

## Summary

### Week 47/2016 (21–27 November 2016)

- Influenza activity remained low, but has started to increase in some countries.
- The number of virus detections among sentinel surveillance specimens increased to 16% of the total tested and indicates increasing regional activity.
- The majority of viruses detected for this week were influenza A(H3N2).

### Season overview

- For week 46/2016, influenza virus detections increased to 10% among sentinel surveillance specimens. This is the earliest in a season that the positivity rate has reached 10% since the emergence of A(H1N1)pdm09 viruses in the 2009-2010 influenza season; during the last six seasons this occurred between weeks 48 and 51.
- Since week 40/2016, influenza A viruses have predominated, with most of those subtyped being A(H3N2).
- Few influenza-confirmed cases have been reported from hospital settings so far.

## Primary care data

### Influenza activity

Influenza activity increased further in some countries in week 47/2016. Of 20 countries across the Region that tested at least 10 sentinel specimens, 11 reported influenza virus positivity rates above 10%. Influenza virus detections have been reported by countries in northern, western and southern Europe, as well as in central Asia and the Caucasus.

While influenza positivity rates are increasing, overall influenza activity is at low levels, with 44 countries reporting low intensity and 2 countries reporting medium intensity (Fig. 1). Of the 30 countries reporting on geographic spread of influenza, widespread activity was reported by two and regional activity by four countries. 24 countries reported local or sporadic spread (Fig. 2).

