

Summary

Week 4/2022 (24 – 30 January 2022)

- Estonia, Kazakhstan, Norway, Republic of Moldova, Serbia and Slovakia reported widespread influenza activity and/or medium influenza intensity.
- 5% of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms tested positive for an influenza virus.
- Seven countries reported seasonal influenza activity at or above 10% positivity in sentinel primary care: Bulgaria (27%), Israel (25%), Armenia (20%), France (17%), Moldova (14%), Poland (12%) and Serbia (10%).
- Hospitalized cases with confirmed influenza virus infection were reported from intensive care units (4 type A viruses), other wards (7 type A viruses) and SARI surveillance (47 type A viruses)
- Both influenza type A and type B viruses were detected with A(H3) viruses being dominant across all monitoring systems.

2021-2022 season overview

- For the Region as a whole influenza activity started to increase in week 49/2021, with different levels of activity observed between the countries and areas of the Region, and a general dominance of A(H3) viruses though some countries reported both A(H3) and A(H1)pdm09 viruses, e.g. France.
- To date this season, the highest percentage positivity of influenza viruses in sentinel primary care specimens from patients presenting with ILI or ARI symptoms was 20% in week 52/2021.
- During the influenza Vaccine Composition Meeting for the southern hemisphere 2022 season, held in September 2021, WHO recommended updating of the A(H3N2) and the B/Victoria-lineage components. The full report can be found [here](#).
- Vaccination remains the best protective measure for prevention of influenza. With increased circulation of influenza virus clinicians should

consider early antiviral treatment of patients in at-risk groups with influenza virus infection, according to local guidance, to prevent severe outcomes. 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:

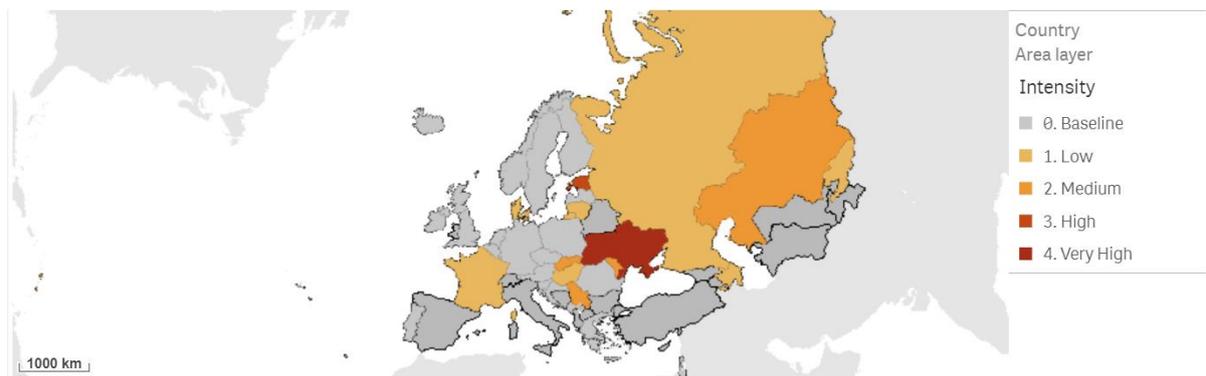
- WHO website: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- ECDC website: <https://www.ecdc.europa.eu/en/novel-coronavirus-china>

Qualitative indicators

For week 4/2022, of 37 countries and areas reporting on intensity of influenza activity, 24 reported baseline-intensity (across the Region), 7 reported low-intensity (Azerbaijan, Denmark, France, Hungary, Kyrgyzstan, Lithuania and Russian Federation), 4 reported medium-intensity (Kazakhstan, Republic of Moldova, Serbia and Slovakia), 1 reported high-intensity (Estonia) and 1 reported very high-intensity (Ukraine) (Fig. 1).

