

SURVEILLANCE REPORT

Weekly influenza surveillance overview

17 January 2014

Main surveillance developments in week 2/2014 (6–12 January 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 2/2014:

- Of the 30 reporting countries, four (Bulgaria, Greece, Portugal and Spain) reported medium intensity of influenza and Portugal, Spain and the UK (England) reported geographically widespread activity.
- Of 842 sentinel specimens tested across 25 countries, 217 (26%) from 16 countries were positive for influenza virus.
- Bulgaria, Greece, Spain and the UK (Scotland) reported influenza A(H1)pdm09 virus as the dominant subtype.
- Ireland, Romania, Spain, and Sweden reported 97 hospitalised laboratory-confirmed influenza cases.

Based on reports of geographically widespread ILI activity in three countries and the growing number of countries with an increasing proportion of specimens testing positive for influenza virus, which is an indicator of influenza transmission, the season has now started in EU/EEA countries.

Sentinel surveillance of influenza-like illness (ILI)/ acute respiratory infection (ARI): An increase in influenza-like illness rates was observed in Greece, Hungary, the Netherlands, Italy, Portugal, Slovenia, Spain and the UK (Scotland). For more information, [click here](#).

Virological surveillance: Of 217 sentinel influenza viruses, 215 were type A and two were type B. Of subtyped influenza A viruses, 62% were A(H1)pdm09 and 38% were A(H3). For more information, [click here](#).

Hospital surveillance of laboratory-confirmed influenza cases. Since week 40/2013, 383 hospitalised laboratory-confirmed influenza cases with fourteen deaths have been reported. For more information, [click here](#).

Epidemiological surveillance

Weekly and seasonal analysis

For week 2/2014, epidemiological data were reported by 30 countries. Bulgaria, Greece, Portugal and Spain reported medium intensity, while all other countries experienced low-intensity influenza activity, which is the lowest category of reporting (Table 1, Map1).

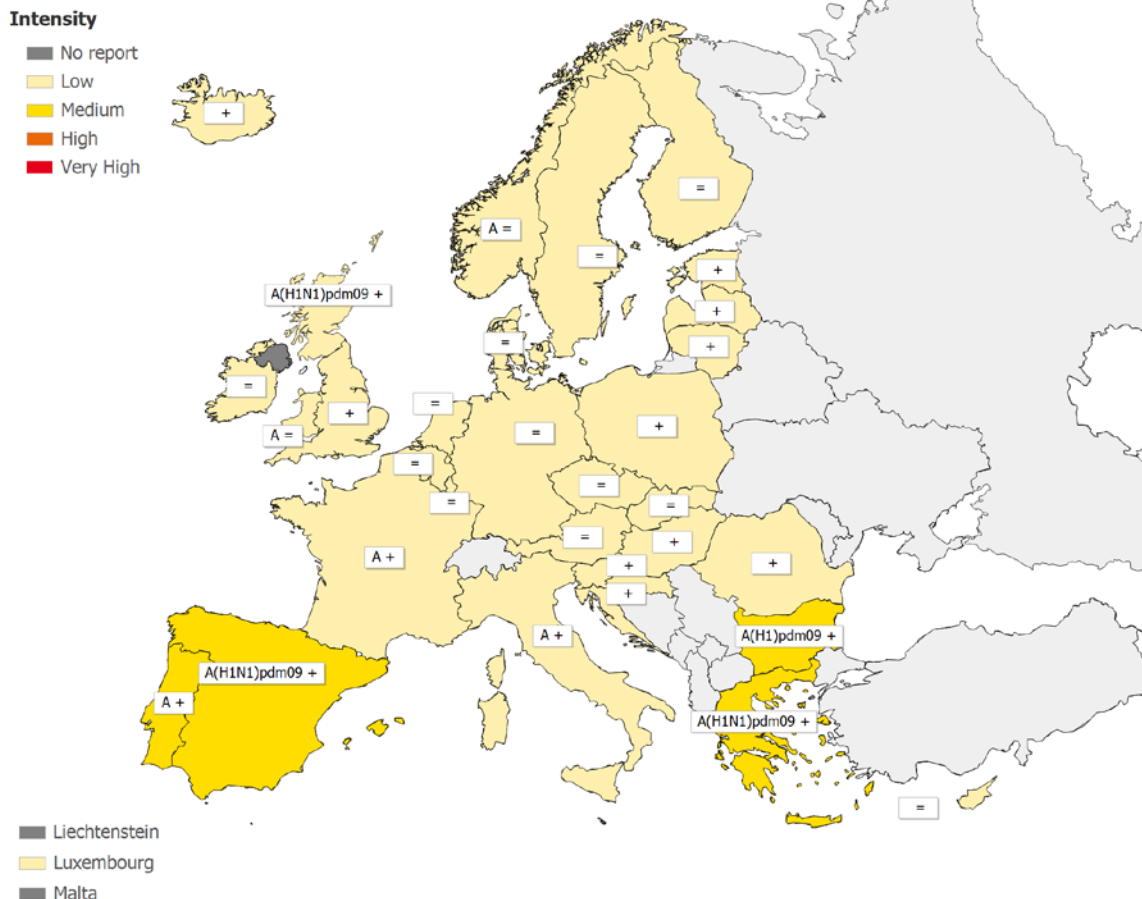
Geographic patterns of influenza activity were reported as widespread by Portugal, Spain and the UK (England). Twenty-one countries and the UK (Scotland) reported local or sporadic occurrence of cases. In the remaining countries, no activity was seen (Table 1, Map 2).

