

Summary

Week 43/2022 (24 October-30 October 2022)

- Kazakhstan, Malta and Portugal reported widespread influenza activity and/or high intensity.
- The percentage of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms that tested positive for an influenza virus increased to 8% from 7% in the previous week, which is below the epidemic threshold set at 10%.
- Germany, Kazakhstan, Kyrgyzstan and Spain 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.
- Hospitalized cases with confirmed influenza virus infection were reported from intensive care units (1 type A virus), other wards (41 type A viruses and 1 type B virus) and SARI surveillance (56 type B viruses all from Kazakhstan and 5 type A viruses). When comparing the different influenza type distributions by system, it is important to consider that different sets of countries are reporting to each system.

2022-2023 season overview

- For the Region as a whole, influenza activity remained at inter-seasonal levels with signs of slowly increasing activity.
- Overall, influenza A(H3) viruses have dominated across most surveillance systems.

Other news

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 43/2022, of 37 countries and areas reporting on intensity of influenza activity, 25 reported baseline-intensity (across the Region), 11 reported low-intensity (across the Region), and 1 reported high-intensity (Malta) (Fig. 1).

Of 37 countries and areas reporting on geographic spread of influenza viruses, 15 reported no activity (across the Region), 16 reported sporadic spread (across the Region), 1 reported local spread (Malta), 3 reported regional spread (Albania, Germany and United Kingdom (Scotland)) and 2 reported widespread activity (Kazakhstan and Portugal) (Fig. 2).