Of 37 countries and areas reporting on geographic spread of influenza viruses, 6 reported no activity (Croatia, Iceland, Ireland, Malta, Poland and United Kingdom (Northern Ireland)), 18 reported sporadic spread (across the Region), 4 reported local spread (Austria, Germany, Russian Federation and Slovakia), 6 reported regional spread (France, Israel, Kazakhstan, Kyrgyzstan, Serbia and Ukraine) and 3 reported widespread activity (Estonia, Norway and Republic of Moldova) (Fig. 2).

Figure 1. Intensity of influenza activity in the European Region, week 4/2022

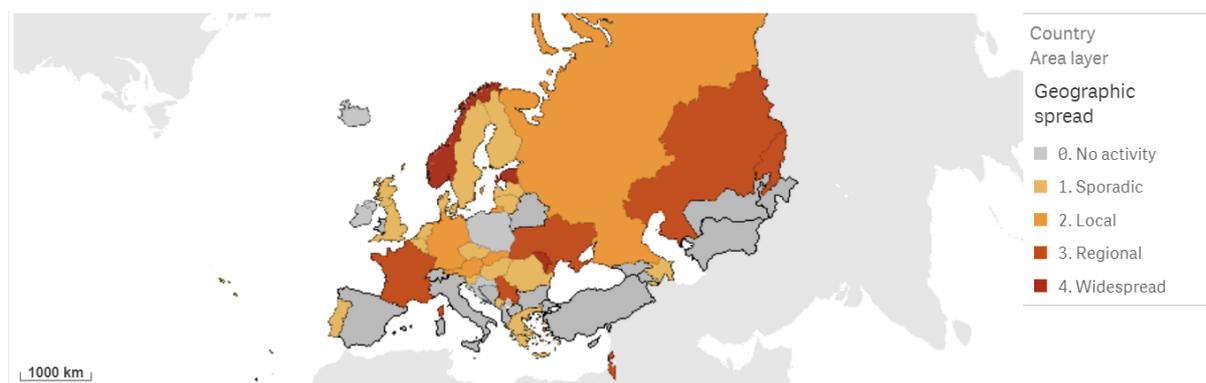


© World Health Organization 2021
© European Centre for Disease Prevention and Control 2021
Reproduction is authorised, provided the source is acknowledged

The designation employed and the presentation of this material do not imply the expression of any opinion whatsoever on the part of the Secretariat of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

* 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.
Administrative boundaries: © EuroGeographics, © UN-FAO.

Figure 2. Geographic spread of influenza viruses in the European Region, week 4/2022



© World Health Organization 2021
© European Centre for Disease Prevention and Control 2021
Reproduction is authorised, provided the source is acknowledged

The designation employed and the presentation of this material do not imply the expression of any opinion whatsoever on the part of the Secretariat of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

* 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.
Administrative boundaries: © EuroGeographics, © UN-FAO.

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

Please note:

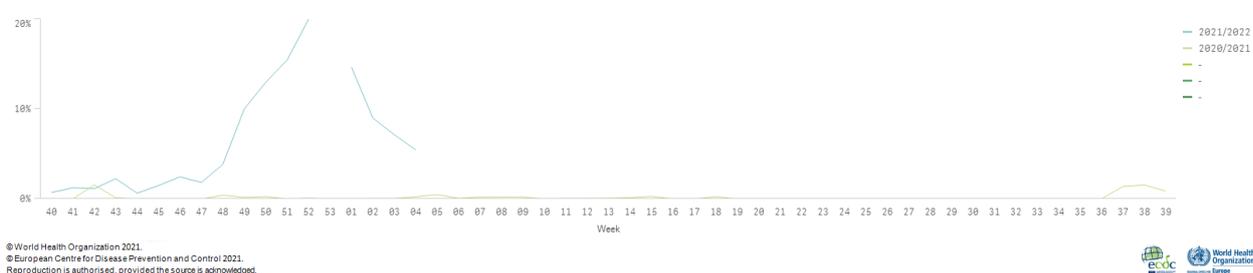
- Assessment of the intensity of activity indicator includes consideration of ILI or ARI rates. These ILI or ARI rates might be driven by respiratory infections other than influenza virus, including SARS-CoV-2, leading to observed increases in the absence of influenza virus detections.
- Assessment of 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 was 5%, having fallen below the Regional epidemic threshold which is set at 10% (Fig. 3).