Increasing trends were reported by 15 countries and the UK (England and Scotland) while all other countries had stable trends (Table 1, Map 2).

Among the 16 countries reporting influenza virus-positive sentinel specimens, an increase in influenza-like illness rates was observed in Greece, Hungary, the Netherlands, Italy, Portugal, Slovenia, Spain and the UK (Scotland). In particular, Greece, Portugal and Spain reported a substantial increase in influenza-like illness rates over the last two weeks, which is two weeks earlier than in the previous season. Germany reported influenza virus-positive sentinel specimens and increasing ARI rates, but was still below the threshold.

The influenza season has now started in EU/EEA countries as the number of countries reporting positive sentinel specimens has increased over the last few weeks and those countries indicate increasing ILI rates. Additionally, this week, three countries reported widespread influenza activity. The overall proportion of positive specimens remained at the same level as in the previous week. However, reported levels may have been influenced by the New Year holidays (Table 1, Map 1).

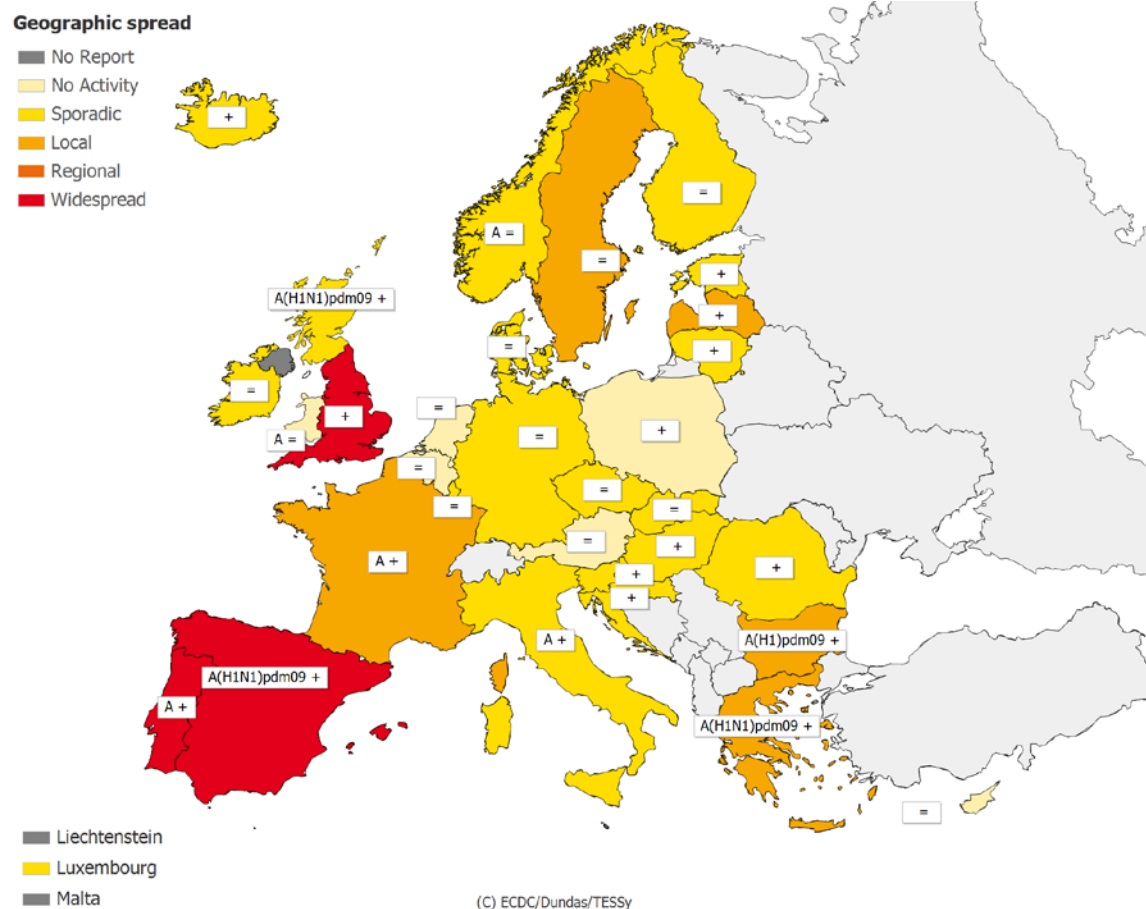
Map 1. Intensity for week 2/2014



* 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 | 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)pdm09 | Type A, Subtype (H1)pdm09 |
| | | A(H1N1)pdm09 | Type A, Subtype (H1N1)pdm09 |

Map 2. Geographic spread for week 2/2014



* 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(H1N1)pdm09 | Type A, Subtype (H1)pdm09 |
| 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 | Type A, Subtype (H1N1)pdm09 |
| | | (H1N1)pdm09 | |

