Summary

Week 9/2022 (28 February – 6 March 2022)

- Estonia, France, Hungary, Ireland, Luxembourg, Netherlands, Norway, Slovenia, Turkey and United Kingdom (Scotland) reported widespread influenza activity and/or medium influenza intensity.
- The percentage of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms that tested positive for an influenza virus has been rising again since week 4 and was 14% in week 9 (above the Region's epidemic threshold which is set at 10%).
- Ten countries reported seasonal influenza activity at or above 10% positivity in sentinel primary care: Slovenia (61%), Denmark (52%), Hungary (47%), France (46%), Luxembourg (41%), Norway (31%), Spain (28%), Switzerland (11%), Republic of Moldova (10%) and United Kingdom (Scotland) (10%).
- Both influenza type A and type B viruses were detected with A(H3) viruses being dominant across all monitoring systems.
- Hospitalized cases with confirmed influenza virus infection were reported from intensive care units (4 type A viruses), other wards (33 type A viruses) and SARI surveillance (6 type A and 6 type B viruses).

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 France reported co-dominance of A(H3) and A(H1)pdm09 viruses.
- 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, declining thereafter until week 4/2022.

- Positivity has risen again since week 4/2022 and has been above 10% since week 8/2022.
- 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.
- 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 9/2022, of 38 countries and areas reporting on intensity of influenza activity, 24 reported baseline-intensity (across the Region), 11 reported low-intensity (across the Region) and 3 reported medium-intensity (Estonia, Luxembourg and Turkey) (Fig. 1).

Of 38 countries and areas reporting on geographic spread of influenza viruses, 5 reported no activity (Israel, North Macedonia, Poland, Ukraine and Kosovo (in accordance with UN Security Council Resolution 1244 (1999))), 18 reported sporadic spread (across the Region), 4 reported local spread (Germany, Malta, Serbia and Slovakia), 3 reported regional spread (Albania, Luxembourg and Republic of Moldova) and 8 reported widespread activity (Estonia, France, Hungary, Ireland, Netherlands, Norway, Slovenia and United Kingdom (Scotland)) (Fig. 2).

Figure 1. Intensity of influenza activity in the European Region, week 9/2022

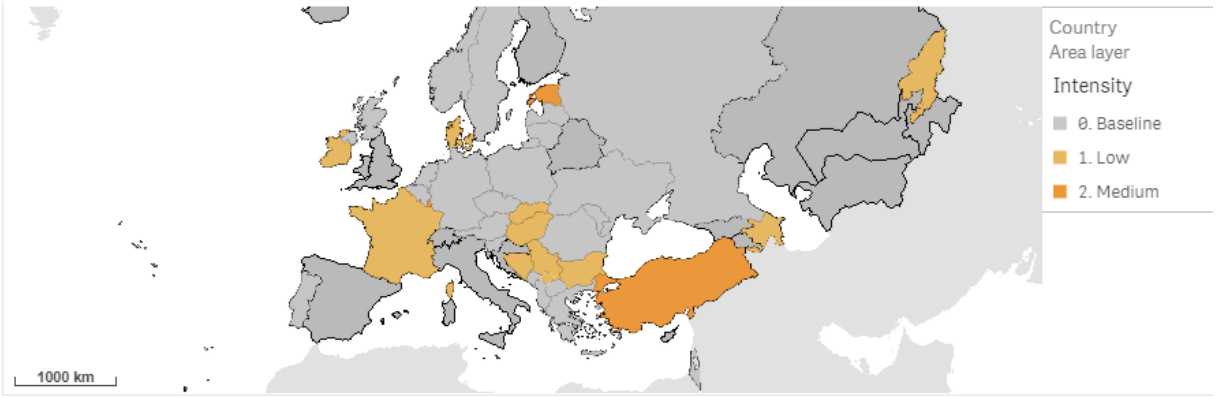
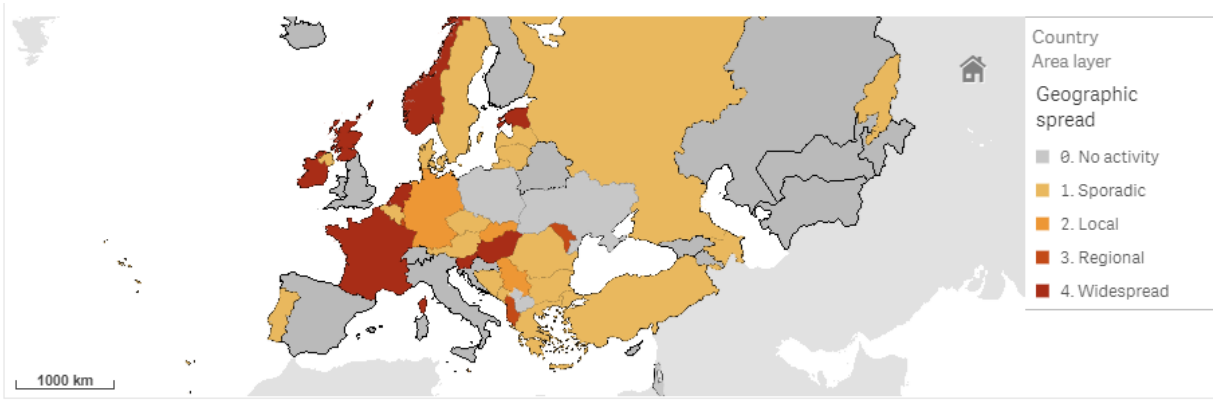


