

Summary

Week 5/2023 (30 January-05 February 2023)

- The percentage of sentinel primary care specimens from patients presenting with ILI or ARI symptoms that tested positive for an influenza virus remained above the epidemic threshold (10%) and increased to 24% from 22% in the previous week.
- 33 of 38 countries or areas reported high or medium intensity and/or widespread activity indicating substantial seasonal influenza virus circulation across the Region.
- Netherlands, Romania, France, Slovenia, Slovakia, Israel, and Ukraine reported seasonal influenza activity above 40% positivity in sentinel primary care.
- Both influenza type A and type B viruses were detected with A(H1)pdm09 viruses being dominant across all monitoring systems.
- Hospitalized patients with confirmed influenza virus infection were reported from ICU, other wards (with mainly influenza type A viruses reported) and SARI surveillance (with mainly influenza A(H1)pdm09 subtype viruses reported). Eight countries or areas reported influenza positivity rates above 10% in SARI surveillance.

2022-2023 season overview

- The seasonal epidemic activity threshold of 10% positivity in sentinel specimens was first crossed in week 45/2022.
- Influenza activity had been decreasing across the Region since week 51/2022, with a slight increase in positivity in sentinel primary care observed in week 5/2023 related to type B virus circulation.
- Countries are experiencing a mixed distribution of circulating viruses with increasing circulation of A(H1)pdm09 and type B viruses.
- Overall this season, influenza A(H3) viruses have dominated in sentinel primary care specimens, however a higher circulation of A(H1)pdm09 and type B viruses was observed starting from week 50/2022 and week 2/2023, respectively. Similar proportions of A(H1)pdm09 and A(H3) viruses were detected in non-sentinel specimens.
- Type A viruses (mostly not subtyped) have been detected in hospitalized patients in ICU and other wards and influenza A(H1)pdm09 viruses have dominated in SARI specimens.

Other news

- RSV is another respiratory virus that causes acute respiratory disease, mainly among young infants and the elderly, often mild but frequently severe among children less than 1 year of age and frail elderly. High levels of RSV have been circulating across the Region since week 40/2022, with overall positivity amongst patients in primary care with acute respiratory illness decreasing to 5.9% for week 5/2023. More information on the risk of RSV infections can be found here: <https://www.ecdc.europa.eu/sites/default/files/documents/RRA-20221128-473.pdf>

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 5/2023, of 33 countries and areas reporting on intensity of influenza activity, 8 reported baseline-intensity (Austria, Germany, Iceland, Netherlands, Ukraine, United Kingdom (Northern Ireland), United Kingdom (Scotland) and Uzbekistan), 8 reported low-intensity (Azerbaijan, Belgium, Czechia, France, Greece, Hungary, Ireland and Republic of Moldova), 11 reported medium-intensity (in eastern, northern and southern areas of the Region), 6 reported high-intensity (Bosnia and Herzegovina, Kosovo (in accordance with UN Security Council Resolution 1244 (1999)), Latvia, Malta, Russian Federation and Slovakia) (Fig. 1).

Of 33 countries and areas reporting on geographic spread of influenza viruses, 1 reported no activity (Uzbekistan), 2 reported sporadic spread (Azerbaijan and United Kingdom (Northern Ireland)), 2 reported local spread (Malta and Slovakia), 5 reported regional spread (Austria, Bulgaria, Czechia, Serbia and Kosovo (in accordance with UN Security Council Resolution 1244 (1999))) and 23 reported widespread activity (across the Region) (Fig. 2).

