

# Summary

## Week 14/2022 (4 April – 10 April 2022)

- 10 of 38 countries across the Region reported widespread influenza activity.
- The percentage of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms that tested positive for an influenza virus has remained at similar levels, around 27%, for the last five weeks.
- Countries, mostly in the western-central part of the Region, reported seasonal influenza activity above 30% positivity in sentinel primary care: Netherlands (78%), Poland (59%), Luxembourg (57%), Denmark (56%), France (50%), Slovenia (48%), Hungary (34%), Belgium (31%).
- Both influenza type A and type B viruses were detected with A(H3) viruses being dominant across all monitoring systems.
- A(H3) viruses were most frequently detected in patients hospitalized with confirmed influenza virus infection.

## 2021-2022 season overview

- For the Region as a whole, influenza activity has increased and remains well above what was seen in 2020-2021 but is still at lower levels compared to seasons prior to the COVID-19 pandemic.
- Influenza activity, based on sentinel primary care specimens from patients presenting with ILI or ARI symptoms, first peaked in week 52/2021 (when it reached 19% positivity), declining thereafter until week 4/2022, when it increased again reaching a plateau phase (26-30% positivity) since week 10/2022.
- Different levels of activity have been observed between the countries and areas of the Region, with a dominance of A(H3) viruses in most countries.

- During the influenza Vaccine Composition Meeting for the northern hemisphere 2022/23 season, held in February 2022, WHO recommended updating of the A(H3N2) and the B/Victoria-lineage components. The full report can be found [here](#).
- [Preliminary results](#) of 2021-2022 seasonal influenza vaccine effectiveness (VE) estimates from the United States showed that VE against medically attended outpatient acute respiratory infection associated with A(H3N2), the dominant influenza virus in circulation, was 16% (95% CI = -16% to 39%).
- The European I-MOVE network estimated influenza VE using a multicenter test-negative design among symptomatic patients presenting at primary care between October 2021 and March 2022. Preliminary influenza VE against influenza A among seven study sites and among all ages was 36% (95% CI: 13–53) and 41% (95% CI: 15–59) among those aged 18–64 years. All-age VE against influenza A(H3N2) was 35% (95% CI: 6–54) and 37% (95% CI: 3–59) among those aged 18–64 years. There were too few influenza-positive cases among other age groups to allow VE estimations.
- In [Sweden](#), the vaccine effectiveness against laboratory-confirmed influenza was estimated to be 47% for individuals over 65 years of age.
- According to preliminary data in mainland [France](#), the VE was estimated to be 50% (95% CI: 14-71) against all circulating influenza viruses, 77% (95% CI: 36-92) for A(H1N1)pdm09 and 31% (95% CI: -29-64) for A(H3N2).
- For children aged 2 to 6 years in [Denmark](#), the estimated VE against influenza A viruses was estimated at 63% (95% CI: 10.9–84.4) in those hospitalised, and 64% (95% CI: 50.5–74.1) in those non-hospitalised.
- With increased circulation of influenza viruses clinicians should consider early antiviral treatment of patients in at-risk groups with influenza virus infection, according to local guidance, to prevent severe outcomes. The majority of viruses analyzed so far have remained susceptible to neuraminidase inhibitors and baloxavir marboxil.

## Other news

For information about the SARS-CoV-2 situation in the WHO European Region visit:

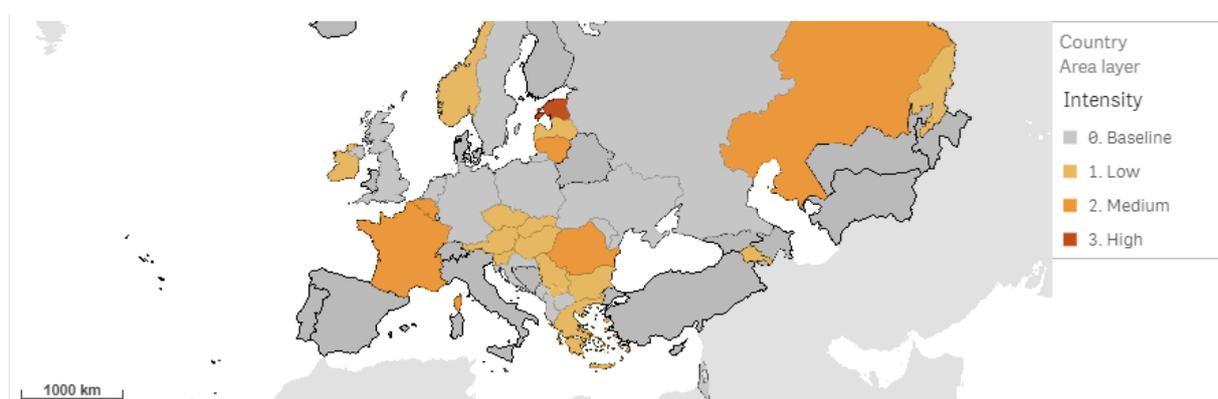
- WHO website: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- ECDC website: <https://www.ecdc.europa.eu/en/novel-coronavirus-china>

## Qualitative indicators

For week 14/2022, of 36 countries and areas reporting on intensity of influenza activity, 16 reported baseline-intensity (across the Region) and 14 reported low-intensity (across the Region), 5 reported medium-intensity (Belgium, France, Kazakhstan, Lithuania and Romania) and 1 reported high-intensity (Estonia) (Fig. 1).