Table 1. Epidemiological and virological overview by country, week 2/2014

| 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 | No activity | Stable | 5 | None | 0.0 | 683.2 | - | Graphs | Graphs |
| Belgium | Low | No activity | Stable | 15 | None | 6.7 | 32.3 | 1627.0 | Graphs | Graphs |
| Bulgaria | Medium | Local | Increasing | 30 | A(H1N1)pdm09 | 0.0 | - | 1435.2 | Graphs | Graphs |
| Croatia | Low | Sporadic | Increasing | 51 | None | 0.0 | - | - | Graphs | Graphs |
| Cyprus | Low | No activity | Stable | - | - | 0.0 | -* | -* | Graphs | Graphs |
| Czech Republic | Low | Sporadic | Stable | 15 | None | 0.0 | 24.3 | 842.6 | Graphs | Graphs |
| Denmark | Low | Sporadic | Stable | 4 | None | 0.0 | 44.2 | - | Graphs | Graphs |
| Estonia | Low | Sporadic | Increasing | 5 | None | 20.0 | 5.5 | 214.6 | Graphs | Graphs |
| Finland | Low | Sporadic | Stable | 6 | None | 16.7 | - | - | Graphs | Graphs |
| France | Low | Local | Increasing | 75 | A | 34.7 | - | 1620.0 | Graphs | Graphs |
| Germany | Low | Sporadic | Stable | 54 | None | 7.4 | - | 1052.9 | Graphs | Graphs |
| Greece | Medium | Local | Increasing | 9 | A(H1N1)pdm09 | 55.6 | 140.1 | - | Graphs | Graphs |
| Hungary | Low | Sporadic | Increasing | 16 | None | 6.3 | 101.2 | - | Graphs | Graphs |
| Iceland | Low | Sporadic | Increasing | 0 | - | 0.0 | 5.9 | - | Graphs | Graphs |
| Ireland | Low | Sporadic | Stable | 12 | None | 41.7 | 11.6 | - | Graphs | Graphs |
| Italy | Low | Sporadic | Increasing | 46 | A | 26.1 | 361.4 | - | Graphs | Graphs |
| Latvia | Low | Local | Increasing | 0 | None | 0.0 | 4.4 | 784.7 | Graphs | Graphs |
| Lithuania | Low | Sporadic | Increasing | 3 | None | 0.0 | 0.8 | 446.6 | Graphs | Graphs |
| Luxembourg | Low | Sporadic | Stable | 6 | - | 16.7 | -* | -* | Graphs | Graphs |
| Malta | Low | No activity | Stable | 0 | None | 0.0 | -* | -* | Graphs | Graphs |
| Netherlands | Low | No activity | Stable | 10 | None | 30.0 | 50.4 | - | Graphs | Graphs |
| Norway | Low | Sporadic | Stable | 9 | A | 33.3 | 37.3 | - | Graphs | Graphs |
| Poland | Low | No activity | Increasing | 9 | None | 0.0 | 187.9 | - | Graphs | Graphs |
| Portugal | Medium | Widespread | Increasing | 8 | A | 75.0 | 46.6 | - | Graphs | Graphs |
| Romania | Low | Sporadic | Increasing | 1 | - | 0.0 | 2.2 | 640.7 | Graphs | Graphs |
