

SURVEILLANCE REPORT

Weekly influenza surveillance overview

12 February 2010

Main surveillance developments in week 05/2010 (01 Feb 2010–07 Feb 2010)

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

- The 2009 influenza A(H1N1) pandemic is well past its peak in EU/EEA countries. In eight countries (the majority of which are in Eastern Europe), local or regional transmission of the pandemic virus continues at low to medium intensity.
- Elsewhere intensity was low, but sporadic transmission of the pandemic virus was reported in the majority of countries.
- Of the 910 specimens collected by sentinel physicians, 76 (8.4%) were positive for influenza virus, mainly the pandemic virus; this is consistent with a declining trend.
- In contrast to the pandemic virus there is currently no evidence of virus circulation due to other influenza A viruses, but there is some circulation of influenza B viruses.
- The number of reported SARI cases continued to decline. Of the 39 SARI cases for whom underlying conditions were documented, 9 (23%) had no known underlying condition.

Sentinel surveillance of influenza like-illness (ILI)/ acute respiratory illness (ARI): Of the 28 countries reporting, three (Bulgaria, Greece and Slovakia) reported medium ILI/ARI activity while the remaining countries reported low activity. For more information, [click here](#).

Virological surveillance: Sentinel physicians collected 910 respiratory specimens, 76 (8.4%) of which were positive for influenza virus. Since week 40/2009, 99% of the viruses detected in sentinel specimens were 2009 pandemic influenza A(H1N1) virus. For more information, [click here](#).

Aggregate numbers of 2009 pandemic influenza (H1N1) deaths: In week 05/2010, nine countries reported 26 deaths. For more information, [click here](#).

Hospital surveillance of severe acute respiratory infection (SARI): During week 05/2010, 62 SARI cases were reported. All 36 influenza viruses isolated from SARI patients and subtyped were the pandemic virus. For more information, [click here](#).

Qualitative reporting: For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly analysis—epidemiology

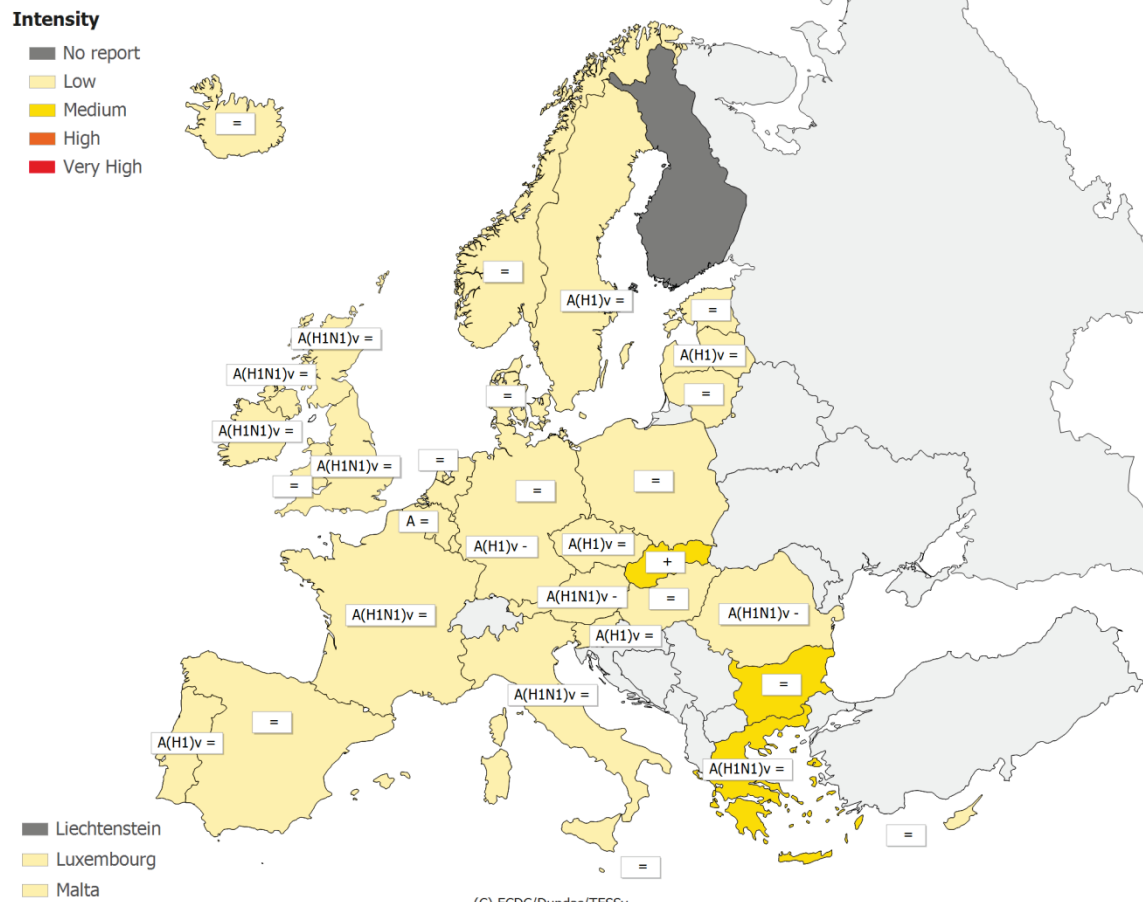
In week 05/2010, 28 out of 29 countries reported epidemiological data. For the activity intensity indicator, three countries reported medium activity (Bulgaria, Greece and Slovakia) while the remaining countries reported low intensity (Map 1 and Table 1).

