

## Weekly influenza overview

### Week 03/2021 (18 January–24 January 2021)

- Influenza activity remained at interseasonal levels.
- Of 1 246 specimens tested for influenza in week 03/2021, from patients presenting with ILI or ARI symptoms to sentinel primary healthcare sites, one was positive for an influenza virus.
- Influenza viruses were detected sporadically from non-sentinel sources (such as hospitals, schools, primary care facilities not involved in sentinel surveillance, or nursing homes and other institutions). Both influenza type A and type B viruses were detected.
- There was one hospitalized laboratory-confirmed influenza case reported for week 03/2021.
- The influenza season in the European Region has usually been designated as having started by this point in the year but, despite widespread and regular testing for influenza, reported influenza activity still remains at a very low level. The novel coronavirus disease 2019 (COVID-19) pandemic has affected healthcare seeking behaviours, healthcare provision, and testing practices and capacities in countries and areas of the European Region, which have negatively impacted on the reporting of influenza epidemiologic and virologic data during the 2020-2021 season. Due to the COVID-19 pandemic, the influenza data we present will need to be interpreted with caution, notably in terms of seasonal patterns.

### Other news

The World Health Organization categorized COVID-19 as a pandemic on 11 March 2020. For more information about the situation in the WHO European Region visit:

- WHO website: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- ECDC website: <https://www.ecdc.europa.eu/en/novel-coronavirus-china>

### Qualitative indicators

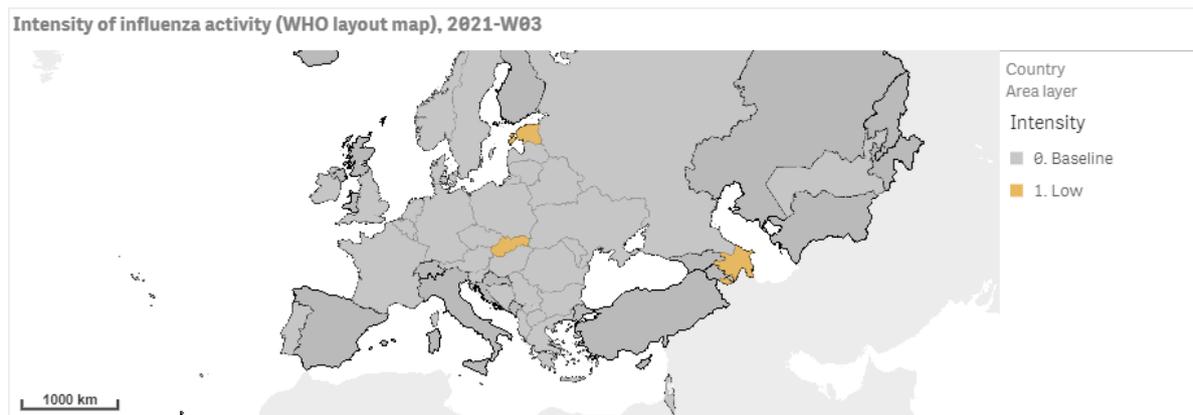
Of 36 countries and areas that reported on the intensity of activity indicator, 33 reported baseline levels, and 3 (Azerbaijan, Estonia and Slovakia) reported low intensity for week 03/2021 (Fig. 1).

Of 36 countries and areas that reported on geographic spread, 32 reported no activity and 4 (Azerbaijan, Denmark, Portugal, and United Kingdom (England)) reported sporadic spread for week 03/2021 (Fig. 2).

**Please note:**

1. Assessment of the intensity of activity indicator includes consideration of ILI or ARI rates. These ILI or ARI rates might be driven by respiratory infections other than influenza, including SARS-CoV-2, leading to observed increases in the absence of influenza detections.
2. Assessment of intensity and geographic spread indicators includes consideration of sentinel and non-sentinel influenza virus detection data. Non-sentinel influenza virus detections, often higher, might translate into reporting of elevated geographic spread even in the absence of sentinel detections.

