

Summary

Week 1/2022 (3 – 9 January 2022)

- Albania, Belarus, Georgia, Israel, Luxemburg, Norway, North Macedonia, Republic of Moldova, Russian Federation and Sweden reported widespread influenza activity and/or medium influenza intensity.
- 5% of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms tested positive for influenza virus, a decrease from 10% in week 52/2021.
- Six countries reported seasonal influenza activity at or above 10% positivity in sentinel primary care: Armenia (64%), Belarus, (44%) Serbia (36%), France (16%), Georgia (15%) and Estonia (10%).
- Hospitalized cases with confirmed influenza virus infection were reported from intensive care units (19 type A viruses), other wards (3 type A viruses) and SARI surveillance (39 type A viruses and 1 type B).
- Both influenza type A and type B viruses were detected with A(H3) viruses being dominant across all monitoring systems.

2021-2022 season overview

- For the Region as a whole influenza activity started to increase in week 49/2021, with different levels of activity observed between the countries and areas of the Region, and a general dominance of A(H3) viruses though some countries reported both A(H3) and A(H1)pdm09 viruses, e.g France.
- During the influenza Vaccine Composition Meeting for the southern hemisphere 2022 season, held in September 2021, WHO recommended updating of the A(H3N2) and the B/Victoria-lineage components. The full report can be found [here](#).
- Vaccination remains the best protective measure for prevention of influenza. With increased circulation of influenza virus clinicians should consider early antiviral treatment of patients in at-risk groups with influenza virus infection, according to local guidance, to prevent severe

outcomes. Viruses analyzed so far have remained susceptible to neuraminidase inhibitors and baloxavir marboxil.

Other news

For information about the SARS-CoV-2 situation in the WHO European Region visit:

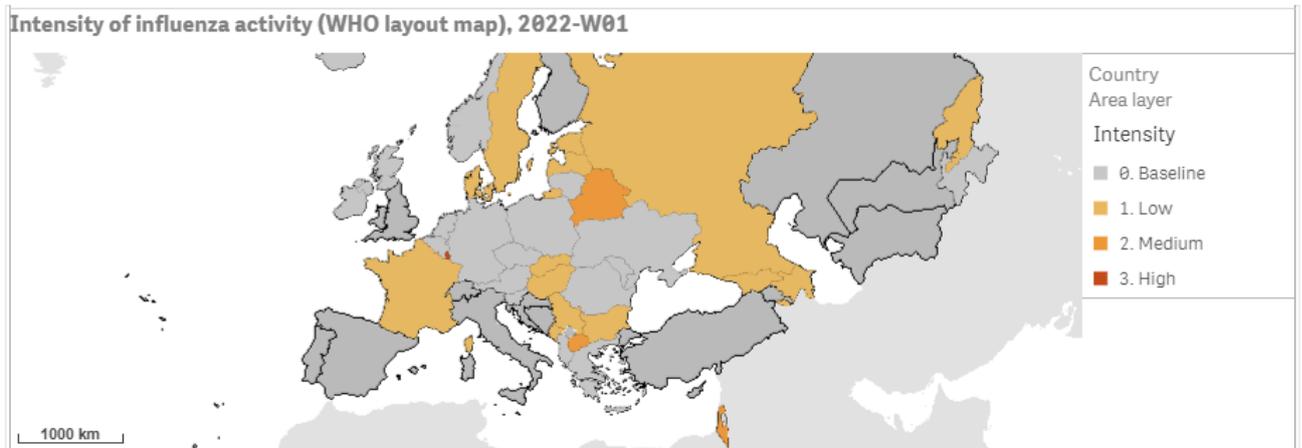
- WHO website: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- ECDC website: <https://www.ecdc.europa.eu/en/novel-coronavirus-china>

Qualitative indicators

For week 01/2022, of 37 countries and areas reporting on intensity of influenza activity, 19 reported baseline-intensity, 14 reported low-intensity and 4 reported medium-intensity (Belarus, Israel, Luxemburg and North Macedonia) (Fig. 1).

