

Summary

Week 49/2018 (3–9 December 2018)

- Although some countries are starting to see local and regional spread, influenza activity remained at baseline or low throughout the European Region.
- In specimens from persons with respiratory illness presenting to medical care, influenza viruses were detected sporadically.
- The majority of influenza virus detections were type A among both inpatients and outpatients.
- For week 49/2018, data from the 20 Member States and areas reporting to the [EuroMOMO](#) project indicated all-cause mortality to be at expected levels for this time of year.

2018–2019 season overview

Up to week 49/2018, influenza activity has been at baseline or low in the European Region, without showing a clear geographical pattern.

Primary care data

Syndromic surveillance data

Of those Member States and areas for which thresholds for influenza-like illness (ILI) activity are defined, only Italy and Poland reported activity above their baseline levels.

Of those Member States and areas for which thresholds for acute respiratory infection (ARI) activity are defined, Belgium, Kyrgyzstan and Lithuania reported activities above their respective baseline levels.

Influenza activity

Of 51 Member States and areas reporting on intensity, 15 reported baseline (across the region), 32 reported low (across the region), and 4 reported medium (Georgia, Kyrgyzstan, Malta and Ukraine) intensity for week 49/2018 (Fig. 1).

Of 51 Member States and areas reporting on geographic spread, 16 reported no activity (across the region), 26 reported sporadic cases (across the region), 4 reported local (France, Italy, Latvia and Portugal), 3 reported regional (Israel, Sweden and Ukraine) and 2 reported widespread activity (Georgia and Turkey) (Fig. 2).

