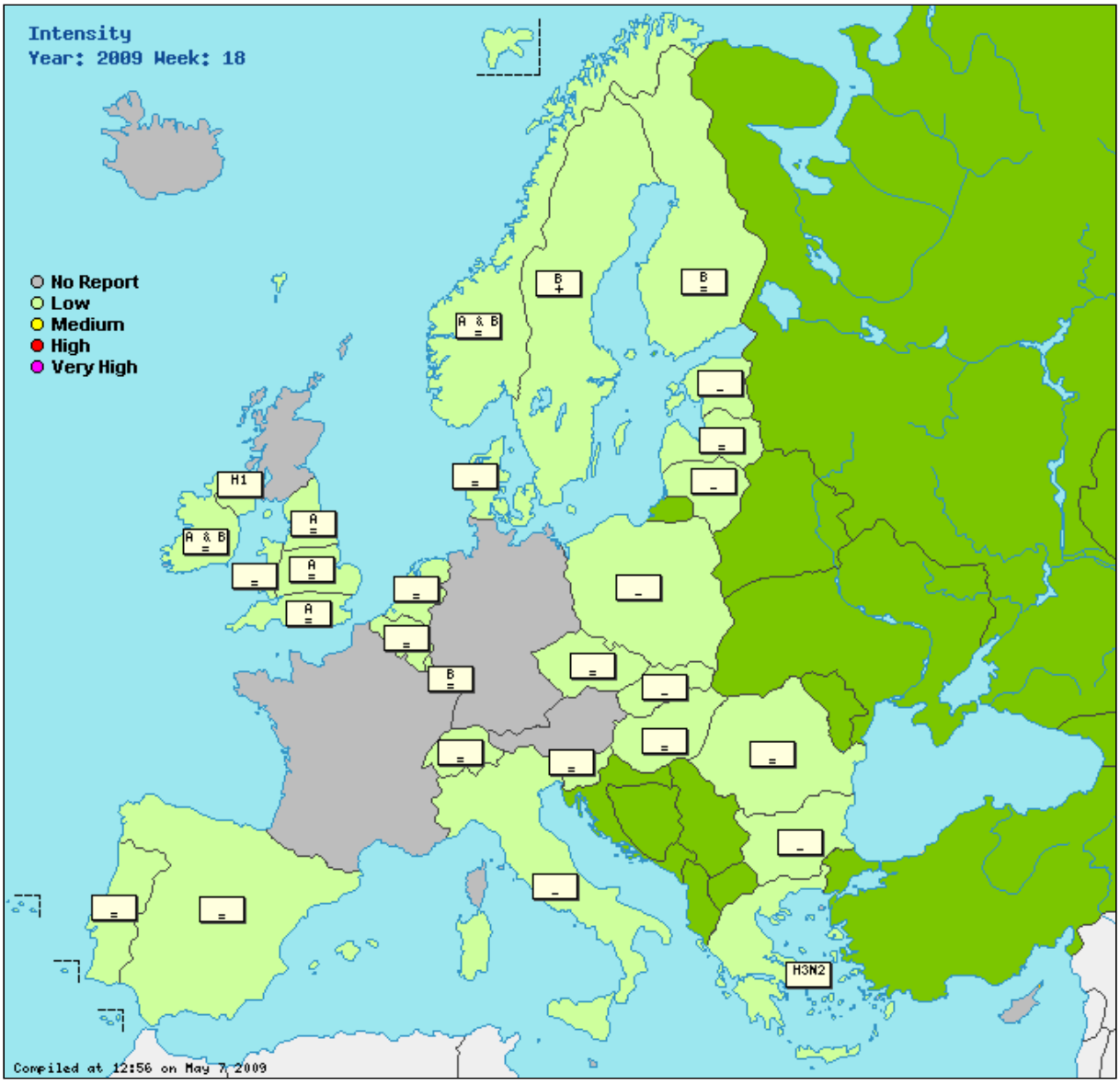
## Map

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.

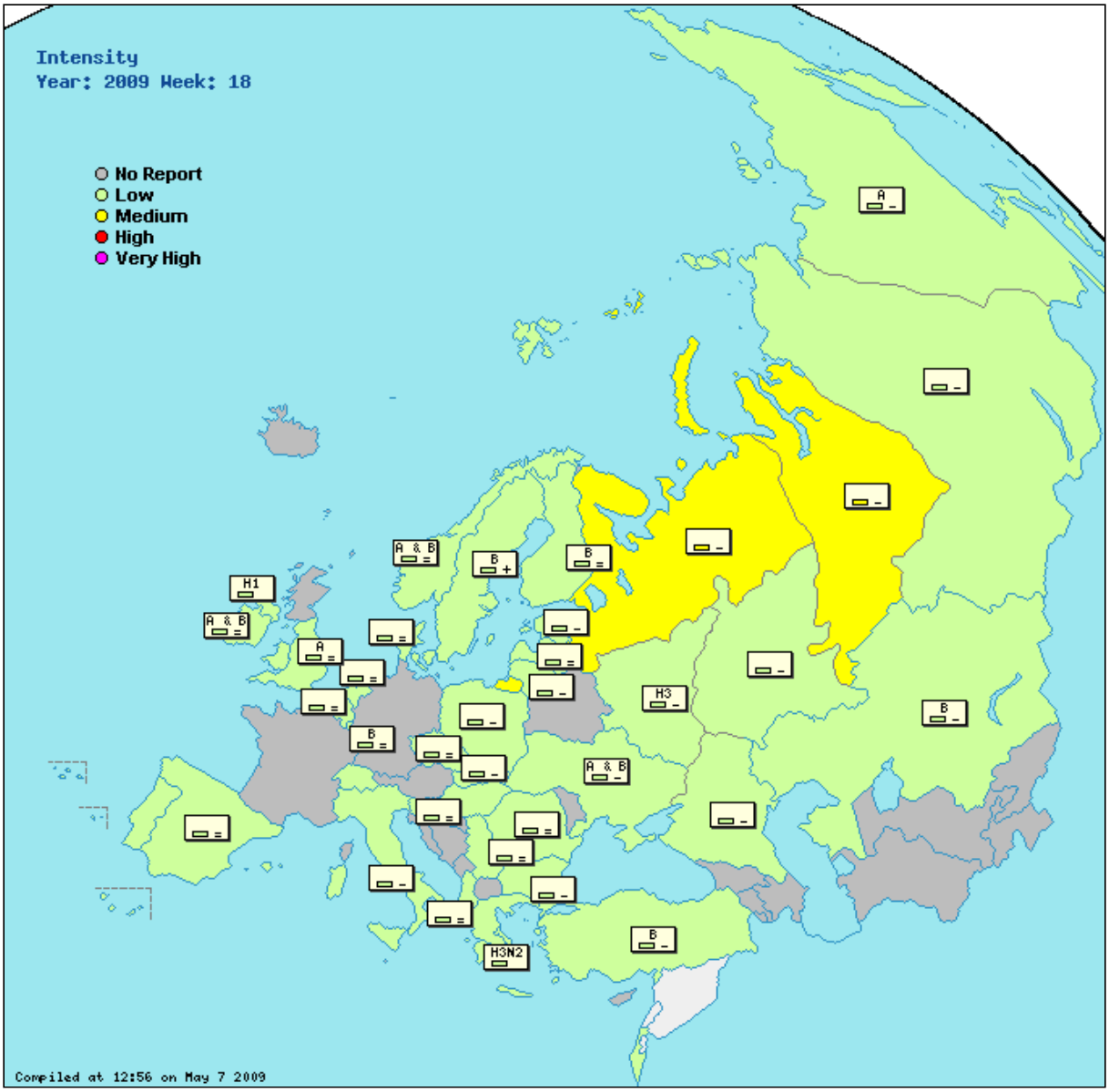
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




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

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

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

**No activity** = no evidence of influenza virus activity (clinical activity remains at baseline levels)
**Sporadic** = isolated cases of laboratory confirmed influenza infection
**Local outbreak** = increased influenza activity in local areas (e.g. a city) within a region, or outbreaks in two or more institutions (e.g. schools) within a region. Laboratory confirmed.
**Regional activity** = influenza activity above baseline levels in one or more regions with a population comprising less than 50% of the country's total population. Laboratory confirmed.
**Widespread** = influenza activity above baseline levels in one or more regions with a population comprising 50% or more of the country's population. Laboratory confirmed.

## Country comments (where available)

**Denmark**
First novel swine influenza H1N1 identified in Denmark week 18, A/Denmark/513/09. Sequences available in GenBank
**Slovenia**
In week 18 in the Laboratory for Virology, NIPH of The Republic of Slovenia, 4 specimens from patients suspected to be infected with the new Influenza virus were analysed. All specimens were negative in the analysis for presence of Influenza A and 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 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | None | | Stable | 2 | 0% | None | (graphs) | 292.3 (graphs) | Click here |
| Austria | | | | | 66 | 1.5% | None | (graphs) | | Click here |
| Belgium | Low | None | | Stable | 7 | 0% | None | 43.0 (graphs) | 958.0 (graphs) | Click here |
| Bulgaria | Low | None | | Decreasing | 0 | 0% | None | (graphs) | 350.0 (graphs) | Click here |
| Croatia | | | | | 27 | 0% | None | (graphs) | | Click here |

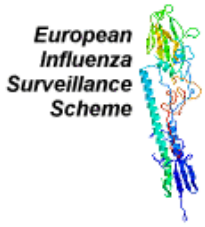
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Czech Republic | Low | Sporadic | Stable | 46 | 4.4% | None | 10.4 | (graphs) | 639.7 | (graphs) | Click here |
| Denmark | Low | None | Stable | 9 | 0% | None | 11.5 | (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 51 | 9.8% | Type A | 9.3 | (graphs) | 521.9 | (graphs) | Click here |
| Estonia | Low | None | Decreasing | 8 | 0% | None | 10.4 | (graphs) | 281.9 | (graphs) | Click here |
| Finland | Low | Sporadic | Stable | 13 | 30.8% | Type B | 463.0 | (graphs) | | (graphs) | Click here |
| Georgia | | | | 13 | 0% | None | | (graphs) | | | Click here |
| Germany | | | | 140 | 6.4% | None | | | | (graphs) | Click here |
| Greece | Low | Sporadic | | 8 | 12.5% | Type A, Subtype H3N2 | 72.1 | (graphs) | | (graphs) | Click here |
| Hungary | Low | None | Stable | | | | 38.5 | (graphs) | | (graphs) | Click here |
| Ireland | Low | Sporadic | Stable | 4 | 0% | Type A and B | 1.9 | (graphs) | | (graphs) | Click here |
| Israel | Low | None | | 17 | 23.5% | None | 3.7 | (graphs) | | (graphs) | Click here |
| Italy | Low | None | Decreasing | 0 | 0% | None | 39.1 | (graphs) | | (graphs) | Click here |
| Kazakhstan | Low | None | Decreasing | 63 | 0% | Type B | | (graphs) | 0.0 | (graphs) | Click here |
| Latvia | Low | Sporadic | Stable | 0 | 0% | None | 1.8 | (graphs) | 606.2 | (graphs) | Click here |
| Lithuania | Low | None | Decreasing | 0 | 0% | None | 0.2 | (graphs) | 260.3 | (graphs) | Click here |
| Luxembourg | Low | None | | 6 | 16.7% | Type B | | (graphs) | | | Click here |
| Netherlands | Low | Sporadic | Stable | 6 | 0% | None | 20.1 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | | 1 | 0% | Type A, Subtype H1 | 34.1 | (graphs) | | (graphs) | Click here |
| Norway | Low | None | Stable | 116 | 1.7% | Type A and B | 26.9 | (graphs) | | (graphs) | Click here |
| Poland | Low | None | Decreasing | 5 | 0% | None | 8.7 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | | | | 4.2 | (graphs) | | (graphs) | Click here |
| Romania | Low | None | Stable | 6 | 0% | None | 1.0 | (graphs) | 770.9 | (graphs) | Click here |
| Russian Federation | Low | Local | Decreasing | 0 | 0% | Type A | | (graphs) | 463.5 | (graphs) | Click here |
| Serbia | Low | None | Stable | 0 | 0% | None | 30.2 | (graphs) | | (graphs) | Click here |
| Slovakia | Low | None | Decreasing | 1 | 0% | None | 96.1 | (graphs) | 1039.5 | (graphs) | Click here |
| Slovenia | Low | None | Stable | 0 | 0% | None | 0.0 | (graphs) | 447.6 | (graphs) | Click here |
| Spain | Low | None | Stable | 23 | 8.7% | None | 7.6 | (graphs) | | (graphs) | Click here |
| Sweden | Low | None | Increasing | 0 | 0% | Type B | 1.7 | (graphs) | | (graphs) | Click here |
| Switzerland | Low | Sporadic | Stable | | | | 10.7 | (graphs) | | (graphs) | Click here |
| Turkey | Low | Sporadic | Decreasing | 37 | 27.0% | Type B | 54.3 | (graphs) | | (graphs) | Click here |
| Ukraine | Low | None | Decreasing | 22 | 9.1% | Type A and B | | (graphs) | 318.2 | (graphs) | Click here |
| Wales | Low | Sporadic | Stable | | | | 3.4 | (graphs) | | (graphs) | Click here |
| Europe | | | | 465 | 7.3% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Seasonal influenza activity low but human infections with the new influenza A(H1N1) virus have been reported




**Summary:** In week 19/2009, influenza activity remained at baseline levels, with sentinel virus detections being low, in almost all of Europe. While the Northern Hemisphere influenza season is coming to an end, more than 200 cases of new influenza A(H1N1) virus infections have been reported in European region countries.

**Epidemiological situation - week 19/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in almost all countries that reported this indicator. Only Albania and two of seven regions (Siberian and Urals) of the Russian Federation reported medium intensity. For the geographical spread indicator, the Russian Federation reported local activity whereas all other countries reported sporadic or no activity. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-19/2009):** Consultation rates for ILI and/or ARI rose above baseline levels as of week 49/2008 in most western and central European countries following a general west to east progression. High influenza intensity, with peak activity following a general west to east progression, has been reported in 15 countries since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. In most countries the seasonal epidemic appears to be over, with consultation rates for ILI and/or ARI having returned to baseline levels.

**Virological situation - week 19/2009:** The total number of respiratory specimens collected by sentinel physicians in week 19/2009 was 630, of which 36 (5.7%) were positive for influenza virus: 20 type A (one subtype H3, three subtype H3N2, one subtype H1, two subtype H1N1, two subtype new H1, two subtype new H1N1 and nine not subtyped) and 16 type B. In addition, 130 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 82 type A (20 subtype H3, seven subtype H3N2, three subtype H1, one subtype H1N1, one subtype novel H1, six subtype novel H1N1 and 44 not subtyped) and 48 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-19/2009):** Of 30924 virus detections (sentinel and non-sentinel) since week 40/2008, 25815 (83%) were type A (11630 subtype H3, 1407 subtype H1 and 12778 not subtyped) and 5109 (17%) were type B. Based on the antigenic and/or genetic characterisation of 3696 influenza viruses reported to EISS up to week 19/2009, 2564 (69%) were reported as A/Brisbane/10/2007 (H3N2)-like, 166 (4%) as A/Brisbane/59/2007 (H1N1)-like, 30 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage), 935 (25%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and one as A/California/4/2009 (H1N1)-like (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses resembled either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza isolates from 20 countries were assessed for antiviral drug susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor resistant, but sensitive to the neuraminidase inhibitors. The small number of influenza B viruses tested were sensitive to oseltamivir and zanamivir. By genetic analysis, the new A(H1N1) viruses have been assessed as being sensitive to oseltamivir and zanamivir (click here).

**Comment:**Seasonal influenza activity in Europe is coming to an end, with most influenza virus detections having occurred between weeks 48/2008 and 15/2009 (a 20-week period) (click here ). However, a new A(H1N1) subtype influenza virus strain with pandemic potential has emerged in North America and spread to many countries. The World Health Organisation has raised the pandemic alert level to phase five. For further details please see the WHO website (click here).

As of 14 May, 229 confirmed cases have been reported in 17 European region countries (222 in EU/EFTA countries and 7 in non-EU/EFTA countries). Outside of the United States and Mexico, no sustained community transmission has been recorded so far. For more information please go to the dedicated web pages of ECDC (click here) or WHO (click here). European Member States have been requested to continue to perform seasonal influenza surveillance until further notice. As of week 18/2009, countries are able to report detections of the new virus to the EISS platform.

Influenza A has been the dominant virus type circulating in Europe, mostly characterised antigenically and/or genetically as A(H3N2). Of the influenza B viruses that were characterised, the majority were B/Victoria lineage. With the exception of these B/Victoria lineage viruses, the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance because of limited circulation of influenza B viruses and the dominant circulation of influenza A(H3N2) viruses which matched the strain included in the vaccine. From a public health perspective, the vaccine used this season is therefore expected to have been effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 26 reported both clinical and virological data, eight reported virological data only and three reported clinical data only to EISS in week 19/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).
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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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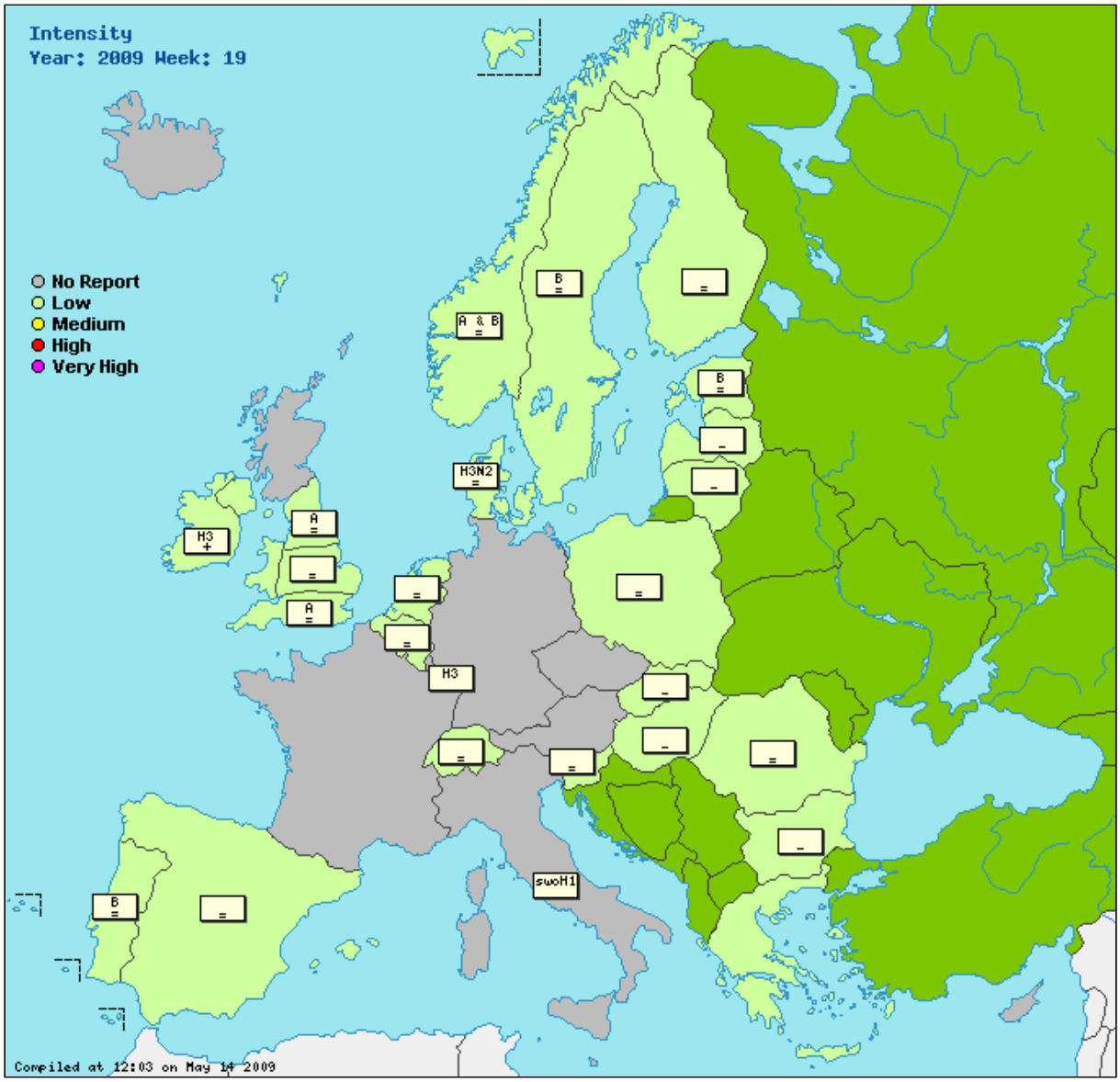
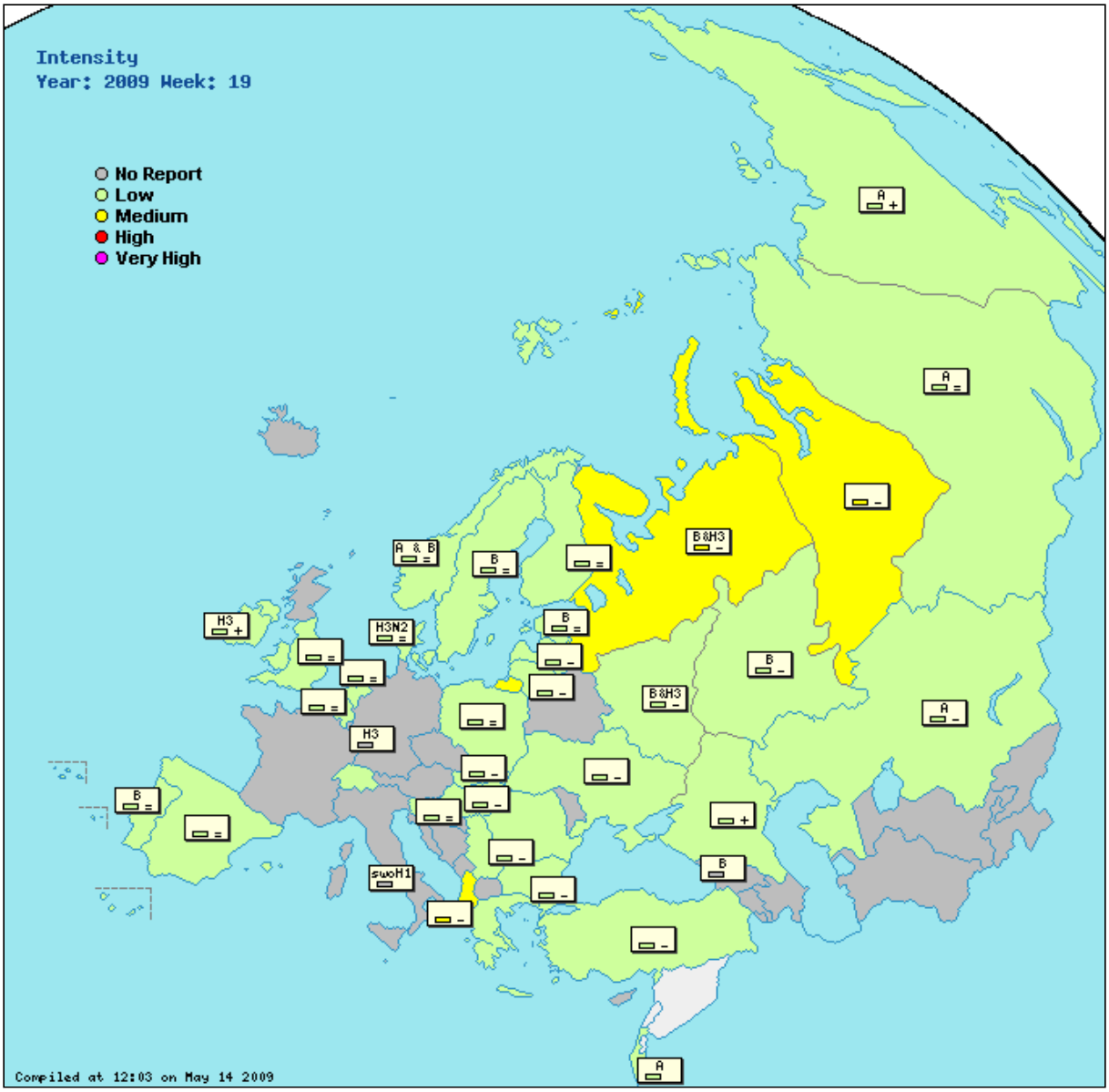
Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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

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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)

**Georgia**
10 specimens from regional sentinel stations were received and tested as well. week 16 - 3 samples (all negative) week 17 - 5 samples (2 posiive for influenza B) week 18 - 2 sam-ples (2 positive for influenza B)

**Italy**
Four further novel A/H1N1 viruses have been detected during this week.

**Slovenia**
In week 19 in the Laboratory for Virology, NIPH of The Republic of Slovenia, 12 specimens from patients suspected to be infected with the new Influenza virus were analysed. All specimens were negative in the analysis for presence of Influenza A and 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 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Medium | Sporadic | | Decreasing | 0 | 0% | None | (graphs) | 290.8 (graphs) | Click here |
| Belgium | Low | None | | Stable | 0 | 0% | None | 41.2 (graphs) | 1169.2 (graphs) | Click here |

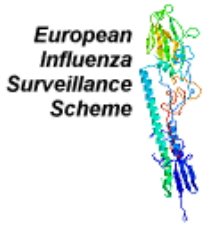
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Bulgaria | Low | None | Decreasing | 6 | 16.7% | None | (graphs) | 459.5 | (graphs) | Click here |
| Croatia | | | | 46 | 0% | None | (graphs) | | | Click here |
| Denmark | Low | None | Stable | 52 | 1.9% | Type A, Subtype H3N2 | 24.4 (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 54 | 3.7% | None | 14.3 (graphs) | 479.7 | (graphs) | Click here |
| Estonia | Low | Sporadic | Stable | 8 | 50.0% | Type B | 10.5 (graphs) | 239.6 | (graphs) | Click here |
| Finland | Low | Sporadic | Stable | 14 | 14.3% | None | (graphs) | | (graphs) | Click here |
| Georgia | | | | 14 | 7.1% | Type B | (graphs) | | | Click here |
| Germany | | | | 69 | 2.9% | None | | | (graphs) | Click here |
| Greece | Low | None | | 0 | 0% | None | 72.6 (graphs) | | (graphs) | Click here |
| Hungary | Low | None | Decreasing | 2 | 0% | None | 33.2 (graphs) | | (graphs) | Click here |
| Ireland | Low | Sporadic | Increasing | 4 | 0% | Type A, Subtype H3 | 3.5 (graphs) | | (graphs) | Click here |
| Israel | Low | Sporadic | | 53 | 11.3% | Type A | 5.2 (graphs) | | (graphs) | Click here |
| Italy | | | | 0 | 0% | Type A, Subtype swoH1N1 | (graphs) | | | Click here |
| Kazakhstan | Low | None | Decreasing | 113 | 2.7% | Type A | (graphs) | 0.0 | (graphs) | Click here |
| Kyrgyzstan | | | | 0 | 0% | None | | | (graphs) | Click here |
| Latvia | Low | Sporadic | Decreasing | 0 | 0% | None | 0.5 (graphs) | 540.7 | (graphs) | Click here |
| Lithuania | Low | None | Decreasing | 1 | 0% | None | 0.1 (graphs) | 280.0 | (graphs) | Click here |
| Luxembourg | | | | 18 | 16.7% | Type A, Subtype H3 | (graphs) | | | Click here |
| Netherlands | Low | Sporadic | Stable | 12 | 0% | None | 27.5 (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | | 1 | 0% | None | 14.4 (graphs) | | (graphs) | Click here |
| Norway | Low | None | Stable | 0 | 0% | Type A and B | 26.6 (graphs) | | (graphs) | Click here |
| Poland | Low | Sporadic | Stable | 3 | 0% | None | 8.9 (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 6 | 33.3% | Type B | 7.2 (graphs) | | (graphs) | Click here |
| Romania | Low | None | Stable | | | | 2.6 (graphs) | 754.8 | (graphs) | Click here |
| Russian Federation | Low | Local | Decreasing | 0 | 0% | Type A | (graphs) | 446.8 | (graphs) | Click here |
| Scotland | | | | 0 | 0% | None | (graphs) | | | Click here |
| Serbia | Low | None | Decreasing | 0 | 0% | None | 24.2 (graphs) | | (graphs) | Click here |
| Slovakia | Low | None | Decreasing | 7 | 28.6% | None | 90.5 (graphs) | 1031.4 | (graphs) | Click here |
| Slovenia | Low | None | Stable | 6 | 0% | None | 0.0 (graphs) | 665.8 | (graphs) | Click here |
| Spain | Low | None | Stable | 42 | 2.4% | None | 11.8 (graphs) | | (graphs) | Click here |
| Sweden | Low | None | Stable | 0 | 0% | Type B | 1.0 (graphs) | | (graphs) | Click here |
| Switzerland | Low | Sporadic | Stable | | | | 0.0 (graphs) | | (graphs) | Click here |
| Turkey | Low | Sporadic | Decreasing | 33 | 9.1% | None | 38.1 (graphs) | | (graphs) | Click here |
| Ukraine | Low | Sporadic | Decreasing | 10 | 0% | None | (graphs) | 302.8 | (graphs) | Click here |
| Wales | Low | Sporadic | | | | | 2.5 (graphs) | | (graphs) | Click here |
| Europe | | | | 499 | 6.2% | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Low seasonal influenza activity but just over 300 human infections with the new influenza A(H1N1) virus have now been reported in the Europe region




**Summary:** In week 20/2009, influenza activity remained at or below baseline levels in almost all of Europe. While the regular influenza season is virtually over, additional cases of new influenza A(H1N1) virus infections have been reported in countries in the European region bringing the total to just over 300.

**Epidemiological situation - week 20/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all countries that reported this indicator, with only one region (Urals) of the Russian Federation reporting medium intensity. For the geographical spread indicator, all countries reported sporadic or no activity. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-20/2009):** Consultation rates for ILI and/or ARI rose above baseline levels as of week 49/2008 in most western and central European countries following a general west to east progression. High influenza intensity, with peak activity following a general west to east progression, has been reported in 15 countries since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. In most countries the seasonal epidemic appears to be over, with consultation rates for ILI and/or ARI having returned to baseline levels.

**Virological situation - week 20/2009:** The total number of respiratory specimens collected by sentinel physicians in week 20/2009 was 547, of which 31 (5%) were positive for influenza virus: 12 type A (four subtype H3, one subtype H1, four subtype new H1 and two not subtyped) and 20 type B. In addition, 130 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 95 type A (13 subtype H3, four subtype H3N2, seven subtype H1, two subtype H1N1, 36 subtype new H1, three subtype new H1N1 and 31 not subtyped) and 34 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-20/2009):** Of 31059 virus detections (sentinel and non-sentinel) since week 40/2008, 25882 (83%) were type A (11652 subtype H3, 1417 subtype H1 and 12813 not subtyped) and 5177 (17%) were type B. Based on the antigenic and/or genetic characterisation of 3246 influenza viruses reported to EISS up to week 20/2009, 2163 (67%) were reported as A/Brisbane/10/2007 (H3N2)-like, 146 (4%) as A/Brisbane/59/2007 (H1N1)-like, 36 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage), 900 (28%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and one as A/California/4/2009 (H1N1)swl-like (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses resembled either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza isolates from 20 countries were assessed for antiviral drug susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor resistant, but sensitive to the neuraminidase inhibitors. All new A(H1N1) viruses tested were sensitive to oseltamivir and zanamivir but resistant to M2 inhibitors. The small number of influenza B viruses tested were sensitive to oseltamivir and zanamivir (click here).

**Comment:** Seasonal influenza activity in Europe is coming to an end, with most influenza virus detections having occurred between weeks 48/2008 and 15/2009 (a 20-week period) (click here ). However, a new A(H1N1) subtype influenza virus with pandemic potential has emerged in North America and spread to many countries. The World Health Organisation has raised the pandemic alert level to phase five. For further details please see the WHO website (click here).

As of 21 May, 305 confirmed cases have been reported in 19 European region countries (296 in 17 EU/EEA countries and 9 in two non-EU/EEA countries). Outside of the United States and Mexico, no sustained community transmission has been recorded so far. For more information please go to the dedicated web pages of ECDC (click here) or WHO (click here). European Member States have been requested to continue to perform seasonal influenza surveillance until further notice. As of week 18/2009, countries are able to report detections of the new virus to the EISS platform.

Influenza A has been the dominant virus type circulating in Europe, mostly characterised antigenically and/or genetically as A(H3N2). Of the influenza B viruses that were characterised, the majority were B/Victoria lineage. With the exception of these B/Victoria lineage viruses, the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance because of limited circulation of influenza B viruses and the dominant circulation of influenza A(H3N2) viruses which matched the strain included in the vaccine. From a public health perspective, the vaccine used this season is therefore expected to have been effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 27 reported both clinical and virological data, five reported virological data only and six reported clinical data only to EISS in week 20/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

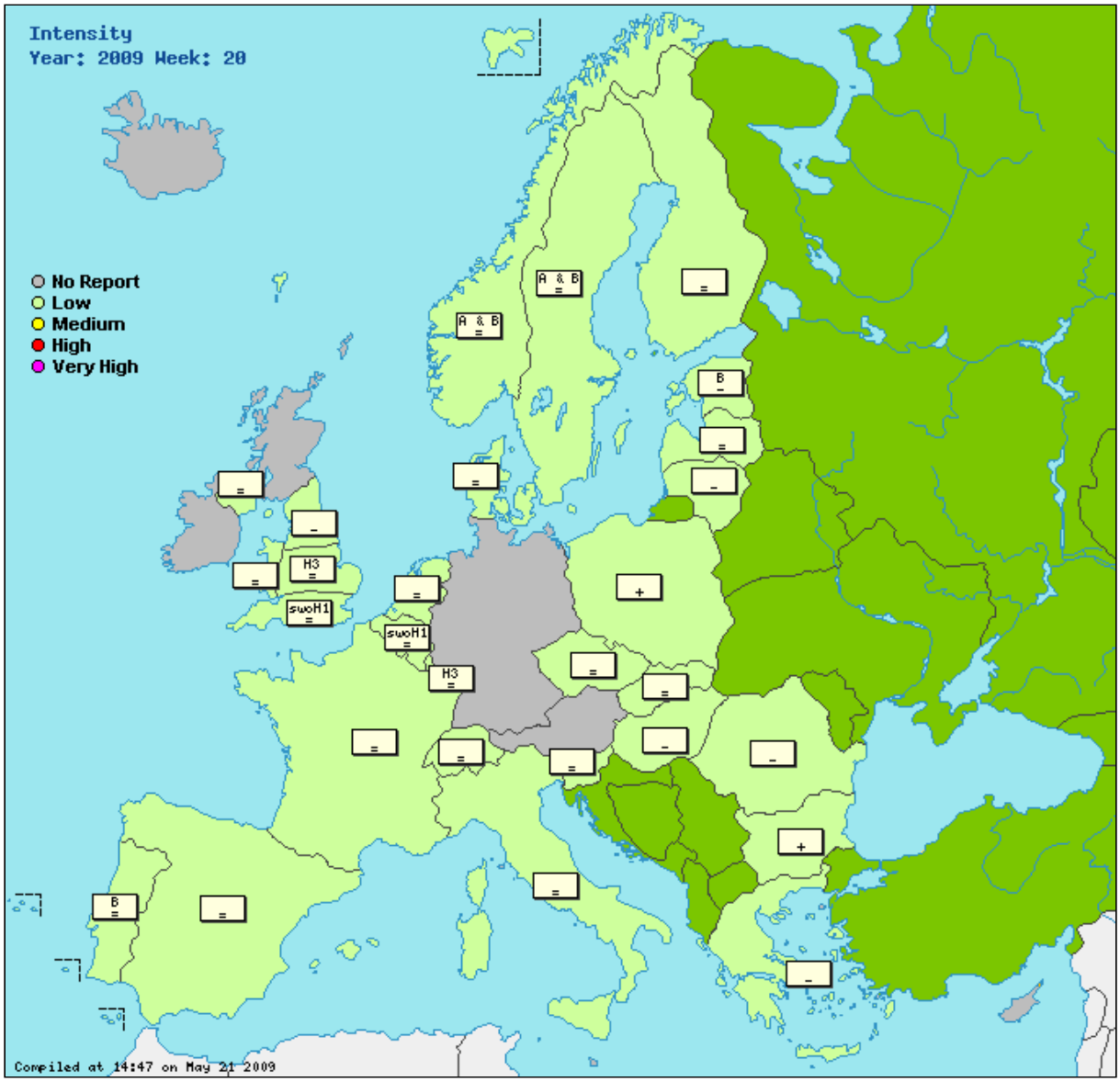
## Map

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.