Of 37 countries and areas reporting on geographic spread of influenza viruses, 10 reported no activity, 12 reported sporadic spread, 2 reported local spread (Germany and Estonia), 5 reported regional spread (France, Kyrgyzstan, North Macedonia, Serbia and Ukraine) and 8 reported widespread activity (Albania, Belarus, Georgia, Israel, Norway, Republic of Moldova, Russian Federation and Sweden) (Fig. 2).

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



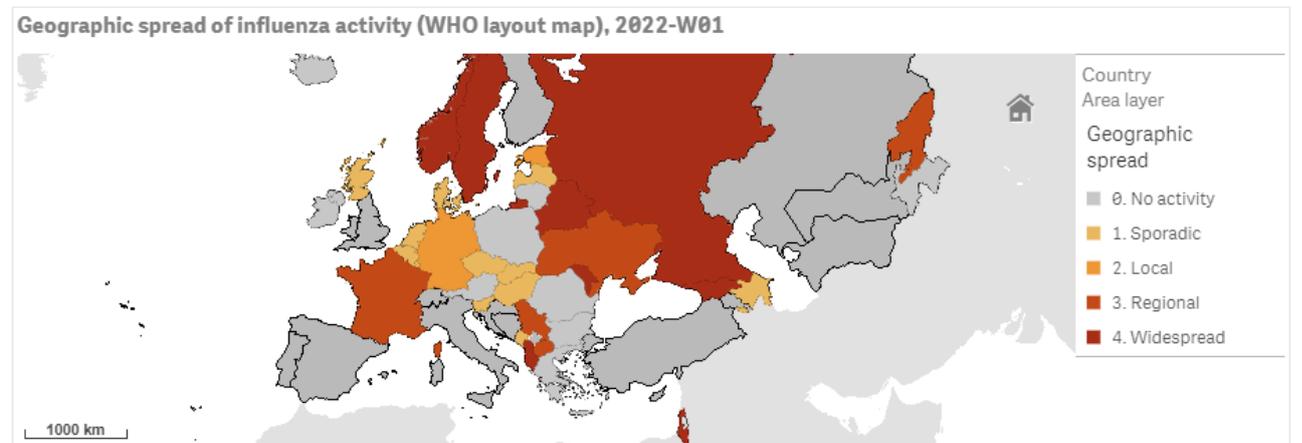
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* The administrative boundaries include spatial feature for Kosovo, this designation being without prejudice to position on status, and is in line with United Nations Security Council Resolution 1244 (1999) and the International Court of Justice Opinion on the Kosovo Declaration of Independence.
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*Luxemburg intensity level should read medium

Figure 2. Geographic spread of influenza viruses in the European Region, week 1/2022



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

Please note:

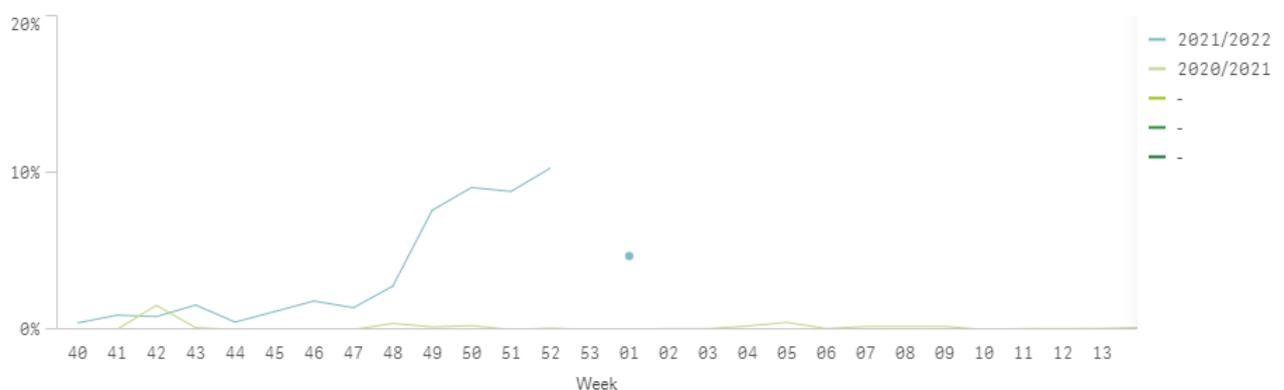
- Assessment of the intensity of activity indicator includes consideration of ILI or ARI rates. These ILI or ARI rates might be driven by respiratory infections other than influenza virus, including SARS-CoV-2, leading to observed increases in the absence of influenza virus detections.
- Assessment of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

