

SURVEILLANCE REPORT

Weekly influenza surveillance overview

21 March 2014

Main surveillance developments in week 11/2014 (10–16 March 2014)

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

For week 11/2014:

- Of the 29 countries providing clinical data, no country reported high-intensity influenza activity.
- Of the 787 sentinel specimens tested across 22 countries, 281 (36%) were positive for influenza virus. Of these, 275 (98%) were type A and six (2%) were type B.
- Six countries reported 152 hospitalised, laboratory-confirmed influenza cases, including 71 cases admitted to intensive care units.

Influenza activity remains at a moderate to low-intensity level with a stable or decreasing trend in the majority of the EU/EEA Member States and co-circulation of influenza A(H1)pdm09 and A(H3) subtypes.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): Nine of the 29 countries reported widespread influenza activity. For more information, [click here](#).

Virological surveillance: Since week 40/2013, of 6 005 sentinel specimens testing positive for influenza virus, 5 883 (98%) were type A and 122 (2%) were type B. Of the 5 485 subtyped influenza viruses, 3 090 (56%) were A(H1)pdm09 and 2 395 (44%) were A(H3). For more information, [click here](#).

Hospital surveillance of laboratory-confirmed influenza cases. Since week 40/2013, seven countries have reported 3 707 hospitalised, laboratory-confirmed influenza cases, 3 684 (99%) of which were caused by influenza virus type A infection and 23 (1%) by type B virus infection. For more information, [click here](#).

Sentinel surveillance (ILI/ARI)

Weekly and seasonal analysis

For week 11/2014, clinical data were reported by 29 countries. No country reported high-intensity influenza activity, 11 countries and the UK (Northern-Ireland) reported medium intensity and all other countries low intensity, the lowest category of reporting (Table 1, Map 1).

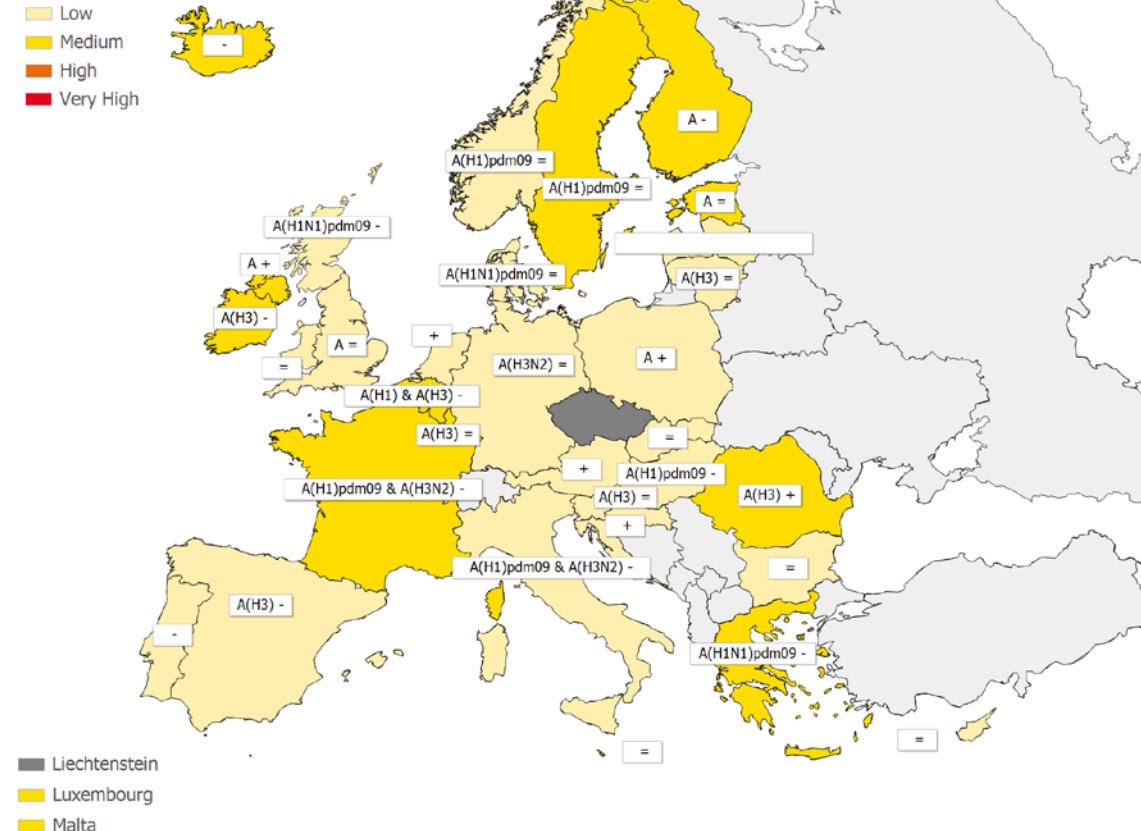
Geographic patterns of influenza activity varied across Europe: widespread activity was reported by nine countries; regional activity by nine countries and the UK (England and Scotland), and local activity by Bulgaria, Norway and Poland. Sporadic activity was reported from Latvia, Lithuania, Malta, Portugal, Slovakia, Spain and the UK (Northern Ireland). Cyprus and the UK (Wales) reported no influenza activity (Table 1, Map 2).