Figure 1. Intensity of influenza activity in the European Region, week 5/2023

Intensity of influenza activity (EU layout map), 2023-W05

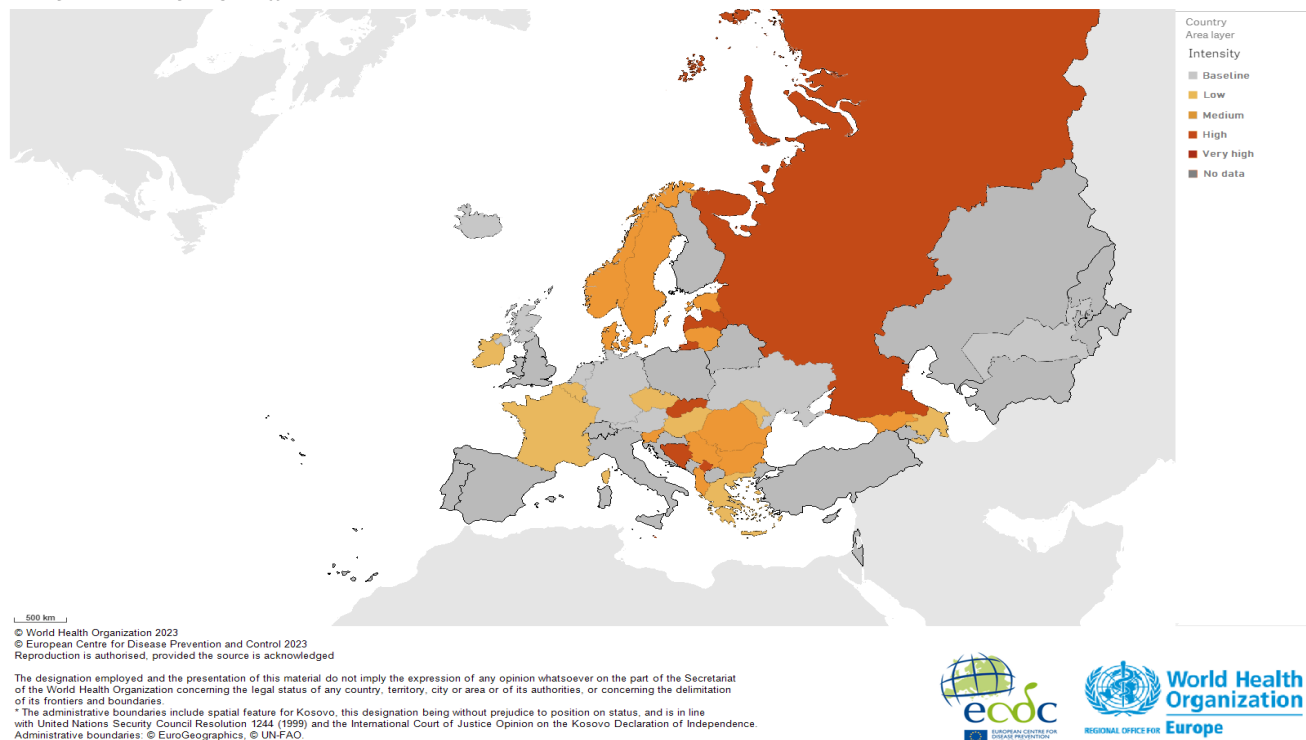
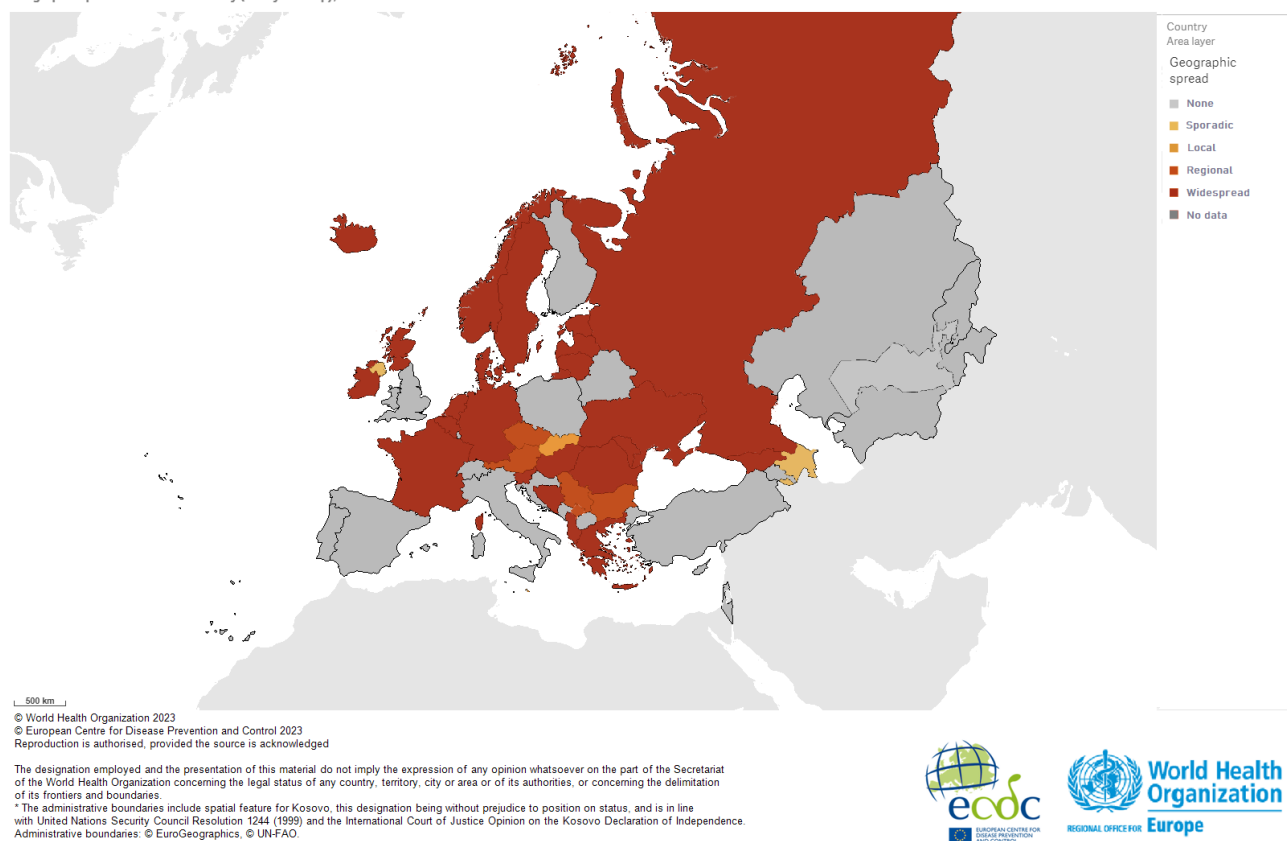