Influenza positivity

For the European Region, influenza virus positivity in sentinel primary care specimens was 5% and had fallen below the Regional epidemic threshold, which is set at 10% (Fig. 3).

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

Influenza positivity in sentinel-source specimens by week - Multiple regions selected



External data sources

Mortality monitoring: Week 1/2022 overall pooled EuroMOMO estimates of all-cause mortality for the participating European countries showed a substantially elevated level of excess mortality over the last month. The excess was observed mainly among older adults (65 years or older), but also among those aged 45 to 64 years of age. Data from 26 European countries or subnational regions were included in this pooled analysis of all-cause mortality. The full EuroMOMO report can be found here: <https://www.euromomo.eu/>.

Primary care data

Syndromic surveillance data

Of the countries and areas in which thresholds for ILI activity are defined, countries in eastern (n=4; Azerbaijan, Georgia, Russian Federation and Tajikistan), northern (n=3; Denmark, Estonia and Ireland), southern (n=2; Israel and Serbia) and western (n=5; Austria, Belgium, Hungary, Luxembourg 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, only Estonia reported activity above its baseline level.

Please note:

1. 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 MEM method and based on historical ILI/ARI data.

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

For week 01/2022, 121 (5%) of 2 576 sentinel specimens tested positive for an influenza virus; all were type A. Of 115 subtyped A viruses, 4% were A(H1)pdm09 and 96% A(H3) (Fig. 4 and Table 1). Of 22 countries or areas across the Region that each tested at least 10 sentinel specimens in week 01/2022, 6 reported a rate of influenza virus detections at or above 10% (median 26%; range 10% - 65%): Armenia, 64%; Belarus, 44%; Serbia, 36%; France, 16%; Georgia, 15%; and Estonia, 10%.

For the season to date, 1 428 (4%) of 33 345 sentinel specimens tested positive for an influenza virus. More influenza type A (n=1 404, 98%) than type B (n=24, 2%) viruses have been detected. Of 962 subtyped A viruses, 57 (6%) were A(H1)pdm09 and 905 (94%) were A(H3). Of 5 influenza type B viruses ascribed to a lineage, all were B/Victoria (79% 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 Europe, season 2021/22

Influenza virus positivity and detections by type, subtype/lineage and week - Multiple regions selected, season 2021/2022