**Fig. 1. Intensity in the European Region, week 03/2021**

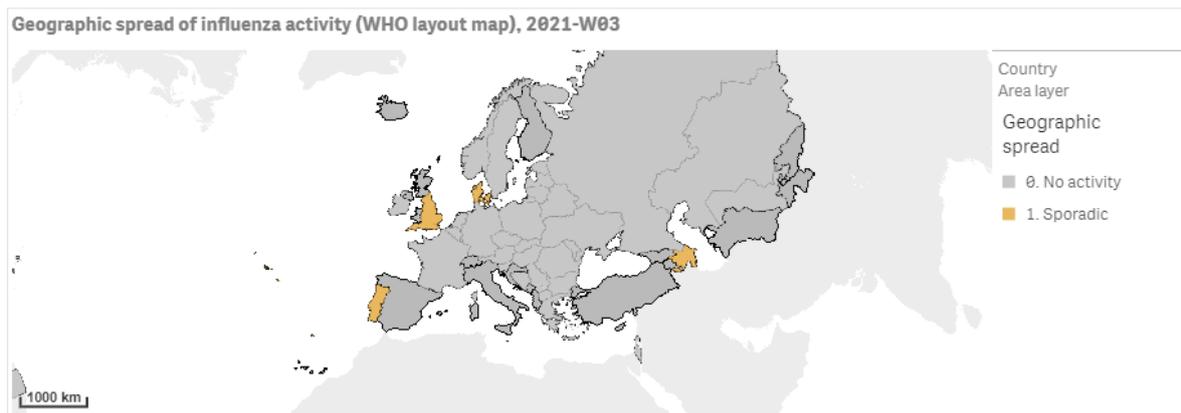


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**Fig. 2. Geographic spread in the European Region, week 03/2021**



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

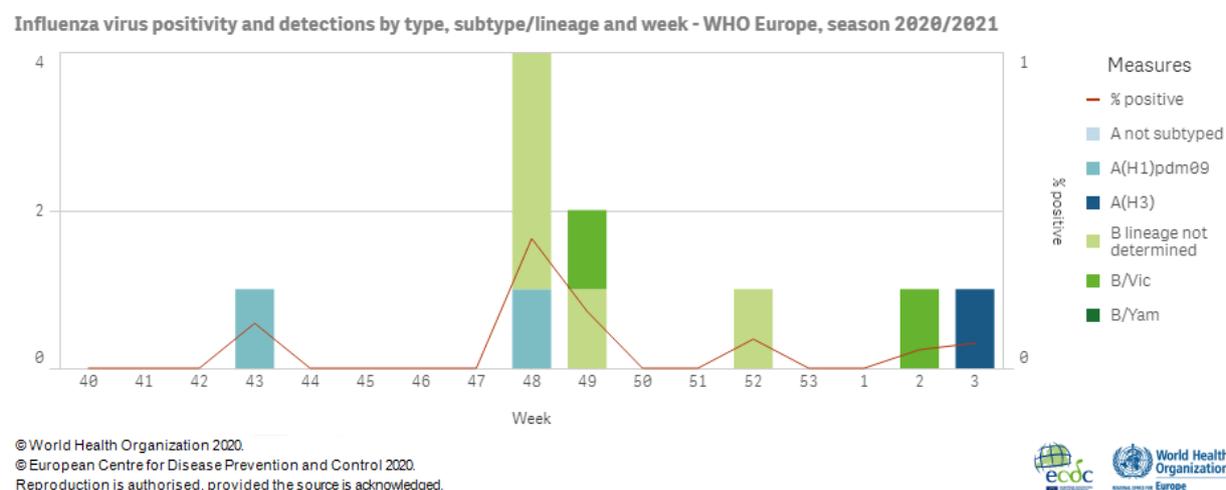
## 2020-2021 season overview

- For the Region as a whole, influenza activity has been at baseline level since the start of the season.
- In total, 557 specimens have tested positive for influenza viruses, 10 from sentinel sources and 547 from non-sentinel sources, with type A (both subtypes) and type B (both lineages) viruses being detected.
- Since the start of the season, few hospitalized laboratory-confirmed influenza cases have been reported: 11 from ICUs (all infected with type A viruses); 3 cases (two type A viruses and 1 type B) in wards outside ICUs with 1 fatality; and four from severe acute respiratory infection (SARI)-based surveillance (3 infected with type B viruses and 1 with type A).
- WHO has published [recommendations](#) for the composition of influenza vaccines to be used in the 2020–2021 northern hemisphere season. Based on these recommendations, the influenza A(H1N1)pdm09, A(H3N2) and B/Victoria-lineage virus components should be updated compared to the 2019–2020 influenza vaccine.