Figure 2. Geographic spread of influenza viruses in the European Region, week 5/2023

Geographic spread of influenza activity (EU layout map), 2023-W05



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

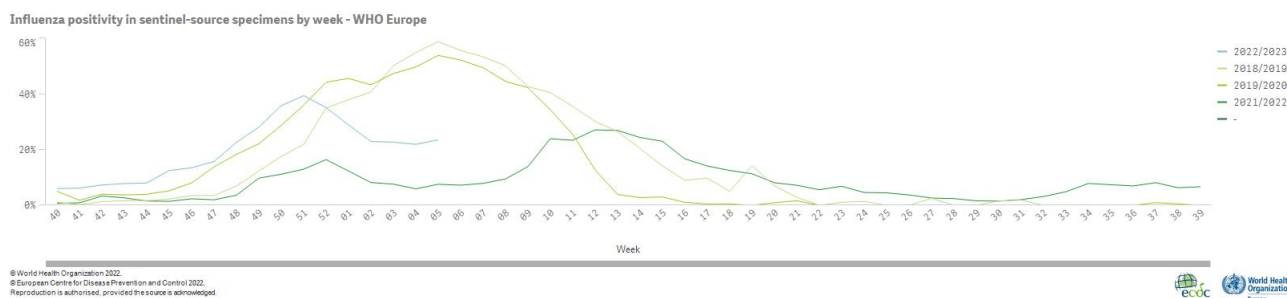
Please note:

- 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 increased from 22% in the previous week to 24% in week 5/2023. Seasonal activity above the epidemic threshold, which is set at 10%, started in week 45/2022. This is an earlier influenza epidemic start than in the four previous seasons: ranging from week 47 (2019/20 season) to 49 (2021/22 season). Positivity reached a peak in week 51/2022 which was earlier than in the four previous seasons: ranging from week 52 (2021/22 season) to 5 (2017/18 to 2019/20) (Fig. 3).

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



External data sources

Mortality monitoring:

EuroMOMO estimates all-cause mortality for the participating European countries, the full 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 (n=5; Azerbaijan, Georgia, Republic of Moldova, Russian Federation and Ukraine), northern (n=5; Denmark, Estonia, Ireland, Latvia and Lithuania), southern (n=3;

Greece, Romania and Serbia) and western (n=5; Austria, Belgium, Czechia, Hungary 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=3; Republic of Moldova, Russian Federation and Uzbekistan), northern (n=1; Latvia), southern (n=3; Albania, Bulgaria and Romania) and western (n=1; Czechia) 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) method and based on historic ILI/ARI data.

