

Summary

Week 7/2023 (13 February-19 February 2023)

- The percentage of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms that tested positive for an influenza virus increased from 27% in the previous week to 30% in week 7/2023 which is above the epidemic threshold (10%).
- 18 of 39 countries or areas reported high or medium intensity and 23 of 39 countries reported widespread activity indicating substantial seasonal influenza virus circulation across the Region.
- Romania, Netherlands, France, Slovenia, Armenia, Denmark and Hungary reported seasonal influenza activity above 40% positivity in sentinel primary care.
- Both influenza type A and type B viruses were detected with similar proportion distribution in sentinel and non-sentinel surveillance.
- Hospitalized patients with confirmed influenza virus infection were reported from ICU (with type B viruses predominating), other wards (with mainly influenza type A viruses reported; not further subtyped) and SARI surveillance (with mainly influenza A(H1)pdm09 subtype viruses reported). Nine 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 until week 4/2023 but is increasing since week 5/2023 related to increased 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. An almost even distribution of A(H1)pdm09 and A(H3) viruses was detected in non-sentinel specimens.
- 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 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 4% for week 7/2023. 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>

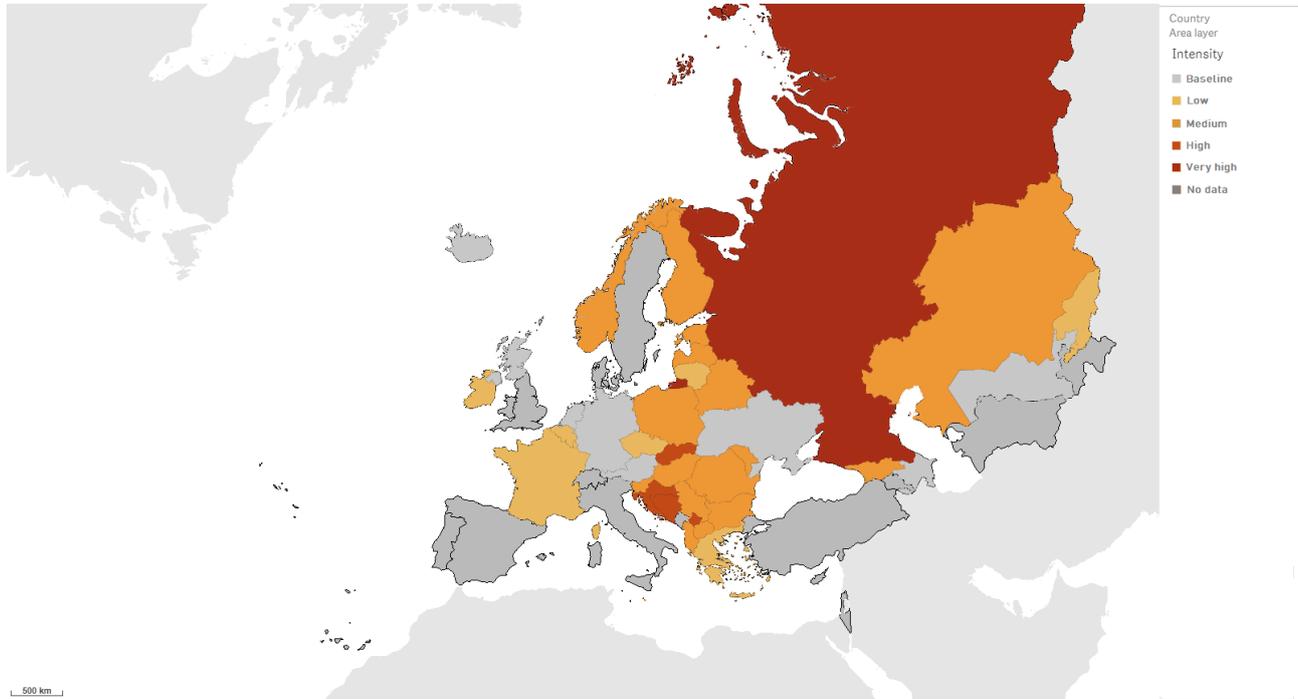
Qualitative indicators

For week 7/2023, of 39 countries and areas reporting on intensity of influenza activity, 9 reported baseline-intensity (eastern, northern and western), 8 reported low-intensity (Belgium, Czechia, France, Greece, Ireland, Kyrgyzstan, Lithuania and Luxembourg), 17 reported medium-intensity (across the Region), 4 reported high-intensity (Bosnia and Herzegovina, Croatia, Kosovo (in accordance with UN Security Council Resolution 1244 (1999)) and Slovakia) and 1 reported very high-intensity (Russian Federation) (Fig. 1).

Of 39 countries and areas reporting on geographic spread of influenza viruses, 3 reported sporadic spread (Azerbaijan, United Kingdom (Northern Ireland) and Uzbekistan), 3 reported local spread (Lithuania, Malta and Slovakia), 10 reported regional spread (across the Region) and 23 reported widespread activity (across the Region) (Fig. 2).

Figure 1. Intensity of influenza activity in the European Region, week 7/2023

Intensity of influenza activity (EU layout map), 2023-W07



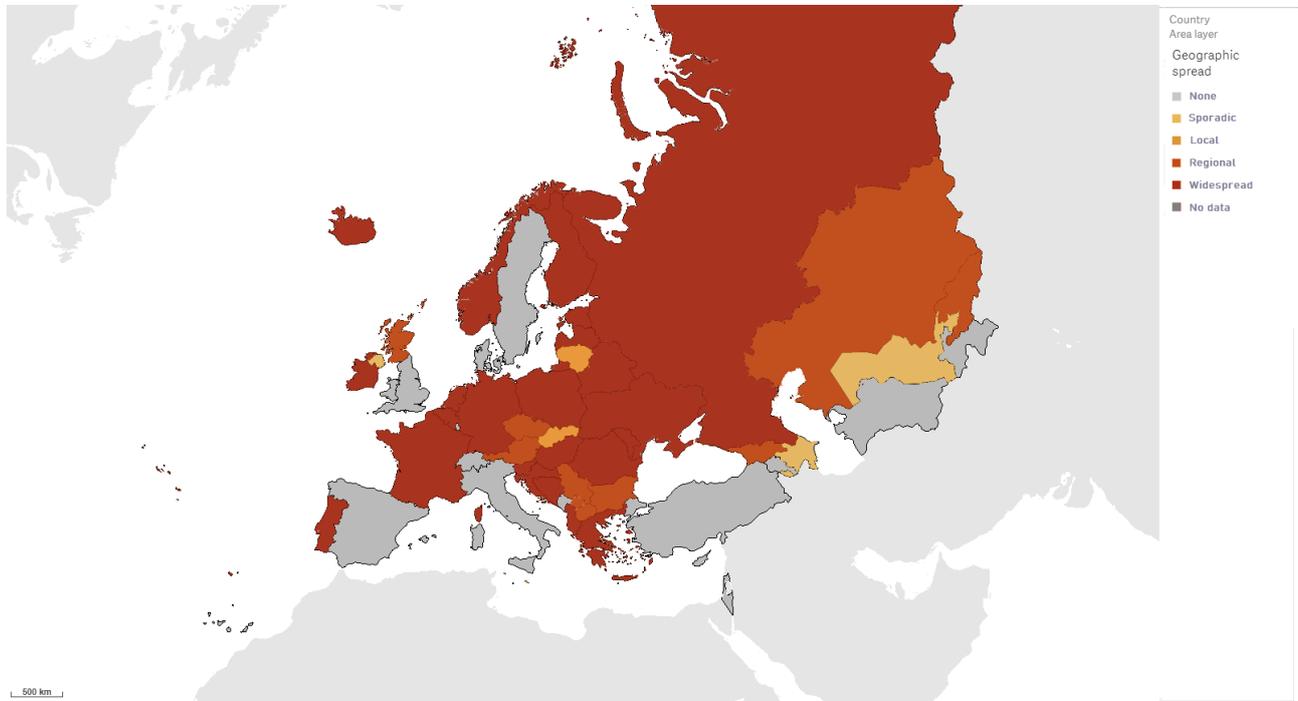
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Figure 2. Geographic spread of influenza viruses in the European Region, week 7/2023