Figure 3. Influenza virus positivity in sentinel-source specimens by week, WHO European Region, seasons 2020/2021 and 2021/2022



External data sources

Mortality monitoring: Week 4/2022 overall pooled EuroMOMO estimates of all-cause mortality for the participating European countries showed a substantially elevated level of excess mortality over the last month. The excess was observed mainly among older adults (65 years or older), but also among those aged 45 to 64 years of age. Data from 26 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=3; Azerbaijan, Kyrgyzstan and Ukraine), northern (n=2; Denmark and Estonia), southern (n=2; Croatia and Serbia) and western (n=5; Austria, Belgium, Hungary, Luxembourg and Switzerland) areas of the European Region reported activity above baseline levels.

Of the countries and areas in which thresholds for ARI activity are defined, countries in eastern (n=4; Kazakhstan, Kyrgyzstan, Republic of Moldova and Russian Federation), northern (n=3; Estonia, Latvia and Lithuania) and western (n=1; Belgium) areas 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 historical ILI/ARI data.

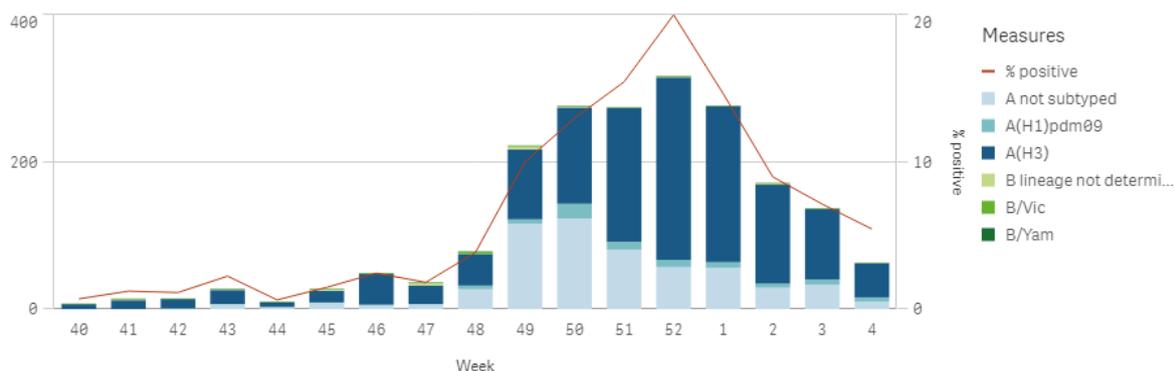
Viruses detected in sentinel-source specimens (ILI and ARI)

For week 4/2022, 62 (5%) of 1 139 sentinel specimens tested positive for an influenza virus; all were type A. Of 52 subtyped A viruses, 88% were A(H3) and 12% A(H1)pdm09 (Fig. 4 and Table 1). Of 24 countries or areas across the Region that each tested at least 10 sentinel specimens in week 04/2022, 7 reported a rate of influenza virus detections at or above 10% (median 18%; range 10% - 27%): Bulgaria (27%), Israel (25%), Armenia (20%), France (17%), Republic of Moldova (14%), Poland (12%) and Serbia (10%).

For the season to date, 1 996 (7%) of 28 588 sentinel specimens tested positive for an influenza virus. More influenza type A (n=1 970, 99%) than type B (n=26, 1%) viruses have been detected. Of 1 407 subtyped A viruses, 1 327 (94%) were A(H3) and 80 (6%) were A(H1)pdm09. Of 5 influenza type B viruses ascribed to a lineage, all were B/Victoria (81% 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



© World Health Organization 2021.
 © European Centre for Disease Prevention and Control 2021.
 Reproduction is authorised, provided the source is acknowledged.