Of the three countries who reported intensity above baseline levels, an increasing trend was reported only in Slovakia for the fourth consecutive week. A decreasing trend was reported in Austria, Luxembourg and Romania (Table 1).

For the geographic spread indicator, local or regional activity was reported in eight countries (Austria, Bulgaria, Czech Republic, Germany, Greece, Italy, Malta and Slovakia). Sporadic or no activity was reported in the remaining 20 countries (Map 2 and Table 1).

For the majority of countries that reported age specific incidence of ILI and/or ARI, the most affected age group was 0–14 years.

Map 1: Intensity for week 5/2010

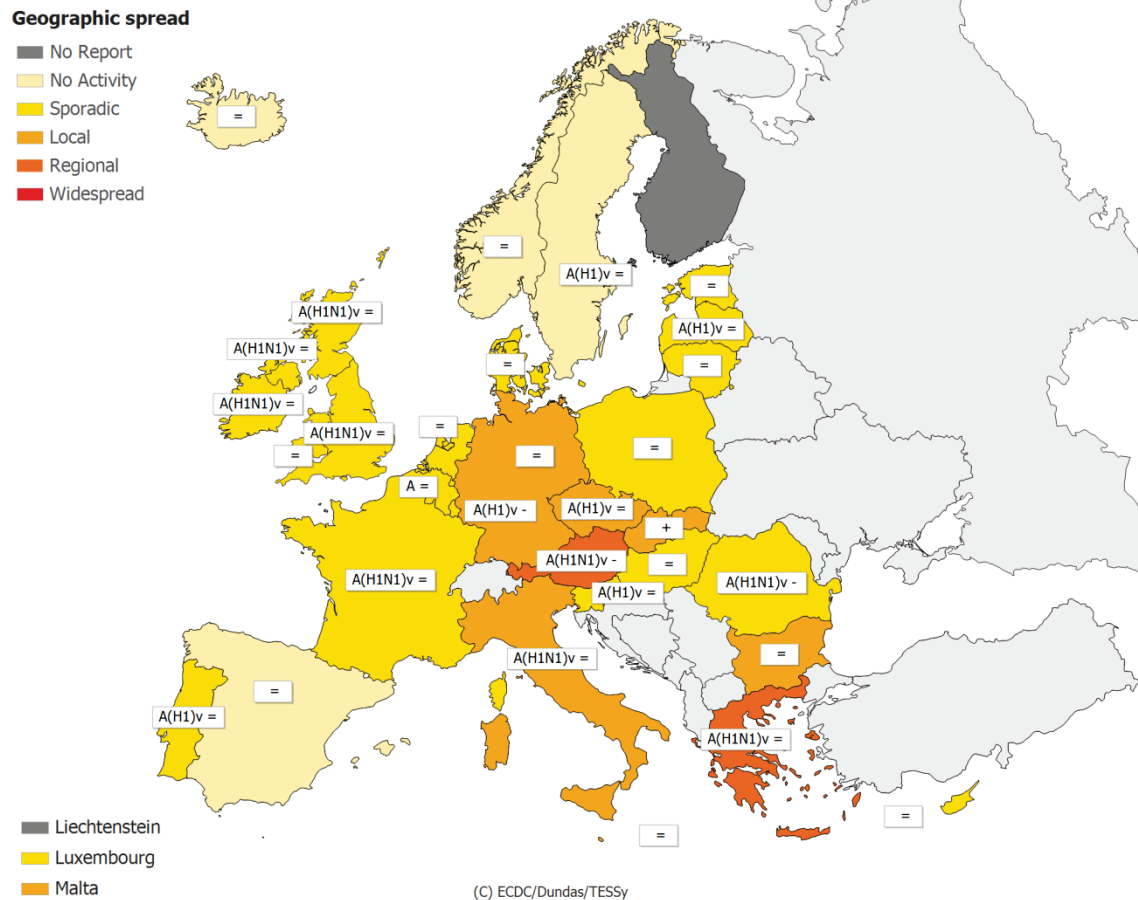


* A type/subtype is reported as dominant when > 40 % of all samples are positive for the type/subtype.