Geographic spread of influenza activity (EU layout map), 2023-W07



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

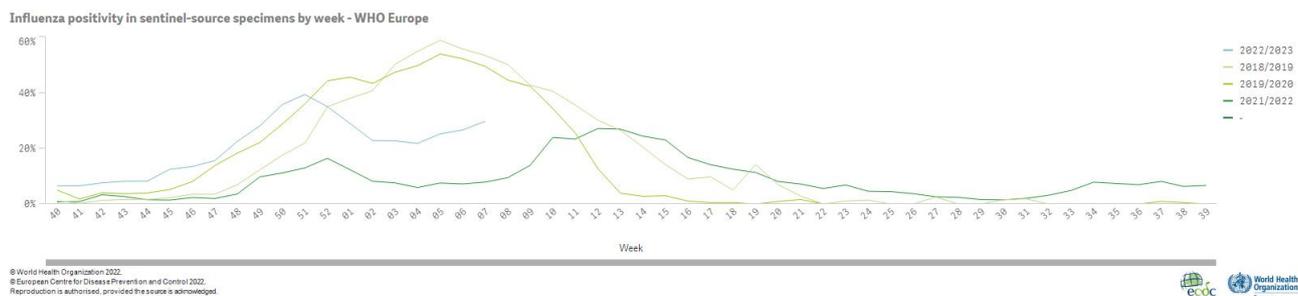
Please note:

- 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 increased from 27% in the previous week to 30% in week 7/2023. 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, seasons 2018/2019, 2019/2020, 2021/2022 and 2022/2023



External data sources

Mortality monitoring:

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 (n=7; Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation and Ukraine), northern (n=2; Latvia and Lithuania), southern (n=5; Croatia, Greece, North Macedonia, Romania and Serbia) and western (n=7; Austria, Belgium, Czechia, Hungary, Luxembourg, Poland 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=6; Belarus, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation and Uzbekistan), northern (n=1; Latvia), southern (n=3; Albania, Bulgaria and Romania) and western (n=2; Czechia and Slovakia) 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)

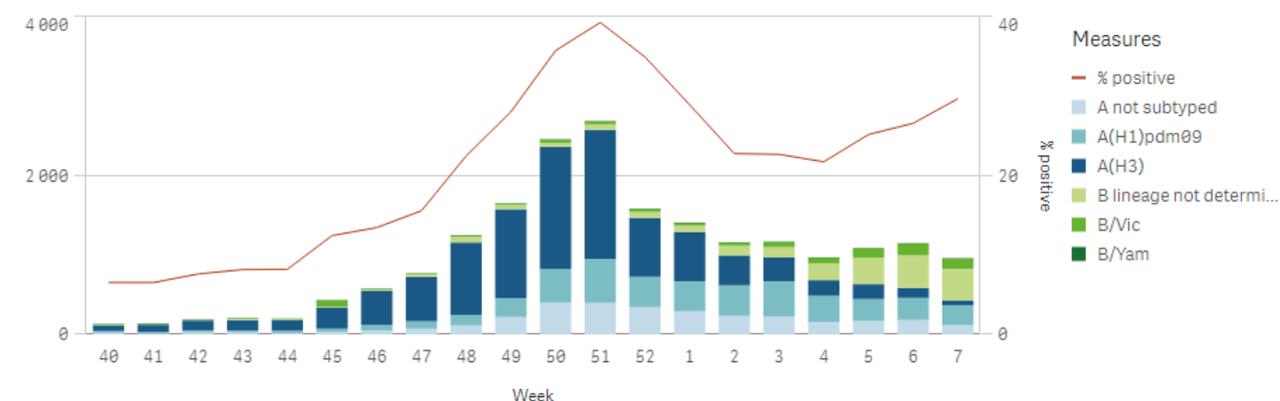
For week 7/2023, 957 (30%) of 3 224 sentinel specimens tested positive for an influenza virus; 45% were type A and 55% were type B. Of 313 subtyped A viruses, 80% were A(H1)pdm09 and 20% A(H3). All 128 type B viruses ascribed to a lineage were Victoria lineage (Fig. 4 and Table 1). Of 29 countries and areas across the Region that each tested at least 10 sentinel specimens in week 7/2023, 23 reported a rate of influenza virus detections above 10% (median 30%; range 11% - 94%): Romania (94%), Netherlands (63%), France (48%), Slovenia (46%), Armenia (45%), Denmark (42%), Hungary (41%), Ukraine (38%), Czechia (38%), Spain (36%), Poland (30%), Slovakia (30%), Luxembourg (27%), Republic of Moldova (26%), Kosovo (25%), Switzerland (24%), Austria (21%), Italy (20%), Germany (17%), Ireland (17%), Belgium (17%), Norway (16%) and Kyrgyzstan (11%).