Figure 1. Intensity of influenza activity in the European Region, week 43/2022

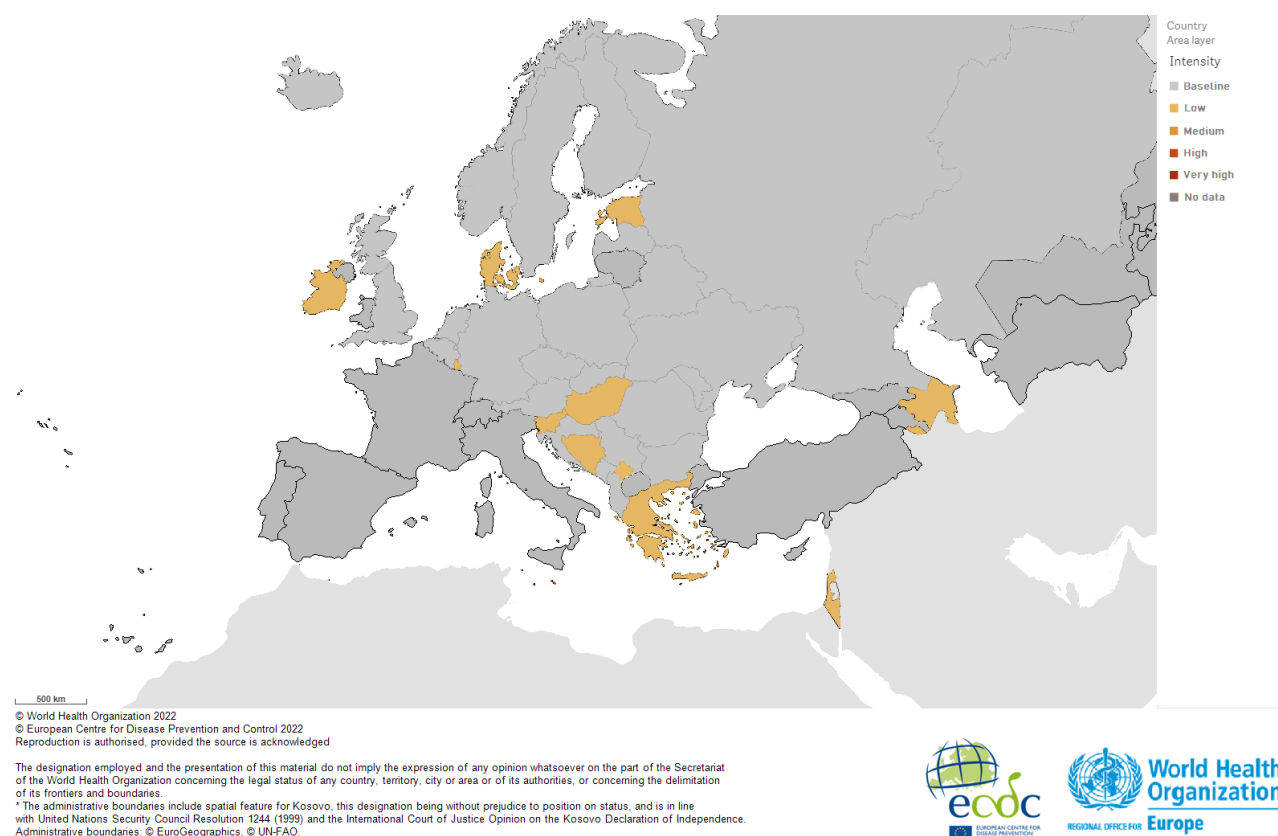
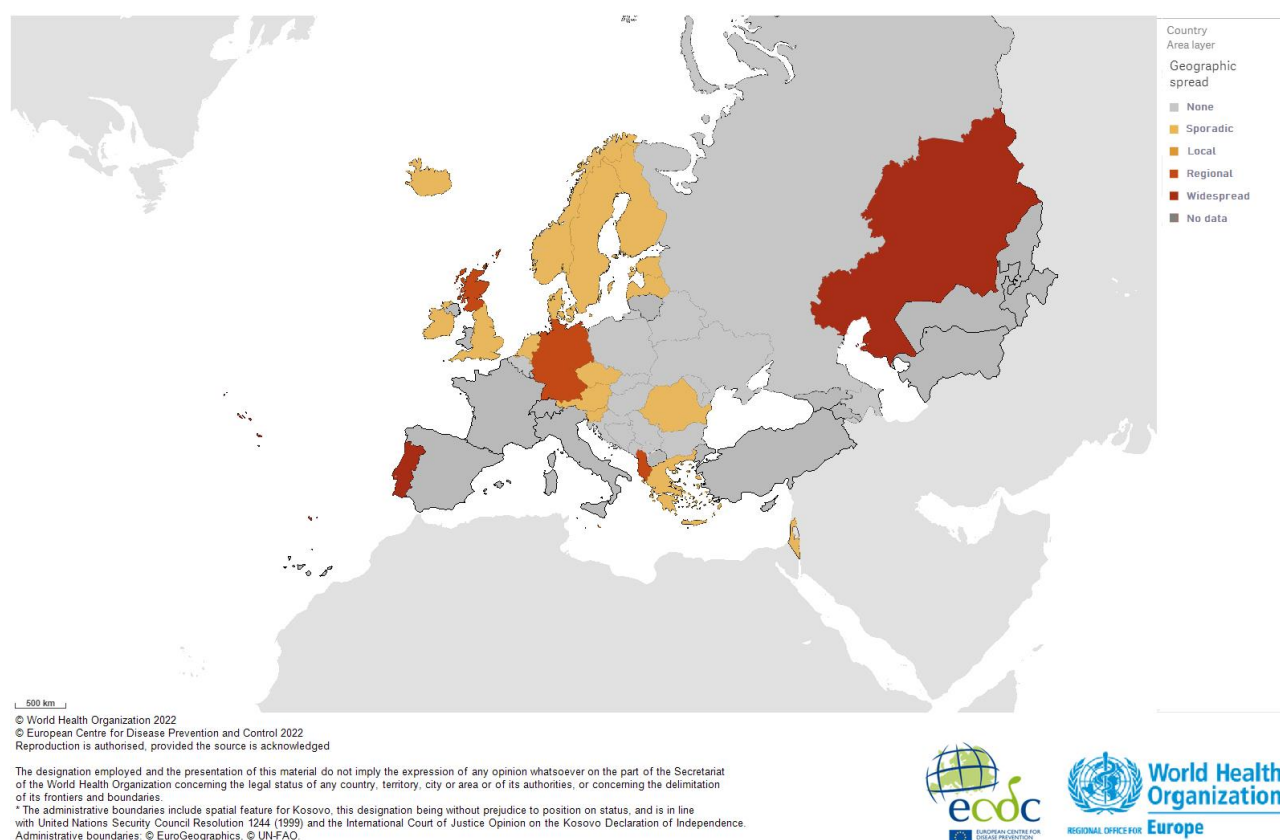