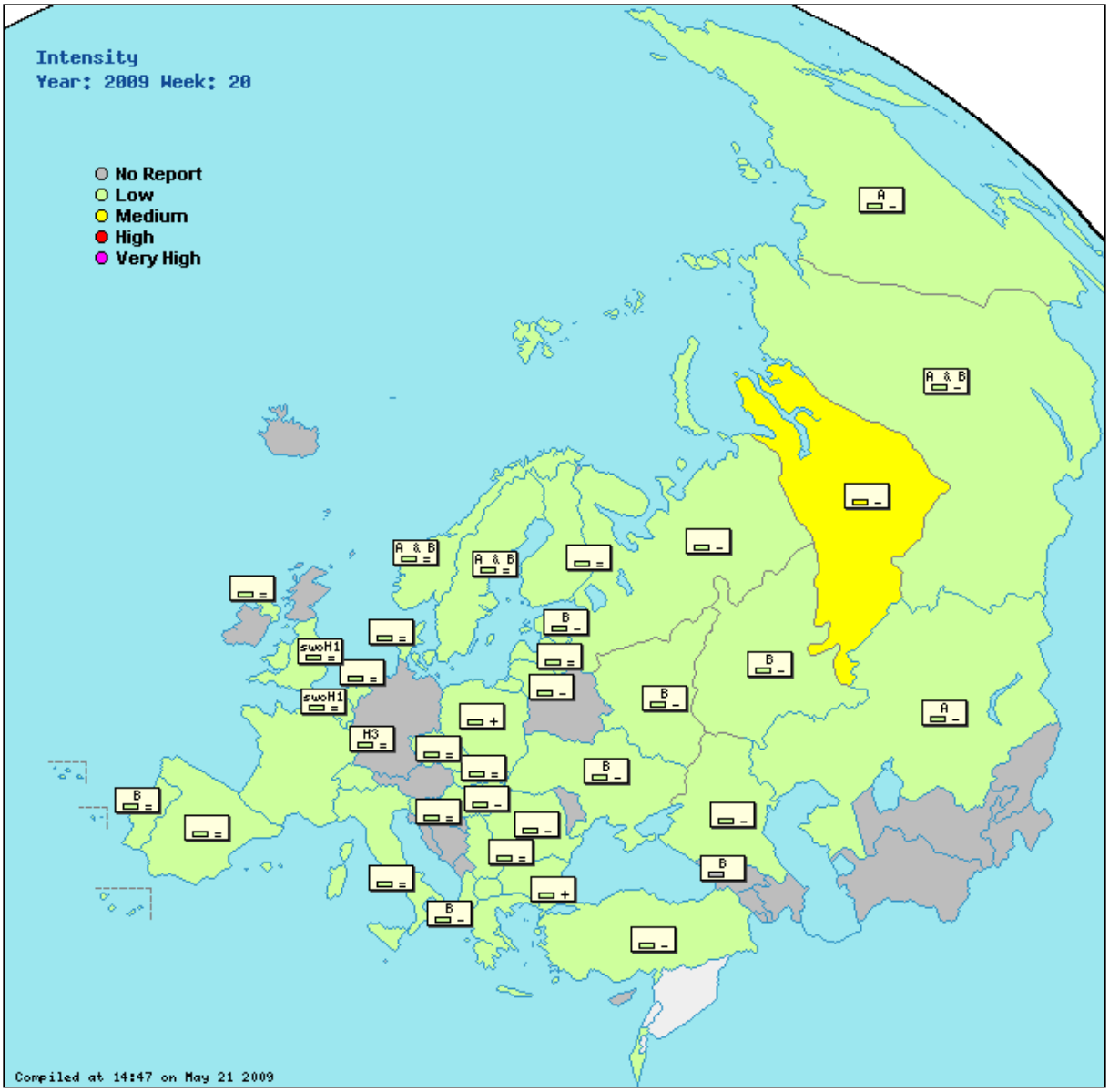
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Italy**
Only one novel A/H1N1 influenza virus has been detected during this week.
**Norway**
One A(H1N1)swine origin lineage virus detected in a traveller returning from USA
**Slovenia**
In week 20 in the Laboratory for Virology, NIPH of The Republic of Slovenia, 1 specimen from patient suspected to be infected with the novel Influenza virus was analyzed. The specimen was negative in the analysis for presence of Influenza A and 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 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | Sporadic | | Decreasing | 10 | 10.0% | Type B | (graphs) | 283.1 (graphs) | Click here |
| Belarus | | | | | 131 | 0% | None | | (graphs) | Click here |
| Belgium | Low | None | | Stable | 5 | 0% | Type A, Subtype swoH1N1 | 44.6 (graphs) | 1263.6 (graphs) | Click here |

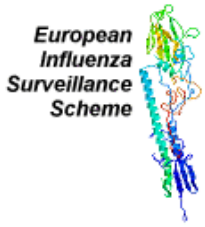
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Bulgaria | Low | None | Increasing | 4 | 0% | None | (graphs) | 662.2 | (graphs) | Click here |
| Croatia | | | | 29 | 0% | None | (graphs) | | | Click here |
| Czech Republic | Low | None | Stable | 23 | 8.7% | None | 14.7 (graphs) | 674.3 | (graphs) | Click here |
| Denmark | Low | None | Stable | 32 | 3.1% | None | 15.0 (graphs) | | (graphs) | Click here |
| England | Low | Sporadic | Stable | 46 | 13.0% | Type A, Subtype swoH1 and H3 | 11.4 (graphs) | 503.9 | (graphs) | Click here |
| Estonia | Low | Sporadic | Decreasing | 6 | 33.3% | Type B | 5.5 (graphs) | 199.6 | (graphs) | Click here |
| Finland | Low | None | Stable | 12 | 16.7% | None | (graphs) | | (graphs) | Click here |
| France | Low | None | Stable | | | | (graphs) | 906.9 | (graphs) | Click here |
| Georgia | | | | 5 | 40.0% | Type B | (graphs) | | | Click here |
| Germany | | | | 11 | 0% | None | | | (graphs) | Click here |
| Greece | Low | None | Decreasing | | | | 41.8 (graphs) | | (graphs) | Click here |
| Hungary | Low | None | Decreasing | 11 | 0% | None | 31.2 (graphs) | | (graphs) | Click here |
| Israel | Low | Sporadic | | | | | 4.2 (graphs) | | (graphs) | Click here |
| Italy | Low | None | Stable | 5 | 0% | None | 40.7 (graphs) | | (graphs) | Click here |
| Kazakhstan | Low | None | Decreasing | 65 | 0% | Type A | (graphs) | 0.0 | (graphs) | Click here |
| Kyrgyzstan | | | | 0 | 0% | None | | | (graphs) | Click here |
| Latvia | Low | Sporadic | Stable | 0 | 0% | None | 0.5 (graphs) | 597.6 | (graphs) | Click here |
| Lithuania | Low | None | Decreasing | 3 | 0% | None | 0.5 (graphs) | 269.1 | (graphs) | Click here |
| Luxembourg | Low | Sporadic | | 7 | 28.6% | Type A, Subtype H3 | (graphs) | | | Click here |
| Netherlands | Low | None | Stable | 10 | 0% | None | 24.7 (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | Stable | 8 | 0% | None | 21.7 (graphs) | | (graphs) | Click here |
| Norway | Low | None | Stable | 105 | 1.9% | Type A and B | 31.8 (graphs) | | (graphs) | Click here |
| Poland | Low | Sporadic | Increasing | 3 | 0% | None | 13.6 (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 3 | 33.3% | Type B | 6.9 (graphs) | | (graphs) | Click here |
| Romania | Low | None | Decreasing | 26 | 15.4% | None | 0.2 (graphs) | 650.2 | (graphs) | Click here |
| Russian Federation | Low | Sporadic | Decreasing | 0 | 0% | Type A and B | (graphs) | 373.9 | (graphs) | Click here |
| Scotland | | | | 7 | 0% | None | (graphs) | | | Click here |
| Serbia | Low | None | Stable | 0 | 0% | None | 26.6 (graphs) | | (graphs) | Click here |
| Slovakia | Low | None | Stable | 3 | 0% | None | 97.6 (graphs) | 1123.7 | (graphs) | Click here |
| Slovenia | Low | None | Stable | 0 | 0% | None | 0.0 (graphs) | 521.7 | (graphs) | Click here |
| Spain | Low | None | Stable | 29 | 3.5% | None | 7.8 (graphs) | | (graphs) | Click here |
| Sweden | Low | None | Stable | 0 | 0% | Type A and B | 0.0 (graphs) | | (graphs) | Click here |
| Switzerland | Low | None | Stable | | | | 5.7 (graphs) | | (graphs) | Click here |
| Turkey | Low | Sporadic | Decreasing | 49 | 8.2% | None | 27.1 (graphs) | | (graphs) | Click here |
| Ukraine | Low | Sporadic | Decreasing | 18 | 11.1% | Type B | (graphs) | 281.4 | (graphs) | Click here |
| Wales | Low | Sporadic | Stable | | | | 3.9 (graphs) | | (graphs) | Click here |
| Europe | | | | 547 | 4.9% | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Low seasonal influenza activity but substantial human infections with the influenza A(H1N1)v virus have now been reported in the European region




**Summary:** In week 21/2009, influenza activity remained at or below baseline levels throughout Europe. While the regular influenza season is virtually over, additional cases of influenza A(H1N1)v virus infections have been reported in countries in the European region bringing the total to 471.

**Epidemiological situation - week 21/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all countries that reported this indicator. For the geographical spread indicator, all countries reported sporadic or no activity. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-21/2009):** Consultation rates for ILI and/or ARI rose above baseline levels as of week 49/2008 in most western and central European countries following a general west to east progression. High influenza intensity, with peak activity following a general west to east progression, has been reported in 15 countries since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. The seasonal epidemic appears to be over.

**Virological situation - week 21/2009:** The total number of respiratory specimens collected by sentinel physicians in week 21/2009 was 235 of which 8 (3.4%) were positive for influenza virus: one type A (subtype H1N1v) and seven type B. In addition, 146 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 117 type A (eight subtype H3, one subtype H3N2, five subtype H1, one subtype H1N1, three subtype H1v, 76 subtype H1N1v and 23 not subtyped) and 29 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-21/2009):** Of 31155 virus detections (sentinel and non-sentinel) since week 40/2008, 25928 (83%) were type A (11666 subtype H3, 1424 subtype H1 and 12838 not subtyped) and 5227 (17%) were type B. Based on the antigenic and/or genetic characterisation of 3397 influenza viruses reported to EISS up to week 21/2009, 2281 (67%) were reported as A/Brisbane/10/2007 (H3N2)-like, 162 (5%) as A/Brisbane/59/2007 (H1N1)-like, 30 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage), 919 (27%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and five as A/California/4/2009 (H1N1)v-like (click here). More detailed antigenic and genetic analyses have shown that B/Victoria/2/87 lineage viruses resembled either B/Malaysia/2506/2004-like or B/Brisbane/60/2008-like, the prototype vaccine strain recommended by WHO for inclusion in the 2009-10 vaccine (WER 2009; 84(9): 65-76 (click here)).

Influenza isolates from 20 countries were assessed for antiviral drug susceptibility. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. One A(H1N1) virus was M2 inhibitor resistant, but sensitive to the neuraminidase inhibitors. All A(H1N1)v viruses tested were sensitive to oseltamivir and zanamivir but resistant to M2 inhibitors. The small number of influenza B viruses tested were sensitive to oseltamivir and zanamivir (click here).

**Comment:**Seasonal influenza activity in Europe is coming to an end, with most influenza virus detections having occurred between weeks 48/2008 and 15/2009 (a 20-week period) (click here ). However, a new A(H1N1) subtype influenza virus with pandemic potential has emerged in North America and spread to many countries. The World Health Organisation has raised the pandemic alert level to phase five. For further details please see the WHO website (click here).

As of 28 May, 471 confirmed cases have been reported in 23 European region countries. For more information please go to the dedicated web pages of ECDC (click here) or WHO (click here). Outside of the United States and Mexico, no sustained community transmission has been recorded so far. European Member States have been requested to continue to perform seasonal influenza surveillance until further notice. As of week 18/2009, countries are able to report detections of the A(H1N1)v virus to the EISS platform.

Influenza A has been the dominant virus type circulating in Europe, mostly characterised antigenically and/or genetically as A(H3N2). Of the influenza B viruses that were characterised, the majority were B/Victoria lineage. With the exception of these B/Victoria lineage viruses, the viruses circulating are similar to the three components - A(H1N1), A(H3N2) and B/Yamagata lineage - included in the 2008/2009 Northern Hemisphere influenza vaccine. The mismatch of these B/Victoria/2/87 lineage viruses with the current vaccine is unlikely to be of public health significance because of limited circulation of influenza B viruses and the dominant circulation of influenza A(H3N2) viruses which matched the strain included in the vaccine. From a public health perspective, the vaccine used this season is therefore expected to have been effective.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 22 reported both clinical and virological data, three reported virological data only and three reported clinical data only to EISS in week 21/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

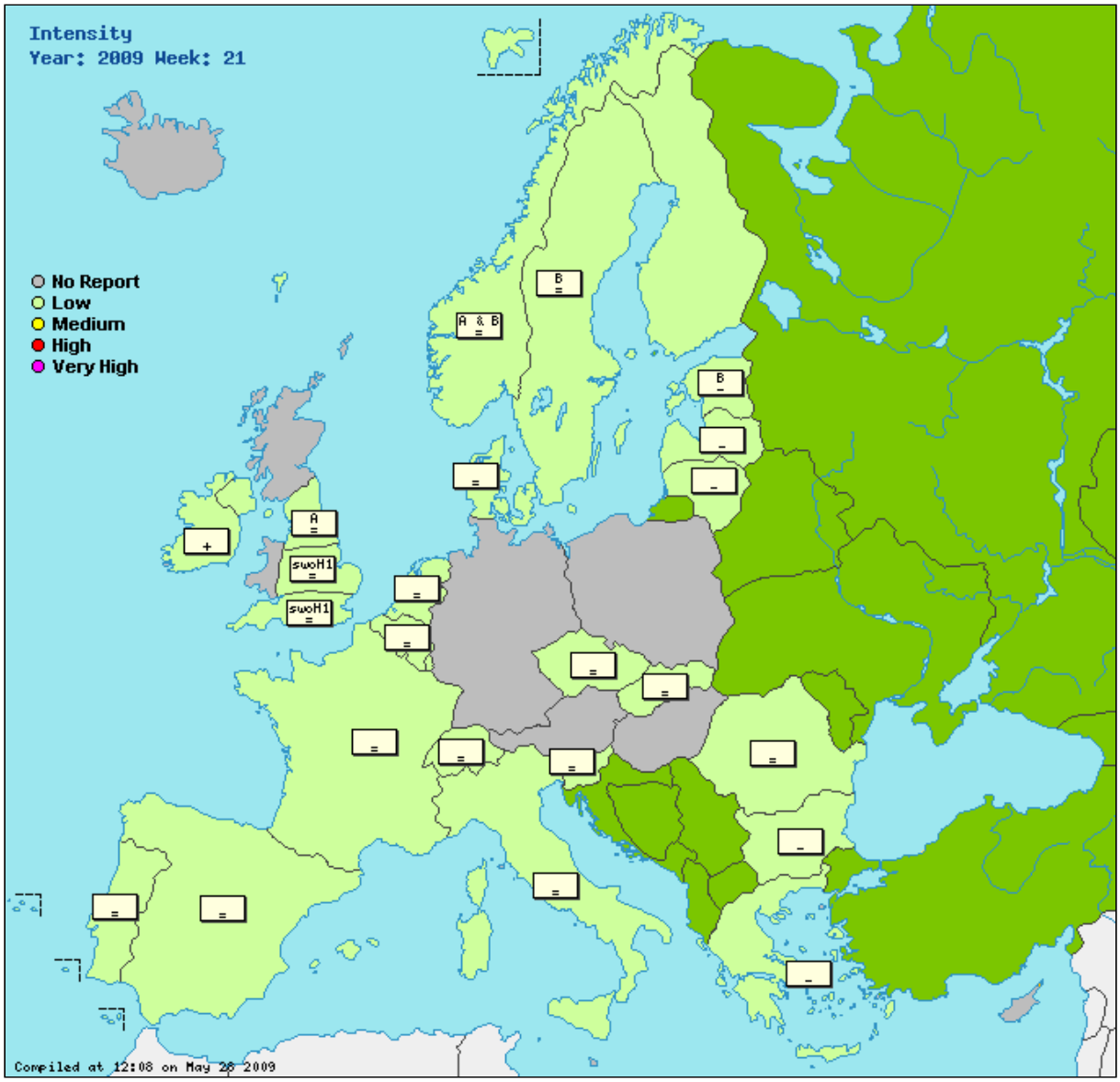
## Map

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.

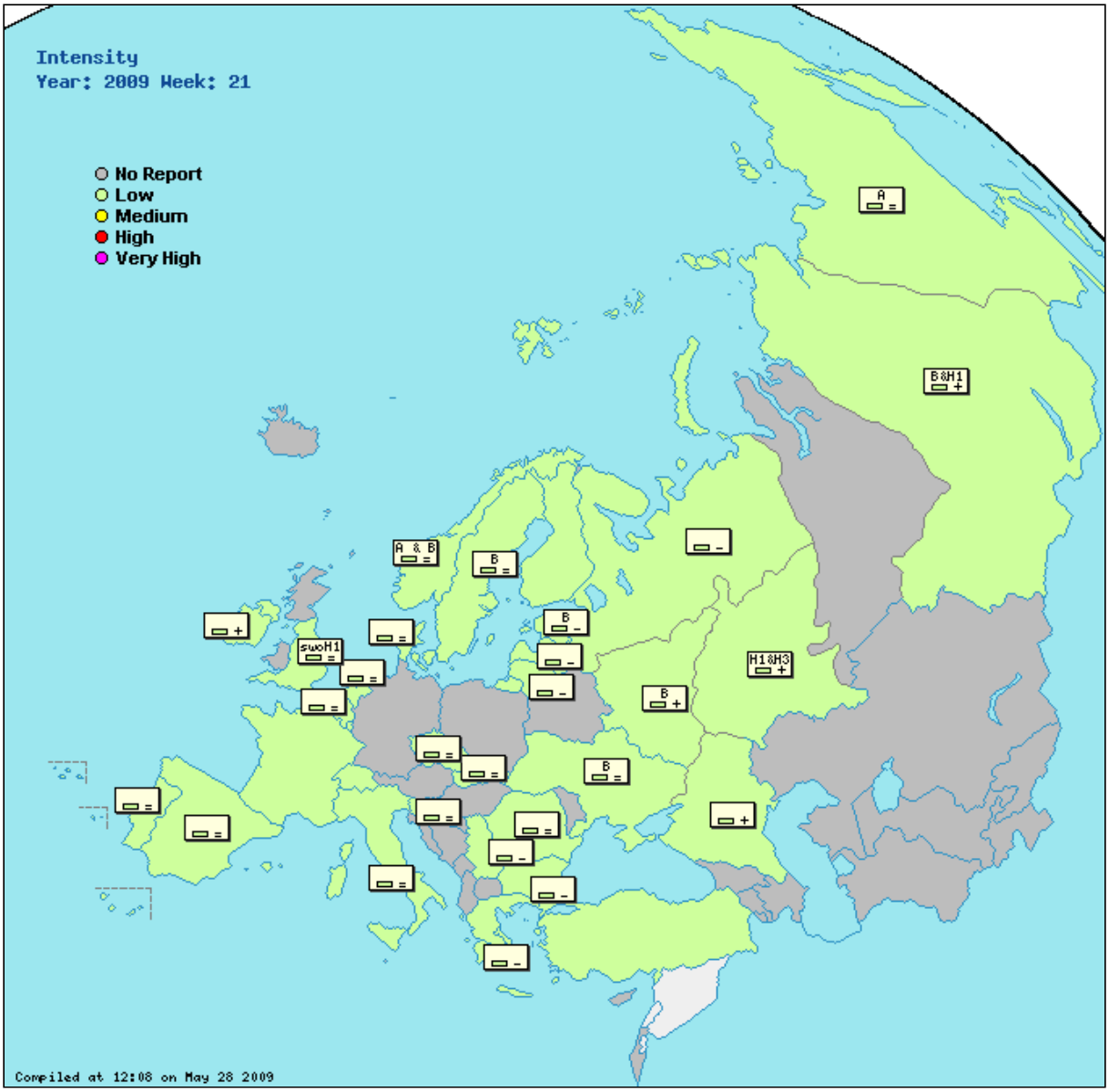
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Bulgaria**
Since the 15-th of May 2009 CDC primers and probes have been used in the National Influenza Laboratory for detection of new influenza virus A/H1N1/. Till now a total of 13 samples obtained from probable cases were tested. No positive detections for new subtype were observed.

**Italy**
During this week further 13 novel A/H1N1 and 1 B influenza viruses have been detected.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | Low | None | | Stable | 6 | 0% | None | 62.7 (graphs) | 1021.6 (graphs) | Click here |
| Bulgaria | Low | None | | Decreasing | 5 | 0% | None | (graphs) | 528.4 (graphs) | Click here |
| Croatia | | | | | 23 | 0% | None | (graphs) | | Click here |
| Czech Republic | Low | None | | Stable | 0 | 0% | None | 10.9 (graphs) | 640.2 (graphs) | Click here |
| Denmark | Low | None | | Stable | 17 | 5.9% | None | 6.8 (graphs) | (graphs) | Click here |

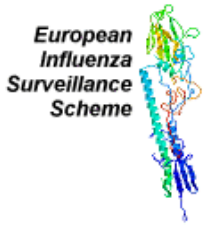
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| England | Low | Sporadic | Stable | 49 | 2.0% | Type A, Subtype swoH1N1 | 7.9 | (graphs) | 490.2 | (graphs) | Click here |
| Estonia | Low | Sporadic | Decreasing | 1 | 0% | Type B | 1.3 | (graphs) | 192.8 | (graphs) | Click here |
| Finland | Low | None | | 8 | 0% | None | 0.0 | (graphs) | | (graphs) | Click here |
| France | Low | None | Stable | | | | | (graphs) | 937.5 | (graphs) | Click here |
| Georgia | | | | 6 | 0% | None | | (graphs) | | | Click here |
| Germany | | None | | 14 | 0% | None | | | | (graphs) | Click here |
| Greece | Low | None | Decreasing | 3 | 0% | None | 28.8 | (graphs) | | (graphs) | Click here |
| Hungary | | None | | 3 | 0% | None | | (graphs) | | | Click here |
| Ireland | Low | None | Increasing | 5 | 0% | None | 9.0 | (graphs) | | (graphs) | Click here |
| Italy | Low | None | Stable | 0 | 0% | None | 36.5 | (graphs) | | (graphs) | Click here |
| Kyrgyzstan | | | | 0 | 0% | None | | | | (graphs) | Click here |
| Latvia | Low | Sporadic | Decreasing | 0 | 0% | None | 0.5 | (graphs) | 544.3 | (graphs) | Click here |
| Lithuania | Low | | Decreasing | 0 | 0% | None | 0.3 | (graphs) | 241.9 | (graphs) | Click here |
| Luxembourg | Low | None | | 3 | 0% | None | | (graphs) | | | Click here |
| Netherlands | Low | Sporadic | Stable | 3 | 0% | None | 13.8 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | None | | 7 | 0% | None | 17.5 | (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | Stable | 0 | 0% | Type A and B | 21.6 | (graphs) | | (graphs) | Click here |
| Poland | | None | | 0 | 0% | None | | (graphs) | | | Click here |
| Portugal | Low | Sporadic | Stable | 0 | 0% | None | 6.9 | (graphs) | | (graphs) | Click here |
| Romania | Low | None | Stable | 19 | 0% | None | 1.3 | (graphs) | 647.7 | (graphs) | Click here |
| Russian Federation | Low | | Increasing | 0 | 0% | Type A | | (graphs) | 382.9 | (graphs) | Click here |
| Serbia | Low | None | Decreasing | 0 | 0% | None | 21.7 | (graphs) | | (graphs) | Click here |
| Slovakia | Low | | Stable | 26 | 3.9% | None | 98.0 | (graphs) | 1012.4 | (graphs) | Click here |
| Slovenia | Low | None | Stable | 0 | 0% | None | 0.0 | (graphs) | 633.1 | (graphs) | Click here |
| Spain | Low | None | Stable | 19 | 10.5% | None | 4.6 | (graphs) | | (graphs) | Click here |
| Sweden | Low | None | Stable | 0 | 0% | Type B | 1.0 | (graphs) | | (graphs) | Click here |
| Switzerland | Low | Sporadic | Stable | | | | 4.0 | (graphs) | | (graphs) | Click here |
| Turkey | Low | Sporadic | Stable | | | | 22.8 | (graphs) | | (graphs) | Click here |
| Ukraine | Low | Sporadic | Stable | 18 | 16.7% | Type B | | (graphs) | 313.9 | (graphs) | Click here |
| Europe | | | | 219 | 3.2% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Regular 2008-2009 influenza season over, but number of A(H1N1)v infections almost doubled over past seven days




**Summary:** In week 22/2009, the regular influenza season can be considered to be over, and this is the final bulletin summarising the 2008/09 data. Meanwhile, a 99% increase in recorded cases of influenza A(H1N1)v virus infections in the European region compared to the previous week has brought the total to 937 (as of 4 June).

**Epidemiological situation - week 22/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all countries that reported this indicator. For the geographical spread indicator, all countries but Italy (local activity) reported sporadic or no activity. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - 2008-2009 season (weeks 40/2008-22/2009):** Consultation rates for ILI and/or ARI rose above baseline levels as of week 49/2008 in most western and central European countries following a general west to east progression. High influenza intensity, with peak activity following a general west to east progression, has been reported in 15 countries since week 51/2008. Generally, the highest consultation rates have been in the 0-4 and 5-14 age groups, but Ireland, UK, Norway and Romania have reported their highest ILI consultation rates in the 15-64 age group. By week 16, peak activity had been passed in all countries, and in most countries intensity had returned to the low levels typically seen outside the season. By then, the seasonal epidemic could be considered to be over. So far, there is no clear indication that the occurrence of A(H1N1)v infection has given rise to increased incidence of ILI or ARI in Europe.

**Virological situation - week 22/2009:** The total number of respiratory specimens collected by sentinel physicians in week 22/2009 was 278 of which 10 (3.6%) were positive for influenza virus: six type A (one subtype H3, three subtype H1, one subtype H1N1 and two not subtyped) and four type B. In addition, 112 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 90 type A (six subtype H3, two subtype H1, 70 subtype H1v and 12 not subtyped) and 22 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-22/2009):**
Of 31234 virus detections (sentinel and non-sentinel) since week 40/2008, 25968 (83%) were type A (11673 subtype H3, 1431 subtype H1 and 12864 not subtyped) and 5266 (17%) were type B. Based on the antigenic and/or genetic characterisation of 3539 influenza viruses reported up to week 22/2009, 2419 (68%) were reported as A/Brisbane/10/2007 (H3N2)-like, 153 (4%) as A/Brisbane/59/2007 (H1N1)-like, 25 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage), 931 (26%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and 11 as A/California/4/2009 (H1N1)v-like (click here).

All A(H1N1)v viruses tested were sensitive to oseltamivir and zanamivir (n=26) but resistant to M2 inhibitors (n=28).

**Comment:** Seasonal influenza activity in Europe has come to an end, with most influenza virus detections having occurred between weeks 48/2008 and 15/2009 (click here ). The season was dominated by influenza A(H3N2), its peak in week 5 being followed by a smaller one of influenza B in week 11. All influenza A(H3N2) viruses tested were sensitive to oseltamivir and zanamivir, but resistant to M2 inhibitors. The small number of influenza B viruses tested were sensitive to oseltamivir and zanamivir. Ninety-eight percent of influenza A(H1N1) viruses analysed were resistant to oseltamivir while all those tested against zanamivir were sensitive. (click here).

In late April 2009, a new A(H1N1) subtype influenza virus with pandemic potential emerged in North America and has since spread to many countries around the world. The World Health Organization has raised the pandemic alert level to phase five. For further details please see the WHO website (click here). As of 4 June, 937 confirmed cases of influenza A(H1N1)v have been reported in 29 European region countries (877 in 25 EU/EEA countries and 60 in four non-EU/EEA countries). Cases in the UK and Spain amount to 69% of this total. Altogether, the current numbers represent an increase of 99% compared to the previous week. Outside of the United States and Mexico, no sustained community transmission has been recorded so far. For more information please go to the dedicated web pages of ECDC (click here) or WHO (click here). European Member States have been requested to continue to perform seasonal influenza surveillance until further notice.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 23 reported both clinical and virological data, nine reported virological data only and four reported clinical data only in week 22/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

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## Map

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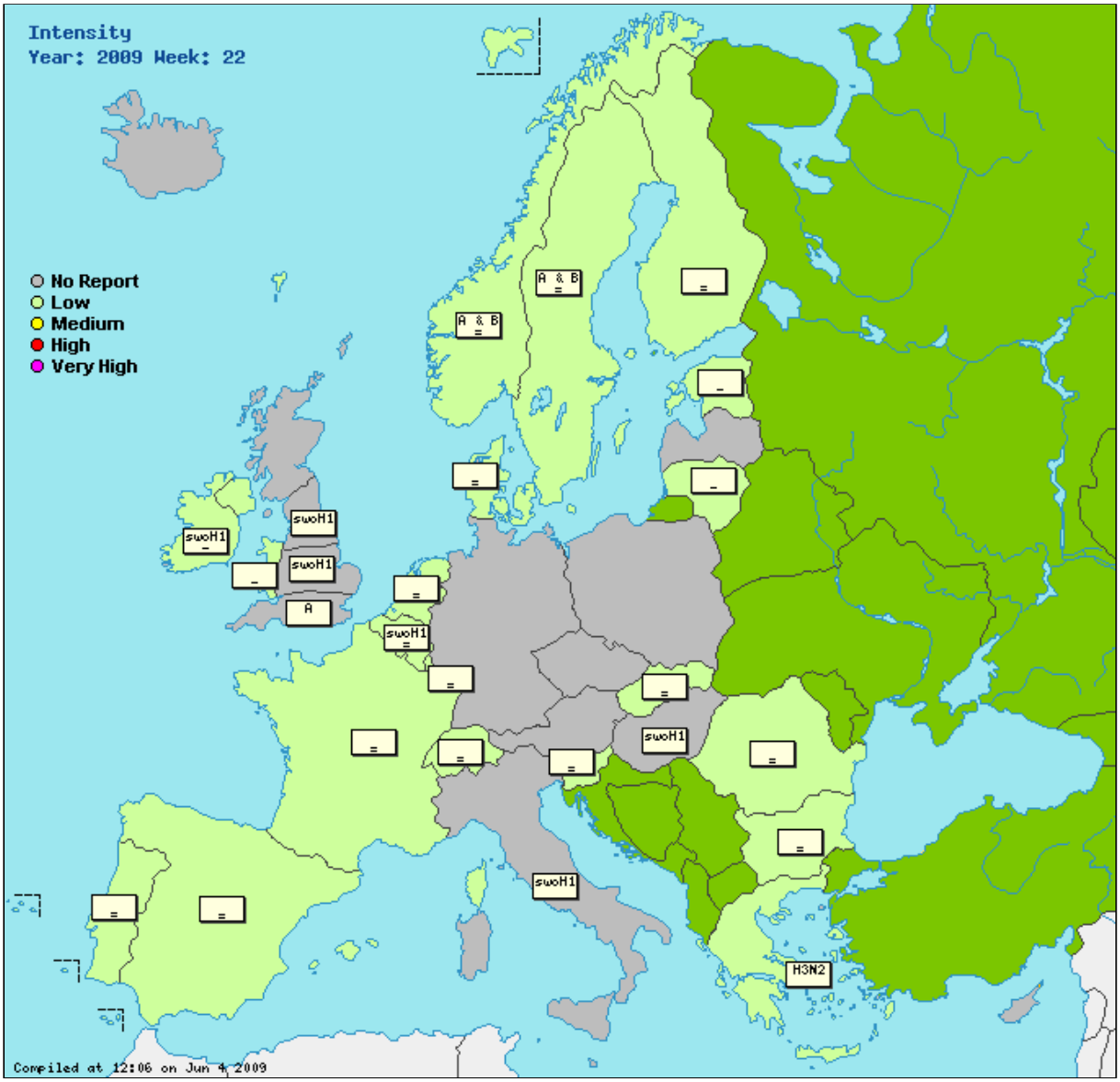
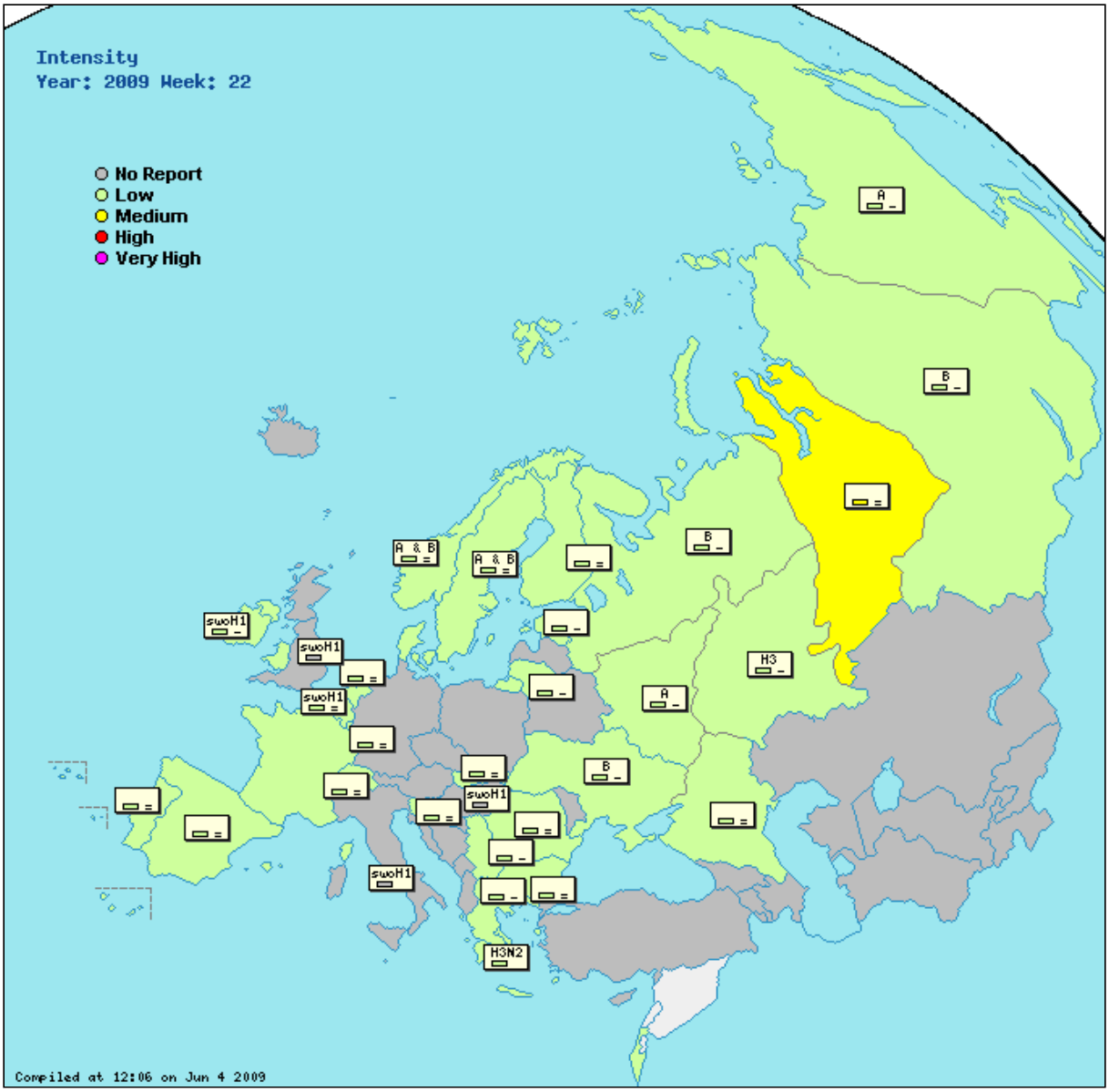
Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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

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**+** : increasing clinical activity
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**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)

**Georgia**
Additionally, 10 specimens collected during previous weeks at regional sentinel sites were also tested: week 16 - 1 positive for A/H3; week 17 - 2; week 18 - 1; week 19 - 2; week 20 - 4. Only one was positive, all the others negative for Influenza A and B.

**Italy**
Further 12 novel A/H1N1 viruses have been detected during this week.

**Switzerland**
No influenza activity, influenza virus of swine origin excepted.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | | | | | 2 | 0% | None | | (graphs) | Click here |
| Belgium | Low | Sporadic | | Stable | 11 | 0% | Type A, Subtype swoH1 | 41.2 (graphs) | 1104.3 (graphs) | Click here |
| Bulgaria | Low | None | | Stable | 4 | 0% | None | (graphs) | 535.3 (graphs) | Click here |

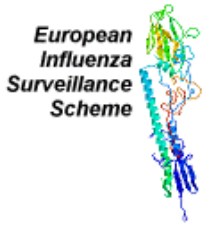
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Croatia | | | | 28 | 0% | None | | (graphs) | | | Click here |
| Denmark | Low | None | Stable | | | | 13.8 | (graphs) | | (graphs) | Click here |
| England | | Sporadic | | 29 | 69.0% | Type A, Subtype swoH1N1 | 4.8 | (graphs) | 374.5 | (graphs) | Click here |
| Estonia | Low | Sporadic | Decreasing | 1 | 0% | None | 2.2 | (graphs) | 190.6 | (graphs) | Click here |
| Finland | Low | None | Stable | 3 | 0% | None | 0.0 | (graphs) | | (graphs) | Click here |
| France | Low | None | Stable | | | | | (graphs) | 870.1 | (graphs) | Click here |
| Georgia | | | | 8 | 0% | None | | (graphs) | | | Click here |
| Germany | | | | 27 | 0% | None | | | | (graphs) | Click here |
| Greece | Low | None | | 0 | 0% | Type A, Subtype H3N2 | 40.2 | (graphs) | | (graphs) | Click here |
| Hungary | | None | | 3 | 0% | Type A, Subtype swoH1 and H1N1 | | (graphs) | | | Click here |
| Ireland | Low | Sporadic | Decreasing | 4 | 0% | Type A, Subtype swoH1N1 | 4.7 | (graphs) | | (graphs) | Click here |
| Israel | Low | Sporadic | | | | | 2.6 | (graphs) | | (graphs) | Click here |
| Italy | | Local | | 0 | 0% | Type A, Subtype swoH1N1 | | (graphs) | | | Click here |
| Kyrgyzstan | | | | 0 | 0% | None | | | | (graphs) | Click here |
| Lithuania | Low | | Decreasing | 0 | 0% | None | 0.0 | (graphs) | 200.7 | (graphs) | Click here |
| Luxembourg | Low | None | | 1 | 0% | None | 0.0 | (graphs) | | | Click here |
| Malta | | | | 0 | 0% | None | | (graphs) | | | Click here |
| Netherlands | Low | None | Stable | 4 | 0% | None | 11.6 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | None | | 4 | 0% | None | 14.5 | (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | Stable | 2 | 0% | Type A and B | 25.5 | (graphs) | | (graphs) | Click here |
| Poland | | None | | 0 | 0% | None | 0.0 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 0 | 0% | None | 6.6 | (graphs) | | (graphs) | Click here |
| Romania | Low | None | Stable | 46 | 21.7% | None | 1.1 | (graphs) | 665.2 | (graphs) | Click here |
| Russian Federation | Low | | Decreasing | 0 | 0% | Type A and B | | (graphs) | 361.8 | (graphs) | Click here |
| Serbia | Low | | Decreasing | 0 | 0% | None | 22.2 | (graphs) | | (graphs) | Click here |
| Slovakia | Low | None | Stable | 4 | 0% | None | 94.5 | (graphs) | 1005.2 | (graphs) | Click here |
| Slovenia | Low | None | Stable | 1 | 0% | None | 0.0 | (graphs) | 574.7 | (graphs) | Click here |
| Spain | Low | None | Stable | 36 | 2.8% | None | 9.3 | (graphs) | | (graphs) | Click here |
| Sweden | Low | None | Stable | 0 | 0% | Type A and B | 0.4 | (graphs) | | (graphs) | Click here |
| Switzerland | Low | None | Stable | 1 | 0% | None | 1.6 | (graphs) | | (graphs) | Click here |
| Turkey | | | | 52 | 1.9% | None | | (graphs) | | | Click here |
| Ukraine | Low | Sporadic | Decreasing | 27 | 14.8% | Type B | | (graphs) | 296.1 | (graphs) | Click here |
| Wales | Low | None | Decreasing | | | | 1.9 | (graphs) | | (graphs) | Click here |
| Europe | | | | 278 | 3.6% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Overall influenza activity remains low in the European region while A(H1N1)v detections again doubled over the past seven days




***On 11 June, 2009, WHO raised the level of influenza A(H1N1) pandemic alert to phase 6, as sustained community-level transmission of the virus is taking place in more than one region of the world, heralding the start of the 2009 pandemic. The pandemic is characterized as of moderate severity.***

**Summary:** In week 23/2009, clinical and virological surveillance continued to operate. Low influenza activity was detected in all of the countries reporting data in the European region. Sporadic A(H1N1)v influenza virus infections have been reported from sentinel and non-sentinel specimens. This data indicates low circulation of A(H1N1)v at the community level. Despite this on 11 June, 2009, WHO raised the level of influenza A(H1N1) pandemic alert to phase 6, as sustained community-level transmission of the virus is taking place in more than one region of the world. The pandemic is characterized as of moderate severity.

**Epidemiological situation - week 23/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all countries that reported this indicator. For the geographical spread indicator, all countries reported sporadic or no activity. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - (weeks 16-23/2009):** By week 16/2009, seasonal peak activity had been passed in all countries, and in most countries intensity had returned to the low levels typically seen outside the season. As of 11 June, 1803 confirmed cases of influenza A(H1N1)v have been reported in 30 European region countries (1701 in 25 EU/EEA countries and 102 in five non-EU/EEA countries). To date, there is no indication that the occurrence of A(H1N1)v infection has given rise to increased levels of ILI or ARI in European seasonal influenza surveillance systems.

