Flu News Europe
Joint ECDC–WHO/Europe weekly influenza update

Summary

Week 46/2022 (14 November – 20 November 2022)

- This is the second consecutive week above the epidemic threshold, which is set at 10%, and indicates the start of the influenza epidemic at the European Regional level.
- The percentage of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms that tested positive for an influenza virus remained stable at 12%.
- Germany, Kazakhstan, Malta, Romania and United Kingdom (Scotland) reported widespread influenza activity and/or at least medium intensity.
- France, Germany, Greece, Israel, Kazakhstan, Kyrgyzstan, the Netherlands, Portugal, Spain and United Kingdom (Scotland) reported seasonal influenza activity above 10% positivity in sentinel primary care.
- Both influenza type A and type B viruses were detected among all monitoring systems, with influenza A(H3) viruses being dominant in sentinel and non-sentinel surveillance systems.
- Hospitalized cases with confirmed influenza virus infection were reported from ICU wards (2 type A viruses and 1 type B virus), other wards (63 type A viruses and 3 type B viruses) and SARI surveillance (33 type B viruses, of which 19 were from Kazakhstan, and 19 type A viruses). When comparing the different influenza type distributions by system, it is important to consider that different sets of countries report to each system.

2022-2023 season overview

- Influenza activity, based on patients in sentinel primary care settings testing positive for influenza virus infection, crossed the epidemic threshold of 10% set for the Region for the first time in week 45/2022.
- Overall, influenza A(H3) viruses have dominated across most surveillance systems.

Other news

- RSV is another acute respiratory virus that causes severe disease mainly amongst young infants and the elderly. High levels of RSV have been circulating across the Region since week 40/2022, with overall positivity amongst patients consulting in primary care with acute respiratory illness now reaching 16% in week 46/2022. Of the 32 countries having tested sentinel primary care samples since week 40/2022, 20 (63%) have reported a percentage positivity at or above 5%.

- The European I-MOVE network estimated influenza VE using a multi-center test-negative design among symptomatic patients presenting at primary care between weeks 40/2021 and 20/2022. Influenza VE against influenza A(H1N1)pdm09 among ten study sites and among all ages was 75% (95% CI: 43–89) and 81% (95% CI: 45–93) among those aged 18–64 years. All-age VE against influenza A(H3N2) was 29% (95% CI: 12–55) and 26% (95% CI:-22–55) among those aged 15–64 years. Among the viruses sequenced, all 53 A(H1N1)pdm09 viruses belong to clade 6B.1A.5a.1 and all of the 410 A(H3N2) viruses belonged to the 3C.2a1b.2a.2 clade.

For more 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 46/2022, of 39 countries and areas reporting on intensity of influenza activity, 18 reported baseline-intensity (across the Region), 18 reported low-intensity (across the Region), 1 reported medium-intensity (Romania) and 2 reported high-intensity (Kazakhstan and Malta) (Fig. 1).

Of 39 countries and areas reporting on geographic spread of influenza viruses, 8 reported no activity (Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, Serbia, Slovakia and Kosovo (in accordance with UN Security Council Resolution 1244 (1999))), 19 reported sporadic spread (across the Region), 3 reported local spread (Austria, Malta and United Kingdom (Northern Ireland)), 7 reported regional spread (Albania, Finland, France, Kazakhstan, Republic of Moldova, Russian Federation and Ukraine) and 2 reported widespread activity (Germany and United Kingdom (Scotland)) (Fig. 2).