Figure 2. Geographic spread of influenza viruses in the European Region, week 43/2022



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

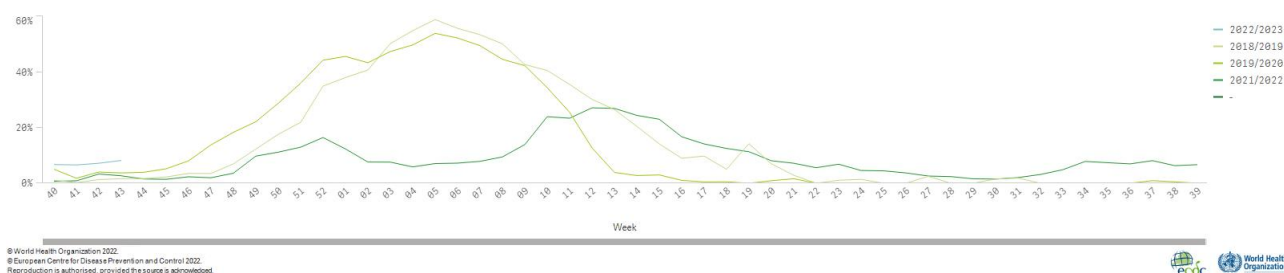
Please note:

- 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, 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 increased from 7% in the previous week to 8% in week 43/2022, which is below the epidemic threshold set at 10%, but above the levels seen in the 3 previous seasons for the same time of year (Fig. 3).

Figure 3. Influenza virus positivity in sentinel-source specimens by week, European Region, seasons 2018/2019, 2019/2020, 2021/2022 and 2022/2023



External data sources

Mortality monitoring:

For week 43/2022 overall pooled EuroMOMO estimates of all-cause mortality for the participating European countries showed elevated excess mortality. Data from 23 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 the 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 and Estonia), 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 (Estonia and Latvia) and southern (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, 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.

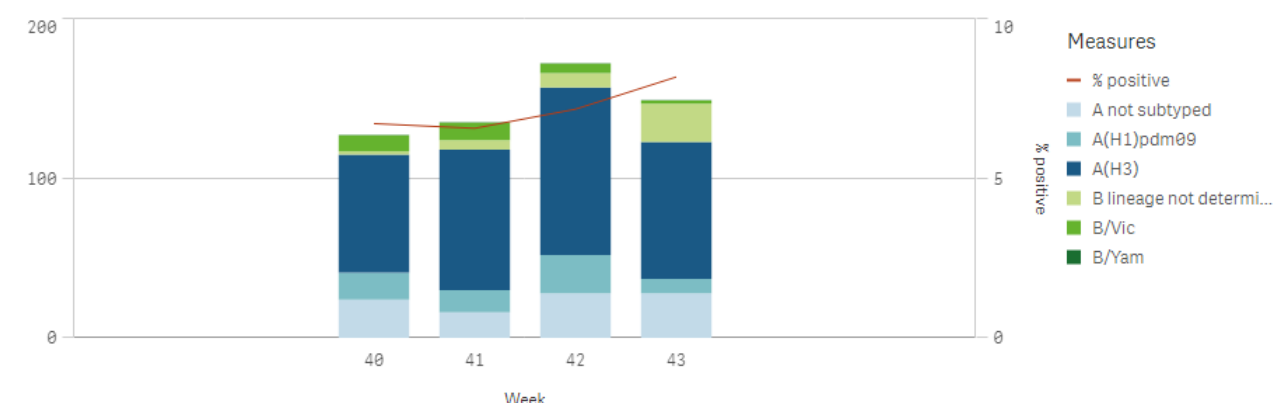
Viruses detected in sentinel-source specimens (ILI and ARI)