Table 1. Influenza virus detections in sentinel source specimens by type and subtype for week 4/2022 and cumulatively for the season

Sentinel Virus type and subtype	Current Week (4)		Season 2021-2022	
	Number	% ^a	Number	% ^a
Influenza A	62	100	1 970	98.7
A(H1)pdm09	6	11.5	80	5.7
A(H3)	46	88.5	1 327	94.3
A not subtyped	10	-	563	-
Influenza B	0	0	26	1.3
B/Victoria lineage	0	-	5	100
B/Yamagata lineage	0	-	0	0
Unknown lineage	0	-	21	-
Total detections (total tested)	62 (1 139)	5.4	1 996 (28 588)	7.0

^a 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

[Influenzaneet](#) 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 4/2022.

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 or other wards, or 2) severe acute respiratory infection (SARI; mainly in the eastern part of the Region).

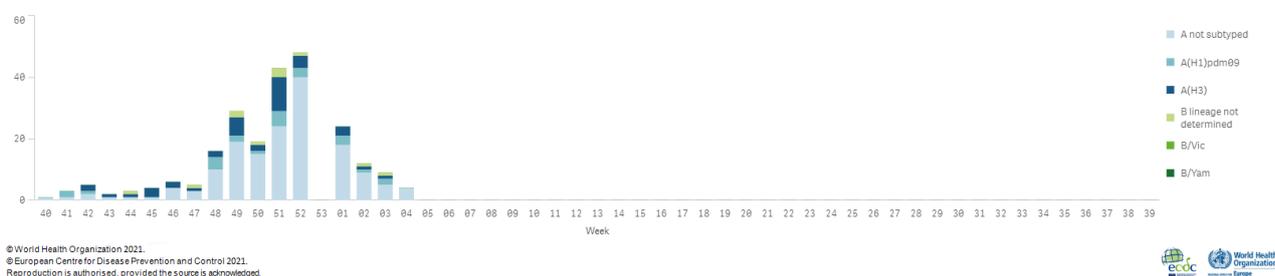
Laboratory-confirmed hospitalized cases

1.1) Hospitalized laboratory-confirmed influenza cases – ICUs

For week 4/2022, 4 laboratory-confirmed influenza cases were reported from ICU wards (in France and United Kingdom (England)). The patients were infected with influenza A viruses, but subtype was not determined (Fig. 5 and 6).

Since week 40/2021, more influenza type A (n=222, 95.3%) than type B (n=11, 4.7%) viruses were detected. Of 64 subtyped influenza A viruses, 38% were A(H1)pdm09 and 62% were A(H3). No influenza B viruses were ascribed to a lineage. Of 179 cases with known age, 81 were 15-64 years old, 50 were 65 years and older, 28 were 0-4 years old and 20 were 5-14 years old.

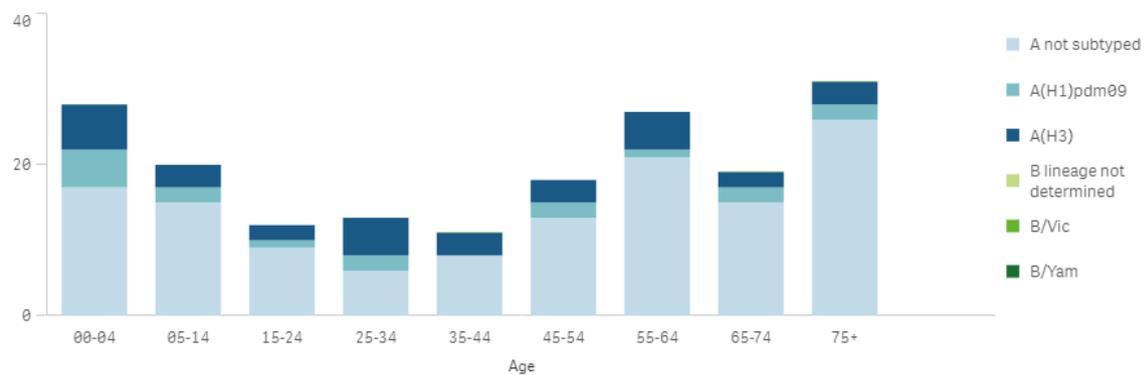
Figure 5. Number of laboratory-confirmed hospitalized influenza cases in intensive care units (ICU) by week of reporting, WHO European Region, season 2021/2022



© World Health Organization 2021.
© European Centre for Disease Prevention and Control 2021.
Reproduction is authorised, provided the source is acknowledged.