Increasing trends were reported by Austria, Croatia, the Netherlands, Poland, Romania and the UK (Northern Ireland) (Table 1, Map 2). Thirteen countries and the UK (England) reported stable trends, while 10 countries and UK (Scotland) experienced decreasing trends.

Map 1. Intensity for week 11/2014

Intensity

- No report
- Low
- Medium
- High
- Very High



- Liechtenstein
- Luxembourg
- Malta

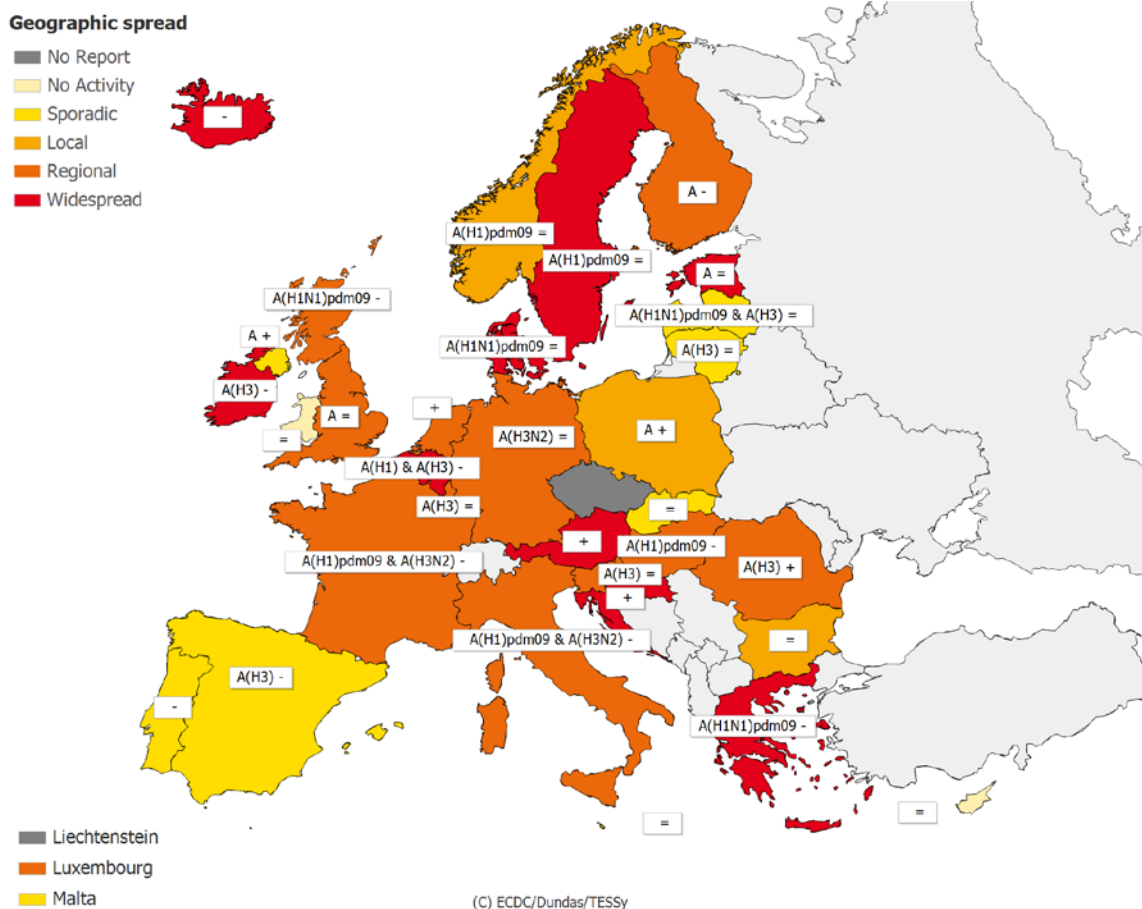
(C) ECDC/Dundas/TESSy

* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.

