# SURVEILLANCE REPORT

## Weekly influenza surveillance overview

19 March 2010

# Main surveillance developments in week 10/2010 (08 Mar 2010 – 14 Mar 2010)

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

- For the second consecutive week, all reporting countries experienced low intensity influenza activity.
- Of the 416 specimens collected by sentinel physicians, 26 (6.3%) were positive for influenza virus, mainly the pandemic virus. Still, there was some circulation of influenza B viruses.
- The number of weekly reported SARI cases remained low (n=12).
- Even though, globally, the world remains in pandemic Phase 6, influenza activity caused by the 2009 pandemic influenza A(H1N1) virus is well past its winter peak in EU/EEA countries. However, transmission and sporadic cases continue to occur. Most cases of influenza-like illness in EU/EEA countries are not due to influenza.

**Sentinel surveillance of influenza like-illness (ILI)/ acute respiratory illness (ARI):** For the second consecutive week, all reporting countries experienced low intensity. For the geographic spread indicator, 20 countries and the UK (England) reported sporadic or no activity. For more information, **click here.**

**Virological surveillance:** Sentinel physicians collected 416 specimens, 26 (6.3%) of which were positive for influenza virus. Of the viruses detected in sentinel specimens, 10 (38.5%) were influenza type B. For more information, **click here.**

**Aggregate numbers of 2009 pandemic influenza (H1N1) deaths:** During week 10/2010, five countries reported one pandemic virus-related death each. For more information, **click here.**

**Hospital surveillance of severe acute respiratory infection (SARI):** During week 10/2010, 12 SARI cases were reported, two of which had symptom onset during the same week. For more information, **click here.**

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

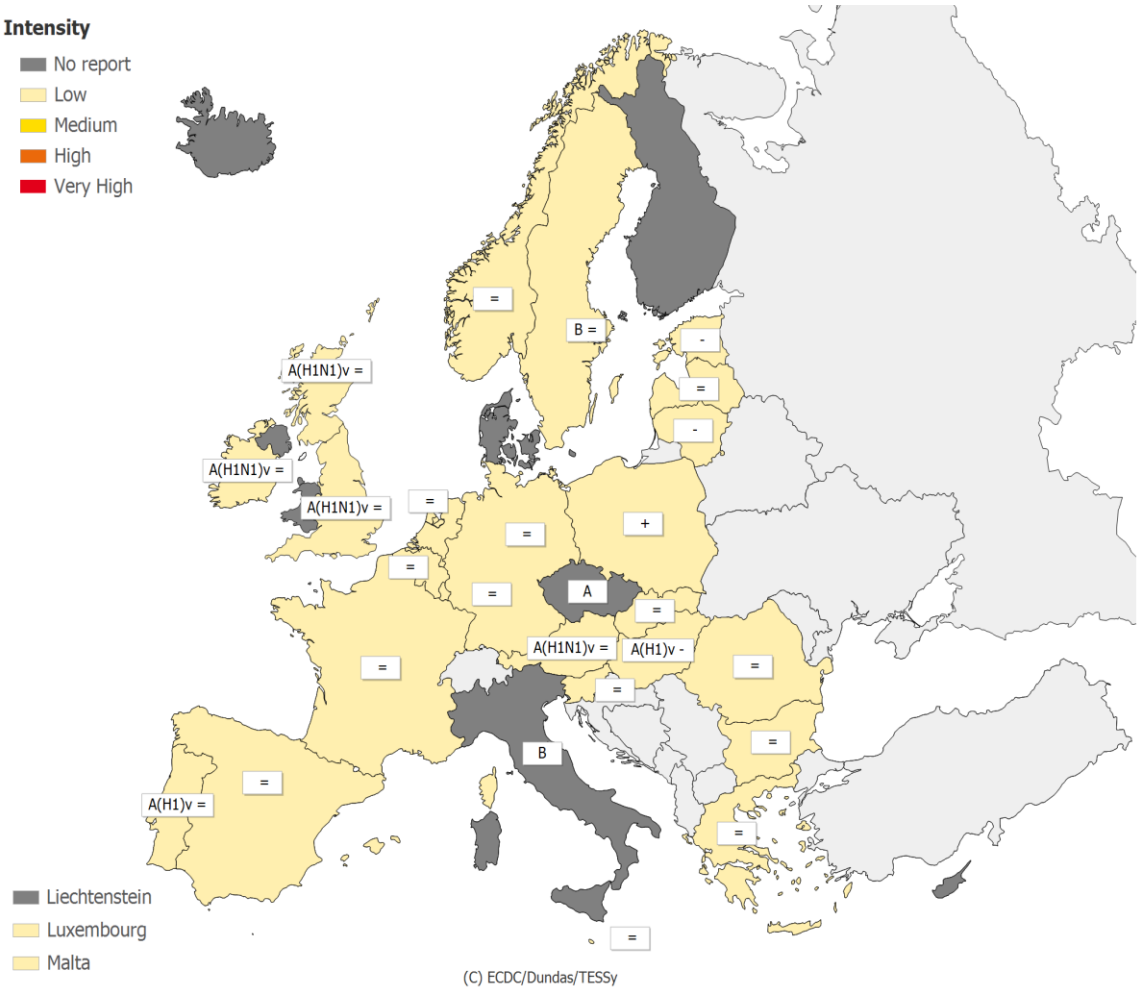
# Sentinel surveillance (ILI/ARI)