**Virological situation - week 23/2009:** The total number of respiratory specimens collected by sentinel physicians in week 23/2009 was 544 of which 21 (3.9%) were positive for influenza virus: 18 type A (five H1v, four subtype H1N1, three subtype H3, two H3N2, four not subtyped) and three type B. In addition, 182 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals or from suspected cases of influenza A(H1N1)) were reported positive for influenza virus: 160 type A (117 subtype H1v, five subtype H3, four subtype H1N1, one subtype H1, three subtype H3N2, 30 not subtyped) and 22 type B.

**Cumulative virological situation - 2008-2009 season (weeks 40/2008-23/2009):** Of 31331 virus detections (sentinel and non-sentinel) since week 40/2008, 26038 (83%) were type A (11690 subtype H3, 1442 subtype H1 and 12906 not subtyped) and 5293 (17%) were type B. Based on the antigenic and/or genetic characterisation of 3548 influenza viruses reported up to week 23/2009, 2388 (67%) were reported as A/Brisbane/10/2007 (H3N2)-like, 162 (5%) as A/Brisbane/59/2007 (H1N1)-like, 30 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage), 950 (27%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and 18 as A/California/4/2009 (H1N1)v-like (click here). All A(H1N1)v viruses tested have been sensitive to oseltamivir and zanamivir but resistant to M2 inhibitors.

**Comment:** Over the past week only sporadic influenza activity across Europe has been reported, as usually observed outside winter influenza seasons. Most of the Member States' sentinel surveillance systems are functioning beyond week 20 to allow detection of community circulation of the A(H1N1)v influenza virus and monitoring of its virological characteristics. As of this week, 1803 A(H1N1)v virus detections have been made. Of the A(H1N1)V viral detections reported to the EISS platform in week 23, the majority have been from non sentinel specimens (117 versus 5 from sentinel sources). However, influenza activity has remained below baseline levels in all the countries reporting to EISS indicating that any circulation of A(H1N1)v at the community level must be at low incidence. For a detailed epidemiological description of the A(H1N1)v virus detections in the European region (April–May 2009), click here and in the EU/EFTA countries (April-8 June 2009) click here.

Worldwide, 74 countries have now reported nearly 30000 cases of A(H1N1)v infection and on June 11, 2009 the WHO raised pandemic alert level to phase 6 (click here). For more information please go to the dedicated web pages of ECDC (click here) or WHO (click here). European Member States have been requested to continue to perform seasonal influenza surveillance until further notice.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 27 reported both clinical and virological data, three reported virological data only and one reported clinical data only in week 23/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

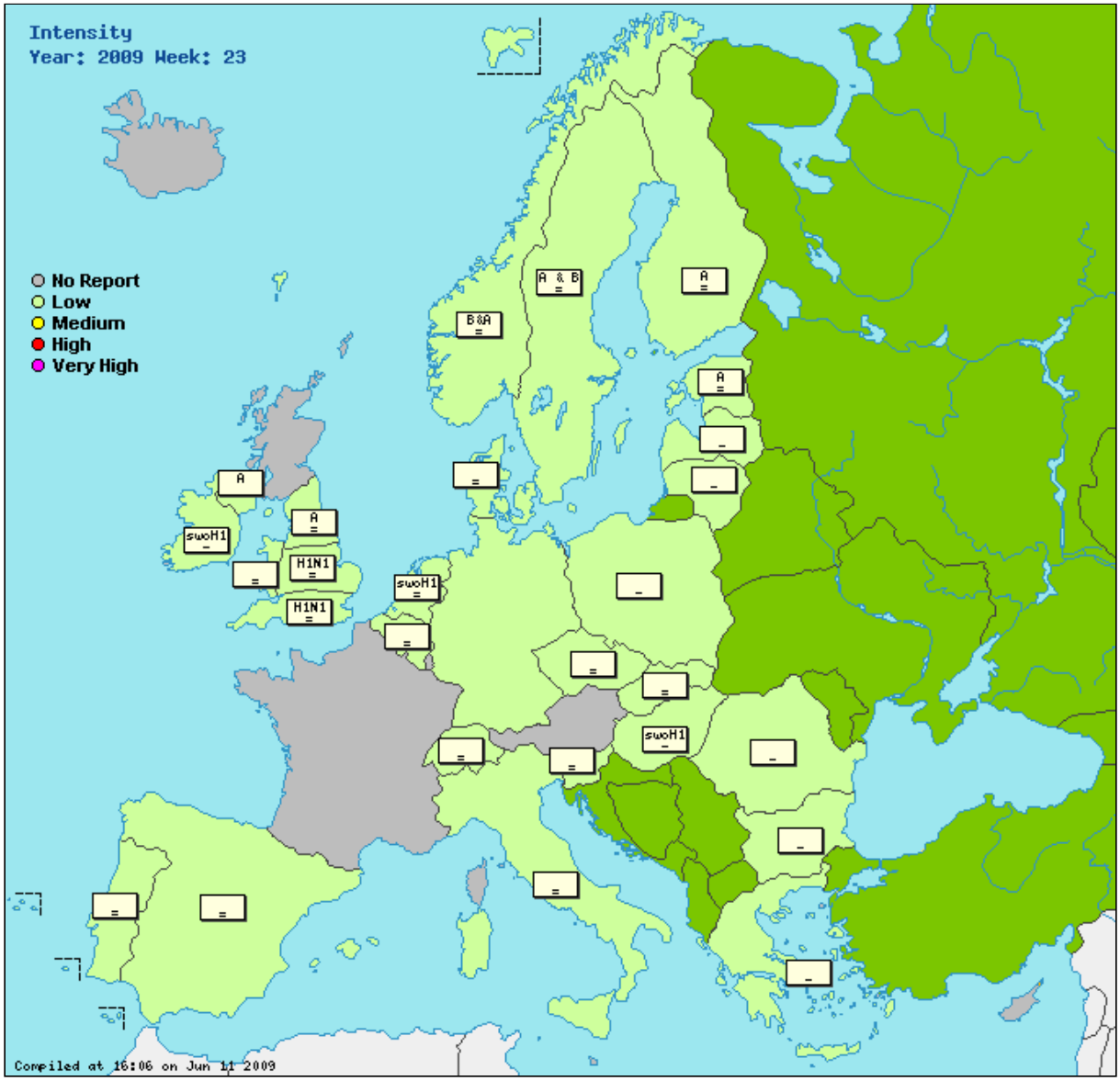
## Map

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.

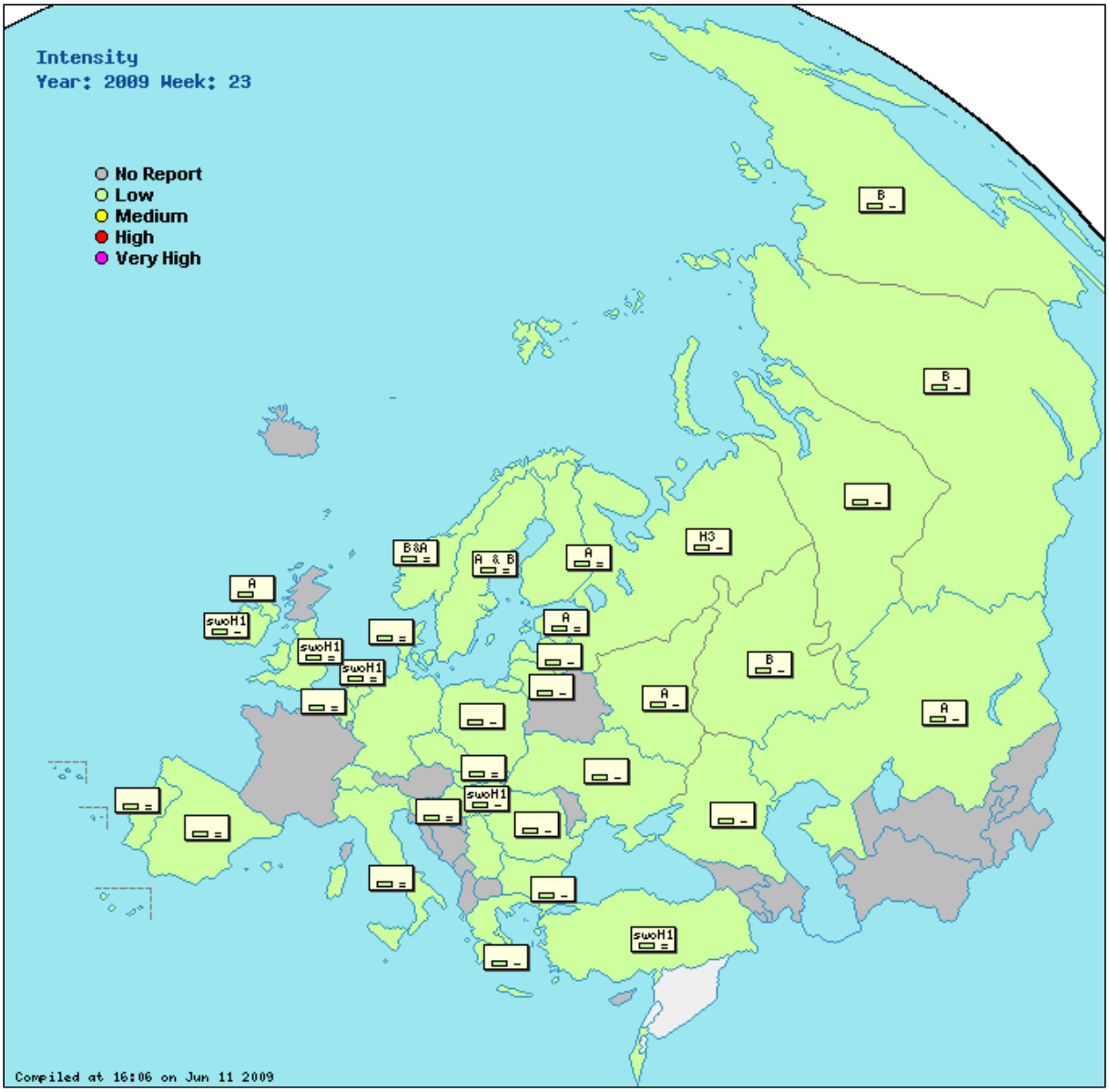
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

**Italy**
Further 19 novel A/H1N1 viruses have been detected during this week .
**Norway**
Two cases of A(H1N1)v virus infection detected in travellers returning from USA

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | | None | | | 45 | 11.1% | None | (graphs) | | Click here |
| Belgium | Low | Sporadic | | Stable | 10 | 0% | None | 16.4 (graphs) | 916.4 (graphs) | Click here |
| Bulgaria | Low | None | | Decreasing | 113 | 0.9% | None | (graphs) | 483.7 (graphs) | Click here |
| Czech Republic | Low | None | | Stable | | | | 9.8 (graphs) | 630.6 (graphs) | Click here |
| Denmark | Low | None | | Stable | 10 | 10.0% | None | 3.1 (graphs) | (graphs) | Click here |
| England | Low | Sporadic | | Stable | 51 | 2.0% | Type A, Subtype swoH1N1 | 6.2 (graphs) | 533.0 (graphs) | Click here |
| Estonia | Low | Sporadic | | Stable | 1 | 0% | Type A | 0.8 (graphs) | 128.3 (graphs) | Click here |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Finland | Low | Sporadic | Stable | 9 | 33.3% | Type A | 0.0 | (graphs) | | (graphs) | Click here |
| Germany | Low | None | | 9 | 0% | None | | (graphs) | 0.0 | (graphs) | Click here |
| Greece | Low | None | Decreasing | 2 | 0% | None | 30.0 | (graphs) | | (graphs) | Click here |
| Hungary | Low | None | Decreasing | 2 | 0% | Type A, Subtype swoH1 and H3 | | (graphs) | | (graphs) | Click here |
| Ireland | Low | Sporadic | Decreasing | 5 | 0% | Type A, Subtype swoH1N1 | 2.8 | (graphs) | | (graphs) | Click here |
| Israel | Low | Sporadic | | | | | 2.9 | (graphs) | | (graphs) | Click here |
| Italy | Low | None | Stable | 0 | 0% | None | 22.2 | (graphs) | | (graphs) | Click here |
| Kazakhstan | Low | None | Decreasing | 91 | 0% | Type A | | (graphs) | 0.0 | (graphs) | Click here |
| Kyrgyzstan | | | | 0 | 0% | None | | | | (graphs) | Click here |
| Latvia | Low | None | Decreasing | 0 | 0% | None | 0.0 | (graphs) | 406.6 | (graphs) | Click here |
| Lithuania | Low | None | Decreasing | 0 | 0% | None | 0.2 | (graphs) | 163.3 | (graphs) | Click here |
| Luxembourg | | None | | 11 | 0% | None | | (graphs) | | | Click here |
| Malta | | | | 1 | 0% | None | | (graphs) | | | Click here |
| Netherlands | Low | Sporadic | Stable | 5 | 0% | Type A, Subtype swoH1 | 18.6 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | | 2 | 0% | Type A | 7.9 | (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | Stable | 4 | 0% | Type B and Type A, Subtype swoH1N1 | 17.9 | (graphs) | | (graphs) | Click here |
| Poland | Low | None | Decreasing | 0 | 0% | None | 0.4 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 0 | 0% | None | 0.0 | (graphs) | | (graphs) | Click here |
| Romania | Low | None | Decreasing | 71 | 11.3% | None | 1.5 | (graphs) | 595.7 | (graphs) | Click here |
| Russian Federation | Low | | Decreasing | 0 | 0% | Type A and B | | (graphs) | 301.4 | (graphs) | Click here |
| Serbia | Low | None | Decreasing | | | | 22.6 | (graphs) | | (graphs) | Click here |
| Slovakia | Low | | Stable | 2 | 50.0% | None | 81.6 | (graphs) | 961.0 | (graphs) | Click here |
| Slovenia | Low | None | Stable | 1 | 0% | None | 0.0 | (graphs) | 639.4 | (graphs) | Click here |
| Spain | Low | None | Stable | 34 | 2.9% | None | 8.3 | (graphs) | | (graphs) | Click here |
| Sweden | Low | None | Stable | 0 | 0% | Type A and B | | (graphs) | | (graphs) | Click here |
| Switzerland | Low | Sporadic | Stable | | | | 4.4 | (graphs) | | (graphs) | Click here |
| Turkey | Low | Sporadic | Stable | 42 | 0% | Type A, Subtype swoH1 | 24.8 | (graphs) | | (graphs) | Click here |
| Ukraine | Low | None | Decreasing | 23 | 0% | None | | (graphs) | 275.8 | (graphs) | Click here |
| Wales | Low | None | Stable | | | | 0.3 | (graphs) | | (graphs) | Click here |
| Europe | | | | 425 | 3.8% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza A(H1N1)v detections in the European region continue but influenza activity in the community remains at baseline levels

*The 2008-2009 influenza season is now over and was described in the Weekly Electronic Bulletin of week 22/2009 (click here). As of week 24/2009, bulletins will also highlight developments regarding the influenza A(H1N1)v pandemic in the European region since week 16/2009.*

**Summary:** In week 24/2009, all countries reporting in the European region indicated low levels of influenza activity and 171 detections of influenza A(H1N1)v. This shows that despite a large number of influenza detections, not normally seen at this time of the year and due mainly to A(H1N1)v, influenza activity remains at or below baseline levels in Europe.

**Epidemiological situation - week 24/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all countries that reported this indicator. For the geographical spread indicator, all countries reported sporadic or no activity. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - weeks 16-24/2009:** Seasonal influenza activity was over in almost all countries in the European region by week 16/2009 and the intensity of activity returned to levels typically seen outside the winter season. To date, the occurrence of A(H1N1)v infection since week 16/2009 has not given rise to any increased levels of ILI or ARI, even in the UK and Spain, the two countries in Europe with the highest number of laboratory confirmed cases of influenza A(H1N1)v.

**Virological situation - week 24/2009:** The total number of respiratory specimens collected by sentinel physicians in week 24/2009 was 194 of which 7 (4%) were positive for influenza virus: five type A (one H1v, one subtype H3 and three not subtyped) and two type B. In addition, 289 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 266 type A (170 subtype H1v, 18 subtype H3, nine subtype H1, 69 not subtyped) and 23 type B.

**Cumulative virological situation - weeks 16/2009-24/2009:** Of 1777 virus detections (sentinel and non-sentinel) since week 16/2009, 1253 (70%) were type A (543 subtype H1v, 241 subtype H3, 101 subtype H1 and 368 not subtyped) and 524 (30%) were type B.

Based on the antigenic and/or genetic characterisation of 3422 influenza viruses reported from week **20/2009 to week 24/2009**, 2279 (67%) were reported as A/Brisbane/10/2007 (H3N2)-like, 165 (5%) as A/Brisbane/59/2007 (H1N1)-like, 30 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage), 924 (27%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and 24 (1%) as A/California/4/2009 (H1N1)v-like (click here), the current virus strain recommended by WHO for vaccine preparation (click here). All A(H1N1)v viruses tested have been sensitive to oseltamivir and zanamivir but resistant to M2 inhibitors.

**Comment:** In week 24/2009, 171 detections of the new pandemic influenza virus A(H1N1)v were reported. This does not reflect the total number of confirmed cases in the European Region reported on a daily basis during week 24/2009 to WHO through the IHR National Focal Points (click here) and to ECDC through the Early Warning Response System (click here) and efforts to harmonize this reporting are underway. Virus detections outside the winter season are usually highly sporadic in Europe, so these detections are unusual for this time of the year. However, influenza activity in the community remains low across all countries in the European region.

As of 19 June 2009, there have been a total of 3308 laboratory confirmed cases and one death due to influenza A(H1N1)v reported in the European region: 3038 in 26 EU/EEA countries (including one death) and 188 in five non-EU/EEA countries). For a detailed epidemiological description of the A(H1N1)v virus detections in the European region (April–May 2009), click here, and in the EU/EFTA countries (April-8 June 2009), click here.

Worldwide, 84 countries have now reported over 39000 cases of A(H1N1)v infection and on 11 June 2009 the WHO raised the pandemic alert level to phase 6 (click here). For more information, please go to the dedicated web pages of ECDC (click here) or WHO (click here). European countries have been requested to continue to perform seasonal influenza surveillance until further notice.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 26 reported both clinical and virological data, four reported virological data only and six reported clinical data only in week 24/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

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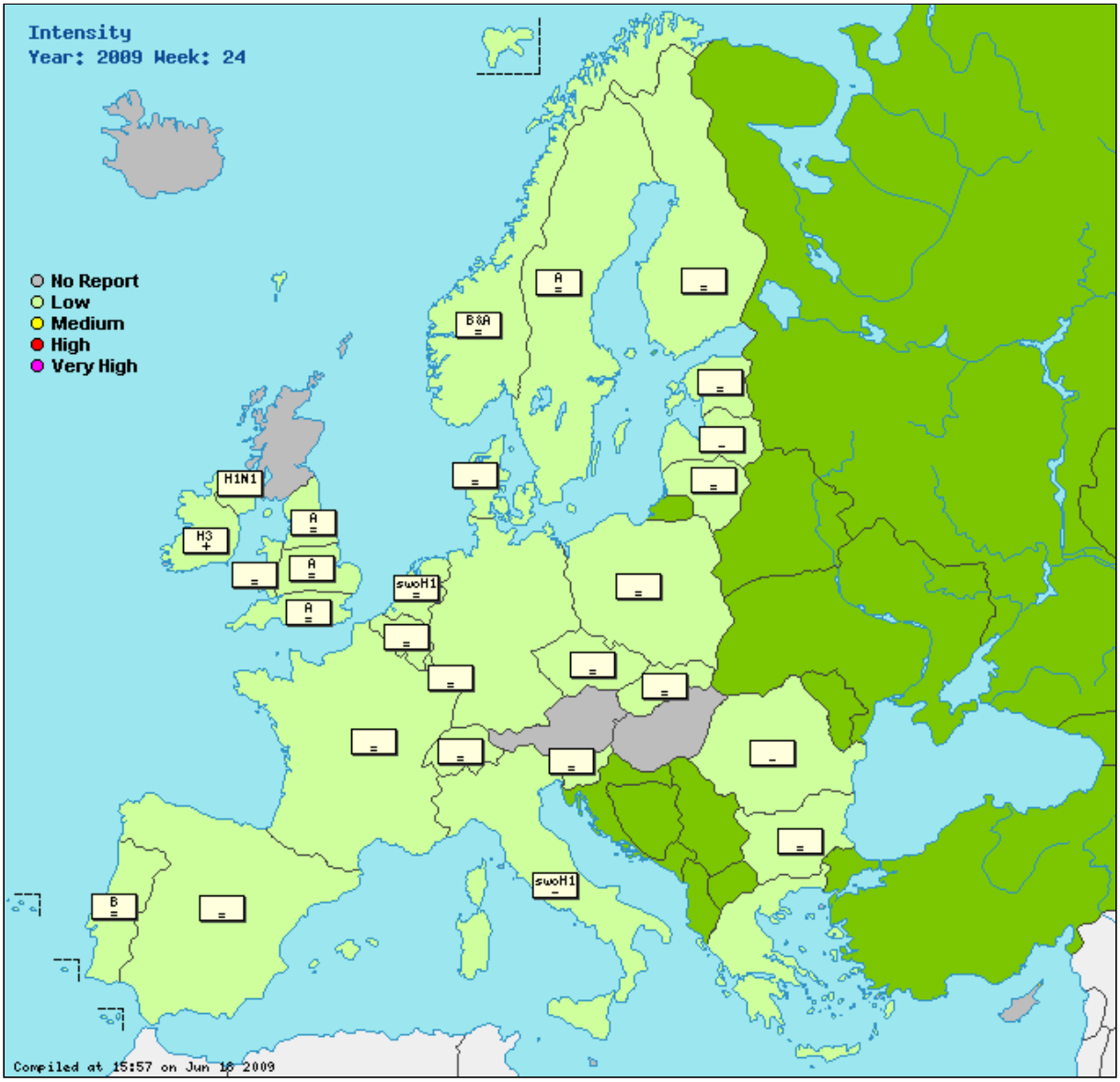
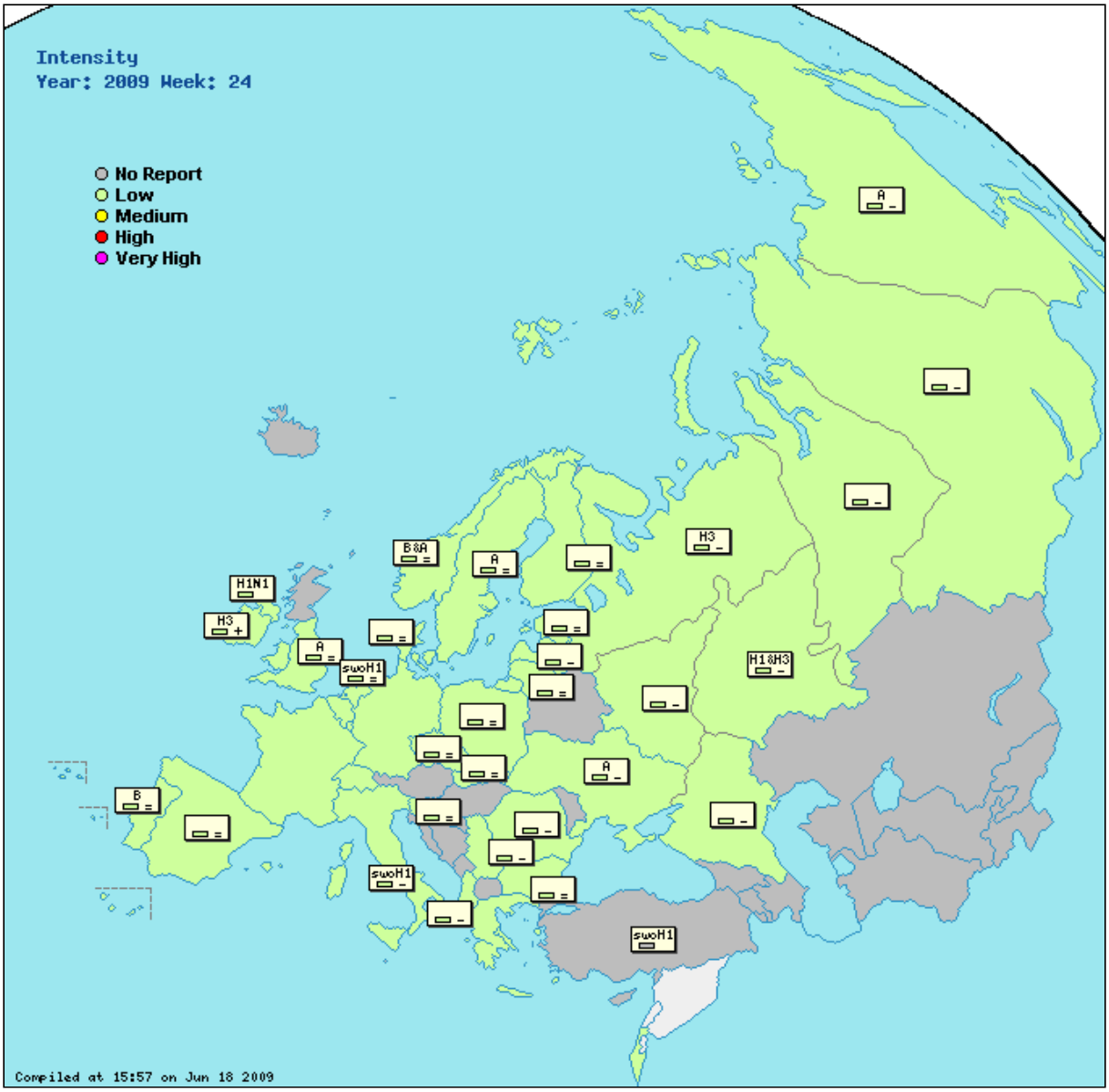
Clicking on France, Russian Federation, Turkey and United Kingdom (England) will provide you with regional data.

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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

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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)

### Italy

During this week further 17 novel A/H1N1 viruses have been detected.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | None | | Decreasing | 0 | 0% | None | (graphs) | 296.1 (graphs) | Click here |
| Belgium | Low | None | | Stable | | | | 20.2 (graphs) | 951.7 (graphs) | Click here |
| Bulgaria | Low | None | | Stable | 0 | 0% | None | (graphs) | 458.7 (graphs) | Click here |
| Croatia | | | | | 24 | 4.2% | None | (graphs) | | Click here |
| Czech Republic | Low | | | Stable | 1 | 100.0% | None | 10.9 (graphs) | 631.7 (graphs) | Click here |
| Denmark | Low | | | Stable | 5 | 0% | None | 17.4 (graphs) | (graphs) | Click here |
| England | Low | Local | | Stable | 47 | 0% | Type A | 6.8 (graphs) | 451.5 (graphs) | Click here |
| Estonia | Low | None | | Stable | 2 | 0% | None | 1.0 (graphs) | 132.4 (graphs) | Click here |
| Finland | Low | None | | Stable | 5 | 0% | None | 0.0 (graphs) | (graphs) | Click here |

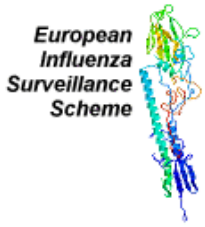
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| France | Low | None | Stable | | | | | (graphs) | 976.0 | (graphs) | Click here |
| Georgia | | | | 3 | 0% | None | | (graphs) | | | Click here |
| Germany | Low | None | | 19 | 5.3% | None | | (graphs) | 444.0 | (graphs) | Click here |
| Greece | Low | None | | 3 | 0% | None | 38.5 | (graphs) | | (graphs) | Click here |
| Ireland | Low | Sporadic | Increasing | 5 | 0% | Type A, Subtype H3 | 3.9 | (graphs) | | (graphs) | Click here |
| Israel | Low | Sporadic | | | | | 3.1 | (graphs) | | (graphs) | Click here |
| Italy | Low | None | Decreasing | 0 | 0% | Type A, Subtype swoH1N1 | 8.0 | (graphs) | | (graphs) | Click here |
| Kyrgyzstan | | | | 0 | 0% | None | | | | (graphs) | Click here |
| Latvia | Low | None | Decreasing | 0 | 0% | None | 0.0 | (graphs) | 422.5 | (graphs) | Click here |
| Lithuania | Low | None | Stable | 0 | 0% | None | 0.0 | (graphs) | 117.1 | (graphs) | Click here |
| Luxembourg | Low | Sporadic | | | | | | (graphs) | | | Click here |
| Netherlands | Low | Sporadic | Stable | 11 | 0% | Type A, Subtype swoH1 | 15.6 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | None | | 2 | 0% | Type A, Subtype H1N1 | 18.1 | (graphs) | | (graphs) | Click here |
| Norway | Low | Sporadic | Stable | 0 | 0% | Type B and Type A, Subtype swoH1 | 21.4 | (graphs) | | (graphs) | Click here |
| Poland | Low | None | Stable | 0 | 0% | None | 10.2 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 0 | 0% | Type B | 0.0 | (graphs) | | (graphs) | Click here |
| Romania | Low | None | Decreasing | 0 | 0% | None | 2.0 | (graphs) | 531.3 | (graphs) | Click here |
| Russian Federation | Low | | Decreasing | 0 | 0% | Type A | | (graphs) | 239.0 | (graphs) | Click here |
| Serbia | Low | None | Decreasing | 0 | 0% | None | 18.5 | (graphs) | | (graphs) | Click here |
| Slovakia | Low | | Stable | 1 | 0% | None | 83.4 | (graphs) | 939.6 | (graphs) | Click here |
| Slovenia | Low | None | Stable | 0 | 0% | None | 0.0 | (graphs) | 699.8 | (graphs) | Click here |
| Spain | Low | None | Stable | 32 | 9.4% | None | 6.3 | (graphs) | | (graphs) | Click here |
| Sweden | Low | Sporadic | Stable | 19 | 0% | Type A | | (graphs) | | (graphs) | Click here |
| Switzerland | Low | Sporadic | Stable | | | | 3.0 | (graphs) | | (graphs) | Click here |
| Turkey | | | | 0 | 0% | Type A, Subtype swoH1N1 | | (graphs) | | | Click here |
| Ukraine | Low | Sporadic | Decreasing | 15 | 6.7% | Type A | | (graphs) | 210.0 | (graphs) | Click here |
| Wales | Low | None | Stable | | | | 0.4 | (graphs) | | (graphs) | Click here |
| Europe | | | | 194 | 3.6% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza A(H1N1)v detections across the European region continue but influenza activity in the community remains at baseline levels




*The 2008-2009 influenza season is over and was described in the Weekly Electronic Bulletin of week 22/2009. As of week 24/2009, bulletins present developments regarding the pandemic (H1N1) 2009 in the European region since week 16/2009.*

**Summary:** In week 25/2009, all countries reporting in the European region indicated low levels of influenza activity and 172 detections of influenza A(H1)v. Although a considerable number of influenza detections were reported, mainly due to pandemic (H1N1) 2009, influenza activity remains at or below baseline levels in Europe. The influenza A(H1)v was the dominant type reported in Belgium, Denmark, Hungary, Ireland, Italy, the Netherlands, Northern Ireland, Norway and Turkey.

**Epidemiological situation - week 25/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low in all countries that reported this indicator. For the geographical spread indicator, all countries reported sporadic or no activity. Definitions for the epidemiological indicators can be found here.

**Cumulative epidemiological situation - weeks 16-25/2009:** Seasonal influenza activity was over in almost all countries in the European region by week 16/2009 and the intensity of activity had returned to levels typically seen outside the winter season. To date, the occurrence of A(H1N1)v infection since week 16/2009 has not given rise to increased levels of ILI or ARI, although in England a slight increase can be observed in week 25/2009, see here.

**Virological situation - week 25/2009:** The total number of respiratory specimens collected by sentinel physicians in week 25/2009 was 399 of which 33 (8.3%) were positive for influenza virus: 32 type A (22 H1v, two subtype H3, and eight A unsubtyped) and one type B. In addition, 286 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 266 type A (150 subtype H1v, 28 subtype H3, 10 subtype H1, 78 not subtyped) and 20 type B.

**Cumulative virological situation - weeks 16/2009-25/2009:** Of 1993 virus detections (sentinel and non-sentinel) since week 16/2009, 1517 (76%) were type A (713 subtype H1v, 268 subtype H3, 111 subtype H1 and 425 not subtyped) and 476 (24%) were type B. The increase in detections of the influenza A(H1)v virus over the last weeks can be found (click here).

Based on the antigenic and/or genetic characterisation of 3266 influenza viruses reported from week **40/2008 to week 25/2009**, 2139 (65%) were reported as A/Brisbane/10/2007 (H3N2)-like, 151 (5%) as A/Brisbane/59/2007 (H1N1)-like, 30 (1%) as B/Florida/4/2006-like (B/Yamagata/16/88 lineage), 921 (28%) as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage) and 25 (1%) as A/California/4/2009 (H1N1)v-like (click here), the current virus strain recommended by WHO for vaccine preparation (click here). All A(H1N1)v viruses tested have been sensitive to oseltamivir and zanamivir but resistant to M2 inhibitors.

**Comment:** In week 25/2009, 172 detections of the influenza A(H1)v were reported, similar to the previous week. However, the numbers do not reflect the total number of confirmed cases in the European Region reported on a daily basis during week 25/2009 (see below) to WHO through the IHR National Focal Points (click here) and to ECDC through the Early Warning Response System (click here) and efforts to harmonize this reporting are underway. Virus detections outside the winter season are usually highly sporadic in Europe, so these detections are unusual for this time of the year. However, influenza activity in the community remains low across all countries in the European region.

As of 19 June 2009, there have been a total of 4888 laboratory confirmed cases and one death due to pandemic (H1N1) 2009 reported in the European region: 4482 in 26 EU/EEA countries (including one death) and 406 in five non-EU/EEA countries. For a detailed epidemiological description of the A(H1N1)v detections in the European region (April–May 2009), click here, and in the EU/EFTA countries (April-8 June 2009), click here.

Worldwide, over 55000 cases of A(H1N1)v infection have been reported and on 11 June 2009 the WHO raised the pandemic alert level to phase 6 (click here). For more information, please go to the dedicated web pages of ECDC (click here) or WHO (click here). European countries have been requested to continue to report both clinical and virological data on influenza until further notice.

**Background:** The Weekly Electronic Bulletin presents and comments on influenza activity in the 53 countries that report to EISS. Of these countries, 29 reported both clinical and virological data, two reported virological data only and four reported clinical data only in week 25/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by the network under the aegis of the European Centre for Disease Prevention and Control in Stockholm (Sweden) and the WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Other bulletins:** The EISS bulletin is prepared using reports from GP consultations and other sources, depending on individual country arrangements. It is important to recognise that different health care systems and types of measurement should also be considered when assessing the impact of influenza. To view national/regional bulletins in Europe and other bulletins from around the world, please click here.

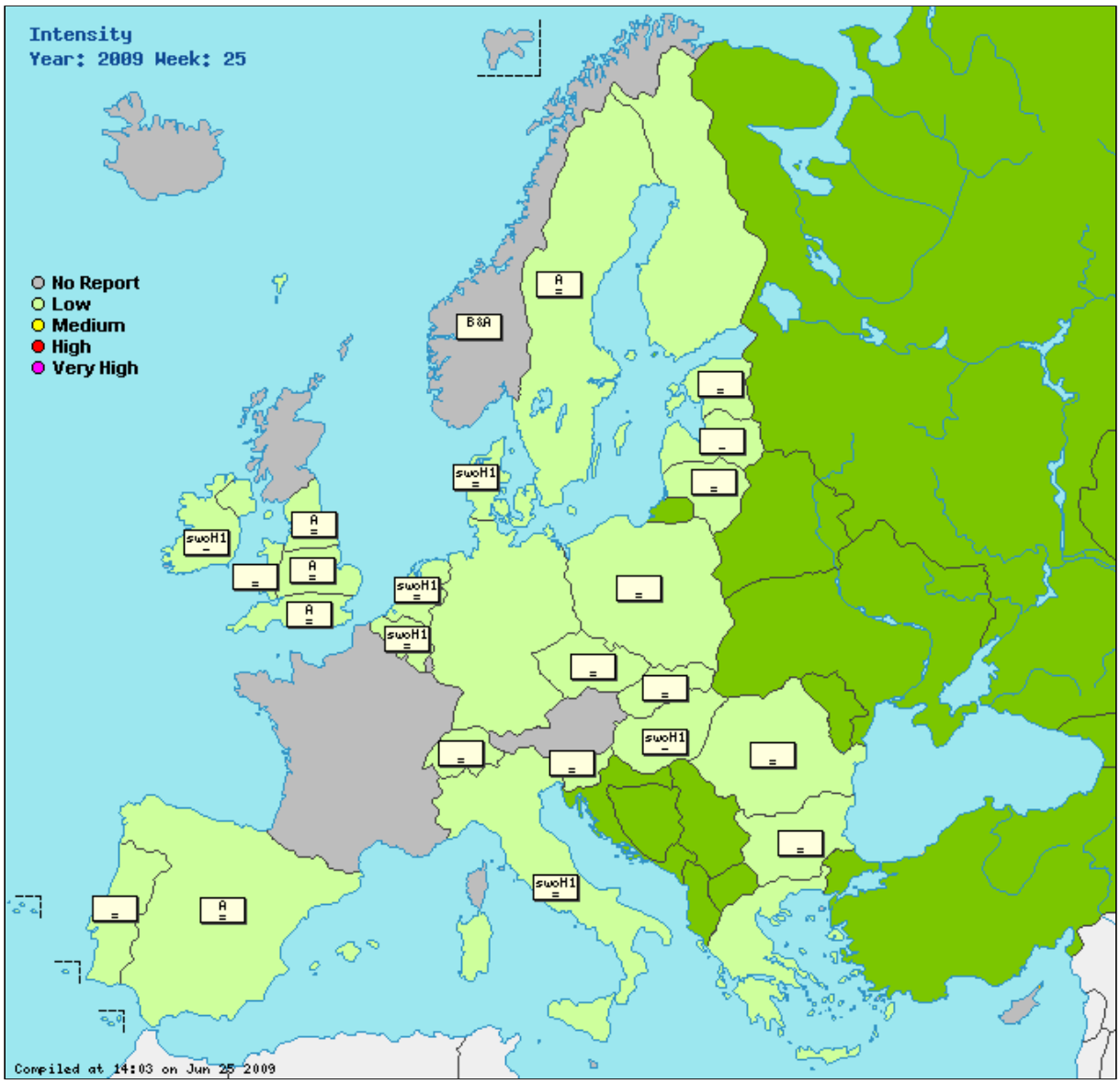
## Map

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.