| Slovakia | Low | Sporadic | Stable | 3 | None | 0.0 | 131.3 | 1370.6 | Graphs | Graphs |
| Slovenia | Low | Sporadic | Increasing | 27 | None | 22.2 | 13.2 | 1254.8 | Graphs | Graphs |
| Spain | Medium | Widespread | Increasing | 302 | A(H1N1)pdm09 | 42.1 | 160.5 | - | Graphs | Graphs |
| Sweden | Low | Local | Stable | - | - | 0.0 | 4.8 | - | Graphs | Graphs |
| UK - England | Low | Widespread | Increasing | 93 | None | 14.0 | 5.7 | 270.8 | Graphs | Graphs |
| UK - Northern Ireland | | | | - | - | 0.0 | - | - | | |
| UK - Scotland | Low | Sporadic | Increasing | 27 | A(H1N1)pdm09 | 7.4 | 14.0 | 519.9 | Graphs | Graphs |
| UK - Wales | Low | No activity | Stable | 1 | A | 0.0 | 8.4 | - | Graphs | Graphs |
| Europe | | | | 842 | | | 25.8 | | | 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, which might include also non-sentinel sources of information.

Virological surveillance

Weekly and seasonal analysis

For week 2/2014, 25 countries tested 842 sentinel specimens, of which 217 (26%; range 0-56%) from 16 countries were positive for influenza virus. Bulgaria, Greece, Spain and the UK (Scotland) reported influenza A(H1)pdm09 virus as the dominant type (Table 1). In total, 215 were type A influenza viruses and two were type B. Of the 167 influenza A viruses subtyped, 103 (62%) were A(H1)pdm09 and 64 (38%) were A(H3) (Tables 1–2, Figures 1–2). The proportion of specimens testing positive for influenza virus has steadily increased since week 47/2014, but, for week 2/2014, remained at the same level as in the previous week, possibly due to the New Year holidays (Figure 1).

Since week 40/2013, of the 669 sentinel specimens positive for influenza virus, 639 (96%) were type A and 30 (4%) were type B. Of the 532 influenza A viruses subtyped, 283 (53%) were A(H1)pdm09 and 249 (47%) were A(H3). The proportion of A(H1)pdm09 viruses among all subtyped influenza A viruses has increased over the few last weeks, indicating a dominance of A(H1)pdm09 viruses at this point in the season. However, this is still lower than the situation observed in North America where more than 90% of influenza A viruses are A(H1N1)pdm09 (see [FluWatch](#) and [FluView](#)).

Non-sentinel virus detections are summarised in Table 2.