Legend:

| | | | |
|------------------|---|---------------------------------|------------------------------------|
| No report | Intensity level was not reported | + | Increasing clinical activity |
| Low | No influenza activity or influenza at baseline levels | - | Decreasing clinical activity |
| Medium | Usual levels of influenza activity | = | Stable clinical activity |
| High | Higher than usual levels of influenza activity | A | Type A |
| Very high | Particularly severe levels of influenza activity | A(H1) & A(H3) | Type A, Subtype H1 and H3 |
| | | A(H1)pdm09 | Type A, Subtype (H1)pdm09 |
| | | A(H1)pdm09 & A(H3N2) | Type A, Subtype (H1)pdm09 and H3N2 |
| | | A(H1N1)pdm09 | Type A, Subtype (H1N1)pdm09 |
| | | A(H1N1)pdm09 & A(H3) | Type A, Subtype (H1N1)pdm09 and H3 |

Map 2. Geographic spread for week 11/2014



* A type/subtype is reported as dominant when at least ten samples have been detected as influenza positive in the country and of those > 40 % are positive for the type/subtype.

Legend:

| | | | |
|--------------------------|---|---------------------------------|------------------------------------|
| No report | Activity level was not reported | + | Increasing clinical activity |
| 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 | = | Stable 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) | A | Type A |
| 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(H1) & A(H3) | Type A, Subtype H1 and H3 |
| 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)pdm09 | Type A, Subtype (H1)pdm09 |
| | | A(H1)pdm09 & A(H3N2) | Type A, Subtype (H1)pdm09 and H3N2 |
| | | A(H1N1)pdm09 | Type A, Subtype (H1N1)pdm09 |
| | | A(H1N1)pdm09 & A(H3) | Type A, Subtype (H1N1)pdm09 and H3 |
| | | A(H3) | Type A, Subtype H3 |
| | | A(H3N2) | Type A, Subtype H3N2 |