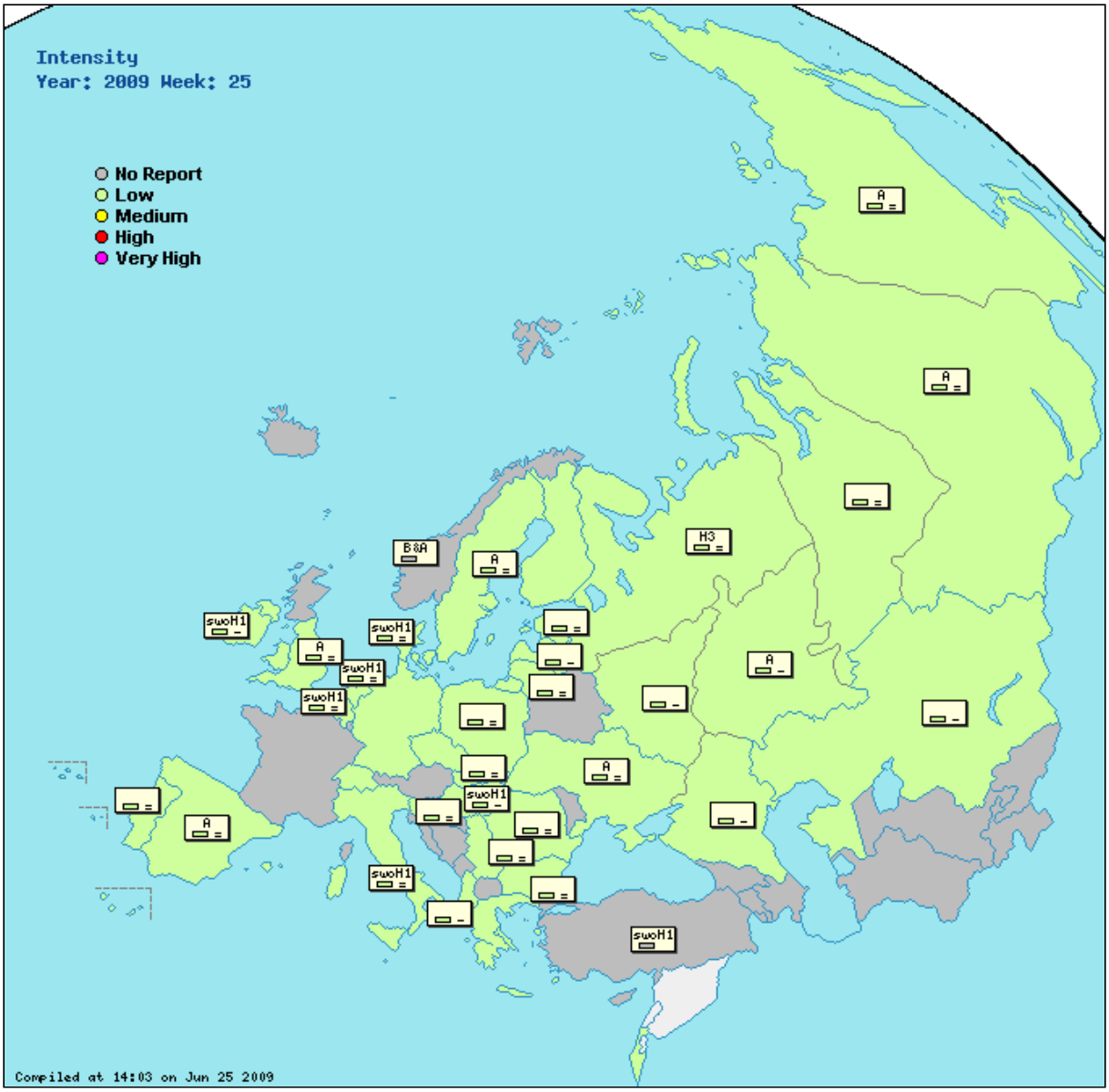
Clicking on the map will, if available, take you through to the national web site. If 'regional' activity is reported, a pop-up text box will appear which describes the activity in greater detail.

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

Type of map : **Intensity** ◉ **Geographical spread** ○




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




**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)

### Italy

During this week further 19 novel A/H1N1 and one A/H3N2 viruses have been detected.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | None | | Decreasing | 0 | 0% | None | (graphs) | 290.6 (graphs) | Click here |
| Belgium | Low | None | | Stable | 6 | 0% | Type A, Subtype swoH1 | 34.5 (graphs) | 893.6 (graphs) | Click here |
| Bulgaria | Low | None | | Stable | 0 | 0% | None | (graphs) | 456.0 (graphs) | Click here |
| Czech Republic | Low | None | | Stable | | | | 10.6 (graphs) | 615.5 (graphs) | Click here |
| Denmark | Low | None | | Stable | 10 | 20.0% | Type A, Subtype swoH1 | 18.3 (graphs) | (graphs) | Click here |
| England | Low | Local | | Stable | 98 | 15.3% | Type A | 11.2 (graphs) | 550.2 (graphs) | Click here |
| Estonia | Low | | | Stable | 4 | 0% | None | 1.0 (graphs) | 132.4 (graphs) | Click here |
| Finland | Low | None | | | 4 | 0% | None | 0.0 (graphs) | (graphs) | Click here |
| Georgia | | | | | 8 | 0% | None | (graphs) | | Click here |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Germany | Low | None | | 45 | 11.1% | None | | (graphs) | 554.0 | (graphs) | Click here |
| Greece | Low | None | | 5 | 0% | None | 30.0 | (graphs) | | (graphs) | Click here |
| Hungary | Low | | Decreasing | 6 | 16.7% | Type A, Subtype swoH1 | | (graphs) | | (graphs) | Click here |
| Ireland | Low | Sporadic | Decreasing | 3 | 0% | Type A, Subtype swoH1N1 | 3.4 | (graphs) | | (graphs) | Click here |
| Israel | Low | Sporadic | | | | | 3.3 | (graphs) | | (graphs) | Click here |
| Italy | Low | None | Stable | 0 | 0% | Type A, Subtype swoH1 | 14.6 | (graphs) | | (graphs) | Click here |
| Kazakhstan | Low | None | Decreasing | 94 | 0% | None | | (graphs) | 0.0 | (graphs) | Click here |
| Kyrgyzstan | | | | 0 | 0% | None | | | | (graphs) | Click here |
| Latvia | Low | None | Decreasing | 0 | 0% | None | 0.0 | (graphs) | 328.3 | (graphs) | Click here |
| Lithuania | Low | | Stable | 0 | 0% | None | 0.0 | (graphs) | 98.5 | (graphs) | Click here |
| Netherlands | Low | Sporadic | Stable | 10 | 0% | Type A, Subtype swoH1 | 23.0 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low | None | | 7 | 0% | None | 12.7 | (graphs) | | (graphs) | Click here |
| Norway | | Sporadic | | 0 | 0% | Type B and Type A, Subtype swoH1 | | (graphs) | | | Click here |
| Poland | Low | None | Stable | 0 | 0% | None | 0.4 | (graphs) | | (graphs) | Click here |
| Portugal | Low | Sporadic | Stable | 1 | 0% | None | 4.2 | (graphs) | | (graphs) | Click here |
| Romania | Low | None | Stable | 0 | 0% | None | 0.7 | (graphs) | 567.1 | (graphs) | Click here |
| Russian Federation | Low | | Stable | 0 | 0% | Type A | | (graphs) | 240.6 | (graphs) | Click here |
| Serbia | Low | None | Stable | 0 | 0% | None | 19.1 | (graphs) | | (graphs) | Click here |
| Slovakia | Low | | Stable | 0 | 0% | None | 89.3 | (graphs) | 937.8 | (graphs) | Click here |
| Slovenia | Low | None | Stable | 5 | 0% | None | 3.9 | (graphs) | 543.7 | (graphs) | Click here |
| Spain | Low | None | Stable | 35 | 25.7% | Type A | 10.7 | (graphs) | | (graphs) | Click here |
| Sweden | Low | Sporadic | Stable | 26 | 0% | Type A | | (graphs) | | (graphs) | Click here |
| Switzerland | Low | Sporadic | Stable | | | | 5.6 | (graphs) | | (graphs) | Click here |
| Turkey | | | | 27 | 0% | Type A, Subtype swoH1 | | (graphs) | | | Click here |
| Ukraine | Low | Sporadic | Stable | 5 | 20.0% | Type A | | (graphs) | 228.9 | (graphs) | Click here |
| Wales | Low | None | Stable | | | | 1.7 | (graphs) | | (graphs) | Click here |
| Europe | | | | 399 | 8.3% | | | | | | 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 an editorial team at the European Centre for Disease Prevention and Control (ECDC), the WHO Regional Office for Europe (WHO/Europe) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL). From ECDC, team members are Flaviu Plata, Phillip Zucs and Bruno Ciancio, from WHO/Europe Caroline Brown and John Paget (Netherlands Institute for Health Services Research, Temporary Adviser to WHO/Europe) and from CNRL Adam Meijer, Rod Daniels, Alan Hay, Nichola Goddard and Maria Zambon. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Anne Mazick (Statens Serum Institut, Copenhagen, Denmark), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Continued pandemic H1N1 influenza detections in the European Region, with two countries reporting influenza activity above baseline levels

*This is the first bulletin published by EuroFlu, the WHO/Euro platform for the surveillance of influenza in the 53 countries of the European Region.*

*The 2008-2009 influenza season is considered to be over and was described in the EISS Bulletin of week 22/2009. Pandemic H1N1 influenza detections were first reported in the European Region in week 18/2009 and as of week 24/2009, bulletins present developments regarding this strain.*

**Summary:** In week 26/2009, most countries reporting in the European Region indicated low levels of influenza activity. For the first time this summer, England and Luxembourg reported ILI consultation rates above their national baselines and this highlights the need to carefully monitor the spread of pandemic H1N1 influenza in Europe in the coming weeks.

**Epidemiological situation - week 26/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were medium in two countries (England and Luxembourg) and low in all other countries that reported this indicator. For the geographical spread indicator, England reported local activity and all other countries reported sporadic or no activity.

**Cumulative epidemiological situation - weeks 16-26/2009:** Seasonal influenza activity was over in almost all countries in the European Region by week 16/2009, with the intensity returning to levels typically seen outside the winter season. Until this week, detections of pandemic H1N1 influenza have not caused increased levels of ILI or ARI in countries of the European Region. However, national baseline thresholds for ILI were reached in England) and Luxembourg in week 26/2009.

**Virological situation - week 26/2009:** The total number of respiratory specimens collected by sentinel physicians in week 26/2009 was 574 of which 46 (8%) were positive for influenza virus: 38 type A (35 H1v and three A unsubtyped) and eight type B. In addition, 409 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 394 type A (246 subtype H1v, ten subtype H3 and 138 not subtyped) and 15 type B.

**Cumulative virological situation - weeks 16/2009-26/2009:** Of 2037 virus detections (sentinel and non-sentinel) since week 16/2009, 1558 (76%) were type A (769 subtype H1v, 270 subtype H3, 113 subtype H1 and 406 not subtyped) and 479 (24%) were type B. The increasing trend for pandemic H1N1 influenza over these weeks is presented here.

Based on the antigenic and/or genetic characterisation of 2139 influenza viruses reported from week 40/2008 to week 26/2009, 1271 (59%) were A/Brisbane/10/2007 (H3N2)-like, 91 (4%) A/Brisbane/59/2007 (H1N1)-like, 18 (1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 759 (35%) as B/Malaysia/2506/2004-/B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here). No reports for pandemic H1N1 (A/California/7/2009-like, the current virus strain recommended by WHO for vaccine preparation (click here)) have been made in week 26/2009. However, in previous weeks when the characterisation data was more complete, there have been reports of the pandemic H1N1 strain.

Antiviral susceptibility reports since week 40/2008 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N3) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while for A(H1N1) viruses 98% were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic H1N1 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, while only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** This is the first EuroFlu bulletin published by WHO Euro and data for a relatively large number of countries in the Region are missing. As of 3 July 2009, there have been a total of 10652 laboratory confirmed cases of pandemic H1N1 influenza and four associated deaths in the European Region. For a detailed epidemiological description of pandemic H1N1 detections in the European Region (April–May 2009), please click here. On 11 June 2009 WHO raised the pandemic alert level to phase 6 (click here) and worldwide 77201 cases of pandemic H1N1 infection have now been reported (1 July 2009). For more information, please go to the dedicated web pages of WHO (click here) and ECDC (click here).

Influenza activity in most countries in Europe remains at baseline levels, indicating that the pandemic virus is not spreading widely in the community. Of the two countries reporting ILI-levels above their national baselines, England has the highest number of laboratory confirmed cases of pandemic H1N1 influenza in the European Region (6929 confirmed cases, 65% of all confirmed cases in the region) so an increasing ILI consultation rate could be expected (click here). Luxembourg only has 4 confirmed cases of influenza A(H1N1)v and no virological detections since week 21/2009 (click here) so the increased ILI consultation rate (now reaching 2% of consultations) may be due to other respiratory pathogens which are currently not being tested for and a heightened awareness due to pandemic H1N1 influenza. It will be important to closely monitor these trends over the coming weeks to see if the increases are temporary or whether it represents the start of increased influenza activity in countries across the European Region.

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries in the WHO European Region. Of these countries, 14 reported both clinical and virological data, six reported virological data only and five reported clinical data only in week 26/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK) and the European Centre for Disease Prevention and Control in Stockholm (Sweden).

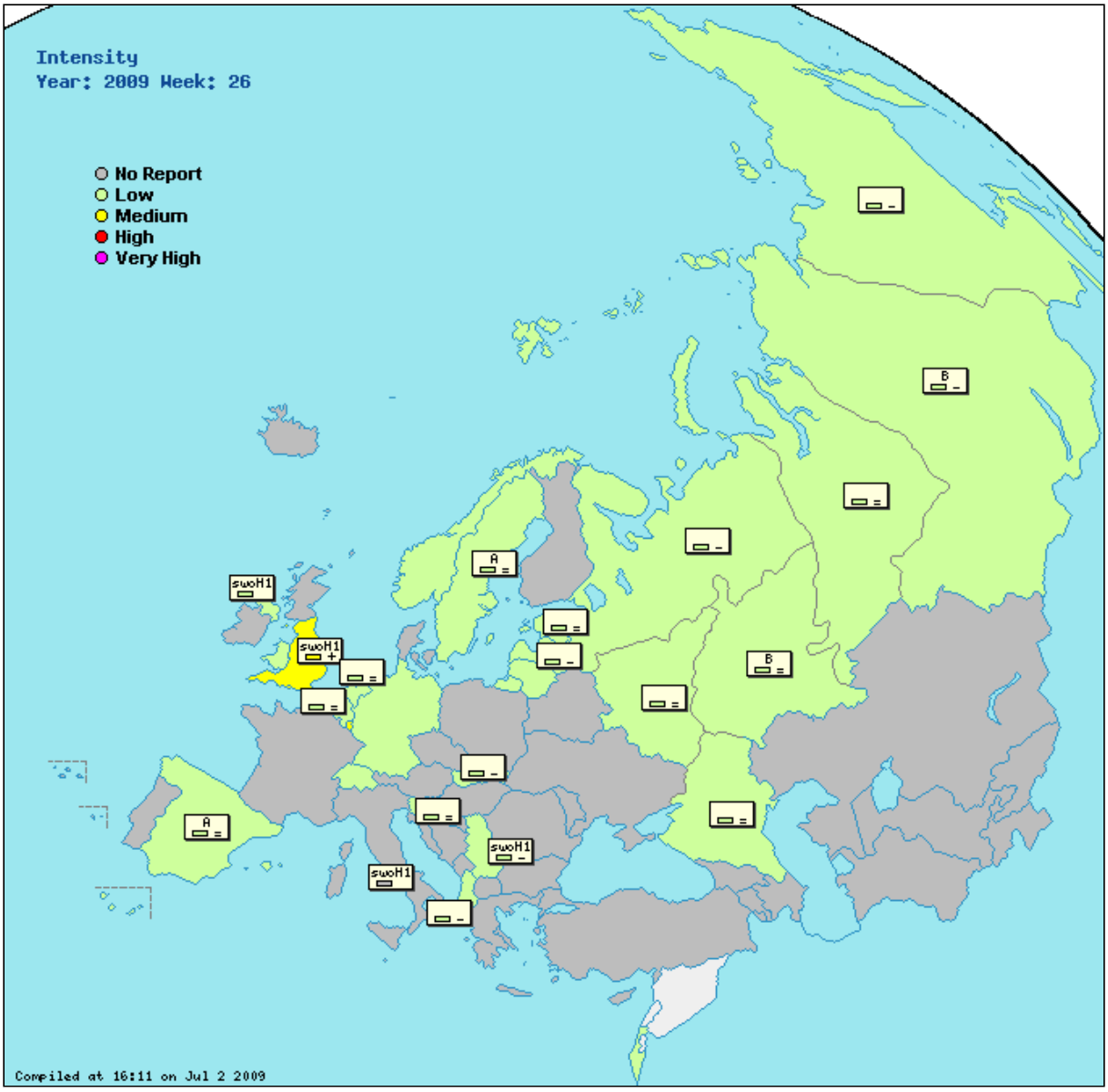
## Map

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** ○




**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)

**Latvia**
The first case of pandemic A(H1N1)v2009 influenza virus have been confirmed in Latvia from sentinel patient , traveller from USA and Canada.
**Luxembourg**
1 confirmed case of novel A H1N1 linked with travel to France. ILI rate has increased to 2%.
**Serbia**
During week 26, 10 A(H1)v positive cases were confirmed in Serbia. Eight cases were imported (1 from Argentina, 2 from

Australia, 2 from UK and 3 from Canada). Two patients were in contact with the confirmed case from Montenegro (imported from the USA).

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | None | | Decreasing | 4 | 0% | None | (graphs) | 278.4 (graphs) | Click here |
| Azerbaijan | | | | | 82 | 3.7% | None | (graphs) | | Click here |
| Belarus | | None | | | 161 | 0% | None | (graphs) | 370.0 (graphs) | Click here |
| Belgium | Low | None | | Stable | 12 | 0% | None | 27.5 (graphs) | 769.9 (graphs) | Click here |
| Bulgaria | | | | | 0 | 0% | None | | (graphs) | Click here |
| Denmark | | | | | 3 | 33.3% | None | (graphs) | | Click here |
| England | Medium | Local | | Increasing | 145 | 22.1% | Type A, Subtype swoH1N1 | 29.6 (graphs) | 548.1 (graphs) | Click here |
| Estonia | Low | None | | Stable | 1 | 0% | None | 0.5 (graphs) | 81.0 (graphs) | Click here |
| Germany | Low | None | | | 33 | 3.0% | None | (graphs) | 511.2 (graphs) | Click here |
| Greece | | | | | 5 | 0% | None | (graphs) | | Click here |
| Israel | Low | Sporadic | | | | | | 4.3 (graphs) | (graphs) | Click here |
| Italy | | Sporadic | | | 0 | 0% | Type A, Subtype swoH1 | (graphs) | | Click here |
| Latvia | Low | None | | Decreasing | 3 | 33.3% | None | 0.5 (graphs) | 271.0 (graphs) | Click here |
| Lithuania | Low | None | | Stable | | | | 0.0 (graphs) | 75.7 (graphs) | Click here |
| Luxembourg | Medium | Sporadic | | | | | | (graphs) | | Click here |
| Netherlands | Low | Sporadic | | Stable | 12 | 0% | None | 14.0 (graphs) | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | | | 7 | 0% | Type A, Subtype swoH1 and H3N2 | 20.6 (graphs) | (graphs) | Click here |
| Norway | Low | Sporadic | | Stable | | | | 17.2 (graphs) | (graphs) | Click here |
| Russian Federation | Low | | | Stable | 0 | 0% | Type B | (graphs) | 229.1 (graphs) | Click here |
| Serbia | Low | None | | Decreasing | 0 | 0% | Type A, Subtype swoH1 | 16.2 (graphs) | (graphs) | Click here |
| Slovakia | Low | | | Decreasing | 0 | 0% | None | 73.7 (graphs) | 876.5 (graphs) | Click here |
| Slovenia | Low | None | | Stable | 0 | 0% | None | 0.0 (graphs) | 547.0 (graphs) | Click here |
| Spain | Low | Sporadic | | Stable | 43 | 18.6% | Type A | 9.2 (graphs) | (graphs) | Click here |
| Sweden | Low | Sporadic | | Stable | 45 | 0% | Type A | (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | | Stable | | | | 1.0 (graphs) | (graphs) | Click here |
| Turkey | | | | | 18 | 0% | None | (graphs) | | Click here |
| Wales | Low | None | | Stable | | | | 1.4 (graphs) | (graphs) | Click here |
| Europe | | | | | 574 | 8.0% | | | | 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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# High influenza activity in England and continued pandemic H1N1 influenza detections in the European Region

The 2008-2009 influenza season is considered to be over and was described in the EISS Bulletin of week 22/2009. Pandemic H1N1 influenza detections were first reported in the European Region in week 18/2009 and as of week 24/2009, bulletins present developments involving this strain.

**Summary:** In week 27/2009, most countries reporting in the European Region indicated low levels of influenza activity. Two hundred and thirteen detections of A(H1N1)v influenza were reported and A(H1N1)v was the dominant virus in five countries (Denmark, Hungary, Italy, Serbia and Sweden). For the first time this summer, England reported high levels of influenza activity and two other countries, Luxembourg and Wales, reported medium levels. England reported ILI consultation rates above their national baselines for the second week in a row.

**Epidemiological situation - week 27/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in one country (England), medium in two countries (Luxembourg and Wales) and low in all other countries that reported this indicator. For the geographical spread indicator, England reported widespread activity while all other countries reported sporadic or no activity.

**Cumulative epidemiological situation - weeks 16-27/2009:** Seasonal influenza activity was effectively over in the European Region by week 16/2009, with intensity returning to levels typically seen outside the winter season. Until week 26/2009, detections of pandemic H1N1 influenza had not caused increased levels of ILI or ARI in countries of the European Region. However, national baseline thresholds for ILI were reached in England) and Luxembourg in week 26/2009.

**Virological situation - week 27/2009:** The total number of respiratory specimens collected by sentinel physicians in week 27/2009 was 305 of which 42 (14%) were positive for influenza virus: 40 type A (29 subtype H1v, three subtype H1, one subtype H3 and seven not subtyped) and two type B. In addition, 218 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 213 type A (184 subtype H1v, three subtype H1, seven subtype H3 and 19 not subtyped) and 5 type B.

**Cumulative virological situation - weeks 16/2009-27/2009:** Of 2038 virus detections (sentinel and non-sentinel) since week 16/2009, 1561 (77%) were type A (772 subtype H1v, 270 subtype H3, 113 subtype H1 and 406 not subtyped) and 477 (23%) were type B. The increasing trend for pandemic H1N1 influenza over these weeks is presented here.

Based on the antigenic and/or genetic characterisation of 2925 influenza viruses reported from week 40/2008 to week 27/2009, 1877 (64%) were A/Brisbane/10/2007 (H3N2)-like, 102 (3%) A/Brisbane/59/2007 (H1N1)-like, 23 (1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 871 (30%) as B/Malaysia/2506/2004 or /B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here). Fifty-two (2%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for vaccine preparation (click here).

Antiviral susceptibility reports from week 40/2008 to 26/2009 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N3) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while for A(H1N1) viruses 98% were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic H1N1 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, while only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** As of 8 July 2009, there have been a total of 11722 laboratory confirmed cases of pandemic H1N1 influenza and four associated deaths in two countries in the European Region. Bosnia and Herzegovina and Lithuania reported their first cases in week 28/2009. For a detailed epidemiological description of pandemic H1N1 detections in the European Region (April–May 2009), please click here. On 11 June 2009 WHO raised the pandemic alert level to phase 6 (click here) and worldwide 94512 cases of pandemic H1N1 infection including 429 deaths have now been reported (6 July 2009). For more information, please go to the dedicated web pages of WHO (click here) and ECDC (click here).

Influenza activity reported in this bulletin is based on data reported in week 27/2009. In most countries in Europe influenza activity remains at baseline levels, indicating that, with the exception of a few countries, the pandemic H1N1 virus is not spreading widely in the community. However, 213 detections of the A(H1N1)v influenza virus were reported, which are unusual for this time of year. These do not reflect the total number of confirmed cases in the European Region reported during week 27/2009 to WHO through the IHR National Focal Points and efforts to harmonize this reporting are underway.

Of the two countries reporting ILI-levels above their national baselines, England has the highest number of laboratory confirmed cases of pandemic H1N1 influenza in the European Region and the increasing ILI consultation rate now exceeds peak rates seen during the four previous seasons (click here for EuroFlu graph and here for Health Protection Agency update). It will be important to closely monitor these trends over the coming weeks to determine if the increases are temporary or whether they represent the start of increased influenza activity in countries across the European Region.

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries in the WHO European Region. Of these countries, 19 reported both clinical and virological data, five reported virological data only and seven reported clinical data only in week 27/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

## Map

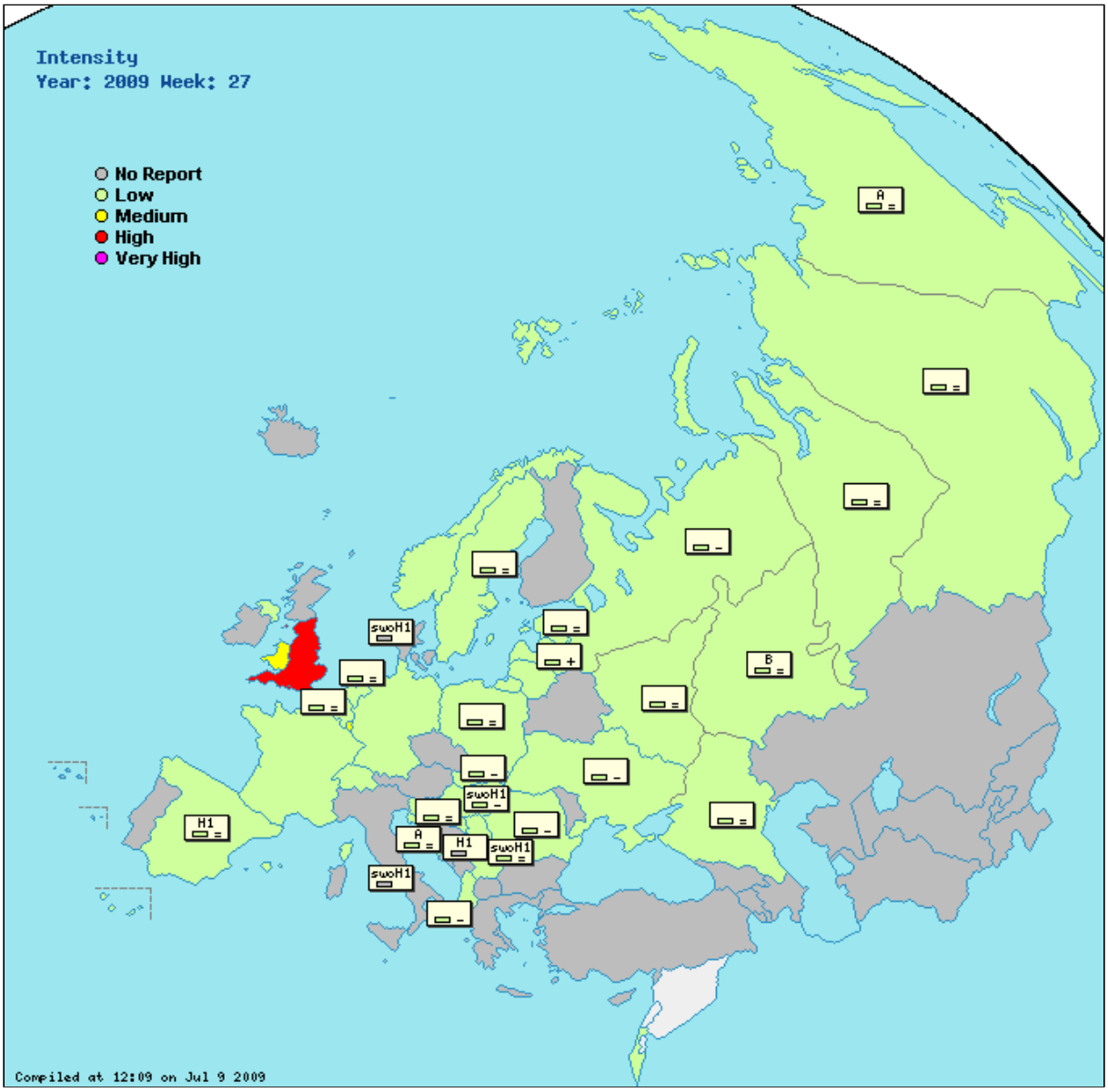
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant

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** ○




**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)

**Austria**
50 specimen Influenza: 3 Influenza A(H1N1) 27 specimen RSV: all negative
**Bosnia and Herzegovina**

**Georgia**
Results are pending

# Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | None | | Decreasing | 3 | 0% | None | (graphs) | 263.6 (graphs) | Click here |
| Austria | | | | | 0 | 0% | None | (graphs) | | Click here |
| Belarus | | None | | | 66 | 3.0% | None | (graphs) | 274.5 (graphs) | Click here |
| Belgium | Low | None | | Stable | 17 | 5.9% | None | 26.0 (graphs) | 824.2 (graphs) | Click here |
| Bosnia and Herzegovina | | Sporadic | | | 0 | 0% | Type A, Subtype H1 | (graphs) | | Click here |
| Bulgaria | | | | | 0 | 0% | None | | (graphs) | Click here |
| Croatia | Low | Sporadic | | Stable | 25 | 0% | Type A | 0.0 (graphs) | (graphs) | Click here |
| Denmark | | None | | | 8 | 0% | Type A, Subtype swoH1 | (graphs) | | Click here |
| England | High | Widespread | | Increasing | | | | 58.6 (graphs) | 402.5 (graphs) | Click here |
| Estonia | Low | None | | Stable | 2 | 0% | None | 0.6 (graphs) | 79.8 (graphs) | Click here |
| France | Low | None | | Stable | | | | (graphs) | 887.2 (graphs) | Click here |
| Georgia | | | | | 36 | 0% | None | (graphs) | | Click here |
| Germany | Low | None | | | 27 | 33.3% | None | (graphs) | 426.5 (graphs) | Click here |
| Greece | | | | | 2 | 0% | None | (graphs) | | Click here |
| Hungary | Low | Sporadic | | Decreasing | 3 | 0% | Type A, Subtype swoH1 | (graphs) | (graphs) | Click here |
| Israel | Low | Local | | | | | | 4.1 (graphs) | (graphs) | Click here |
| Italy | | Local | | | 0 | 0% | Type A, Subtype swoH1N1 | (graphs) | | Click here |
| Kazakhstan | | None | | | 0 | 0% | None | | (graphs) | Click here |
| Latvia | Low | None | | Increasing | 1 | 0% | None | 0.0 (graphs) | 291.5 (graphs) | Click here |
| Lithuania | Low | None | | Stable | | | | 0.1 (graphs) | 71.7 (graphs) | Click here |
| Luxembourg | Medium | Sporadic | | | | | | (graphs) | | Click here |
| Netherlands | Low | None | | Stable | 9 | 0% | None | 16.2 (graphs) | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | | | 4 | 25.0% | None | 25.5 (graphs) | (graphs) | Click here |
| Norway | Low | Sporadic | | Stable | | | | 14.0 (graphs) | (graphs) | Click here |
| Poland | Low | Sporadic | | Stable | 16 | 0% | None | 0.4 (graphs) | (graphs) | Click here |
| Romania | Low | None | | Decreasing | 0 | 0% | None | 3.3 (graphs) | 446.7 (graphs) | Click here |
| Russian Federation | Low | | | Stable | 0 | 0% | None | (graphs) | 216.6 (graphs) | Click here |
| Serbia | Low | None | | Stable | 0 | 0% | Type A, Subtype swoH1 | 15.4 (graphs) | (graphs) | Click here |
| Slovakia | Low | | | Decreasing | 0 | 0% | None | 55.0 (graphs) | 705.5 (graphs) | Click here |
| Slovenia | Low | None | | Stable | 5 | 40.0% | None | 2.4 (graphs) | 496.6 (graphs) | Click here |
| Spain | Low | Sporadic | | Stable | 46 | 15.2% | Type A, Subtype H1 | 12.5 (graphs) | (graphs) | Click here |
| Sweden | Low | | | Stable | 23 | 82.6% | None | (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | | Stable | | | | 5.7 (graphs) | (graphs) | Click here |
| Turkey | | | | | 12 | 0% | None | (graphs) | | Click here |
| Ukraine | Low | None | | Decreasing | 0 | 0% | None | (graphs) | 168.4 (graphs) | Click here |
| Wales | Medium | Sporadic | | Increasing | | | | 5.1 (graphs) | (graphs) | Click here |
| Europe | | | | | 305 | 13.8% | | | | 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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# High influenza activity in England and continued pandemic H1N1 influenza detections in the European Region

*The 2008-2009 influenza season is considered to be over and was described in the EISS Bulletin of week 22/2009. Pandemic H1N1 influenza detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain.*

**Summary:** In week 28/2009, most countries reporting in the European Region indicated low levels of influenza activity. A total of 468 detections of A(H1N1)v influenza were reported and eight countries (Austria, Denmark, England, Hungary, Italy, Luxembourg, Serbia and Turkey) now report A(H1N1)v as the dominant virus. Four countries have reported an intensity above the baseline in the past three weeks: England, Luxembourg, Turkey and Wales. England has reported a high intensity of influenza activity since week 27/2009.

**Epidemiological situation - week 28/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in one country (England) and low in all other countries that reported this indicator. For the geographical spread indicator, England reported widespread activity while all other countries reported sporadic or no activity.

**Cumulative epidemiological situation - weeks 16-28/2009:** Seasonal influenza activity was effectively over in the European Region by week 16/2009, with the intensity returning to levels typically seen outside the winter season. Until week 25/2009, detections of pandemic H1N1 influenza had not caused increased levels of ILI or ARI in countries of the European Region. However, national baseline thresholds for ILI were reached in England (in week 26/2009), Luxembourg (26/2007), Turkey (26/2009) and Wales (27/2009). England is the only country to have reported a high intensity of influenza activity (since week 27/2009).

**Virological situation - week 28/2009:** The total number of respiratory specimens collected by sentinel physicians in week 28/2009 was 647 of which 45 (7%) were positive for influenza virus: 43 type A (38 subtype H1v, one subtype H1 and four not subtyped) and two type B. In addition, 978 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 965 type A (430 subtype H1v, 87 subtype H1, five subtype H3 and 443 not subtyped) and 13 type B. Therefore, of the total influenza A virus detections that were subtyped in week 28/2009 (N=561), 83% were the pandemic H1N1 virus: 97% in sentinel specimens (N=39) and 82% in non-sentinel specimens (N=522).

**Cumulative virological situation - weeks 16/2009-28/2009:** Of 2055 virus detections (sentinel and non-sentinel) since week 16/2009, 1574 (77%) were type A (782 subtype H1v, 276 subtype H3, 106 subtype H1 and 410 not subtyped) and 481 (23%) were type B. The increasing trend for pandemic H1N1 influenza over these weeks is presented here.

Based on the antigenic and/or genetic characterisation of 3498 influenza viruses reported from week 40/2008 to week 28/2009, 2326 (67%) were A/Brisbane/10/2007 (H3N2)-like, 150 (4%) A/Brisbane/59/2007 (H1N1)-like, 28 (1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 937 (27%) as B/Malaysia/2506/2004 or /B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here). Fifty-seven (2%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for vaccine preparation (click here).

Antiviral susceptibility reports from week 40/2008 to 26/2009 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N3) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while for A(H1N1) viruses 98% were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic H1N1 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, while only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** As of 8 July 2009, there have been a total of 11497 laboratory confirmed cases of pandemic H1N1 influenza and four associated deaths in two countries in the European Region. For a detailed epidemiological description of pandemic H1N1 detections in the European Region (April–May 2009), please click here.

On 11 June 2009 WHO raised the pandemic alert level to phase 6 (click here) and worldwide 94512 cases of pandemic H1N1 infection including 429 deaths have now been reported (6 July 2009). For more information, please go to the dedicated web pages of WHO (click here) and ECDC (click here).

Influenza activity reported in this bulletin is based on data reported in week 28/2009. In most countries in Europe influenza activity remains at baseline levels, indicating that, with the exception of a few countries, the pandemic H1N1 virus is not spreading widely in the community. However, 468 detections of the A(H1N1)v influenza virus were reported in week 28/2009, which is unusual for this time of year. These do not reflect the total number of confirmed cases in the European Region reported during week 28/2009 to WHO through the IHR National Focal Points and efforts to harmonize this reporting are underway.

England reported ILI consultation rates in week 28/2009 that exceeded the peak rates seen during the previous eight seasons (click here). The high consultation rates in England are reflected in the very large number of laboratory confirmed cases of pandemic H1N1 influenza reported in the United Kingdom (7447 or 65% of total cases in the European Region). Other countries with a high number of laboratory confirmed cases are Spain (870; 8%), Israel (727; 6%) and Germany (548; 5%), but all of them report ILI or ARI consultation rates at baseline levels. It will be important to closely monitor these trends over the coming weeks to determine if the increases are temporary or whether they represent the start of increased influenza activity in countries across the European Region.

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries in the WHO European Region. Of these countries, 24 reported both clinical and virological data, five reported clinical data only and four reported virological data only in week 28/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

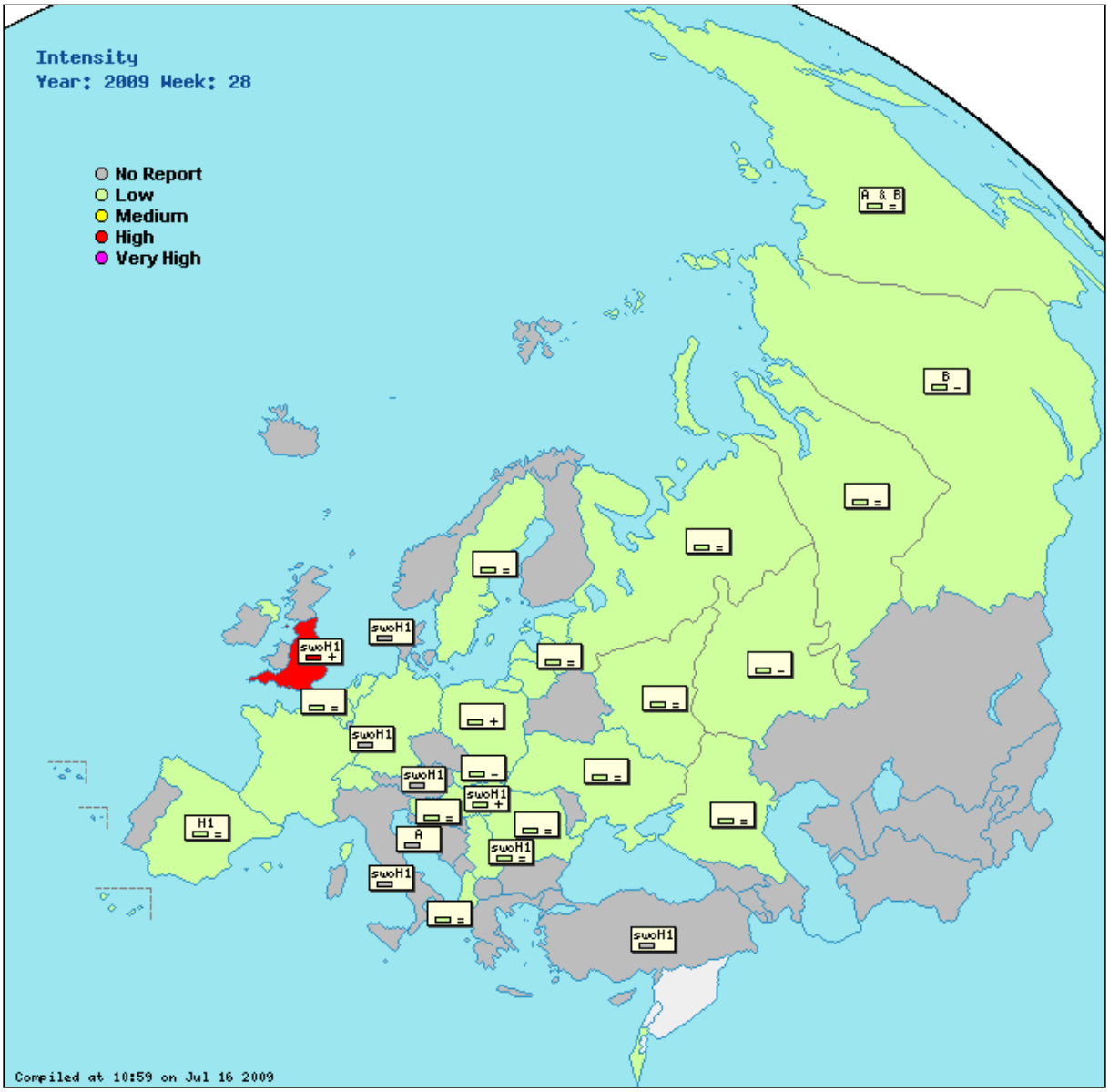
## Map

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** ○




**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)**

**Austria**
RSV: 18 specimen, all negative Influenza A/B: 66 specimen, 21 positive Influenza A
**Latvia**
Three new cases of pandemic A(H1N1) 2009 influenza are confirmed in pacients arrived from Mexico and two sporadic

cases not connected with them.