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



© World Health Organization 2021.
 © European Centre for Disease Prevention and Control 2021.
 Reproduction is authorised, provided the source is acknowledged.

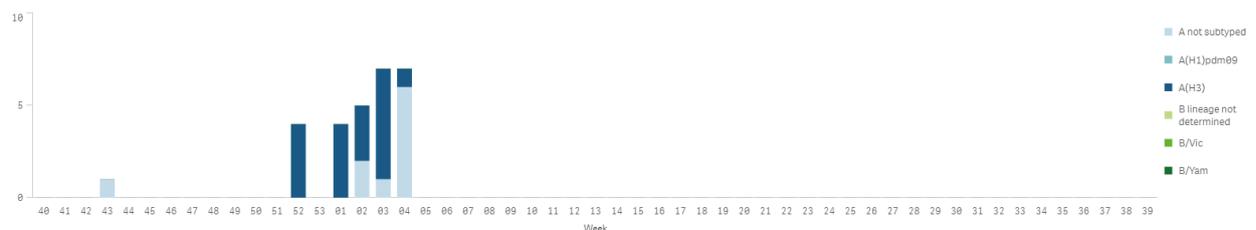


1.2) Hospitalized laboratory-confirmed influenza cases – other wards

For week 4/2022, 7 laboratory-confirmed influenza cases were reported from other wards (in Ukraine). Only influenza type A viruses were detected (Fig. 7 and 8).

Since week 40/2021, 28 influenza type A viruses and no influenza type B viruses were detected. Of 18 subtyped influenza A viruses, all were A(H3). The 28 cases with known age fell in 4 age groups: 11 were 0-4 years old, 8 were 5-14 years old, 8 were 15-64 years old and 1 was 65 years and older.

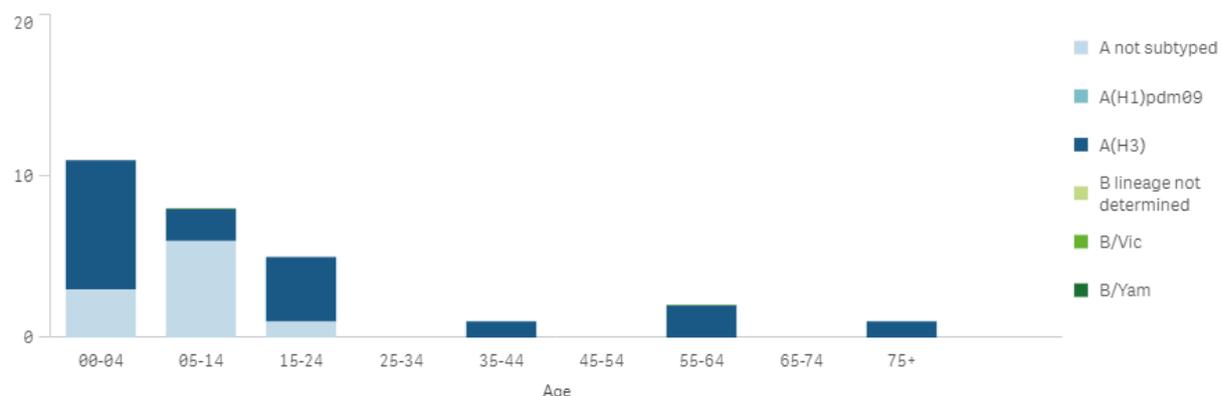
Figure 7. Number of laboratory-confirmed hospitalized influenza cases in wards other than intensive care units (non-ICU) by week of reporting, WHO European Region, season 2021/2022



© World Health Organization 2021.
 © European Centre for Disease Prevention and Control 2021.
 Reproduction is authorised, provided the source is acknowledged.