For week 43/2022, 149 (8%) of 1 821 sentinel specimens tested positive for influenza virus; 83% were type A and 17% were type B. Of 95 subtyped A viruses, 91% were A(H3) and 9% A(H1)pdm09. Of 2 type B viruses ascribed to a lineage, both were B/Victoria (Fig. 4 and Table 1). Of 24 countries and areas across the Region that each tested at least 10 sentinel specimens in week 43/2022, 4 reported a rate of influenza virus detections above 10%: Kyrgyzstan (31%), Germany (23%), Kazakhstan (20%) and Spain (13%).

For the season to date, 583 (7%) of 8 163 sentinel specimens tested positive for an influenza virus. More influenza type A (n=513, 88%) than type B (n=70, 12%) viruses have been detected. Of 417 subtyped A viruses, 353 (85%) were A(H3) and 64 (15%) were A(H1)pdm09. Of 29 influenza type B viruses ascribed to a lineage, all were B/Victoria (59% 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



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Table 1. Influenza virus detections in sentinel source specimens by type and subtype for week 43/2022 and cumulatively for the season

Sentinel	Current Week (43)		Season 2022-2023	
Virus type and subtype	Number	% ^a	Number	% ^a
Influenza A	123	82.6	513	88.0
A(H1)pdm09	9	9.5	64	15.3
A(H3)	86	90.5	353	84.7
A not subtyped	28	-	96	-
Influenza B	26	17.4	70	12.0
B/Victoria lineage	2	100	29	100
B/Yamagata lineage	0	0	0	0
Unknown lineage	24	-	41	-
Total detections	149 (1 821)	8.2	583 (8 163)	7.1

(total tested)				
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^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 43/2022, 1 laboratory-confirmed influenza case was reported from an ICU ward in Ireland. It was an influenza type A virus but was not ascribed to a subtype (Fig. 5 and 6).

Since week 40/2022, more influenza type A (n=71, 90%) than type B (n=8, 10%) viruses were detected (from Czechia, Ireland, Sweden and United Kingdom (England)). Of 5 subtyped influenza A viruses, 3 were A(H1)pdm09 and 2 were A(H3). No influenza B viruses were ascribed to a lineage. Of 6 cases with known age, 5 were 65 years and older and 1 was in the age group 15-64.