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 |

Map 2: Geographic spread for week 5/2010



* 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) | - | Decreasing clinical activity |
| Sporadic | Isolated cases of laboratory confirmed influenza infection | + | Increasing clinical activity |
| 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) | = | Stable clinical activity |
| 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) | A | Type A |
| 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) | A(H1)v | Type A, Subtype H1v |
| | | A(H1N1)v | Type A, Subtype H1N1v |

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 | Epidemiological overview | Virological overview |
|-----------------------|-----------|-------------------|------------|-----------------------|---------------|----------------------|-----------------|-----------------|--------------------------|----------------------|
| Austria | Low | Regional | Decreasing | 8 | A(H1N1)v | 75.0 | - | 20.9 | Graphs | Graphs |
| Belgium | Low | Sporadic | Stable | 27 | A | 14.8 | 78.3 | 1524.9 | Graphs | Graphs |
| Bulgaria | Medium | Local | Stable | 16 | None | 18.8 | - | 613.8 | Graphs | Graphs |
| Cyprus | Low | Sporadic | Stable | - | - | - | -* | -* | Graphs | Graphs |
| Czech Republic | Low | Local | Stable | 13 | A(H1)v | 0.0 | 45.6 | 911.7 | Graphs | Graphs |
| Denmark | Low | Sporadic | Stable | 33 | None | 30.3 | 40.8 | 0.0 | Graphs | Graphs |
| Estonia | Low | Sporadic | Stable | 14 | None | 7.1 | 10.4 | 237.9 | Graphs | Graphs |
| Finland | | | | - | - | - | - | - | Graphs | Graphs |
| France | Low | Sporadic | Stable | 159 | A(H1N1)v | 3.1 | - | 1859.9 | Graphs | Graphs |
| Germany | Low | Local | Stable | 51 | None | 17.7 | - | 1126.6 | Graphs | Graphs |
| Greece | Medium | Regional | Stable | 16 | A(H1N1)v | 50.0 | 146.2 | - | Graphs | Graphs |
| Hungary | Low | Sporadic | Stable | 78 | None | 23.1 | 153.2 | - | Graphs | Graphs |
| Iceland | Low | No activity | Stable | - | - | - | 2.8 | - | Graphs | Graphs |
| Ireland | Low | Sporadic | Stable | 5 | A(H1N1)v | 0.0 | 6.8 | - | Graphs | Graphs |
| Italy | Low | Local | Stable | 31 | A(H1N1)v | 0.0 | 189.8 | - | Graphs | Graphs |
| Latvia | Low | Sporadic | Stable | 0 | A(H1)v | - | -* | -* | Graphs | Graphs |
| Lithuania | Low | Sporadic | Stable | 3 | None | 0.0 | 2.4 | 524.3 | Graphs | Graphs |
| Luxembourg | Low | Sporadic | Decreasing | 17 | A(H1)v | 11.8 | -* | -* | Graphs | Graphs |
| Malta | Low | Local | Stable | - | - | - | -* | -* | Graphs | Graphs |
| Netherlands | Low | Sporadic | Stable | 15 | None | 0.0 | 36.7 | - | Graphs | Graphs |
| Norway | Low | No activity | Stable | 2 | None | 0.0 | 33.4 | - | Graphs | Graphs |
| Poland | Low | Sporadic | Stable | 19 | None | 5.3 | 78.5 | - | Graphs | Graphs |
| Portugal | Low | Sporadic | Stable | 8 | A(H1)v | 0.0 | 6.1 | - | Graphs | Graphs |
| Romania | Low | Sporadic | Decreasing | 13 | A(H1N1)v | 15.4 | -* | -* | Graphs | Graphs |
| Slovakia | Medium | Local | Increasing | 6 | None | 0.0 | 229.8 | 1696.8 | Graphs | Graphs |
| Slovenia | Low | Sporadic | Stable | 8 | A(H1)v | 12.5 | 6.7 | 1073.6 | Graphs | Graphs |
| Spain | Low | No activity | Stable | 104 | None | 1.9 | 19.0 | - | Graphs | Graphs |
| Sweden | Low | No activity | Stable | 10 | A(H1)v | 0.0 | 2.4 | - | Graphs | Graphs |
| UK - England | Low | Sporadic | Stable | 186 | A(H1N1)v | 6.7 | 12.5 | 412.8 | Graphs | Graphs |
| UK - Northern Ireland | Low | Sporadic | Stable | 4 | A(H1N1)v | 0.0 | 38.7 | 416.6 | Graphs | Graphs |
| UK - Scotland | Low | Sporadic | Stable | 64 | A(H1N1)v | 3.1 | 3.5 | 249.9 | Graphs | Graphs |
| UK - Wales | Low | Sporadic | Stable | - | - | - | 5.7 | - | Graphs | Graphs |
| Europe | | | | 910 | | 8.4 | | | | 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 05/2010, 24 countries and the UK (England, Northern Ireland and Scotland) reported virological data. Sentinel physicians collected 910 specimens, 76 (8.4%) of which were positive for influenza virus (Tables 1 and 2). In addition, 292 non-sentinel source specimens (i.e. specimens collected for diagnostic purpose in hospitals) were reported positive for influenza virus. Of the 16 896 influenza viruses detected by sentinel practices and sub-typed since week 40/2009, 16 779 (99%) 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 sub-type. Figures 1–3 show the trends' virological detections over time. The proportion of positive sentinel samples has decreased since week 46/2009 (Figure 3).

From week 40/2009 to week 05/2010, 1811 influenza viruses from sentinel and non-sentinel specimens were characterised antigenically and reported, 1791 (99%) of which were 2009 pandemic influenza A(H1N1) virus, A/California/7/2009-like (Table 3).

