Flu News Europe

Joint ECDC–WHO/Europe weekly influenza update

Summary

Weeks 31-35/2023 (31 July-03 September 2023)

- Influenza activity remained at interseasonal levels.
- Bulgaria, Ireland, Kazakhstan, Malta and Slovakia reported low influenza intensity and Scotland reported regional influenza activity.
- Display of data will be updated on a monthly basis during the interseason period (weeks 21-39).

2022-2023 season overview

- The seasonal epidemic activity threshold of 10% positivity in sentinel specimens was first crossed in week 45/2022.
- Following a peak at week 51/2022 with 39% positivity, influenza activity had been decreasing across the Region until week 4/2023 when it reached 21% positivity before rising again to fluctuate around 25% positivity between weeks 6 and 11/2023 before decreasing below 10% positivity in week 16/2023.
- Overall this season, influenza A(H3) viruses have dominated in sentinel primary care specimens, however higher circulation of A(H1)pdm09 and type B viruses was observed starting from week 50/2022 and week 2/2023, respectively. In non-sentinel specimens, higher circulation of A(H1)pdm09 (55%) than A(H3) viruses (45%) was detected.
- Both influenza type A and type B viruses have been detected in hospitalized patients in ICU and other wards and influenza A(H1)pdm09 viruses have dominated among SARI patients.
- Virus type and subtype prevalence by country and surveillance system has been variable across the season.
- The B/Yamagata viruses sporadically detected and reported by different countries have been further investigated and were proven to be LAIV related detections.

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

Information on countries and areas reporting on intensity of activity and geographic spread for this week can be seen in Figures 1 and 2, respectively.

Figure 1. Intensity of influenza activity in the European Region, week 35/2023

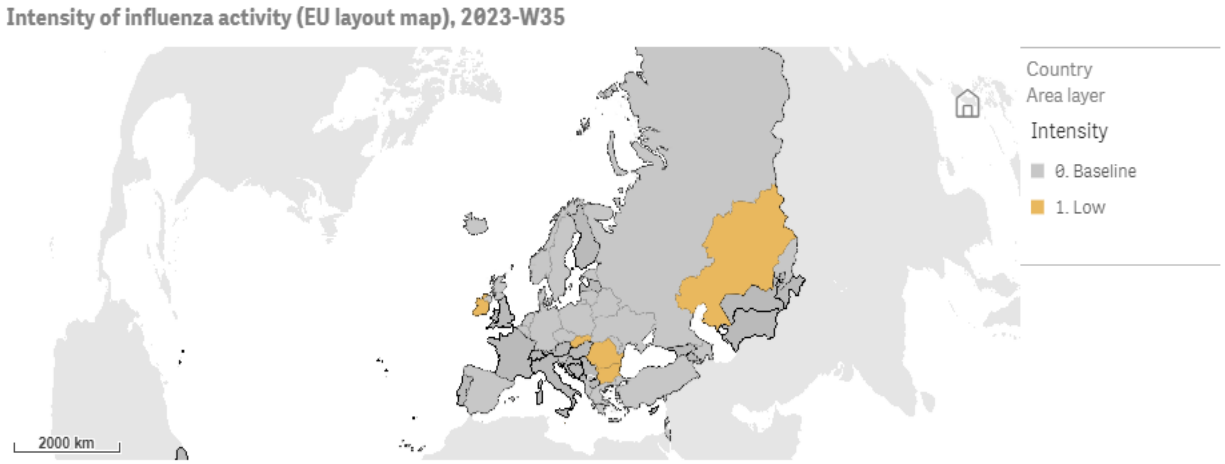
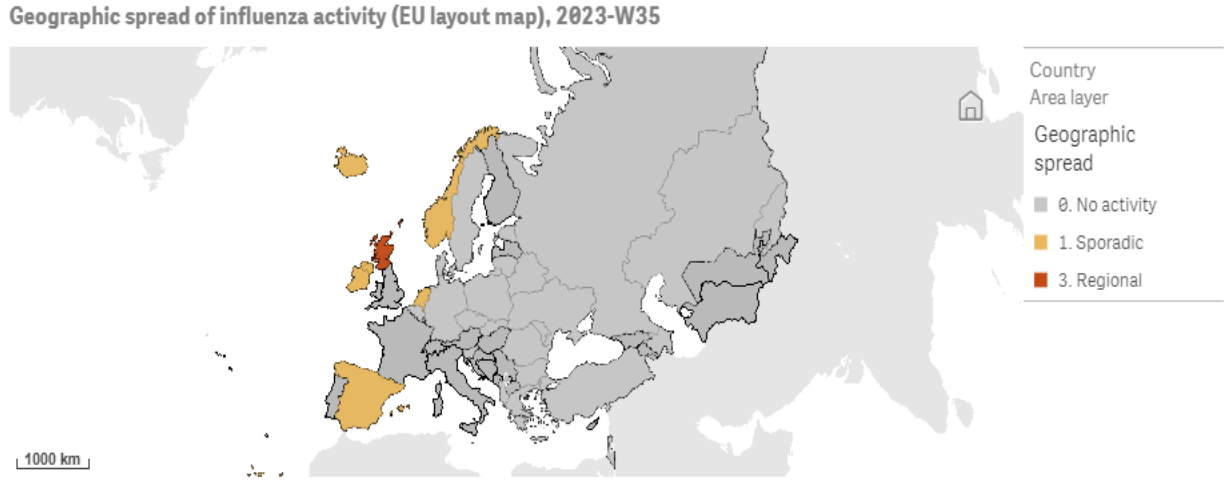


