

SURVEILLANCE REPORT

Weekly influenza surveillance overview

9 May 2014

Main surveillance developments in week 18/2014 (28 April–4 May 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 18/2014:

- Low intensity of influenza activity with sporadic cases or no geographic spread was reported by 24 reporting countries
- Of 114 sentinel specimens tested across 17 countries, six (5%) were positive for influenza A virus.
- Fifteen hospitalised laboratory-confirmed influenza cases were reported, nine of which were admitted to intensive care units.

Overall, the influenza activity is low and declining in reporting countries.

Sentinel surveillance of influenza-like illness (ILI)/acute respiratory infection (ARI): Low intensity of influenza activity was reported by all reporting countries, with half of them reporting sporadic cases. For more information, [click here](#).

Virological surveillance: Since week 40/2013, of 7 033 sentinel specimens testing positive for influenza virus, 6 865 (98%) were type A and 168 (2%) were type B. For more information, [click here](#).

Hospital surveillance of laboratory-confirmed influenza cases: Since week 40/2013, five countries have reported a total of 396 fatal cases, 393 (99%) of which were associated with influenza virus type A infection and three (1%) with influenza virus type B infection. For more information, [click here](#).

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Sentinel surveillance (ILI/ARI)

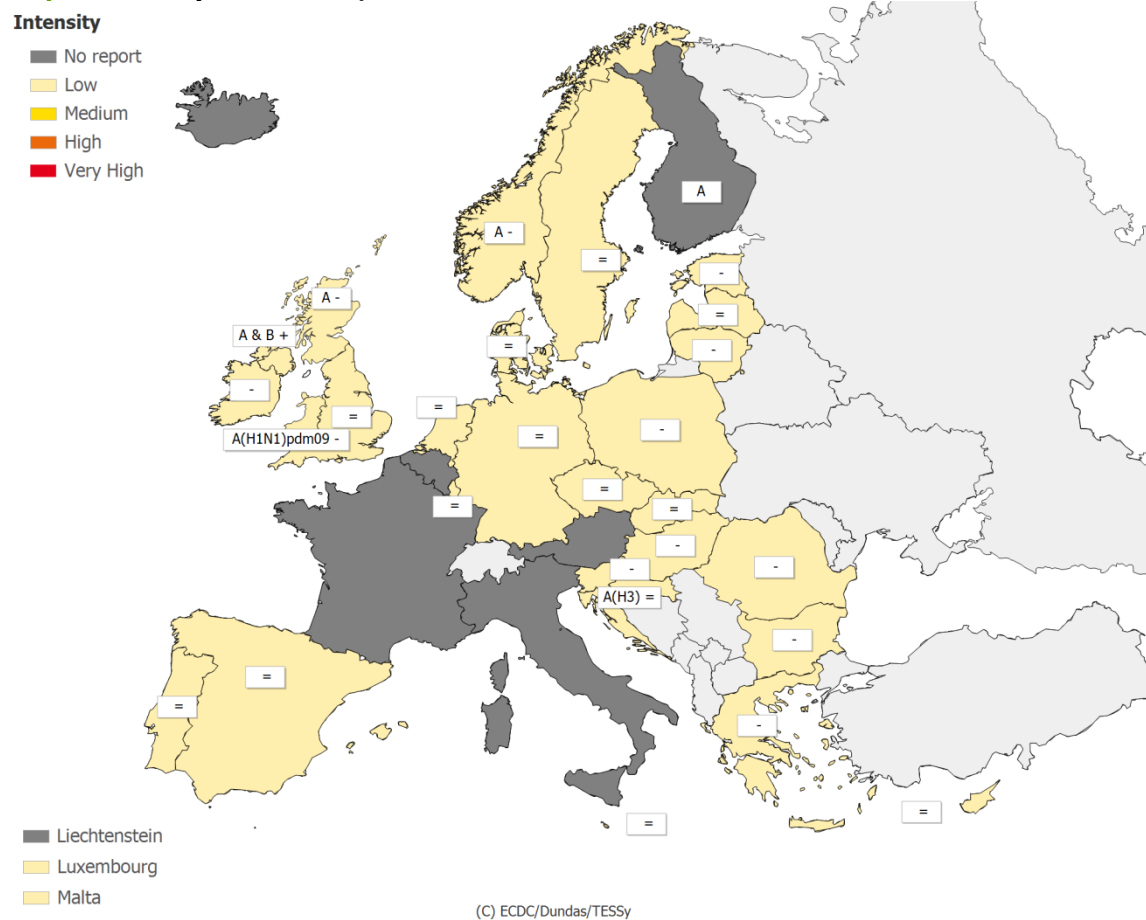
Weekly and seasonal analysis

For week 18/2014, clinical data were reported by 24 countries and all reported low intensity of influenza activity (Table 1, Map 1).

Geographic patterns of influenza activity were reported as sporadic by twelve countries, while the other twelve countries reported no activity (Table 1, Map 2).

Stable or decreasing trends were reported by 24 countries. Only the United Kingdom (Northern Ireland) reported an increasing trend (Table 1, Map 2).

Map 1. Intensity for week 18/2014



* 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.

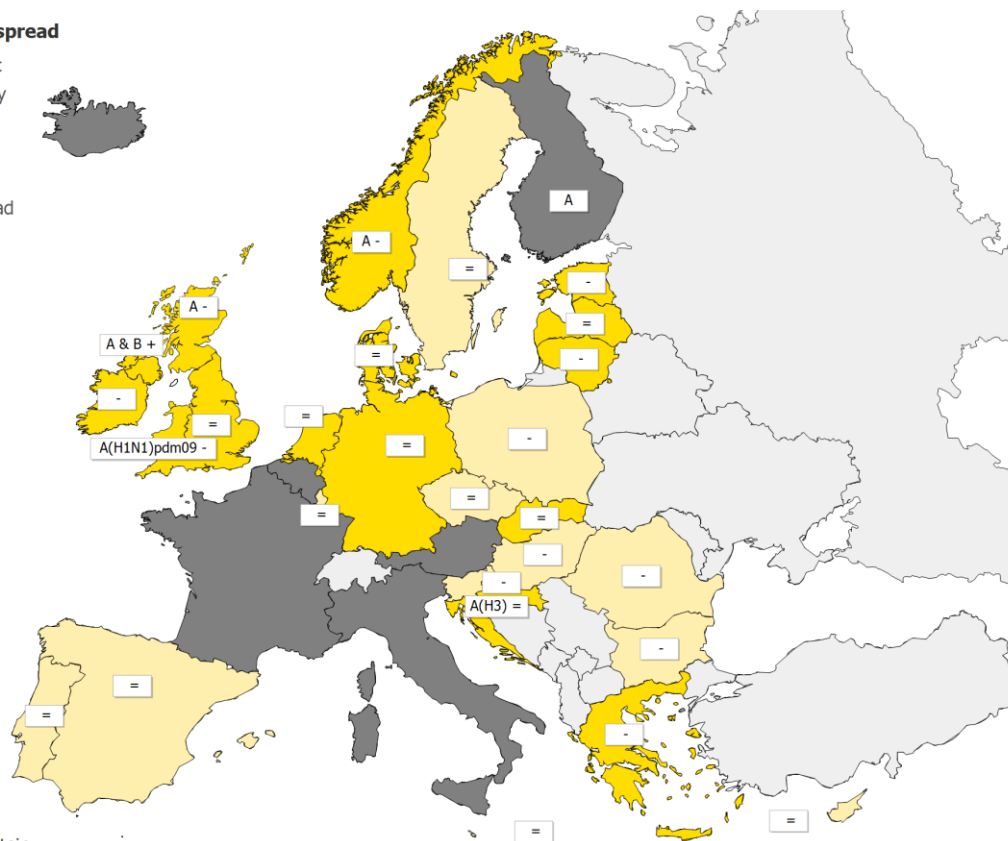
Legend:

| | | | |
|------------------|---|--------------------|------------------------------|
| 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 & B | Type A and B |
| | | A | Type A, Subtype (H1N1)pdm09 |
| | | (H1N1)pdm09 | |
| | | A(H3) | Type A, Subtype H3 |