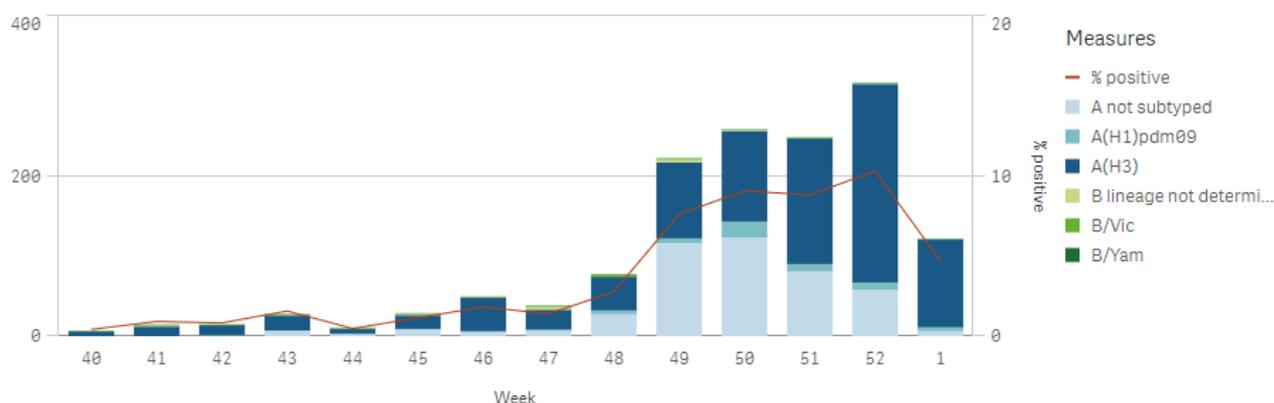


Table 1. Influenza virus detections in sentinel source specimens by type and subtype for week 1/2022 and cumulatively for the season

Sentinel	Current Week (1)		Season 2021-2022	
Virus type and subtype	Number	% ^a	Number	% ^a
Influenza A	121	100	1 404	98.3
A(H1)pdm09	5	4.3	57	5.9
A(H3)	110	95.7	905	94.1
A not subtyped	6	-	442	-
Influenza B	0	0	24	1.7
B/Victoria lineage	0	-	5	100
B/Yamagata lineage	0	-	0	0
Unknown lineage	0	-	19	-
Total detections (total tested)	121 (2 576)	4.7	1 428 (33 345)	4.3

^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 1/2022.

Hospital surveillance

A subset of countries and areas monitor 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 infection (SARI; mainly in the eastern part of the Region).

Laboratory-confirmed hospitalized cases

1.1) Hospitalized laboratory-confirmed influenza cases – ICUs

For week 01/2022, 19 laboratory-confirmed influenza cases were reported from ICU wards (in France, Sweden and United Kingdom (England)). Only influenza type A viruses (n=19) were detected (Fig. 5 and 6).

Since week 40/2021, more influenza type A (n=181, 95.3%) than type B (n=9, 4.7%) viruses were detected. Of 54 subtyped influenza A viruses, 33.3% were A(H1)pdm09 and 66.7% A(H3). No influenza B viruses were ascribed to a lineage. Of 146 cases with known age, 61 were 15-64 years old, 40 were aged 64 years and older, 28 were 0-4 years old, and 17 were 5-14 years old.

Figure 5. Number of laboratory-confirmed hospitalized cases in intensive care units (ICU) by week of reporting, WHO European Region, season 2021/2022

Number of laboratory-confirmed hospitalized cases in intensive care units by week of reporting - Multiple regions selected, s...