## Map of qualitative indicators in the European Region

Fig. 1. Intensity in the European Region, week 47/2016

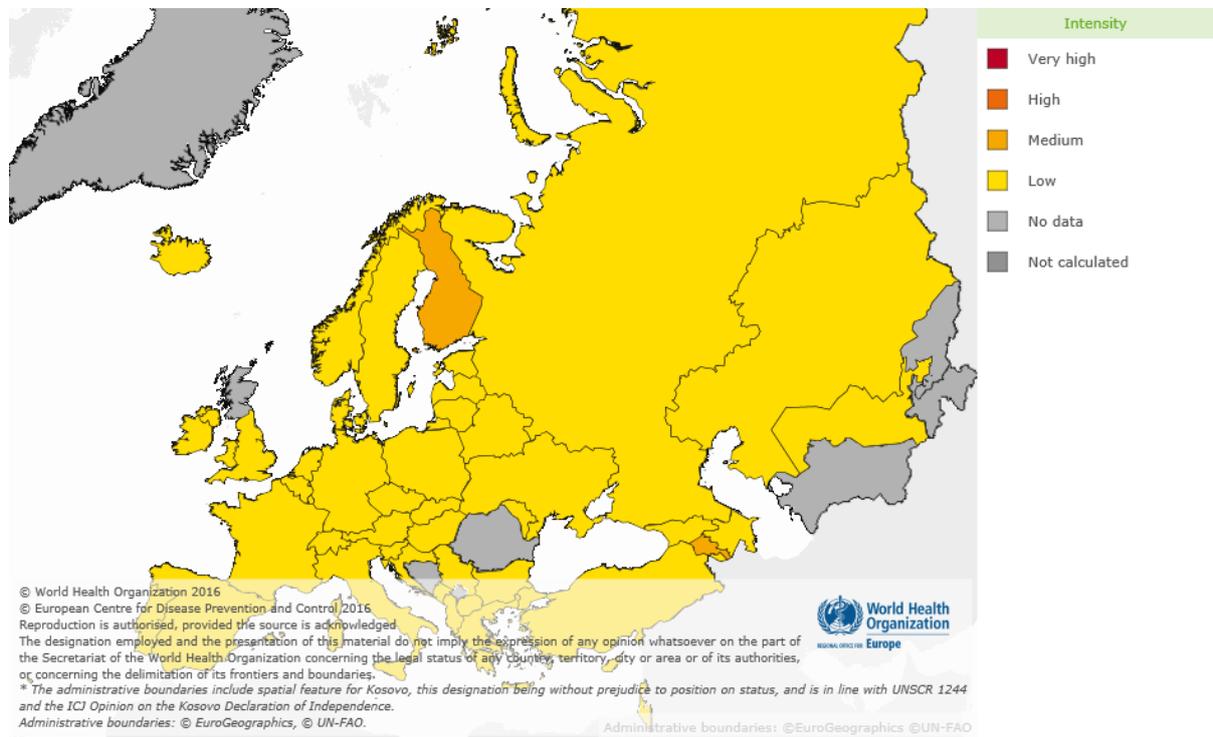
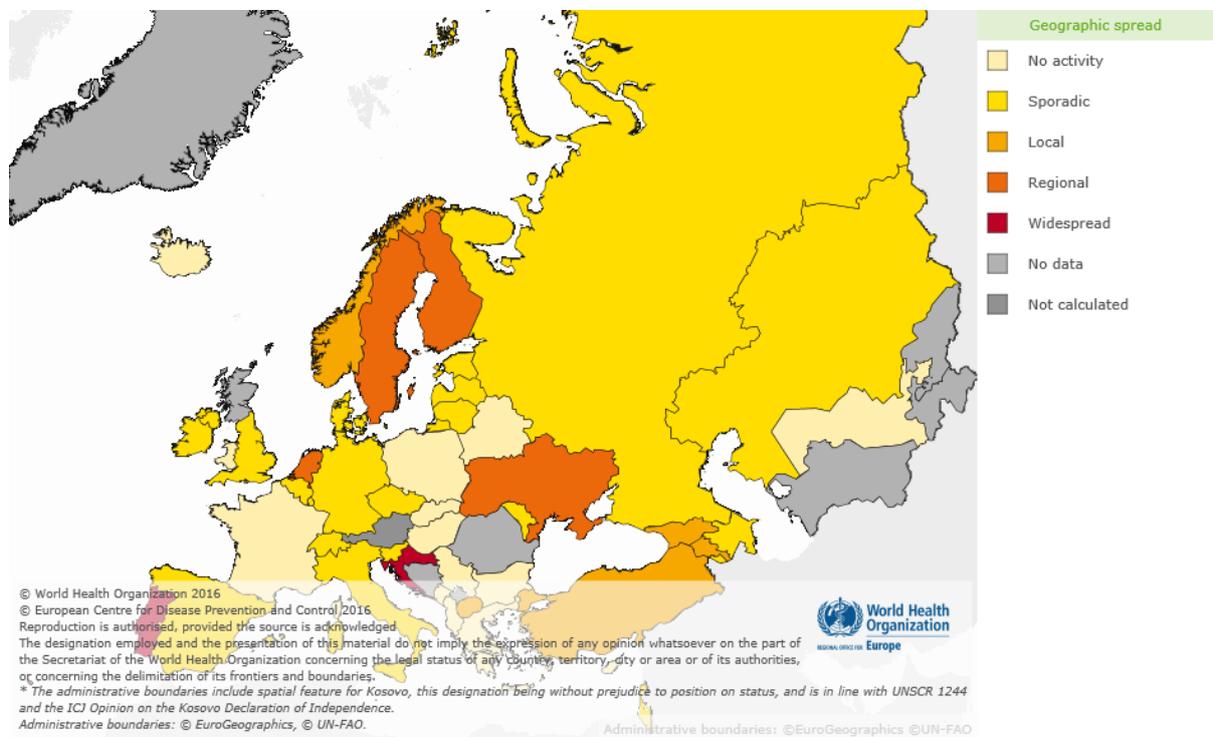


Fig. 2. Geographic spread in the European Region, week 47/2016



For interactive maps of influenza intensity and geographic spread, please see the Flu News Europe [web site](#).