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



© World Health Organization 2021.
 © European Centre for Disease Prevention and Control 2021.
 Reproduction is authorised, provided the source is acknowledged.

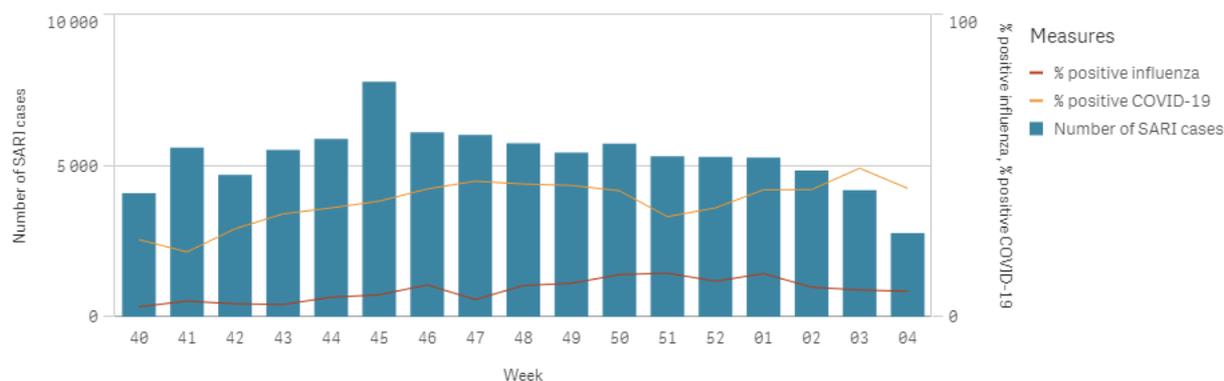


Severe acute respiratory infection (SARI)-based hospital surveillance

For week 4/2022, 2 775 SARI cases were reported by 10 countries or areas (Albania, Kazakhstan, Kyrgyzstan, Lithuania, Montenegro, Republic of Moldova, Russian Federation, Serbia, Spain and Ukraine). Of 552 specimens tested for influenza viruses, 9% (n=47) were positive, all of which were type A (Fig. 9 and Fig. 10). The highest positivity rates for influenza viruses were reported by Republic of Moldova (17%) and Ukraine (12%).

For the season, 78 161 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=812, 99%). For 709 cases where influenza virus subtyping was performed, 707 were infected by A(H3) viruses and 2 were infected by A(H1)pdm09 virus. Of the 5 influenza B viruses detected, none were ascribed to a lineage (Fig. 10).

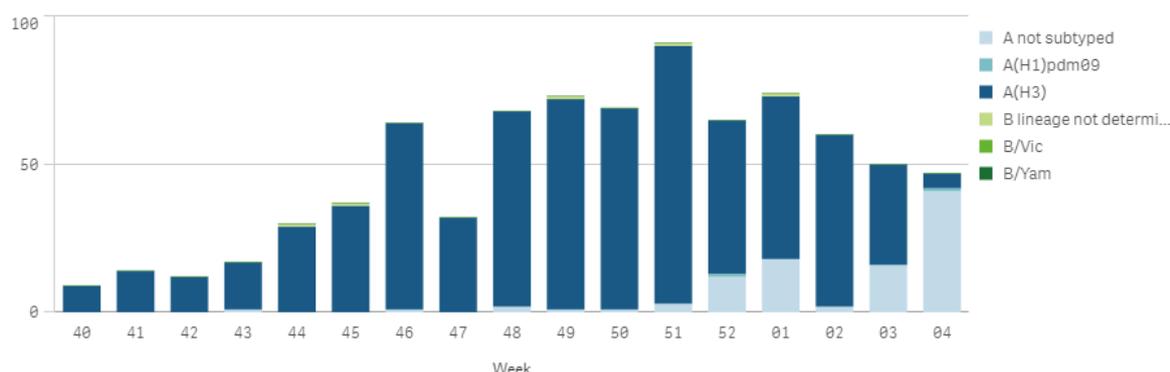
Figure 9. Number of severe acute respiratory infection (SARI) cases (bar) and positivity for influenza and COVID-19 (line) by week, WHO European Region, season 2021/2022



© World Health Organization 2021.
 © European Centre for Disease Prevention and Control 2021.
 Reproduction is authorised, provided the source is acknowledged.