Map 2. Geographic spread for week 18/2014

Geographic spread

- No Report
- No Activity
- Sporadic
- Local
- Regional
- Widespread



- 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 | 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 & B | Type A and B |
| 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 | |
| | | A(H3) | Type A, Subtype H3 |

Table 1. Epidemiological and virological overview by country, week 18/2014

| 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 | | | | - | - | 0.0 | - | - | | |
| Belgium | | | | 0 | None | 0.0 | - | - | Graphs | Graphs |
| Bulgaria | Low | No activity | Decreasing | 0 | None | 0.0 | - | 285.2 | Graphs | Graphs |
| Croatia | Low | Sporadic | Stable | 22 | A(H3) | 0.0 | - | - | Graphs | Graphs |
| Cyprus | Low | No activity | Stable | - | - | 0.0 | -* | -* | Graphs | Graphs |
| Czech Republic | Low | No activity | Stable | 5 | None | 0.0 | 11.8 | 548.0 | Graphs | Graphs |
| Denmark | Low | Sporadic | Stable | 1 | None | 0.0 | 19.4 | - | Graphs | Graphs |
| Estonia | Low | Sporadic | Decreasing | 3 | None | 0.0 | 8.5 | 214.9 | Graphs | Graphs |
| Finland | | | | 3 | A | 66.7 | - | - | Graphs | Graphs |
| France | | | | - | - | 0.0 | - | - | | |
| Germany | Low | Sporadic | Stable | 20 | None | 5.0 | - | 539.9 | Graphs | Graphs |
| Greece | Low | Sporadic | Decreasing | 1 | None | 0.0 | 66.3 | - | Graphs | Graphs |
| Hungary | Low | No activity | Decreasing | 2 | None | 0.0 | 12.6 | - | Graphs | Graphs |
| Iceland | | | | 0 | - | 0.0 | - | - | Graphs | Graphs |
| Ireland | Low | Sporadic | Decreasing | 3 | None | 33.3 | 2.9 | - | Graphs | Graphs |
| Italy | | | | - | - | 0.0 | - | - | | |
| Latvia | Low | Sporadic | Stable | 0 | None | 0.0 | 0.9 | 489.5 | Graphs | Graphs |
| Lithuania | Low | Sporadic | Decreasing | 0 | - | 0.0 | 1.5 | 316.7 | Graphs | Graphs |
| Luxembourg | Low | No activity | Stable | 1 | - | 0.0 | -* | -* | Graphs | Graphs |
| Malta | Low | No activity | Stable | 0 | None | 0.0 | -* | -* | Graphs | Graphs |
| Netherlands | Low | Sporadic | Stable | 5 | None | 20.0 | 34.3 | - | Graphs | Graphs |
| Norway | Low | Sporadic | Decreasing | 0 | A | 0.0 | 19.1 | - | Graphs | Graphs |
| Poland | Low | No activity | Decreasing | 2 | None | 0.0 | 170.5 | - | Graphs | Graphs |
| Portugal | Low | No activity | Stable | 0 | None | 0.0 | 0.0 | - | Graphs | Graphs |
| Romania | Low | No activity | Decreasing | 0 | None | 0.0 | 0.1 | 387.8 | Graphs | Graphs |
| Slovakia | Low | Sporadic | Stable | 6 | None | 0.0 | 87.5 | 1110.5 | Graphs | Graphs |
| Slovenia | Low | No activity | Decreasing | 1 | None | 0.0 | 0.0 | 524.3 | Graphs | Graphs |
| Spain | Low | No activity | Stable | 11 | None | 9.1 | 2.5 | - | Graphs | Graphs |
| Sweden | Low | No activity | Stable | 1 | None | 0.0 | 0.0 | - | Graphs | Graphs |
| UK – England | Low | Sporadic | Stable | 14 | None | 0.0 | 1.5 | 162.8 | Graphs | Graphs |
| UK – Northern Ireland | Low | Sporadic | Increasing | 4 | A & B | 0.0 | 15.3 | 337.9 | Graphs | Graphs |
| UK – Scotland | Low | Sporadic | Decreasing | 9 | A | 0.0 | 2.8 | 291.9 | Graphs | Graphs |
| UK - Wales | Low | Sporadic | Decreasing | 0 | A(H1N1)pdm09 | 0.0 | 1.3 | - | Graphs | Graphs |
| Europe | | | | 114 | | 5.3 | | | | 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 18/2014, of 114 sentinel specimens tested across 17 countries, six (5.3%) were positive for influenza virus (Tables 1–2, Figures 1–2), a decreased percentage compared to the previous week (Figure 1). All six viruses were type A: five were A(H3) and one was A(H1)pdm09 (Tables 1–2).