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

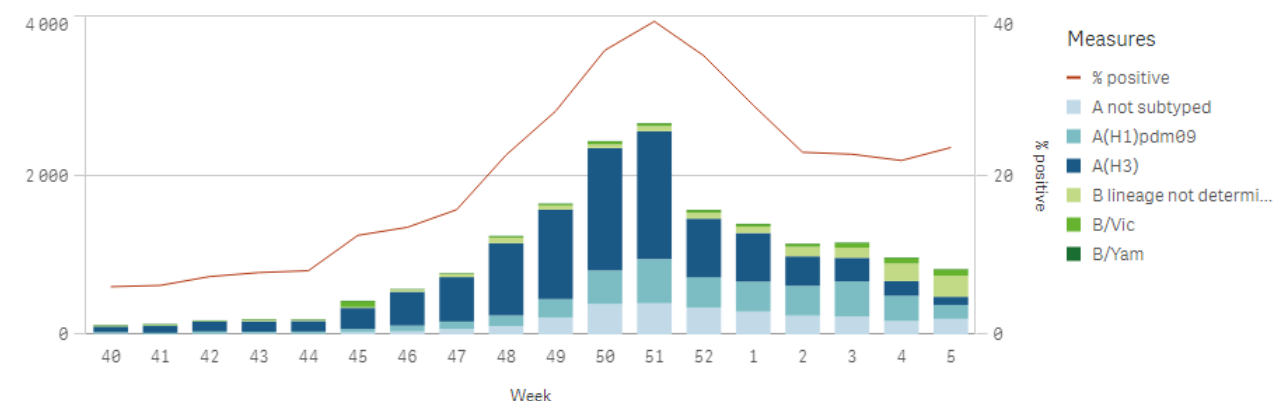
For week 5/2023, 818 (24%) of 3 478 sentinel specimens tested positive for an influenza virus; 58% were type A and 42% were type B. Of 277 subtyped A viruses, 63% were A(H1)pdm09 and 37% A(H3). All 79 type B viruses ascribed to a lineage were Victoria lineage (Fig. 4 and Table 1). Of 32 countries and areas across the Region that each tested at least 10 sentinel specimens in week 5/2023, 25 reported a rate of influenza virus detections at or above 10% (median 28%; range 10% - 78%): Netherlands (78%), Romania (54%), France (50%), Slovenia (49%), Slovakia (44%), Israel (42%), Ukraine (40%), Armenia (37%), Belgium (36%), Republic of Moldova (35%), Denmark (31%), Hungary (31%), Kosovo (28%) (in accordance with Security Council resolution 1244 (1999)), North Macedonia (27%), Norway (25%), Spain (24%), Tajikistan (18%), Switzerland (17%), Austria (15%), Italy (15%), Czechia (14%), Ireland (14%), Bulgaria (13%), Germany (13%) and Kyrgyzstan (10%).

For the season to date, 17 544 (23%) of 75 665 sentinel specimens tested positive for an influenza virus. More influenza type A (n=15 738, 90%) than type B (n=1 806, 10%) viruses have been detected. Of 13 021 subtyped A viruses, 9 285 (71%) were A(H3) and 3 736 (29%) were A(H1)pdm09. Of 559 type B viruses ascribed to a lineage, 558 were Victoria lineage and one was Yamagata lineage (69% 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

Influenza virus positivity and detections by type, subtype/lineage and week - WHO Europe, season 2022/2023



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Table 1 Influenza virus detections in sentinel source specimens by type and subtype for week 5/2023 and cumulatively for the season

Sentinel	Current Week (5)		Season 2022-2023	
Virus type and subtype	Number	% ^a	Number	% ^a
Influenza A	473	57.8	15 738	89.7
A(H1)pdm09	175	63.2	3 736	28.7
A(H3)	102	36.8	9 285	71.3
A not subtyped	196	-	2 717	-
Influenza B	345	42.2	1 806	10.3
B/Victoria lineage	79	100	558	99.8
B/Yamagata lineage	0	0	1	0.2
Unknown lineage	266	-	1 247	-
Total detections (total tested)	818 (3 478)	23.5	17 544 (75 665)	23.2

^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 5/2023.

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 5/2023, 18 laboratory-confirmed influenza cases were reported from ICU wards (in Czechia, France, Ireland and Sweden). Only influenza type A viruses were detected. The 2 subtyped influenza type A viruses, both were A(H3) (Fig. 5 and 6).

Since week 40/2022, more influenza type A (n=2 464, 94%) than type B (n=145, 6%) viruses were detected (in Czechia, France, Ireland, Sweden and United Kingdom (England)). Of 459 subtyped influenza A viruses, 55% were A(H3) and 45% were A(H1)pdm09. No influenza B viruses were ascribed to a lineage. Of 1144 cases with known age, 515 were 15-64 years old, 499 were 65 years and older, 85 were 0-4 years old and 45 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 2022/2023