For the season to date, 20 135 (24%) of 85 145 sentinel specimens tested positive for an influenza virus. More influenza type A (n=17 109, 85%) than type B (n=3 026, 15%) viruses have been detected. Of 14 009 subtyped A viruses, 9 613 (69%) were A(H3) and 4 396 (31%) were A(H1)pdm09. All 884 influenza type B viruses ascribed to a lineage were Victoria lineage (71% 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 7/2023 and cumulatively for the season

Sentinel Virus type and subtype	Current Week (7)		Season 2022-2023	
	Number	% ^a	Number	% ^a
Influenza A	430	44.9	17 109	85
A(H1)pdm09	250	79.9	4 396	31.4
A(H3)	63	20.1	9 613	68.6
A not subtyped	117	-	3 100	-
Influenza B	527	55.1	3 026	15
B/Victoria lineage	128	100	884	100
B/Yamagata lineage	0	0	0	0

Unknown lineage	399	-	2 141	-
Total detections (total tested)	957 (3 224)	29.7	20 135 (85 145)	23.6

^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

Influenza.net 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 7/2023, 15 laboratory-confirmed influenza cases were reported from ICU wards (in Czechia and France). Both influenza type B viruses (n=53%) and type A viruses (n=47%) were detected. Only one influenza type A virus was assigned to a subtype, and it was A(H1)pmd09 (Fig. 5 and 6).

Since week 40/2022, more influenza type A (n=1 857, 93%) than type B (n=134, 7%) viruses were detected (from Czechia, France, Ireland, Sweden and United Kingdom (England)). Of 350 subtyped influenza A viruses, 50% were A(H1)pdm09 and 50% were A(H3). No influenza B viruses were ascribed to a lineage. Of 487 cases with known age, 226 were 65 years and older, 194 were 15-64 years old, 39 were 0-4 years old and 28 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