Figure 1. Intensity of influenza activity in the European Region, week 46/2022

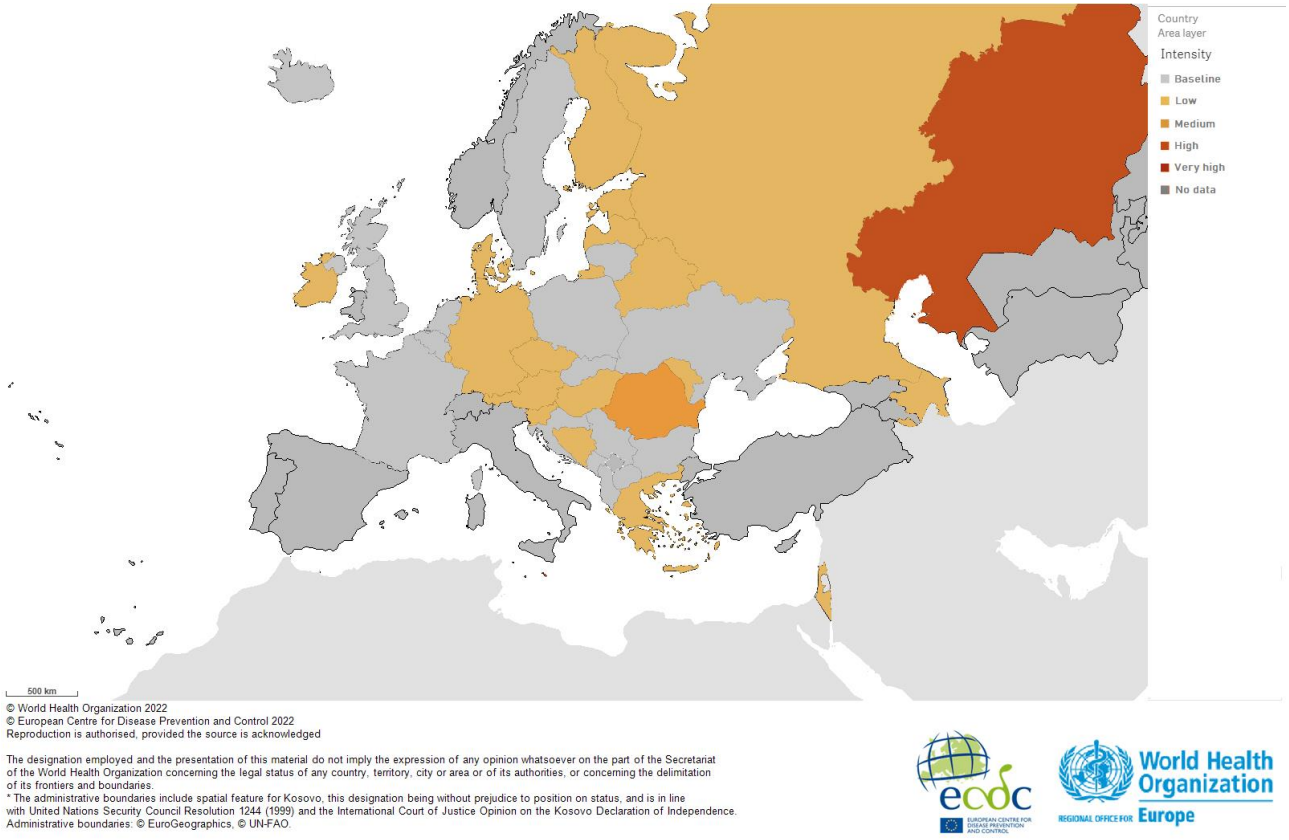
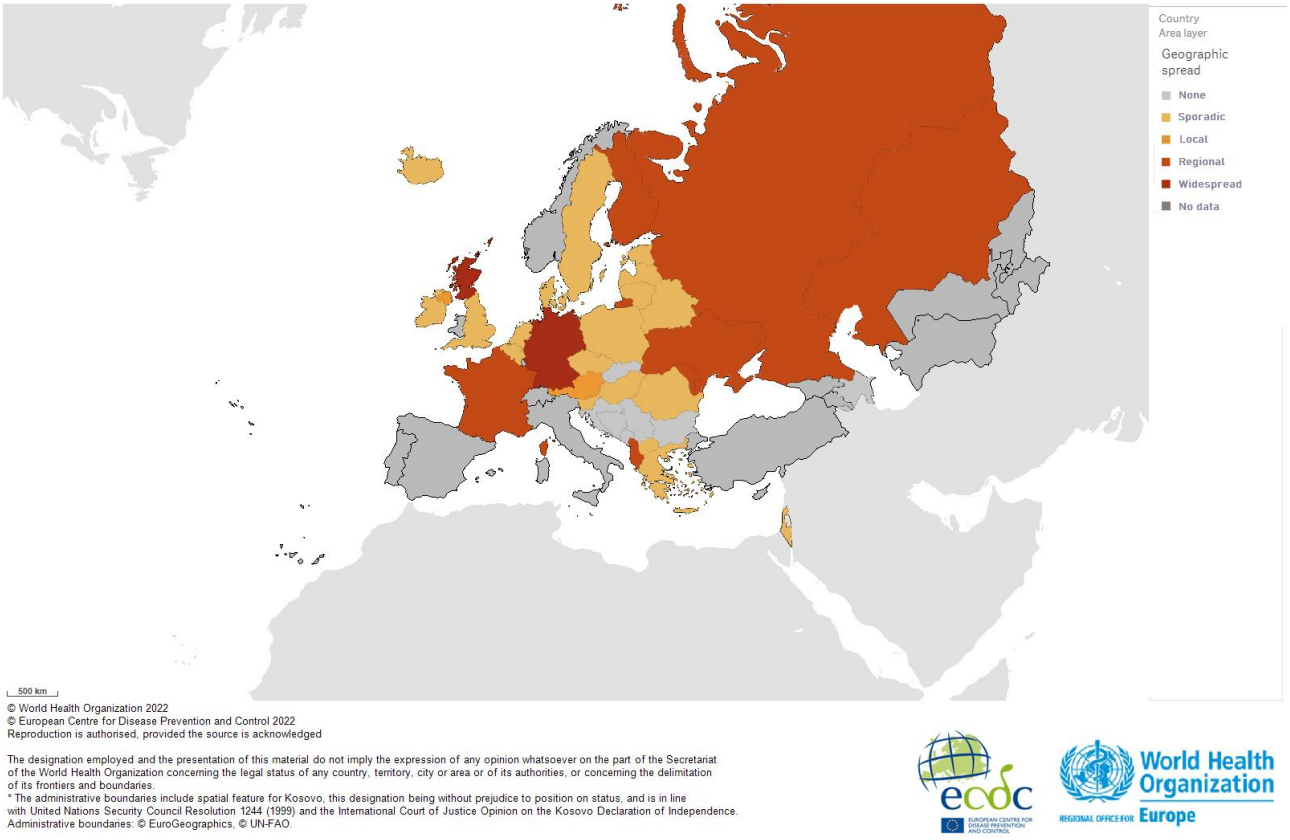