Of 37 countries and areas reporting on geographic spread of influenza viruses, 8 reported no activity (Armenia, Croatia, Israel, Kazakhstan, North Macedonia, Poland, Ukraine and Kosovo (in accordance with UN Security Council Resolution 1244 (1999))), 7 reported sporadic spread (Albania, Greece, Kyrgyzstan, Montenegro, Russian Federation, United Kingdom (England) and United Kingdom (Northern Ireland)), 5 reported local spread (Czechia, Germany, Malta, Romania and Slovakia), 7 reported regional spread (Austria, Bulgaria, Latvia, Lithuania, Republic of Moldova, Serbia and Sweden) and 10 reported widespread activity (across the Region) (Fig. 2).

**Figure 1. Intensity of influenza activity in the European Region, week 14/2022**

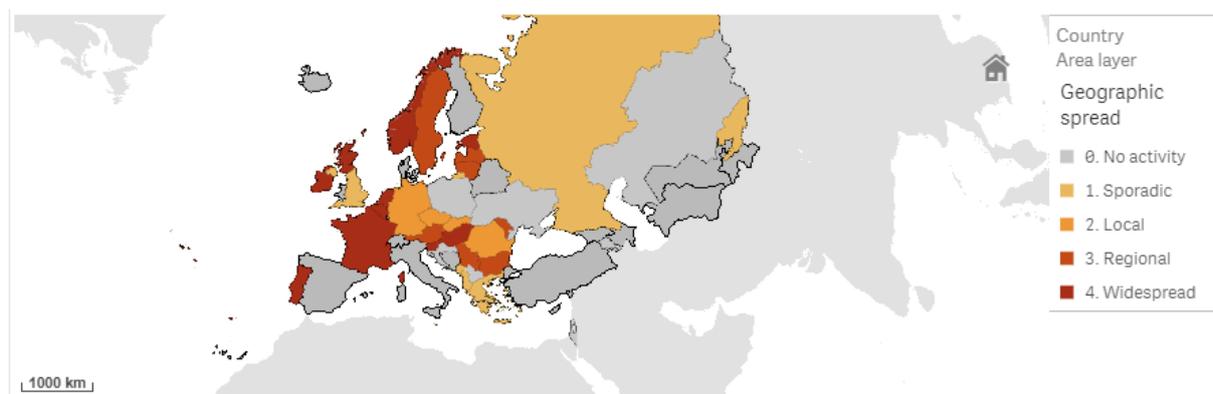


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\* The administrative boundaries include spatial feature for Kosovo, this designation being without prejudice to position on status, and is in line with United Nations Security Council Resolution 1244 (1999) and the International Court of Justice Opinion on the Kosovo Declaration of Independence.  
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**Figure 2. Geographic spread of influenza viruses in the European Region, week 14/2022**



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Administrative boundaries: © EuroGeographics, © UN-FAO.

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

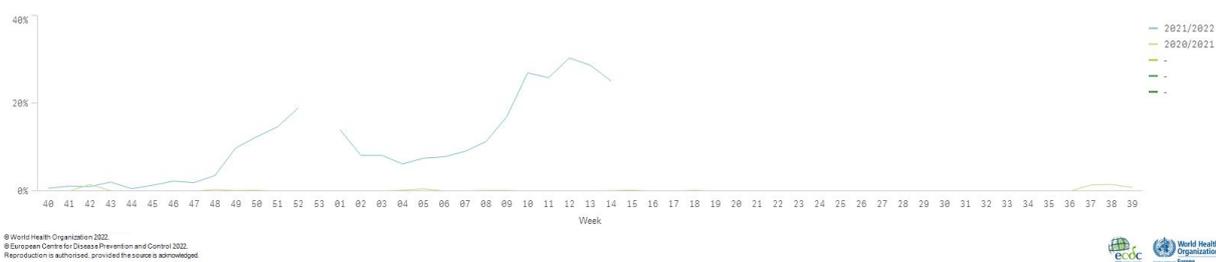
### **Please note:**

- 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 virus, including SARS-CoV-2, leading to observed increases in the absence of influenza virus detections.
- 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.

## **Influenza positivity**

For the European Region, influenza virus positivity in sentinel primary care specimens remained around 27% for the fifth consecutive week, well above the epidemic threshold which is set at 10% (Fig. 3).

**Figure 3. Influenza virus positivity in sentinel-source specimens by week, WHO European Region, seasons 2018/2019-2021/2022**



## External data sources

**Mortality monitoring:** Week 14/2022 overall pooled EuroMOMO estimates of all-cause mortality for the participating European countries showed signs of decreasing excess mortality among the elderly (65 years or older) and among older adults (45 to 64 years of age). Data from 25 European countries or subnational regions were included in this pooled analysis of all-cause mortality. The full EuroMOMO report can be found here: <https://www.euromomo.eu/>.