### Viruses detected in sentinel-source specimens (ILI and ARI)

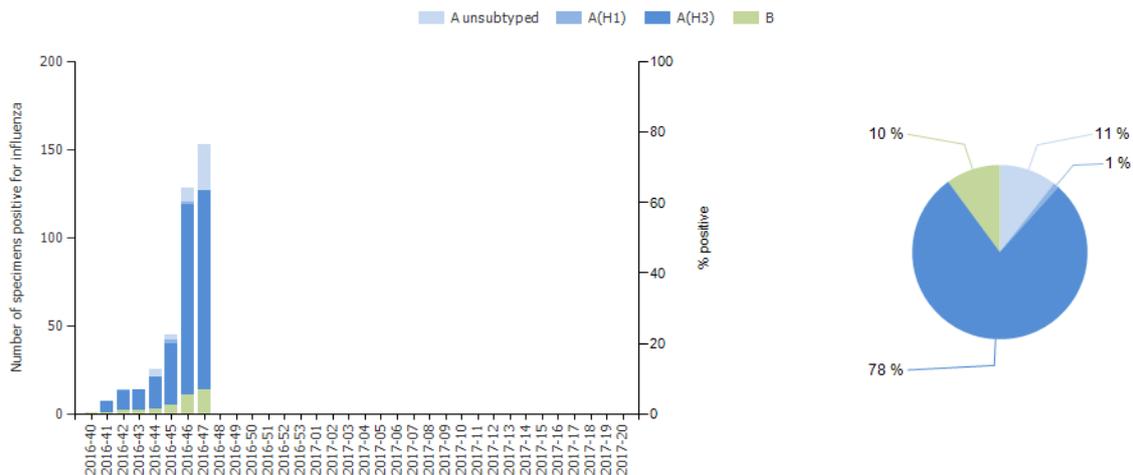
For week 47/2016, 153 of 986 (16%) sentinel specimens tested positive for influenza virus (

Table 1). Of these, 91% were type A and 9% were type B. All of the subtyped influenza A viruses were A(H3N2). The lineage of 12 of 14 influenza B viruses was determined, of which seven were B/Victoria lineage and five were B/Yamagata lineage. Armenia, Belgium, Finland, France, Georgia, Ireland, Italy, Kyrgyzstan, Norway, Spain and the United Kingdom reported proportions of influenza virus detections higher than 10% among more than 10 sentinel specimens tested in each of these countries. Detections in Armenia, Spain and France accounted for approximately 60% of all sentinel detections.

Similar distributions of types and subtypes have been observed since week 40/2016 with the majority (99%) of detected and subtyped viruses being subtype A(H3N2) (Fig. 3;

Table 1). The lineages of 14 of 53 influenza B viruses have been determined in the course of the season: Eight were of the B/Victoria lineage and six were of the B/Yamagata lineage.

**Fig. 3. Influenza virus detections in sentinel-source specimens by type and subtype, by week and cumulatively**



**Table 1. Influenza virus detections in sentinel-source specimens by type and subtype, week 47/2016 and cumulatively**

Virus type and subtype	Number of detections	
	Current Week	Season 2016-2017
<b>Influenza A</b>	<b>139</b>	<b>348</b>
A(H1N1)pdm09	0	4
A(H3N2)	113	303
A not subtyped	26	41
<b>Influenza B</b>	<b>14</b>	<b>53</b>
B/Victoria lineage	7	8
B/Yamagata lineage	5	6
Unknown lineage	2	39
<b>Total detections (total tested)</b>	<b>153 (986)</b>	<b>401 (6 714)</b>

## Severity

For week 47/2016, several countries reported influenza-confirmed cases based on hospital surveillance, with the majority of positive cases being reported by Armenia and the United Kingdom.

For week 47/2016, of those countries, territories and regions that conduct surveillance based on hospitalized laboratory-confirmed influenza cases in intensive care units (ICU) or other wards, three cases (1 A; 2 A(H3N2)) were reported from ICU by Spain and Finland, and 14 cases (seven A; five A(H3N2); two B) in other wards by Ireland, Spain and the United Kingdom.

Since week 40/2016 Spain, Ireland and the United Kingdom have reported 52 cases in other wards, 47 due to type A and five due to type B influenza virus infection. Seven cases have been reported from ICU, with six being infected with type A and one with type B influenza virus.

For week 47/2016, of those countries, territories and regions that conduct surveillance based on sentinel severe acute respiratory infections (SARI), 55 influenza A virus-positive cases were reported by Armenia (44), Georgia (2) and Ukraine (9). Of these, 46 were A(H3N2) and nine were influenza A not subtyped.

## Mortality monitoring

Pooled analysis of data from the 19 countries or regions reporting to the [EuroMOMO](#) project indicated that all-cause mortality was within the normal range during recent weeks.

## Viruses detected in non-sentinel-source specimens

For week 47/2016, 692 specimens from non-sentinel sources (such as hospitals, schools, non-sentinel primary care units, nursing homes and other care institutions) tested positive for influenza viruses (Table 2). Similar to the previous week, 97% were type A and 3% type B, with 96% of the subtyped influenza A viruses being A(H3N2).