All pandemic viruses tested were resistant to M2 inhibitors. Of the 1282 viruses tested from nine countries, 37 (2.9%) were resistant to oseltamivir and of the 1276 isolates tested, none were resistant to zanamivir (Table 4).

Since their peak in week 01/2010, the total number of respiratory syncytial virus (RSV) detections in 11 countries has been decreasing (Figure 4). However in Austria, Denmark, Estonia, Germany, Latvia and Sweden, the number of RSV positive samples has increased for at least two consecutive weeks.

Table 2: Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2009–5/2010

| Virus type/subtype | Current Week | | Season | |
|-----------------------------|--------------|--------------|--------------|--------------|
| | Sentinel | Non-sentinel | Sentinel | Non-sentinel |
| Influenza A | 74 | 281 | 17467 | 88904 |
| A (pandemic H1N1) | 64 | 252 | 16779 | 76373 |
| A (subtyping not performed) | 10 | 27 | 633 | 12395 |
| A (not subtypable) | 0 | 2 | 14 | 45 |
| A (H3) | 0 | 0 | 6 | 42 |
| A (H1) | 0 | 0 | 35 | 49 |
| Influenza B | 2 | 11 | 62 | 99 |
| Total Influenza | 76 | 292 | 17529 | 89003 |

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 40/2009–05/2010

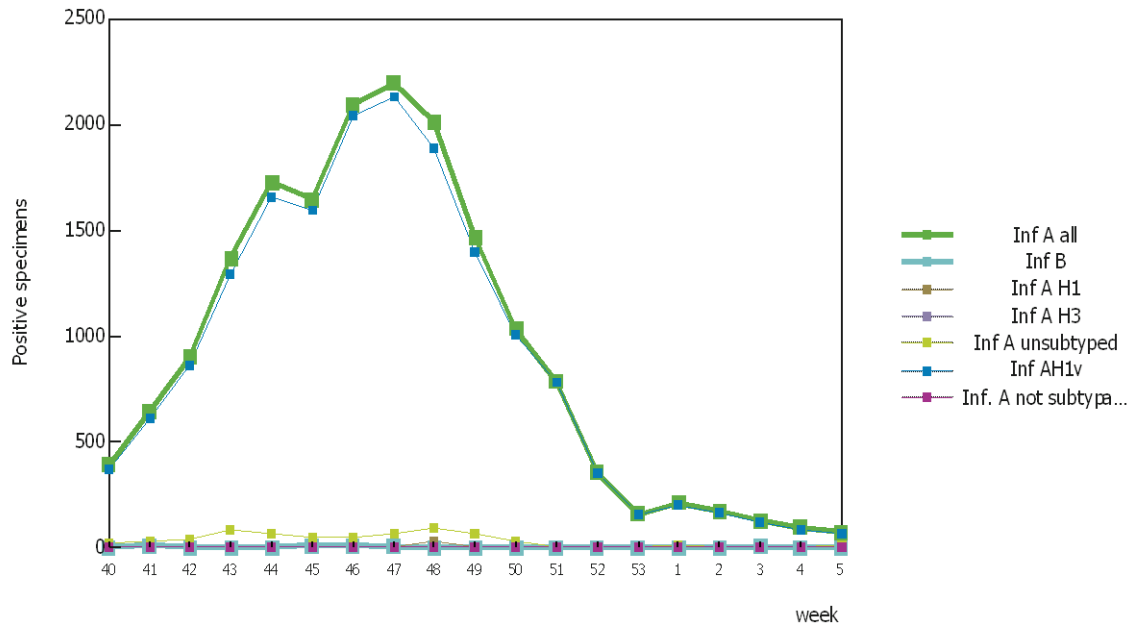


Figure 2: Number of non-sentinel specimens positive for influenza by type, subtype and week of report, weeks 40/2009–05/2010