## Primary care data

### Syndromic surveillance data

Of the countries and areas in which thresholds for ILI activity are defined, countries in eastern (n=1; Kyrgyzstan), northern (n=3; Estonia, Latvia and Lithuania), southern (n=3; Croatia, Romania and Serbia) and western (n=3; Austria, Belgium and Hungary) areas of the European Region reported activity above baseline levels.

Of the countries and areas in which thresholds for ARI activity are defined, only countries in the northern (n=2; Estonia and Latvia) area of the European Region reported activity above baseline levels.

#### Please note:

- Assessment of the syndromic surveillance data of ILI or ARI rates might be driven by respiratory infections other than influenza virus, including SARS-CoV-2, leading to observed increases in the absence of influenza virus detections. The thresholds mentioned are related to the Moving Epidemic Method (MEM) and based on historic ILI/ARI data.

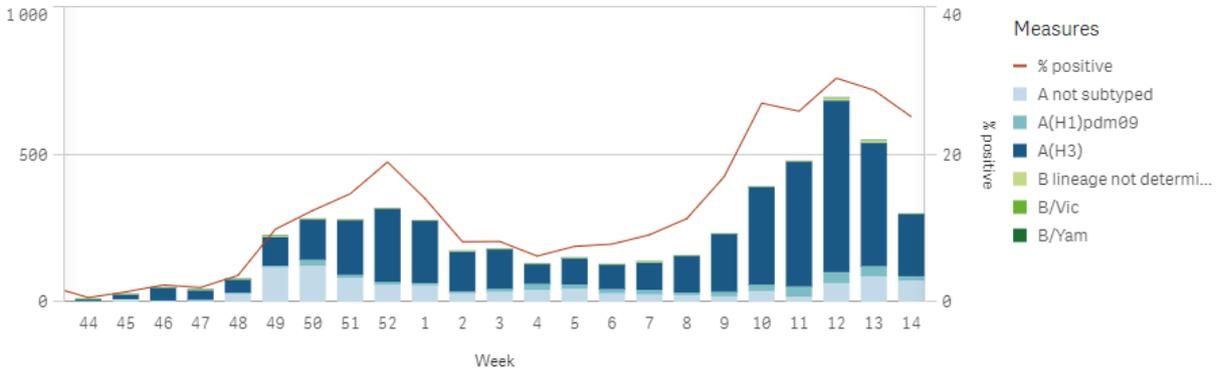
# Viruses detected in sentinel-source specimens (ILI and ARI)

For week 14/2022, 299 (25%) of 1 189 sentinel specimens tested positive for an influenza virus; 298 (>99%) were type A and 1 (<1%) was type B. Of 226 subtyped A viruses, 93% were A(H3) and 7% A(H1)pdm09. The type B virus was not ascribed to a lineage (Fig. 4 and Table 1). Of 23 countries or areas across the Region that each tested at least 10 sentinel specimens in week 14/2022, 16 reported a rate of influenza virus detections at or above 10% (median 28%; range 12% - 78%): Netherlands (78%), Poland (59%), Luxembourg (57%), Denmark (56%), France (50%), Slovenia (48%), Hungary (34%), Belgium (31%), Spain (26%), Czechia (25%), Austria (22%), Switzerland (21%), Italy (19%), Slovakia (19%), Republic of Moldova (18%) and Germany (12%).

For the season to date, 5 349 (11%) of 48 160 sentinel specimens tested positive for an influenza virus. More influenza type A (n=5 289, 99%) than type B (n=60, 1%) viruses have been detected. Of 4 274 subtyped A viruses, 3 967 (93%) were A(H3) and 307 (7%) were A(H1)pdm09. Of 7 influenza type B viruses ascribed to a lineage, all were B/Victoria (88% of type B viruses were reported without a lineage) (Fig. 4 and Table 1).

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

**Figure 4. Influenza virus positivity and detections by type, subtype/lineage – sentinel sources, WHO European Region, season 2021/22**



**Table 1. Influenza virus detections in sentinel source specimens by type and subtype for week 14/2022 and cumulatively for the season**

Sentinel	Current Week (14)	Season 2021-2022
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Virus type and subtype	Number	% <sup>a</sup>	Number	% <sup>a</sup>
<b>Influenza A</b>	<b>298</b>	<b>99.7</b>	<b>5 289</b>	<b>98.9</b>
A(H1)pdm09	15	6.6	307	7.2
A(H3)	211	93.4	3 967	92.8
A not subtyped	72	-	1 015	-
<b>Influenza B</b>	<b>1</b>	<b>0.3</b>	<b>60</b>	<b>1.1</b>
B/Victoria lineage	0	-	7	100
B/Yamagata lineage	0	-	0	0
Unknown lineage	1	-	53	-
<b>Total detections (total tested)</b>	<b>299 (1 189)</b>	<b>25.1</b>	<b>5 349 (48 160)</b>	<b>11.1</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. Please refer to the website for additional information for week 14/2022.