Figure 2. Geographic spread of influenza viruses in the European Region, week 9/2022



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

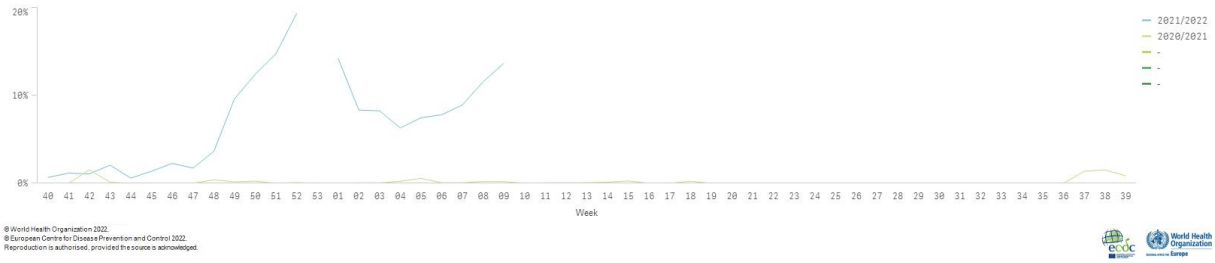
infections other than influenza virus, including SARS-CoV-2, leading to observed increases in the absence of influenza virus detections.

- 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 has been rising again since week 4, reaching 14% in week 9, which is above the Region's 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 9/2022 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 the elderly (65 years or older), but also among older adults (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; Serbia and Turkey) 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 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 9/2022, 147 (14%) of 1 074 sentinel specimens tested positive for an influenza virus; all were type A. Of 113 subtyped A viruses, 92% were A(H3) and 8% A(H1)pdm09 (Fig. 4 and Table 1). Of 22 countries or areas across the Region that each tested at least 10 sentinel specimens in week 9/2022, 10 reported a rate of influenza virus detections at or above 10% (median 47%; range 10% - 61%): Slovenia (61%), Denmark (52%), Hungary (47%), France (46%), Luxembourg (41%), Norway (31%), Spain (28%), Switzerland (11%), Republic of Moldova (10%) and United Kingdom (Scotland) (10%).