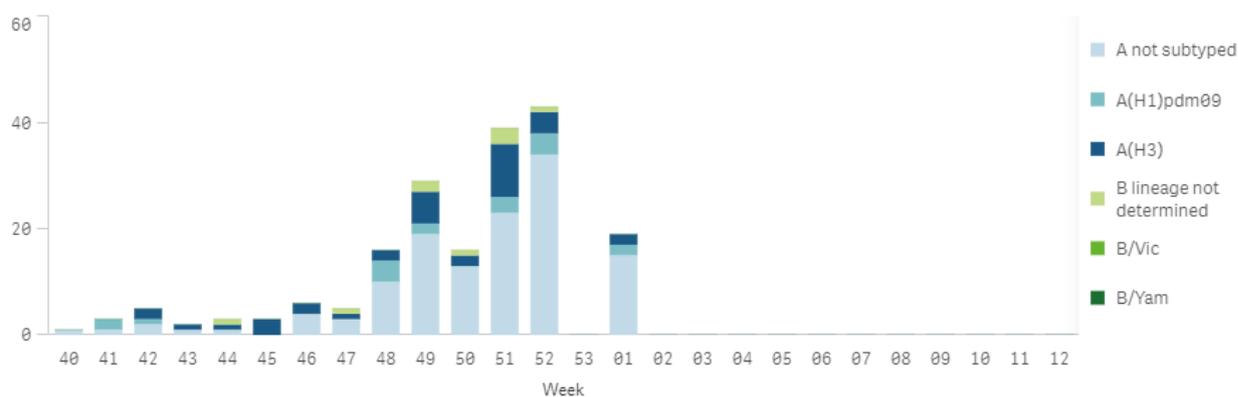
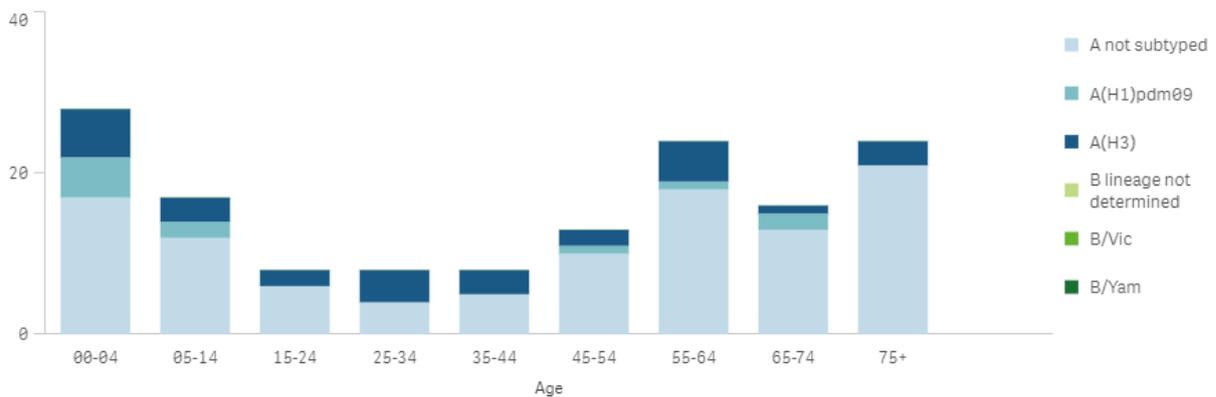


Figure 6. Distribution of virus types, subtypes/lineages by age group in intensive care units (ICU), WHO European Region, season 2021/2022

Distribution of virus types, subtypes/lineages by age group in intensive care units (ICU) - Multiple regions selected, season 2...



1.2) Hospitalized laboratory-confirmed influenza cases – other wards

For week 1/2022, 3 laboratory-confirmed influenza cases were reported from other wards. Only influenza type A viruses were detected (Fig. 7 and 8).

Since week 40/2021, all 8 cases reported were infected with type A viruses and all 7 of those subtyped were A(H3). The 8 patients fell in 3 age ranges: 6 were 0-4 years old, 1 was 5-14 years old and 1 was 15-64 years old.

Figure 7. Number of laboratory-confirmed hospitalized cases in wards other than intensive care units (non-ICU) by week of reporting, WHO European Region, season 2021/2022

Number of laboratory-confirmed hospitalized cases in wards other than intensive care units (non-ICU) by week of reporting -...