## 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 (Czechia, France, Ireland, Sweden and the United Kingdom (England)) or other wards (Czechia, Ireland and Ukraine), or 2) severe acute respiratory infection (SARI; mainly in the eastern part of the Region).

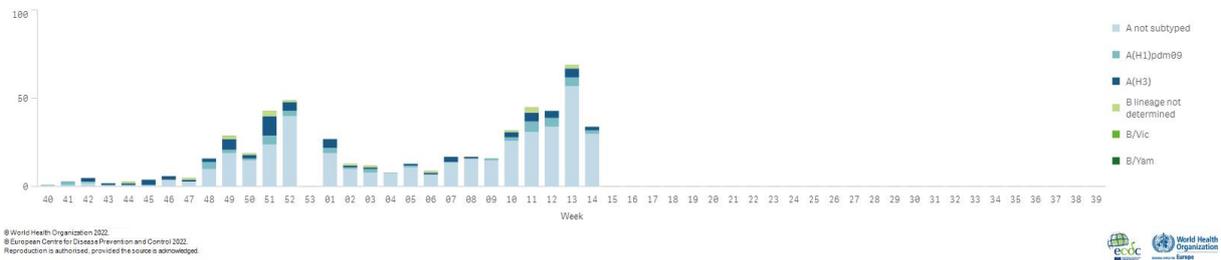
## Laboratory-confirmed hospitalized cases

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

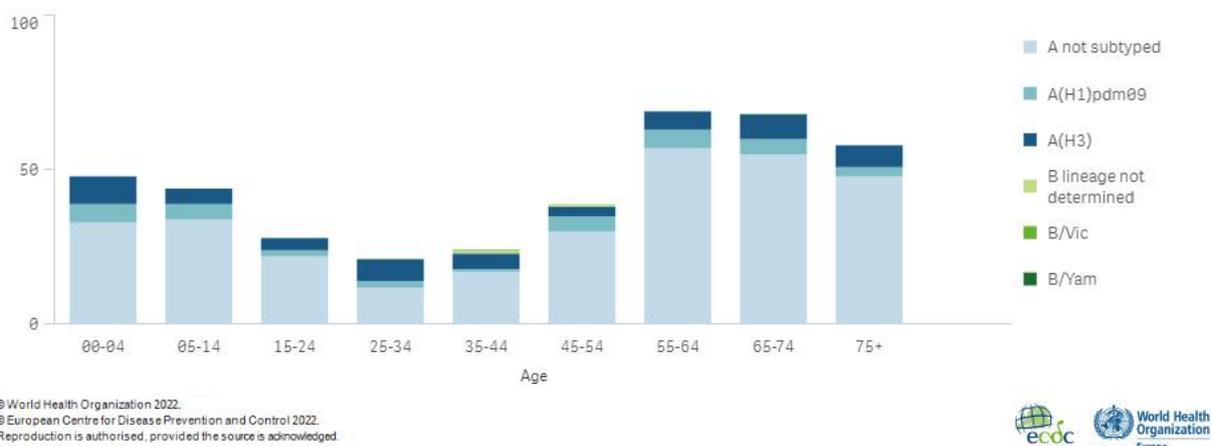
For week 14/2022, 34 laboratory-confirmed influenza cases were reported from ICU wards (in France, Sweden and United Kingdom (England)). Only influenza A viruses (n=34) were detected (Fig. 5 and 6).

Since week 40/2021, more influenza type A (n=522, 97%) than type B (n=18, 3%) viruses were detected. Of 114 subtyped influenza A viruses, 60% were A(H3) and 40% were A(H1)pdm09. No influenza B viruses were ascribed to a lineage. Of 399 cases with known age, 181 were 15-64 years old, 126 were 65 years and older, 48 were 0-4 years old and 44 were 5-14 years old.

**Figure 5. Number of laboratory-confirmed hospitalized influenza cases in intensive care units (ICU) by week of reporting, WHO European Region, season 2021/2022**



**Figure 6. Distribution of influenza virus types, subtypes/lineages by age group in intensive care units (ICU), WHO European Region, season 2021/2022**