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

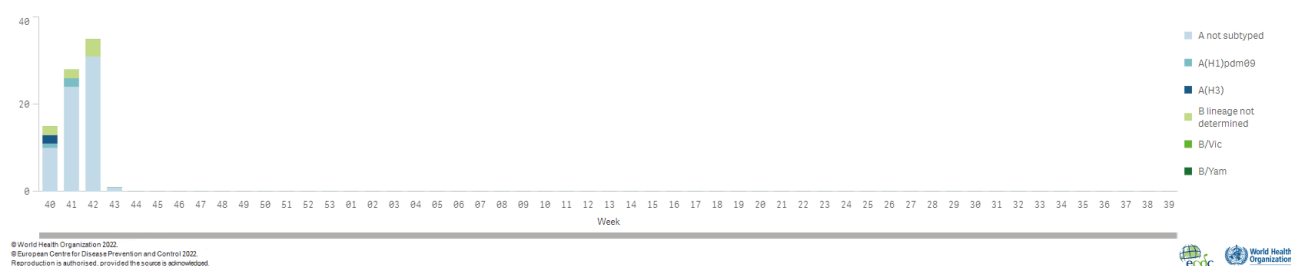
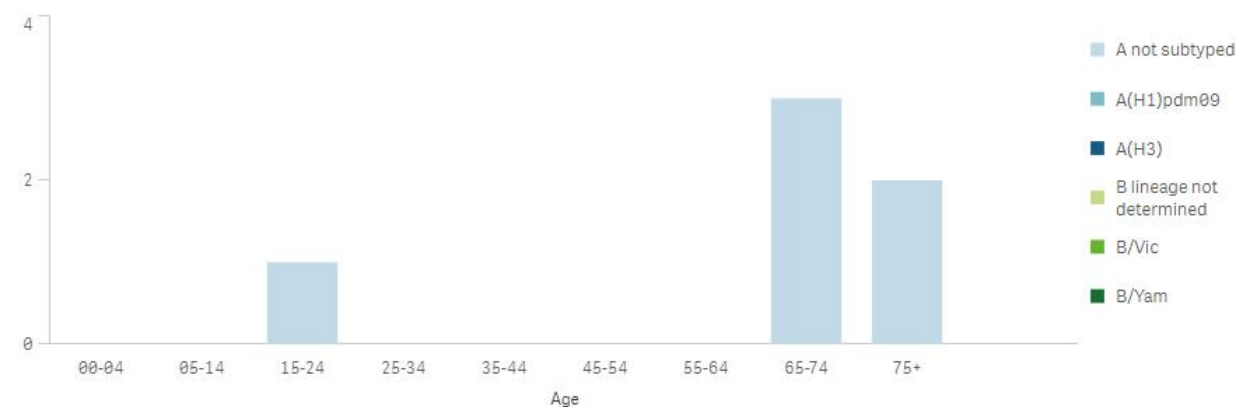


Figure 6. Distribution of influenza virus types, subtypes/lineages by age group in intensive care units (ICU), WHO European Region, season 2022/2023



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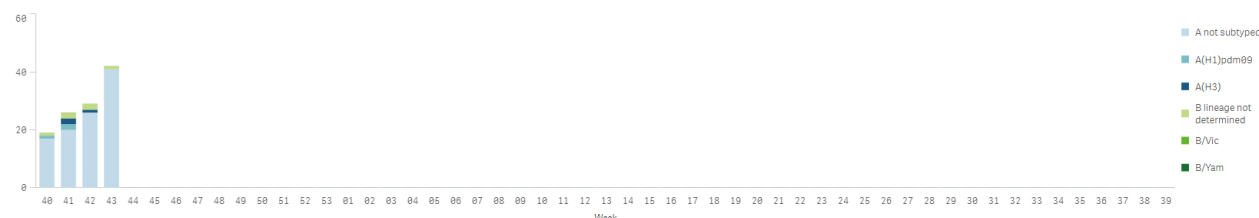


1.2) Hospitalized laboratory-confirmed influenza cases – other wards

For week 43/2022, 42 laboratory-confirmed influenza cases were reported from other wards in Ireland; influenza type A viruses (98%) were detected more frequently than influenza type B viruses (2%). Of 6 subtyped influenza A viruses, 3 were A(H1)pdm09 and 3 were A(H3). No influenza B viruses were ascribed to a lineage (Fig. 7 and 8).

Since week 40/2022, 110 influenza type A viruses and 6 influenza type B viruses were detected in Ireland. Of 6 subtyped influenza A viruses, 3 were A(H1)pdm09 and 3 were A(H3). The 116 cases with known age fell in four age groups: 47 were 65 years and older, 43 were 15-64 years old, 18 were 5-14 years old and 8 were 0-4 years old.