## Weekly analysis – epidemiology

In week 10/2010, 24 of 29 countries reported epidemiological data. For the second consecutive week, all of them experienced low intensity. Poland was the only country reporting an increasing trend (Map 1 and Table 1).

For the geographic spread indicator, 20 countries and the UK (England) reported sporadic or no activity, while Austria and Greece continued to see regional activity. Malta and the UK (Scotland) reported local activity (Map 2 and Table 1).

**Map 1: Intensity for week 10/2010**

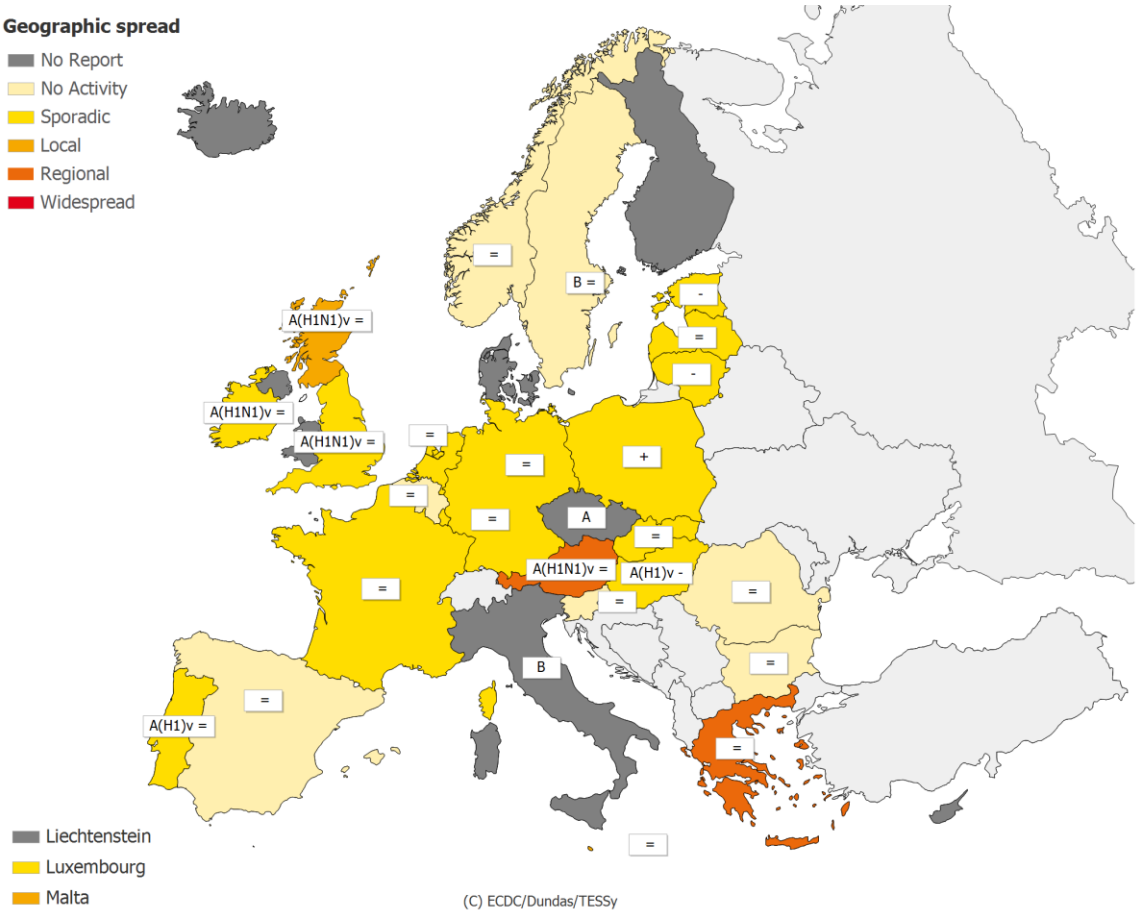



* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

Legend:

| | | | |
|---|---|---|---|
| **Low** | No influenza activity or influenza at baseline levels | **-** | Decreasing clinical activity |
| **Medium** | Usual levels of influenza activity | **+** | Increasing clinical activity |
| **High** | Higher than usual levels of influenza activity | **=** | Stable clinical activity |
| **Very high** | Particularly severe levels of influenza activity | **A** | Type A |
| | | **A(H1)v** | Type A, Subtype H1v |
| | | **A(H1N1)v** | Type A, Subtype H1N1v |
| | | **B** | Type B |