Since week 40/2013, of 7 033 sentinel specimens testing positive for influenza virus, 6 865 (98%) were type A and 168 (2%) were type B. Of the 6 363 subtyped influenza A viruses, 3 405 (54%) were A(H1)pdm09 and 2 958 (46%) were A(H3). 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 1 659 antigenically characterised viruses have differed significantly from the [current vaccine viruses recommended by WHO](#), but 10 were reported to be not attributable to a category (Table 3). More details on viruses circulating since September 2013 can be found in the [March 2014 virus characterisation report](#).

Since week 40/2013, 1032 A(H1N1)pdm09 viruses, 345 A(H3N2) and 59 influenza B viruses have been tested for susceptibility to neuraminidase inhibitors (NAIs) by genetic and/or phenotypic methods. Fifteen A(H1N1)pdm09 viruses carried the NA-H275Y amino acid substitution associated with highly reduced inhibition by oseltamivir. One of these viruses showed highly reduced inhibition by oseltamivir and normal inhibition by zanamivir. However, in 11 of the 15 cases, virus carrying the NA-H275Y substitution was detected, mixed with NA-275H oseltamivir normal inhibited wild type virus in the clinical specimen. The median proportion of NA-H275Y was 35% (range 18–80%). One A(H3N2) virus carrying the NA-E119V amino acid substitution showed reduced inhibition by oseltamivir in phenotypic testing and normal inhibition by zanamivir.

For week 18/2014, 12 countries reported 124 respiratory syncytial virus detections, a level usually seen outside the epidemic period.

Table 2. Weekly and cumulative influenza virus detections by type, subtype and surveillance system, weeks 40/2013–18/2014

| Virus type/subtype | Current period Sentinel | Current period Non-sentinel | Season Sentinel | Season Non-sentinel |
|------------------------|-------------------------|-----------------------------|-----------------|---------------------|
| Influenza A | 6 | 199 | 6865 | 26156 |
| A(H1)pdm09 | 1 | 32 | 3405 | 11075 |
| A(H3) | 5 | 25 | 2958 | 4464 |
| A(sub-type unknown) | 0 | 142 | 502 | 10617 |
| Influenza B | 0 | 45 | 168 | 1146 |
| B(Vic) lineage | 0 | 0 | 11 | 7 |
| B(Yam) lineage | 0 | 1 | 56 | 144 |
| Unknown lineage | 0 | 44 | 101 | 995 |
| Total influenza | 6 | 244 | 7033 | 27302 |