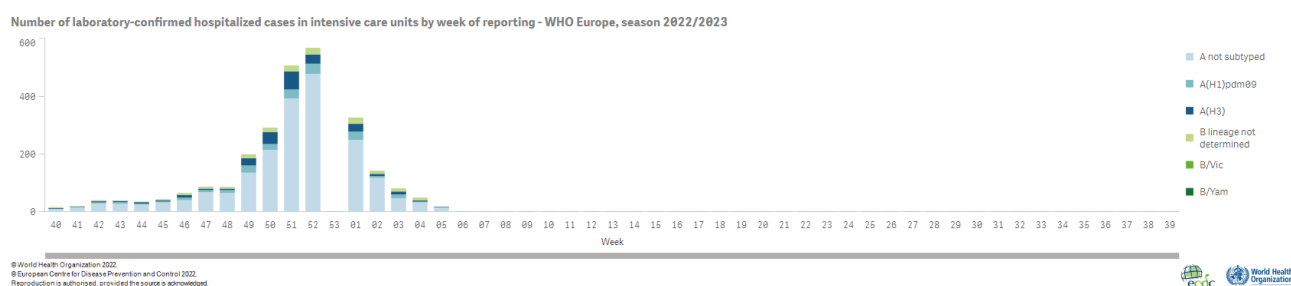
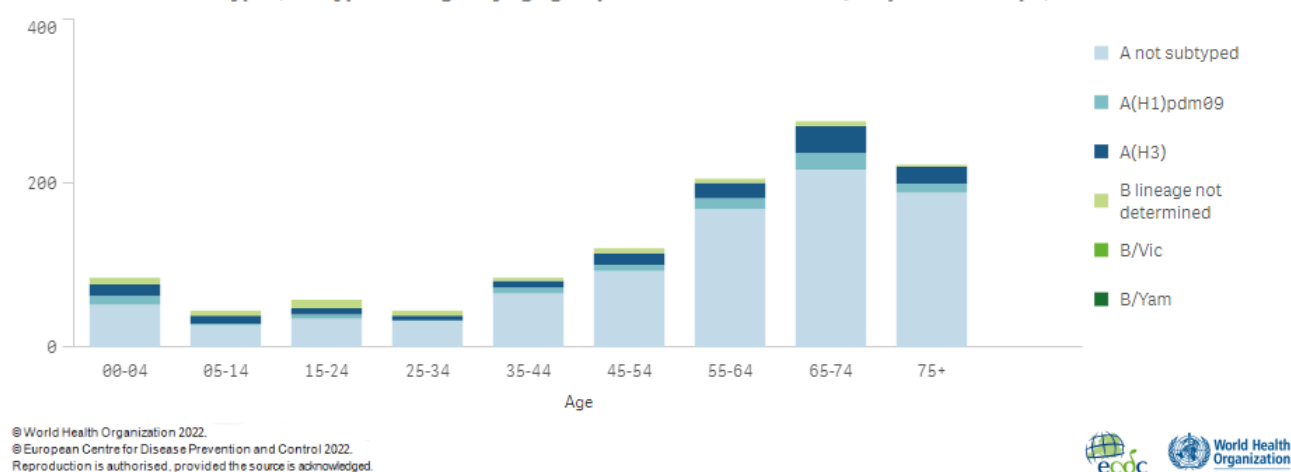


Figure 6. Distribution of influenza virus types, subtypes/lineages by age group in intensive care units (ICU), WHO European Region, season 2022/2023

Distribution of 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

For week 5/2023, 87 laboratory-confirmed influenza cases were reported from other wards (in Czechia and Ireland), influenza type A viruses (74%) were detected more frequently than influenza type B viruses (26%). Of 13 subtyped influenza type A viruses, 7 were A(H3) and 6 were A(H1)pdm09 (Fig. 7 and 8).

Since week 40/2022, 3 776 influenza type A viruses and 171 influenza type B virus were reported from Czechia and Ireland. Of 389 subtyped influenza A viruses, 64% (n=250) were A(H1)pdm09 and 36% (n=139) A(H3). The 3 947 cases with known age fell in 4 age groups: 1690 were 65 years and older, 1360 were 15-64 years old, 499 were 0-4 years old and 398 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 2022/2023