Figure 2. Geographic spread of influenza viruses in the European Region, week 46/2022



For interactive maps of influenza intensity and geographic spread, see the Flu News Europe website.

Please note:

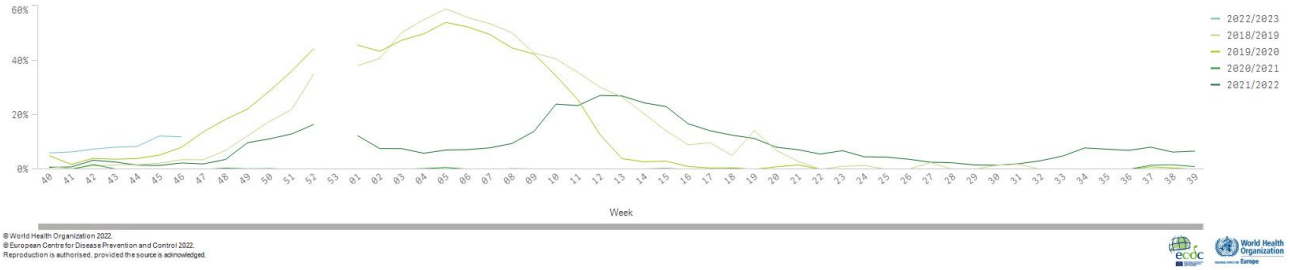
- Assessment of the intensity of activity indicator includes consideration of ILI or ARI rates. These ILI or ARI rates might be driven by respiratory infections other than influenza virus, including SARS-CoV-2 and RSV, leading to observed increases in the absence of influenza virus detections.

- Assessment of intensity and geographic spread indicators includes consideration of sentinel and non-sentinel influenza virus detection data. Non-sentinel influenza virus detections, which are 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 stable at 12% in week 46/2022. This is the second consecutive week above the epidemic threshold, which is set at 10%, and indicates the start of the influenza epidemic at the Regional level. This is an earlier start to the influenza epidemic than in the four previous seasons: ranging from week 47 (2019/20 season) to 49 (2021/22 season) (Fig. 3).

Figure 3. Influenza virus positivity in sentinel-source specimens by week, European Region, 2022/2023 and four prior seasons



External data sources

Mortality monitoring:

For week 46/2022 overall pooled EuroMOMO estimates of all-cause mortality for the participating European countries showed elevated excess mortality. Data from 24 European countries or subnational regions were included for pooled analysis of all-cause mortality.

The full EuroMOMO report can be found here: https://www.euromomo.eu/

Please refer to the EuroMOMO website for a cautionary note relating to interpretation of these data.

Primary care data

Syndromic surveillance data

Of the countries and areas in which thresholds for ILI activity are defined, countries in eastern (Azerbaijan and Kazakhstan), northern (Denmark, Estonia and Ireland), southern (Greece) and western (Austria, Hungary and Luxembourg) 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 (Kazakhstan), northern (Latvia) and southern (Bulgaria, Romania and Slovenia) 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 and RSV,

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 46/2022, 331 (12%) of 2 777 sentinel specimens tested positive for influenza virus; 92% were type A and 8% were type B. Of 261 subtyped A viruses, 88% were A(H3) and 12% A(H1)pdm09. Of 3 type B viruses ascribed to a lineage, all were B/Victoria (Fig. 4 and Table 1). Of 27 countries and areas across the Region that each tested at least 10 sentinel specimens in week 46/2022, 10 reported a rate of influenza virus detections above 10% (median 17%; range 11% - 100%): Kazakhstan (100%), Portugal (61%), Germany (29%), Kyrgyzstan (25%), Greece (21%), Netherlands (12%), Spain (12%), Israel (12%), United Kingdom (Scotland) (11%) and France (11%).