**Serbia**

During 28. week in Serbia were confirmed 28 A (H1)v positive cases. 20 cases were imported ( 7 from Australia, 7 from UK, 3 from Spain, 1 from FRY Macedonia, 1 from Germany and 1 from Egypt). Eight cases were the patients who were in contact with the confirmed cases.

**Switzerland**

In week 27/2009 there was 1 case of laboratory confirmed pandemic Influenza A(H1N1) 2009 detected by the Swiss Sentinel surveillance system.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | None | | Stable | 10 | 0% | None | (graphs) | 250.0 (graphs) | Click here |
| Austria | | | | | 0 | 0% | Type A, Subtype swoH1N1 | 0.0 (graphs) | (graphs) | Click here |
| Belarus | | None | | | 193 | 0% | None | (graphs) | 297.1 (graphs) | Click here |
| Belgium | Low | None | | Stable | 14 | 0% | None | 22.2 (graphs) | 856.3 (graphs) | Click here |
| Bulgaria | | | | | 0 | 0% | None | | (graphs) | Click here |
| Croatia | | Sporadic | | | 46 | 0% | Type A | 0.6 (graphs) | (graphs) | Click here |
| Denmark | | None | | | 5 | 60.0% | Type A, Subtype swoH1 | (graphs) | | Click here |
| England | High | Widespread | | Increasing | 215 | 10.7% | Type A, Subtype swoH1N1 | 82.9 (graphs) | 392.1 (graphs) | Click here |
| Estonia | Low | None | | Stable | | | | 0.5 (graphs) | 78.8 (graphs) | Click here |
| France | Low | None | | Stable | | | | (graphs) | 905.5 (graphs) | Click here |
| Germany | Low | None | | | 32 | 9.4% | None | (graphs) | 437.4 (graphs) | Click here |
| Greece | | | | | 0 | 0% | None | (graphs) | | Click here |
| Hungary | Low | Sporadic | | Increasing | 6 | 0% | Type A, Subtype swoH1 | (graphs) | (graphs) | Click here |
| Israel | Low | Local | | | | | | 6.8 (graphs) | (graphs) | Click here |
| Italy | | Local | | | 0 | 0% | Type A, Subtype swoH1N1 | (graphs) | | Click here |
| Kazakhstan | | None | | | 0 | 0% | None | | (graphs) | Click here |
| Latvia | Low | Sporadic | | Stable | 3 | 66.7% | None | 0.0 (graphs) | 279.2 (graphs) | Click here |
| Lithuania | Low | None | | Stable | | | | 0.0 (graphs) | 64.1 (graphs) | Click here |
| Luxembourg | | Sporadic | | | 16 | 31.3% | Type A, Subtype swoH1 | (graphs) | | Click here |
| Netherlands | Low | None | | Stable | | | | 20.1 (graphs) | (graphs) | Click here |
| Northern Ireland | Low | Sporadic | | | 4 | 25.0% | None | 34.9 (graphs) | (graphs) | Click here |
| Poland | Low | Sporadic | | Increasing | 1 | 0% | None | 6.9 (graphs) | (graphs) | Click here |
| Portugal | | Sporadic | | | 2 | 0% | None | (graphs) | | Click here |
| Romania | Low | None | | Stable | 0 | 0% | None | 2.1 (graphs) | 448.7 (graphs) | Click here |
| Russian Federation | Low | | | Stable | 0 | 0% | Type B | (graphs) | 197.4 (graphs) | Click here |
| Serbia | Low | None | | Stable | 0 | 0% | Type A, Subtype swoH1 | 17.2 (graphs) | (graphs) | Click here |
| Slovakia | Low | | | Decreasing | 0 | 0% | None | 49.4 (graphs) | 645.7 (graphs) | Click here |
| Slovenia | Low | None | | Stable | 2 | 50.0% | None | 0.0 (graphs) | 498.1 (graphs) | Click here |
| Spain | Low | Sporadic | | Stable | 54 | 9.3% | Type A, Subtype H1 | 11.5 (graphs) | (graphs) | Click here |
| Sweden | Low | Sporadic | | Stable | 27 | 7.4% | None | (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | | Stable | | | | 5.9 (graphs) | (graphs) | Click here |
| Turkey | | | | | 17 | 0% | Type A, Subtype swoH1N1 | (graphs) | | Click here |
| Ukraine | Low | None | | Stable | 0 | 0% | None | (graphs) | 178.6 (graphs) | Click here |
| Wales | | Sporadic | | Increasing | | | | 15.8 (graphs) | (graphs) | Click here |
| Europe | | | | | 647 | 7.0% | | | | 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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# High influenza activity in England and increasing pandemic H1N1 influenza detections in the European Region

*The 2008-2009 influenza season is considered to be over and was described in the EISS Bulletin of week 22/2009 (click here). Pandemic H1N1 influenza detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain.*

**Summary:** In week 29/2009, most countries reporting in the European Region indicated low levels of influenza activity. However, a total of 980 detections of A(H1N1)v influenza were reported in week 29/2009 and 18 countries now report A(H1N1)v is the dominant virus. So far this season, five countries have reported an intensity above the baseline (England, Luxembourg, Northern Ireland, Turkey and Wales) and England has reported a high intensity of influenza activity since week 27/2009.

**Epidemiological situation - week 29/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in one country (England), medium in two countries (Northern Ireland and Wales) and low in all other countries that reported this indicator. For the geographical spread indicator, England reported widespread activity and Italy reported regional activity, while all other countries reported, local sporadic or no activity*.

**Cumulative epidemiological situation - weeks 16-29/2009:** Until week 25/2009, detections of pandemic H1N1 influenza had not caused increased levels of ILI or ARI in countries of the European Region. However, national baseline thresholds for ILI were reached in England (in week 26/2009), Luxembourg (26/2007), Turkey (26/2009), Wales (27/2009) and Northern Ireland (29/2009). England is the only country in the European Region to have reported a high intensity of influenza activity (since week 27/2009).

**Virological situation - week 29/2009:** The total number of respiratory specimens collected by sentinel physicians in week 29/2009 was 611 of which 61 (10%) were positive for influenza virus: all 61 were type A (50 subtype H1v and eleven not subtyped). In addition, 1427 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 1420 type A (980 subtype H1v, 29 subtype H1, four subtype H3 and 407 not subtyped) and seven type B. Therefore, of the total influenza A virus detections that were subtyped in week 29/2009 (N=1013), 97% were the pandemic H1N1 virus: 100% in sentinel specimens (N=50) and 97% in non-sentinel specimens (N=963).

**Cumulative virological situation - weeks 16/2009-29/2009:** Of 2054 virus detections (sentinel and non-sentinel) since week 16/2009, 1573 (77%) were type A (782 subtype H1v, 276 subtype H3, 106 subtype H1 and 409 not subtyped) and 481 (23%) were type B. The increasing trend for pandemic H1N1 influenza over these weeks is presented here.

Based on the antigenic and/or genetic characterisation of 3719 influenza viruses reported from week 40/2008 to week 28/2009, 2366 (64%) were A/Brisbane/10/2007 (H3N2)-like, 154 (4%) A/Brisbane/59/2007 (H1N1)-like, 30 (1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 947 (25%) as B/Malaysia/2506/2004 or /B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here). A total of 222 (6%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for vaccine preparation (click here).

Antiviral susceptibility reports from week 40/2008 to 26/2009 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N3) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while for A(H1N1) viruses 98% were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic H1N1 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, while only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** On 16 July 2009, WHO changed the reporting requirements for pandemic (H1N1) 2009 virus infections. The increasing number of cases in many countries with sustained community transmission made it extremely difficult, if not impossible, for these countries to confirm cases through laboratory testing and continue counting individual cases. WHO has therefore stopped the collection and publication of the total number of laboratory confirmed cases and the WHO Interim guidance for the surveillance of human infection with influenza A(H1N1) virus outlines a number of initiatives to enhance national and regional surveillance systems. The EuroFlu surveillance platform has been adapted to these new guidelines.

Influenza activity reported in this bulletin is based on data reported in week 29/2009. In most countries in Europe influenza activity remains at baseline levels, indicating that, with the exception of a few countries, the pandemic H1N1 virus is not spreading widely in the community. However, 980 detections of the A(H1N1)v influenza virus were reported in week 29/2009 and influenza A(H1N1)v is now the dominant virus in 18 of the 33 countries that reported this indicator to EuroFlu. This virological data indicates that the influenza A(H1N1)v is establishing itself in Europe.

England, Northern Ireland and Wales reported ILI consultation rates above the baseline level in week 29/2209, with England reporting levels that exceeded the peak rates seen during the previous eight seasons (click here). The high consultation rates in England are reflected in the very large number of laboratory confirmed cases of pandemic H1N1 influenza reported in the United Kingdom (7447 or 65% of total cases in the European Region [data reported until 8 July 2009 (click here]).

For more information about the situation in Europe, please go to the dedicated web pages of WHO (click here) and ECDC (click here).

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries in the WHO European Region. Of these countries, 24 reported both clinical and virological data, nine reported virological data only and five reported clinical data only in week 29/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

* **Erratum:** Portugal reported ﷿Sporadic﷿ activity and not ﷿Widespread﷿ activity (the Geographical spread indicator) in week 29/2009.

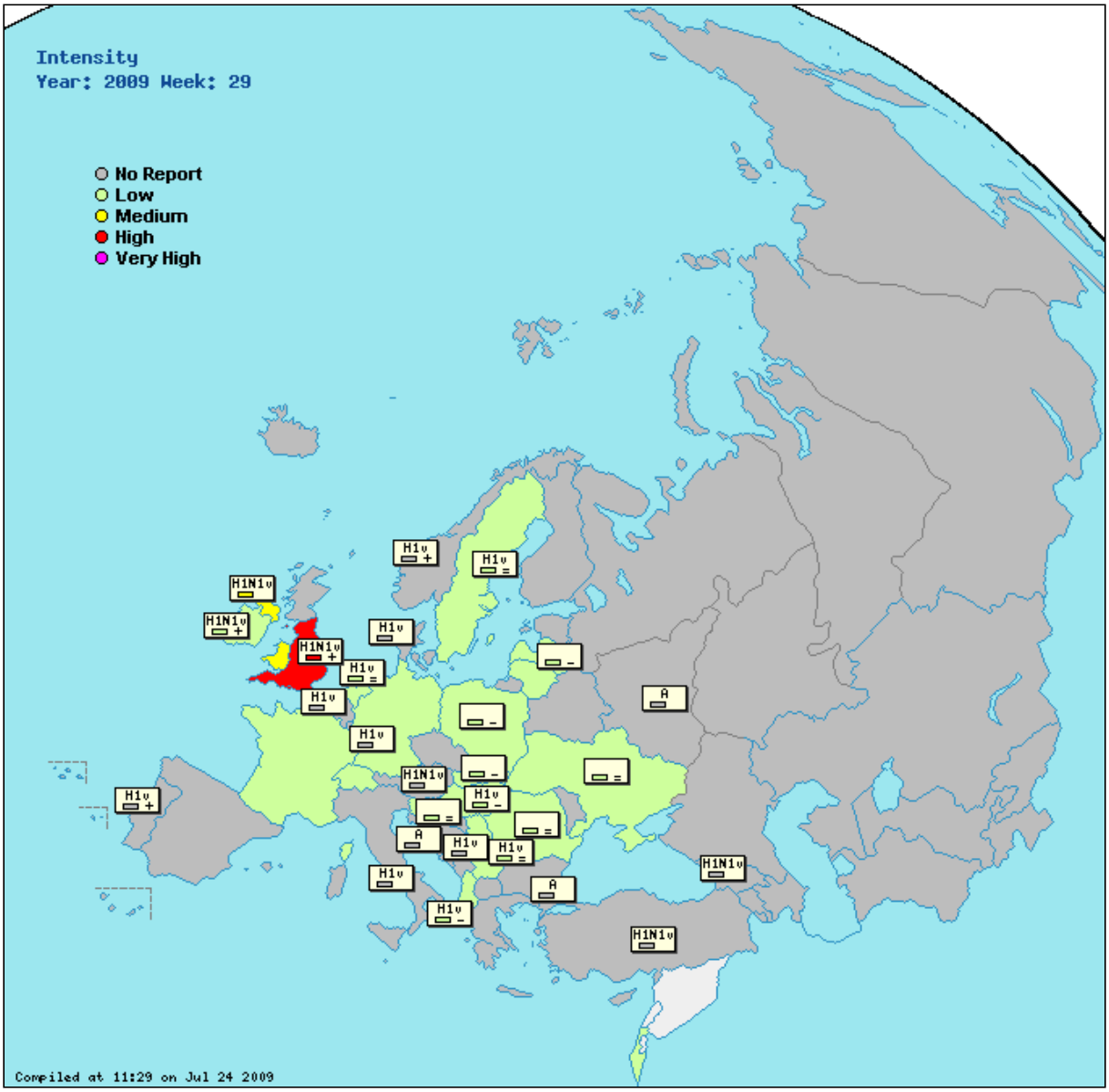
## Map

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** ○




**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)**

**Austria**
RSV: 25 specimen, all negative Influenza A: 113 specimen, therefrom 35 Influenza A
**Italy**
During this last week, a significant increase in the H1N1v influenza lab-confirmed cases has been reported by the majority of the Italian laboratories participating in the surveillance activities.
**Netherlands**
In week 29 the first Influenza A (H1N1)v was detected in the sentinel surveillance in the Netherlands.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | None | | Decreasing | 33 | 12.1% | Type A, Subtype H1v and H1N1 | (graphs) | 218.3 (graphs) | Click here |
| Austria | | | | | 0 | 0% | Type A, Subtype H1N1v | 0.0 (graphs) | (graphs) | Click here |
| Belarus | | None | | | 88 | 0% | None | (graphs) | 222.6 (graphs) | Click here |
| Belgium | | Sporadic | | | 35 | 5.7% | Type A, Subtype H1v | (graphs) | | Click here |
| Bosnia and Herzegovina | | Sporadic | | | 0 | 0% | Type A, Subtype H1v | (graphs) | | Click here |
| Bulgaria | | | | | 0 | 0% | Type A | | (graphs) | Click here |
| Croatia | | None | | | 58 | 0% | Type A | 6.4 (graphs) | (graphs) | Click here |
| Denmark | | | | | 4 | 25.0% | Type A, Subtype H1v | (graphs) | | Click here |
| England | High | Widespread | | Increasing | 215 | 10.7% | Type A, Subtype H1N1v | 155.3 (graphs) | 463.7 (graphs) | Click here |
| France | Low | None | | Stable | | | | (graphs) | 807.3 (graphs) | Click here |
| Georgia | | | | | 17 | 0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Germany | Low | None | | | 38 | 15.8% | None | (graphs) | 407.8 (graphs) | Click here |
| Greece | | | | | 4 | 0% | None | (graphs) | | Click here |
| Hungary | Low | Sporadic | | Decreasing | 2 | 100.0% | Type A, Subtype H1v | (graphs) | (graphs) | Click here |
| Ireland | Low | Sporadic | | Increasing | 17 | 23.5% | Type A, Subtype H1N1v | 13.1 (graphs) | (graphs) | Click here |
| Israel | Low | Local | | Decreasing | | | | 10.8 (graphs) | (graphs) | Click here |
| Italy | | Regional | | | 0 | 0% | Type A, Subtype H1v and H1N1 | (graphs) | | Click here |
| Kazakhstan | | None | | | 0 | 0% | None | | (graphs) | Click here |
| Kyrgyzstan | | | | | 0 | 0% | None | | (graphs) | Click here |
| Latvia | Low | Sporadic | | Decreasing | 7 | 14.3% | None | 0.0 (graphs) | 141.9 (graphs) | Click here |
| Lithuania | Low | None | | Stable | | | | 0.2 (graphs) | 69.5 (graphs) | Click here |
| Luxembourg | | Sporadic | | | 28 | 0% | Type A, Subtype H1v | (graphs) | | Click here |
| Netherlands | Low | | | Stable | 5 | 20.0% | Type A, Subtype H1v | 16.2 (graphs) | (graphs) | Click here |
| Northern Ireland | Medium | Sporadic | | | 13 | 7.7% | Type A, Subtype H1N1v | 40.1 (graphs) | (graphs) | Click here |
| Norway | | Sporadic | | Increasing | 0 | 0% | Type A, Subtype H1v | 62.4 (graphs) | (graphs) | Click here |
| Poland | Low | Sporadic | | Decreasing | 1 | 0% | None | 3.1 (graphs) | (graphs) | Click here |
| Portugal | | Widespread | | Increasing | 2 | 0% | Type A, Subtype H1v | 0.0 (graphs) | (graphs) | Click here |
| Romania | Low | None | | Stable | 0 | 0% | None | 2.0 (graphs) | 445.2 (graphs) | Click here |
| Russian Federation | | | | | 0 | 0% | Type A | | (graphs) | Click here |
| Serbia | Low | None | | Stable | 0 | 0% | Type A, Subtype H1v | 16.5 (graphs) | (graphs) | Click here |
| Slovakia | Low | Local | | Decreasing | 0 | 0% | None | (graphs) | | Click here |
| Slovenia | Low | None | | Stable | 2 | 50.0% | None | 0.0 (graphs) | 575.4 (graphs) | Click here |
| Sweden | Low | Sporadic | | Stable | 26 | 57.7% | Type A, Subtype H1v | (graphs) | (graphs) | Click here |
| Switzerland | Low | Sporadic | | Increasing | | | | 10.7 (graphs) | (graphs) | Click here |
| Turkey | | | | | 16 | 0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Ukraine | Low | None | | Stable | 0 | 0% | None | (graphs) | 179.2 (graphs) | Click here |
| Wales | Medium | | | Increasing | | | | (graphs) | (graphs) | Click here |
| Europe | | | | | 611 | 10.0% | | | | 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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza activity above the baseline in Ireland, Norway, Malta and the United Kingdom

*Pandemic (H1N1) 2009 virus detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain. As of 31 July 2009, 46 of the 53 countries in the WHO European Region have reported to WHO confirmed cases of pandemic (H1N1) 2009 virus infection, in compliance with their obligations under the International Health Regulations. Forty-one fatalities associated with pandemic (H1N1) 2009 virus infections were reported in six countries.*

**Summary:** In week 30/2009, most countries reporting in the European Region indicated low levels of influenza activity. However, a total of 1599 detections of A(H1N1)v influenza were reported in week 30/2009 and 16 countries reported that A(H1N1)v is the dominant virus. Three new countries (Ireland, Malta and Norway) reported influenza activity above the baseline in week 30/2009. This means that eight countries (England, Ireland, Malta, Luxembourg, Northern Ireland, Norway, Turkey and Wales) have now reported an intensity above the baseline in the last four weeks.

**Epidemiological situation - week 30/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in England and Malta, medium in Ireland, Luxembourg, Northern Ireland, Norway and Wales and low in all other countries that reported this indicator. For the geographical spread indicator, England and Norway reported widespread activity, Malta and Italy reported regional activity, and all other countries reported local, sporadic or no activity.

**Cumulative epidemiological situation - weeks 16-30/2009:** Until week 25/2009, detections of pandemic H1N1 influenza had not caused increased levels of ILI or ARI in countries of the European Region. However, national baseline thresholds for ILI were reached in England (in week 26/2009), Luxembourg (26/2007), Turkey (26/2009), Wales (27/2009), Northern Ireland (29/2009), Malta (30/2009), Norway (30/2009) and Ireland (30/2009). Malta has reported a high intensity of influenza activity in week 30/2009, with 11% of sentinel GP consultations due to ILI. In most countries the highest consultation rates are seen in children (0-4 and 5-14).

**Virological situation - week 30/2009:** The total number of respiratory specimens collected by sentinel physicians in week 30/2009 was 700 of which 84 (12%) were positive for influenza virus: all 84 were type A (79 subtype H1v, 3 subtype H1 and 2 not subtyped). In addition, 2220 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 2212 type A (1520 subtype H1v, 151 subtype H1, six subtype H3 and 535 not subtyped) and eight type B. Therefore, of the total influenza A virus detections that were subtyped in week 30/2009 (N=1759), 91% were the pandemic (H1N1) 2009 virus.

**Cumulative virological situation - weeks 16/2009-30/2009:** Of 9596 virus detections (sentinel and non-sentinel) since week 16/2009, 9008 (94%) were type A (5098 subtype H1v, 407 subtype H3, 460 subtype H1 and 3043 not subtyped) and 588 (6%) were type B. A general increasing trend for pandemic (H1N1) 2009 virus over the past weeks is presented here.

Based on the antigenic and/or genetic characterisation of 3714 influenza viruses reported from week 40/2008 to week 30/2009, 2329 (63%) were A/Brisbane/10/2007 (H3N2)-like, 153 (4%) A/Brisbane/59/2007 (H1N1)-like, 29 (1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 913 (25%) as B/Malaysia/2506/2004 or /B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here). A total of 290 (8%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for vaccine preparation (click here).

Antiviral susceptibility reports from week 40/2008 to 26/2009 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N3) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while for A(H1N1) viruses 98% were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic (H1N1) 2009 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, while only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** Influenza activity reported in this bulletin is based on data reported in week 30/2009. The reporting platform was modified this week and this probably explains why many countries did not provide clinical data to EuroFlu. In most countries in Europe influenza activity remains at baseline levels, however is the number of countries with ILI/ARI rates above the baseline is increasing. In week 29/2009 England reported levels that exceeded the peak rates seen during the previous eight seasons (click here), but the rates are levelling off or slightly decreasing in week 30/2009. This coincides with the start of school holidays and the introduction of the National Pandemic Flu Service, click here).

For more information about the situation in Europe, please go to the dedicated web pages of WHO (click here) and ECDC (click here).

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries in the WHO European Region. Of these countries, 23 reported both clinical and virological data, four reported virological data only and five reported clinical data only in week 30/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

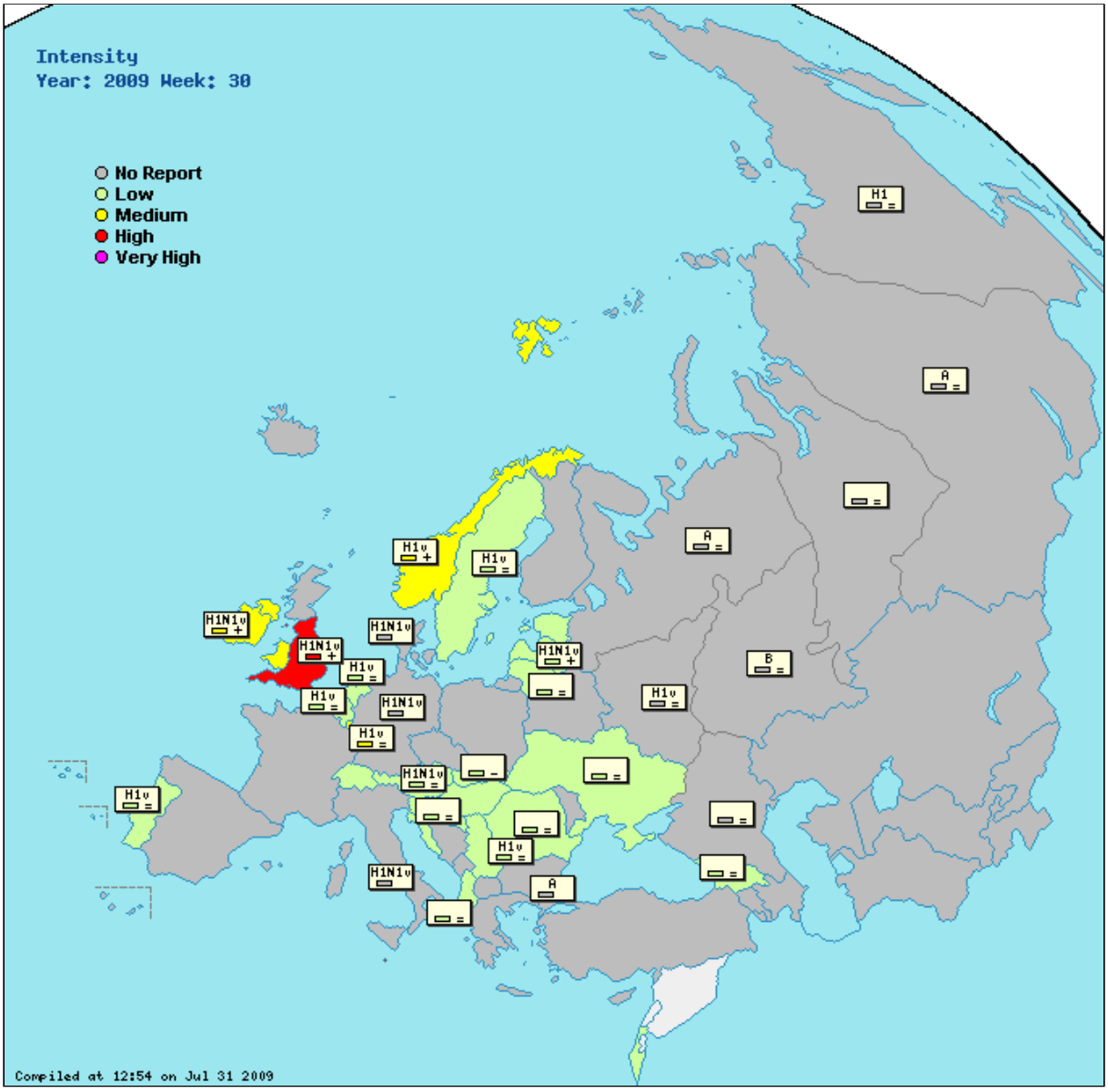
## Map

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** ○




**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)

**Austria**
Influenza A/B: 179 specimen, therefrom 62 Influenza A RSV: 12 specimen, all negative
**Croatia**
In the week No 30, among 51 examined suspect ILI cases 41 were virologically eliminated while 10 were confirmed as novel A/H1N1/ influenza cases. Through national daily zero repoting system few more sporadic ILI cases registerd. No clusters.
**Slovenia**
In addition to the data for week 30, in week 31 the first A(H1)v was detected in the specimen collected by GP in sentinel network.

## Table and graphs (where available)

| Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low | None | Stable | 104 | 1.9% | None | | (graphs) | 236.7 | (graphs) | Click here |
| Austria | Low | | Stable | 1 | 100.0% | Type A, Subtype H1N1v | 0.0 | (graphs) | | (graphs) | Click here |
| Belarus | | None | | 128 | 0% | None | | | | (graphs) | Click here |
| Belgium | Low | | Stable | 34 | 5.9% | Type A, Subtype H1v | 44.9 | (graphs) | 629.0 | (graphs) | Click here |
| Bulgaria | | | | 0 | 0% | Type A | | | | (graphs) | Click here |
| Croatia | Low | Local | Stable | | | | 1.4 | (graphs) | | (graphs) | Click here |
| Cyprus | | | | | | | | (graphs) | | (graphs) | Click here |
| Denmark | | Sporadic | | 0 | 0% | Type A, Subtype H1N1v | | (graphs) | | | Click here |
| England | High | Widespread | Increasing | 228 | 25.0% | Type A, Subtype H1N1v | 71.2 | (graphs) | 216.3 | (graphs) | Click here |
| Estonia | Low | None | Stable | | | | | (graphs) | | | Click here |
| Georgia | Low | Local | Stable | 0 | 0% | None | | (graphs) | | (graphs) | Click here |
| Germany | | | | 63 | 15.9% | Type A, Subtype H1N1v | | (graphs) | 408.2 | (graphs) | Click here |
| Greece | | | | 0 | 0% | None | | (graphs) | | | Click here |
| Hungary | Low | Local | Increasing | | | | | (graphs) | | (graphs) | Click here |
| Ireland | Medium | Local | Increasing | 16 | 0% | Type A, Subtype H1N1v | 37.0 | (graphs) | | (graphs) | Click here |
| Israel | Low | Local | Decreasing | | | | 16.9 | (graphs) | | (graphs) | Click here |
| Italy | | Regional | | 0 | 0% | Type A, Subtype H1N1v | | (graphs) | | | Click here |
| Kazakhstan | | None | | 5 | 60.0% | None | | | | (graphs) | Click here |
| Kyrgyzstan | | | | 0 | 0% | None | | | | (graphs) | Click here |
| Latvia | Low | Local | Increasing | 0 | 0% | Type A, Subtype H1N1v | 0.0 | (graphs) | 162.8 | (graphs) | Click here |
| Lithuania | Low | Sporadic | Stable | 0 | 0% | None | 0.1 | (graphs) | 76.8 | (graphs) | Click here |
| Luxembourg | Medium | Sporadic | | 31 | 0% | Type A, Subtype H1v | | (graphs) | | | Click here |
| Malta | High | Regional | Increasing | | | | | (graphs) | | (graphs) | Click here |
| Netherlands | Low | None | Stable | 11 | 27.3% | Type A, Subtype H1v | 34.9 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Medium | | | 22 | 22.7% | None | 134.1 | (graphs) | | (graphs) | Click here |
| Norway | Medium | Widespread | Increasing | 18 | 5.6% | Type A, Subtype H1v | | (graphs) | | (graphs) | Click here |
| Portugal | Low | Local | Stable | 0 | 0% | Type A, Subtype H1v | 3.5 | (graphs) | | (graphs) | Click here |
| Romania | Low | None | Stable | 0 | 0% | None | 9.2 | (graphs) | 461.8 | (graphs) | Click here |
| Russian Federation | | | Stable | 0 | 0% | Type A, Subtype H1v and H1 | | (graphs) | 195.2 | (graphs) | Click here |
| Serbia | Low | None | Stable | 0 | 0% | Type A, Subtype H1v | 13.7 | (graphs) | | (graphs) | Click here |
| Slovakia | Low | None | Decreasing | 0 | 0% | None | 47.2 | (graphs) | 528.3 | (graphs) | Click here |
| Slovenia | Low | None | Stable | 3 | 0% | None | 0.0 | (graphs) | 560.4 | (graphs) | Click here |
| Sweden | Low | Sporadic | Stable | 32 | 0% | Type A, Subtype H1v | | (graphs) | | (graphs) | Click here |
| Switzerland | Low | None | Increasing | | | | 10.8 | (graphs) | | (graphs) | Click here |
| Turkey | | Local | Increasing | | | | 7.4 | (graphs) | | (graphs) | Click here |
| Ukraine | Low | None | Stable | 4 | 0% | None | | (graphs) | | (graphs) | Click here |
| Wales | Medium | Local | Increasing | | | | | (graphs) | | (graphs) | Click here |
| Europe | | | | 700 | 12.0% | | | | | | 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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Malta reports high influenza activity, while activity is low or moderate in other European countries

*Pandemic (H1N1) 2009 virus detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain. As of 6 August 2009, 46 of the 53 countries in the WHO European Region have reported to WHO confirmed cases of pandemic (H1N1) 2009 virus infection, in compliance with their obligations under the International Health Regulations. Fifty-four fatalities associated with pandemic (H1N1) 2009 virus infection were reported in seven countries.*

**Summary:** In week 31/2009, a total of 1699 detections of A(H1N1)v influenza were reported despite most countries reporting in the European Region low levels of influenza activity. Malta reported high influenza activity in week 31/2009, based on a large proportion of the population being affected by respiratory illness. All other countries reported that a normal or slightly increased proportion of their populations were affected by respiratory illness. Seventeen countries reported A(H1N1)v as the dominant virus.

**Epidemiological situation - week 31/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Malta, and low or moderate in all other countries. For the geographical spread indicator, Austria, England, Malta and Wales reported widespread activity, Italy reported regional activity, and the other countries reported local or no activity.

**Cumulative epidemiological situation - weeks 16-31/2009:** Until week 25/2009, detections of pandemic H1N1 influenza had not caused increased levels of ILI or ARI in countries of the European Region. An increase in influenza activity has been observed for England, Luxembourg, Turkey (26/2009), Wales (27/2009), Northern Ireland (29/2009), Malta, Norway, Ireland (30/2009) and Austria (31/2009). In week 31/2009, the consultations for ILI seem to have levelled off in Ireland and Italy, but Malta has reported high influenza activity with 17% of sentinel GP consultations being due to ILI.

**Virological situation - week 31/2009:** The total number of respiratory specimens collected by sentinel physicians in week 31/2009 was 771 of which 85 (11%) were positive for influenza virus: all 85 were type A (65 subtype H1v, 16 subtype H1 and 4 not subtyped). In addition, 2040 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 2032 type A (1634 subtype H1v, 73 subtype H1, eight subtype H3 and 317 not subtyped) and eight type B. Of the total influenza A virus detections that were subtyped in week 31/2009 (N=1796), 95% were the pandemic (H1N1) 2009 virus.

**Cumulative virological situation - weeks 16/2009-31/2009:** Of 11342 virus detections (sentinel and non-sentinel) since week 16/2009, 10792 (95%) were type A (6636 subtype H1v, 338 subtype H3, 488 subtype H1 and 3330 not subtyped) and 550 (5%) were type B.

Based on the antigenic and/or genetic characterisation of 4365 influenza viruses reported from week 40/2008 to week 31/2009, 2612 (60%) were A/Brisbane/10/2007 (H3N2)-like, 154 (3%) A/Brisbane/59/2007 (H1N1)-like, 31 (1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 1034 (24%) as B/Malaysia/2506/2004 or B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here). A total of 534 (12%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for vaccine preparation (click here).

Antiviral susceptibility reports from week 40/2008 to 26/2009 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N2) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while for seasonal A(H1N1) viruses 98% were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic (H1N1) 2009 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, while only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** In week 31/2009 influenza activity was low or moderate intensity across the European region with the exception of Malta, where 17% of the population consulted general practitioners due to respiratory illness. Widespread activity was reported for Austria, England, Malta and Wales. In Ireland the consultation rates were levelling off. In UK pandemic influenza activity appears to be decreasing across most of the country, though remains at levels higher than expected at this time of year (click here for the HPA Weekly Update).

For more information about the situation in Europe, please go to the dedicated web pages of WHO (click here) and ECDC (click here).