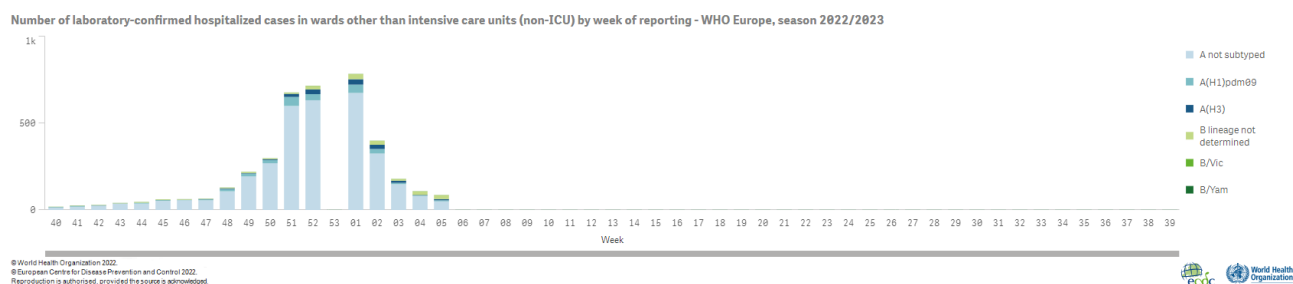
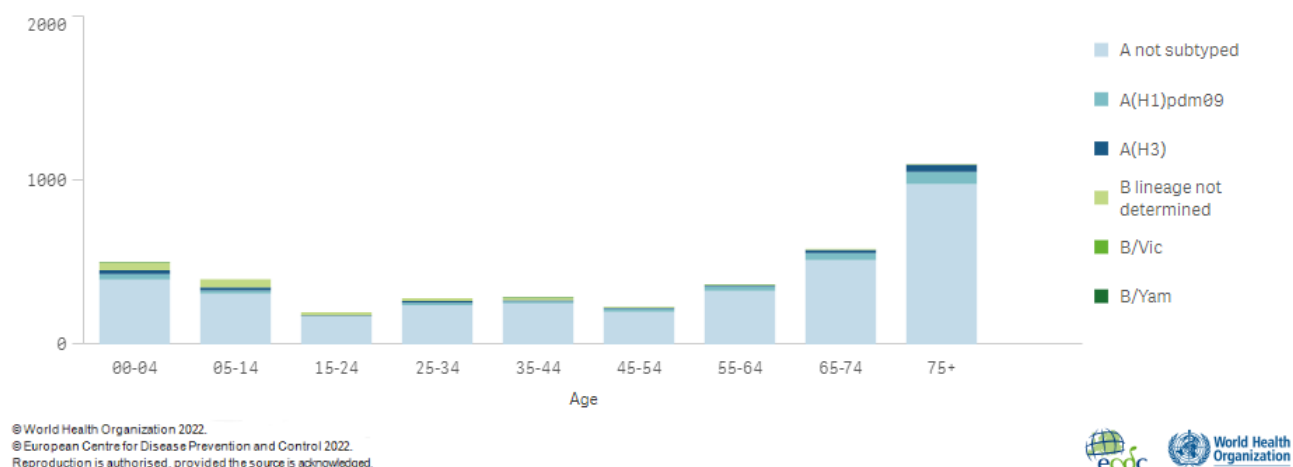


Figure 8. Distribution of influenza virus types, subtypes/lineages by age group in wards other than intensive care units (non-ICU), WHO European Region, season 2022/2023

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



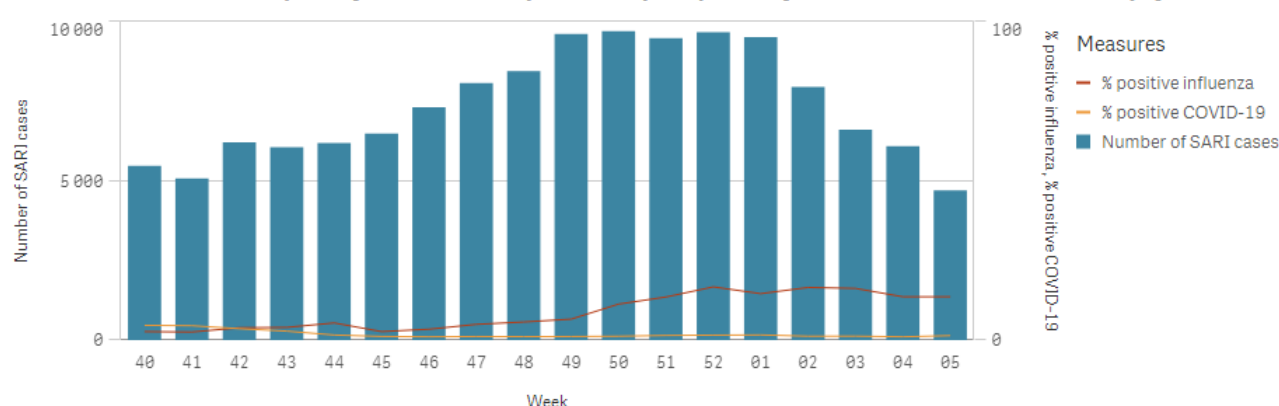
Severe acute respiratory infection (SARI)-based hospital surveillance

For week 5/2023, 3 188 SARI cases were reported by 16 countries or areas (Albania, Belarus, Belgium, Bosnia and Herzegovina, Georgia, Germany, Ireland, Lithuania, Malta, Republic of Moldova, Romania, Russian Federation, Serbia, Spain, Ukraine and Uzbekistan). Of 1 014 specimens tested for influenza viruses, 14% (n=138) were positive (Fig. 9). Of these, influenza type A viruses (n=112, 81%) were detected more frequently than influenza type B viruses (n=26, 19%). Of 63 subtyped influenza type A viruses, 48 (76%) were A(H1)pdm09 and 15 (24%) were A(H3). Of 9 countries and areas across the Region that each tested at least 10 specimens, 8 reported positivity rates above 10%: Romania (50%), Lithuania (46%), Serbia (45%), Ukraine (44%), Albania (28%), Bosnia and Herzegovina (28%), Uzbekistan (20%) and Russian Federation (15%).