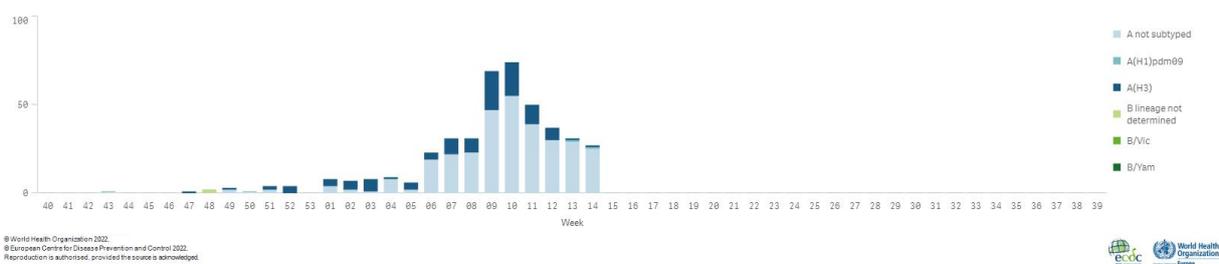


## 1.2) Hospitalized laboratory-confirmed influenza cases – other wards

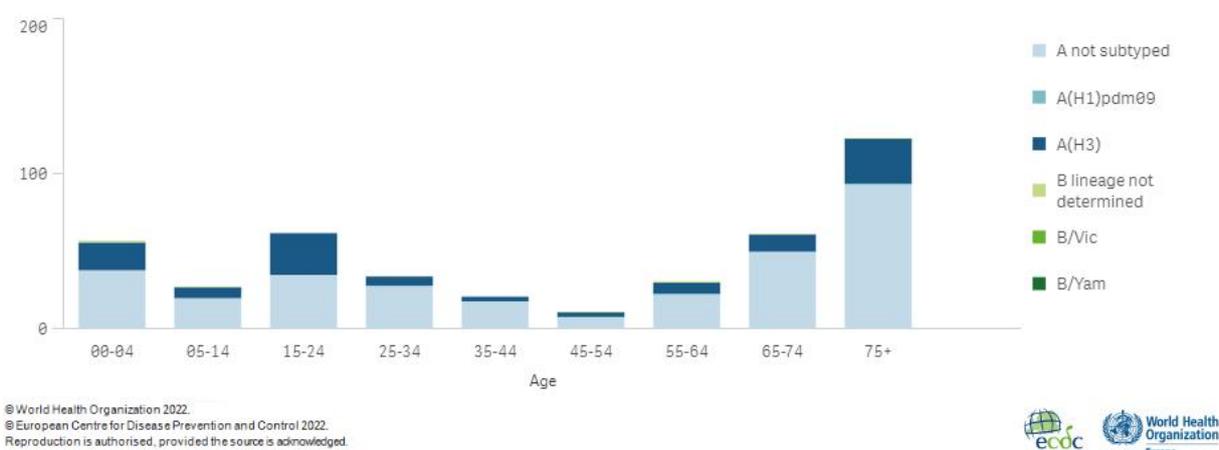
For week 14/2022, 27 laboratory-confirmed influenza cases were reported from other wards (in Ireland and Czechia). Only influenza type A viruses were detected, of which 1 was subtyped as A(H3) and 1 was subtyped as A(H1)pdm09 (Fig. 7 and 8).

Since week 40/2021, 425 influenza type A viruses and 2 influenza type B viruses were detected. Of 113 subtyped influenza A viruses, 98% were A(H3) and 2% were A(H1)pdm09. The 427 cases with known age fell in 4 age groups: 184 were 65 years and older, 159 were 15-64 years old, 57 were 0-4 years old and 27 were 5-14 years old.

**Figure 7. Number of laboratory-confirmed hospitalized influenza cases in wards other than intensive care units (non-ICU) by week of reporting, WHO European Region, season 2021/2022**



**Figure 8. Distribution of influenza virus types, subtypes/lineages by age group in wards other than intensive care units (non-ICU), WHO European Region, season 2021/2022**



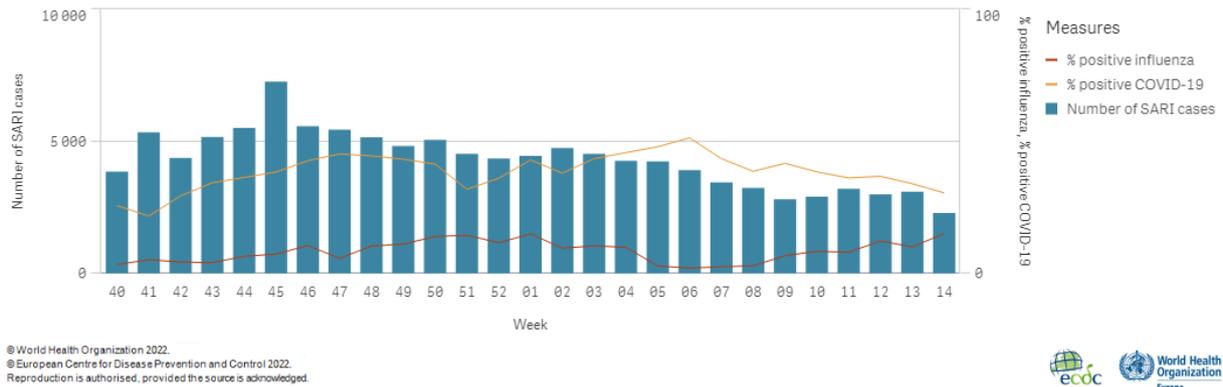
## Severe acute respiratory infection (SARI)-based hospital surveillance

For week 14/2022, 2 257 SARI cases were reported by 11 countries or areas (Albania, Germany, Kazakhstan, Kyrgyzstan, Lithuania, Malta, Republic of Moldova, Russian Federation, Serbia, Spain and Ukraine). Of 324 specimens tested for influenza viruses, 14% (n=45) were positive. Of these, influenza type A viruses (n=39, 87%) were detected more frequently than influenza type B viruses (n=6, 13%) (Fig. 9 and Fig. 10). The highest positivity rates for influenza virus detections were reported by Lithuania (53%), Serbia (46%) Malta (11%) and Republic of Moldova (11%).