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries in the WHO European Region. Of these countries, 27 reported both clinical and virological data, four reported virological data only and four reported clinical data only in week 31/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

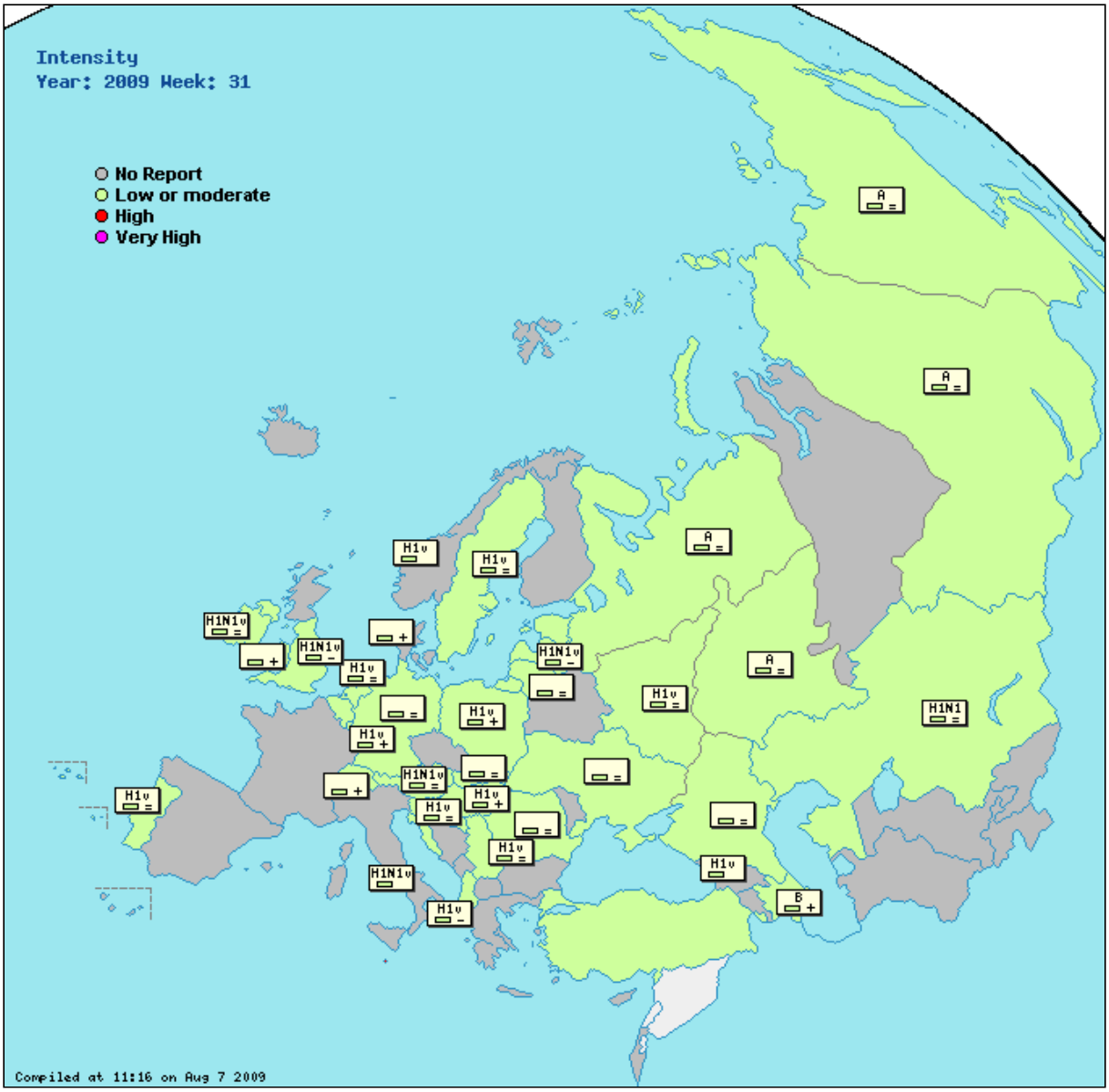
## Map

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** ○




**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 or moderate** = a normal or slightly increased proportion of the population is currently affected by respiratory illness
**High** = a large proportion of the population is currently affected by respiratory illness
**Very high** = a very large proportion of the population is currently affected by respiratory illness

**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)

**Israel**
0
**Italy**
During this last week, a significant decrease in the H1N1v influenza lab-confirmed cases has been reported, if compared to the previous week. Starting from last week, Italian policy has been changed: a syndromic surveillance has been implemented and only a limited number of samples have been collected from particular FLU cases (i.e. severe hospedalized cases, in-country transmission cases).
**Russian Federation**
As of August 02 2009 14 strains of new influenza A(H1N1)v virus were isolated in MDCK cells in RF including 9 strains isolated on the week 31.
**Slovenia**
In Slovenia in the week 31 first 4 A (H1N1)v influenza viruses were detected in specimens collected by sentinel physicians.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low or moderate | Local | Decreasing | 73 | 5.5% | Type A, Subtype H1v | | (graphs) | 211.3 | (graphs) | Click here |
| Austria | Low or moderate | Widespread | Stable | 0 | 0% | Type A, Subtype H1N1v | | (graphs) | | | Click here |
| Azerbaijan | Low or moderate | Local | Increasing | 103 | 1.9% | Type B | | (graphs) | | | Click here |
| Belgium | Low or moderate | Local | | 77 | 14.3% | None | 66.0 | (graphs) | 683.2 | (graphs) | Click here |
| Croatia | Low or moderate | Local | Stable | | | | 1.2 | (graphs) | | (graphs) | Click here |
| Denmark | | None | Increasing | 24 | 41.7% | None | | (graphs) | | | Click here |
| England | Low or moderate | Widespread | Decreasing | 165 | 12.1% | Type A, Subtype H1N1v | | (graphs) | | | Click here |
| Estonia | Low or moderate | None | Stable | | | | 0.2 | (graphs) | 60.3 | (graphs) | Click here |
| Georgia | | | | 10 | 0% | Type A, Subtype H1v | | (graphs) | | | Click here |
| Germany | Low or moderate | None | Stable | 68 | 7.4% | None | | (graphs) | 414.1 | (graphs) | Click here |
| Greece | | | | 0 | 0% | None | | (graphs) | | | Click here |
| Hungary | Low or moderate | Local | Increasing | 6 | 0% | Type A, Subtype H1v | | (graphs) | | (graphs) | Click here |
| Ireland | Low or moderate | Local | Stable | 32 | 15.6% | Type A, Subtype H1N1v | 32.5 | (graphs) | | (graphs) | Click here |
| Israel | | | | | | | 29.5 | (graphs) | | (graphs) | Click here |
| Italy | | Regional | | 0 | 0% | Type A, Subtype H1N1v | | (graphs) | | | Click here |
| Kazakhstan | Low or moderate | None | Stable | 10 | 100.0% | Type A, Subtype H1N1 | | | | (graphs) | Click here |
| Kyrgyzstan | | | | 0 | 0% | None | | | | (graphs) | Click here |
| Latvia | Low or moderate | Local | Decreasing | 0 | 0% | Type A, Subtype H1N1v | 0.0 | (graphs) | 128.2 | (graphs) | Click here |
| Lithuania | Low or moderate | None | Stable | 0 | 0% | None | | (graphs) | | | Click here |
| Luxembourg | Low or moderate | Local | | 30 | 10.0% | Type A, Subtype H1v | | (graphs) | | | Click here |
| Malta | High | Widespread | Increasing | | | | | (graphs) | | (graphs) | Click here |
| Netherlands | Low or moderate | Local | Stable | 14 | 14.3% | Type A, Subtype H1v | 33.4 | (graphs) | | (graphs) | Click here |
| Northern Ireland | Low or moderate | | | 41 | 17.1% | None | 142.5 | (graphs) | | (graphs) | Click here |
| Norway | | | | 20 | 5.0% | Type A, Subtype H1v | | (graphs) | | | Click here |
| Poland | Low or moderate | None | Increasing | 4 | 0% | Type A, Subtype H1v | 6.2 | (graphs) | | (graphs) | Click here |
| Portugal | Low or moderate | Local | Stable | 0 | 0% | Type A, Subtype H1v | 3.3 | (graphs) | | (graphs) | Click here |
| Romania | Low or moderate | None | Stable | 38 | 0% | None | 7.2 | (graphs) | 483.7 | (graphs) | Click here |
| Russian Federation | Low or moderate | None | Stable | 0 | 0% | Type A | | (graphs) | 202.6 | (graphs) | Click here |
| Serbia | Low or moderate | None | Stable | 0 | 0% | Type A, Subtype H1v | 13.5 | (graphs) | | (graphs) | Click here |
| Slovakia | Low or moderate | None | Stable | 0 | 0% | None | 41.4 | (graphs) | 558.0 | (graphs) | Click here |
| Slovenia | Low or moderate | None | Stable | 16 | 25.0% | Type A, Subtype H1v | 6.3 | (graphs) | 428.0 | (graphs) | Click here |
| Sweden | Low or moderate | None | Stable | 28 | 0% | Type A, Subtype H1v | | (graphs) | | (graphs) | Click here |
| Switzerland | Low or moderate | None | Increasing | 0 | 0% | None | 16.5 | (graphs) | | (graphs) | Click here |
| Turkey | Low or moderate | Local | Increasing | | | | 4.4 | (graphs) | | (graphs) | Click here |
| Ukraine | Low or moderate | None | Stable | 3 | 0% | None | | | | (graphs) | Click here |
| Wales | Low or moderate | Widespread | Increasing | 9 | 11.1% | None | 69.9 | (graphs) | | (graphs) | Click here |
| Europe | | | | 771 | 11.0% | | | | | | Click here |

*Preliminary data*

**Intensity:** Low or moderate = a normal or slightly increased proportion of the population is currently affected by respiratory illness; High = a large proportion of the population is currently affected by respiratory illness; Very high = a very large proportion of the population is currently affected by respiratory illness.
**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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Pandemic (H1N1) 2009 virus detections reported in many countries in the last month, with slightly decreasing number of detections in week 32/2009

*Pandemic (H1N1) 2009 virus detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain. As of 13 August 2009, 46 of the 53 countries in the WHO European Region have reported to WHO confirmed cases of pandemic (H1N1) 2009 virus infection, in compliance with their obligations under the International Health Regulations. Fifty-four fatalities associated with pandemic (H1N1) 2009 virus infection were reported in seven countries. An overview of the global pandemic (H1N1) 2009 situation, as of 6 August 2009, is available at: http://www.who.int/csr/don/2009_08_12/en/index.html*

**Summary:** In week 32/2009, a total of 1200 detections of A(H1N1)v influenza were reported. The total number of Pandemic (H1N1) 2009 virus detections in Europe was highest in week 30, and is decreasing since week 31. Although for some countries the number of detections are decreasing, other countries report increasing detections for Pandemic (H1N1) 2009 virus. All countries reported low or moderate intensity indicating a normal or slightly increased proportion of their populations were affected by respiratory illness. Fifteen countries reported A(H1)v as the dominant virus.

**Epidemiological situation - week 32/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low or moderate in all countries. For the geographical spread indicator, Austria, England, Israel, the Netherlands and Wales reported widespread activity, and the other countries reported local or no activity. Of ten countries reporting on the impact of the pandemic, all reported low impact ie. demands on health care services were not above usual levels (click here for definitions).

**Cumulative epidemiological situation - weeks 16-32/2009:** Until week 25/2009, detections of pandemic H1N1 influenza had not caused increased levels of ILI or ARI in countries of the European Region. An increase in influenza activity has been observed for England, Luxembourg, Turkey (26/2009), Wales (27/2009), Northern Ireland (29/2009), Malta, Norway, Ireland (30/2009), Israel and Austria (31/2009). In week 32/2009, the consultations for ILI have increased in the Netherlands and Israel, and are slightly above the baseline, while decreasing rates were seen in the UK.

**Virological situation - week 32/2009:** The total number of respiratory specimens collected by sentinel physicians in week 32/2009 was 597 of which 48 (8%) were positive for influenza virus: all 48 were type A (41 subtype H1v, 1 subtype H1, 1 subtype H3 and 5 not subtyped). In addition, 1495 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were reported positive for influenza virus: 1491 type A (1293 subtype H1v, 2 subtype H1, three subtype H3 and 193 not subtyped) and four type B. Of the total influenza A virus detections that were subtyped in week 32/2009 (N=1341), 99% were the pandemic (H1N1) 2009 virus.

In a large number of countries, e.g. Austria, Denmark, Estonia, Georgia, Hungary, Norway, Portugal, Ireland, and the UK, the number of Pandemic (H1N1) 2009 virus detections is decreasing. An increase in Pandemic (H1N1) 2009 virus detections was observed for Lithuania, Poland, Slovakia, Slovenia and Switzerland in week 32/2009.

**Cumulative virological situation - weeks 16/2009-32/2009:** Of 12908 virus detections (sentinel and non-sentinel) since week 16/2009, 12355 (96%) were type A, 8210 subtype H1v, 342 subtype H3, 255 subtype H1 and 3548 not subtyped) and 550 (4%) were type B.

Based on the antigenic and/or genetic characterisation of 4508 influenza viruses reported from week 40/2008 to week 32/2009, 2636 (58%) were A/Brisbane/10/2007 (H3N2)-like, 155 (3%) A/Brisbane/59/2007 (H1N1)-like, 32 (1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 1062 (24%) as B/Malaysia/2506/2004 or B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here). A total of 623 (14%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for vaccine preparation (click here).

Antiviral susceptibility reports from week 40/2008 to 32/2009 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N2) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while for seasonal A(H1N1) viruses 98% were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic (H1N1) 2009 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, while only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** In week 32/2009 influenza activity was low or moderate intensity across the European region. Widespread activity was reported for Austria, Israel, the Netherlands, England and Wales. A peak in the detections of Pandemic (H1N1) 2009 virus detections was observed around week 30 for Europe as a whole (click here and is decreasing for a number of countries in week 32/2009, possibly due to some countries switching to virological monitoring rather than testing of all cases. While in the Netherlands and Israel the consultation rates were slightly increasing, in the UK (click here) and Ireland (click here) the consultation rates were levelling off or decreasing. The impact on health care services is currently considered low by ten countries.

For more information about the situation in Europe, please go to the dedicated web pages of WHO (click here) and ECDC (click here). EuroFlu provides data for the global situation updates on the the WHO headquarters website (click here).

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries in the WHO European Region. Of these countries, 26 reported both clinical and virological data, five reported virological data only and six reported clinical data only in week 32/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

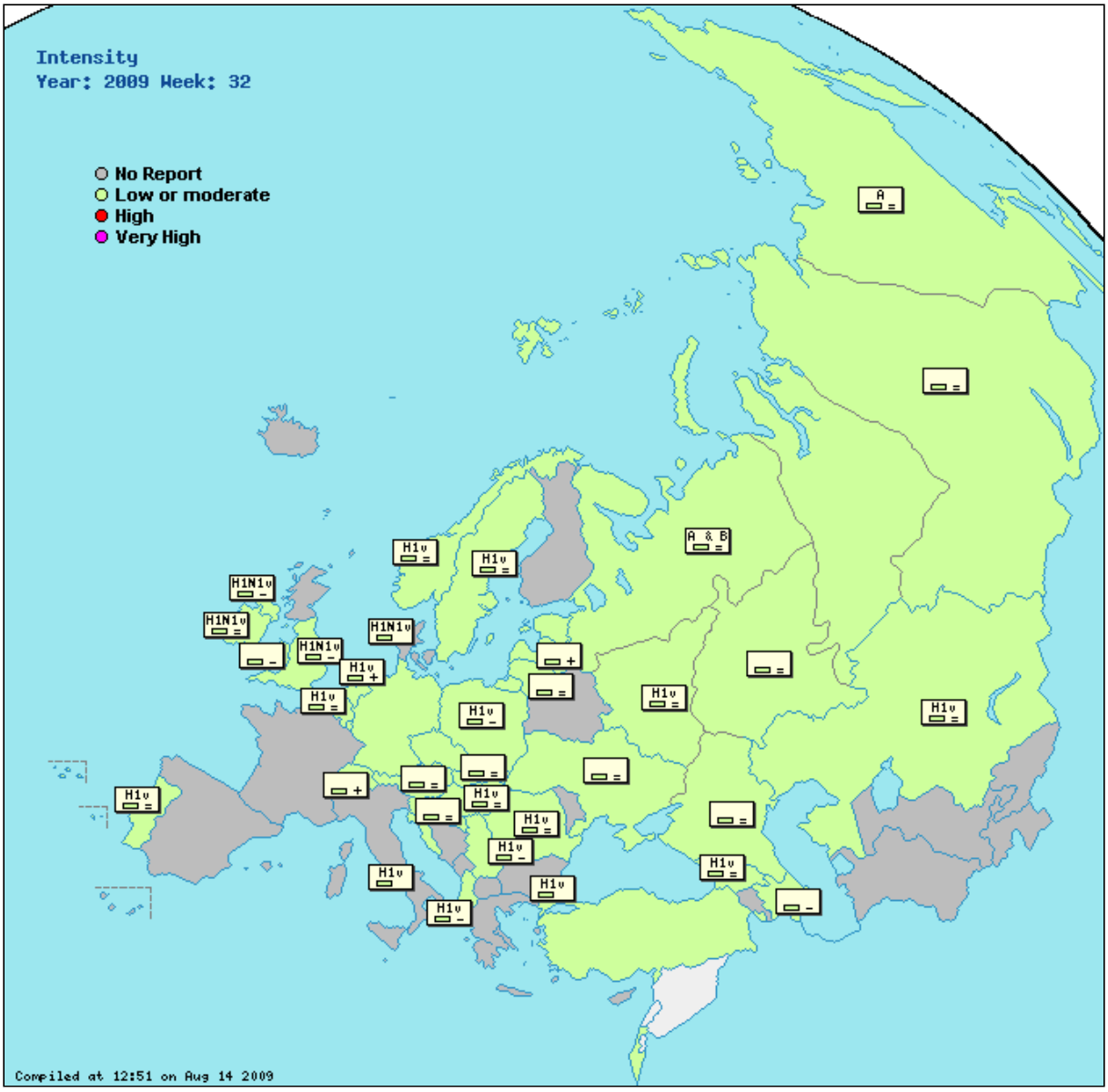
## Map

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** ○




**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 or moderate** = a normal or slightly increased proportion of the population is currently affected by respiratory illness
**High** = a large proportion of the population is currently affected by respiratory illness
**Very high** = a very large proportion of the population is currently affected by respiratory illness

**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)

**Azerbaijan**
Consultation data is cumulative for Baku, Ganja, Sumgayit, Mingechever and Shirvan Cities only.
**Italy**
During this last week, a newly significant decrease in the H1N1v influenza lab-confirmed cases has been reported, if compared to the previous weeks. Starting from 30th week, Italian policy has been changed: a syndromic surveillance has been implemented and only a limited number of samples have been collected from particular FLU cases (i.e. severe hospedalized cases, in-country transmission cases).
**Russian Federation**
Sporadic cases of pandemic influenza A(H1N1)v were detected in Moscow and St.-Petersburg according to results of

virus isolation.

**Switzerland**

135 A(H1N1)v viruses were detected in specimens collected by non-sentinel physicians in week 32/2009. 100 A(H1N1)v viruses were detected in week 31/2009, and 109 A(H1N1)v, as well as 2 A(H3) and 1 B in week 30/2009.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low or moderate | Local | | Decreasing | 69 | 8.7% | Type A, Subtype H1v | (graphs) | 211.1 (graphs) | Click here |
| Austria | Low or moderate | Widespread | | Stable | 0 | 0% | None | (graphs) | | Click here |
| Azerbaijan | Low or moderate | None | | Decreasing | 70 | 0% | None | (graphs) | (graphs) | Click here |
| Belgium | Low or moderate | Local | | Stable | 94 | 12.8% | Type A, Subtype H1v | 72.7 (graphs) | 662.6 (graphs) | Click here |
| Bosnia and Herzegovina | | | | | 0 | 0% | None | (graphs) | | Click here |
| Bulgaria | | | | | 0 | 0% | Type A, Subtype H1v | | (graphs) | Click here |
| Croatia | Low or moderate | Local | | Stable | | | | 0.0 (graphs) | (graphs) | Click here |
| Czech Republic | Low or moderate | None | | Stable | | | | 14.0 (graphs) | 1002.4 (graphs) | Click here |
| Denmark | | | | | 5 | 0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| England | Low or moderate | Widespread | | Decreasing | 87 | 4.6% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Estonia | Low or moderate | None | | Stable | | | | 0.3 (graphs) | 45.1 (graphs) | Click here |
| France | | | | | | | | (graphs) | 633.4 (graphs) | Click here |
| Georgia | Low or moderate | Local | | Stable | 21 | 0% | Type A, Subtype H1v | (graphs) | (graphs) | Click here |
| Germany | Low or moderate | None | | | 42 | 16.7% | None | (graphs) | 374.7 (graphs) | Click here |
| Hungary | Low or moderate | Local | | Stable | 9 | 0% | Type A, Subtype H1v | 0.0 (graphs) | (graphs) | Click here |
| Ireland | Low or moderate | Local | | Stable | 32 | 21.9% | Type A, Subtype H1N1v | 33.1 (graphs) | (graphs) | Click here |
| Israel | Low or moderate | Widespread | | Increasing | | | | 56.1 (graphs) | (graphs) | Click here |
| Italy | | | | | 0 | 0% | Type A, Subtype H1v | (graphs) | | Click here |
| Kazakhstan | Low or moderate | None | | Stable | 0 | 0% | Type A, Subtype H1v | | (graphs) | Click here |
| Kyrgyzstan | | | | | 7 | 0% | None | | (graphs) | Click here |
| Latvia | Low or moderate | None | | Increasing | 0 | 0% | None | 0.0 (graphs) | 207.1 (graphs) | Click here |
| Lithuania | Low or moderate | Local | | Stable | 0 | 0% | None | (graphs) | | Click here |
| Luxembourg | Low or moderate | Local | | | | | | (graphs) | | Click here |
| Malta | | | | | | | | (graphs) | (graphs) | Click here |
| Montenegro | | None | | | | | | 5.5 (graphs) | 67.1 (graphs) | Click here |
| Netherlands | Low or moderate | Widespread | | Increasing | 16 | 12.5% | Type A, Subtype H1v | 56.1 (graphs) | (graphs) | Click here |
| Northern Ireland | Low or moderate | | | Decreasing | 42 | 9.5% | Type A, Subtype H1N1v | 104.5 (graphs) | (graphs) | Click here |
| Norway | Low or moderate | Local | | Stable | 15 | 6.7% | Type A, Subtype H1v | 133.8 (graphs) | (graphs) | Click here |
| Poland | Low or moderate | None | | Decreasing | 1 | 0% | Type A, Subtype H1v | 3.5 (graphs) | (graphs) | Click here |
| Portugal | Low or moderate | Local | | Stable | 1 | 0% | Type A, Subtype H1v | 10.6 (graphs) | (graphs) | Click here |
| Romania | Low or moderate | None | | Stable | 29 | 0% | Type A, Subtype H1v | 5.4 (graphs) | 541.7 (graphs) | Click here |
| Russian Federation | Low or moderate | None | | Stable | 0 | 0% | Type A | (graphs) | 199.6 (graphs) | Click here |
| Serbia | Low or moderate | None | | Decreasing | 0 | 0% | Type A, Subtype H1v | 11.0 (graphs) | (graphs) | Click here |
| Slovakia | Low or moderate | None | | Stable | 3 | 33.3% | None | 40.4 (graphs) | 528.5 (graphs) | Click here |
| Slovenia | Low or moderate | None | | Stable | 17 | 5.9% | None | 6.3 (graphs) | 497.3 (graphs) | Click here |
| Sweden | Low or moderate | None | | Stable | 25 | 8.0% | Type A, Subtype H1v | (graphs) | (graphs) | Click here |
| Switzerland | Low or moderate | None | | Increasing | 0 | 0% | None | (graphs) | | Click here |
| Turkey | Low or moderate | Local | | Stable | | | | (graphs) | (graphs) | Click here |
| Ukraine | Low or moderate | None | | Stable | 2 | 0% | None | (graphs) | 194.5 (graphs) | Click here |
| Uzbekistan | | | | | | | | (graphs) | 0.0 (graphs) | Click here |
| Wales | Low or moderate | Widespread | | Decreasing | 10 | 10.0% | None | 49.4 (graphs) | (graphs) | Click here |
| Europe | | | | | 597 | 8.0% | | | | Click here |

*Preliminary data*

**Intensity:** Low or moderate = a normal or slightly increased proportion of the population is currently affected by respiratory illness; High = a large proportion of the population is currently affected by respiratory illness; Very high = a very large proportion of the population is currently affected by respiratory illness.
**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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Low or moderate influenza activity and an overall decrease in the number of Pandemic (H1N1) 2009 virus detections

*Pandemic (H1N1) 2009 virus detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain. As of 19 August 2009, 47 of the 53 countries in the WHO European Region have reported to WHO confirmed cases of pandemic (H1N1) 2009 virus infection, in compliance with their obligations under the International Health Regulations. Ninety fatalities associated with pandemic (H1N1) 2009 virus infection were reported in nine countries. An overview of the global pandemic (H1N1) 2009 situation is available, as of 13 August 2009.*

**Summary:** In week 33/2009, a total of 793 detections of A(H1N1)v influenza were reported. The number of Pandemic (H1N1) 2009 virus detections in Europe was highest in week 30, and has decreased since week 31. All countries reported low or moderate influenza activity based on normal or slightly increased levels of ILL/ARI consultations. Twenty-two countries reported pandemic A(H1)v as the dominant virus.

**Epidemiological situation - week 33/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low or moderate in all countries. For the geographical spread indicator, Austria, England, Israel and Sweden reported widespread activity, while other countries reported local or no activity. Of 23 countries reporting the impact of the pandemic, Ireland reported moderate impact. All other countries reported low impact, i.e. demands on health care services were not above usual levels (click here for definitions).

**Cumulative epidemiological situation - weeks 16-33/2009:** Until week 25/2009, detections of pandemic H1N1 influenza had not caused increased levels of ILI or ARI in countries of the European Region. An increase in influenza activity has been observed for England, Luxembourg, Turkey (26/2009), Wales (27/2009), Northern Ireland (29/2009), Malta, Norway, Ireland (30/2009), Israel and Austria (31/2009), and the Netherlands (32/2009). Around week 32 an increase in ILI rates was observed for Norway. While the ILI rate for Norway has been elevated over the last few weeks, the proportion of ILI cases (i.e. sentinel specimens) with detectable virus is very low. The rise in ILI therefore is likely to represent increased public concern for influenza and does probably not indicate a substantial rise in the incidence of infection.

**Virological situation - week 33/2009:** The total number of respiratory specimens collected by sentinel physicians in week 33/2009 was 480 of which 40 (8%) were positive for influenza virus: all 40 were type A (35 subtype H1v, 1 subtype H3 and 4 not subtyped). In addition, 1012 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals or as part of enhanced surveillance for pandemic (H1N1) 2009) were reported positive for influenza virus: 1010 type A (793 subtype H1v, 38 subtype H1, six subtype H3 and 173 not subtyped) and two type B. Of the total influenza A virus detections that were subtyped in week 33/2009 (N=837), 95% were the pandemic (H1N1) 2009 virus. In Portugal the number of Pandemic (H1N1) 2009 virus detections is substantially increasing (click here). In many other countries the number of detections is decreasing or levelling off.

**Cumulative virological situation - weeks 16/2009-33/2009:** Of 13878 virus detections (sentinel and non-sentinel) since week 16/2009, 13316 (96%) were type A, 8958 subtype H1v, 348 subtype H3, 293 subtype H1 and 3717 not subtyped) and 562 (4%) were type B.

Based on the antigenic and/or genetic characterisation of 4609 influenza viruses reported from week 40/2008 to week 33/2009, 2640 (57%) were A/Brisbane/10/2007 (H3N2)-like, 155 (3%) A/Brisbane/59/2007 (H1N1)-like, 32 (1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 1066 (23%) as B/Malaysia/2506/2004 or B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here). A total of 716 (16%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for pandemic vaccine preparation (click here).

Antiviral susceptibility reports from week 40/2008 to 32/2009 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N2) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while for seasonal A(H1N1) viruses 98% were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic (H1N1) 2009 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, while only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** In week 33/2009 influenza activity was of low or moderate intensity across the European region. Widespread activity was reported for Austria, Israel, England and Sweden. A peak in Pandemic (H1N1) 2009 virus detections was observed around week 30 for Europe as a whole (click here) and is decreasing for a number of countries in week 33/2009, possibly due to some countries switching to virological monitoring rather than testing of all cases. The impact on health care services is currently considered moderate in Ireland and low in other countries.

For more information about the situation in Europe, please go to the dedicated web pages of WHO (click here) and ECDC (click here). EuroFlu provides data for the global situation updates on the WHO headquarters website (click here).

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries of the WHO European Region. Of these countries, 23 reported both clinical and virological data, six reported virological data only and seven reported clinical data only in week 33/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

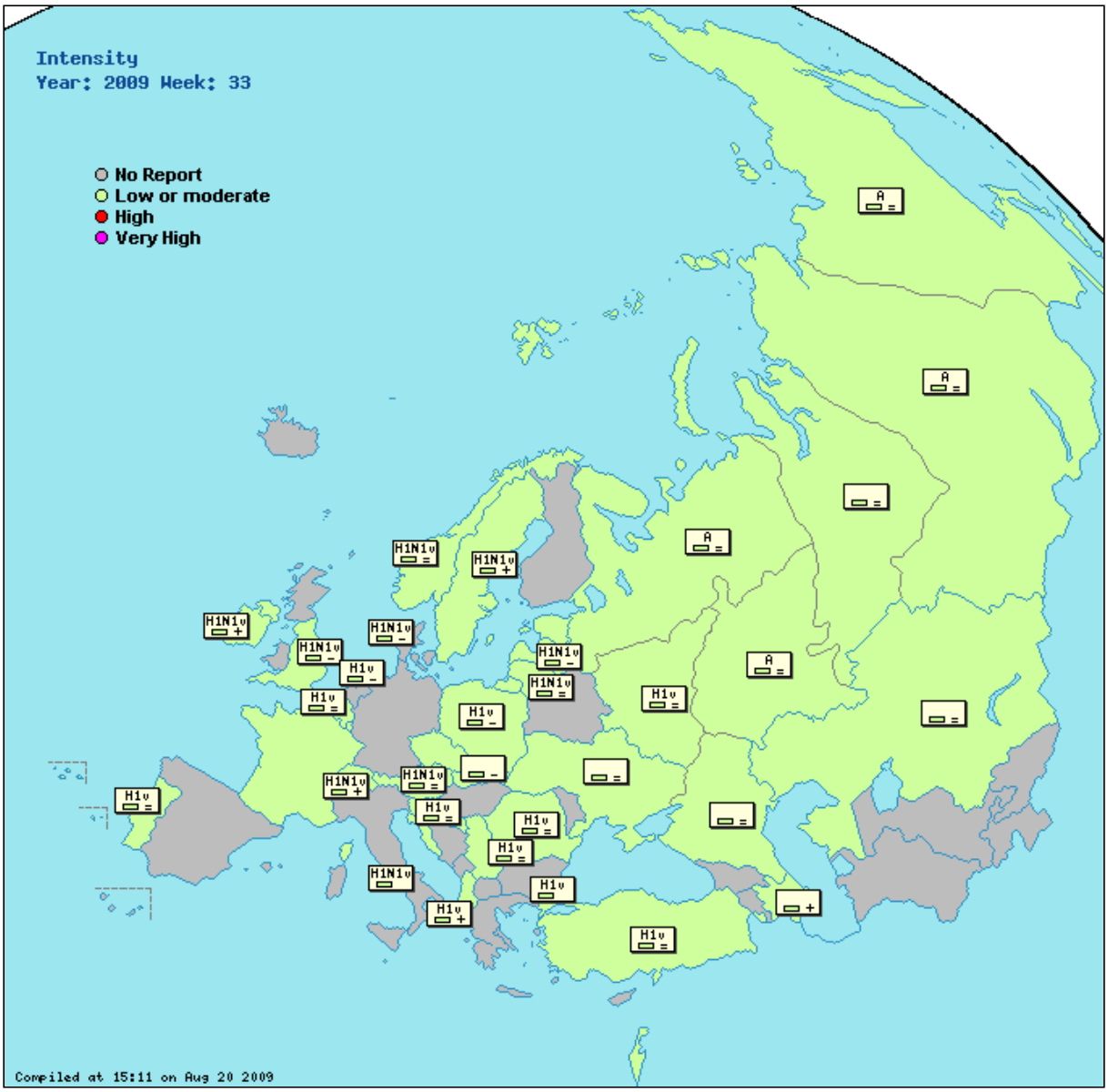
## Map

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** ○




**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 or moderate** = a normal or slightly increased proportion of the population is currently affected by respiratory illness
**High** = a large proportion of the population is currently affected by respiratory illness
**Very high** = a very large proportion of the population is currently affected by respiratory illness

**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)

**Azerbaijan**
Consultation data is cumulative for Baku, Ganja, Sumgayit, Mingechever and Shirvan Cities only.
**Italy**
The data collected this week confirmed the trend towards decrease in the H1N1v influenza lab-confirmed cases, if compared to the previous weeks. Starting from 30th week, Italian policy has been changed: a syndromic surveillance has been implemented and only a limited number of samples have been collected from particular FLU cases (i.e. severe hospedalized cases, in-country transmission cases).
**Switzerland**
144 A(H1N1)v viruses were detected in specimens collected by non-sentinel physicians in week 33/2009. 136 A(H1N1)v viruses were detected in week 32/2009, 100 in week 31/2009, and 109 A(H1N1)v, as well as 2 A(H3) and 1 B in week 30/2009.

# Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low or moderate | None | | Increasing | 63 | 6.4% | Type A, Subtype H1v | (graphs) | (graphs) | Click here |
| Austria | Low or moderate | Widespread | | Stable | 9 | 11.1% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Azerbaijan | Low or moderate | None | | Increasing | 48 | 0% | None | (graphs) | (graphs) | Click here |
| Belgium | Low or moderate | Local | | Stable | 72 | 19.4% | Type A, Subtype H1v | 62.4 (graphs) | 670.1 (graphs) | Click here |
| Bosnia and Herzegovina | | | | | 0 | 0% | None | (graphs) | | Click here |
| Bulgaria | | | | | 0 | 0% | Type A, Subtype H1v | | (graphs) | Click here |
| Croatia | Low or moderate | Local | | Stable | | | | 0.6 (graphs) | (graphs) | Click here |
| Czech Republic | Low or moderate | None | | Stable | | | | 13.9 (graphs) | 1012.9 (graphs) | Click here |
| Denmark | | | | Decreasing | 6 | 0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| England | Low or moderate | Widespread | | Decreasing | 69 | 4.4% | Type A, Subtype H1N1v | 0.0 (graphs) | (graphs) | Click here |
| Estonia | Low or moderate | None | | Stable | | | | 1.9 (graphs) | 175.2 (graphs) | Click here |
| France | Low or moderate | None | | Stable | | | | (graphs) | 528.2 (graphs) | Click here |
| Georgia | | None | | | 13 | 0% | None | (graphs) | (graphs) | Click here |
| Germany | | None | | | 36 | 16.7% | None | (graphs) | 369.4 (graphs) | Click here |
| Greece | | | | | 0 | 0% | None | (graphs) | | Click here |
| Hungary | | | | | | | | (graphs) | (graphs) | Click here |
| Ireland | Low or moderate | Regional | | Increasing | 43 | 14.0% | Type A, Subtype H1N1v | 42.2 (graphs) | (graphs) | Click here |
| Israel | Low or moderate | Widespread | | Stable | | | | 57.5 (graphs) | (graphs) | Click here |
| Italy | | | | | 0 | 0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Kazakhstan | Low or moderate | | | Stable | 0 | 0% | None | | (graphs) | Click here |
| Kyrgyzstan | | | | | 0 | 0% | None | | (graphs) | Click here |
| Latvia | Low or moderate | None | | Decreasing | 1 | 100.0% | Type A, Subtype H1N1v | 0.0 (graphs) | 235.5 (graphs) | Click here |
| Lithuania | Low or moderate | Local | | Stable | 0 | 0% | Type A, Subtype H1N1v | 0.5 (graphs) | 77.7 (graphs) | Click here |
| Luxembourg | Low or moderate | Local | | | | | | (graphs) | | Click here |
| Malta | | | | | | | | (graphs) | (graphs) | Click here |
| Netherlands | | Local | | Decreasing | 16 | 0% | Type A, Subtype H1v | 34.0 (graphs) | (graphs) | Click here |
| Northern Ireland | Low or moderate | Local | | | | | | 88.7 (graphs) | (graphs) | Click here |
| Norway | Low or moderate | Local | | Stable | 16 | 0% | Type A, Subtype H1N1v | 153.2 (graphs) | (graphs) | Click here |
| Poland | Low or moderate | Local | | Decreasing | 0 | 0% | Type A, Subtype H1v | 5.1 (graphs) | (graphs) | Click here |
| Portugal | Low or moderate | Local | | Stable | 2 | 50.0% | Type A, Subtype H1v | 11.5 (graphs) | (graphs) | Click here |
| Romania | Low or moderate | None | | Stable | 19 | 0% | Type A, Subtype H1v | 3.6 (graphs) | 457.5 (graphs) | Click here |
| Russian Federation | Low or moderate | None | | Stable | 0 | 0% | Type A, Subtype H1v | (graphs) | 208.3 (graphs) | Click here |
| Serbia | Low or moderate | None | | Stable | 0 | 0% | Type A, Subtype H1v | 10.5 (graphs) | (graphs) | Click here |
| Slovakia | Low or moderate | None | | Decreasing | 0 | 0% | None | 38.2 (graphs) | 516.9 (graphs) | Click here |
| Slovenia | Low or moderate | None | | Stable | 22 | 9.1% | Type A, Subtype H1v | 0.0 (graphs) | 538.9 (graphs) | Click here |
| Sweden | Low or moderate | Widespread | | Increasing | 33 | 6.1% | Type A, Subtype H1N1v | (graphs) | (graphs) | Click here |
| Switzerland | Low or moderate | Local | | Increasing | 6 | 0% | Type A, Subtype H1N1v | 38.9 (graphs) | (graphs) | Click here |
| Turkey | Low or moderate | Local | | Stable | 0 | 0% | Type A, Subtype H1v | 9.9 (graphs) | (graphs) | Click here |
| Ukraine | Low or moderate | None | | Stable | 6 | 0% | None | (graphs) | 202.7 (graphs) | Click here |
| Wales | | | | | | | | 21.8 (graphs) | (graphs) | Click here |
| Europe | | | | | 480 | 8.3% | | | | Click here |

*Preliminary data*

**Intensity:** Low or moderate = a normal or slightly increased proportion of the population is currently affected by respiratory illness; High = a large proportion of the population is currently affected by respiratory illness; Very high = a very large proportion of the population is currently affected by respiratory illness.
**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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Low or moderate influenza activity and a continued overall decrease in the number of Pandemic (H1N1) 2009 virus detections

*Pandemic (H1N1) 2009 virus detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain. As of 19 August 2009, 47 of the 53 countries in the WHO European Region have reported to WHO confirmed cases of pandemic (H1N1) 2009 virus infection, in compliance with their obligations under the International Health Regulations. Ninety fatalities associated with pandemic (H1N1) 2009 virus infection were reported in nine countries. An overview of the global pandemic (H1N1) 2009 situation is available, as of 13 August 2009.*

**Summary:** In week 34/2009, a total of 697 detections of A(H1N1)v influenza were reported. The number of Pandemic (H1N1) 2009 virus detections in Europe was highest in week 30, and has decreased since week 31. All countries reported low or moderate influenza activity based on normal or slightly increased levels of ILL/ARI consultations. Twenty-one countries reported pandemic A(H1)v as the dominant virus.

**Epidemiological situation - week 34/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low or moderate in all countries. For the geographical spread indicator, Austria and Israel reported widespread activity, while other countries reported local or no activity. Of 14 countries reporting the impact of the pandemic, Ireland reported a moderate impact and all other countries reported a low impact, i.e. demands on health care services were not above usual levels (click here for definitions).

**Cumulative epidemiological situation - weeks 16-34/2009:** Until week 25/2009, detections of pandemic H1N1 influenza had not caused increased levels of ILI or ARI in countries of the European Region. An increase in influenza activity has been observed for England, Luxembourg, Turkey (26/2009), Wales (27/2009), Northern Ireland (29/2009), Malta, Norway, Ireland (30/2009), Israel and Austria (31/2009), and the Netherlands (32/2009). Around week 31 a substantial increase in ILI rates was observed in Norway and this has continued in week 34 (click here). While the ILI rate for Norway has been elevated over the last few weeks, the proportion of ILI cases (i.e. sentinel specimens) with detectable virus remains very low. The rise in ILI is therefore likely to represent increased public concern for influenza and probably does not indicate a substantial rise in the incidence of ILI.

**Virological situation - week 34/2009:** The total number of respiratory specimens collected by sentinel physicians in week 34/2009 was 466 of which 67 (14%) were positive for influenza virus: all 67 were type A (65 subtype H1v and 2 not subtyped). In addition, 722 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals or as part of enhanced surveillance for pandemic (H1N1) 2009) were reported positive for influenza virus: 718 type A (632 subtype H1v, 34 subtype H1, five subtype H3 and 47 not subtyped) and four type B. Of the total influenza A virus detections that were subtyped in week 34/2009 (N=736), 95% were the pandemic (H1N1) 2009 virus. In general, the number of Pandemic (H1N1) 2009 virus detections in Member States is decreasing or levelling off.

**Cumulative virological situation - weeks 16/2009-34/2009:** Of 14752 virus detections (sentinel and non-sentinel) since week 16/2009, 14186 (96%) were type A, 9726 subtype H1v, 354 subtype H3, 330 subtype H1 and 3776 not subtyped) and 566 (4%) were type B.

Based on the antigenic and/or genetic characterisation of 3992 influenza viruses reported from week 40/2008 to week 34/2009, 2187 (55%) were A/Brisbane/10/2007 (H3N2)-like, 108 (3%) A/Brisbane/59/2007 (H1N1)-like, 27 (1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 996 (25%) as B/Malaysia/2506/2004 or B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here). A total of 674 (17%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for pandemic vaccine preparation (click here).

Antiviral susceptibility reports from week 40/2008 to 34/2009 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N2) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while for seasonal A(H1N1) viruses 98% were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic (H1N1) 2009 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, while only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** In week 34/2009 influenza activity was of low or moderate intensity across the European Region. For the geographical spread indicator, widespread activity was reported for Austria and Israel, with the other countries reporting local or no activity. A peak in Pandemic (H1N1) 2009 virus detections was observed around week 30 for Europe as a whole (click here) and total detections continued to decline in week 34/2009, possibly due in part to some countries switching to virological monitoring rather than testing of all cases. The impact on health care services is currently considered moderate in Ireland and low in other countries.

For more information about the situation in Europe, please go to the dedicated web pages of WHO (click here) and ECDC (click here). EuroFlu provides data for the global situation updates on the WHO headquarters website (click here).