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 40/2013–18/2014

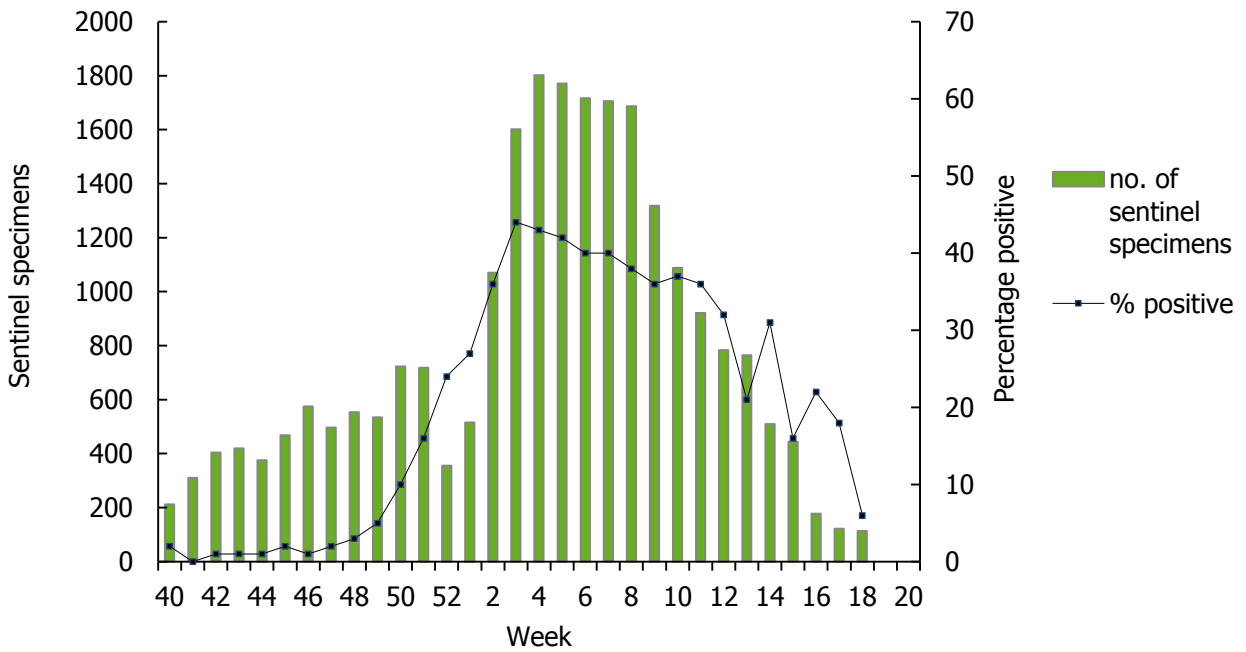


Figure 2. Number of sentinel specimens positive for influenza virus, by type, subtype and by week of report, weeks 40/2013–18/2014