Figure 2. Geographic spread of influenza viruses in the European Region, week 35/2023



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

Please note:

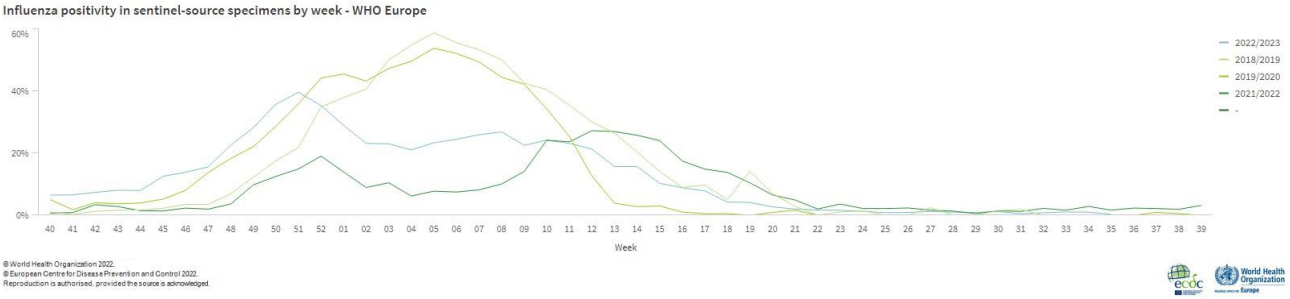
- Assessment of the intensity of activity indicator includes consideration of ILI or ARI rates. These ILI or ARI rates might be driven by respiratory infections other than influenza virus, including SARS-CoV-2, leading to observed increases in the absence of influenza virus detections.

- 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 and/or low intensity of activity measured by ILI and ARI incidence.

Influenza positivity

For the European Region, influenza virus positivity in sentinel primary care specimens remained below the epidemic threshold, which is set at 10% (Fig. 3).

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



External data sources

The 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

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

Please refer to Table 1 and Figure 4, respectively, for additional information on sentinel specimens tested for influenza viruses for this week.

Details of the distribution of viruses detected in non-sentinel-source specimens are presented in the **virus characteristics** section.

Figure 4. Influenza virus detections in sentinel-source specimens by type and subtype, season 2022/2023

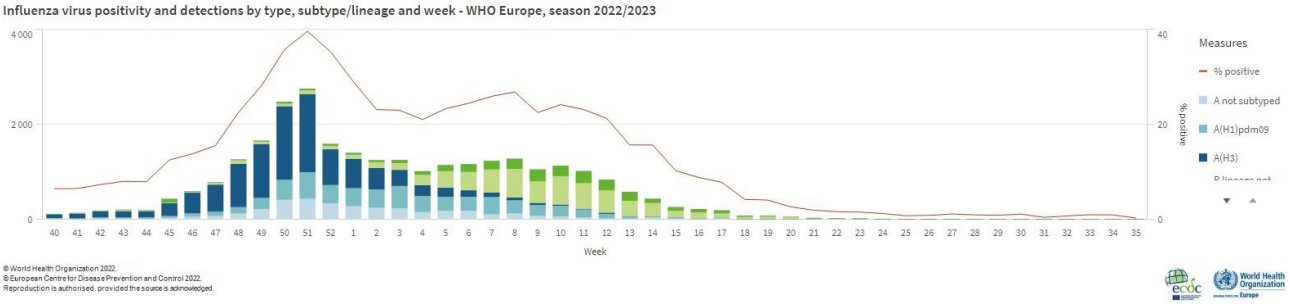


Table 1. Influenza virus detections in sentinel-source specimens by type and subtype, week 35/2023 and cumulative for the season