Table 1. Epidemiological and virological overview by country, week 11/2014

| Country | Intensity | Geographic spread | Trend | No. of sentinel specimens | Dominant type | Percentage positive | ILI per 100 000 | ARI per 100 000 | Epidemiological overview | Virological overview |
|-----------------------|-----------|-------------------|------------|---------------------------|----------------------|---------------------|-----------------|-----------------|--------------------------|----------------------|
| Austria | Low | Widespread | Increasing | 28 | None | 57.1 | 1137.4 | - | Graphs | Graphs |
| Belgium | Medium | Widespread | Decreasing | 35 | A(H1) & A(H3) | 57.1 | 169.9 | 1481.5 | Graphs | Graphs |
| Bulgaria | Low | Local | Stable | 0 | None | 0.0 | - | 929.1 | Graphs | Graphs |
| Croatia | Low | Widespread | Increasing | - | - | 0.0 | - | - | Graphs | Graphs |
| Cyprus | Low | No activity | Stable | - | - | 0.0 | .* | .* | Graphs | Graphs |
| Czech Republic | | | | - | - | 0.0 | - | - | | |
| Denmark | Low | Widespread | Stable | 9 | A(H1N1)pdm09 | 55.6 | 86.8 | - | Graphs | Graphs |
| Estonia | Medium | Widespread | Stable | 33 | A | 39.4 | 16.3 | 378.4 | Graphs | Graphs |
| Finland | Medium | Regional | Decreasing | 16 | A | 0.0 | - | - | Graphs | Graphs |
| France | Medium | Regional | Decreasing | 72 | A(H1)pdm09 & A(H3N2) | 34.7 | - | 1280.3 | Graphs | Graphs |
| Germany | Low | Regional | Stable | 118 | A(H3N2) | 21.2 | - | 1240.7 | Graphs | Graphs |
| Greece | Medium | Widespread | Decreasing | 20 | A(H1N1)pdm09 | 35.0 | 226.3 | - | Graphs | Graphs |
| Hungary | Low | Regional | Decreasing | 46 | A(H1)pdm09 | 15.2 | 157.8 | - | Graphs | Graphs |
| Iceland | Medium | Widespread | Decreasing | 0 | - | 0.0 | 45.7 | - | Graphs | Graphs |
| Ireland | Medium | Widespread | Decreasing | 24 | A(H3) | 54.2 | 38.2 | - | Graphs | Graphs |
| Italy | Low | Regional | Decreasing | 42 | A(H1)pdm09 & A(H3N2) | 35.7 | 307.1 | - | Graphs | Graphs |
| Latvia | Low | Sporadic | Stable | 0 | A(H1N1)pdm09 & A(H3) | 0.0 | 9.8 | 1015.1 | Graphs | Graphs |
| Lithuania | Low | Sporadic | Stable | 36 | A(H3) | 66.7 | 10.1 | 656.1 | Graphs | Graphs |
| Luxembourg | Medium | Regional | Stable | 21 | A(H3) | 28.6 | .* | .* | Graphs | Graphs |
| Malta | Medium | Sporadic | Stable | - | - | 0.0 | .* | .* | Graphs | Graphs |
| Netherlands | Low | Regional | Increasing | 8 | None | 50.0 | 49.6 | - | Graphs | Graphs |
| Norway | Low | Local | Stable | 13 | A(H1)pdm09 | 69.2 | 65.6 | - | Graphs | Graphs |
| Poland | Low | Local | Increasing | 49 | A | 26.5 | 464.5 | - | Graphs | Graphs |
| Portugal | Low | Sporadic | Decreasing | 1 | None | 0.0 | 4.1 | - | Graphs | Graphs |
| Romania | Medium | Regional | Increasing | 17 | A(H3) | 76.5 | 6.2 | 850.3 | Graphs | Graphs |
| Slovakia | Low | Sporadic | Stable | - | - | 0.0 | 151.7 | 1480.9 | Graphs | Graphs |
| Slovenia | Low | Regional | Stable | 16 | A(H3) | 81.3 | 31.3 | 1138.3 | Graphs | Graphs |
| Spain | Low | Sporadic | Decreasing | 64 | A(H3) | 21.9 | 21.0 | - | Graphs | Graphs |
| Sweden | Medium | Widespread | Stable | 39 | A(H1)pdm09 | 7.7 | 10.7 | - | Graphs | Graphs |
| UK - England | Low | Regional | Stable | 46 | A | 45.7 | 3.1 | 187.5 | Graphs | Graphs |
| UK - Northern Ireland | Medium | Sporadic | Increasing | 6 | A | 50.0 | 39.2 | 432.0 | Graphs | Graphs |
| UK - Scotland | Low | Regional | Decreasing | 25 | A(H1N1)pdm09 | 48.0 | 12.7 | 442.3 | Graphs | Graphs |
| UK - Wales | Low | No activity | Stable | 3 | None | 0.0 | 5.7 | - | Graphs | Graphs |
| Europe | | | | 787 | | 35.7 | | | | Graphs |

*Incidence per 100 000 is not calculated for these countries as no population denominator is provided. Liechtenstein does not report to the European Influenza Surveillance Network.

Description of the system

Surveillance is based on nationally organised sentinel networks of physicians, mostly general practitioners (GPs), covering at least 1 to 5% of the population in their countries. All EU/EEA Member States (except Liechtenstein) participate. Depending on their country's choice, each sentinel physician reports the weekly number of patients seen with ILI, 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 and seasonal analysis

For week 11/2014, 787 sentinel specimens were tested across 22 countries and 281 (36%) were positive for influenza virus (Tables 1–2, Figures 1–2). Of these, 275 (98%) were type A and six (2%) were type B (Tables 1–2).

Since week 40/2013, of 6 005 sentinel specimens testing positive for influenza virus, 5 883 (98%) were type A and 122 (2%) were type B. Of the 5 485 subtyped influenza viruses, 3 090 (56%) were A(H1)pdm09 and 2 395 (44%) were A(H3). Countries have reported variable patterns of A(H1)pdm09 and A(H3) as the dominant subtype (Table 1 and Map 2). Non-sentinel virus detections are summarised in Table 2.