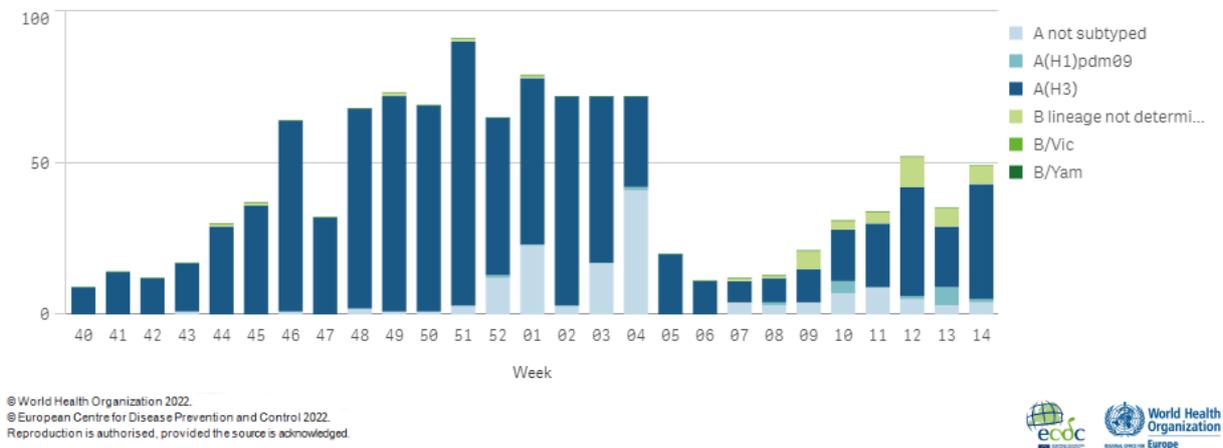
For the season, 115 689 SARI cases were reported by 19 countries or areas (Albania, Armenia, Belarus, Georgia, Germany, Kazakhstan, Kyrgyzstan, Lithuania, Malta, Montenegro, North Macedonia, Republic of Moldova, Russian Federation, Serbia, Spain, Turkey, Ukraine, Uzbekistan and Kosovo\* (in accordance with Security Council resolution 1244 (1999))). For SARI cases testing positive for influenza virus since week 40/2021, type A viruses have been

the most common (n=1 059, 96%). For 929 cases where influenza virus subtyping was performed, 920 (99%) were infected by A(H3) viruses and 9 (1%) were infected by A(H1)pdm09 viruses. Of the 42 influenza B viruses detected, none were ascribed to a lineage (Fig. 10).

**Figure 9. Number of severe acute respiratory infection (SARI) cases (bar) and positivity for influenza virus and SARS-CoV-2 (line) by week, WHO European Region, season 2021/2022**



**Figure 10. Influenza virus detections by type, subtype/lineage from severe acute respiratory infection (SARI), WHO European Region, season 2021/2022**



## Virus characteristics

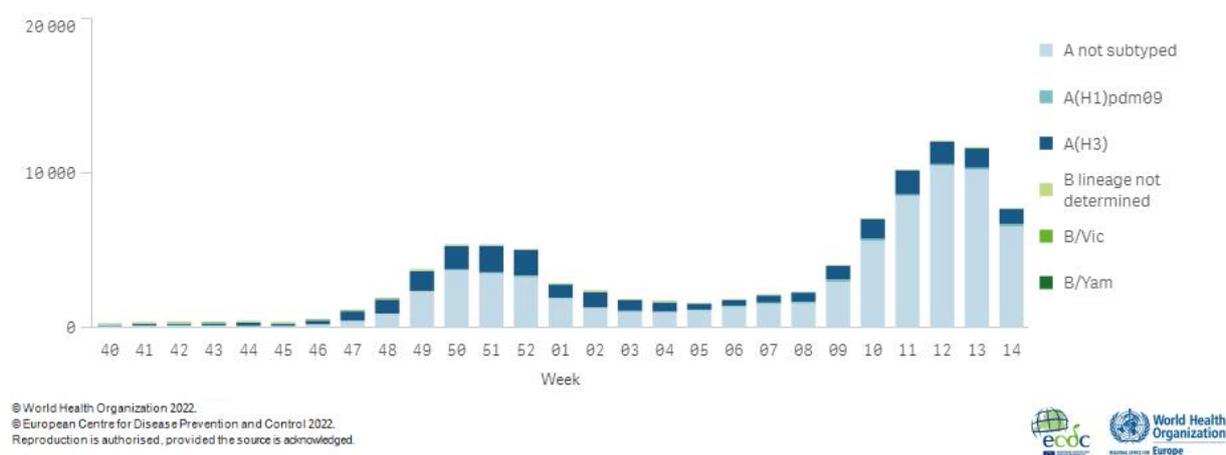
Details of the distribution of viruses detected in sentinel-source specimens can be found in the [Primary care data](#) section.