Sentinel	Current Week (35)		Season 2022-2023	
Virus type and subtype	**Number**	**%[a]**	**Number**	**%[a]**
Influenza A	**3**	**100**	**19 634**	**69.3**
A(H1)pdm09	1	33	5 809	36.5
A(H3)	0	-	10 106	63.5
A not subtyped	2	67	3 719	-
Influenza B	**0**	**-**	**8 688**	**30.7**
B/Victoria lineage	0	-	2 664	100
B/Yamagata lineage	0	-	0	0
Unknown lineage	0	-	6 024	-
Total detections (total tested)	**3 (892)**	**-**	**28 322 (148 030)**	**19.1**

[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)

Please refer to the respective Figures 5 and 6, respectively, below for more information for this week.

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

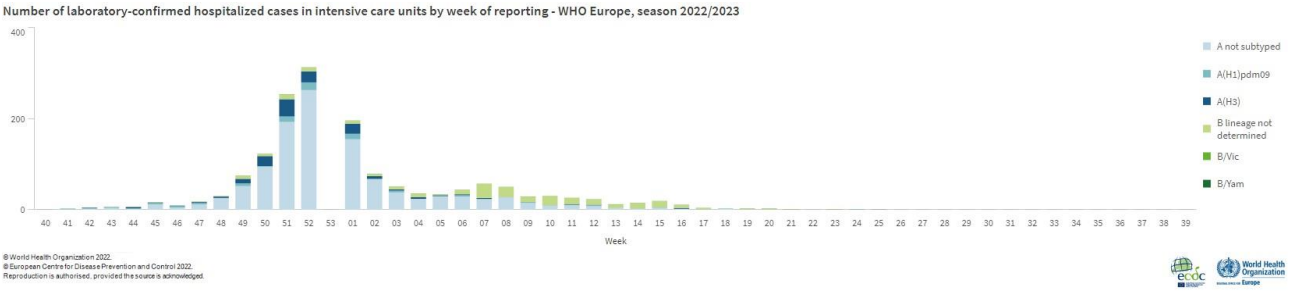
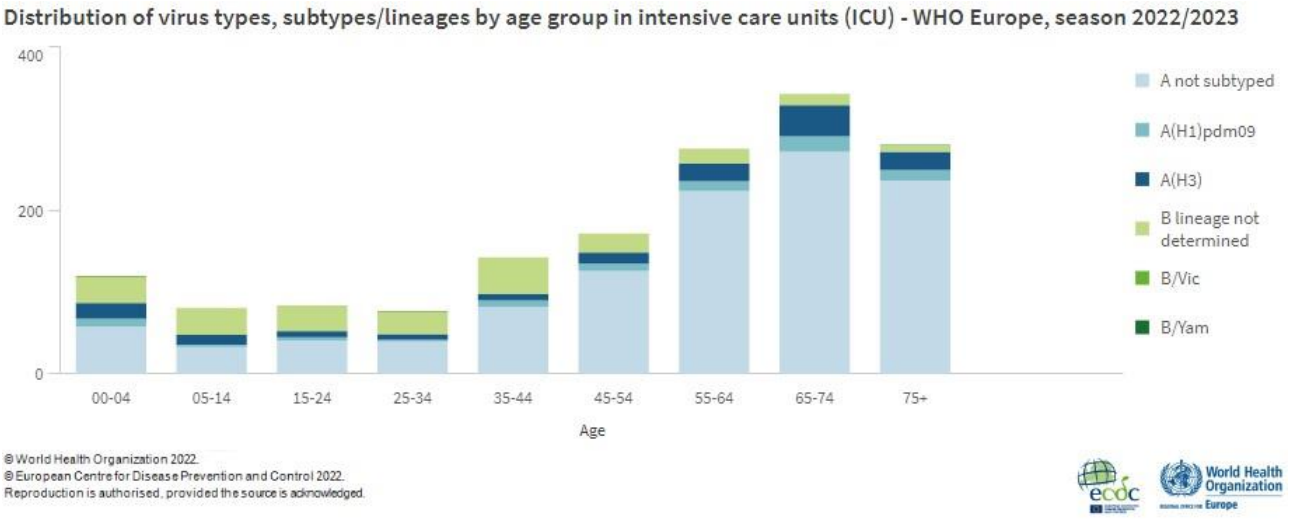