The proportion of sentinel specimens testing positive for influenza virus is in the same range as the last three weeks (Figure 1).

The results of antigenic and genetic characterisation of sentinel and non-sentinel viruses are displayed in Tables 3 and 4. Since week 40/2013, none of the 918 antigenically characterised viruses have differed significantly from the [current vaccine viruses recommended by WHO](#). A total of two viruses were reported as non-attributable to a category (Table 3). More details on viruses circulating since September 2013 can be found in the [WHO CC Report, February 2014](#).

Since week 40/2013, 657 A(H1)pdm09, 176 A(H3) and 35 type B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir by genetic and/or phenotypic methods. Eight A(H1N1)pdm09 viruses carried the NA-H275Y amino acid substitution associated with highly-reduced inhibition by oseltamivir. One of these viruses showed phenotypic highly-reduced inhibition by oseltamivir and normal inhibition by zanamivir. One A(H3N2) virus carried the NA-E119V amino acid substitution and showed reduced inhibition by oseltamivir and normal inhibition by zanamivir.

For week 11/2014, 15 countries reported 450 respiratory syncytial virus detections, maintaining the downward trend and indicating that the epidemic peak for the reporting countries occurred in week 1/2014.

Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2013–11/2014

| Virus type/subtype | Current period Sentinel | Current period Non-sentinel | Season Sentinel | Season Non-sentinel |
|------------------------|-------------------------|-----------------------------|-----------------|---------------------|
| Influenza A | 275 | 1551 | 5883 | 18020 |
| A(H1)pdm09 | 101 | 478 | 3090 | 7040 |
| A(H3) | 130 | 190 | 2395 | 3079 |
| A(subtype unknown) | 44 | 883 | 398 | 7901 |
| Influenza B | 6 | 69 | 122 | 640 |
| B(Vic) lineage | 2 | 0 | 8 | 6 |
| B(Yam) lineage | 3 | 5 | 39 | 88 |
| Unknown lineage | 1 | 64 | 75 | 546 |
| Total influenza | 281 | 1620 | 6005 | 18660 |

Note: A(H1)pdm09 and A(H3) include both N-subtyped and non-N-subtyped viruses

Figure 1. Proportion of sentinel specimens positive for influenza virus, weeks 40/2013–11/2014