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries of the WHO European Region. Of these countries, 14 reported both clinical and virological data, 18 reported virological data only and six reported clinical data only in week 34/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

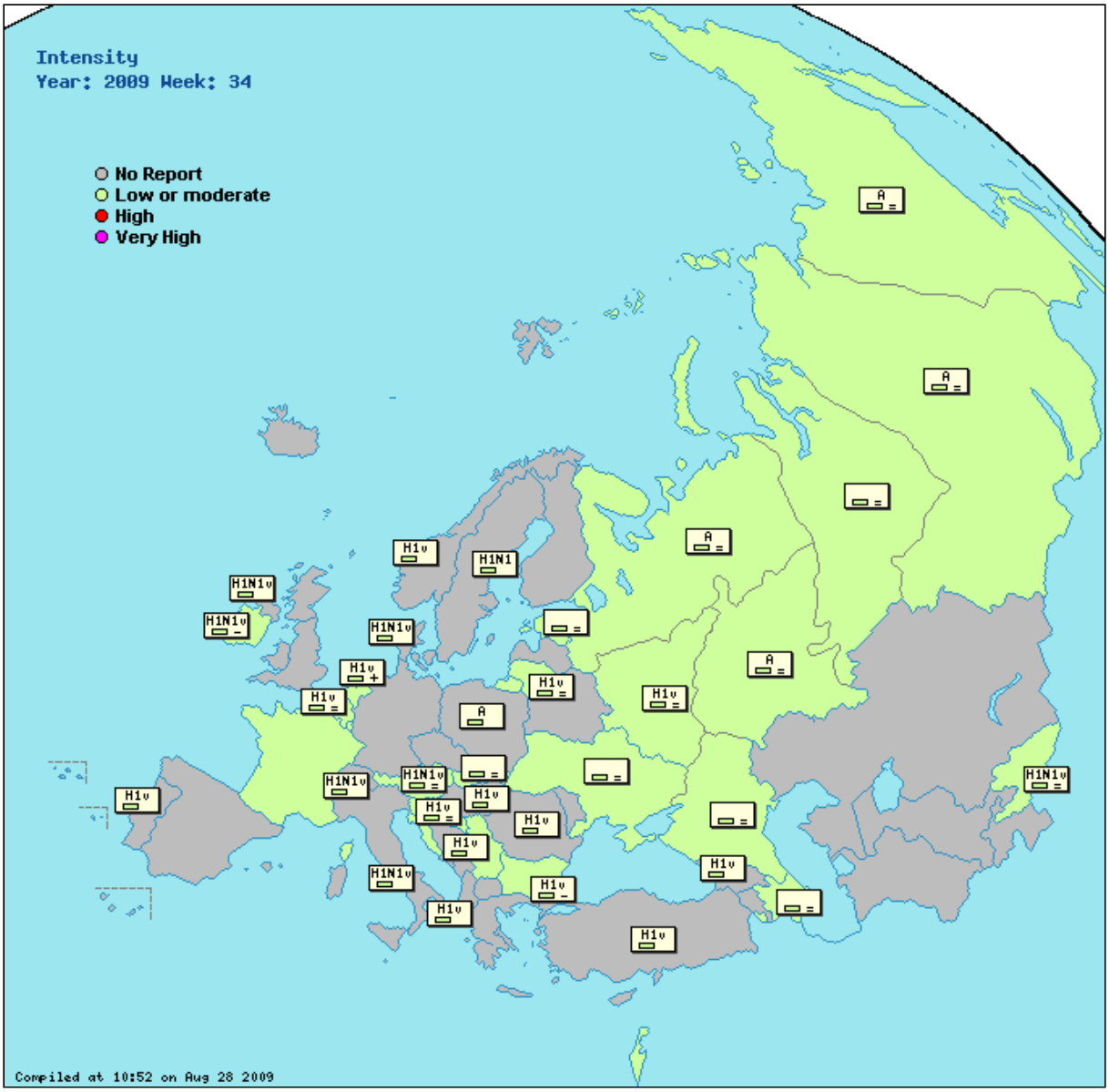
## Map

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 or moderate** = a normal or slightly increased proportion of the population is currently affected by respiratory illness
**High** = a large proportion of the population is currently affected by respiratory illness
**Very high** = a very large proportion of the population is currently affected by respiratory illness

**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)

**Italy**
The data collected this week been matched by substantial stability in pandemic H1N1v influenza lab-confirmed cases, if compared to the previous week. Starting from 30th week, Italian policy has been changed: a syndromic surveillance has been implemented and only a limited number of samples have been collected from particular FLU cases (i.e. severe hospedalized cases, in-country transmission cases).

**Netherlands**
The decrease in the number of virus detections is caused by the change in the notification criteria for Pandemic (H1N1) cases in the Netherlands. Since the 15th of August only hospitalized cases and deaths in whom Influenza A or Pandemic

(H1N1) virus has been confirmed are notifiable.The sentinel GP surveillance is now the most import data source to measure the extent of circulation of Pandemic (H1N1) virus in the Netherlands.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | | | | | 56 | 7.1% | Type A, Subtype H1v | (graphs) | 221.7 (graphs) | Click here |
| Austria | Low or moderate | Widespread | | Stable | 16 | 12.5% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Azerbaijan | Low or moderate | None | | Stable | 51 | 0% | None | (graphs) | (graphs) | Click here |
| Belgium | Low or moderate | Local | | Stable | 76 | 17.1% | Type A, Subtype H1v | 70.8 (graphs) | 556.0 (graphs) | Click here |
| Bosnia and Herzegovina | | | | | 0 | 0% | Type A, Subtype H1v | (graphs) | | Click here |
| Bulgaria | Low or moderate | None | | Decreasing | 0 | 0% | Type A, Subtype H1v | (graphs) | 269.9 (graphs) | Click here |
| Croatia | Low or moderate | Local | | Stable | | | | 1.1 (graphs) | (graphs) | Click here |
| Denmark | | | | | 9 | 22.2% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Estonia | Low or moderate | None | | Stable | 1 | 0% | None | 0.5 (graphs) | 56.2 (graphs) | Click here |
| France | Low or moderate | None | | Stable | | | | (graphs) | 718.1 (graphs) | Click here |
| Georgia | | | | | 13 | 0% | Type A, Subtype H1v | (graphs) | | Click here |
| Germany | | | | | 48 | 16.7% | None | (graphs) | 349.1 (graphs) | Click here |
| Greece | | | | | 0 | 0% | None | (graphs) | | Click here |
| Hungary | | | | | 4 | 0% | Type A, Subtype H1v | (graphs) | (graphs) | Click here |
| Ireland | Low or moderate | Local | | Decreasing | 33 | 27.3% | Type A, Subtype H1N1v | 33.5 (graphs) | (graphs) | Click here |
| Israel | Low or moderate | Widespread | | Decreasing | | | | 48.5 (graphs) | (graphs) | Click here |
| Italy | | | | | 0 | 0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Kazakhstan | | | | | 0 | 0% | None | | (graphs) | Click here |
| Kyrgyzstan | Low or moderate | None | | Stable | 0 | 0% | Type A, Subtype H1N1v | (graphs) | 14.5 (graphs) | Click here |
| Latvia | | | | | 3 | 0% | None | 0.5 (graphs) | 144.2 (graphs) | Click here |
| Lithuania | Low or moderate | None | | Stable | 0 | 0% | Type A, Subtype H1v | 0.5 (graphs) | 76.4 (graphs) | Click here |
| Luxembourg | Low or moderate | Local | | | | | | (graphs) | | Click here |
| Montenegro | | | | | 0 | 0% | None | (graphs) | | Click here |
| Netherlands | Low or moderate | Local | | Increasing | 14 | 35.7% | Type A, Subtype H1v | 41.1 (graphs) | (graphs) | Click here |
| Northern Ireland | | | | | 40 | 32.5% | Type A, Subtype H1N1v | 77.3 (graphs) | (graphs) | Click here |
| Norway | | | | | 16 | 0% | Type A, Subtype H1v | 197.5 (graphs) | (graphs) | Click here |
| Poland | | | | | 5 | 20.0% | Type A | 4.3 (graphs) | (graphs) | Click here |
| Portugal | | | | | 1 | 0% | Type A, Subtype H1v | 2.7 (graphs) | (graphs) | Click here |
| Romania | | | | | 17 | 0% | Type A, Subtype H1v | 3.2 (graphs) | 464.6 (graphs) | Click here |
| Russian Federation | Low or moderate | None | | Stable | 0 | 0% | Type A | (graphs) | 231.1 (graphs) | Click here |
| Serbia | Low or moderate | None | | Stable | | | | 10.6 (graphs) | (graphs) | Click here |
| Slovakia | Low or moderate | None | | Stable | 0 | 0% | None | 53.0 (graphs) | 524.2 (graphs) | Click here |
| Slovenia | Low or moderate | None | | Stable | 9 | 0% | Type A, Subtype H1v | 1.9 (graphs) | 334.3 (graphs) | Click here |
| Sweden | | | | | 39 | 12.8% | Type A, Subtype H1N1 | (graphs) | (graphs) | Click here |
| Switzerland | | | | | 13 | 38.5% | Type A, Subtype H1N1v | 35.8 (graphs) | (graphs) | Click here |
| Turkey | | | | | 0 | 0% | Type A, Subtype H1v | (graphs) | | Click here |
| Ukraine | Low or moderate | None | | Stable | 2 | 0% | None | (graphs) | 205.3 (graphs) | Click here |
| Wales | | | | | | | | 9.5 (graphs) | (graphs) | Click here |
| Europe | | | | | 466 | 14.4% | | | | Click here |

*Preliminary data*

**Intensity:** Low or moderate = a normal or slightly increased proportion of the population is currently affected by respiratory illness; High = a large proportion of the population is currently affected by respiratory illness; Very high = a very large proportion of the population is currently affected by respiratory illness.
**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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Low or moderate influenza activity and a continued overall decrease in the number of Pandemic (H1N1) 2009 virus detections

*Pandemic (H1N1) 2009 virus detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain. As of 3 September 2009, 48 of the 53 countries in the WHO European Region have reported to WHO confirmed cases of pandemic (H1N1) 2009 virus infection, in compliance with their obligations under the International Health Regulations. These include 125 fatalities. An overview of the global pandemic (H1N1) 2009 situation is available.*

**Summary:** In week 35/2009, a total of 431 detections of A(H1N1)v influenza were reported. The number of pandemic (H1N1) 2009 virus detections in Europe was highest in week 30, and has decreased since week 31. All countries reported low or moderate influenza activity based on normal or slightly increased levels of ILL/ARI consultations. Seventeen countries reported pandemic A(H1)v as the dominant virus.

**Epidemiological situation - week 35/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low or moderate in all countries. For the geographical spread indicator, Israel and Sweden reported widespread activity, while all other countries reported local, sporadic or no activity. An increasing trend was reported by Sweden and the Russian Federation (Northwest region and Central region). Of 17 countries reporting the impact of the pandemic, Albania and Ireland reported a moderate impact and all other countries reported a low impact, i.e. demands on health care services were not above usual levels (click here for definitions).

**Cumulative epidemiological situation - weeks 16-35/2009:** Until week 25/2009, detections of pandemic H1N1 influenza had not caused increased levels of ILI or ARI in countries of the European Region. An increase in influenza activity has been observed for England, Luxembourg, Turkey (26/2009), Wales (27/2009), Northern Ireland (29/2009), Ireland, Italy, Malta, Norway (30/2009), Austria and Israel (31/2009), and the Netherlands (32/2009). Around week 31 a substantial increase in ILI rates was observed in Norway and continued in week 34 (no data for week 35). While the ILI rate for Norway has been elevated over the last few weeks, the proportion of ILI cases (i.e. sentinel specimens) with detectable virus remains very low. The rise in ILI is therefore likely to represent increased public concern for influenza and probably does not indicate a substantial rise in influenza infections.

**Virological situation - week 35/2009:** The total number of respiratory specimens collected by sentinel physicians in week 35/2009 was 511 of which 46 (9%) were positive for influenza virus: 45 were type A (42 subtype H1v and 3 not subtyped) and one was type B. In addition, 666 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals or as part of enhanced surveillance for pandemic (H1N1) 2009) were reported positive for influenza virus: 664 type A (389 subtype H1v, 168 subtype H1, 12 subtype H3 and 95 not subtyped) and two type B. Of the total influenza A virus detections that were subtyped in week 35/2009 (N=611), 71% were the pandemic (H1N1) 2009 virus.

**Cumulative virological situation - weeks 16/2009-35/2009:** Of 15612 virus detections (sentinel and non-sentinel) since week 16/2009, 15043 (96%) were type A, 10190 subtype H1v, 367 subtype H3, 600 subtype H1 and 3886 not subtyped) and 569 (4%) were type B.

Based on the antigenic and/or genetic characterisation of 3566 influenza viruses reported from week 40/2008 to week 35/2009, 1968 (55%) were A/Brisbane/10/2007 (H3N2)-like, 107 (3%) A/Brisbane/59/2007 (H1N1)-like, 27 (1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 912 (26%) as B/Malaysia/2506/2004 or B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here). A total of 552 (15%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for pandemic vaccine preparation (click here).

Antiviral susceptibility reports from week 40/2008 to 35/2009 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N2) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while for seasonal A(H1N1) viruses 98% were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic (H1N1) 2009 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, while only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** In week 35/2009 influenza activity was of low or moderate intensity across the European Region. For the geographical spread indicator, widespread activity was reported for Israel and Sweden, with the other countries reporting local or no activity. A peak in pandemic (H1N1) 2009 virus detections was observed around week 30 for Europe as a whole (click here) and total detections continued to decline in week 35/2009. The impact on health care services is currently considered moderate in Albania and Ireland and low in other countries.

For more information about the situation in Europe, please go to the dedicated web pages of WHO (click here) and ECDC (click here). EuroFlu provides data for the global situation updates on the WHO headquarters website (click here).

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries of the WHO European Region. Of these countries, 14 reported both clinical and virological data, 14 reported virological data only and seven reported clinical data only in week 35/2009. The spread of influenza viruses and their epidemiological impact in Europe are being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

## Map

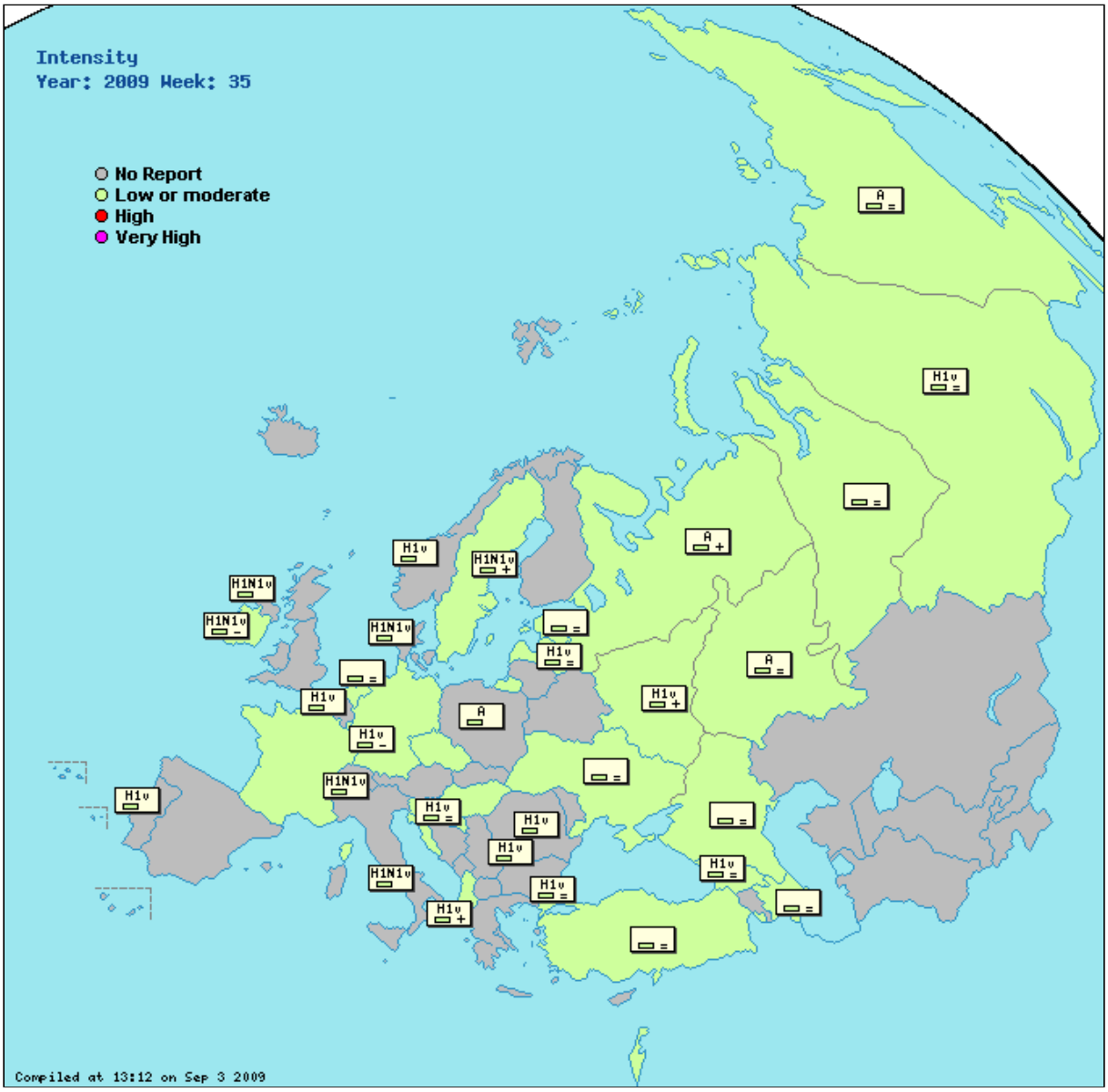
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant

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 or moderate** = a normal or slightly increased proportion of the population is currently affected by respiratory illness
**High** = a large proportion of the population is currently affected by respiratory illness
**Very high** = a very large proportion of the population is currently affected by respiratory illness

**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)

**Croatia**
confirmed and clinical cases
**Italy**
During this last week, a significant increase in the H1N1v influenza lab-confirmed cases has been reported by the majority of the Italian laboratories participating in the surveillance activities
**Latvia**
First case of influenza A/H3 was confirmed in pateien arrived from USA.

# Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low or moderate | None | | Increasing | 75 | 12.0% | Type A, Subtype H1v | (graphs) | 253.9 (graphs) | Click here |
| Azerbaijan | Low or moderate | None | | Stable | 47 | 0% | None | (graphs) | (graphs) | Click here |
| Belgium | | | | | 79 | 10.1% | Type A, Subtype H1v | 78.8 (graphs) | 692.2 (graphs) | Click here |
| Bulgaria | | None | | Stable | 0 | 0% | Type A, Subtype H1v | (graphs) | 290.7 (graphs) | Click here |
| Croatia | Low or moderate | Sporadic | | Increasing | | | | 9.3 (graphs) | (graphs) | Click here |
| Czech Republic | Low or moderate | Sporadic | | Stable | | | | (graphs) | 0.0 (graphs) | Click here |
| Denmark | | | | | 8 | 0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Estonia | Low or moderate | None | | Stable | 2 | 0% | None | 0.5 (graphs) | 80.1 (graphs) | Click here |
| France | Low or moderate | None | | Stable | | | | (graphs) | 801.4 (graphs) | Click here |
| Georgia | Low or moderate | Sporadic | | Stable | 8 | 0% | Type A, Subtype H1v | (graphs) | (graphs) | Click here |
| Germany | Low or moderate | None | | | 59 | 6.8% | None | (graphs) | 464.7 (graphs) | Click here |
| Greece | | | | | 3 | 33.3% | None | (graphs) | | Click here |
| Hungary | Low or moderate | Sporadic | | Increasing | | | | (graphs) | (graphs) | Click here |
| Ireland | Low or moderate | Local | | Decreasing | 15 | 20.0% | Type A, Subtype H1N1v | 33.7 (graphs) | (graphs) | Click here |
| Israel | Low or moderate | Widespread | | Decreasing | | | | 39.6 (graphs) | (graphs) | Click here |
| Italy | | | | | 2 | 100.0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Kazakhstan | | | | | 0 | 0% | None | | (graphs) | Click here |
| Kyrgyzstan | | | | | 2 | 0% | None | | (graphs) | Click here |
| Latvia | Low or moderate | Sporadic | | Stable | 0 | 0% | Type A, Subtype H1v | (graphs) | | Click here |
| Lithuania | | | | | 0 | 0% | None | 0.2 (graphs) | 73.5 (graphs) | Click here |
| Luxembourg | Low or moderate | Sporadic | | | 26 | 11.5% | Type A, Subtype H1v | (graphs) | | Click here |
| Malta | | | | | | | | (graphs) | (graphs) | Click here |
| Netherlands | Low or moderate | Local | | Stable | 17 | 0% | None | 43.3 (graphs) | (graphs) | Click here |
| Northern Ireland | | | | | 17 | 29.4% | Type A, Subtype H1N1v | 56.6 (graphs) | (graphs) | Click here |
| Norway | | | | | 19 | 10.5% | Type A, Subtype H1v | (graphs) | | Click here |
| Poland | | | | | 1 | 0% | Type A | 5.0 (graphs) | (graphs) | Click here |
| Portugal | | | | | 1 | 0% | Type A, Subtype H1v | 2.7 (graphs) | (graphs) | Click here |
| Romania | | | | | 22 | 0% | Type A, Subtype H1v | 1.5 (graphs) | 460.1 (graphs) | Click here |
| Russian Federation | Low or moderate | Sporadic | | Stable | 0 | 0% | Type A, Subtype H1v | (graphs) | 253.3 (graphs) | Click here |
| Serbia | | | | | 0 | 0% | Type A, Subtype H1v | 11.1 (graphs) | (graphs) | Click here |
| Slovakia | | | | | 1 | 0% | None | 47.4 (graphs) | 569.6 (graphs) | Click here |
| Slovenia | Low or moderate | None | | Stable | 10 | 0% | Type A, Subtype H1v | 0.0 (graphs) | 354.1 (graphs) | Click here |
| Sweden | Low or moderate | Widespread | | Increasing | 52 | 15.4% | Type A, Subtype H1N1v | 9.9 (graphs) | (graphs) | Click here |
| Switzerland | | | | | 15 | 6.7% | Type A, Subtype H1N1v and H3 | 45.8 (graphs) | (graphs) | Click here |
| Turkey | Low or moderate | Regional | | Stable | 29 | 0% | None | 0.0 (graphs) | (graphs) | Click here |
| Ukraine | Low or moderate | None | | Stable | 1 | 0% | None | (graphs) | 189.7 (graphs) | Click here |
| Wales | | | | | | | | 10.9 (graphs) | (graphs) | Click here |
| Europe | | | | | 511 | 9.0% | | | | Click here |

*Preliminary data*

**Intensity:** Low or moderate = a normal or slightly increased proportion of the population is currently affected by respiratory illness; High = a large proportion of the population is currently affected by respiratory illness; Very high = a very large proportion of the population is currently affected by respiratory illness.
**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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Low or moderate influenza activity with Pandemic (H1N1) 2009 virus detections

*Pandemic (H1N1) 2009 virus detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain. As of 3 September 2009, 48 of the 53 countries in the WHO European Region have reported to WHO confirmed cases of pandemic (H1N1) 2009 virus infection, in compliance with their obligations under the International Health Regulations. These include 125 fatalities. An overview of the global pandemic (H1N1) 2009 situation is available.*

**Summary:** In week 36/2009, a total of 706 detections of A(H1N1)v influenza were reported. The number of pandemic (H1N1) 2009 virus detections in Europe was highest in week 30, and has decreased since week 31. The number of detections was stable in week 36. However, differences in trend in detections exist between countries. All countries reported low or moderate influenza activity based on normal or slightly increased levels of ILL/ARI consultations. Sixteen countries reported pandemic A(H1N1)v as the dominant virus.

**Epidemiological situation - week 36/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low or moderate in all countries. For the geographical spread indicator, Austria and Israel reported widespread activity while all other countries reported local, sporadic or no activity.

For Austria the consultation rate was low in week 36 and the number of Pandemic (H1N1) 2009 virus detections slightly decreased. In Israel the consultation rate remains near the baseline and has levelled off, the same has been observed for the number of influenza A(H1N1)v virus detections. While Sweden reported widespread activity in week 35, no report on the influenza indicators was provided for week 36, but the consultation rates for ILI remained high, and an increase was also observed for the number of influenza A(H1N1)v detections. In Ireland the ILI rate is above the baseline but stable, and in Norway the ILI rate has started to decrease, as has the number of influenza A(H1N1)v detections. The 15-64 year age group most frequently visited general practitioners for ILI in Ireland, Sweden and Norway.

Of 12 countries reporting the impact of the pandemic, Ireland reported a moderate impact and all other countries reported a low impact, i.e. demands on health care services were not above usual levels (click here for definitions).

**Cumulative epidemiological situation - weeks 16-36/2009:** Until week 25/2009, detections of pandemic H1N1 influenza had not caused increased levels of ILI or ARI in countries of the European Region. An increase in influenza activity has been observed for England, Luxembourg, Turkey (26/2009), Wales (27/2009), Northern Ireland (29/2009), Ireland, Italy, Malta, Norway (30/2009), Austria and Israel (31/2009), the Netherlands (32/2009) and Sweden (week 35/2009).

**Virological situation - week 36/2009:** The total number of respiratory specimens collected by sentinel physicians in week 36/2009 was 718 of which 94 (13%) were positive for influenza virus: all 94 were type A (41 subtype H1N1v, 52 subtype H1 and 1 not subtyped). However, several of the viruses entered as seasonal H1N1 are probably erroneously recorded and are H1N1v. In addition, 709 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals or as part of enhanced surveillance for pandemic (H1N1) 2009) were reported positive for influenza virus: 707 type A (665 subtype H1N1v, 8 subtype H1, 7 subtype H3 and 27 not subtyped) and two type B. Of the total influenza A virus detections that were subtyped in week 36/2009 (N=773), 91% were the pandemic (H1N1) 2009 virus.

Whereas in several countries the number of pandemic (H1N1) 2009 virus detections are stable or decreasing, a slight increase in the number of Pandemic (H1N1) 2009 virus detections was observed for the Russian Federation (region Central) (click here) and Georgia (click here). Additionally an increase in influenza A/H1N1v detections was observed for Luxembourg after an initial drop in week 33 and 34.

**Cumulative virological situation - weeks 16/2009-36/2009:** Of 17713 virus detections (sentinel and non-sentinel) since week 16/2009, 17142 (97%) were type A (11210 subtype H1N1v, 375 subtype H3, 1640 subtype H1 and 3917 not subtyped) and 571 (3%) were type B.

Based on the antigenic and/or genetic characterisation of 4316 influenza viruses reported from week 40/2008 to week 36/2009, a total of 956 (22%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for pandemic vaccine preparation (click here). Furthermore, 2215 (51%) were A/Brisbane/10/2007 (H3N2)-like, 111 (3%) A/Brisbane/59/2007 (H1N1)-like, 29 (<1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 1005 (23%) as B/Malaysia/2506/2004 or B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here).
The graph for Europe shows that influenza A subtype H3N2 peaked during the winter around week 04/2009 and the Pandemic (H1N1) 2009 virus in the summer period, around week 30/2009 (click here). Part of the decrease in virus detections since week 30 is likely attributable to more restrictive testing practices that were introduced in many countries.

Antiviral susceptibility reports from week 40/2008 to 36/2009 have shown all type B influenza viruses to be sensitive to oseltamivir and zanamivir, all A(H3N2) viruses to be susceptible to oseltamivir and zanamivir but resistant to M2 inhibitors, while 98% of seasonal A(H1N1) were resistant to oseltamivir, 100% sensitive to zanamivir and 99% sensitive to M2 inhibitors. All pandemic (H1N1) 2009 viruses have been susceptible to zanamivir and resistant to M2 inhibitors, and while there have been at least 21 cases of oseltamivir resistance reported globally, only a single case of oseltamivir resistance has been reported in Denmark (click here).

**Comment:** In week 36/2009 influenza activity was of low or moderate intensity across the European Region. For the geographical spread indicator, widespread activity was reported for Austria and Israel, with the other countries reporting local, sporadic or no activity. A peak in pandemic (H1N1) 2009 virus detections was observed around week 30 for Europe as a whole (click here) and the total number of detections levelled off in week 36/2009. The impact on health care services is currently considered moderate in Ireland and low in eleven countries.

For more information about the situation in Europe, please go to the dedicated web pages of WHO (click here) and ECDC (click here).

EuroFlu provides data for the global situation updates on the WHO headquarters website (click here).

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries of the WHO European Region. Of these countries, 22 reported both clinical and virological data, nine reported virological data only and seven reported clinical data only in week 36/2009. The spread of influenza viruses and their epidemiological impact in Europe is being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

*Erratum: The rate in the Table is incorrect for Uzbekistan. The number of ILI cases in week 36 was 0.*

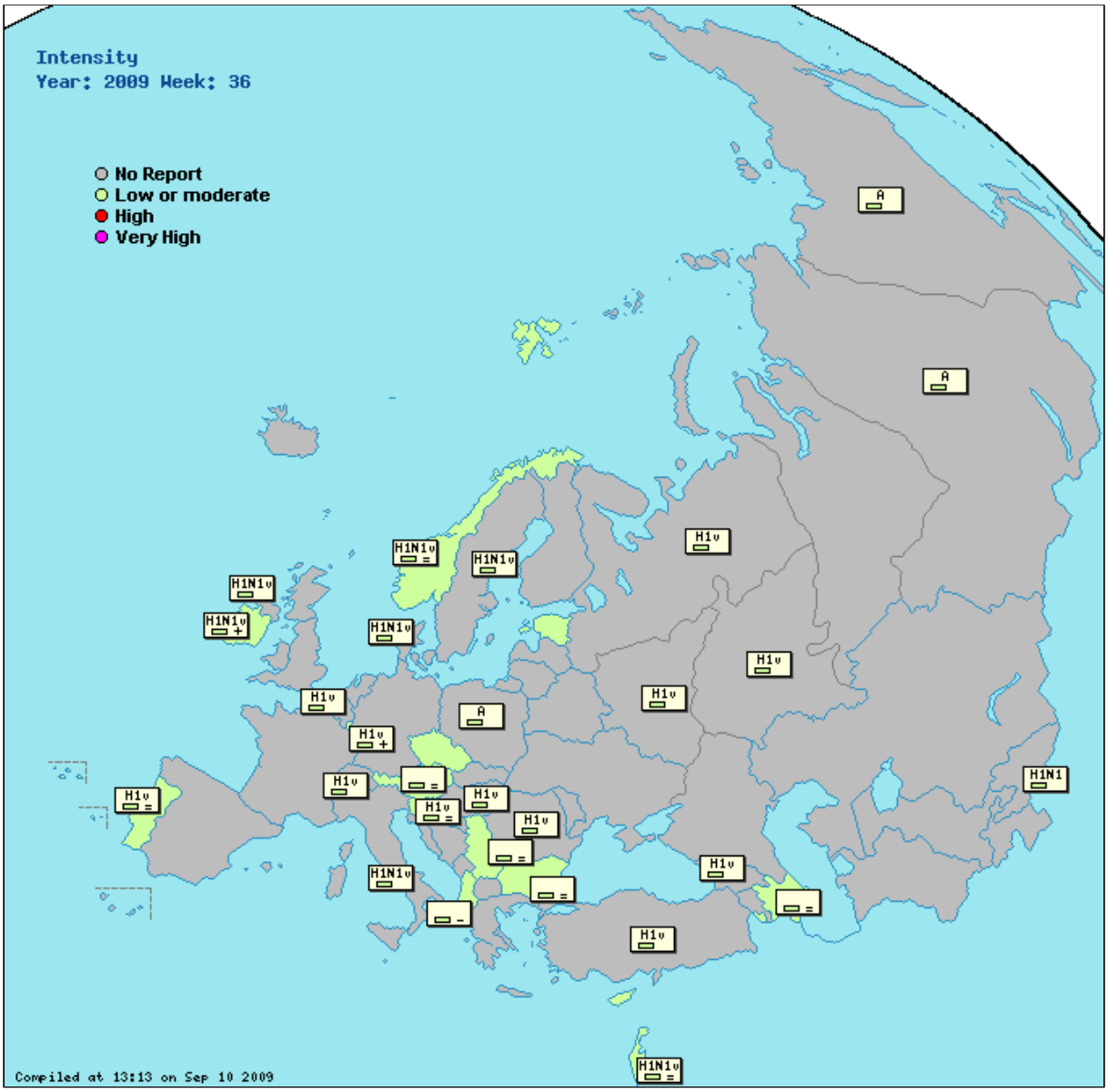
## Map

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 or moderate** = a normal or slightly increased proportion of the population is currently affected by respiratory illness
**High** = a large proportion of the population is currently affected by respiratory illness
**Very high** = a very large proportion of the population is currently affected by respiratory illness

**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)

### Switzerland
low activity of influenza is observed in Switzerland.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | Low or moderate | None | | Decreasing | 94 | 0% | None | (graphs) | (graphs) | Click here |
| Austria | Low or moderate | Widespread | | Stable | 12 | 16.7% | None | 300.8 (graphs) | (graphs) | Click here |
| Azerbaijan | Low or moderate | None | | Stable | 39 | 0% | None | (graphs) | (graphs) | Click here |
| Belgium | | | | | 84 | 6.0% | Type A, Subtype H1v | 76.2 (graphs) | 764.1 (graphs) | Click here |
| Bulgaria | Low or moderate | None | | Stable | 0 | 0% | None | (graphs) | 297.0 (graphs) | Click here |
| Cyprus | Low or moderate | Sporadic | | Stable | | | | (graphs) | (graphs) | Click here |
| Czech Republic | Low or moderate | Sporadic | | Stable | | | | (graphs) | 0.0 (graphs) | Click here |
| Denmark | | | | | 12 | 0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Estonia | Low or moderate | None | | Increasing | | | | 1.0 (graphs) | 92.8 (graphs) | Click here |
| France | | | | | | | | (graphs) | 734.9 (graphs) | Click here |
| Georgia | | | | | 11 | 0% | Type A, Subtype H1v | (graphs) | | Click here |
| Germany | | | | | 43 | 4.7% | None | (graphs) | 508.7 (graphs) | Click here |
| Greece | | | | | 0 | 0% | None | (graphs) | | Click here |
| Hungary | | | | | 9 | 22.2% | Type A, Subtype H1v | (graphs) | (graphs) | Click here |
| Ireland | Low or moderate | Local | | Increasing | 34 | 23.5% | Type A, Subtype H1N1v | 37.4 (graphs) | (graphs) | Click here |
| Israel | Low or moderate | Widespread | | Stable | 149 | 34.9% | Type A, Subtype H1N1v | 42.3 (graphs) | (graphs) | Click here |
| Italy | | | | | 0 | 0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Kazakhstan | | | | | 0 | 0% | None | | (graphs) | Click here |
| Kyrgyzstan | | | | | 0 | 0% | Type A, Subtype H1N1 | (graphs) | 14.2 (graphs) | Click here |
| Latvia | | | | | 0 | 0% | None | 0.0 (graphs) | 163.7 (graphs) | Click here |
| Lithuania | | | | | 0 | 0% | None | 0.0 (graphs) | | Click here |
| Luxembourg | Low or moderate | Sporadic | | | 16 | 6.3% | Type A, Subtype H1v | (graphs) | | Click here |
| Malta | | | | | | | | (graphs) | (graphs) | Click here |
| Netherlands | | | | | 24 | 8.3% | None | 45.0 (graphs) | (graphs) | Click here |
| Northern Ireland | | | | | 14 | 21.4% | Type A, Subtype H1N1v | 56.7 (graphs) | (graphs) | Click here |
| Norway | Low or moderate | Local | | Stable | 27 | 7.4% | Type A, Subtype H1N1v | 229.9 (graphs) | (graphs) | Click here |
| Poland | | | | | 0 | 0% | Type A | 6.9 (graphs) | (graphs) | Click here |
| Portugal | Low or moderate | Local | | Stable | 0 | 0% | Type A, Subtype H1v | 2.4 (graphs) | (graphs) | Click here |
| Romania | | | | | 18 | 0% | Type A, Subtype H1v | 1.0 (graphs) | 517.9 (graphs) | Click here |
| Russian Federation | | | | | 0 | 0% | Type A, Subtype H1v | (graphs) | 295.9 (graphs) | Click here |
| Serbia | Low or moderate | None | | Stable | 0 | 0% | None | 15.8 (graphs) | (graphs) | Click here |
| Slovakia | | | | | 0 | 0% | None | 47.9 (graphs) | 577.4 (graphs) | Click here |
| Slovenia | Low or moderate | None | | Stable | 12 | 33.3% | Type A, Subtype H1v | 7.0 (graphs) | 461.6 (graphs) | Click here |
| Sweden | | | | | 96 | 10.4% | Type A, Subtype H1N1v | 19.3 (graphs) | (graphs) | Click here |
| Switzerland | | | | | 21 | 4.8% | Type A, Subtype H1v | 31.9 (graphs) | (graphs) | Click here |
| Turkey | | | | | 0 | 0% | Type A, Subtype H1v | (graphs) | | Click here |
| Ukraine | | | | | 3 | 0% | None | (graphs) | 232.7 (graphs) | Click here |
| Uzbekistan | | None | | Stable | | | | (graphs) | 100000.0 (graphs) | Click here |
| Wales | | | | | | | | 9.7 (graphs) | (graphs) | Click here |
| Europe | | | | | 718 | 13.1% | | | | Click here |

*Preliminary data*

**Intensity:** Low or moderate = a normal or slightly increased proportion of the population is currently affected by respiratory illness; High = a large proportion of the population is currently affected by respiratory illness; Very high = a very large proportion of the population is currently affected by respiratory illness.
**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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Low or moderate influenza activity with ongoing pandemic (H1N1) 2009 virus detections

*Pandemic (H1N1) 2009 virus detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain. As of 11 September 2009, 48 of the 53 countries in the WHO European Region have reported to WHO confirmed cases of pandemic (H1N1) 2009 virus infection, in compliance with their obligations under the International Health Regulations. These include 140 fatalities. For an overview of the global pandemic (H1N1) 2009 situation, click here).*

**Summary:** In week 37/2009, a total of 769 detections of A(H1N1)v influenza were reported, similar to the previous week, All countries reported low or moderate influenza activity, however Netherlands, Israel, Ireland, and Norway reported influenza-like-illness consultation rates that are above seasonal baseline thresholds. Twenty countries reported pandemic (H1N1) 2009 as the dominant virus in circulation. No countries reported any other influenza subtypes as dominant.

**Epidemiological situation - week 37/2009:** For the intensity indicator, the national network levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were low or moderate in all countries. The geographic spread of influenza illness was reported to be widespread in Israel, localized in three countries, sporadic in eight countries and reported as none in eight countries. The impact of influenza on health services was reported to be low in 16 countries, and moderate in Ireland.

Several countries have reported a rise in ILI (Israel, Netherlands, Northern Ireland, Norway and Sweden) or ARI (Belgium, Estonia, France, Germany, Russian Federation, across every region, Slovenia and Ukraine) consultation rates over the previous 2-6 weeks. Comparisons with historical data in several of these countries suggest that this is consistent with the timing of the start of influenza and other respiratory diseases in the region. Influenza-like-illness consultation rates in Ireland, Israel, Netherlands and Norway are currently above seasonal baseline thresholds.

These trends should be interpreted with care and should be validated by virological data available in the country. For example, following a significant rise in outpatient ILI consultation rates between weeks 30 and 35 in Norway, ILI consultation rates have declined during each of the last two weeks but still remain above the baseline threshold. However, there have been few influenza virus detections from the sentinel surveillance system in Norway and the increased levels of ILI may represent increased public concern for influenza and not indicate a substantial rise in the incidence of influenza.

**Virological situation - week 37/2009:** The total number of respiratory specimens collected by sentinel physicians in week 37/2009 was 661 of which 85 (13%) were positive for influenza virus: all 85 were type A (13 were subtyped as pandemic A(H1N1), 70 were subtyped as pandemic A(H1) and 2 were not subtyped). In addition, 684 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals or as part of enhanced surveillance for pandemic (H1N1) 2009) were reported to be positive for influenza virus: 680 were influenza type A (175 of these were subtyped as pandemic A(H1N1), 458 were subtyped as pandemic A(H1), 3 were subtyped as A(H3), 4 were subtyped as seasonal A(H1) and 40 were not subtyped). Four influenza B viruses were also detected. Of the total influenza A virus detections that were subtyped in week 37/2009 (N=723), 716 or 99% were the pandemic (H1N1) 2009 virus. The decrease in detections of pandemic (H1N1) 2009 that has been observed since week 30 is likely attributable to more restrictive testing practices that were introduced in many countries.

**Cumulative virological situation - weeks 16/2009-37/2009:** Of 21788 virus detections (sentinel and non-sentinel) since week 16/2009, 21205 (97%) were type A. Of the influenza type A viruses, 15175 (71%) were subtyped as pandemic A(H1), 375 (2%) were subtyped as A(H3), 1640 (8%) were subtyped as seasonal A( H1) and 3917 (19%) were not subtyped. There were 571 type B viruses (3% of total virus detections).