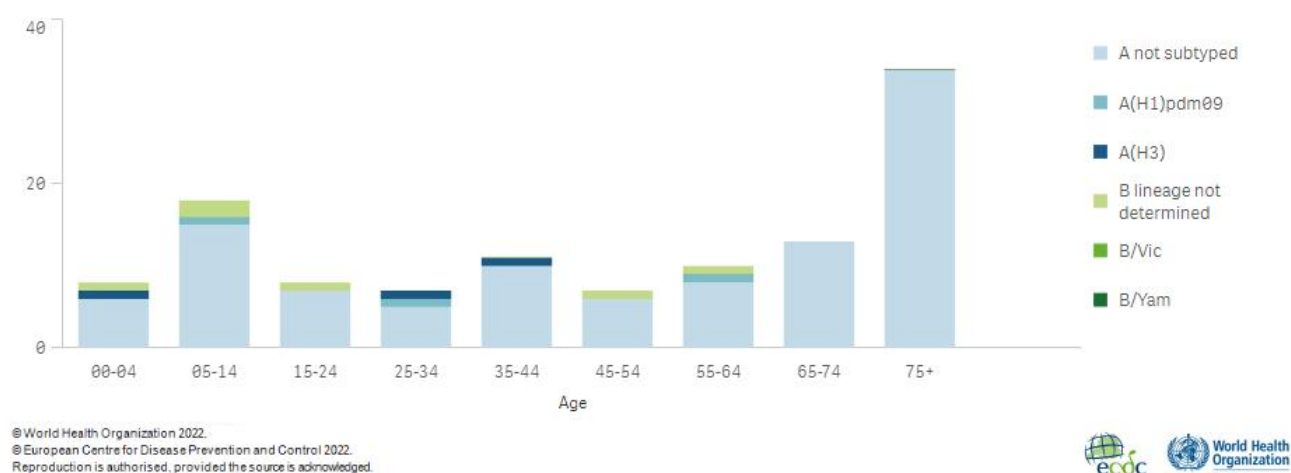
Figure 7. Number of laboratory-confirmed hospitalized influenza cases in wards other than intensive care units (non-ICU) by week of reporting, WHO European Region, season 2022/2023



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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 43/2022, 3 056 SARI cases were reported by 13 countries or areas (Albania, Belarus, Bosnia and Herzegovina, Germany, Ireland, Kazakhstan, Malta, Montenegro, Republic of Moldova, Russian Federation, Serbia, Spain and Ukraine). Of 363 specimens tested for influenza viruses, 17% (n=61) were positive. Of these, influenza type B viruses (n=56, 92%; all from Kazakhstan) were detected more frequently than influenza type A viruses (n=5). The highest positivity rates for influenza virus detections were reported by Kazakhstan (31%) and Malta (16%).

For the season, 13 072 SARI cases were reported by 20 countries or areas (Albania, Armenia, Belarus, Bosnia and Herzegovina, Croatia, Georgia, Germany, Ireland, Kazakhstan, Kyrgyzstan, Lithuania, Malta, Montenegro, Republic of Moldova, Russian Federation, Serbia, Spain, Türkiye, Ukraine 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=190, 93%; 184 from Kazakhstan and 6 from Kyrgyzstan). For 10 of the 15 influenza A cases, virus subtyping was performed, 7 were infected by A(H3) viruses and 3 were infected by A(H1)pdm09 viruses. Of those influenza type B viruses that have been ascribed to a lineage (n=92), all were 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