For the season to date, 2 781 (7%) of 38 320 sentinel specimens tested positive for an influenza virus. More influenza type A (n=2 745, 99%) than type B (n=36, 1%) viruses have been detected. Of 2 011 subtyped A viruses, 1 852 (92%) were A(H3) and 159 (8%) were A(H1)pdm09. Of 6 influenza type B viruses ascribed to a lineage, all were B/Victoria (83% 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

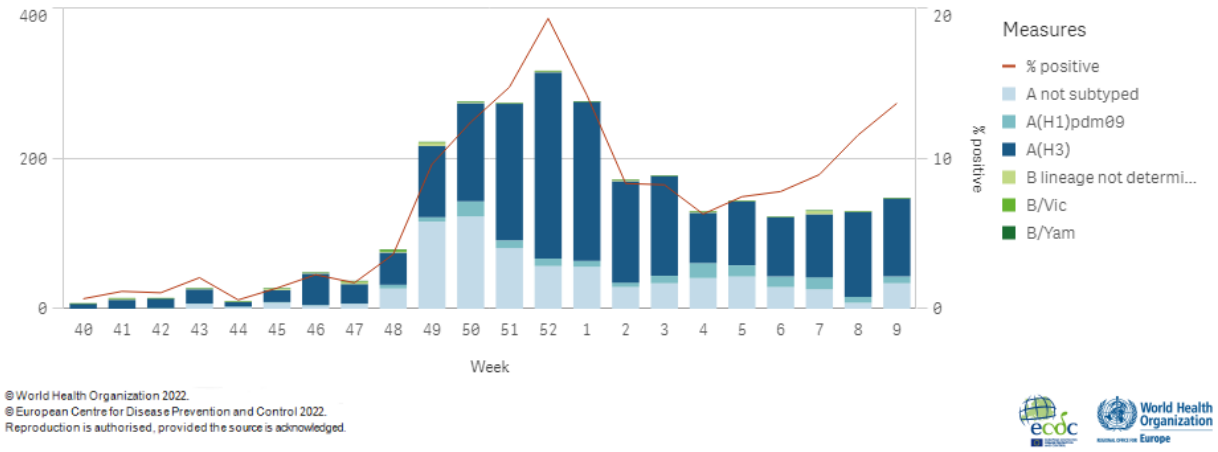


Table 1. Influenza virus detections in sentinel source specimens by type and subtype for week 9/2022 and cumulatively for the season

Sentinel	Current Week (9)		Season 2021-2022	
Virus type and subtype	Number	%[a]	Number	%[a]
Influenza A	**147**	**100**	**2 745**	**98.7**
A(H1)pdm09	9	7.9	159	7.9
A(H3)	104	92.1	1 852	92.1
A not subtyped	34	-	734	-
Influenza B	**0**	**0**	**36**	**1.3**
B/Victoria lineage	0	-	6	100
B/Yamagata lineage	0	-	0	0
Unknown lineage	0	-	30	-
Total detections (total tested)	**147 (1 074)**	**13.7**	**2 781 (38 320)**	**7.3**

[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

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 9/2022.

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 9/2022, 4 laboratory-confirmed influenza cases were reported from ICU wards (in Czechia and United Kingdom (England)). The patients were infected with influenza A viruses, but subtypes were not ascribed (Fig. 5 and 6).

Since week 40/2021, more influenza type A (n=280, 96%) than type B (n=12, 4 %) viruses were detected. Of 72 subtyped influenza A viruses, 67% were A(H3) and 33% were A(H1)pdm09. No influenza B viruses were ascribed to a lineage. Of 216 cases with known age, 100 were 15-64 years old, 62 were 65 years and older, 33 were 0-4 years old and 21 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