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



© World Health Organization 2021.
 © European Centre for Disease Prevention and Control 2021.
 Reproduction is authorised, provided the source is acknowledged.



Virus characteristics

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

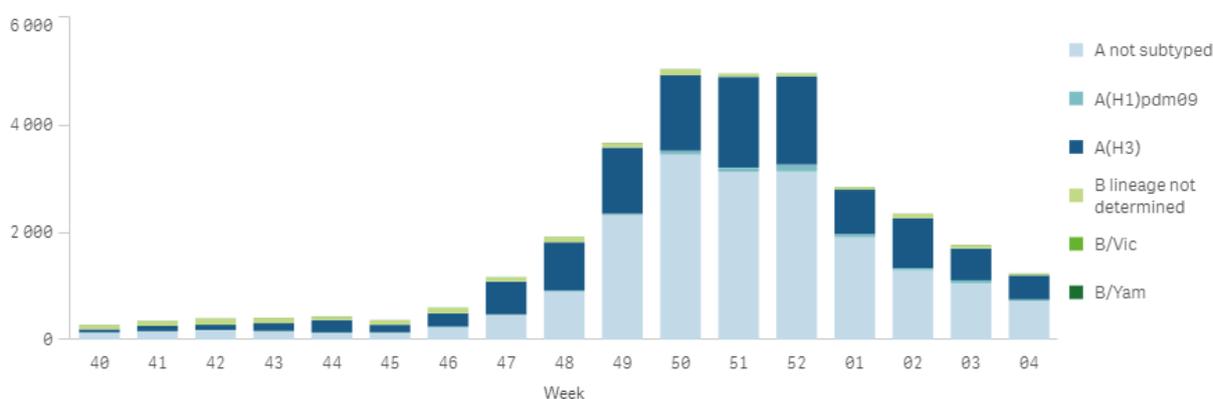
Non-sentinel virologic data

For week 4/2022, 1 231 of 93 084 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; 1 197 (97%) were type A and 34 (3%) were type B. Of 477 subtyped A viruses,

447 (94%) were A(H3) and 30 (6%) were A(H1)pdm09. No B viruses were ascribed to a lineage (Fig. 11 and Table 2).

For the season to date, more influenza type A (n=31 322, 96%) than type B (n=1 335, 4%) viruses have been detected. Of 11 888 subtyped A viruses, 11 296 (95%) were A(H3) and 592 (5%) were A(H1)pdm09. Of 9 influenza type B viruses ascribed to a lineage, 8 were B/Victoria and 1 was B/Yamagata (99% 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



© World Health Organization 2021.
© European Centre for Disease Prevention and Control 2021.
Reproduction is authorised, provided the source is acknowledged.



Table 2. Influenza virus detections in non-sentinel source specimens by type and subtype, week 4/2022 and cumulative for the season

Virus type and subtype	Current Week (4)		Season 2021-2022	
	Number	% ^a	Number	% ^a
Influenza A	1 197	97.2	31 322	95.9
A(H1)pdm09	30	6.3	592	5
A(H3)	447	93.7	11 296	95
A not subtyped	720	-	19 434	-
Influenza B	34	2.8	1 335	4.1
B/Victoria lineage	0	-	8	88.9
B/Yamagata lineage	0	-	1	11.1
Unknown lineage	38	-	1 326	-
Total detections (total tested)	1 231 (93 084)		32 675(1 241 745)	

^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

Up to week 4/2022, 648 A(H3) viruses had been characterized genetically, of which 642 were attributed to clade 3C.2a1b.2a.2 and 6 to clade 3C.2a1b.1a. 28 A(H1)pdm09 viruses were characterized genetically, of which 22 were attributed to clade 6B.1A.5a.1 and 6 to clade 6B.1A5a.2. Up to week 4/2022, six B/Victoria viruses were characterized genetically, 1 belonging to clade V1A.3 and 5 to clade V1A.3a.2.