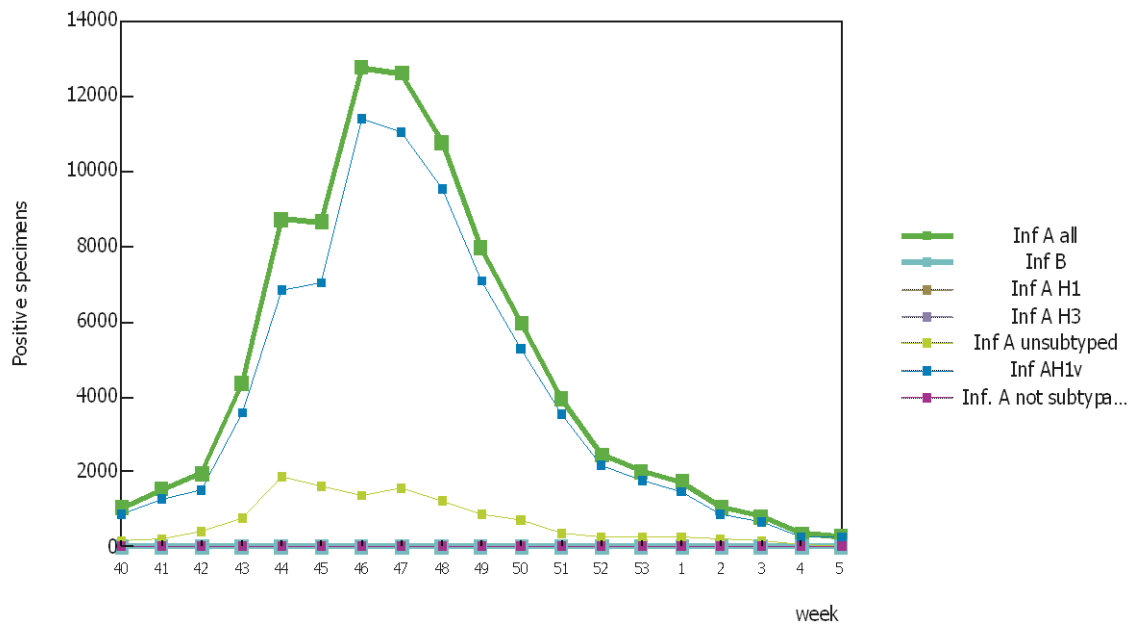


Figure 3: Proportion of sentinel samples positive for influenza, weeks 40/2009–05/2010

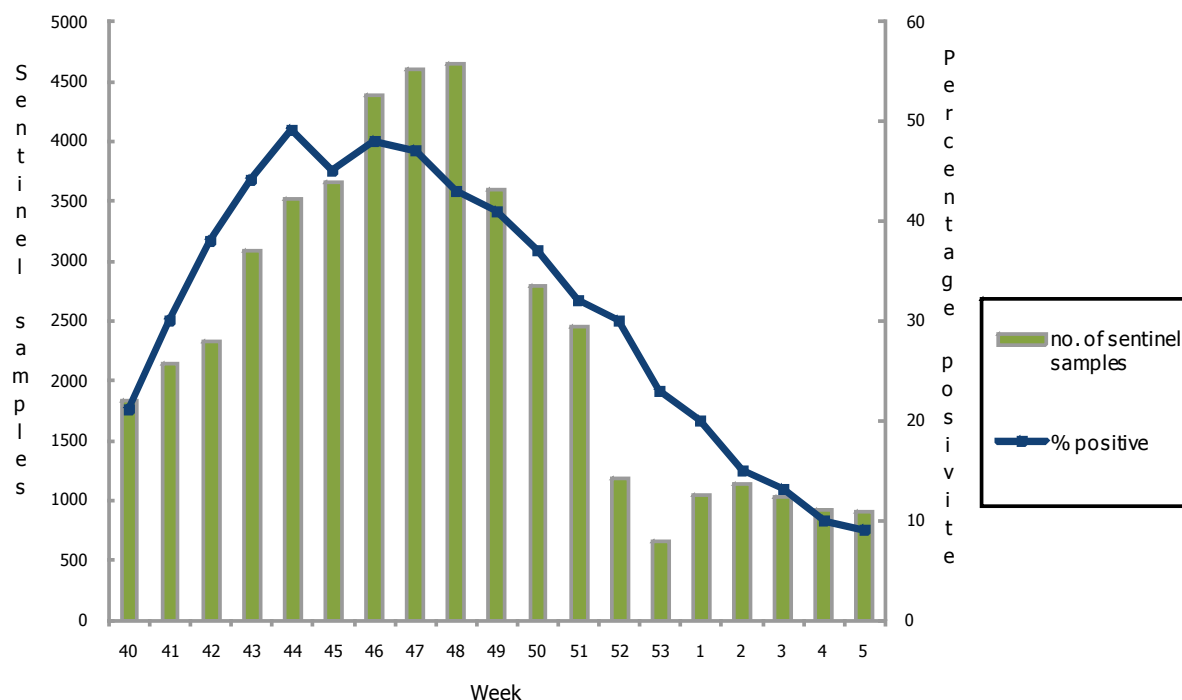


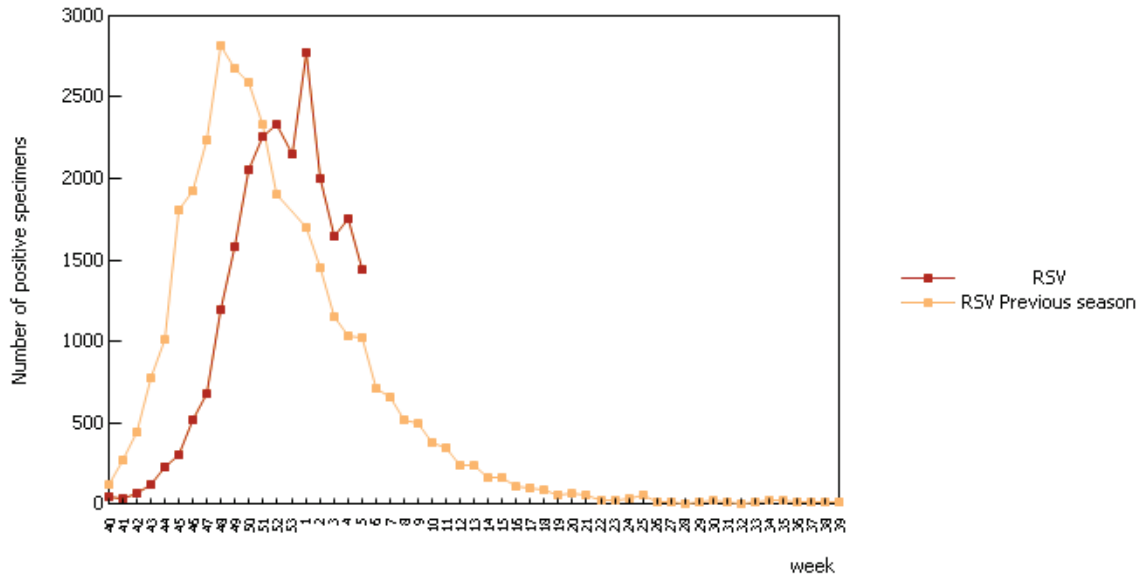
Table 3: Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates since week 40/2009