## Map 2: Geographic spread for week 10/2010




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

Legend:

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

| | |
|---|---|
| **-** | Decreasing clinical activity |
| **+** | Increasing clinical activity |
| **=** | Stable clinical activity |
| **A** | Type A |
| **A(H1)v** | Type A, Subtype H1v |
| **A(H1N1)v** | Type A, Subtype H1N1v |
| **B** | Type B |

**Table 1: Epidemiological and virological overview by country**

| Country | Intensity | Geographic spread | Trend | No. of sentinel swabs | Dominant type | Percentage positive | ILI per 100.000 | ARI per 100.000 | Epidem. overview | Virol. overview |
|---|---|---|---|---|---|---|---|---|---|---|
| Austria | Low | Regional | Stable | 1 | A(H1N1)v | 0.0 | - | 18.8 | Graphs | Graphs |
| Belgium | Low | No activity | Stable | 12 | None | 0.0 | 85.0 | 1333.6 | Graphs | Graphs |
| Bulgaria | Low | No activity | Stable | 0 | None | - | - | 738.8 | Graphs | Graphs |
| Cyprus | | | | - | - | - | - | - | Graphs | Graphs |
| Czech Republic | | | | 8 | A | 12.5 | - | - | Graphs | Graphs |
| Denmark | | | | 10 | None | 0.0 | - | - | Graphs | Graphs |
| Estonia | Low | Sporadic | Decreasing | 15 | None | 0.0 | 4.5 | 235.7 | Graphs | Graphs |
| Finland | | | | - | - | - | - | - | Graphs | Graphs |
| France | Low | Sporadic | Stable | 78 | None | 1.3 | - | 1168.5 | Graphs | Graphs |
| Germany | Low | Sporadic | Stable | 23 | None | 26.1 | - | 1039.3 | Graphs | Graphs |
| Greece | Low | Regional | Stable | 11 | None | 11.1 | 109.9 | - | Graphs | Graphs |
| Hungary | Low | Sporadic | Decreasing | 35 | A(H1)v | 8.6 | 80.9 | - | Graphs | Graphs |
| Iceland | | | | - | - | - | - | - | Graphs | Graphs |
| Ireland | Low | Sporadic | Stable | 8 | A(H1N1)v | 0.0 | 6.7 | - | Graphs | Graphs |
| Italy | | | | 34 | B | 23.5 | - | - | Graphs | Graphs |
| Latvia | Low | Sporadic | Stable | 0 | None | - | 0.9 | 1151.2 | Graphs | Graphs |
| Lithuania | Low | Sporadic | Decreasing | 1 | None | 0.0 | 1.7 | 378.0 | Graphs | Graphs |
| Luxembourg | Low | Sporadic | Stable | 18 | None | 5.6 | -* | -* | Graphs | Graphs |
| Malta | Low | Local | Stable | - | - | - | -* | -* | Graphs | Graphs |
| Netherlands | Low | Sporadic | Stable | 11 | None | 0.0 | 24.7 | - | Graphs | Graphs |
| Norway | Low | No activity | Stable | 1 | None | 0.0 | 22.7 | - | Graphs | Graphs |
| Poland | Low | Sporadic | Increasing | 8 | None | 0.0 | 151.8 | - | Graphs | Graphs |
| Portugal | Low | Sporadic | Stable | 7 | A(H1)v | 0.0 | 4.5 | - | Graphs | Graphs |
| Romania | Low | No activity | Stable | 7 | None | 0.0 | 0.0 | 867.9 | Graphs | Graphs |
| Slovakia | Low | Sporadic | Stable | 2 | None | 0.0 | 157.8 | 1378.3 | Graphs | Graphs |
| Slovenia | Low | No activity | Stable | 5 | None | 0.0 | 0.0 | 983.7 | Graphs | Graphs |
| Spain | Low | No activity | Stable | 37 | None | 2.7 | 10.1 | - | Graphs | Graphs |
| Sweden | Low | No activity | Stable | 8 | B | 0.0 | 1.5 | - | Graphs | Graphs |
| UK - England | Low | Sporadic | Stable | 37 | A(H1N1)v | 9.5 | 6.2 | 391.6 | Graphs | Graphs |
| UK - Northern Ireland | | | | - | - | - | - | - | Graphs | Graphs |
| UK - Scotland | Low | Local | Stable | 39 | A(H1N1)v | 2.6 | 2.5 | 218.6 | Graphs | Graphs |
| UK - Wales | | | | - | - | - | - | - | Graphs | Graphs |
| Europe | | | | 416 | | 6.3 | | | | Graphs |