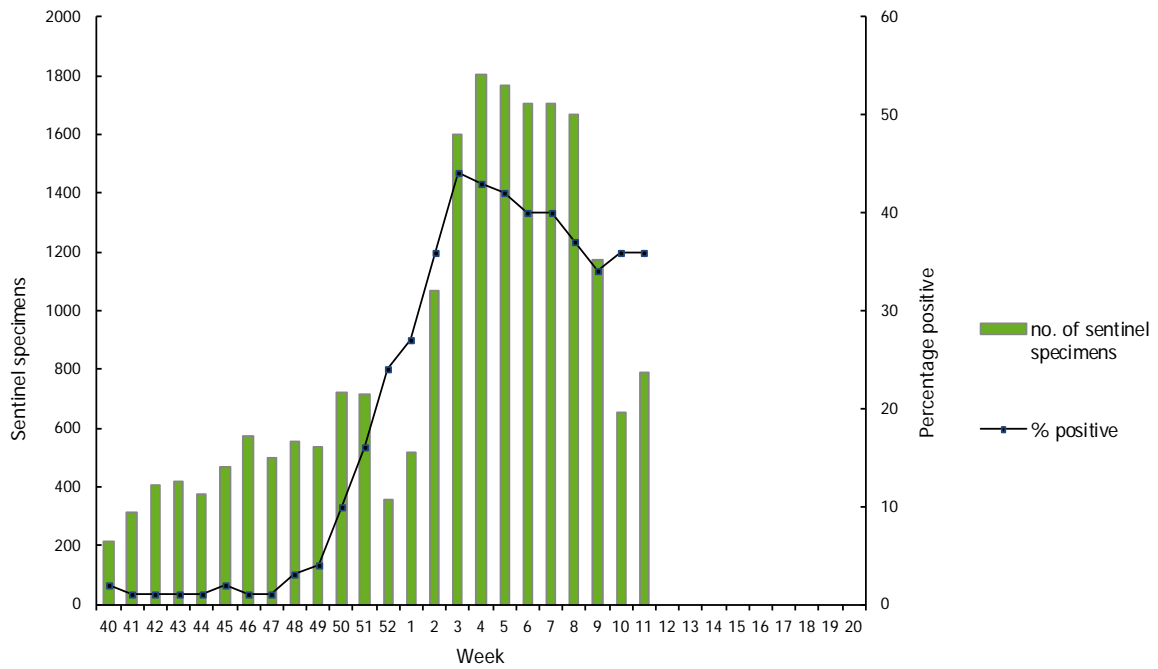


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–11/2014

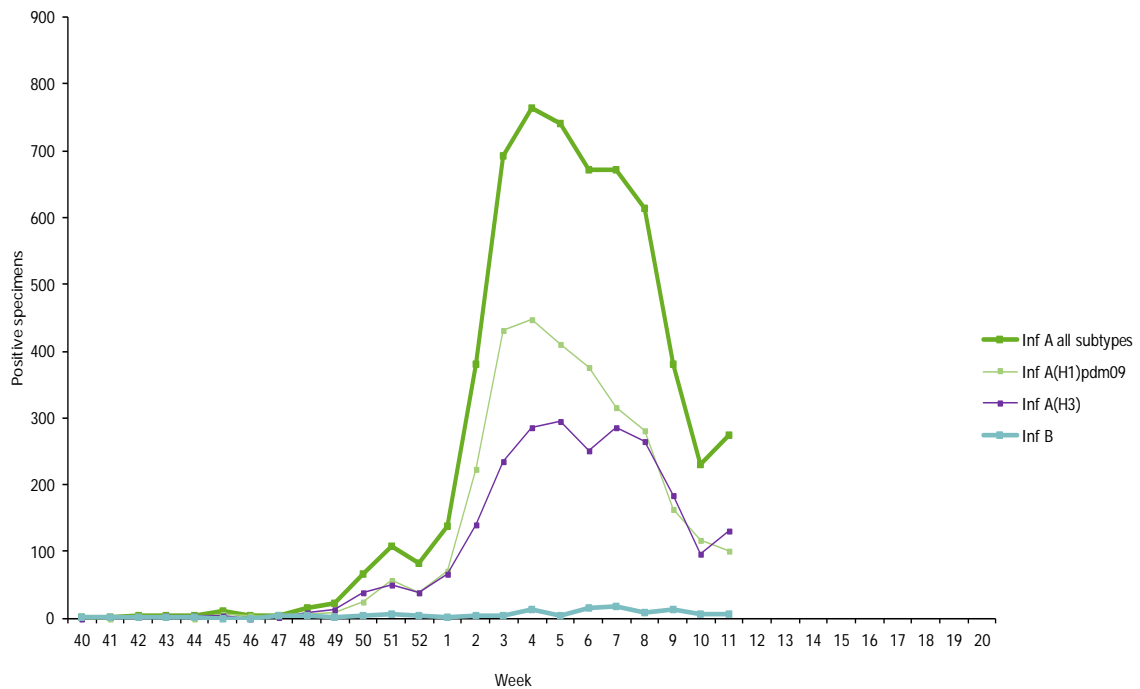


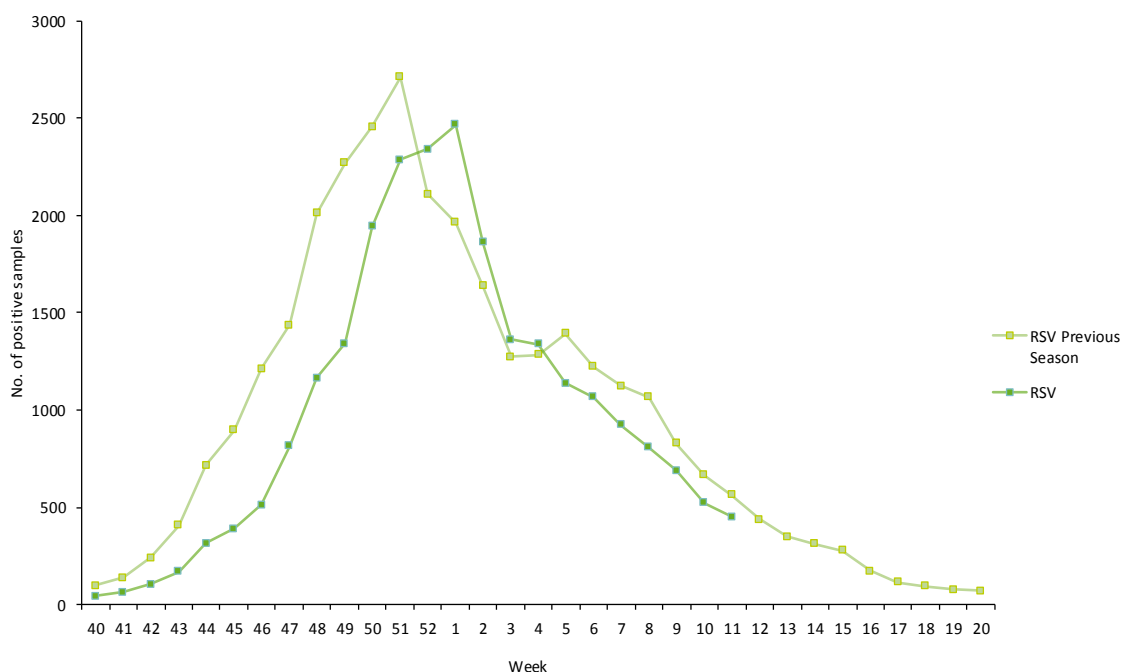
Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–11/2014

| Antigenic group | Number of viruses |
|---|-------------------|
| A(H1)pdm09 A/California/7/2009 (H1N1)-like | 593 |
| A(H3) A/Texas/50/2012 (H3N2)-like | 291 |
| A(H3) not attributed to category | 2 |
| B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) | 14 |
| B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage) | 16 |
| B/Wisconsin/1/2010-like (B/Yamagata/16/88-lineage) | 2 |

Table 4. Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–11/2014

| Phylogenetic group | Number of viruses |
|--|-------------------|
| A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6) | 344 |
| A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C) | 266 |
| B(Vic)-lineage clade 1A representative B/Brisbane/60/2008 | 8 |
| B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012 | 13 |
| B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010 | 19 |

Figure 3. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2013–11/2014



Description of the system

According to the nationally defined sampling strategy, sentinel physicians take nasal or pharyngeal swabs from patients with ILI, 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. The non-sentinel part of the surveillance system comprises viruses submitted from hospital and peripheral diagnostic laboratories to the influenza-specific reference laboratories for (sub)typing, antigenic or genetic characterisation and antiviral susceptibility testing.