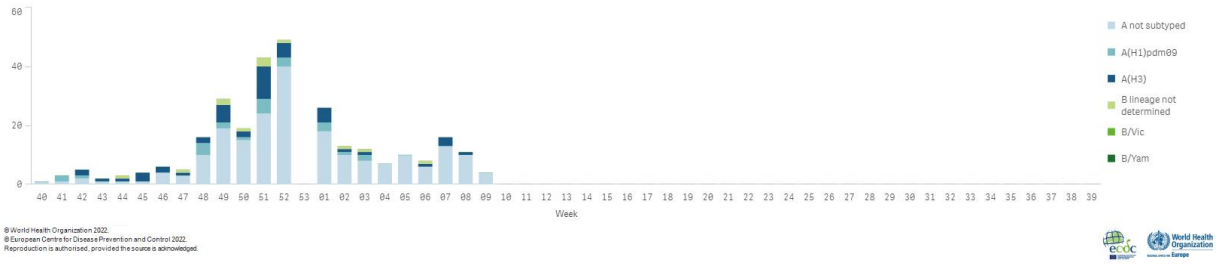
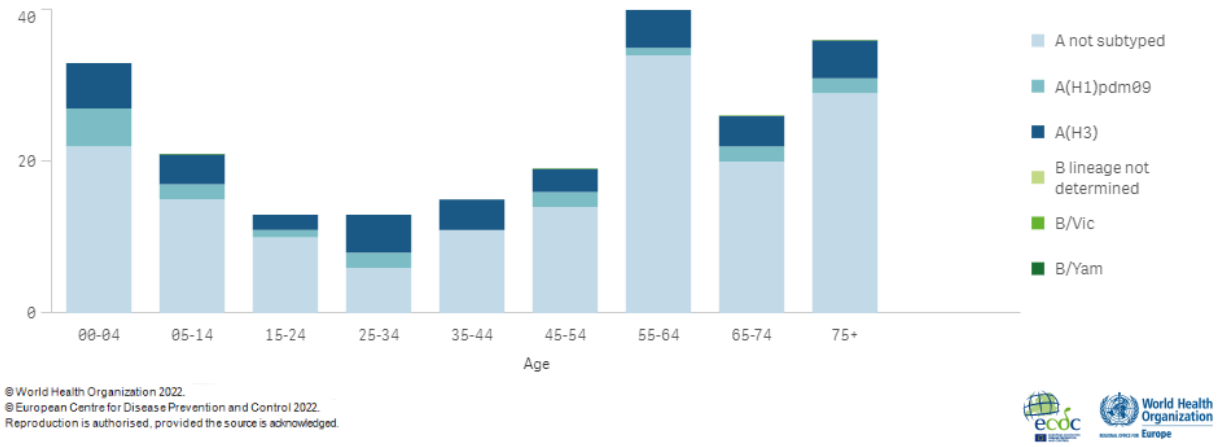


Figure 6. Distribution of influenza virus types, subtypes/lineages by age group in intensive care units (ICU), WHO European Region, season 2021/2022



1.2) Hospitalized laboratory-confirmed influenza cases – other wards

For week 9/2022, 33 laboratory-confirmed influenza cases were reported from other wards (in Ireland). Only influenza type A viruses were detected, of which 1 was subtyped as A(H3) (Fig. 7 and 8).

Since week 40/2021, 166 influenza type A viruses and 2 influenza type B viruses were detected. Of 41 subtyped influenza A viruses, all were A(H3). The 168 cases with known age fell in 4 age groups: 66 were 65 years and older, 63 were 15-64 years old, 25 were 0-4 years old and 14 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