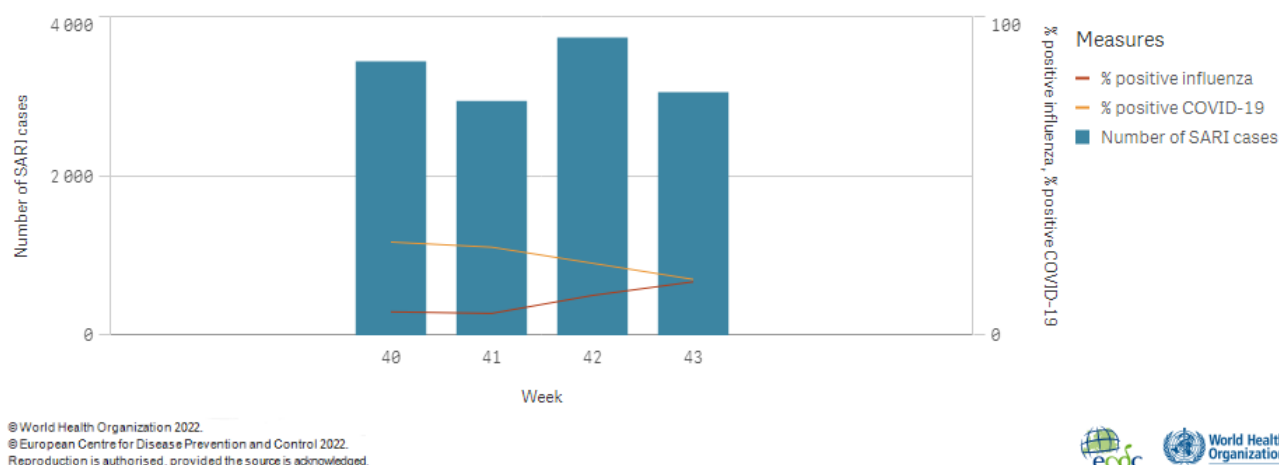
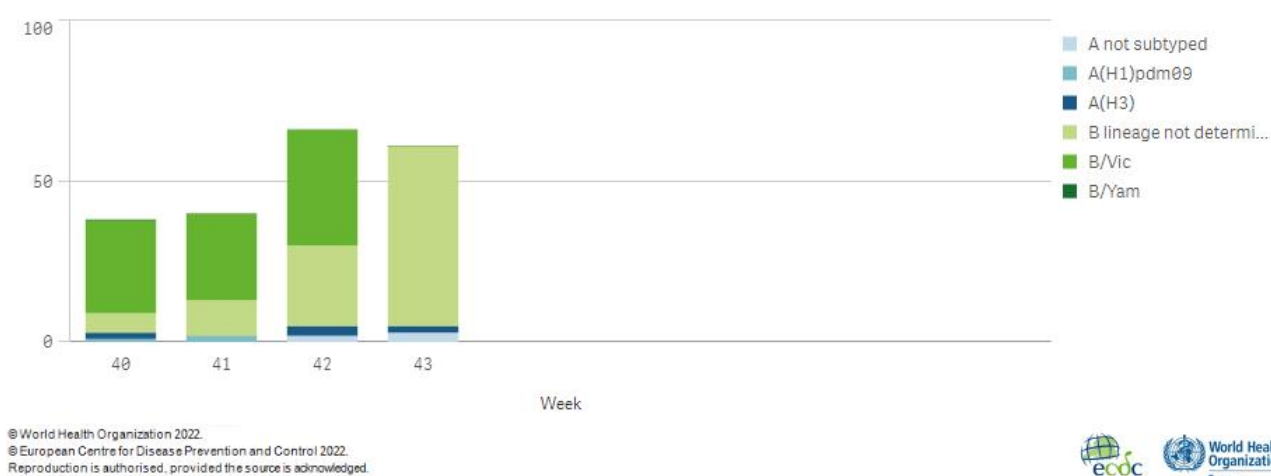


Figure 10. Influenza virus detections by type, subtype/lineage from severe acute respiratory infection (SARI), WHO European Region, season 2022/2023



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 43/2022, 774 of 29 684 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; 581 (75%) were type A and 193 (25%) were type B. Of 133 subtyped A viruses, 87 (65%) were A(H3) and 46 (35%) were A(H1)pdm09. Of 4 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=3 002, 87%) than type B (n=467, 13%) viruses have been detected. Of 1 168 subtyped A viruses, 777 (66%) were A(H3) and 391 (34%) were A(H1)pdm09. Of 76 influenza type B viruses ascribed to a lineage, all were B/Victoria (84% 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