Figure 6. Distribution of influenza virus types, subtypes/lineages by age group in intensive care units (ICU), WHO Europe, season 2022/2023



1.2) Hospitalized laboratory-confirmed influenza cases – other wards

Please refer to the respective Figures 7 and 8, respectively, for more information for this week.

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

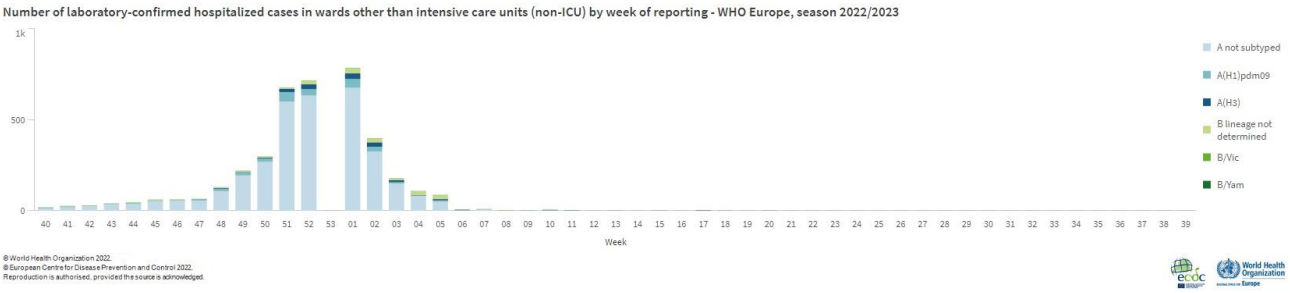
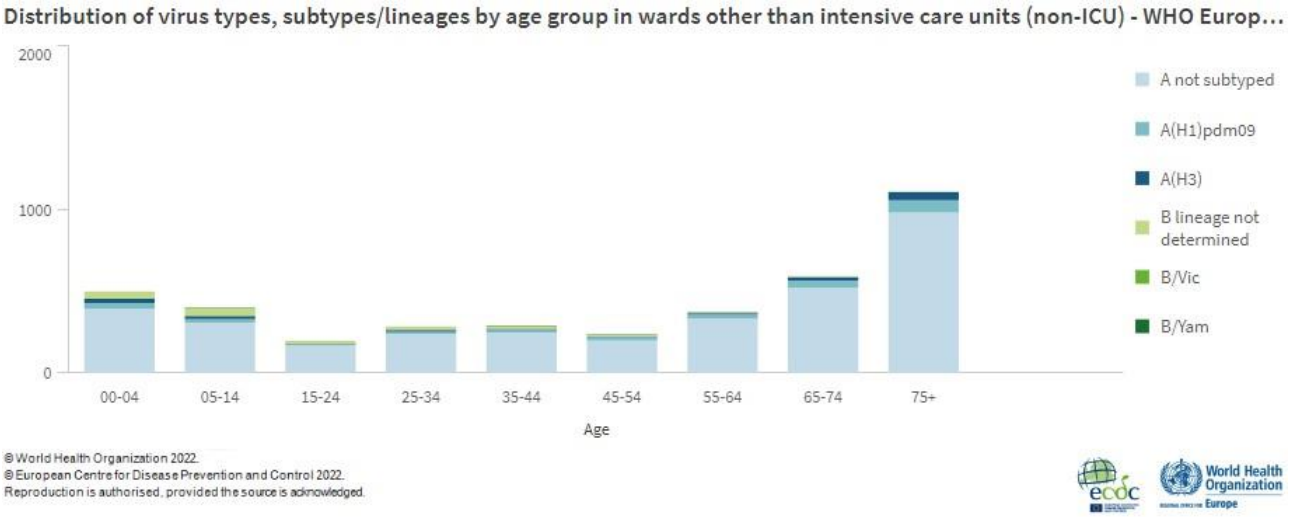


Figure 8. Distribution of influenza virus types, subtypes/lineages by age group in wards other than intensive care units (non-ICU), WHO Europe, season 2022/2023



Severe acute respiratory infection (SARI)-based hospital surveillance

Please refer to Figures 9 and 10, respectively, for more information for this week.