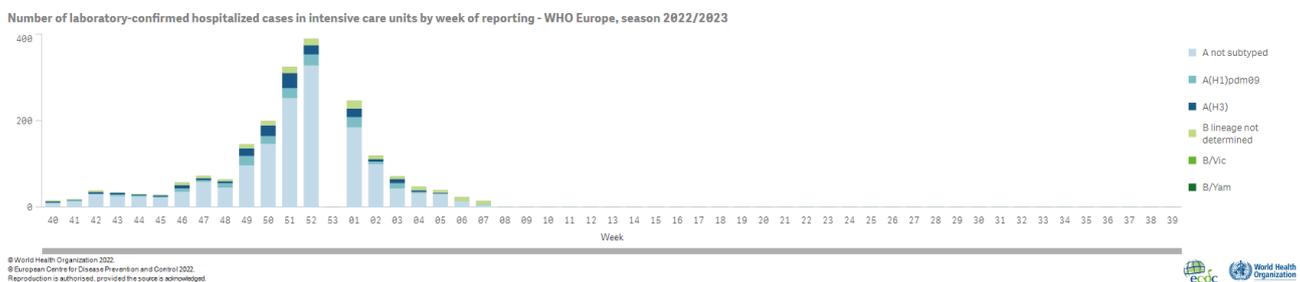
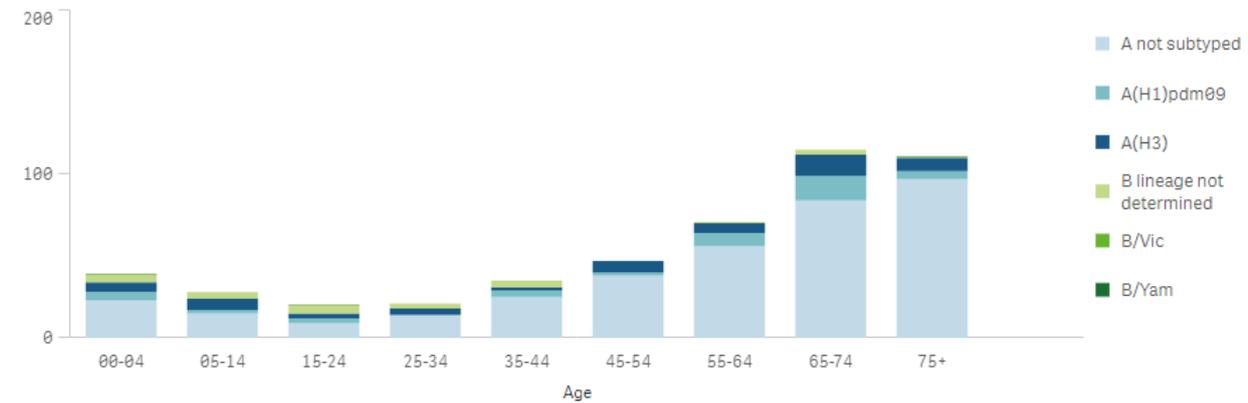


Figure 6. Distribution of influenza virus types, subtypes/lineages by age group in intensive care units (ICU), WHO European Region, season 2022/2023

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



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1.2) Hospitalized laboratory-confirmed influenza cases – other wards

For week 7/2023, 9 laboratory-confirmed influenza cases were reported from other wards (in Czechia). Of these, 8 influenza type A viruses and 1 influenza type B viruses were detected. No viruses were ascribed to a subtype or lineage (Fig. 7 and 8).

Since week 40/2022, 3792 influenza type A viruses and 172 influenza type B viruses were detected from Czechia and Ireland. Of 393 subtyped influenza A viruses, 64% (n=250) were A(H1)pdm09 and 36% (n=143) A(H3). The 3 964 cases with known age fell in 4 age groups: 1699 were 65 years and older, 1367 were 15-64 years old, 499 were 0-4 years old and 399 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