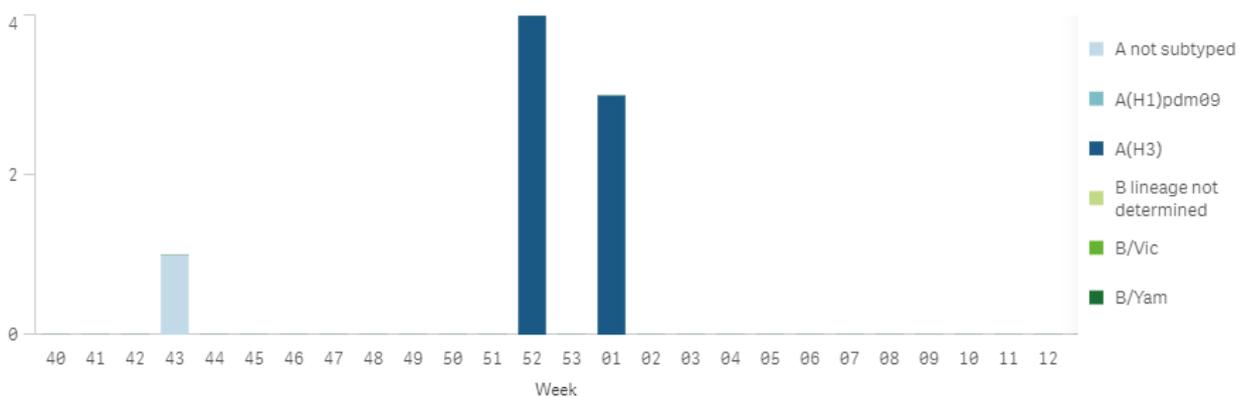
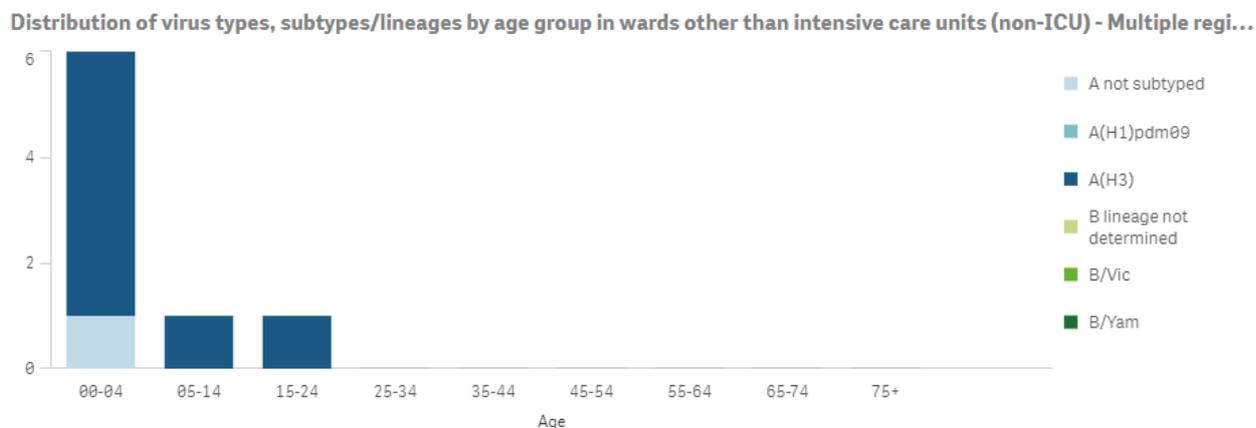


Figure 8. Distribution of virus types, subtypes/lineages by age group in wards other than intensive care units (non-ICU), WHO European Region, season 2021/2022



Severe acute respiratory infection (SARI)-based hospital surveillance

For week 01/2022, 3 284 SARI cases were reported by 11 countries or areas (Albania, Belarus, Georgia, Germany, Kyrgyzstan, Montenegro, Republic of Moldova, Russian Federation, Serbia, Spain and Ukraine). Of 377 specimens tested for influenza viruses, 11% (n=40) were positive. Of these, 39 (98%) were influenza type A viruses and 1 (2%) was a type B virus (Fig. 9). The highest positivity rates for influenza viruses were reported by Serbia (30%), Armenia (28%), Uzbekistan (21%), Kazakhstan (19%) and Kyrgyzstan (19%).

For the season, 65 879 SARI cases were reported by 19 countries or areas (Albania, Armenia, Belarus, Georgia, Germany, Kazakhstan, Kyrgyzstan, Lithuania, Malta, Montenegro, North Macedonia, Republic of Moldova, Russian Federation, Serbia, Spain, Turkey, Ukraine, Uzbekistan and Kosovo (in accordance with Security Council resolution 1244 (1999))). For SARI cases testing positive for influenza virus since week 40/2021, type A viruses have been the most common (n=603, 99%). For 560 cases where influenza subtyping was performed, 0.2% were infected by A(H1)pdm09 viruses and 99.8% were infected by A(H3) viruses. 5 influenza B viruses were detected, all without a lineage ascribed (Fig. 10).