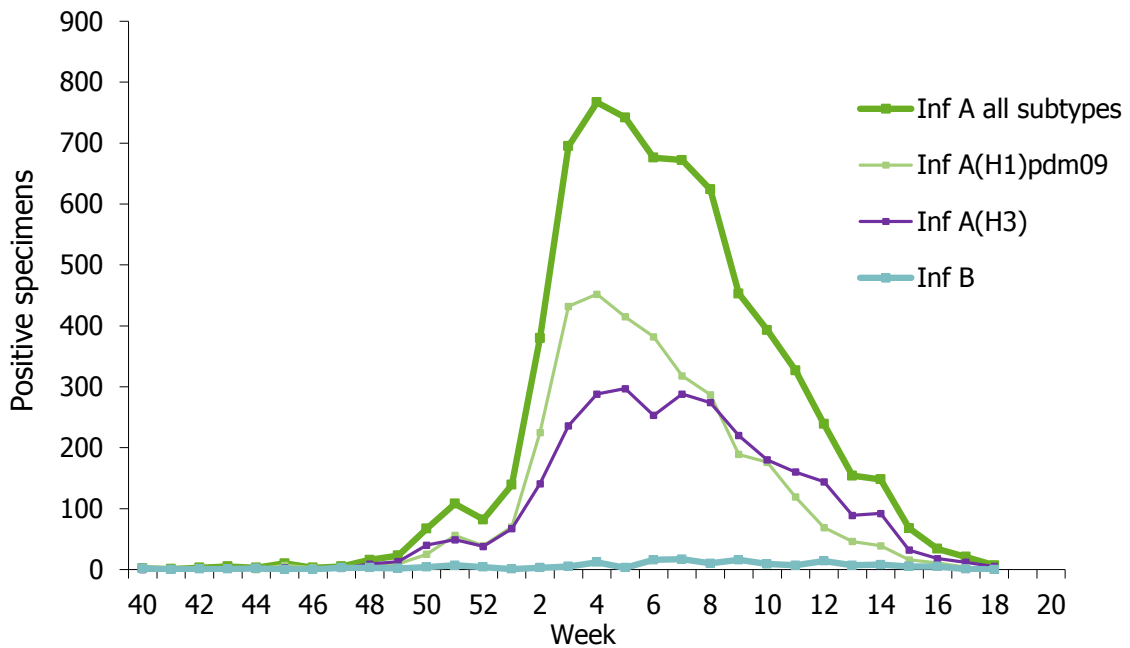


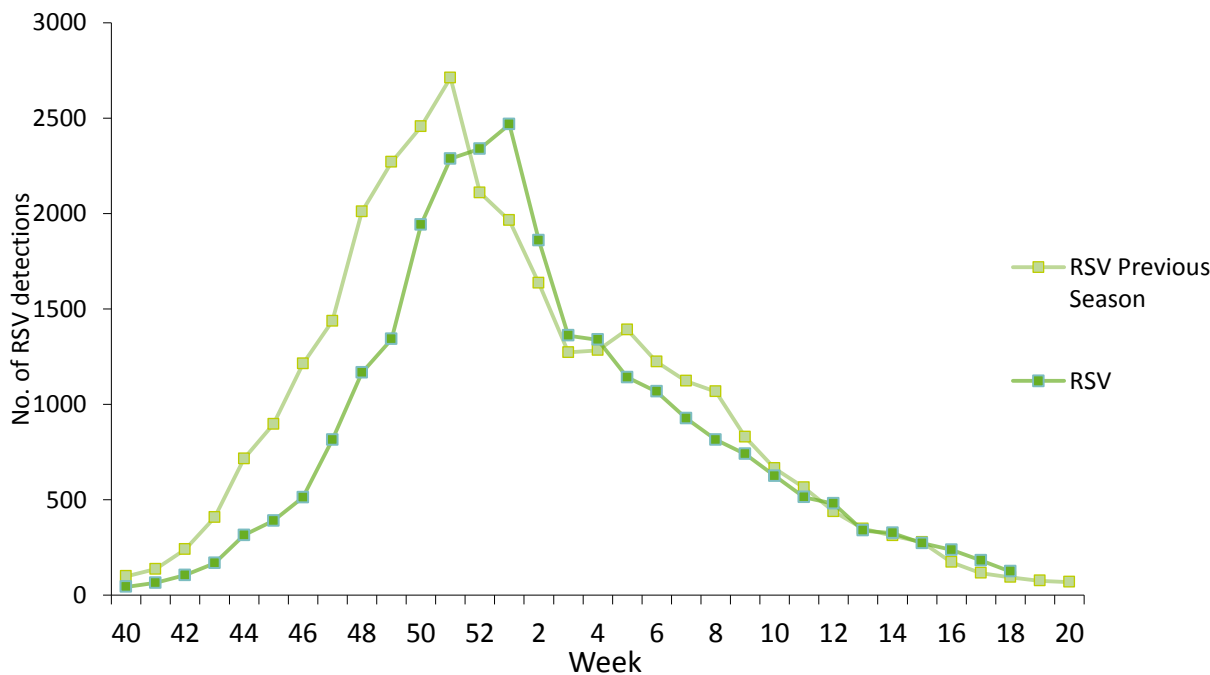
Table 3. Results of antigenic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–18/2014

| Antigenic group | Number of viruses |
|---|-------------------|
| A(H1)pdm09 A/California/7/2009 (H1N1)-like | 895 |
| A(H1)pdm09 not attributed to category | 6 |
| A(H3) A/Texas/50/2012 (H3N2)-like | 705 |
| A(H3) not attributed to category | 4 |
| B/Brisbane/60/2008-like (B/Victoria/2/87 lineage) | 18 |
| B/Massachusetts/02/2012-like (B/Yamagata/16/88-lineage) | 28 |
| B/Wisconsin/1/2010-like (B/Yamagata/16/88-lineage) | 3 |