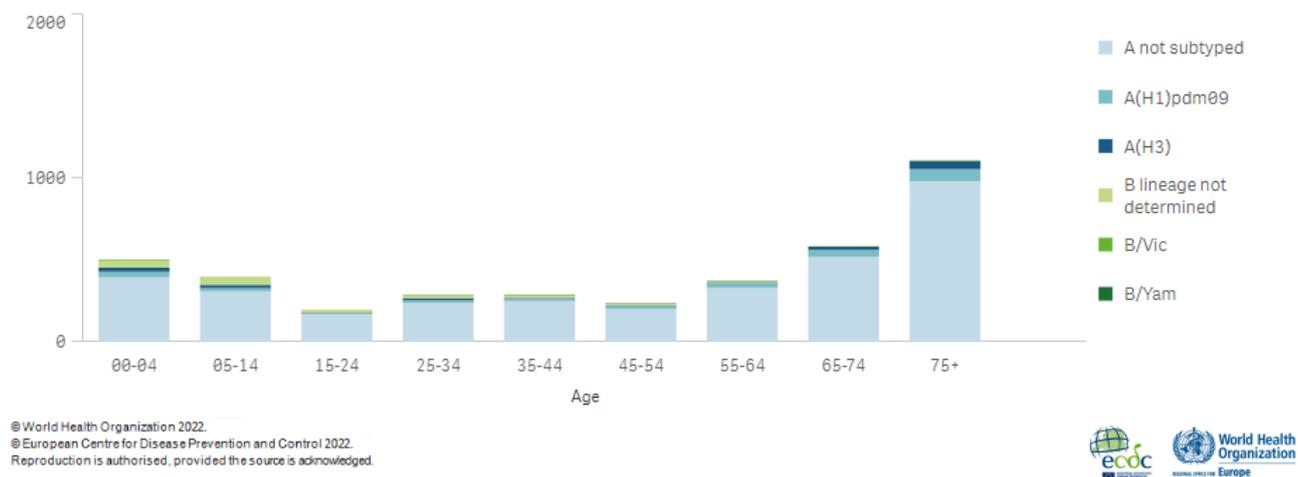
Number of laboratory-confirmed hospitalized cases in wards other than intensive care units (non-ICU) by week of reporting - WHO Europe, season 2022/2023



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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



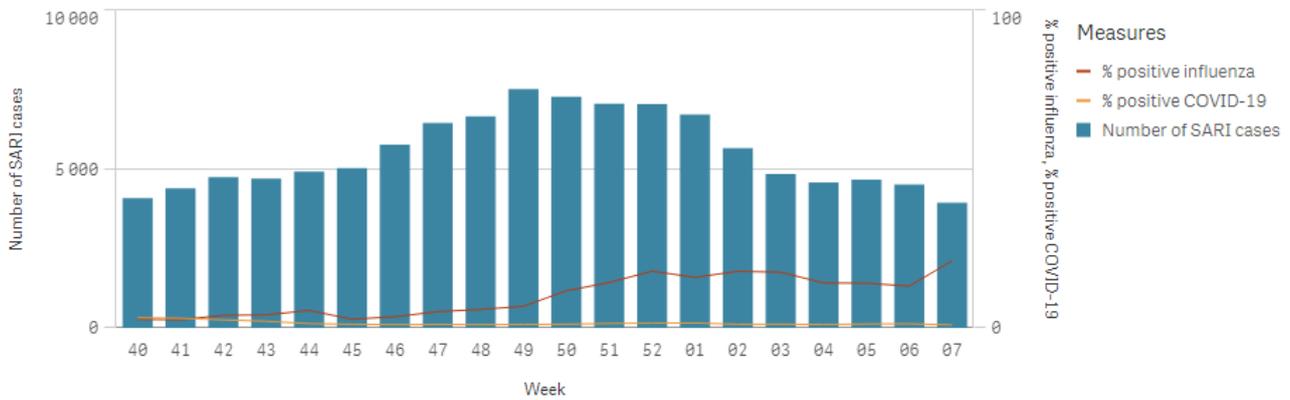
Severe acute respiratory infection (SARI)-based hospital surveillance

For week 7/2023, 2 599 SARI cases were reported by 19 countries or areas (Albania, Belarus, Belgium, Bosnia and Herzegovina, Georgia, Ireland, Kazakhstan, Kyrgyzstan, Lithuania, Malta, North Macedonia, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Spain, Ukraine and Uzbekistan). Of 810 specimens tested for influenza viruses, 20% (n=158) were positive (Fig. 9). Of these, influenza type A viruses (n=107, 68%) were detected more frequently than influenza type B viruses (n=51, 32%). Of 75 subtyped influenza type A viruses, 60 (80%) were A(H1)pdm09 and 15 (20%) were A(H3). All 3 type B viruses ascribed to a lineage were B/Victoria. Of 11 countries and areas across the Region that each tested at least 10 specimens, 9 reported positivity rates above 10%: Lithuania (74%), Serbia (56%), Romania (50%), North Macedonia (42%), Ukraine (35%), Albania (24%), Bosnia and Herzegovina (20%), Republic of Moldova (20%) and Russian Federation (12%).