For the season to date, 1 519 (9%) of 16 959 sentinel specimens tested positive for an influenza virus. More influenza type A (n=1 326, 87%) than type B (n=193, 13%) viruses have been detected. Of 1 140 subtyped A viruses, 973 (85%) were A(H3) and 167 (15%) were A(H1)pdm09. Of 112 influenza type B viruses ascribed to a lineage, all were B/Victoria (42% 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 2022/2023

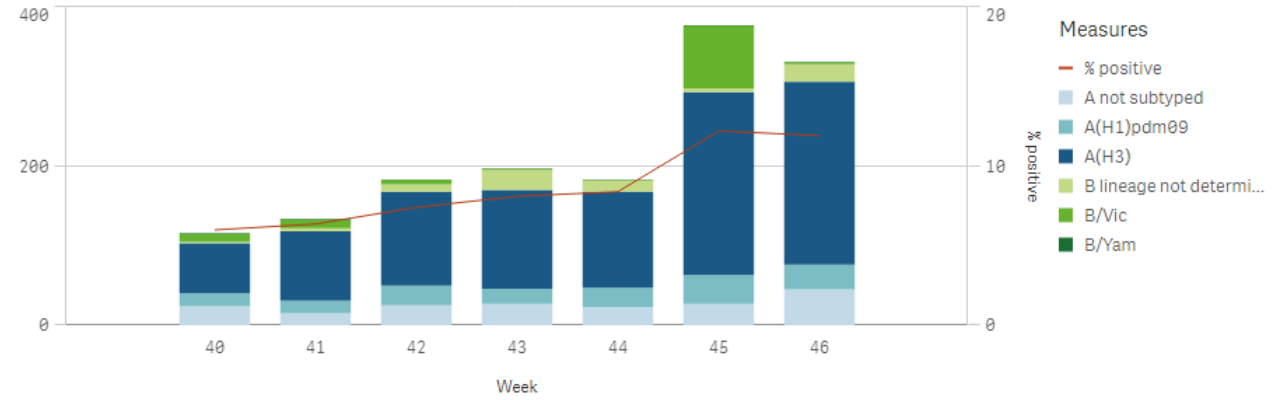


Table 1. Influenza virus detections in sentinel source specimens by type and subtype for week 46/2022 and cumulatively for the season

Sentinel	Current Week (46)		Season 2022-2023	
Virus type and subtype	**Number**	**%[a]**	**Number**	**%[a]**
Influenza A	**306**	**92.4**	**1 326**	**87.3**
A(H1)pdm09	31	11.9	167	14.6
A(H3)	230	88.1	973	85.4
A not subtyped	45	-	186	-
Influenza B	**25**	**7.6**	**193**	**12.7**
B/Victoria lineage	3	100	112	100
B/Yamagata lineage	0	-	0	0

Unknown lineage	22	-	81	-
Total detections (total tested)	**331 (2 777)**	**11.9**	**1 519 (16 959)**	**9.0**

[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

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 this week.

Hospital surveillance

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

Laboratory-confirmed hospitalized cases

1.1) Hospitalized laboratory-confirmed influenza cases - Intensive care units (ICUs)

For week 46/2022, 3 laboratory-confirmed influenza case was reported from ICU wards (in Ireland and Sweden). Both influenza type A viruses (n=2) and type B viruses (n=1) were detected. No viruses were ascribed to a subtype or lineage (Fig. 5 and 6).

Since week 40/2022, more influenza type A (n=78, 90%) than type B (n=9, 10%) viruses were detected (from Czechia, Ireland, Sweden and United Kingdom (England)). Of 7 subtyped influenza A viruses, 4 were A(H1)pdm09 and 3 were A(H3). No influenza B viruses were ascribed to a lineage. Of 14 cases with known age, 8 were 65 years and older, 5 were in the age group 15-64 and 1 was 0-4 years old.

Figure 5. Number of laboratory-confirmed hospitalized influenza cases in intensive care units (ICU) by week of reporting, WHO European Region, season 2022/2023