Figure 9. Number of severe acute respiratory infection (SARI) cases (bar) and positivity for influenza and COVID-19 (point/line) by week of reporting, WHO Europe, season 2022/2023

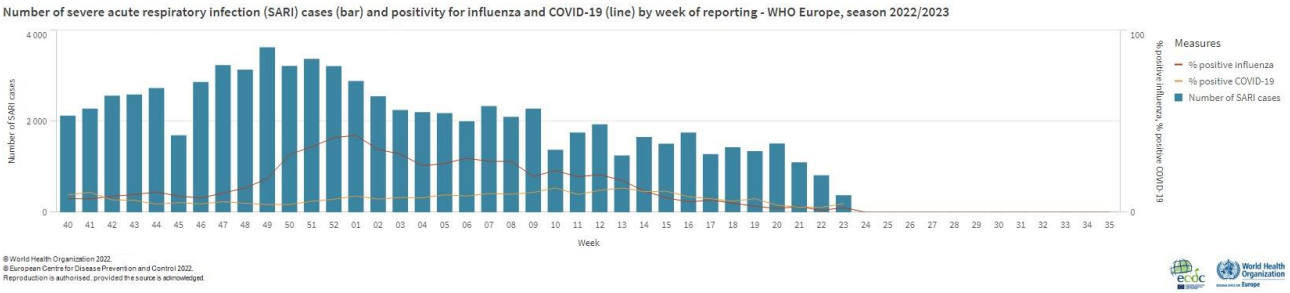
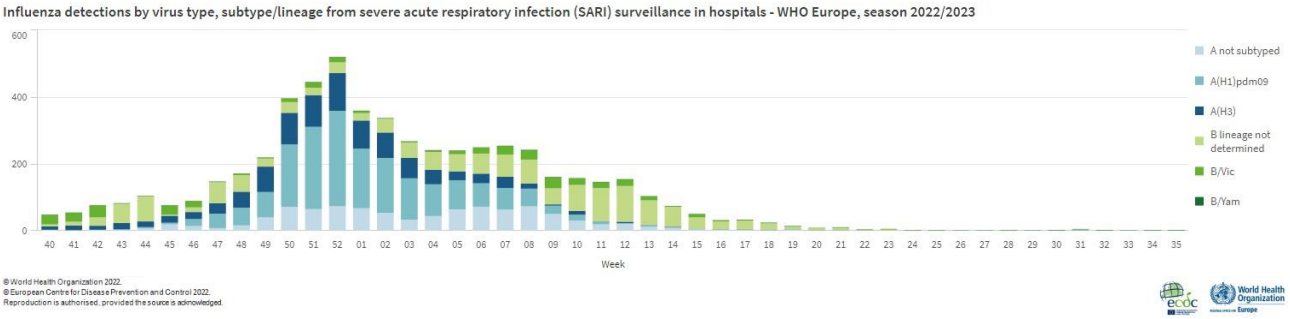


Figure 10. Influenza virus detections by type, subtype/lineage from severe acute respiratory infection (SARI), WHO Europe, season 2022/2023



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

Please refer to Figure 11 and Table 2, respectively, for additional information on non-sentinel specimens tested for influenza viruses for this week.

Figure 11. Influenza detections by type, subtype/lineage and week, WHO Europe, season 2022/2023