## Non-sentinel virologic data

For week 14/2022, 7 753 of 58 932 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; 7 705 (99%) were type A and 48 (1%) were type B. Of 1 130 subtyped A viruses, 973 (86%) were A(H3) and 157 (14%) were A(H1)pdm09. The 3 type B viruses ascribed to a lineage were B/Victoria (Fig. 11 and Table 2).

For the season to date, more influenza type A (n=93 594, 98%) than type B (n=1 783, 2%) viruses have been detected. Of 22 864 subtyped A viruses, 21 049 (92%) were A(H3) and 1 815 (8%) were A(H1)pdm09. Of 37 influenza type B viruses ascribed to a lineage, 35 (95%) were B/Victoria and 2 (5%) were B/Yamagata (98% of type B viruses were reported without a lineage) (Fig. 11 and Table 2).

**Figure 11. Influenza virus detections by type, subtype/lineage and week, non-sentinel sources, WHO European Region, season 2021/2022**



**Table 2. Influenza virus detections in non-sentinel source specimens by type and subtype, week 14/2022 and cumulative for the season**

Virus type and subtype	Current Week (14)		Season 2021-2022	
	Number	% <sup>a</sup>	Number	% <sup>a</sup>
<b>Influenza A</b>	<b>7 705</b>	<b>99.4</b>	<b>93 594</b>	<b>98.1</b>
A(H1)pdm09	157	13.9	1 815	7.9
A(H3)	973	86.1	21 049	92.1
A not subtyped	6 575	-	70 730	-
<b>Influenza B</b>	<b>48</b>	<b>0.6</b>	<b>1 783</b>	<b>1.9</b>
B/Victoria lineage	3	100	35	94.6
B/Yamagata lineage	0	-	2	5.4

Unknown lineage	45	-	1 746	-
<b>Total detections (total tested)</b>	<b>7 753 (58 932)</b>	<b>13.2</b>	<b>95 377 (2 203 673)</b>	<b>4.3</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

Of the 165 genetically characterized A(H1)pdm09 viruses up to week 14/2022, the majority (146; 88%) belonged to clade 6B.1A.5a.1, represented by A/Guangdong-Maonan/SWL1536/2019. Only a few viruses belonged to clade 6B.1A.5a.2: 7 (4%) were represented by A/India/Pun-NIV312851/2021 and 5 (3%) were represented by A/Victoria/2570/2019, the virus component for the 2021/22 and 2022/23 northern hemisphere vaccines. 7 were not attributed to a clade.

Among the A(H3) viruses characterized up to week 14/2022, 2 065 were attributed to a clade. The majority 2 055 (>99%) belonged to clade 3C.2a1b.2a.2, represented by the A/Darwin/9/2021 component of 2022/23 northern hemisphere vaccines. Only 9 (<1%) were clade 3C.2a1b.1a viruses and 1 (<1%) virus fell into clade 3C.2a1b.2a.1.

Up to week 14/2022, 13 B Victoria viruses were characterized. 9 of the viruses belonged to clade V1A.3a.2, represented by B/Austria/1359417/2021, the recommended vaccine virus strain for the 2022/23 northern hemisphere influenza season. 2 of the viruses fell into clade V1A.3, represented by B/Washington/02/2019, the recommended vaccine virus strain for the 2021/22 northern hemisphere influenza season, and 2 were not attributed to a clade.

7 viruses were characterized as B/Yamagata with 4 being B/Phuket/3073/2013-like. However, the possibility that they were derived from live attenuated influenza vaccine (LAIV) could not be excluded. 3 viruses were not attributed to a clade.

**Table 3. Number of influenza viruses attributed to genetic groups, cumulative for the season- WHO Europe\***

	Number of influenza viruses attributed to genetic groups 2021/2022
<b>Total</b>	<b>2 250</b>
<b>Influenza A</b>	<b>2 230</b>
<b>A(H1)pdm09</b>	<b>165</b>
A(H1)pdm09_NOClade *	1
A(H1)pdm09_SubgroupNotListed *	6
A/Guangdong-Maonan/SWL1536/2019(H1N1)pdm09_6B.1A.5a.1	146
A/India/Pun-NIV312851/2021(H1N1)pdm09_6B.1A.5a.2	7
A/Victoria/2570/2019(H1N1)pdm09_6B.1A.5a.2	5
<b>A(H3)</b>	<b>2 065</b>
A/Bangladesh/4005/2020(H3)_3C.2a1b.2a.2	2 055
A/Cambodia/e0826360/2020(H3)_3C.2a1b.2a.1	1
A/Denmark/3264/2019(H3N2)_3C.2a1b.1a	9
<b>Influenza B</b>	<b>20</b>
<b>B/Vic</b>	<b>13</b>
B/Austria/1359417/2021(Victoria lineage_1A.3a.2)	9
B/Victoria_NOClade *	1
B/Washington/02/2019(Victoria lineage_1A.3)	2
B/Vic_SubgroupNotListed *	1
<b>B/Yam</b>	<b>7</b>
B/Phuket/3073/2013(Yamagata lineage_3)	4
B/Yamagata_NOClade *	3