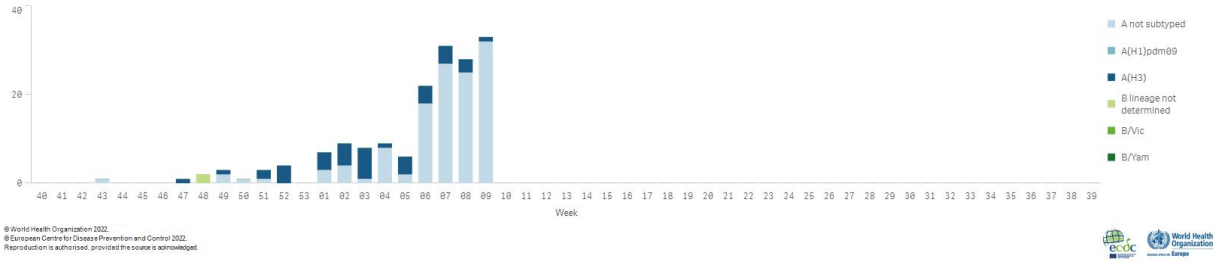
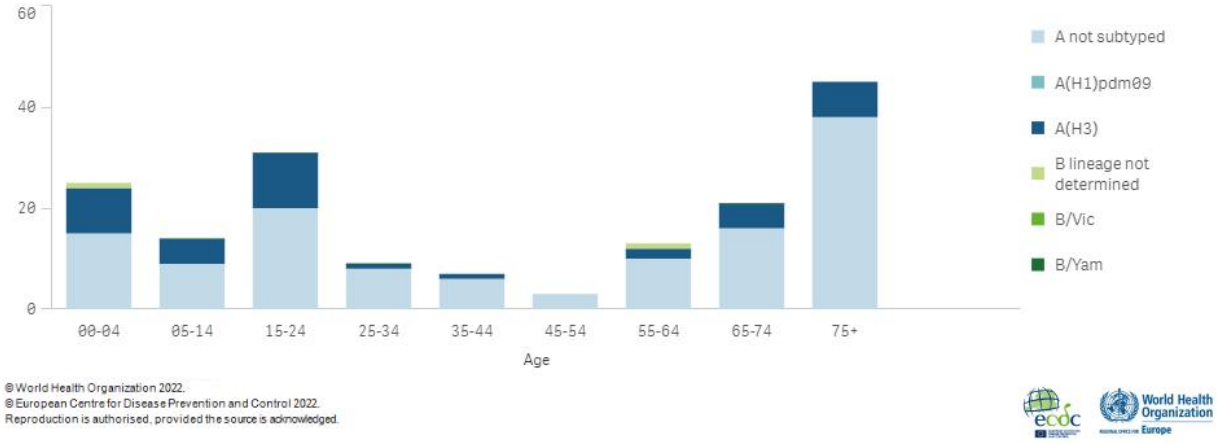


Figure 8. Distribution of influenza virus types, subtypes/lineages by age group in wards other than intensive care units (non-ICU), WHO European Region, season 2021/2022



Severe acute respiratory infection (SARI)-based hospital surveillance

For week 9/2022, 1 744 SARI cases were reported by 11 countries or areas (Albania, Germany, Kyrgyzstan, Malta, Montenegro, Republic of Moldova, Russian Federation, Serbia, Spain, Turkey and Ukraine). Of 194 specimens tested for influenza viruses, 6% (n=12) were positive. Of these, the same frequency of influenza type A (n=6, 50%) and type B virus (n=6, 50%) detections was observed (Fig. 9 and Fig. 10). The highest positivity rates for influenza virus detections were reported by Malta (17%) and Kyrgyzstan (15%).

For the season, 100 051 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=908, 99%). For 796 cases where influenza virus subtyping was performed, 794 (99%) were infected by A(H3) viruses and 2 (<1%) were infected by A(H1)pdm09 viruses. Of the 13 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