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 64 antigenically characterised viruses have differed substantially from the [current vaccine strains recommended by WHO](#) (Table 3). More details on viruses circulating since September 2013 can be found in the [December virus characterisation report](#).

Since week 40/2013, 73 A(H1)pdm09, 37 A(H3) viruses and seven B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir; none showed genetic or phenotypic (IC₅₀) evidence for reduced inhibition.

For week 2/2014, 14 countries reported 1 525 respiratory syncytial virus (RSV) detections. The number of RSV detections has decreased substantially this week, pointing to a peak for this season in week 1/2014. The number of RSV detections is slightly lower than those observed during the same period last year (Figure 3).

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

| Virus type/subtype | Current period Sentinel | Current period Non-sentinel | Season Sentinel | Season Non-sentinel |
|------------------------|-------------------------|-----------------------------|-----------------|---------------------|
| Influenza A | 215 | 395 | 639 | 1869 |
| A(H1)pdm09 | 103 | 147 | 283 | 774 |
| A(H3) | 64 | 61 | 249 | 289 |
| A(subtype unknown) | 48 | 187 | 107 | 806 |
| Influenza B | 2 | 23 | 30 | 186 |
| B(Vic) lineage | 0 | 0 | 2 | 1 |
| B(Yam) lineage | 0 | 0 | 6 | 26 |
| Unknown lineage | 2 | 23 | 22 | 159 |
| Total influenza | 217 | 418 | 669 | 2055 |

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 40/2013–2/2014

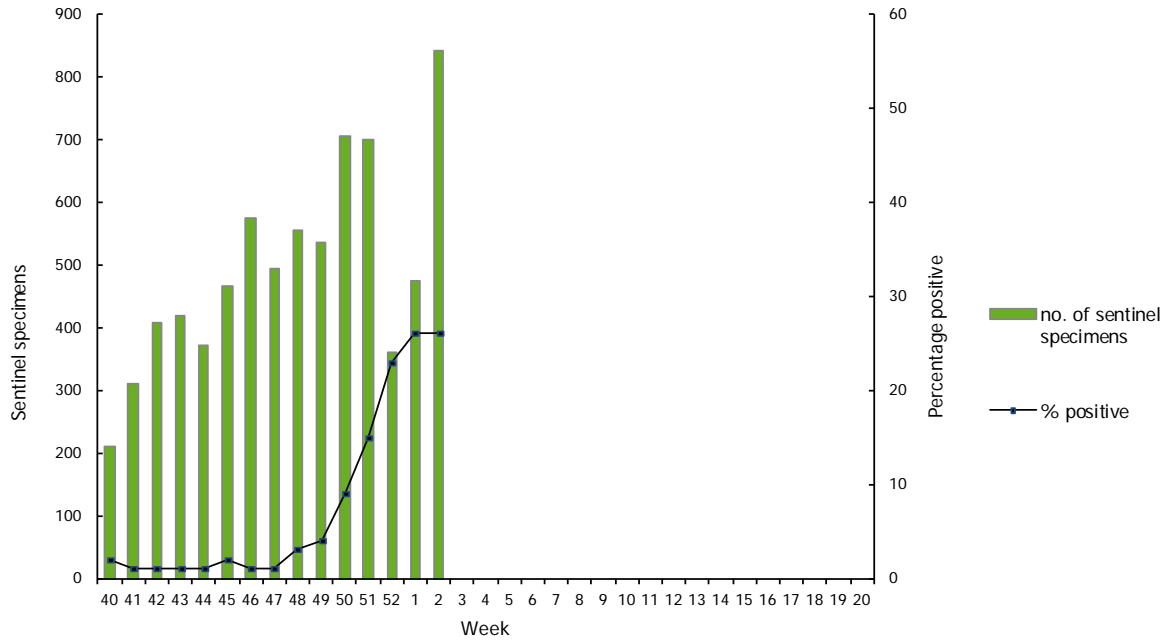


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and week of report, weeks 40/2013–2/2014