Maps of qualitative indicators in the European Region

Fig. 1. Intensity in the European Region, week 49/2018

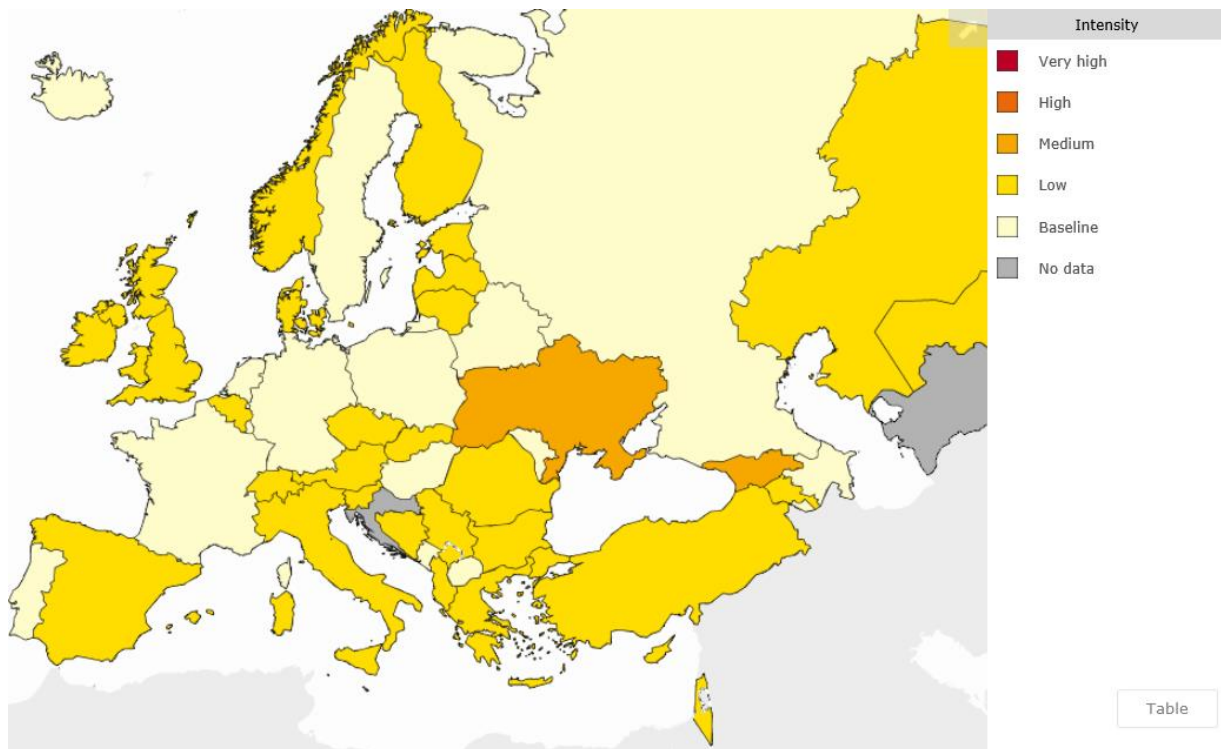
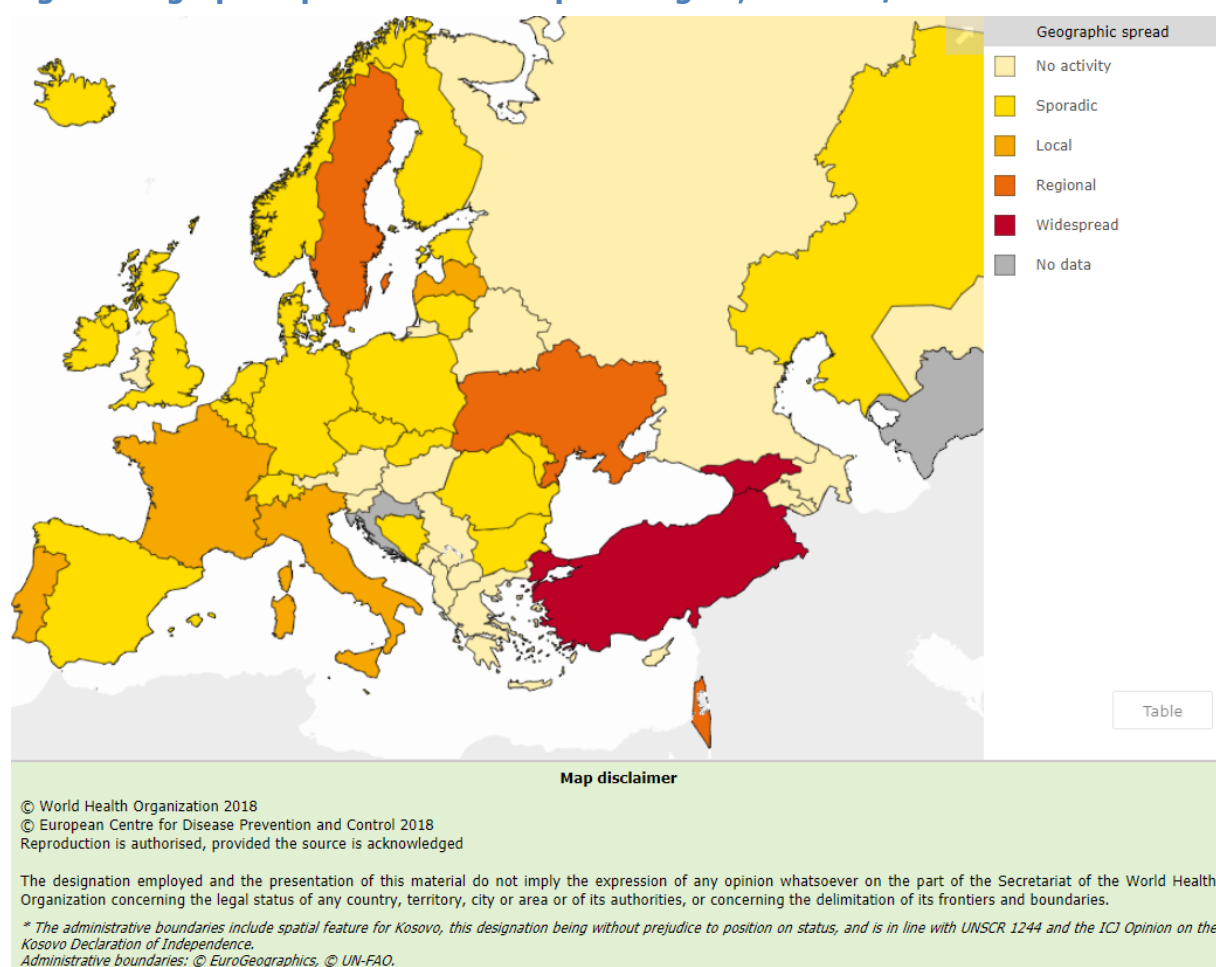