Based on the antigenic and/or genetic characterisation of 4795 influenza viruses reported from week 40/2008 to week 37/2009, a total of 1028 (21%) were pandemic H1N1, A/California/7/2009-like, the current virus strain recommended by WHO for pandemic vaccine preparation (click here). Furthermore, 2464 (51%) were A/Brisbane/10/2007 (H3N2)-like, 183 (7%) A/Brisbane/59/2007 (H1N1)-like, 29 (<1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 1091 (23%) as B/Malaysia/2506/2004 or B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here).

Five countries reported antiviral susceptibility testing of pandemic (H1N1) viruses since week 16. All viruses tested for resistance to oseltamivir (424/424) and zanamivir (415/415) were found to be sensitive to these neuraminidase inhibitors. The United Kingdom has also reported that of 839 viruses analysed for the marker commonly associated with resistance to oseltamivir in seasonal influenza (H274Y), none were found to carry this marker (17 of these have been reported to EuroFlu) (click here). Of the few cases of oseltamivir resistance reported globally, one has been reported in Denmark (click here).

**Comment:** In week 37/2009 influenza activity was of low or moderate intensity across the European Region. Four countries are now reporting ILI consultation rates that are above seasonal baseline thresholds, however not all countries have established baselines. For the geographical spread indicator, widespread activity was reported for Israel, with the other countries reporting local, sporadic or no activity. The impact on health care services is currently considered moderate in Ireland and low in 16 countries.

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries of the WHO European Region. Of these countries, 39 reported clinical or epidemiological data, and 35 reported virological data in week 37/2009. The spread of influenza viruses and their epidemiological impact in Europe is being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

## Map

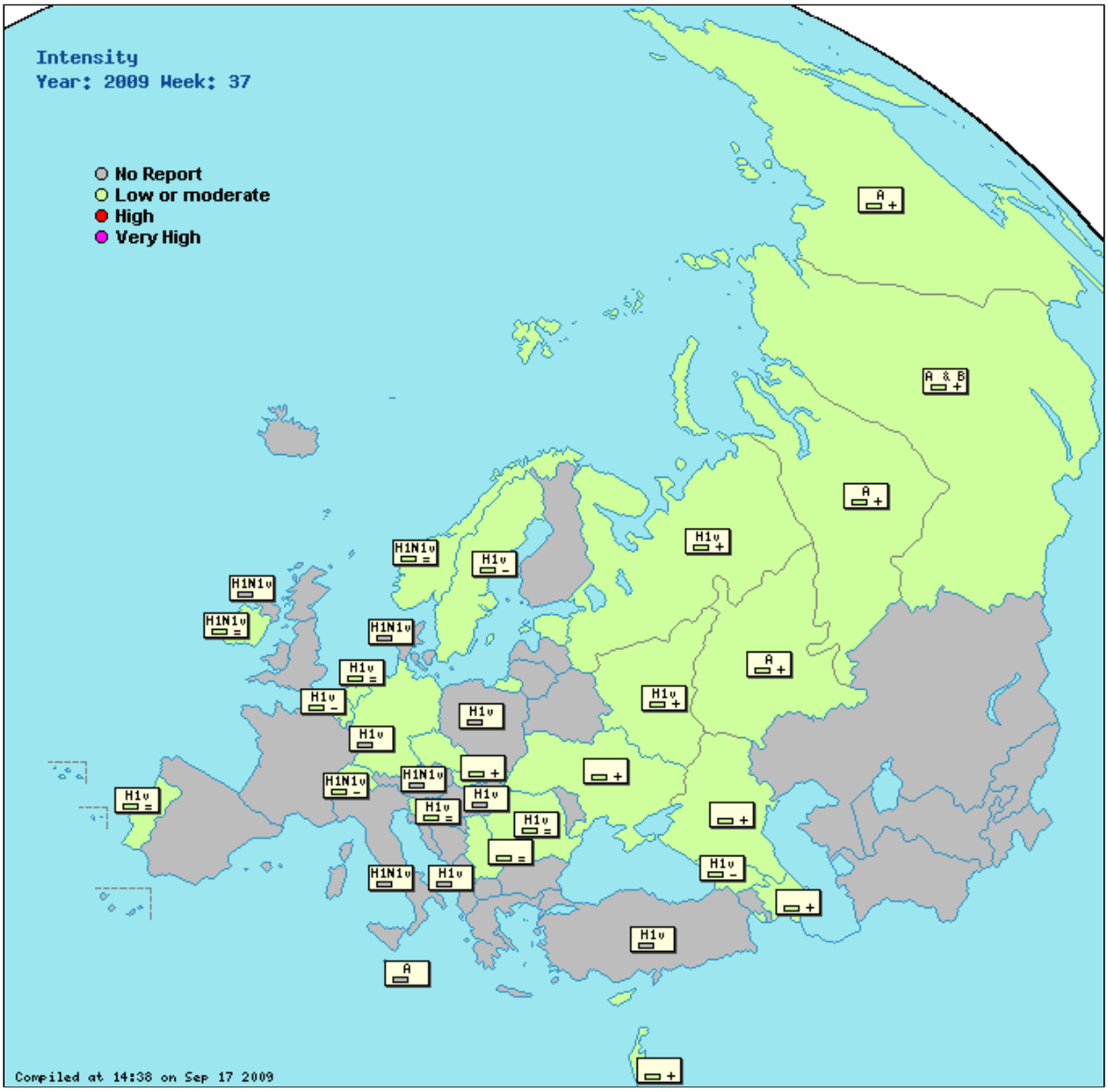
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant

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 or moderate** = a normal or slightly increased proportion of the population is currently affected by respiratory illness
**High** = a large proportion of the population is currently affected by respiratory illness
**Very high** = a very large proportion of the population is currently affected by respiratory illness

**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)

### Switzerland

Low influenza activity is observed in the country.

## Table and graphs (where available)

| | Intensity | Geographic Spread | Impact | Trend | Sentinel swabs | Percentage positive | Dominant type | ILI per 100,000 | ARI per 100,000 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | | | | | 51 | 2.0% | None | | (graphs) | Click here |
| Austria | | | | | 5 | 0% | Type A, Subtype H1N1v | 315.1 (graphs) | (graphs) | Click here |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Azerbaijan | Low or moderate | None | Increasing | 42 | 0% | None | | (graphs) | | (graphs) | Click here |
| Belgium | Low or moderate | Sporadic | Decreasing | 138 | 4.4% | Type A, Subtype H1v | 106.9 | (graphs) | 1131.9 | (graphs) | Click here |
| Bosnia and Herzegovina | | | | 0 | 0% | None | | (graphs) | | | Click here |
| Bulgaria | | | | 0 | 0% | None | | (graphs) | 463.1 | (graphs) | Click here |
| Cyprus | Low or moderate | Sporadic | Stable | | | | | (graphs) | | (graphs) | Click here |
| Czech Republic | Low or moderate | Sporadic | Stable | | | | | (graphs) | 0.0 | (graphs) | Click here |
| Denmark | | | | 1 | 0% | Type A, Subtype H1N1v | | (graphs) | | | Click here |
| Estonia | Low or moderate | None | Increasing | | | | 1.2 | (graphs) | 165.0 | (graphs) | Click here |
| France | | | | | | | | (graphs) | 1074.7 | (graphs) | Click here |
| Georgia | Low or moderate | Sporadic | Decreasing | 17 | 0% | Type A, Subtype H1v | | (graphs) | | (graphs) | Click here |
| Germany | Low or moderate | Sporadic | | 44 | 13.6% | None | | (graphs) | 584.1 | (graphs) | Click here |
| Greece | | | | 0 | 0% | None | | (graphs) | | | Click here |
| Hungary | | | | 64 | 28.1% | Type A, Subtype H1v | | (graphs) | | (graphs) | Click here |
| Ireland | Low or moderate | Local | Stable | 48 | 8.3% | Type A, Subtype H1N1v | 37.9 | (graphs) | | (graphs) | Click here |
| Israel | Low or moderate | Widespread | Increasing | | | | 59.1 | (graphs) | | (graphs) | Click here |
| Italy | | | | 0 | 0% | Type A, Subtype H1N1v | | (graphs) | | | Click here |
| Kazakhstan | | | | 0 | 0% | None | | | | (graphs) | Click here |
| Kyrgyzstan | | | | 0 | 0% | None | | (graphs) | 0.0 | (graphs) | Click here |
| Latvia | | | | 1 | 100.0% | None | 0.0 | (graphs) | 217.8 | (graphs) | Click here |
| Lithuania | | | | 0 | 0% | None | | (graphs) | | | Click here |
| Luxembourg | | | | 28 | 7.1% | Type A, Subtype H1v | 0.0 | (graphs) | | (graphs) | Click here |
| Malta | | | | 1 | 0% | Type A | | (graphs) | | (graphs) | Click here |
| Montenegro | | | | 0 | 0% | Type A, Subtype H1v | | (graphs) | | | Click here |
| Netherlands | Low or moderate | Local | Stable | 35 | 14.3% | Type A, Subtype H1v | 55.2 | (graphs) | | (graphs) | Click here |
| Northern Ireland | | | | 21 | 14.3% | Type A, Subtype H1N1v | 107.9 | (graphs) | | (graphs) | Click here |
| Norway | Low or moderate | Sporadic | Stable | 28 | 3.6% | Type A, Subtype H1N1v | 213.3 | (graphs) | | (graphs) | Click here |
| Poland | | | | 1 | 0% | Type A, Subtype H1v | 13.4 | (graphs) | | (graphs) | Click here |
| Portugal | Low or moderate | Sporadic | Stable | 0 | 0% | Type A, Subtype H1v | 15.7 | (graphs) | | (graphs) | Click here |
| Romania | Low or moderate | None | Stable | 12 | 0% | Type A, Subtype H1v | 1.5 | (graphs) | 479.3 | (graphs) | Click here |
| Russian Federation | Low or moderate | Sporadic | Increasing | 0 | 0% | Type A, Subtype H1v | | (graphs) | 403.2 | (graphs) | Click here |
| Serbia | Low or moderate | None | Stable | 0 | 0% | None | 18.1 | (graphs) | | (graphs) | Click here |
| Slovakia | Low or moderate | None | Increasing | 2 | 0% | None | 76.4 | (graphs) | 762.9 | (graphs) | Click here |
| Slovenia | Low or moderate | None | Stable | 7 | 14.3% | Type A, Subtype H1v | 0.0 | (graphs) | 697.7 | (graphs) | Click here |
| Sweden | Low or moderate | Local | Decreasing | 99 | 12.1% | Type A, Subtype H1v | 27.3 | (graphs) | | (graphs) | Click here |
| Switzerland | Low or moderate | None | Decreasing | 14 | 0% | Type A, Subtype H1N1v | 38.2 | (graphs) | | (graphs) | Click here |
| Turkey | | | | 0 | 0% | Type A, Subtype H1v | 7.7 | (graphs) | | (graphs) | Click here |
| Ukraine | Low or moderate | None | Increasing | 2 | 0% | None | | (graphs) | 253.0 | (graphs) | Click here |
| Wales | | | | | | | 7.2 | (graphs) | | (graphs) | Click here |
| Europe | | | | 661 | 12.9% | | | | | | Click here |

*Preliminary data*

**Intensity:** Low or moderate = a normal or slightly increased proportion of the population is currently affected by respiratory illness; High = a large proportion of the population is currently affected by respiratory illness; Very high = a very large proportion of the population is currently affected by respiratory illness.
**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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Influenza activity above baseline level in two countries in week 38/2009

*Pandemic (H1N1) 2009 virus detections were first reported in the European Region in week 18/2009 and as of week 24/2009 bulletins present developments involving this strain. As of 22 September 2009, 48 of the 53 countries in the WHO European Region have reported to WHO over 52,000 confirmed cases of pandemic (H1N1) 2009 virus infection, in compliance with their obligations under the International Health Regulations. These include 156 deaths in 14 countries. For an overview of the global pandemic (H1N1) 2009 situation, click here).*

**Summary:** In week 38/2009, a total of 812 detections of pandemic (H1N1) influenza were reported, which is a similar number to the two previous weeks. Ireland reported a high intensity of influenza activity and Israel and the Russian Federation reported a medium intensity. All other countries reported a low intensity. Sixteen countries reported pandemic (H1N1) 2009 as the dominant virus and twelve countries reported no dominant virus.

**Epidemiological situation - week 38/2009:** For the intensity indicator, the reported levels of influenza-like illness (ILI) and/or acute respiratory infection (ARI) were high in Ireland and medium in Israel and the Russian Federation. In all other countries they were low. The geographic spread of influenza illness was reported to be widespread in Ireland and Israel, local in two countries, sporadic in eight countries and no activity was reported in five countries. The impact of influenza on health services was reported to be low in nine countries, and moderate in Ireland, based mainly on a surge on outpatient providers.

Several countries have reported a rise in ILI (Israel, Netherlands, Northern Ireland, Norway and Sweden) or ARI (Belgium, Estonia, France, Germany, Russian Federation, across every region, Slovenia and Ukraine) consultation rates over the past 2-6 weeks. Influenza-like illness consultation rates in Ireland, Israel and Norway are currently above seasonal baseline thresholds.

Increased levels of ILI/ARI in a country should be interpreted with care and should be validated by virological data. In Norway there was a significant rise in outpatient ILI consultation rates between weeks 30 and 35 but there were few influenza virus detections from the sentinel surveillance system and the increased levels of ILI may have represented increased public concern for influenza and not a substantial rise in the incidence of influenza.

**Virological situation - week 38/2009:** The total number of respiratory specimens collected by sentinel physicians in week 38/2009 was 839 of which 195 (23%) were positive for influenza virus: 192 were type A (37 were subtyped as pandemic A(H1N1), 151 were subtyped as pandemic A(H1) and 4 were not subtyped) and 3 type B. In addition, 662 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals or as part of enhanced surveillance for pandemic (H1N1) 2009) were reported to be positive for influenza virus: 655 were influenza type A (624 were subtyped as pandemic A(H1), of which 182 were determined as pandemic A(H1N1), eight were subtyped as A(H3), five were subtyped as seasonal A(H1) and 18 were not subtyped) and seven were influenza type B.

Of the total influenza A virus detections that were subtyped in week 38/2009 (N=847), 812 or 96% were the pandemic (H1N1) 2009 virus. It is likely that the decrease in detections of pandemic (H1N1) 2009 that has been observed since week 30 (click here) can be attributed to more restrictive testing practices that were introduced in many countries.

**Cumulative virological situation - weeks 16/2009-38/2009:** Of 21949 virus detections (sentinel and non-sentinel) since week 16/2009, 21353 (97%) were type A. Of the influenza type A viruses, 16619 (78%) were subtyped as pandemic A(H1), 385 (2%) were subtyped as A(H3), 276 (1%) were subtyped as seasonal A(H1) and 4073 (19%) were not subtyped. There were 596 type B viruses (3% of total virus detections).

Based on the antigenic and/or genetic characterisation of 4515 influenza viruses reported from week 40/2008 to week 38/2009, a total of 1069 (24%) were pandemic A(H1N1), A/California/7/2009-like, the current virus strain recommended by WHO for pandemic vaccine preparation (click here). Furthermore, 2202 (49%) were A/Brisbane/10/2007 (H3N2)-like, 183 (4%) A/Brisbane/59/2007 (H1N1)-like, 27 (<1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 1034 (23%) as B/Malaysia/2506/2004 or B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here).

Six countries have reported antiviral susceptibility testing of pandemic (H1N1) viruses since week 40/2008. All viruses tested for resistance to oseltamivir (424/424) and zanamivir (415/415) were found to be sensitive to these neuraminidase inhibitors. The United Kingdom has also reported that of 973 viruses (17 of these have been reported to EuroFlu) analysed for the marker commonly associated with resistance to oseltamivir in seasonal influenza (H274Y), two were found to carry this marker (click here). Of the few cases of oseltamivir resistance reported globally, one has been reported in Denmark (click here) and two in the United Kingdom (see above for reference).

**Comment:** In week 38/2009 Ireland reported the dominant virus was pandemic (H1N1) 2009 and a high intensity of influenza activity. The Russian Federation and Israel reported a medium intensity and all other countries that reported this indicator reported a low intensity. In the Russian Federation, four of the seven Districts reported a medium intensity (Central, Northwestern, Urals and Siberian) and three reported a low intensity (Far eastern, Southern and Volga). For the geographical spread indicator, widespread activity was reported for Ireland and Israel, with the other countries reporting local, sporadic or no activity. The impact on health care services is currently considered moderate in Ireland and low in 16 countries.

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries of the WHO European Region. Of these countries, 14 reported both clinical and virological data, 15 reported virological data only and five reported clinical data only in week 38/2009. The spread of influenza viruses and their epidemiological impact in Europe is being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

**Erratum:** The number of sentinel specimens that were positive in week 38/2009 was 8 and not 78 (see Table below)

**Note:** Serbia reported a stable trend, low intensity and low impact in week 38/2009

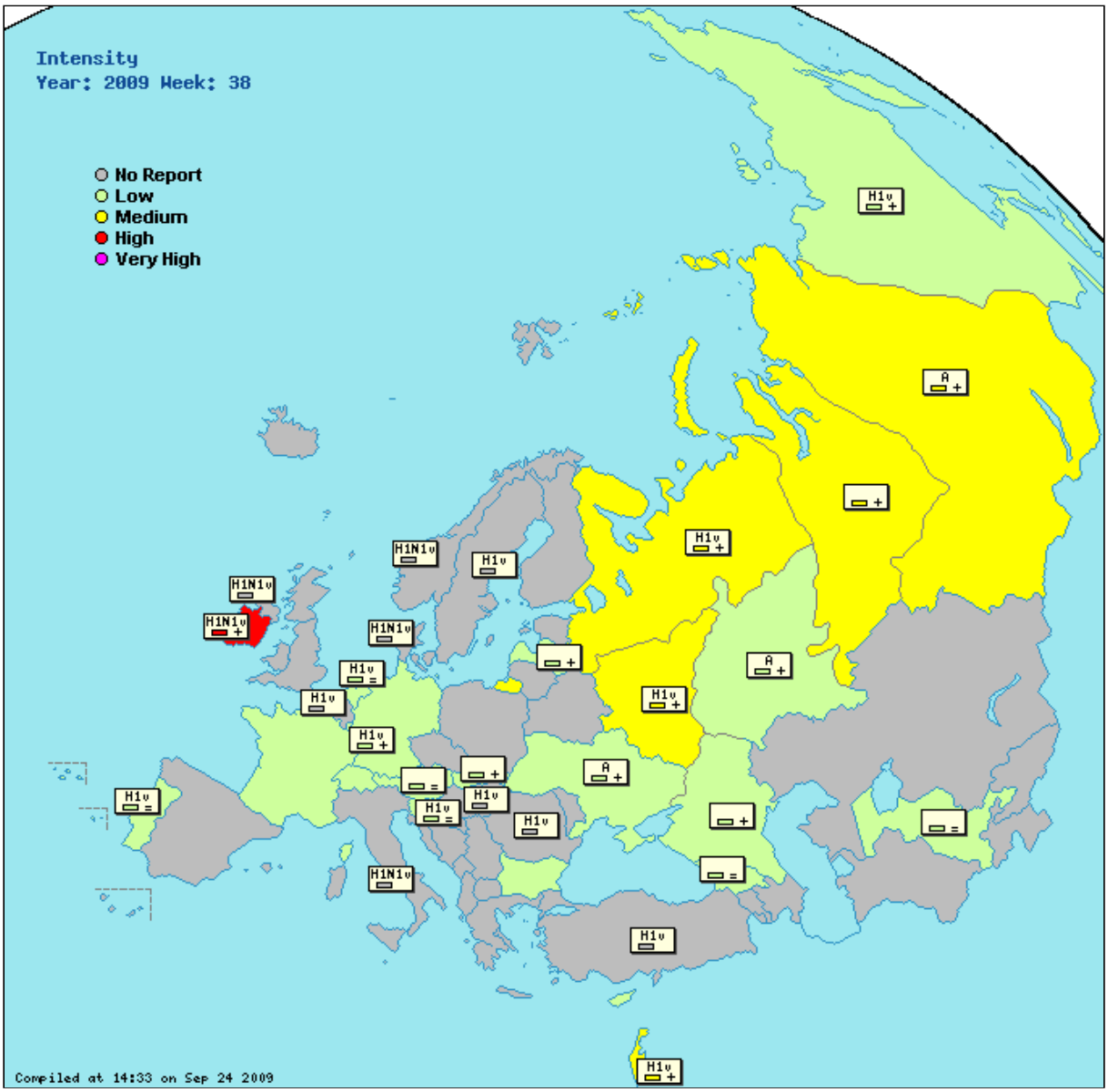
## Map

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 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | Low | Sporadic | Low | Stable | 7 | 0% | None | 383.1 (graphs) | | Click here |
| Belarus | | | | | 176 | 1.7% | None | (graphs) | 827.4 (graphs) | Click here |
| Belgium | | | | | | | Type A, Subtype H1v | 123.4 (graphs) | 1584.7 (graphs) | Click here |
| Bulgaria | Low | None | | Decreasing | | | | | 372.8 (graphs) | Click here |
| Cyprus | Low | Sporadic | Low | Stable | | | | (graphs) | | Click here |
| Denmark | | | | | 1 | 0% | Type A, Subtype H1N1v | (graphs) | | Click here |
| Estonia | | | | | 0 | 0% | None | 4.2 (graphs) | 295.9 (graphs) | Click here |
| France | Low | Sporadic | Low | Increasing | | | | | 1719.4 (graphs) | Click here |
| Georgia | Low | None | Low | Stable | 27 | 0% | None | (graphs) | | Click here |
| Germany | Low | Sporadic | Low | | 56 | 8.9% | None | | 685.1 (graphs) | Click here |
| Hungary | | | | | 81 | 18.5% | Type A, Subtype H1v | (graphs) | | Click here |
| Ireland | High | Widespread | Moderate | Increasing | 79 | 26.6% | Type A, Subtype H1N1v | 72.2 (graphs) | | Click here |
| Israel | Medium | Widespread | Low | Increasing | 150 | 33.3% | Type A, Subtype H1v | 93.2 (graphs) | (graphs) | Click here |
| Italy | | | | | | | Type A, Subtype H1N1v | (graphs) | | Click here |
| Kyrgyzstan | | | | | 0 | 0% | None | | (graphs) | Click here |
| Latvia | Low | None | Low | Increasing | 0 | 0% | None | 0.0 (graphs) | 480.2 (graphs) | Click here |
| Lithuania | | | | | 2 | 0% | None | (graphs) | | Click here |
| Luxembourg | Low | Sporadic | Low | | 43 | 11.6% | Type A, Subtype H1v | (graphs) | | Click here |
| Netherlands | Low | Local | Low | Stable | 23 | 8.7% | Type A, Subtype H1v | 45.0 (graphs) | | Click here |
| Northern Ireland | | | | | 31 | 38.7% | Type A, Subtype H1N1v | 134.0 (graphs) | | Click here |
| Norway | | | | | 13 | 0% | Type A, Subtype H1N1v | 137.7 (graphs) | | Click here |
| Poland | | | | | 18 | 0% | None | 28.7 (graphs) | | Click here |
| Portugal | Low | Sporadic | Low | Stable | 2 | 0% | Type A, Subtype H1v | 28.8 (graphs) | | Click here |
| Romania | | | | | 22 | 0% | Type A, Subtype H1v | 1.0 (graphs) | 520.4 (graphs) | Click here |
| Russian Federation | Medium | Sporadic | | Increasing | | | Type A, Subtype H1v | (graphs) | 512.3 (graphs) | Click here |
| Serbia | | | | | 0 | 0% | None | 20.4 (graphs) | | Click here |
| Slovakia | Low | None | Low | Increasing | 0 | 0% | None | 107.5 (graphs) | 1044.6 (graphs) | Click here |
| Slovenia | Low | Local | | Stable | 14 | 7.1% | Type A, Subtype H1v | 10.8 (graphs) | 1005.1 (graphs) | Click here |
| Sweden | | | | | 78 | 100.0% | Type A, Subtype H1v | 11.9 (graphs) | | Click here |
| Switzerland | Low | Sporadic | Low | Decreasing | | | | 36.8 (graphs) | (graphs) | Click here |
| Turkey | | | | | | | Type A, Subtype H1v | (graphs) | | Click here |
| Ukraine | Low | Sporadic | Low | Increasing | 9 | 33.3% | Type A | (graphs) | 363.2 (graphs) | Click here |
| Uzbekistan | Low | None | Low | Stable | | | None | 21.6 (graphs) | (graphs) | Click here |
| Wales | | | | | | | | 13.9 (graphs) | | Click here |
| Europe | | | | | 839 | 23.2% | | | | 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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.

# Low to moderate influenza activity with increasing trends in respiratory disease

*Pandemic (H1N1) 2009 virus detections have been reported in the European Region since the first week of May 2009. To date, 48 of the 53 countries in the WHO European Region have reported to WHO over 56,000 laboratory confirmed cases of pandemic (H1N1) 2009 virus infection. As of 27 September, 176 deaths have been reported in laboratory-confirmed cases. For an overview of the global pandemic (H1N1) 2009 situation, click here).*

**Summary:** In week 39/2009, 14% of respiratory swabs collected from sentinel surveillance sites were positive for influenza. Of 854 influenza A virus detections that were subtyped in week 39/2009, 840 or 98% were pandemic (H1N1) 2009 viruses. This is similar to the weekly number of pandemic (H1N1) 2009 detections that have been reported since week 34. Twenty-five countries entered epidemiologic data into the EuroFlu platform this week: the data from 12 of these suggest increasing influenza-like-illness (ILI) or acute respiratory illness (ARI) consultation rates since week 34, and 5 are reporting levels at or above seasonal baseline thresholds. However ILI and ARI consultation rates commonly increase at this time of year. In Belgium, Ireland, Israel and Northern Ireland, increasing ILI consultation rates during recent weeks are consistent with trends in the number of influenza positive specimens collected from sentinel sites.

**Epidemiological situation - week 39/2009:** Of the 21 countries that reported on the intensity indicator, Belgium, Israel and the Russian Federation reported medium intensity of respiratory disease transmission, while the other 18 countries reported a low intensity. The geographic spread of influenza-like-illness was reported as widespread in Belgium and Israel, local in two countries, sporadic in seven countries, and ten countries reported no activity. The impact of influenza on health services was reported low in the 17 countries reporting this indicator. Of the 19 countries that reported a dominant subtype, all reported a dominance of pandemic influenza A(H1N1) 2009.

Data from 12 countries suggest an overall increase in ILI and/or ARI consultation rates, including increases in three or more weeks, since week 34. In Belgium, Ireland, Israel and Northern Ireland, the recent increases in epidemiologic data also are consistent with concurrent trends in the number of influenza positive specimens collected from sentinel sites. These are also the only countries that have reported ILI consultation rates to be the highest in the 5-14 year age group. Nine countries that reported epidemiological data in week 39 have established quantitative baseline thresholds for ILI and/or ARI consultation rates based on historical data. Of these countries, Ireland, Israel, Netherlands and Norway are currently at or above seasonal baseline thresholds for ILI consultations, and France has exceeded its baseline threshold for ARI consultations.

**Virological situation - week 39/2009:** The total number of respiratory specimens collected by sentinel physicians in week 39/2009 was 1017 of which 139 (14%) were positive for influenza virus: 138 were type A (131 were identified as pandemic A(H1) and 7 not subtyped) and 1 type B. In addition, 751 non-sentinel source specimens (e.g. specimens collected for routine diagnostic purposes in the community, hospitals or as part of enhanced surveillance for pandemic (H1N1) 2009) were reported to be positive for influenza virus: 745 were influenza type A (709 pandemic A(H1), nine A(H3), five seasonal A(H1) and 22 not subtyped) and six type B.

**Cumulative virological situation - weeks 16/2009-39/2009:** Of 22952 influenza virus detections (sentinel and non-sentinel) since week 16/2009, 22346 (97%) were type A. Of these, 17612 (79%) were pandemic A(H1), 402 (2%) were A(H3), 205 (1%) were seasonal A(H1) and 4127 (18%) were not subtyped. There were 606 type B viruses (3% of total virus detections).

Based on the antigenic and/or genetic characterisation of 4890 influenza viruses reported from week 40/2008 to week 39/2009, a total of 1116 (23%) were pandemic A(H1N1), A/California/7/2009-like, the current virus strain recommended by WHO for pandemic vaccine preparation (click here). Furthermore, 2469 (50%) were A/Brisbane/10/2007 (H3N2)-like, 185 (4%) A/Brisbane/59/2007 (H1N1)-like, 29 (<1%) B/Florida/4/2006-like (B/Yamagata/16/88 lineage) and 1091 (22%) as B/Malaysia/2506/2004 or B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) (click here).

This week, two of 1023 pandemic viruses tested in the United Kingdom have been confirmed to carry a mutation which confers resistance to the antiviral drug oseltamivir; both have been shown phenotypically to be resistant to the drug but retain sensitivity to zanamivir. (click here). Cases of oseltamivir-resistant viruses continue to be sporadic and infrequent, with no evidence that oseltamivir-resistant pandemic H1N1 viruses are circulating within communities or worldwide. For more information on antiviral use and the risk of drug resistance go to (click here).

**Comment:** Influenza activity is low or moderate among countries reporting to EuroFlu and five countries are currently at or above seasonal baseline thresholds for ILI or ARI consultations. While increases in ILI or ARI consultation rates have been observed in 12 countries since week 34, this is consistent with normal seasonal increases in respiratory disease. Increases in ILI or ARI consultation rates should be interpreted with care and should be validated by virological data, especially when public concern for influenza is high. However influenza activity appears to be increasing in Belgium, Ireland, Israel and Northern Ireland where recent increases in ILI consultation rates are also consistent with concurrent trends in the number of influenza positive specimens collected from sentinel sites.

**Background:** The EuroFlu Bulletin presents and comments on influenza activity in the 53 countries of the WHO European Region. Epidemiological, virological and/or qualitative data is presented for 40 countries in week 39/2009. The spread of influenza viruses and their epidemiological impact in Europe is being monitored by WHO Regional Office for Europe in Copenhagen (Denmark), in collaboration with the WHO Collaborating Centre for Reference and Research on Influenza in London (UK).

## Map

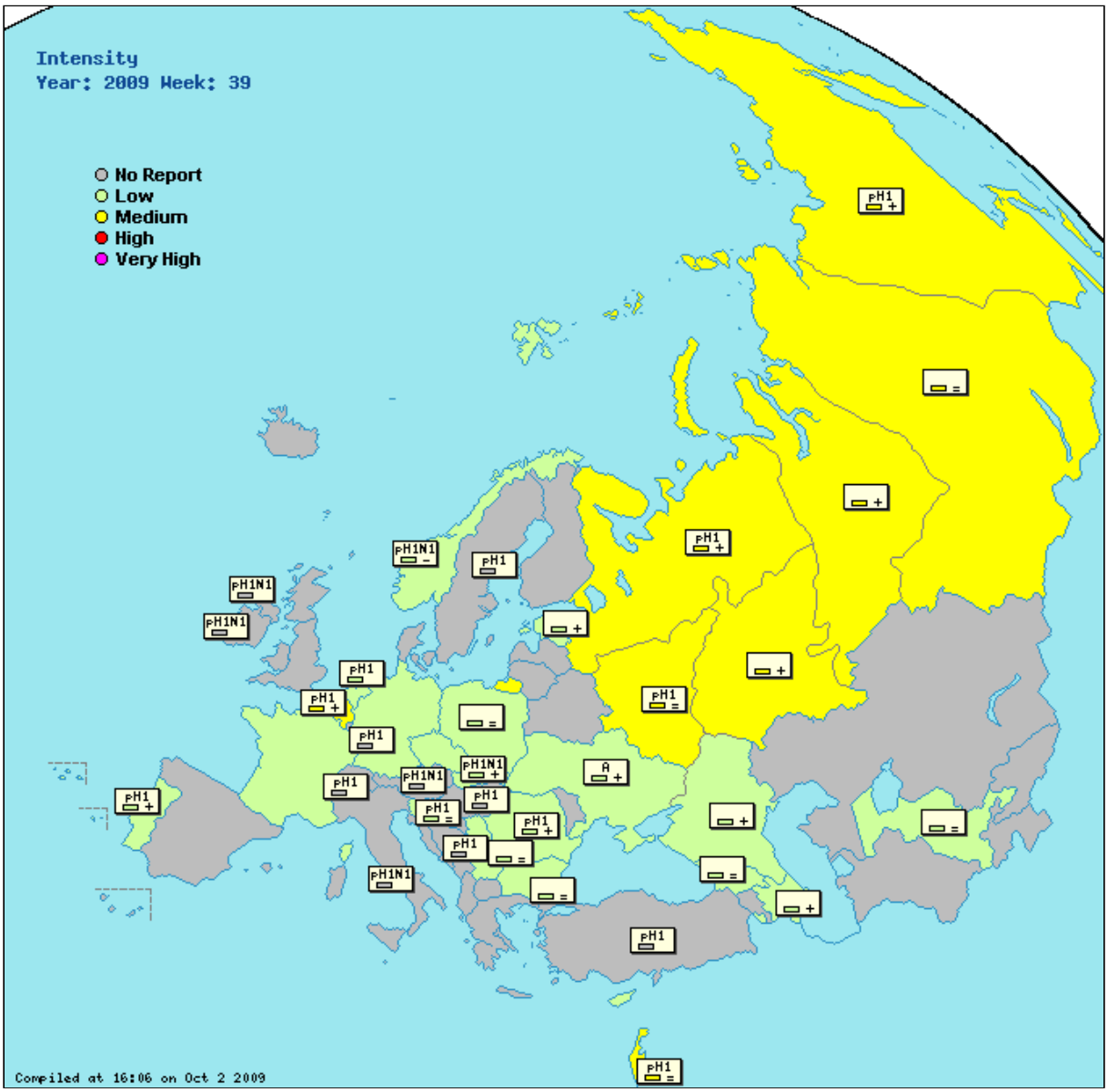
The map presents the qualitative indicators of influenza activity (intensity, trend, geographical spread and impact) and the dominant virus as assessed by each of the countries.

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 | Virology graph and pie chart |
|---|---|---|---|---|---|---|---|---|---|---|
| Albania | | | | | 38 | 0% | None | | 256.0 (graphs) | Click here |
| Austria | | | | | 8 | 0% | Type A, Subtype pH1N1 | 531.4 (graphs) | | Click here |
| Azerbaijan | Low | None | Low | Increasing | 20 | 0% | None | (graphs) | | Click here |
| Belarus | | | | | 169 | 0.6% | None | | 827.4 (graphs) | Click here |
| Belgium | Medium | Widespread | Low | Increasing | 156 | 14.1% | Type A, Subtype pH1 | 166.7 (graphs) | 1586.8 (graphs) | Click here |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bosnia and Herzegovina | | | | | | | Type A, Subtype pH1 | | (graphs) | | | Click here |
| Bulgaria | Low | None | | Stable | | | None | | | 388.6 | (graphs) | Click here |
| Cyprus | Low | Sporadic | | Stable | | | | | (graphs) | | | Click here |
| Czech Republic | Low | Sporadic | Low | Stable | | | | | | | (graphs) | Click here |
| Denmark | | | | | 3 | 0% | None | | (graphs) | | | Click here |
| Estonia | Low | None | Low | Increasing | 2 | 0% | None | 2.5 | (graphs) | 282.4 | (graphs) | Click here |
| France | Low | Sporadic | Low | Increasing | | | | | | 1903.2 | (graphs) | Click here |
| Georgia | Low | None | Low | Stable | 34 | 0% | None | | (graphs) | | | Click here |
| Germany | Low | Sporadic | Low | | 50 | 0% | None | | | 779.1 | (graphs) | Click here |
| Greece | | | | | 0 | 0% | None | | (graphs) | | | Click here |
| Hungary | | | | | 58 | 12.1% | Type A, Subtype pH1 and H3N2 | | (graphs) | | | Click here |
| Ireland | | | | | 92 | 45.7% | Type A, Subtype pH1N1 | 76.3 | (graphs) | | | Click here |
| Israel | Medium | Widespread | Low | Stable | 40 | 37.5% | Type A, Subtype pH1 | 79.3 | (graphs) | | | Click here |
| Italy | | | | | | | Type A, Subtype pH1N1 | | (graphs) | | | Click here |
| Kazakhstan | | | | | 0 | 0% | None | | | | (graphs) | Click here |
| Kyrgyzstan | | | | | 0 | 0% | None | | | | (graphs) | Click here |
| Latvia | | | | | 1 | 0% | None | | (graphs) | | | Click here |
| Lithuania | | | | | 0 | 0% | None | | (graphs) | | | Click here |
| Luxembourg | | | | | 86 | 15.1% | Type A, Subtype pH1 | | (graphs) | | | Click here |
| Netherlands | Low | Local | Low | | 33 | 12.1% | Type A, Subtype pH1 | 49.0 | (graphs) | | | Click here |
| Northern Ireland | | | | | 53 | 34.0% | Type A, Subtype pH1N1 | 208.3 | (graphs) | | | Click here |
| Norway | Low | Sporadic | Low | Decreasing | 13 | 0% | Type A, Subtype pH1N1 | 111.3 | (graphs) | | | Click here |
| Poland | Low | None | Low | Stable | 10 | 0% | None | 26.1 | (graphs) | | | Click here |
| Portugal | Low | Sporadic | Low | Increasing | 3 | 33.3% | Type A, Subtype pH1 | 20.4 | (graphs) | | | Click here |
| Romania | Low | None | Low | Increasing | 21 | 0% | Type A, Subtype pH1 | 1.3 | (graphs) | 737.3 | (graphs) | Click here |
| Russian Federation | Medium | Sporadic | | Increasing | | | Type A, Subtype pH1 | | | 572.3 | (graphs) | Click here |
| Serbia | Low | None | Low | Stable | 0 | 0% | None | 20.1 | (graphs) | | | Click here |
| Slovakia | Low | None | Low | Increasing | 2 | 0% | Type A, Subtype pH1N1 | 151.4 | (graphs) | 1397.4 | (graphs) | Click here |
| Slovenia | Low | Local | | Stable | 27 | 18.5% | Type A, Subtype pH1 | 8.7 | (graphs) | 963.9 | (graphs) | Click here |
| Sweden | | | | | 66 | 13.6% | Type A, Subtype pH1 | 9.8 | (graphs) | | | Click here |
| Switzerland | | | | | 18 | 0% | Type A, Subtype pH1 | 37.0 | (graphs) | | | Click here |
| Turkey | | | | | | | Type A, Subtype pH1 | | (graphs) | | | Click here |
| Ukraine | Low | None | Low | Increasing | 11 | 9.1% | Type A | | | 400.8 | (graphs) | Click here |
| Uzbekistan | Low | None | Low | Stable | | | None | | | 19.0 | (graphs) | Click here |
| Wales | | | | | | | | 22.8 | (graphs) | | | Click here |
| Europe | | | | | 1017 | 13.7% | | | | | | 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 an editorial team at the WHO Regional Office for Europe (WHO/Europe) and the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) at Mill Hill in the United Kingdom. From WHO/Europe, Caroline Brown, John Paget (Netherlands Institute for Health Services Research (NIVEL), Temporary Adviser to WHO/Europe) and Tamara Meerhoff (NIVEL, Temporary Adviser to WHO/Euro) and from WHO CC, Rod Daniels and Alan Hay. The bulletin text was reviewed by Olav Hungnes (Norwegian Institute of Public Health, Oslo, Norway), Alla Mironenko (L.V.Gromashevskyi Institute of Epidemiology and Infectious Diseases, Kiev, Ukraine) and Jasminka Nedeljkovic (Torlak Institute of Immunology and Virology, Belgrade, Serbia) on behalf of the data contributors.