## Influenza positivity

As of week 03/2021, for the European Region, influenza virus positivity in sentinel specimens remained below the epidemic threshold, which is set at 10% (Fig. 3.).

**Fig. 3. Influenza virus detections in sentinel-source specimens by type and subtype, and week for weeks 40/2020-03/2021**



## External data sources

**Mortality monitoring:** Overall pooled estimates of all-cause mortality for 27 countries or areas participating in the [EuroMOMO](#) project showed a substantial increase in excess all-cause mortality.

This excess mortality was driven by a very substantial excess mortality in some countries and areas, while others see normal mortality levels.

Increased excess all-cause mortality was seen primarily among persons aged 45 years and older.

## Primary care data

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

For week 03/2021, 1 (0.1%) of 1246 sentinel specimens tested for influenza viruses was positive. Since the start of the season, of 18 095 sentinel-source specimens that have been tested for influenza viruses, 10 were positive: 3 type A and 7 type B viruses (Figure 3 and Table 1).

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

**Table 1. Influenza virus detections in sentinel-source specimens by type and subtype for week 03/2021 and cumulatively for the influenza season 2020-2021**

Virus type and subtype	Current Week (03)		Influenza Season 2020-2021	
	Number	% <sup>a</sup>	Number	% <sup>a</sup>
<b>Influenza A</b>	<b>1</b>	<b>100</b>	<b>3</b>	<b>30</b>
A(H1)pdm09	0	0	2	66.7
A(H3)	1	100	1	33.3
A not subtyped	0	-	0	-
<b>Influenza B</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>70</b>
B/Victoria lineage	0	-	2	100
B/Yamagata lineage	0	-	0	0
Unknown lineage	0	-	5	-
<b>Total detections (total tested)</b>	<b>1 (1 246)</b>	<b>0.1</b>	<b>10 (18 095)</b>	<b>&lt;1</b>

<sup>a</sup> For 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.

## External data sources

[Influenzanet](#) collects weekly data on symptoms in the general community from different participating countries across the EU/EEA. For week 03/2021, data reported from 8 countries representing between 66 and 8 104 active participants were included, for a total of 27 756 participants.

**ILI activity:** Denmark, Germany, Italy, Spain, Switzerland and UK have reported between 0 and 5 cases per 1 000 active participants, France and Portugal have reported between 5 and 10 cases per 1 000 active participants.

Activity is low (below the first quartile of historical data for this week).

**COVID-19 activity:** Italy has reported between 15 and 20 possible cases per 1 000 weekly participants, Portugal, Spain and Switzerland have reported between 20 and 25 possible cases per 1 000 weekly participants and France and UK have reported between 25 and 30 possible cases per 1 000 weekly participants.

## Hospital surveillance

A subset of countries and areas monitor severe disease related to influenza virus infection by surveillance of 1) hospitalized laboratory-confirmed influenza cases in ICUs or other wards, or 2) severe acute respiratory infection (SARI; mainly in the eastern part of the Region).

### Laboratory-confirmed hospitalized cases

#### 1.1) Hospitalized laboratory-confirmed influenza cases – ICUs

There was one hospitalized laboratory-confirmed influenza case in ICUs reported for week 03/2021.

Since the start of the season, there have been 11 hospitalized laboratory-confirmed influenza cases in ICUs (all infected with type A viruses) reported by Ukraine (n = 2) and the UK (n = 9). At the time of the latest reports all cases were non-fatal.

#### 1.2) Hospitalized laboratory-confirmed influenza cases – other wards

There were no laboratory-confirmed influenza cases in wards outside ICUs reported for week 03/2021.

Since the start of the season, there have been three laboratory-confirmed influenza cases (two type A viruses and 1 type B) in wards outside ICUs reported: two cases were in patients aged 15-64 years (both from Ukraine) and 1 case, which was fatal, in a patient over 65 years old (from Czechia).

### Severe acute respiratory infection (SARI)-based hospital surveillance

For week 03/2021, 1 304 SARI cases were reported by 8 countries or areas. Of 361 specimens tested for influenza viruses, none were positive.