Fig. 2. Geographic spread in the European Region, week 49/2018



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

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

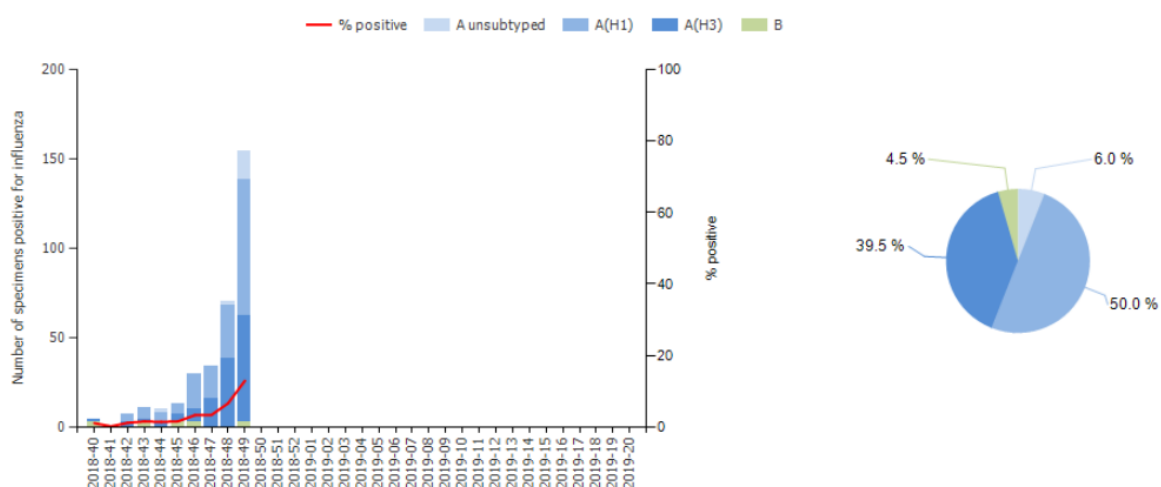
For week 49/2018, 154 (13%) of 1 189 sentinel specimens tested positive for an influenza virus; 151 (98.1%) were type A and 3 (1.9%) were type B. Of 135 subtyped A viruses, 56.3% were A(H1N1)pdm09 and 43.7% were A(H3N2) (Fig. 3 and Table 1).

Of 25 Member States or areas across the region that each tested at least 10 sentinel specimens in week 49/2018, 15 reported influenza virus detections above 10% (median 20.0%; range 12.5% – 72.2%).

For the season to date, more influenza type A (n=319, 95.5%) than type B (n=15, 4.5%) viruses have been detected. Of 299 subtyped A viruses, 167 (55.9%) were A(H1N1)pdm09 and 132 (44.1%) were A(H3N2). Of 5 influenza type B viruses ascribed to a lineage, 4 were B/Yamagata and 1 was B/Victoria (10 type B viruses were reported without a lineage) (Fig. 3 and Table 1).

Details of the distribution of viruses detected in non-sentinel-source specimens can be found in the [Virus characteristics section](#).

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



^a Pie chart shows cumulative data for this period.

Table 1. Influenza virus detections in sentinel-source specimens by type and subtype, week 49/2018 and cumulatively.