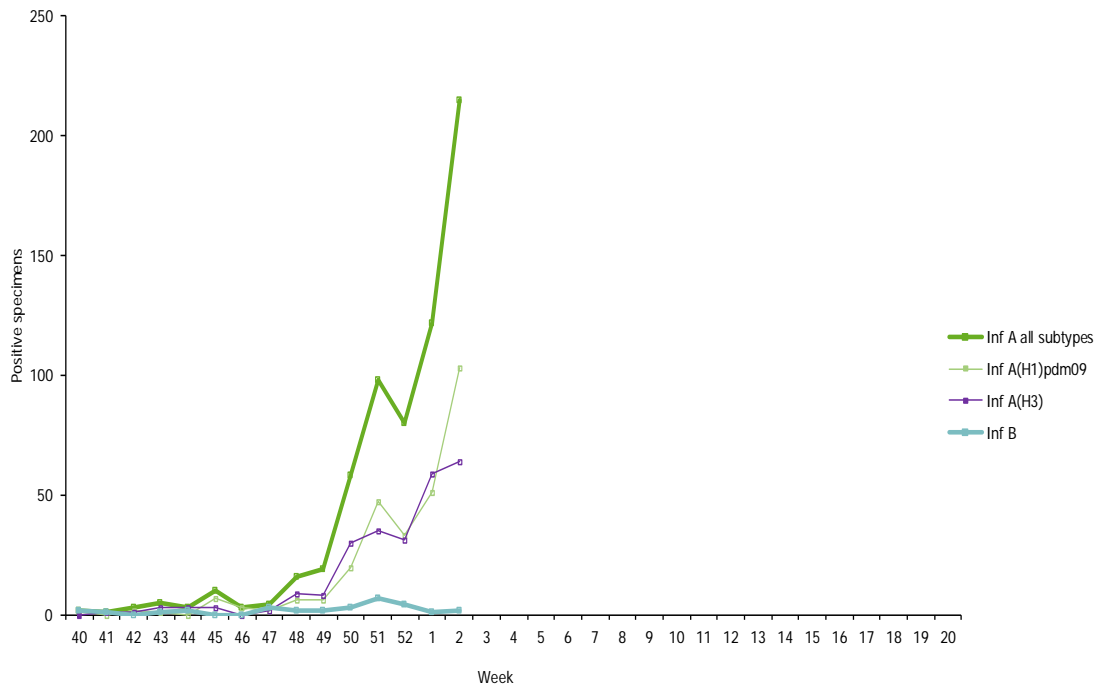
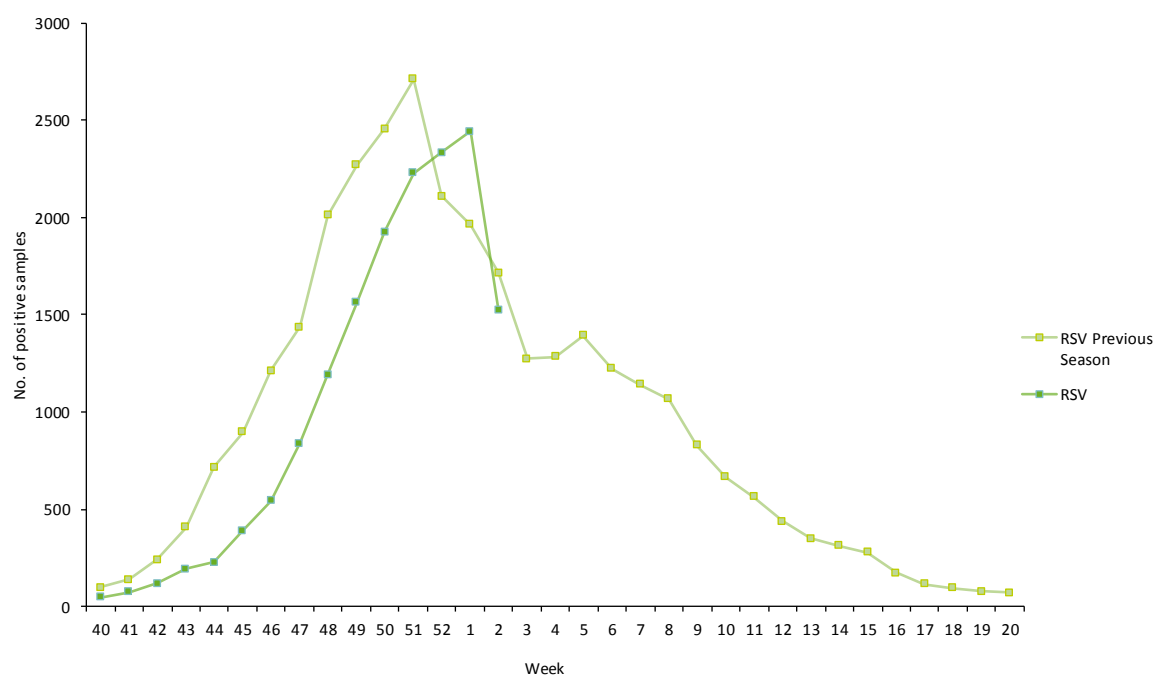


Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–2/2014

| Antigenic group | Number of viruses |
|---|-------------------|
| A(H1)pdm09 A/California/7/2009 (H1N1)-like | 26 |
| A(H3) A/Texas/50/2012 (H3N2)-like | 34 |
| B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) | 1 |
| B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage) | 2 |
| B/Wisconsin/1/2010-like (B/Yamagata/16/88-lineage) | 1 |

Table 4. Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–2/2014

| Phylogenetic group | Number of viruses |
|--|-------------------|
| A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6) | 56 |
| A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C) | 58 |
| B(Vic)-lineage clade 1A representative B/Brisbane/60/2008 | 1 |
| B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012 | 8 |
| B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010 | 3 |

Figure 3. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2013–2/2014

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

Since week 40/2013, six countries have reported 383 hospitalised laboratory-confirmed influenza cases (Table 5). In total, 126 (42%) of 299 hospitalised cases with reported age were over 60 years old. Fourteen cases died, 11 in Spain and three in France (Table 5). In six of these cases, influenza A(H1)pdm09 virus was detected, in four A(H3) virus and in four only influenza A virus was determined. Ten of 13 fatal cases with known age were 60 years old and above.

For week 2/2014, 97 hospitalised laboratory-confirmed influenza cases were reported by four countries (Ireland, Romania, Spain and Sweden) (Table 6). Of these, 54 were related to A(H1)pdm09, seven to A(H3) and 36 to non-subtyped influenza A viruses.

Of the 383 hospitalised laboratory-confirmed influenza cases reported since week 40/2013, 369 (96%) were related to influenza type A and 14 (4%) to type B. Of 245 subtyped influenza A viruses, 191 (78%) were A(H1)pdm09 and 54 (22%) were A(H3) viruses (Table 6).

Table 5. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40/2013–2/2014

| Country | Number of cases | Incidence of cases per 100 000 population | Number of fatal cases reported | Incidence of fatal cases per 100 000 population | Estimated population covered |
|----------------|-----------------|---|--------------------------------|---|------------------------------|
| France | 44 | | 3 | | |
| Ireland | 15 | | | | |
| Romania | 1 | 0.02 | | | 5 813 728 |
| Spain | 237 | | 11 | | |
| Sweden | 6 | | | | |
| United Kingdom | 80 | 0.13 | | | 63 705 030 |
| Total | 383 | | 14 | | |

Table 6. Number of hospitalised laboratory-confirmed influenza cases by influenza type and subtype, week 2/2014 and cumulative for the season

| Pathogen | Number of cases during current week | Cumulative number of cases since the start of the season |
|----------------------------|-------------------------------------|--|
| Influenza A | 97 | 369 |
| A(H1)pdm09 | 54 | 191 |
| A(H3) | 7 | 54 |
| A(subtyping not performed) | 36 | 124 |
| Influenza B | | 14 |
| Total | 97 | 383 |

The EuroMOMO mortality monitoring system

All-cause mortality has been within the normal range for all reporting countries. Further details are available at <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 (Inštitut za varovanje zdravja), 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.

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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 database.

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