For the season, 76 574 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=3 030, 77%) and of these 2 509 were subtyped: 1 855 (74%) were infected by A(H1)pdm09 viruses and 654 (26%) were infected by A(H3) viruses. Only 23% (n=198) of the influenza B viruses were ascribed to a lineage, 6% were B/Yamagata and 94% were B/Victoria (Fig. 10). The B/Yamagata report is under investigation. All B/Yamagata viruses were reported by a single country in the same week.

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...

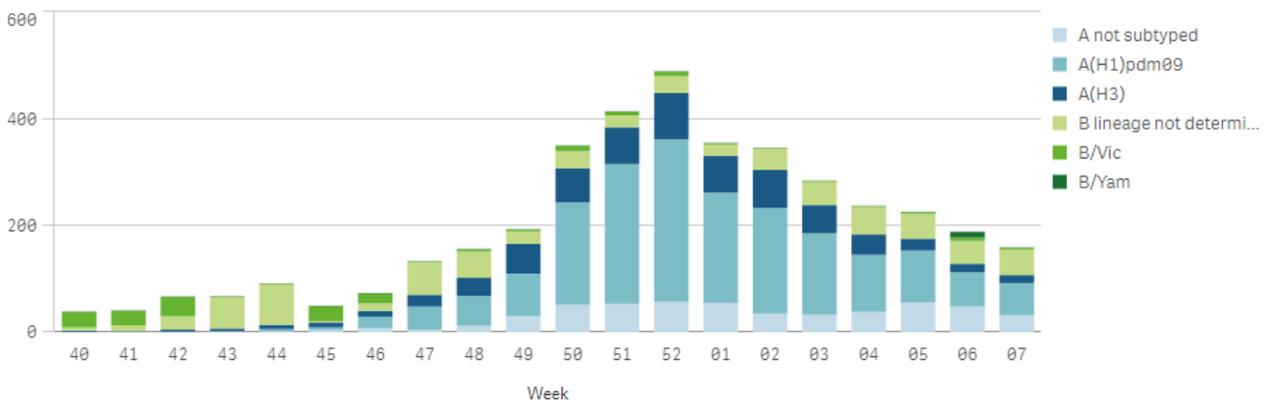


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Figure 10. Influenza virus detections by type, subtype/lineage from severe acute respiratory infection (SARI), WHO European Region, season 2022/2023

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 7/2023, 10 553 of 66 749 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; 5 208 (49%) were type A and 5 345 (51%) were type B. Of 754 subtyped A viruses, 564 (75%) were A(H1)pdm09 and 190 (25%) A(H3). Of 126 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=171 932, 85%) than type B (n=29 385, 15%) viruses have been detected. Of 51 540 subtyped A viruses, 27 921 (54%) were A(H1)pdm09 and 23 619 (46%) were A(H3). Of 1940 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