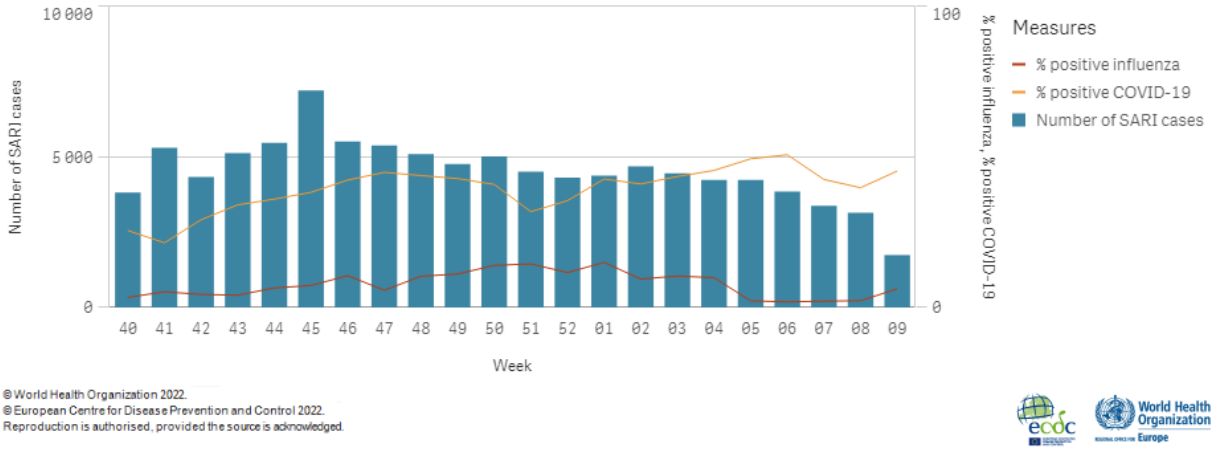
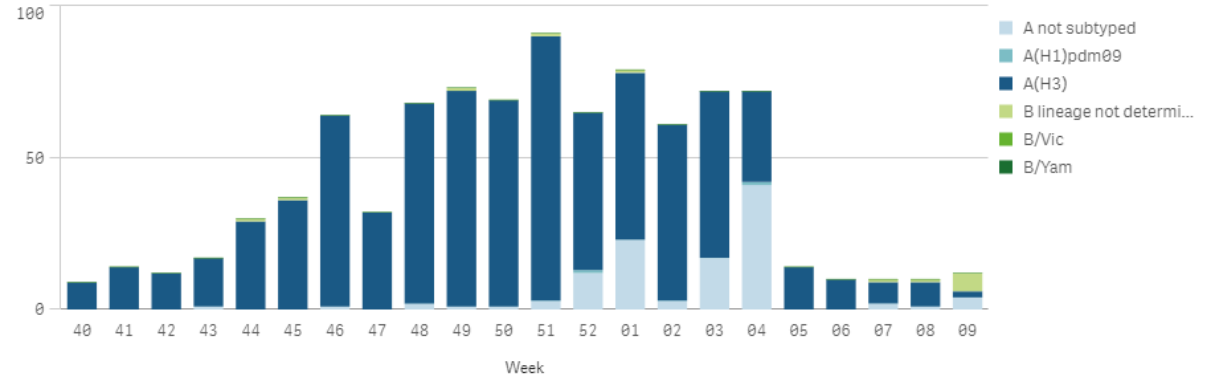


Figure 10. Influenza virus detections by type, subtype/lineage from severe acute respiratory infection (SARI), WHO European Region, season 2021/2022



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 9/2022, 2 855 of 71 304 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; 2 841 (99%) were type A and 14 (<1%) were type B. Of 362 subtyped A viruses, 310 (86%) were A(H3) and 52 (14%) were A(H1)pdm09. The only type B virus ascribed to a lineage was of the B/Victoria lineage (Fig. 11 and Table 2).

For the season to date, more influenza type A (n=43 746, 97%) than type B (n=1 529, 3%) viruses have been detected. Of 14 885 subtyped A viruses, 13 862 (93%) were A(H3) and 1 023 (7%) were A(H1)pdm09. Of 15 influenza type B viruses ascribed to a lineage, all were B/Victoria (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