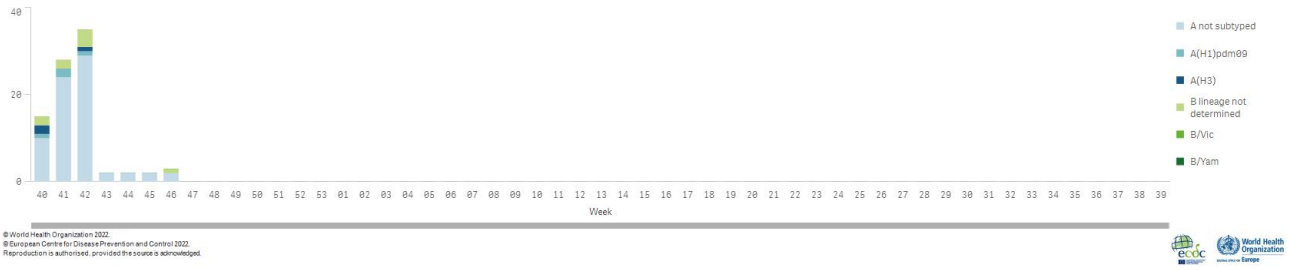
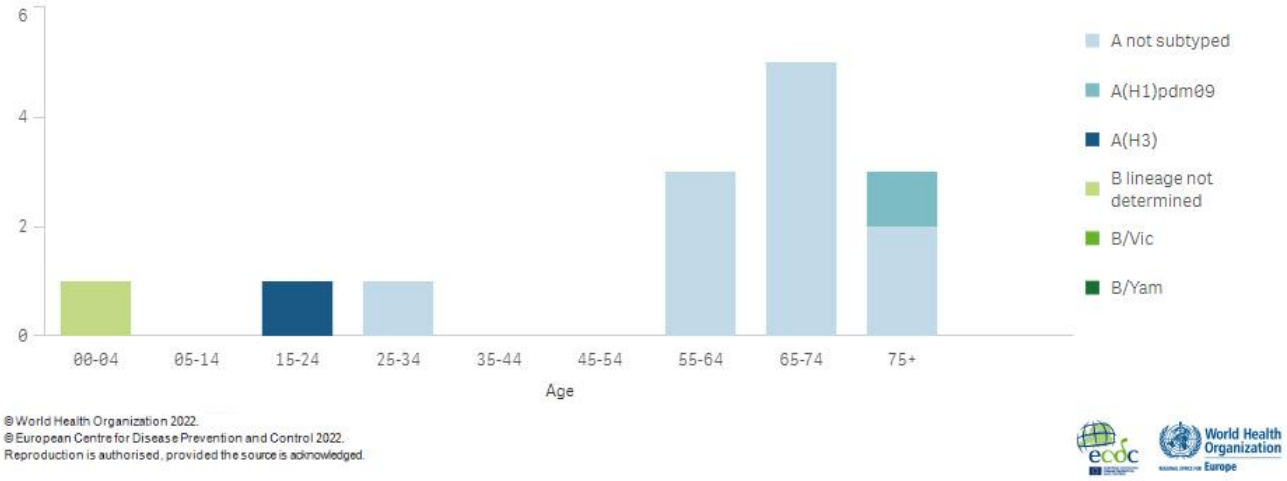


Figure 6. Distribution of influenza virus types, subtypes/lineages by age group in intensive care units (ICU), WHO European Region, season 2022/2023



1.2) Hospitalized laboratory-confirmed influenza cases – other wards

For week 46/2022, 66 laboratory-confirmed influenza cases were reported from other wards in Ireland. Influenza type A virus (95%) were detected more frequently than influenza type B viruses (5%). No viruses were ascribed to a subtype or lineage (Fig. 7 and 8).

Since week 40/2022, 270 influenza type A viruses and 17 influenza type B viruses were detected in Ireland. Of 12 subtyped influenza A viruses, 75% (n=9) were A(H1)pdm09 and 25% (n=3) were A(H3). The 287 cases with known age fell in four age groups: 99 were 15-64 years old, 97 were 65 years and older, 47 were 5-14 years old and 44 were 0-4 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 2022/2023