**Incidence per 100 000 is not calculated for these countries as no population denominator is provided.*

*Note: Liechtenstein is not reporting to the European Influenza Surveillance Network*

## Description of the system

This surveillance is based on nationally organized sentinel networks of physicians, mostly general practitioners (GPs), covering at least 1–5% of the population in their countries. All EU/EEA Member States (except Liechtenstein) are participating. Depending on their country's choice, each sentinel physician reports the weekly number of patients seen with influenza-like illness (ILI), acute respiratory infection (ARI) or both to a national focal point. From the national level, both numerator and denominator data are then reported to the European Surveillance System (TESSy) database. Additional semi-quantitative indicators of intensity, geographic spread and trend of influenza activity at the national level are also reported.

# Virological surveillance

## Weekly analysis – virology

In week 10/2010, 25 countries reported virological data. Sentinel physicians collected 416 specimens, 26 (6.3%) of which were positive for influenza virus (Tables 1 and 2). Of the viruses detected in sentinel specimens, 10 (38.5%) were influenza type B. In addition, 134 non-sentinel source specimens (i.e. specimens collected for diagnostic purpose in hospitals) were reported positive for influenza virus. Of the 16 169 influenza viruses detected by sentinel practices and on which subtyping was performed since week 40/2009, 16 112 (99.6%) were identified as the 2009 pandemic influenza A(H1N1) virus. Table 2 shows the distribution of both sentinel and non-sentinel specimens by type and subtype. Figures 1—3 show the trends of virological detections over time. The proportion of positive sentinel samples has decreased since week 46/2009 (Figure 3).

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

From week 40/2009 to week 10/2010, 2000 influenza viruses from sentinel and non-sentinel specimens were characterised antigenically (Table 3), and 1077 were characterised genetically. Of the former, 1969 (98.5%) and of the latter, 1069 (99.3%) were pandemic A/California/7/2009(H1N1)-like.

All pandemic viruses tested were resistant to M2 inhibitors. Of the 1453 viruses tested from nine countries, 37 (2.5%) were resistant to oseltamivir, and of the 1447 viruses tested, none were resistant to zanamivir (Table 4).

Since peaking in week 01/2010, the total number of respiratory syncytial virus (RSV) detections in 11 countries has been decreasing (Figure 4); although Estonia, Slovenia and Sweden are still reporting a rising trend.

**Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2009–10/2010**

| | Current Week | | Season | |
|---|---|---|---|---|
| Virus type/subtype | Sentinel | Non-sentinel | Sentinel | Non-sentinel |
| Influenza A | 16 | 126 | 16820 | 89897 |
| A (pandemic H1N1) | 15 | 111 | 16112 | 78340 |
| A (subtyping not performed) | 1 | 13 | 651 | 11416 |
| A (not subtypable) | 0 | 1 | 14 | 48 |
| A (H3) | 0 | 0 | 8 | 43 |
| A (H1) | 0 | 1 | 35 | 50 |
| Influenza B | 10 | 8 | 85 | 146 |
| **Total Influenza** | **26** | **134** | **16905** | **90043** |

*Note:* A(pandemic H1N1), A(H3) and A(H1) includes both N-subtyped and not N-subtyped viruses

**Figure 1: Number of sentinel specimens positive for influenza, by type, subtype and by week of report, weeks 40/2009–10/2010**