Similar distributions of types and subtypes have been observed since week 40/2016 with A(H3N2) viruses being dominant throughout Europe (Table 2). The distribution of viruses is somewhat similar to that of sentinel surveillance data with 87% type A and 13% type B viruses. For the majority of viruses no subtype or lineage was determined; however, 93% of the subtyped influenza A viruses were A(H3N2). Of seven type B viruses ascribed to a lineage, four were B/Yamagata lineage and three were B/Victoria lineage.

**Table 2. Influenza viruses detected in non-sentinel-source specimens, by virus (sub)type, week 47/2016 and cumulatively**

Virus type and subtype	Number of detections	
	Current Week	Season 2016-2017
<b>Influenza A</b>	<b>668</b>	<b>1845</b>
A(H1N1)pdm09	6	40
A(H3N2)	151	556
A not subtyped	511	1249
<b>Influenza B</b>	<b>24</b>	<b>126</b>
B/Victoria lineage	1	3
B/Yamagata lineage	0	4
Unknown lineage	23	119
<b>Total detections (total tested*)</b>	<b>692 (10 960)</b>	<b>1971 (75 427)</b>

\* Not all countries have a true non-sentinel testing denominator and these figures are likely to be an underestimate.

## Virus characteristics

### Genetic characterization

The new genetic reporting categories for the 2016-2017 season are available and reporting of genetic characterization data has been possible since week 47/2016. For specimens collected since week 40/2016, genetic characterization of 54 viruses has been reported (Table 3).

**Table 3. Viruses attributed to genetic groups, cumulative for weeks 40–47/2016**

Phylogenetic group	Number of viruses
A(H1N1)pdm09 A/Michigan/45/2015	3
A(H3N2) A/Hong Kong/4801/2014	27
A(H3N2) A/Bolzano/7/2016	22
A(H3N2) A/Perth/16/2009grA/Switzerland/9715293/2013	1
B/Brisbane/60/2008 (Victoria lineage clade 1A)	1

The ECDC summary report for [September 2016](#) provides detailed genetic and antigenic analyses of viruses collected between January and June 2016.

The recommended composition of trivalent influenza vaccines for the 2016-2017 season in the [northern hemisphere](#) is for inclusion of an A/California/7/2009 (H1N1)pdm09-like virus; an A/Hong Kong/4801/2014 (H3N2)-like virus; and a B/Brisbane/60/2008-like virus (B/Victoria lineage). For quadrivalent vaccines a B/Phuket/3073/2013-like virus (B/Yamagata lineage) virus is recommended. The recommended influenza A(H1N1)pdm09 component of the 2017 [southern hemisphere](#) influenza vaccine is an A/Michigan/47/2015 (H1N1)pdm09-like virus, the first update since A(H1N1)pdm09 viruses emerged in 2009.

### Antiviral susceptibility testing

Of 42 A(H3N2), three A(H1N1)pdm09 and one type B viruses collected since week 40/2016 and tested for neuraminidase inhibitor susceptibility, none showed evidence for reduced inhibition.

*This weekly update was prepared by an editorial team at the European Centre for Disease Prevention and Control (Cornelia Adlhoch, Eeva Broberg, René Snacken) and the WHO Regional Office for Europe (Caroline Brown, Piers Mook, Dmitriy Pereyaslov and Tamara Meerhoff, Temporary Advisor to WHO). It was reviewed by country experts (AnnaSara Carnahan, Public Health Agency, Sweden; Veronica Eder, National Public Health Center, Republic of Moldova), and by experts from the network (Adam Meijer, National Institute for Public Health and the Environment (RIVM), the Netherlands; Rod Daniels and John McCauley, WHO Collaborating Centre for Reference and Research on Influenza, Francis Crick Institute, United Kingdom; Tyra Grove Krause, Statens Serum Institut and EuroMOMO network, Denmark).*

*Maps and commentary do not represent a statement on the legal or border status of the countries and territories shown.*

*All data are up to date on the day of publication. Past this date, however, published data should not be used for longitudinal comparisons, as countries retrospectively update their databases.*

*The WHO Regional Office for Europe is responsible for the accuracy of the Russian translation.*

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