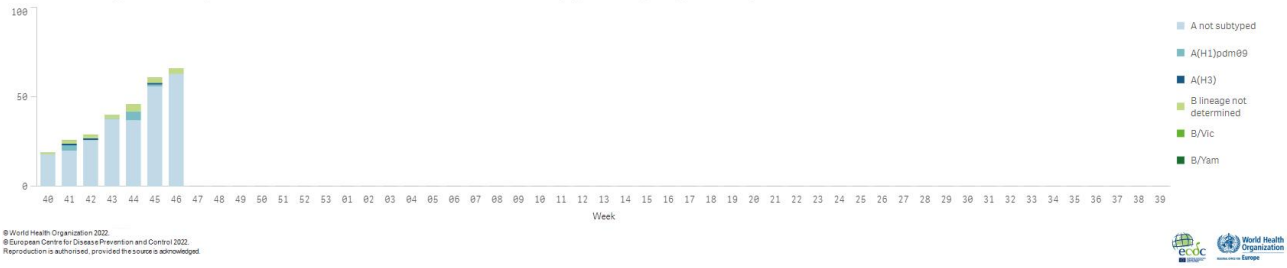
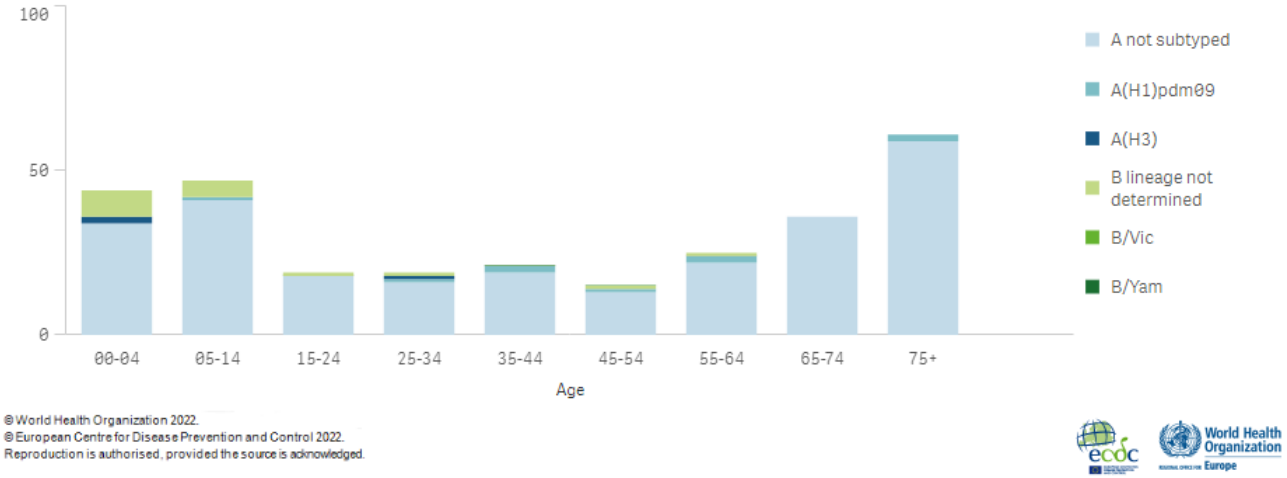


Figure 8. Distribution of influenza virus types, subtypes/lineages by age group in wards other than intensive care units (non-ICU), WHO European Region, season 2022/2023



Severe acute respiratory infection (SARI)-based hospital surveillance

For week 46/2022, 4 476 SARI cases were reported by 16 countries or areas (Albania, Belarus, Bosnia and Herzegovina, Germany, Ireland, Kazakhstan, Kyrgyzstan, Lithuania, Malta, North Macedonia, Republic of Moldova, Romania, Russian Federation, Spain, Ukraine and Uzbekistan). Of 532 specimens tested for influenza viruses, 10% (n=52) were positive (Fig. 9). Of these, influenza type B viruses (n=33, 63%; 19 from Kazakhstan and 11 from Kyrgyzstan) were detected more frequently than influenza type A viruses (n=19, 37%). The highest positivity rates for influenza virus detections were reported by Kazakhstan (18%), Malta (18%), Russian Federation (15%) and Kyrgyzstan (11%).

For the season, 32 737 SARI cases were reported by 23 countries or areas (Albania, Armenia, Belarus, Bosnia and Herzegovina, Croatia, Georgia, Germany, Ireland, Kazakhstan, Kyrgyzstan, Lithuania, Malta, Montenegro, North Macedonia, Republic of Moldova, Romania, Russian Federation, Serbia, Spain, Türkiye, Ukraine, Uzbekistan and Kosovo (in accordance with Security Council resolution 1244 (1999))). For SARI cases testing positive for influenza virus since week 40/2022, type B viruses have been the most common (n=333, 85%; 300 from Kazakhstan, 28 from Kyrgyzstan and 4 from Russian Federation). Of the 60 cases infected with influenza A, subtyping was performed for 40 viruses: 22 (55%) were A(H3) and 18 (45%) were A(H1)pdm09 viruses. The influenza type B viruses ascribed to a lineage (n=139, 42%) were all B/Victoria (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 2022/2023