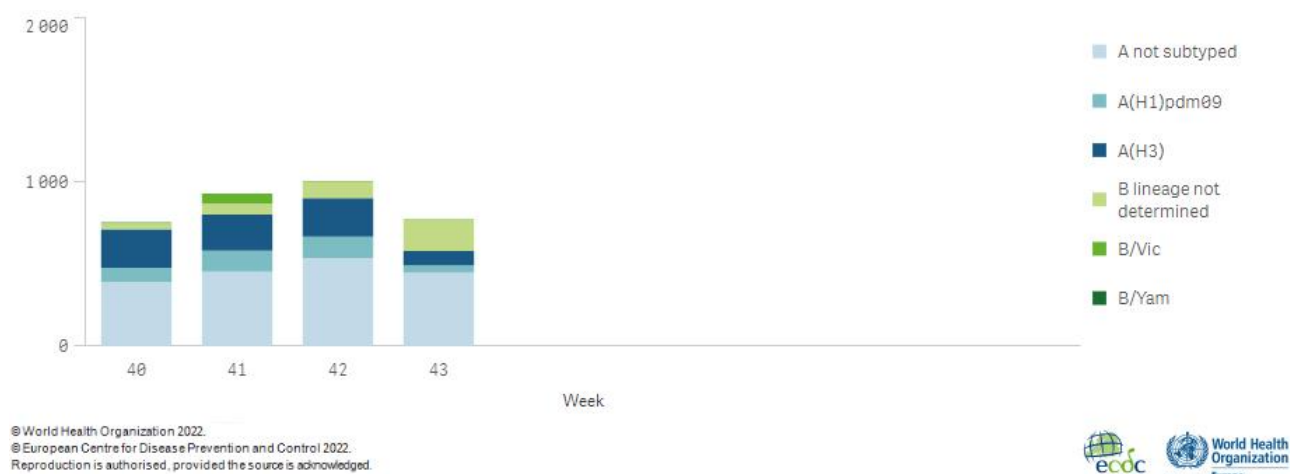


Table 2. Influenza virus detections in non-sentinel-source specimens by type and subtype, week 43/2022 and cumulatively for the season

Sentinel	Current Week (43)		Season 2022-2023	
Virus type and subtype	Number	% ^a	Number	% ^a
Influenza A	581	75.1	3 002	86.5
A(H1)pdm09	46	35	391	34
A(H3)	87	65	777	66
A not subtyped	448	-	1 834	-
Influenza B	193	24.9	467	13.5
B/Victoria lineage	4	100	76	100
B/Yamagata lineage	0	0	0	0
Unknown lineage	189	-	391	-
Total detections (total tested)	774 (29 684)	NA	3 469 (157 054)	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 14 genetically characterized A(H1)pdm09 viruses up to week 43/2022, all belonged to clade 6B.1A.5a.2, of which 10 (7%) were represented by A/Norway/25089/2022, 3 (21%) were represented by A/Sydney/5/2021 and 1 (7%) was represented by A/Victoria/2570/2019. No viruses were not attributed to a clade.

Among the A(H3) viruses characterized up to week 43/2022, 8 were attributed to a clade. All belonged to clade 3C.2a1b.2a.2, represented by A/Slovenia/8720/2022. Only one virus was not attributed to a clade.

Up to week 43/2022, 3 B/Victoria viruses were characterized but no subgroup was assigned.

Currently, **WHO'S July** 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 43/2022, 43 viruses were assessed for susceptibility to neuraminidase inhibitors (NAI) (14 A(H1)pdm09, 9 A(H3) and 3 B viruses genotypically, and 16 A(H3) and 1 B viruses phenotypically), and 25 viruses were assessed for susceptibility to baloxavir marboxil (BXM) (13 A(H1)pdm09, 9 A(H3) and 3 B viruses genotypically). Phenotypically and genotypically, no viruses exceeded IC₅₀-fold-change thresholds for reduced susceptibility to NAI and no markers associated with reduced susceptibility to NAI and BXM were identified, respectively.

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](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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