Virus type and subtype	Current Week		Season 2018–2019	
	Number	% ^a	Number	% ^a
Influenza A	151	98.1	319	95.5
A(H1N1)pdm09	76	56.3	167	55.9
A(H3N2)	59	43.7	132	44.1
A not subtyped	16	-	20	-
Influenza B	3	1.9	15	4.5
B/Victoria lineage	0	-	1	20
B/Yamagata lineage	0	-	4	80
Unknown lineage	3	-	10	-
Total detections (total tested)	154 (1 189)	13	334 (7 576)	4.4

^aFor influenza type percentage calculations, the denominator is total detections; for subtype and lineage, it is total influenza A subtyped and total influenza B lineage determined, respectively; for total detections, it is total tested.

Severity

A subset of Member States and areas monitors severe disease related to influenza virus infection by surveillance of 1) hospitalized laboratory-confirmed influenza cases in ICUs (12 Member States or areas), or other wards (8 Member States or areas), or 2) severe acute respiratory infections (SARI; 17 Member States or areas).

1.1) Hospitalized laboratory-confirmed influenza cases – ICUs

All 45 laboratory-confirmed influenza cases reported in ICUs for week 49/2018 were reported as influenza type A infections.

Since week 40/2018, a higher number of influenza type A (n=152, 93.8%) than type B (n=10, 6.2%) viruses were detected. Of 75 subtyped influenza A viruses, 90.7% were A(H1N1)pdm09 and 9.3% were A(H3N2). No influenza B viruses were ascribed to a lineage. Of 39 cases with known age, 53.8% were 15–64 years old and 38.5% were 65 years and older.

1.2) Hospitalized laboratory-confirmed influenza cases – other wards

Among laboratory-confirmed influenza cases reported in wards other than ICUs in week 49/2018 (n = 33), 31 were infected with influenza type A viruses and 2 with influenza type B viruses.

Since week 40/2018, a higher number of influenza type A (n=144, 91.7%) than type B (n=13, 8.3%) viruses was detected. Of 38 subtyped influenza A viruses, 32 (84.2%) were A(H1N1)pdm09 and 6 (15.8%) were A(H3N2). No influenza B viruses were ascribed to a lineage. Of 157 cases with known age, 51.6% were 15–64 years old and 22.9% were 65 years and older.

2. SARI surveillance

For week 49/2018, 1 317 SARI cases were reported by 14 Member States or areas. Of 263 specimens tested for influenza viruses, 35 (13.3%) were positive. All detected influenza viruses were type A.

Of 9 127 SARI cases reported since week 40/2018, 9 117 had a recorded age and, of these, the majority (68.7%) were 0–4 years old. Among the 1 795 SARI cases tested since week 40/2018, 82 (4.6%) cases tested positive for influenza viruses; all were type A; 67 (81.7%) of A(H1N1)pdm09 viruses, 11 (13.4%) A(H3N2) viruses and 4 (4.9%) unsubtypeable.

Mortality monitoring

For week 49/2018, the [EuroMOMO](#) project received data from 20 Member States or areas that were included in pooled analyses. Overall, the pooled estimates of all-cause mortality showed expected levels for this time of year in the participating countries.

Virus characteristics

Details of the distribution of viruses detected in sentinel-source specimens can be found in the [Primary care data](#) section.

Viruses detected in non-sentinel source specimens

For week 49/2018, 809 specimens from non-sentinel sources (such as hospitals, schools, primary care facilities not involved in sentinel surveillance, or nursing homes and other institutions) tested positive for an influenza virus; 96.8% were type A and 3.2% were type B. Of 228 subtyped A viruses, 60.5% were A(H1N1)pdm09 and 39.5% were A(H3N2) (Table 2).

For the season to date, a substantially greater number of influenza type A (n=2 604, 92.4%) than type B viruses (n=215, 7.6%) has been detected. Of 1 005 subtyped A viruses, 649 (64.6%) were A(H1N1)pdm09 and 356 (35.4%) were A(H3N2). Of 7 influenza type B viruses ascribed to a lineage, 6 were B/Yamagata and 1 was B/Victoria; 208 (96.7%) type B viruses were reported without a lineage (Table 2).