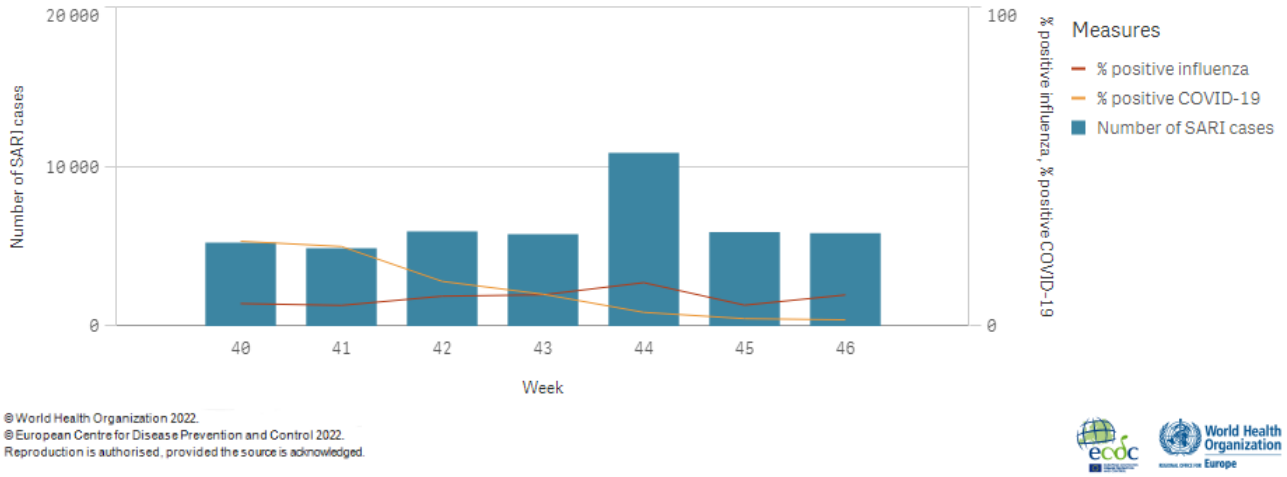
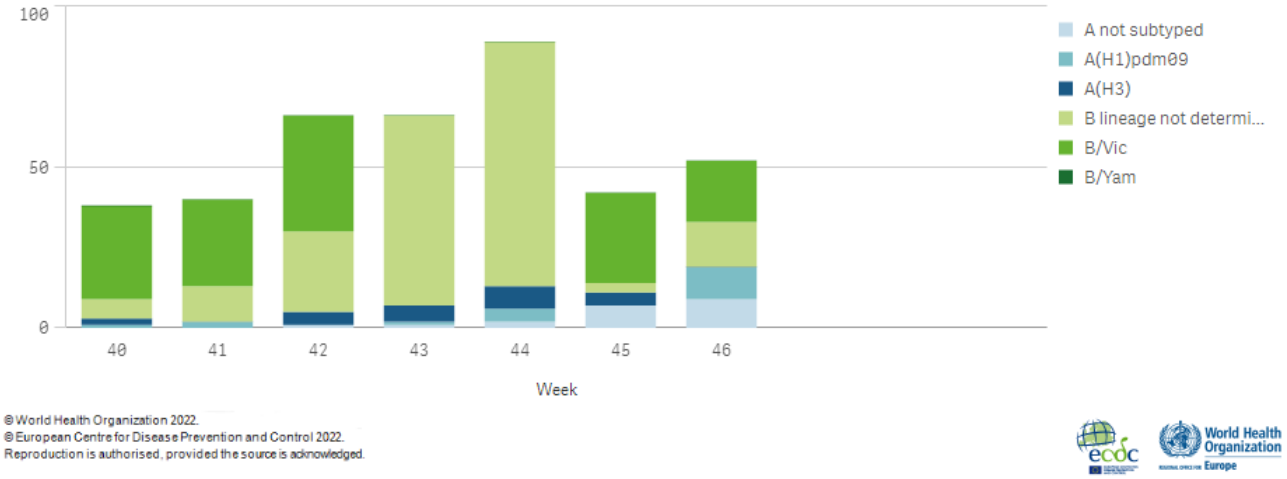


Figure 10. Influenza virus detections by type, subtype/lineage from severe acute respiratory infection (SARI), WHO European Region, season 2022/2023



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 46/2022, 2 436 of 42 698 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 influenza virus; 2 339 (96%) were type A and 97 (4%) were type B. Of 568 subtyped A viruses, 361 (64%) were A(H3) and 207 (36%) were A(H1)pdm09. Of 23 type B viruses ascribed to a lineage, all were Victoria lineage (Fig. 11 and Table 2).

For the season to date, more influenza type A (n=10 689, 92%) than type B (n=976, 8%) viruses have been detected. Of 3 462 subtyped A viruses, 2 344 (68%) were A(H3) and 1 118 (32%) were A(H1)pdm09. Of 168 influenza type B viruses ascribed to a lineage, all were B/Victoria (83% of type B viruses were reported without a lineage) (Fig. 11 and Table 2).