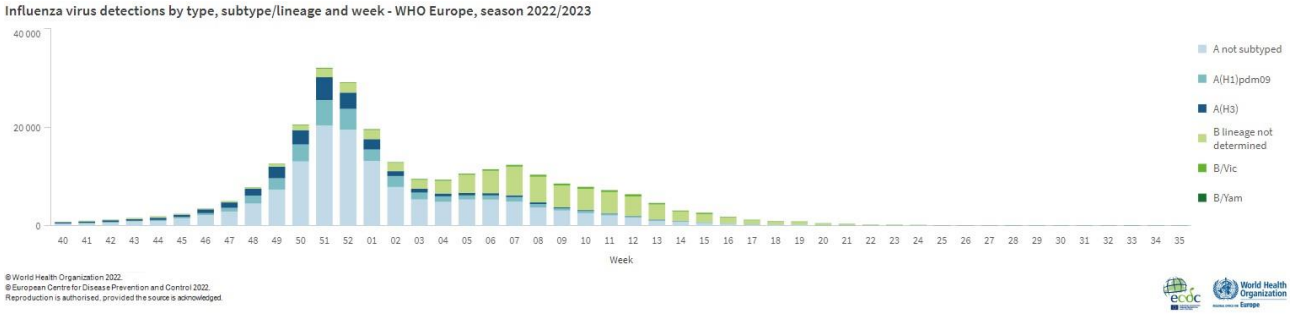


Table 2. Influenza virus detections in non-sentinel-source specimens by type and subtype, week 35/2023 and cumulative for the season

Non sentinel	Current Week (35)		Season 2022-2023	
Virus type and subtype	**Number**	**%[a]**	**Number**	**%[a]**
Influenza A	**99**	**84**	**198 184**	**75**
A(H1)pdm09	11	11	32 139	55
A(H3)	8	8	25 712	45
A not subtyped	80	81	140 333	-
Influenza B	**19**	**16**	**67 162**	**25**
B/Victoria lineage	0	-	5 572	100
B/Yamagata lineage	0	-	0	0
Unknown lineage	19	100	61 590	-
Total detections (total tested)	**118 (19 643)**	**0.6**	**265 346 (2 593 050)**	**10.2**

[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

Please refer to Table 3 for additional information on viruses that have been characterized genetically.

Table 3. Number of influenza viruses attributed to genetic groups, cumulative for the influenza weeks 40/2022-35/2023

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

Virus Type	Virus Subtype	Genetic character...	Number of influenza viruses attributed to genetic groups 2022/2023
Total			9 772
Influenza A			7 177
	A(H1)pdm09		4 015
		A(H1)pdm09_SubgroupNotListed *	410
		A/Guangdong-Maonan/SWL1536/2019(H1N1)pdm09_6B.1A.5a.1	11
		A/Norway/25089/2022(H1N1)pdm09_6B.1A.5a.2	693
		A/Sydney/5/2021(H1N1)pdm09_6B.1A.5a.2	2 816
		A/Victoria/2570/2019(H1N1)pdm09_6B.1A.5a.2	85
	A(H3)		3 162
		A(H3)_NOClade *	8
		A(H3)_SubgroupNotListed *	143
		A/Bangladesh/4005/2020(H3)_3C.2a1b.2a.2	1 839
		A/Darwin/9/2021(H3)_3C.2a1b.2a.2	206
		A/Denmark/3264/2019(H3N2)_3C.2a1b.1a	3
		A/Slovenia/8720/2022(H3)_3C.2a1b.2a.2	963
Influenza B			2 595
	B/Vic		2 595
		B/Austria/1359417/2021(Victoria lineage_1A.3a.2)	2 299
		BVic_SubgroupNotListed *	296

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

Currently, WHO Europe and ECDC's February virus characterization report is available and describes available data from circulating viruses for the early weeks of the 2022-2023 influenza season.

Previously published influenza virus characterization reports are available on the ECDC website and the WHO web site.

Antiviral susceptibility testing

Between weeks 31 and 35/2023, 3 viruses were assessed for susceptibility to neuraminidase inhibitors and 3 were assessed for susceptibility to baloxavir marboxil. Phenotypically and/or genotypically, no markers associated with reduced susceptibility 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 preserves

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 February 2023, WHO published recommendations for the components of influenza vaccines for use in the 2023-2024 northern hemisphere influenza season:

The WHO recommends that trivalent vaccines for use in the 2023-2024 influenza season in the northern hemisphere contain the following:

Egg-based vaccines

- an A/Victoria/4897/2022 (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/67/2022 (H1N1)pdm09-like virus;
- an A/Darwin/6/2021 (H3N2)-like virus; and
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus.

For quadrivalent egg- or cell culture-based or recombinant vaccines for use in the 2023-2024 northern hemisphere influenza season, the WHO recommends inclusion of the following as the B/Yamagata lineage component:

- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

The full report is published here.

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 was 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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