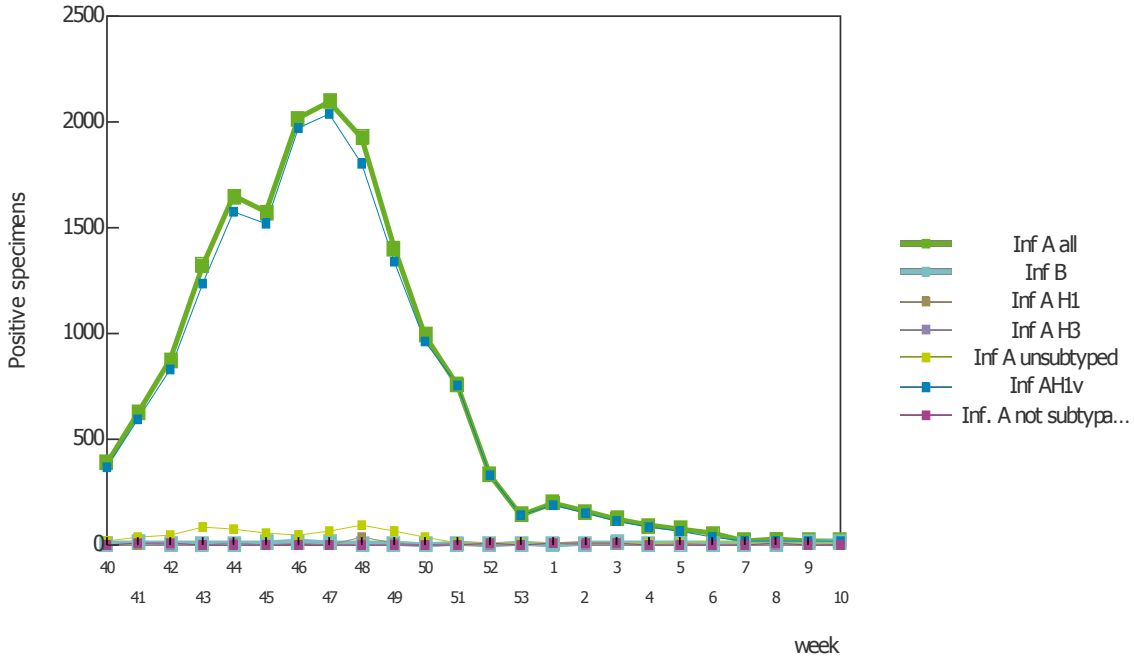



**Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2009–10/2010**

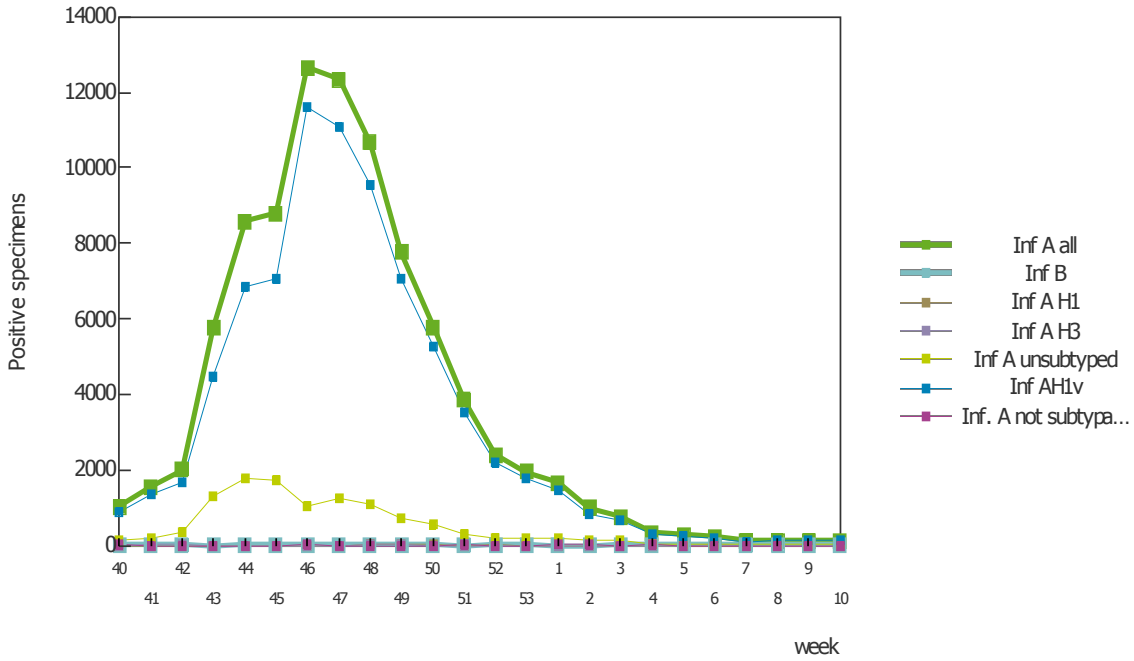


**Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2009–10/2010**

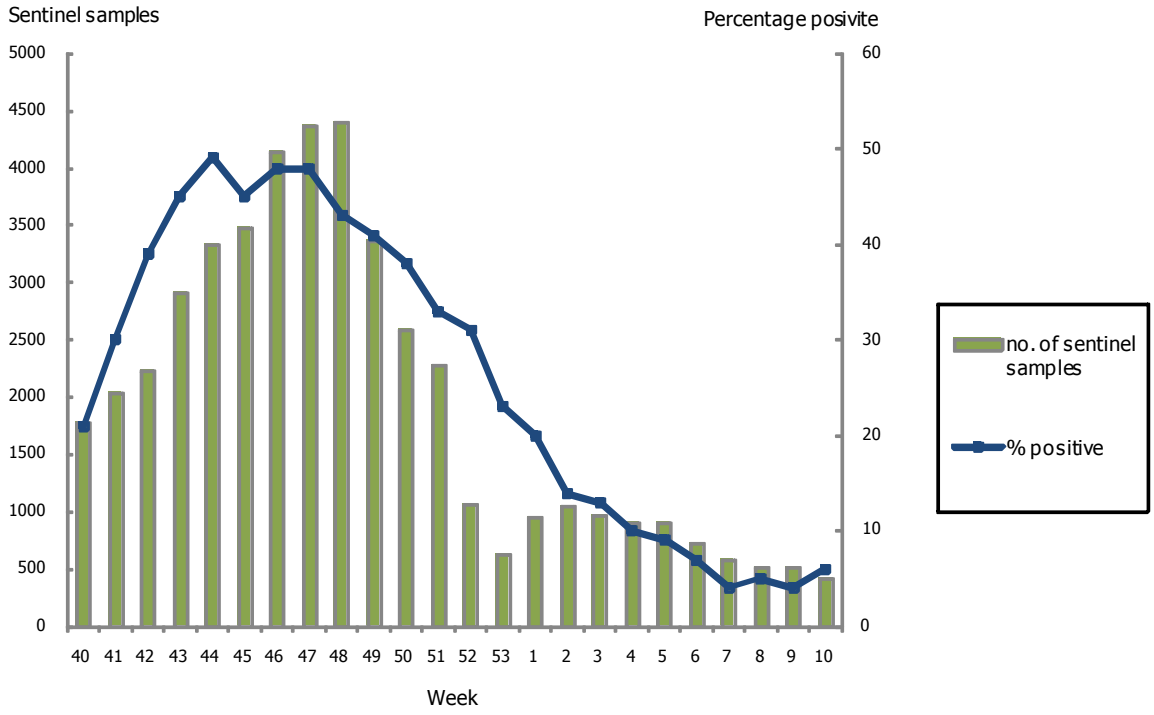


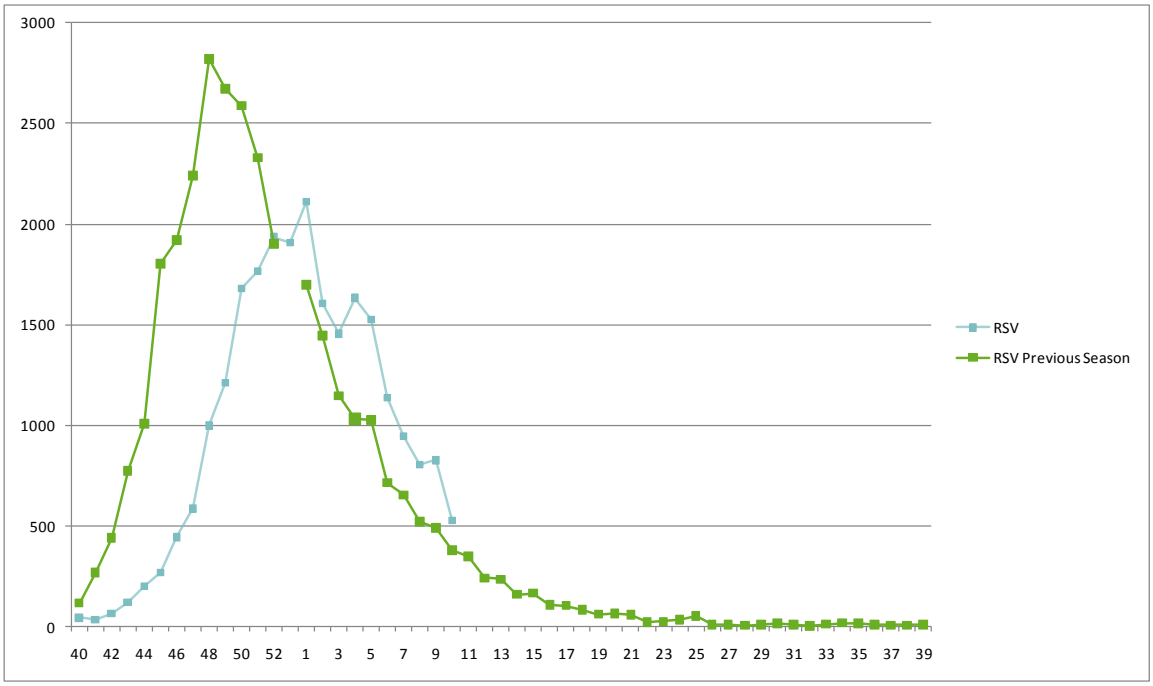

**Table 3: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates since week 40/2009**

| Strain name | Number of strains |
|---|---|
| A(H1)v California/7/2009-like | 1969 |
| A(H3) A/Brisbane/10/2007 (H3N2)-like | 5 |
| A(H3) A/Perth/16/2009 (H3N2)-like | 22 |
| B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) | 4 |
| B/Florida/4/2006-like (B/Yamagata/16/88 lineage) | 0 |