Figure 9. Number of severe acute respiratory infection (SARI) cases (bar) and positivity for influenza and COVID-19 (line) by week, WHO European Region, season 2021/2022

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

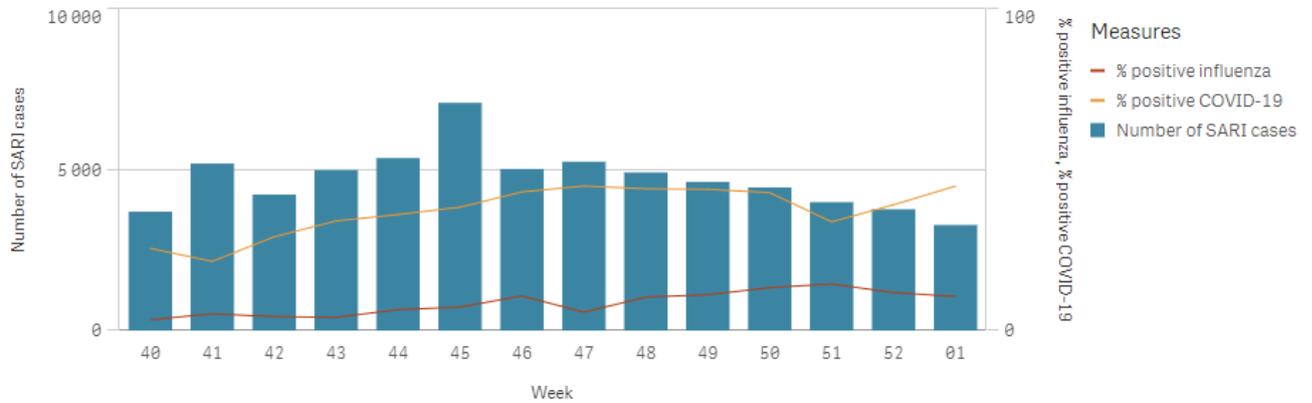
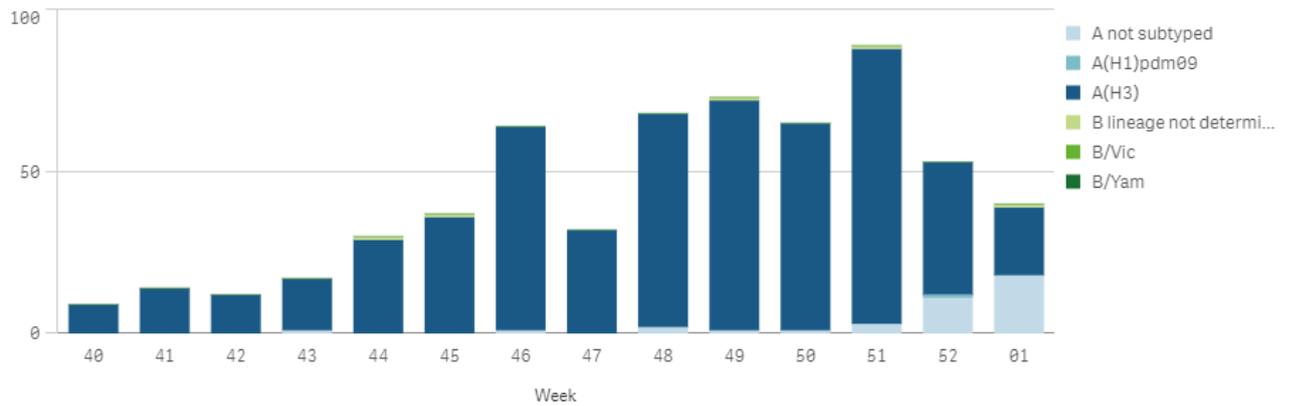


Figure 10. Influenza detections by virus type, subtype/lineage from severe acute respiratory infection (SARI), WHO European Region, season 2021/2022

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



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 01/2022, 2 364 of 95 761 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; 2 333 (99%) were type A and 31 (1%) were type B. Of 658 subtyped A viruses, 39 (6%) were A(H1)pdm09 and 619 (94%) A(H3). No B viruses were ascribed to a lineage (Fig. 11 and Table 2).