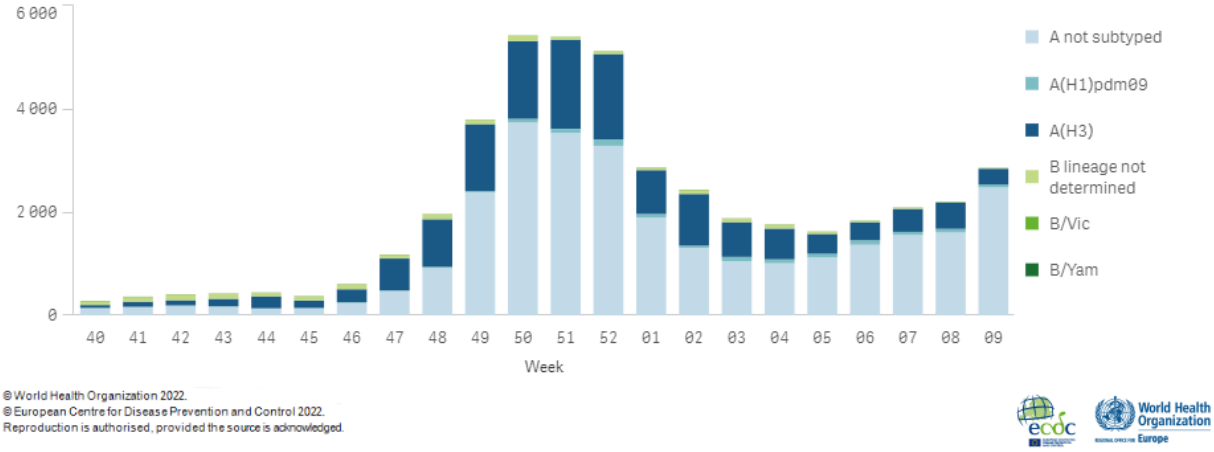


Table 2. Influenza virus detections in non-sentinel source specimens by type and subtype, week 9/2022 and cumulative for the season

	Current Week (9)		Season 2021-2022	
Virus type and subtype	**Number**	**%[a]**	**Number**	**%[a]**
Influenza A	**2 841**	**99.5**	**43 746**	**96.6**
A(H1)pdm09	52	14.4	1 023	6.9
A(H3)	310	85.6	13 862	93.1
A not subtyped	2 479	-	28 861	-
Influenza B	**14**	**0.5**	**1 529**	**3.4**
B/Victoria lineage	1	100	15	100
B/Yamagata lineage	0	0	0	0
Unknown lineage	13	-	1 514	-
Total detections (total tested)	**2 855 (71 304)**	**-**	**45 275 (1 767 810)**	**-**

[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 9/2022, 905 A(H3) viruses had been characterized genetically, 899 of which were attributed to clade 3C.2a1b.2a.2 and 6 to clade 3C.2a1b.1a. 77 A(H1)pdm09 viruses were characterized genetically of which 69 were attributed to clade 6B.1A.5a.1 and 8 to clade 6B.1A.5a.2. Up to week 9/2022, 7 B/Victoria viruses were characterized genetically, 6 to clade V1A.3a.2 and 1 belonging to clade V1A.3.

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
Total	**989**
Influenza A	**982**
A(H1)pdm09	**77**
A/Guangdong-Maonan/SWL1536/2019(H1N1)pdm09_6B.1A.5a.1	69
A/India/Pun-NIV312851/2021(H1N1)pdm09_6B.1A.5a.2	6
A/Victoria/2570/2019(H1N1)pdm09_6B.1A.5a.2	2
A(H3)	**905**
A/Bangladesh/4005/2020(H3)_3C.2a1b.2a.2	899
A/Denmark/3264/2019(H3N2)_3C.2a1b.1a	6
Influenza B	**7**
B/Vic	**7**
B/Austria/1359417/2021(Victoria lineage_1A.3a.2)	6
B/Washington/02/2019(Victoria lineage_1A.3)	1

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

ECDC published the February 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 9/2022, 976 viruses were assessed for susceptibility to neuraminidase inhibitors (634 A(H3), 51 A(H1)pdm09 and 1 B viruses genotypically and 277 A(H3), 10 A(H1)pdm09 and 3 B viruses phenotypically), and 549 viruses were assessed for susceptibility to baloxavir marboxil (502 A(H3), 46 A(H1)pdm09 and 1 B viruses 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

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 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:

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 culture- 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

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 Edoardo Colzani) and the WHO Regional Office for Europe (Margaux Meslé, Piers Mook and Richard Pebody).

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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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