For the season, 100 135 SARI cases were reported by 27 countries or areas (Albania, Armenia, Belarus, Belgium, Bosnia and Herzegovina, Croatia, Georgia, Germany, Ireland, Kazakhstan, Kyrgyzstan, Lithuania, Malta, Montenegro, North Macedonia, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Spain, Tajikistan, Türkiye, Turkmenistan, 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 A viruses have been the most common (n=2 691, 78%) and of these 2 270 were subtyped: 1 672 (74%) were infected by A(H1)pdm09 viruses and 598 (26%) were infected by A(H3) viruses. Only 22% (n=174) of the influenza B viruses were ascribed to a lineage, 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

Number of severe acute respiratory infection (SARI) cases (bar) and positivity for influenza and COVID-19 (line) by week of r...

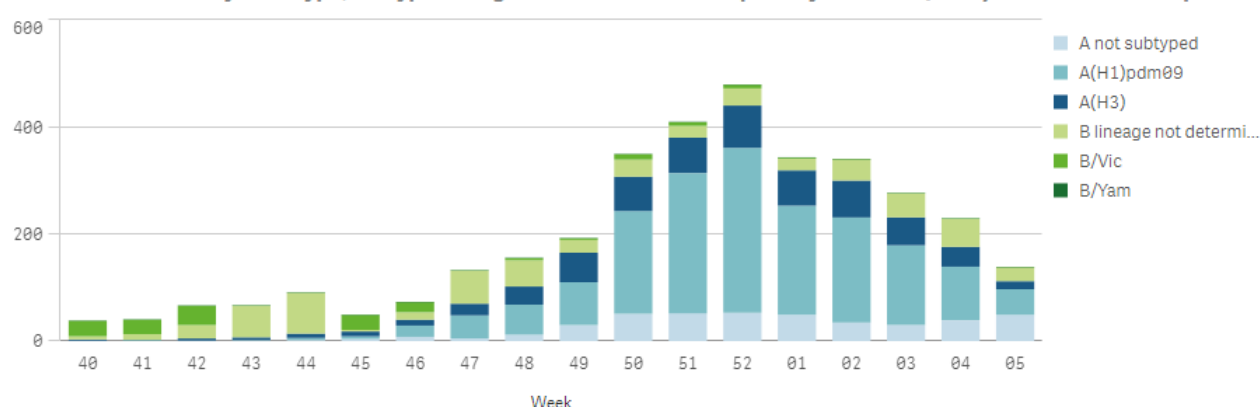


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Figure 10. Influenza virus detections by type, subtype/lineage from severe acute respiratory infection (SARI), WHO European Region, season 2022/2023

Influenza detections by virus type, subtype/lineage from severe acute respiratory infection (SARI) surveillance in hospitals - ...



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Virus characteristics

Details of the distribution of viruses detected in sentinel-source specimens can be found in the **Primary care data** section.