**Table 4: Antiviral resistance by influenza virus type and subtype, weeks 40/2009–10/2010**

| Virus type and subtype | Resistance to neuraminidase inhibitors | | | | Resistance to M2 inhibitors | |
|---|---|---|---|---|---|---|
| | Oseltamivir | | Zanamivir | | Isolates tested | Resistant n (%) |
| | Isolates tested | Resistant n (%) | Isolates tested | Resistant n (%) | | |
| A(H3N2) | 0 | 0 | 0 | 0 | 0 | 0 |
| A(H1N1) | 0 | 0 | 0 | 0 | 0 | 0 |
| A(H1N1)v | 1453 | 37 (2.5) | 1447 | 0 | 205 | 205 (100) |
| B | 0 | 0 | 0 | 0 | NA | NA |

**Figure 4: Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2009–10/2010**




## Description of the system

According to the nationally defined sampling strategy, sentinel physicians take nasal or pharyngeal swabs from patients with influenza-like illness (ILI), acute respiratory infection (ARI) or both and send the specimens to influenza-specific reference laboratories for virus detection, (sub-)typing, antigenic or genetic characterisation and antiviral susceptibility testing.

For details on the current virus strains recommended by WHO for vaccine preparation, **click here**.

# Aggregate numbers of 2009 pandemic A(H1N1) associated deaths

## Weekly analysis — deaths

During week 10/2010, five countries reported one pandemic virus-related death each. Since the beginning of the pandemic, 1825 deaths have been notified to ECDC through TESSy (Table 5).

**Table 5: Aggregate numbers of 2009 pandemic A(H1N1) associated deaths, week 10/2010**

| country | Deaths reported in week | Cumulative deaths since start of season | Last reported week |
|---|---|---|---|
| Austria | | 0 | 2009-w36 |
| Belgium | | 0 | 2009-w29 |
| Bulgaria | | 40 | 2009-w53 |
| Cyprus | | 0 | 2009-w29 |
| Czech Republic | 1 | 98 | 2010-w10 |
| Denmark | | 0 | 2009-w36 |
| Estonia | 0 | 19 | 2010-w10 |
| Finland | | 0 | 2009-w36 |
| France | 0 | 309 | 2010-w10 |
| Germany | | 243 | 2010-w09 |
| Greece | 1 | 139 | 2010-w10 |
| Hungary | 0 | 130 | 2010-w10 |
| Iceland | | 2 | 2009-w52 |
| Ireland | 1 | 24 | 2010-w10 |
| Italy | | 1 | 2009-w52 |
| Latvia | | 34 | 2010-w09 |
| Lithuania | 0 | 23 | 2010-w10 |
| Luxembourg | | 3 | 2009-w52 |
| Malta | | 5 | 2010-w09 |
| Netherlands | 1 | 59 | 2010-w10 |
| Norway | 0 | 29 | 2010-w10 |
| Poland | | 148 | 2009-w53 |
| Portugal | | 0 | 2009-w36 |
| Romania | 0 | 122 | 2010-w10 |
| Slovakia | 1 | 54 | 2010-w10 |
| Slovenia | 0 | 19 | 2010-w10 |
| Spain | | 4 | 2009-w29 |
| Sweden | 0 | 24 | 2010-w10 |
| United Kingdom | | 296 | 2010-w09 |
| Total | 5 | 1825 | |

## Description of the system

Aggregate numbers of both probable and laboratory-confirmed cases of pandemic influenza and deaths due to pandemic influenza are reported by countries still collecting this data. As countries are retrospectively updating their weekly numbers of deaths and the system calculates the cumulative values based on the current status, weekly numbers of deaths published in previous WISO editions may not always add up to the cumulative totals.

# Hospital surveillance – severe acute respiratory infection (SARI)

## Weekly analysis – SARI

During week 10/2010, 12 SARI cases were reported, two of which had symptom onset during the same week. The number of SARI cases by week of onset has been declining since the peak in week 46/2009 (Figure 5). Since the beginning of SARI surveillance, 11 countries have reported 10 977 cases, including 506 fatalities (Table 6).

More than 99% of the influenza viruses isolated from SARI cases and subtyped since the start of the season were the 2009 pandemic A(H1N1) influenza virus (Table 7).