For details of the current virus strains recommended by WHO for vaccine preparation [click here](#).

Hospital surveillance – severe influenza disease

Weekly analysis of hospitalised, laboratory-confirmed influenza cases

For week 11/2014, 152 hospitalised, laboratory-confirmed influenza cases were reported by six countries (France, Ireland, Romania, Spain, Sweden and the UK) (Table 5). Influenza A virus was detected in 150 cases and influenza B virus in two patients (Table 5). Of those hospitalised cases, 71 were admitted to intensive care units (ICU).

Since week 40/2013, seven countries have reported 3 945 hospitalised, laboratory-confirmed influenza cases: 3 904 (99%) were related to influenza virus type A infection and 41 (1%) to type B virus infection (Tables 5 and 6). Of 2 654 subtyped influenza A viruses, 1 982 (75%) were A(H1)pdm09 and 672 (25%) were A(H3) (Table 5). A higher proportion of A(H1)pdm09 viruses has been detected in patients in ICUs (1 111 out of 1 300 subtyped, 86%) than in patients in other wards (871 out of 1 354 subtyped, 64%). The reasons behind the different distribution of (sub)types in various ward types are currently unknown.

Of the 3 292 hospitalised cases with reported age, 1 235 (38%) were 40–64 years and 1 194 (36%) were over 64 years, the same distribution as in the previous week.

Five countries reported a total of 324 fatal cases (Table 6). Of these, 321 (99%) cases were associated with influenza virus type A infection and three (1%) with type B virus. Of 247 influenza A viruses subtyped from fatal cases, 200 (81%) were A(H1)pdm09 and 47 (19%) were A(H3). The age was reported for 321 of the fatal cases: 180 (56%) were 65 years and above.