\* No Clade: not attributed to a pre-defined clade and SubgroupNotListed: attributed to recognised group in current guidance but not listed here

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ECDC published the [February](#) virus characterization report that describes the available data from circulating viruses this influenza season: currently type A influenza virus circulation is dominating over type B, due mainly to A(H3) viruses. Vaccination remains the best protective measure for prevention of influenza. However, based on post-infection ferret antisera data, the predominant A(H3N2) viruses in circulation are not well recognized by antisera raised against viruses genetically and antigenically similar to the vaccine virus, indicating antigenic diversity. Therefore, it is possible that the A(H3) vaccine component may induce less good recognition of the prevalent A(H3) viruses. However, [preliminary VE data](#) indicates a still moderate level of protection against laboratory confirmed infection. Clinicians should therefore consider early antiviral treatment of at-risk groups with influenza infection, according to local guidance, to prevent severe outcomes.

This and previously published influenza virus characterization reports are available on the [ECDC website](#).

## Antiviral susceptibility of seasonal influenza viruses

Up to week 14/2022, 1 713 viruses were assessed for susceptibility to neuraminidase inhibitors (1 173 A(H3), 145 A(H1)pdm09 and 3 B viruses genotypically and 367 A(H3), 12 A(H1)pdm09 and 13 B viruses phenotypically), and 1 146 viruses were assessed for susceptibility to baloxavir marboxil (1 018

A(H3), 125 A(H1)pdm09 and 3 B viruses genotypically). Phenotypically, no viruses with reduced susceptibility were identified and genotypically 2 A(H3) viruses with amino acid substitutions associated with reduced susceptibility to baloxavir marboxil were identified.

## Vaccine effectiveness

[Preliminary results](#) of 2021-2022 seasonal influenza vaccine effectiveness (VE) estimates from the United States showed that VE against medically attended outpatient acute respiratory infection associated with influenza A(H3N2) virus was 16% (95% CI = -16% to 39%), this was interpreted to show that “influenza vaccination did not reduce the risk for outpatient medically attended illness with influenza A(H3N2) viruses that predominated so far this season.”

The European I-MOVE network estimated influenza VE using a multicentre test-negative design among symptomatic patients presenting at primary care level between October 2021 and March 2022. Preliminary influenza VE against influenza A among seven study sites and among all ages was 36% (95% CI: 13–53) and 41% (95% CI: 15–59) among those aged 18–64 years. All-age VE against influenza A(H3N2) was 35% (95% CI: 6–54) and 37% (95% CI: 3–59) among those aged 18–64 years. There were too few influenza-positive cases among other age groups to allow VE estimations.

In [Sweden](#), the VE against laboratory-confirmed influenza was estimated to be 47% for individuals over 65 years of age.

According to [preliminary data in mainland France](#), the VE was estimated to be 50% (95% CI: 14-71) against all circulating influenza viruses, 77% (95% CI: 36-92) for A(H1N1)pdm09 and 31% (95% CI: -29-64) for A(H3N2).

For children aged 2 to 6 years in [Denmark](#), the estimated VE against influenza A viruses was estimated at 63% (95% CI: 10.9–84.4) in those hospitalised, and 64% (95% CI: 50.5–74.1) in those non-hospitalised.

## Available vaccines in Europe

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

## Vaccine composition

**On 24 September 2021, WHO published [recommendations](#) for the components of influenza vaccines for use in the 2022 southern hemisphere influenza season:**

The WHO recommends that quadrivalent vaccines for use in the 2022 influenza season in the southern hemisphere contain the following:

### Egg-based Vaccines

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus;
- an A/Darwin/9/2021 (H3N2)-like virus;
- a B/Austria/1359417/2021 (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/Darwin/6/2021 (H3N2)-like virus;
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

It is recommended that **trivalent influenza vaccines** for use in the 2022 southern hemisphere influenza season contain the following:

### Egg-based vaccines

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus;
- an A/Darwin/9/2021 (H3N2)-like virus; and
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus.

### Cell- or Recombinant-based vaccines

- an A/Wisconsin/588/2019 (H1N1)pdm09-like virus;
- an A/Darwin/6/2021 (H3N2)-like virus; and
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus

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

**On 25 February 2022, WHO published [recommendations](#) for the components of influenza vaccines for use in the 2022-2023 northern hemisphere influenza season:**

The WHO recommends that quadrivalent vaccines for use in the 2022-2023 influenza season in the northern hemisphere contain the following:

## **Egg-based Vaccines**

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus;
- an A/Darwin/9/2021 (H3N2)-like virus;
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

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

- an A/Wisconsin/588/2019 (H1N1)pdm09-like virus;
- an A/Darwin/6/2021 (H3N2)-like virus;
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

The WHO recommends that trivalent vaccines for use in the 2022-2023 influenza season in the northern hemisphere contain the following:

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### **Disclaimer:**

*\* The administrative boundaries include spatial feature for Kosovo, this designation being without prejudice to position on status, and is in line with United Nations Security Council Resolution 1244 (1999) and the International Court of Justice Opinion on the Kosovo Declaration of Independence.*

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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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