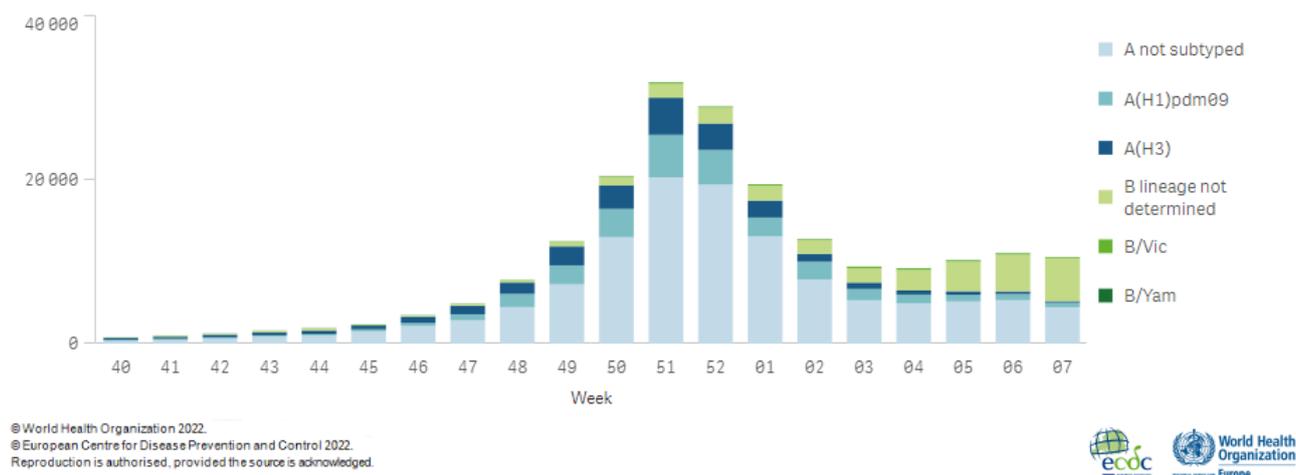


Table 2. Influenza virus detections in non-sentinel-source specimens by type and subtype, week 7/2023 and cumulatively for the season

Non-sentinel Virus type and subtype	Current Week (7)		Season 2022-2023	
	Number	% ^a	Number	% ^a
Influenza A	5 208	49.4	171 932	85.4
A(H1)pdm09	564	74.8	27 921	54.2
A(H3)	190	25.2	23 619	45.8
A not subtyped	4 454	-	120 392	-
Influenza B	5 345	50.6	29 385	14.6
B/Victoria lineage	126	100	1 940	100
B/Yamagata lineage	0	0	0	0
Unknown lineage	5 219	-	27 445	-
Total detections (total tested)	10 553 (66 749)	-	201 317 (1 491 166)	-

^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 1 730 genetically characterized A(H1)pdm09 viruses up to week 7/2023, 854 were attributed to clade 6B.1A.5a.2, of which 491 (57%) were represented by A/Norway/25089/2022, 330 (38%) by A/Sydney/5/2021 and 33 (4%) by A/Victoria/2570/2019. 4 (<1%) were attributed to clade 6B.1A.5a.1 represented by A/Guangdong-Maonan/SWL1536/2019. 872 (50%) viruses could not be attributed to a subgroup in the guidance.

Among the 1 744 A(H3) viruses characterized up to week 7/2023, 1 658 were attributed to clade 3C.2a1b.2a.2, of which 1052 (63%) were represented by A/Bangladesh/4005/2020, 492 (30%) by A/Slovenia/8720/2022 and 114 (7%) by A/Darwin/9/2021. 83 (5%) viruses could not be attributed to a subgroup in the guidance. Only 3 viruses were ascribed to clade 3C.2a1b.1a represented by A/Denmark/3264/2019.

Up to week 7/2023, 424 B/Victoria viruses characterized, 220 (52%) of which were attributed to clade V1A.3a.2 represented by B/Austria/1359417/2021. 204 (48%) could not be attributed to a subgroup in the guidance.

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.

Antiviral susceptibility testing

Up to week 7/2023, 2 515 viruses were assessed for susceptibility to neuraminidase inhibitors (997 A(H3), 768 A(H1)pdm09 and 316 B viruses genotypically and 250 A(H3), 143 A(H1)pdm09 and 40 B viruses phenotypically), and 1 916 viruses were assessed for susceptibility to baloxavir marboxil (1 109 A(H3), 493 A(H1)pdm09 and 314 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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