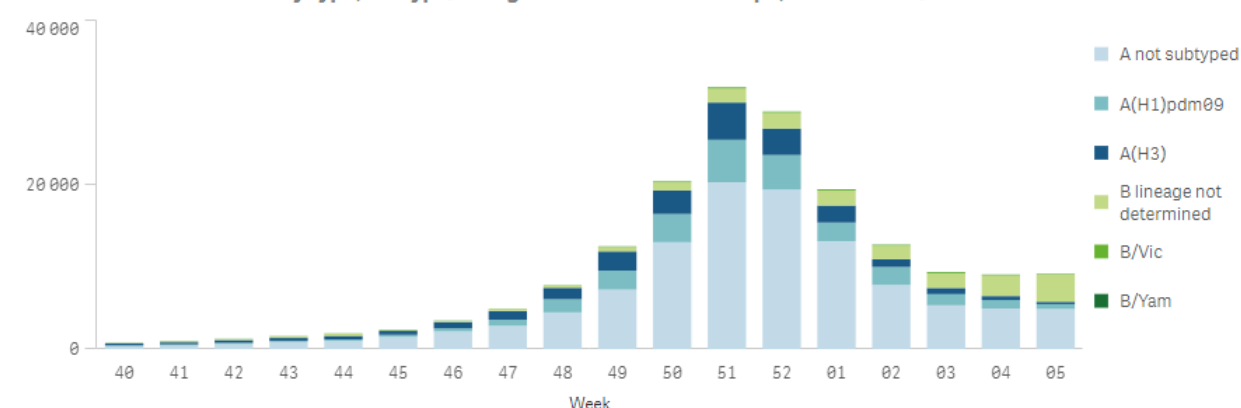
Non-sentinel virologic data

For week 5/2023, 9 200 of 65 434 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; 5 769 (63%) were type A and 3 431 (37%) were type B. Of 889 subtyped A viruses, 608 (68%) were A(H1)pdm09 and 281 (32%) A(H3). Of 66 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=159 572, 89%) than type B (n=18 869, 11%) viruses have been detected. Of 49 160 subtyped A viruses, 26 333 (54%) were A(H1)pdm09 and 22 827 (46%) were A(H3). Of 1336 influenza type B viruses ascribed to a lineage, all were B/Victoria (93% 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

Influenza virus detections by type, subtype/lineage and week - WHO Europe, season 2022/2023



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Table 2. Influenza virus detections in non-sentinel-source specimens by type and subtype, week 5/2023 and cumulatively for the season

Non-sentinel	Current Week (5)		Season 2022-2023	
Virus type and subtype	Number	% ^a	Number	% ^a
Influenza A	5 769	62.7	159 572	89.4
A(H1)pdm09	608	68.4	26 333	53.6
A(H3)	281	31.6	22 827	46.4
A not subtyped	4 880	-	110 412	-
Influenza B	3 431	37.3	18 869	10.6
B/Victoria lineage	66	100	1 336	100
B/Yamagata lineage	0	0	0	0
Unknown lineage	3 365	-	17 533	-

Total detections (total tested)	9 200 (65 434)	-	178 441 (1 344 907)	-
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^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 1 601 genetically characterized A(H1)pdm09 viruses up to week 5/2023, 752 (47%) were attributed to clade 6B.1A.5a.2, of which 427 (56%) were represented by A/Norway/25089/2022, 313 (41%) by A/Sydney/5/2021 and 12 (2%) by A/Victoria/2570/2019. Four (1%) were attributed to clade 6B.1A.5a.1 represented by A/Guangdong-Maonan/SWL1536/2019. 845 (53%) viruses were not attributed to a subgroup.

Among the 1 507 A(H3) viruses characterized up to week 5/2023, 1 451 (96%) were attributed to clade 3C.2a1b.2a.2, of which 926 (64%) were represented by A/Bangladesh/4005/2020, 436 (30%) by A/Slovenia/8720/2022 and 89 (6%) by A/Darwin/9/2021. 53 (<4%) viruses were not attributed to a subgroup. Only 3 viruses were ascribed to clade 3C.2a1b.1a represented by A/Denmark/3264/2019.

Up to week 5/2023, 365 B/Victoria viruses were characterized, 193 (53%) of which were attributed to clade V1A.3a.2 represented by B/Austria/1359417/2021. 172 (47%) viruses were not attributed to a subgroup.

Table 3. Number of influenza viruses attributed to genetic groups, cumulative for the season, WHO European Region

Due to data entry error, this table cannot be displayed at this time.

Currently, [WHO Europe and ECDC's December](#) virus characterization report is available and describes available data from circulating viruses for the early weeks of the 2022-2023 influenza season: type A influenza virus circulation dominated over type B, with similar proportions of circulating A(H3) and A(H1)pdm09 viruses. Vaccination remains the best protective measure for prevention of influenza.

Previously published influenza virus characterization reports are available on the [ECDC website](#) and the [WHO website](#).

Antiviral susceptibility testing

Up to week 5/2023, 2 186 viruses were assessed for susceptibility to neuraminidase inhibitors (862 A(H3), 671 A(H1)pdm09 and 253 B viruses genotypically and 240 A(H3), 132 A(H1)pdm09 and 27 B viruses phenotypically), and 1 611 viruses were assessed for susceptibility to baloxavir marboxil (968 A(H3), 402 A(H1)pdm09 and 241 B viruses genotypically). Genotypically, two (H1)pdm09 viruses were found to carry the NA H275Y marker, indicative of highly reduced inhibition (HRI) by oseltamivir and peramivir, and phenotypically no viruses with reduced susceptibility were identified. No markers of reduced susceptibility to baloxavir marboxil were detected,

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](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 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 2022 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](#).

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

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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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