For the season to date, 13 countries and areas (Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kosovo (in accordance with UN Security Council resolution 1244 (1999)), Republic of Moldova, Russian Federation, Serbia, Ukraine and Uzbekistan) have reported 18 069 SARI cases and 3 786 were tested for influenza viruses. Just four specimens from Ukraine, in week 48/2020, have tested positive to date (3 were type B viruses and 1 was type A).

## Virus characteristics

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

## Non-sentinel virologic data

For week 03/2021, 19 of 19 820 non-sentinel specimens (from 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: 11 were type A and 8 were type B (Table 2. Influenza virus detections in non-sentinel source specimens by type and subtype, week 03/2021 and cumulatively for the influenza season 2020-2021).

Since the beginning of the season, 547 of 258 974 non-sentinel specimens tested positive for influenza viruses; 266 (48.6%) were type A and 281 (51.4%) type B. Of 43 subtyped A viruses, 11 (25.6%) were A(H1)pdm09 and 32 (74.4%) were A(H3). Of 281 type B viruses, only 5 were ascribed to a lineage: 4 B/Victoria and 1 B/Yamagata.

**Table 2. Influenza virus detections in non-sentinel source specimens by type and subtype, week 03/2021 and cumulatively for the influenza season 2020-2021**

Virus type and subtype	Current Week (03)		Influenza Season 2020-2021	
	Number	% <sup>a</sup>	Number	% <sup>a</sup>
<b>Influenza A</b>	<b>11</b>	<b>57.9</b>	<b>266</b>	<b>48.6</b>
A(H1)pdm09	1	100	11	25.6
A(H3)	0	0	32	74.4
A not subtyped	10	-	223	-
<b>Influenza B</b>	<b>8</b>	<b>42.1</b>	<b>281</b>	<b>51.4</b>
B/Victoria lineage	0	-	4	80
B/Yamagata lineage	0	-	1	20
Unknown lineage	8	-	276	-
<b>Total detections (total tested)</b>	<b>19 (19 820)</b>	<b>-</b>	<b>547 (258 974)</b>	<b>-</b>

<sup>a</sup> 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

One influenza A(H3) virus from weeks 40/2020–03/2021 has been characterized genetically and was attributed to the HA subgroup 3C.2a1b + T131K-A, represented by ASlovenia/1637/2020.

Note: It is essential that reporting laboratories submit any data they have generated to GISAID (and thereby TESSy) as soon as possible, together with sharing influenza-positive samples with WHO CC, London for more detailed characterization.

ECDC published the [December](#) virus characterisation report. At that point, no antigenic data relating to viruses detected in the course of the 2020-2021 influenza season had been generated and the report was based on an analysis of seasonal influenza HA sequenced most recently and submitted to GISAID. The following text is repeated from the Summary text of this report with minor modification. Previously published influenza virus characterization reports are also available on the [ECDC website](#).

### **A(H1N1)pdm09 viruses**

The vast majority of A(H1N1)pdm09 viruses had continued to fall in genetic subclade 6B.1A5, mostly in the 6B.1A5A group with few in the 6B.1A5B group. 6B.1A5A viruses have continued to evolve and two subgroups have emerged designated 6B.1A5A+187V/A, representatives of which are recommended for use in the northern hemisphere 2020-2021 season, and 6B.1A5A+156K, an antigenically distinct group representatives of which are recommended for use in the southern hemisphere 2021 season. Very few A(H1N1)pdm09 viruses have been detected worldwide in the course of the 2020-2021 season.

### **A(H3N2) viruses**

Recently circulating A(H3N2) viruses had continued to fall in clades 3C.2a and 3C.3a, with the vast majority of clade 3C.2a viruses being in the 3C.2a1b group which has now been divided into four subgroups designated 3C.2a1b+T131K-A, 3C.2a1b+T131K-B, 3C.2a1b+T135K-A and 3C.2a1b+T135K-B. Antisera raised in ferrets show high levels of clade/group specificity, though there is some subgroup cross-reactivity. Viruses representative of subgroup 3C.2a1b+T135K-B have been recommended for use in influenza vaccines for the northern hemisphere 2020-2021 and southern hemisphere 2021 seasons. To date, while low numbers have been reported, the great majority of A(H3N2) viruses from the 2020-2021 season have been detected in Asia, falling in subgroup 3C.2a1b+T131K-A and splitting into two clusters that each contain significant numbers of HA1 amino acid substitutions some of which are likely to alter antigenicity.