**Table 6: Cumulative number of SARI cases, weeks 40/2009 - week 10/2010**

| Country | Number of cases | Incidence of SARI cases per 100,000 population | Number of fatal cases reported | Incidence of fatal cases per 100,000 population | Estimated population covered |
|---|---|---|---|---|---|
| Austria | 2813 | | 33 | | |
| Belgium | 1775 | 16.64 | | | 10668666 |
| Cyprus | 20 | | 5 | | |
| Finland | 1390 | | 41 | | |
| France | 1328 | | 281 | | |
| United Kingdom | 1488 | 3.77 | 62 | 0.16 | 39503332 |
| Ireland | 888 | | 17 | | |
| Malta | 156 | 37.72 | 1 | 0.24 | 413609 |
| Netherlands | 642 | 3.89 | 27 | 0.16 | 16521505 |
| Romania | 188 | 1.48 | 12 | 0.09 | 12684180 |
| Slovakia | 289 | | 27 | | |
| Total | 10977 | | 506 | | 39503332 |

**Figure 5: Number of SARI cases by week of onset, week 10/2010**

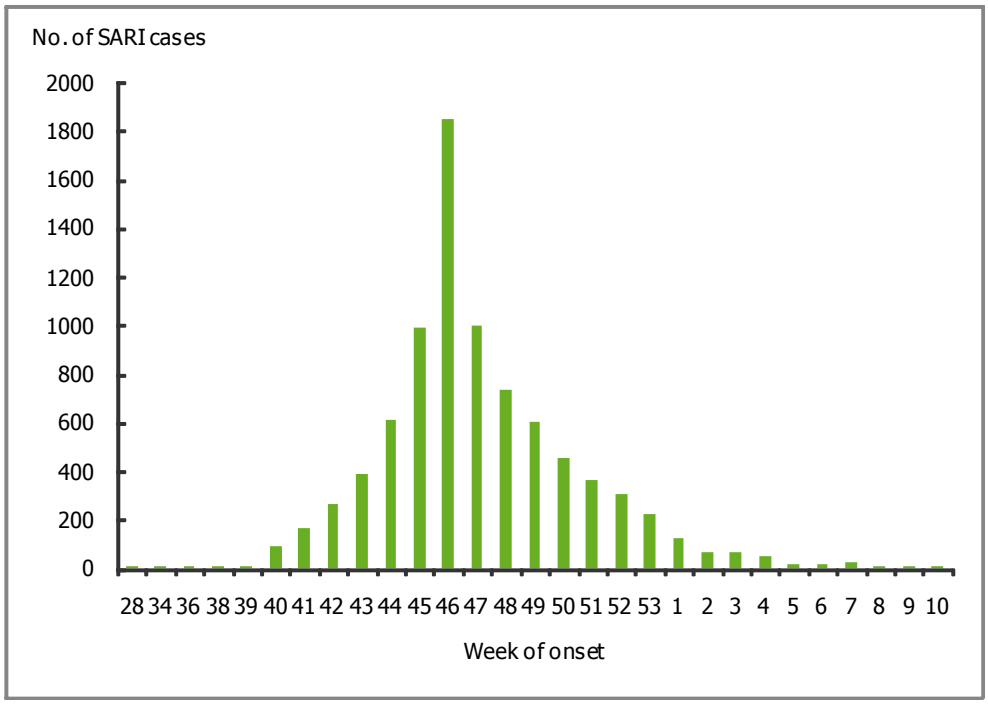


**Table 7: Number of SARI cases by influenza type and subtype, week 10/2010**

| Virus type/subtype | Number of cases during current week | Cumulative number of cases since the start of the season |
|---|---|---|
| Influenza A | 2 | 9016 |
| A (pandemic H1N1) | 2 | 8986 |
| A(subtyping not performed) | | 23 |
| A(H3) | | |
| A(H1) | | 7 |
| A(H5) | | |
| Influenza B | | |
| Unknown | 10 | 2322 |
| Total | 12 | 11338 |

## Description of the system

A number of Member States carry out hospital-based surveillance of severe acute respiratory infection (SARI) exhaustively or at selected sentinel sites. SARI surveillance serves to monitor the trends in the severity of influenza and potential risk factors for severe disease to help guide preventive measures and health care resource allocation.

# Qualitative reporting

Qualitative monitoring will be an acceptable replacement for the quantitative monitoring when reliable numbers are no longer available for reporting due to overburdened surveillance systems. The qualitative components will give some indication of influenza intensity, geographic spread, trend and impact.

*The report text was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC): Flaviu Plata, Phillip Zucs, Bruno Ciancio, Rene Snacken and Eeva Broberg. The bulletin text was reviewed by the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL) coordination team: Adam Meijer, Rod Daniels, John McCauley and Maria Zambon. On behalf of the EISN members the bulletin text was reviewed by Joan O'Donnell (Health Protection Surveillance Centre, Ireland) and Katarina Prosenc (National Institute of Public Health, Slovenia).*