| Strain name | Number of strains |
|---|-------------------|
| A(H1)v California/7/2009-like | 1791 |
| A(H3) A/Brisbane/10/2007 (H3N2)-like | 7 |
| A(H1) A/Brisbane/59/2007 | 1 |
| A(H3) A/Perth/16/2009 (H3N2)-like | 11 |
| B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) | 1 |

Table 4: Antiviral resistance of influenza by virus type and subtype, weeks 40/2009–05/2010

| 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) | | | | | | |
| A(H1N1) | | | | | | |
| A(H1N1)v | 1282 | 37 (2.9%) | 1276 | 0 (0%) | 153 | 153 (100%) |
| B | | | | | | |

Figure 4: Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2009–05/2010



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

Weekly analysis—deaths

During week 05/2010, nine countries reported 26 deaths. Since the beginning of the pandemic, 1517 deaths have been notified to ECDC through TESSy (Table 5).

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

| 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 | 3 | 94 | 2010-w05 |
| Denmark | | 0 | 2009-w36 |
| Estonia | 1 | 15 | 2010-w05 |
| Finland | | 0 | 2009-w36 |
| France | 3 | 289 | 2010-w05 |
| Germany | 4 | 225 | 2010-w05 |
| Greece | 5 | 123 | 2010-w05 |
| Hungary | 7 | 119 | 2010-w05 |
| Iceland | | 2 | 2009-w52 |
| Ireland | 0 | 22 | 2010-w05 |
| Italy | | 1 | 2009-w52 |
| Latvia | | 31 | 2009-w53 |
| Lithuania | 0 | 22 | 2010-w05 |
| Luxembourg | | 3 | 2009-w52 |
| Malta | | 5 | 2010-w04 |
| Netherlands | 1 | 57 | 2010-w05 |
| Norway | 0 | 29 | 2010-w05 |
| Poland | | 9 | 2009-w47 |
| Portugal | | 0 | 2009-w36 |
| Romania | 1 | 120 | 2010-w05 |
| Slovakia | 1 | 49 | 2010-w05 |
| Slovenia | 0 | 19 | 2010-w05 |
| Spain | | 4 | 2009-w29 |
| Sweden | 0 | 24 | 2010-w05 |
| United Kingdom | | 215 | 2010-w01 |
| Total | 26 | 1517 | |

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 05/2010, 62 SARI cases were reported, seven of which (11.3%) 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 10 959 cases, including 499 fatalities (Table 6).

All 36 influenza viruses isolated from SARI cases in week 05/2010 were the 2009 pandemic influenza A(H1N1) virus (Table 8).

Of the 62 SARI cases reported during week 05/2010, only four were known to have received antiviral prophylaxis, and 18 were known to have received antiviral therapy (Table 9).

Of the 62 SARI cases, 30 (48%) were known to have required ICU admission and 16 (24%) needed ventilator support (Table 10).

Of the 39 SARI cases for whom underlying conditions were reported, 9 (23%) had no known underlying condition. Asthma and other chronic lung diseases alone or associated with other conditions were reported in 12 (31%) cases (Figure 6).

Table 6: Cumulative number of SARI cases, weeks 40/2009–05/2010

| 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 | 1326 | | 274 | | |
| United Kingdom | 1488 | 3.77 | 62 | 0.16 | 39503332 |
| Ireland | 888 | | 17 | | |
| Malta | 156 | 37.72 | 1 | 0.24 | 413609 |
| Netherlands | 630 | 3.81 | 27 | 0.16 | 16521505 |
| Romania | 188 | 1.48 | 12 | 0.09 | 12684180 |
| Slovakia | 285 | | 27 | | |
| Total | 10959 | | 499 | | 39503332 |