### **B/Victoria viruses**

Of four antigenically distinct groups of viruses in the B/Victoria-lineage, only two had circulated recently, small numbers of that designated subclade 1A ( $\Delta$ 2) with a two amino acid deletion in HA1 and that designated subclade 1A( $\Delta$ 3)B with a three amino acid deletion in HA1 being hugely dominant. Viruses representative of subclade 1A( $\Delta$ 3)B have been recommended for use in influenza vaccines for the northern hemisphere 2020-2021 and southern hemisphere 2021 seasons. To date for the 2020-2021 season similar numbers to those for A(H3N2) have been detected with the great majority falling in a group defined by HA1 amino acid substitutions N150K, G184E, N197D/E (loss of a glycosylation site) and R279K, notably in some southern provinces of China.

## B/Yamagata viruses

When the report published in December was written, all B/Yamagata viruses for which full-length HA sequences were available belonged to genetic clade 3 and contained at least two HA amino acid substitutions (HA1 L172Q and M251V) compared to B/Phuket/3073/2013-like viruses which have been recommended for use in quadrivalent influenza vaccines for the northern hemisphere 2020-2021 and southern hemisphere 2021 seasons. The antigenic effects of these amino acid substitutions have been minimal as assessed in earlier reports. To date, no viruses of this lineage have been detected in the course of the 2020-2021 season.

## Antiviral susceptibility of seasonal influenza viruses

Since the beginning of the season, one influenza A(H3) virus has been tested for susceptibility to neuraminidase inhibitors. It showed normal inhibition (NI) by both oseltamivir and zanamivir.

## Vaccine

### Available vaccines in Europe

<https://www.ecdc.europa.eu/en/seasonal-influenza/prevention-and-control/vaccines/types-of-seasonal-influenza-vaccine>

### Vaccine composition

On 28 February 2020, WHO published recommendations for the components of influenza vaccines for use in the **2020–2021 northern hemisphere influenza season**.

**Egg-based vaccines** should contain the following:

- an A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus (Clade 6B.1A5A);
- an A/Hong Kong/2671/2019 (H3N2)-like virus (Clade 3C.2a1b+T135K-B);
- a B/Washington/02/2019 (B/Victoria lineage)-like virus (Clade 1A(Δ3)B); and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus (Clade 3).

**Cell- or recombinant-based vaccines** should contain the following:

- an A/Hawaii/70/2019 (H1N1)pdm09-like virus (Clade 6B.1A5A);
- an A/Hong Kong/45/2019 (H3N2)-like virus (Clade 3C.2a1b+T135K-B);
- a B/Washington/02/2019 (B/Victoria lineage)-like virus (Clade 1A(Δ3)B); and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus (Clade 3).

It is recommended that the influenza B virus component of **both trivalent vaccine types** for use in the 2020–2021 northern hemisphere influenza season should be a B/Washington/02/2019-like virus of the B/Victoria-lineage.

The [full report](#) and [Frequently Asked Questions](#) for the 28 February 2020 decision are available on the [WHO website](#).

Based on WHO published recommendations on 25 September 2020, the composition of influenza vaccines for use in the **2021 southern hemisphere influenza season** will contain the following:

#### **Egg-based Vaccines**

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus;
- an A/Hong Kong/2671/2019 (H3N2)-like virus;
- a B/Washington/02/2019 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

#### **Cell- or recombinant-based Vaccines**

- an A/Wisconsin/588/2019 (H1N1)pdm09-like virus;
- an A/Hong Kong/45/2019 (H3N2)-like virus;
- a B/Washington/02/2019 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

It is recommended that the influenza B virus component of **both trivalent vaccine types** for use in the 2021 southern hemisphere influenza season should be a B/Washington/02/2019-like virus of the B/Victoria-lineage.

The full report is published [here](#).

This weekly update was prepared by an editorial team at the European Centre for Disease Prevention and Control (Cornelia Adlhoch, Lisa Ferland, Favelle Lamb, Andrew Amato-Gauci and Angeliki Melidou) and the WHO Regional Office for Europe (Piers Mook, Richard Pebody and Miriam Sneiderman). It was reviewed 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.

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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