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

Number of influenza viruses attributed to genetic groups, cumulative for the season - Multiple regions selected

Virus Type	Virus Subtype	Genetic charact...	Number of influenza viruses attributed to genetic groups 2021/2022
Total			682
Influenza A			676
A(H1)pdm09			28
A/Guangdong-Maonan/SWL1536/2019(H1N1)pdm09_6B.1A.5a.1			22
A/India/Pun-NIV312851/2021(H1N1)pdm09_6B.1A5a.2			6
A(H3)			648
A/Bangladesh/4005/2020(H3)_3C.2a1b.2a.2			642
A/Denmark/3264/2019(H3N2)_3C.2a1b-T135K-A			6
Influenza B			6
B/Vic			6
B/Austria/1359417/2021(Victoria lineage_1A.3a.2)			5
B/Washington/02/2019(Victoria lineage_1A.3)			1

© World Health Organization 2021.
© European Centre for Disease Prevention and Control 2021.
Reproduction is authorised, provided the source is acknowledged.



* The table contains data from the case based INFLANTIVIR record type

ECDC published the [December](#) virus characterization report that describes the available data from circulating viruses collected after 31 August 2021. This and previously published influenza virus characterization reports are available on the [ECDC website](#).

Antiviral susceptibility of seasonal influenza viruses

Up to week 4/2022, 721 viruses were assessed for susceptibility to neuraminidase inhibitors (486 A(H3), 23 A(H1)pdm09 and 1 B virus genotypically and 207 A(H3), 1 A(H1) and 3 B viruses phenotypically) and 319 viruses were assessed for susceptibility to baloxavir marboxil (302 A(H3), 16 A(H1)pdm09 and 1 type B virus genotypically). Phenotypically, no viruses with reduced susceptibility were identified and genotypically no markers associated with reduced susceptibility were identified.

Vaccine

Results from a controlled, randomised trial in UK concluded that concomitant vaccination with one of two SARS-CoV-2 vaccines (ChAdOx1 or BNT162b2) plus an age-appropriate influenza vaccine raised no safety concerns and preserved [antibody responses](#) to both vaccines.

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02329-1/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02329-1/fulltext)

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:

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 26 February 2021, WHO published [recommendations](#) for the components of influenza vaccines for use in the 2021-2022 northern hemisphere influenza season:

Egg-based Vaccines

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus;
- an A/Cambodia/e0826360/2020 (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/Cambodia/e0826360/2020 (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 was recommended that the influenza B virus component of **both trivalent vaccine types** for use in the 2021–2022 northern hemisphere influenza season should be a B/Washington/02/2019-like virus of the B/Victoria-lineage.

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.*

This weekly update was prepared by an editorial team at the European Centre for Disease Prevention and Control (Cornelia Adlhoch, Carlos Carvalho, Nishi Dave, and Pasi Penttinen) and the WHO Regional Office for Europe (Margaux Meslé, Piers Mook and Richard Pebody).

External reviewers are: Rod Daniels, WHO Collaborating Centre for Reference and Research on Influenza, Francis Crick Institute (United Kingdom) and Adam Meijer, National Institute for Public Health and the Environment (the Netherlands).

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.

Suggested citation:

European Centre for Disease Prevention and Control/WHO Regional Office for Europe. Flu News Europe, Joint ECDC–WHO weekly influenza update, week 4/2022.

Tables and Figures should be referenced:

European Centre for Disease Prevention and Control/WHO Regional Office for Europe. Flu News Europe, Joint ECDC–WHO weekly influenza update, week 4/2022.

© World Health Organization 2022.

© European Centre for Disease Prevention and Control 2022.

Reproduction is authorized, provided the source is acknowledged.