Figure 11. Influenza detections by type, subtype/lineage and week, non-sentinel sources, WHO European Region, season 2022/2023

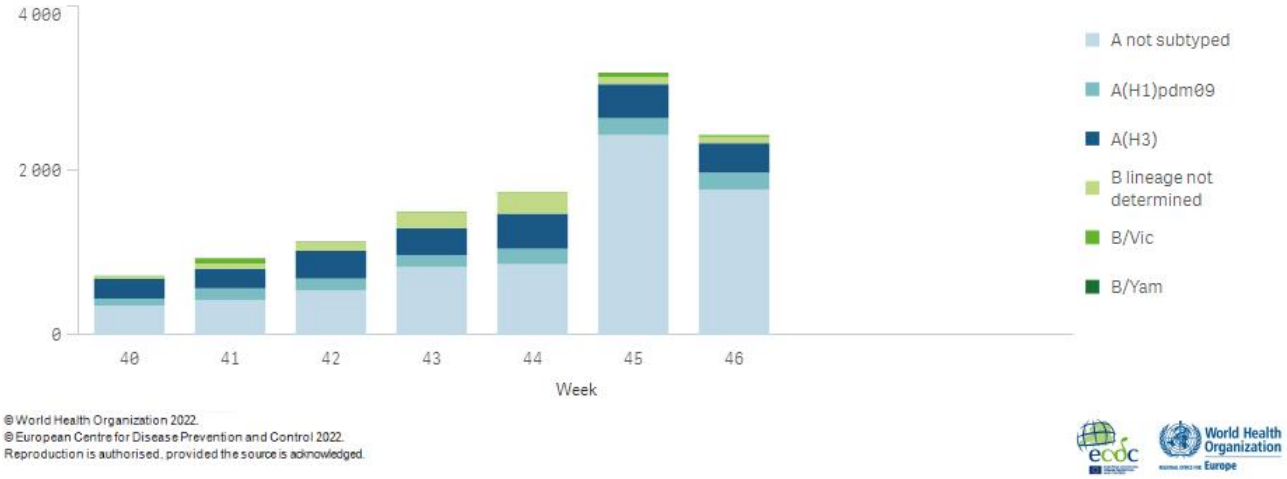


Table 2. Influenza virus detections in non-sentinel-source specimens by type and subtype, week 46/2022 and cumulatively for the season

Non-sentinel	Current Week (46)		Season 2022-2023	
Virus type and subtype	**Number**	**%[a]**	**Number**	**%[a]**
Influenza A	**2 339**	**96.6**	**10 689**	**91.6**
A(H1)pdm09	207	36	1 118	32
A(H3)	361	64	2 344	67
A not subtyped	1 771	-	7 227	-
Influenza B	**97**	**3.4**	**976**	**8.4**
B/Victoria lineage	23	100	168	100
B/Yamagata lineage	0	0	0	0
Unknown lineage	74	-	808	-
Total detections (total tested)	**2 436 (42 698)**	**NA**	**11 665 (330 142)**	**NA**

[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

Of the 74 genetically characterized A(H1)pdm09 viruses up to week 46/2022, all belonged to clade 6B.1A.5a.2, of which 53 (72%) were represented by A/Norway/25089/2022, 20 (27%) were represented by A/Sydney/5/2021 and 1 (1%) was represented by A/Victoria/2570/2019.

Among the 96 A(H3) viruses characterized up to week 46/2022, all belonged to clade 3C.2a1b.2a.2, of which 44 (46%) were represented by A/Bangladesh/4005/2020, 43 (45%) were represented by A/Slovenia/8720/2022, and 6 (6%) were represented by A/Darwin/9/2021. Two (2%) viruses were not attributed to a subgroup.

Up to week 46/2022, 16 B/Victoria viruses were characterized and assigned to clade V1A.3a.2 of which 8 (50%) were represented by B/Austria/1359417/2021 and 8 (50%) were not attributed to a subgroup.

Currently, WHO's September virus characterization report is available and describes available data from circulating viruses for the 2021-2022 influenza season: type A influenza virus circulation dominated over type B, due mainly to A(H3) viruses. Vaccination remains the best protective measure for prevention of influenza.

Previously published influenza virus characterization reports are available on the ECDC website (up to May 2022) and the WHO website.

Antiviral susceptibility testing

Up to week 46/2022, 238 viruses were assessed for susceptibility to neuraminidase inhibitors (NAI) (95 A(H3), 73 A(H1)pdm09 and 15 B viruses genotypically, and 48 A(H3), 5 A(H1)pdm09 and 2 B viruses phenotypically), and 126 viruses were assessed for susceptibility to baloxavir marboxil (BXM) (73 A(H3), 41 A(H1)pdm09 and 12 B viruses genotypically). Phenotypically no viruses exceeded IC_{50}-fold-change thresholds for reduced susceptibility to NAI and, genotypically, no markers associated with reduced susceptibility to NAI or BXM were identified.

Vaccine

Recently published 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 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

On 23 September 2022, WHO published recommendations for the components of influenza vaccines for use in the 2023 southern hemisphere influenza season:

Egg-based Vaccines

- an A/Sydney/5/2021 (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/Sydney/5/2021 (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 2023 southern hemisphere influenza season contain the following:

Egg-based vaccines

- an A/Sydney/5/2021 (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/Sydney/5/2021 (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.

Acknowledgements

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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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