Figure 5: Number of SARI cases by week of onset, week 05/2010

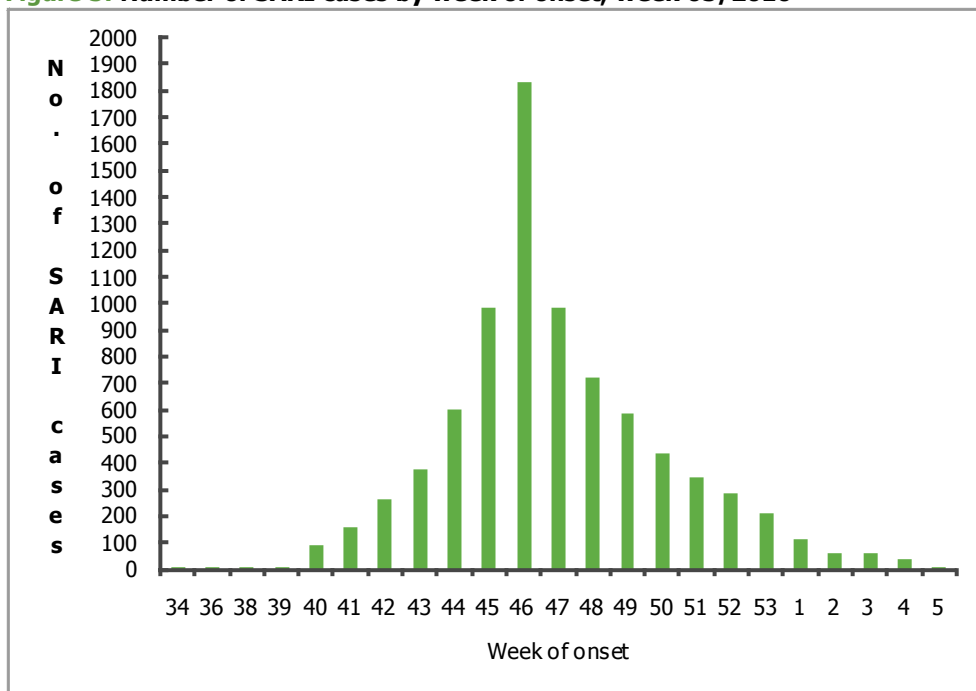


Table 7: Number of SARI cases by age and gender, week 05/2010

| Age groups | Male | Female | Unknown |
|------------|------|--------|---------|
| Under 2 | 1 | 3 | 6 |
| 2-17 | 7 | 2 | 3 |
| 18-44 | 9 | 7 | |
| 45-59 | 8 | 8 | |
| >=60 | 5 | 3 | |
| Total | 30 | 23 | 9 |

Table 8: Number of SARI cases by influenza type and subtype, week 05/2010

| Virus type/subtype | Number of cases during current week | Cumulative number of cases since the start of the season |
|----------------------------|-------------------------------------|--|
| Influenza A | 36 | 8761 |
| A (pandemic H1N1) | 36 | 8707 |
| A(subtyping not performed) | | 26 |
| A(H3) | | |
| A(H1) | | 28 |
| A(H5) | | |
| Influenza B | | |
| Unknown | 26 | 2198 |
| Total | 62 | 10959 |

Table 9: Number of SARI cases by antiviral treatment, week 05/2010

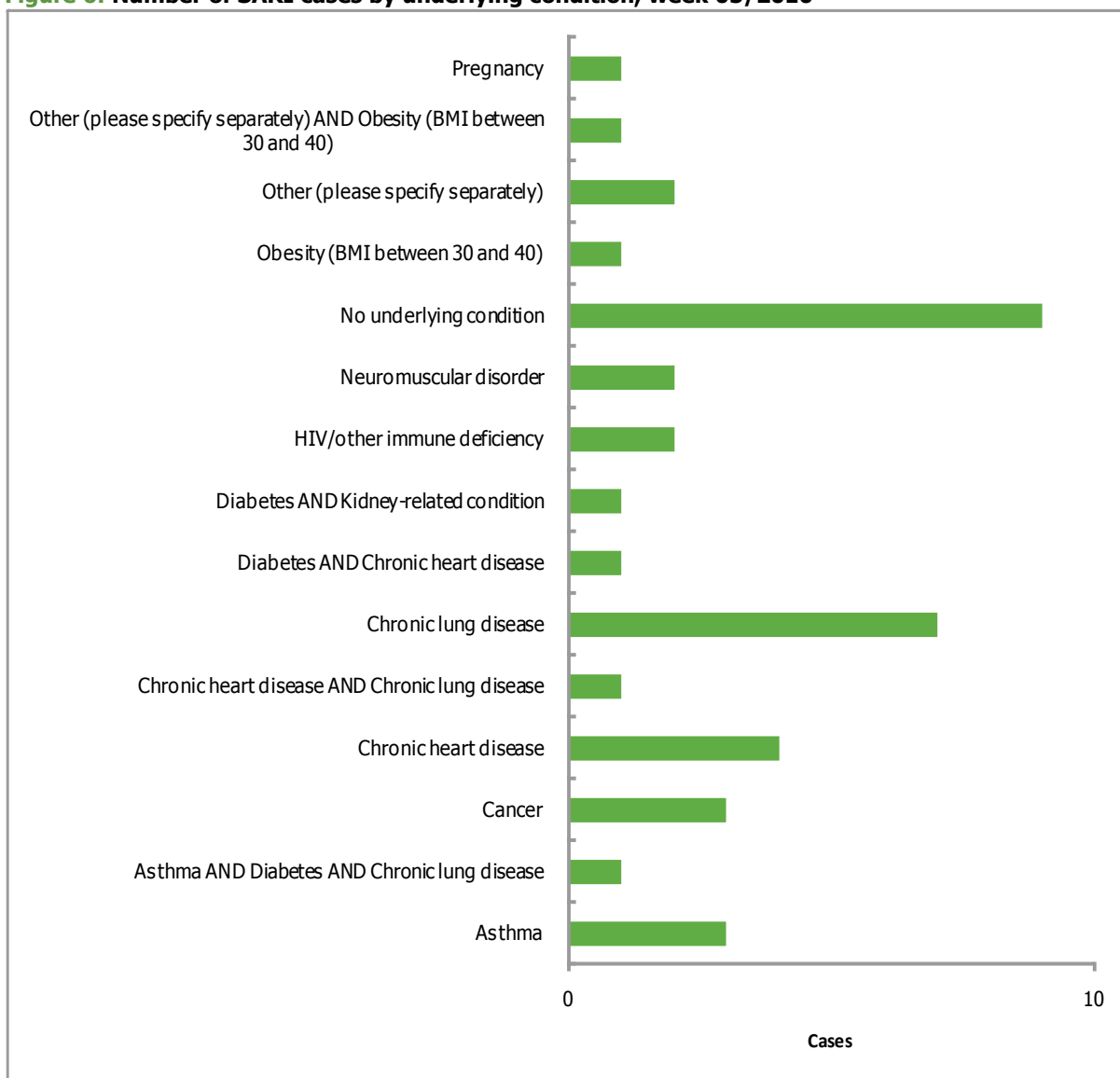
| Antiviral treatment | Number of patients who received prophylaxis | Number of patients who received anti-viral treatment |
|---------------------------------|---|--|
| Oseltamivir | 2 | 16 |
| Other (or a combination of any) | 2 | 2 |
| Unknown | 43 | 34 |
| None | 15 | 10 |
| Total | 62 | 62 |