Table 4. Results of genetic characterisations of sentinel and non-sentinel influenza virus isolates, weeks 40/2013–18/2014

| Phylogenetic group | Number of viruses |
|--|-------------------|
| A(H1)pdm09 clade repr. A/California/7/2009 - A/St Petersburg/27/2011 group (6) | 441 |
| A(H3) clade representative A/Perth/16/2009 – A/Texas/50/2012 subgroup(3C) | 431 |
| B(Vic)-lineage clade 1A representative B/Brisbane/60/2008 | 8 |
| B(Yam)-lineage clade 2 representative B/Massachusetts/02/2012 | 15 |
| B(Yam)-lineage clade 3 representative B/Wisconsin/1/2010 | 29 |

Figure 3. Respiratory syncytial virus (RSV) detections, sentinel and non-sentinel, weeks 40/2013–18/2014



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 18/2014, 15 hospitalised laboratory-confirmed influenza cases were reported by four countries (Finland, Ireland, Romania and the UK). All 15 patients were infected by influenza A viruses, and nine were admitted to intensive care units (ICU) (Table 5).

Since week 40/2013, eight countries have reported 4 716 hospitalised, laboratory-confirmed influenza cases: 4 660 (99%) were related to influenza virus type A infection and 56 (1%) to type B virus infection (Table 5). Of 3 198 subtyped influenza A viruses, 2 366 (74%) were A(H1)pdm09 and 832 (26%) were A(H3). A higher proportion of A(H1)pdm09 viruses has been detected in patients in ICUs (1 388 (85%) of 1 625 subtyped) than in patients in regular wards (978 (62%) of 1 573 subtyped).

Of the 3 814 hospitalised cases with reported age, 1 418 (37%) were 40–64 years old and 1 410 (37%) were over 64 years of age, proportions that have been seen throughout the season. Most affected by the A(H1)pdm09 subtype were the age groups 20–39 years of age (61%) and 40–64 years of age (60%).

Five countries reported a total of 396 fatal cases (Table 6): 393 (99%) were associated with influenza virus type A infection and three (1%) with type B infection. Of 285 influenza A viruses subtyped from fatal cases, 230 (81%) were A(H1)pdm09 and 55 (19%) were A(H3). Patient age was reported for 392 of the fatal cases: 208 (53%) were 65 years or older.

Table 5. Number of hospitalised, laboratory-confirmed influenza cases by influenza type and subtype, week 17/2014; 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 | 9 | 2 482 | 6 | 2 178 |
| A(H1)pdm09 | 6 | 1 388 | 1 | 978 |
| A(H3) | 2 | 237 | 2 | 595 |
| A (subtyping not performed) | 1 | 857 | 3 | 605 |
| Influenza B | 0 | 32 | 0 | 24 |
| Total | 9 | 2 514 | 6 | 2 202 |

Table 6. Cumulative number of hospitalised laboratory-confirmed influenza cases, weeks 40/2013–17/2014

| 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 | 30 | –* | – | – |
| France | 632 | 87 | – | – |
| Ireland | 80 | 14 | 588 | 3 |
| Romania | 31 | 12 | 33 | 1 |
| Slovakia | – | – | 4 | – |
| Spain | 801 | 172 | 1 577 | 102 |
| Sweden | 61 | 5 | – | – |
| UK | 879 | – | – | – |
| Total | 2 514 | 290 | 2 202 | 106 |

* Not reported

Description of the system

A subset of EU countries reports 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*

*** *For week 18/2014, no Spanish hospital surveillance data were available.*

The EuroMOMO mortality monitoring system

For week 18/2014, 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 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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