Table 5. Number of hospitalised, laboratory-confirmed influenza cases by influenza type and subtype, week 11/2014 and cumulative since week 40/2013

| Pathogen | Number of cases admitted to ICU during current week | Cumulative number of cases admitted to ICU since week 40/2013 | Number of cases admitted to other wards during current week | Cumulative number of cases admitted to other wards since week 40/2013 |
|-----------------------------|---|---|---|---|
| Influenza A | 70 | 1 990 | 80 | 1 914 |
| A(H1)pdm09 | 38 | 1 111 | 18 | 871 |
| A(H3) | 6 | 189 | 36 | 483 |
| A (subtyping not performed) | 26 | 690 | 26 | 560 |
| Influenza B | 1 | 25 | 1 | 16 |
| Total | 71 | 2 015 | 81 | 1 930 |

Table 6. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40/2013–11/2014

| Country | Number of cases admitted to ICU | Number of fatal cases reported in ICU | Number of cases admitted to other wards | Number of fatal cases reported in other wards |
|--------------|---------------------------------|---------------------------------------|---|---|
| Finland | 23 | 0 | 0 | 0 |
| France | 500 | 52 | 0 | 0 |
| Ireland | 55 | 9 | 425 | 3 |
| Romania | 19 | 4 | 25 | 1 |
| Spain | 741 | 155 | 1 480 | 96 |
| Sweden | 43 | 4 | 0 | 0 |
| UK | 634 | 0 | 0 | 0 |
| Total | 2 015 | 224 | 1 930 | 100 |

Description of the system

A subset of EU countries report case-based severe influenza data to ECDC every week. Case definitions, populations under surveillance and data formats differ among these countries (Table 7). In order to make the data more comparable and pool them at EU level, only hospitalised, laboratory-confirmed influenza cases are included in the weekly data analysis and displayed in this report.

Table 7. Main characteristics of severe influenza surveillance systems

| Country | Case definition | Population under surveillance | Type of surveillance | Data format |
|----------------|-----------------------------|-------------------------------|----------------------|-------------|
| Finland | Lab-confirmed, hospitalised | ICU** | Comprehensive | Case-based |
| France | Lab-confirmed, hospitalised | ICU | Comprehensive | Case-based |
| Ireland | Lab-confirmed, hospitalised | All wards | Comprehensive | Case-based |
| Romania | SARI*, hospitalised | All wards | Sentinel | Case-based |
| Spain | Lab-confirmed, hospitalised | All wards | Sentinel | Case-based |
| Sweden | Lab-confirmed, hospitalised | ICU | Comprehensive | Case-based |
| United Kingdom | Lab-confirmed, hospitalised | ICU | Comprehensive | Aggregated |

*Severe acute respiratory infection

**Intensive care unit

Country comment

Romania: Only data from sentinel SARI surveillance are reported to ECDC, but additional confirmed SARI cases, including deaths, can be detected by routine surveillance. From week 40/2013 to week 11/2014, of the 55 confirmed SARI cases detected, 26 were related to an infection with influenza A(H1N1)pdm09 virus.

The EuroMOMO mortality monitoring system

All-cause mortality has been within the normal range for all reporting countries.

Further details are available on <http://www.euromomo.eu/>

This report was written by an editorial team at the European Centre for Disease Prevention and Control (ECDC): Cornelia Adlhoch, Eeva Broberg, Julien Beauté and René Snacken. The bulletin text was reviewed by European Reference Laboratory Network for Human Influenza (ERLI-Net) coordination team: Adam Meijer, Rod Daniels, John McCauley and Maria Zambon. On behalf of the EISN members, the bulletin text was reviewed by Maja Sočan (Nacionalni inštitut za javno zdravje, Ljubljana), Allison Waters (University College Dublin) and Tyra Grove Krause (Statens Serum Institut, Copenhagen). In addition, the report is reviewed by experts of WHO Regional Office for Europe.

Maps and commentary published in this Weekly Influenza Surveillance Overview do not represent a statement on the part of ECDC or its partners on the legal or border status of the countries and territories shown.

All data published in the Weekly Influenza Surveillance Overview 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 database.

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