Table 2. Influenza virus detections in non-sentinel source specimens by type and subtype, week 49/2018 and cumulatively

Virus type and subtype	Current Week		Season 2018–2019	
	Number	% ^a	Number	% ^a
Influenza A	783	96.8	2604	92.4
A(H1N1)pdm09	138	60.5	649	64.6
A(H3N2)	90	39.5	356	35.4
A not subtyped	555	-	1599	-
Influenza B	26	3.2	215	7.6
B/Victoria lineage	0	-	1	14.3
B/Yamagata lineage	0	-	6	85.7
Unknown lineage	26	-	208	-
Total detections (total tested)	809 (16992)	4.8	2819 (131572)	2.1

^a For type percentage calculations, the denominator is total detections; for subtype and lineage, it is total influenza A subtyped and total influenza B lineage determined, respectively; as not all countries have a true non-sentinel testing denominator, no percentage calculations for total tested are shown.

Genetic characterization

Since week 40/2018, genetic characterizations of 123 viruses were reported: 97 were A(H1N1)pdm09 viruses belonging to the A/Michigan/45/2015 (6B.1) clade; 24 were A(H3) viruses, with 21 belonging to the A/Alsace/1746/2018 (3C.2a1b) clade, 2 belonging to the A/Switzerland/8060/2017 (3C.2a2) clade, and 1 attributed to a subgroup not listed. 1 B/Yamagata lineage virus was characterized as belonging to the B/Phuket/3073/2013 clade (clade 3) and 1 B/Victoria lineage virus was characterized as belonging to the B/Brisbane/60/2008 clade (clade 1A) (Table 3).

Table 3. Viruses attributed to genetic groups, cumulative for weeks 40/2018–49/2018

Phylogenetic group	Number of viruses
A(H1)pdm09 group 6B.1 representative A/Michigan/45/2015 ^a	97
A(H3) clade 3C.2a1b representative A/Alsace/1746/2018 subgroup	21
A(H3) clade 3C.2a2 representative A/Switzerland/8060/2017 subgroup ^b	2
A(H3) attributed to recognised group in current guidance but not listed here	1
B(Vic)-lineage clade 1A representative B/Brisbane/60/2008	1
B(Yam)-lineage clade representative B/Phuket/3073/2013 ^c	1

^aVaccine component for 2018-2019 northern hemisphere and 2019 southern hemisphere seasons.

^bVaccine component for 2019 southern hemisphere season.

^cVaccine component of quadrivalent vaccines for use in 2018-2019 northern hemisphere and 2019 southern hemisphere seasons.

The latest characterization data are summarized in the [ECDC summary report for October](#).

For more information on virus characterizations for EU/EEA countries, see earlier [WHO CC London Influenza virus characterisation reports](#).

The recommended composition of the trivalent influenza vaccine for the northern hemisphere 2018–2019 season included an A/Michigan/45/2015 (H1N1)pdm09-like virus, an A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus and a B/Colorado/06/2017-like virus (B/Victoria lineage). For quadrivalent vaccines, a B/Phuket/3073/2013-like virus (B/Yamagata lineage) was recommended. The full report can be found [here](#).

On 27 September 2018, WHO announced the recommended vaccine composition for the southern hemisphere 2019 season. The recommendations matched the A(H1N1)pdm09 and B components for the 2018–2019 northern hemisphere season, but the A(H3N2) component was changed for egg-based vaccines. The full report can be found [here](#). A comment by ECDC can be seen [here](#).

Antiviral susceptibility testing

74 A(H1N1)pdm09 viruses, 14 A(H3N2) viruses, and 2 B viruses with collection dates in weeks 40–49/2018 have been tested for susceptibility to neuraminidase inhibitors. None showed evidence of reduced susceptibility to the inhibitors.

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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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