Table 10: Number of SARI cases by level of care and respiratory support, week 05/2010

| Respiratory support | ICU | Inpatient ward | Other | Unknown |
|-----------------------------------|-----|----------------|-------|---------|
| No respiratory support necessary | 1 | | | |
| Oxygen therapy | 7 | 12 | | |
| Respiratory support given unknown | 7 | 3 | | 16 |
| Ventilator | 15 | 1 | | |

Table 11: Number of SARI cases by vaccination status, week 05/2010

| Vaccination Status | Number Of Cases | Percentage of cases |
|-------------------------------|-----------------|---------------------|
| Not full pandemic vaccination | 0 | 0 |
| Not vaccinated | 18 | 29 |
| Pandemic vaccination | 4 | 6.5 |
| Seasonal vaccination | 10 | 16 |
| Unknown | 30 | 48.4 |
| TOTAL | 62 | |

Figure 6: Number of SARI cases by underlying condition, week 05/2010**Table 12: Number of underlying conditions in SARI cases by age group, week 5/2010**

| Underlying condition/risk factor | Infant below 2 years | 2-17 years | 18-44 years | 45-59 years | >=60 years |
|-----------------------------------|----------------------|------------|-------------|-------------|------------|
| Asthma | | 1 | 2 | | 1 |
| Cancer | | | | 3 | |
| Diabetes | | | 1 | | 2 |
| Chronic heart disease | | 1 | 1 | 2 | 2 |
| HIV/other immune deficiency | | | | 1 | 1 |
| Kidney-related condition | | | 1 | | |
| Chronic lung disease | | | 1 | 7 | 1 |
| Neuromuscular disorder | 1 | | 1 | | |
| No underlying condition | 2 | 3 | 2 | | 2 |
| Other (please specify separately) | 1 | 1 | | 1 | |
| Obesity (BMI between 30 and 40) | | | | 2 | |
| Pregnancy | | | 1 | | |
| Underlying condition unknown | 6 | 6 | 7 | 2 | 2 |

Note: Obesity is considered an underlying condition only if no other underlying conditions are present. One case can have more than one underlying condition.

Table 13: Additional clinical complications in SARI cases by age group, week 05/2010

| Additional clinical complications | Infant below 2 years | 2-17 years | 18-44 years | 45-59 years | >=60 years |
|---|----------------------|------------|-------------|-------------|------------|
| Acute respiratory distress syndrome | 2 | 2 | 3 | 4 | 1 |
| Bronchiolitis | | 1 | | | |
| None | 1 | 3 | 1 | | 3 |
| Other (please specify separately) | | | | 1 | |
| Pneumonia (secondary bacterial infection) | | | 1 | 1 | 1 |
| Sepsis/Multi-organ failure | | | | 1 | |
| Unknown | 7 | 6 | 11 | 10 | 3 |

Note: One case can have more than one complication.

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, Alan Hay 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).

Maps and commentary used in this Weekly Influenza Surveillance Overview (WISO) do not imply any opinions whatsoever of ECDC or its partners on the legal status of the countries and territories shown or concerning their borders.

All data published in the WISO are up-to-date on the day of publication. Past this date, however, published data should not be used for longitudinal comparisons as countries tend to retrospectively update their numbers in the database.

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