For the season to date, more influenza type A (n=24 794, 96%) than type B (n=1 043, 4%) viruses have been detected. Of 9 328 subtyped A viruses, 434 (5%) were A(H1)pdm09 and 8 894 (95%) were A(H3). Of 8 influenza type B viruses ascribed to a lineage, 1 was B/Yamagata and 7 were B/Victoria (99% 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 2021/2022

Influenza virus detections by type, subtype/lineage and week - Multiple regions selected, season 2021/2022

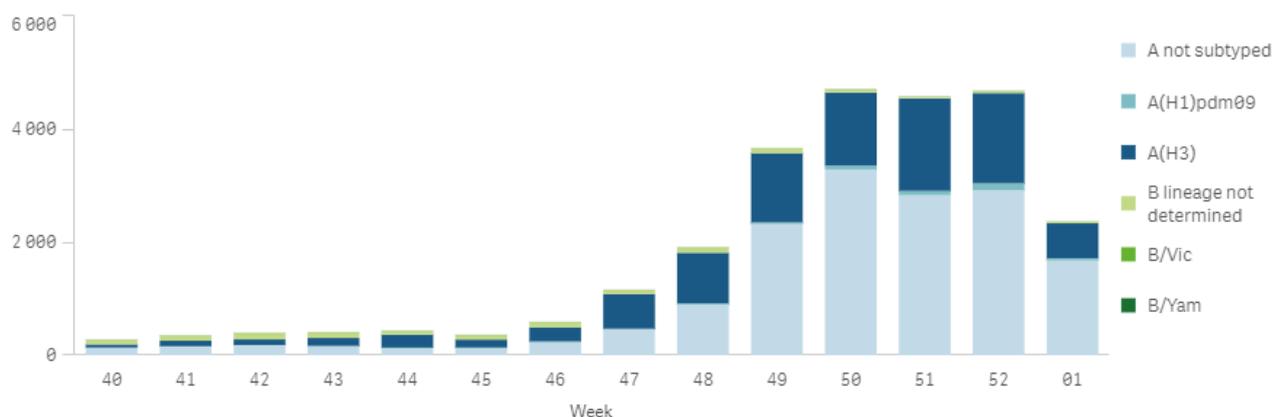


Table 2. Influenza virus detections in non-sentinel source specimens by type and subtype, week 1/2022 and cumulative for the season

Virus type and subtype	Current Week (1)		Season 2021-2022	
	Number	% ^a	Number	% ^a
Influenza A	2 333	98.7	24 794	96
A(H1)pdm09	39	5.9	434	4.7
A(H3)	619	94.1	8 894	95.3
A not subtyped	1 675	-	15 466	-
Influenza B	31	1.3	1 043	4
B/Victoria lineage	0	-	7	87.5
B/Yamagata lineage	0	-	1	12.5
Unknown lineage	31	-	1 035	-
Total detections (total tested)	2 364 (95 761)	-	25 837 (977 679)	-

^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

Up to week 1/2022, 370 A(H3) viruses had been characterized genetically, 367 of which were attributed to clade 3C.2a1b.2a.2 and 3 to clade 3C.2a1b.1a. Nine A(H1)pdm09 viruses were characterized genetically and attributed to clade 6B.1A.5a.1. Up to week 1/2022, 3 B/Victoria viruses were characterized genetically, two belonging to clade V1A.3a.2 and one to clade V1A.3.

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

Virus Type <input type="text"/>	Virus Subtype <input type="text"/>	Genetic charact... <input type="text"/>	Number of influenza viruses attributed to genetic groups 2021/2022
Total			382
Influenza A			379
A(H1)pdm09			9
A/Guangdong-Maonan/SWL1536/2019(H1N1)pdm09			9
A(H3)			370
A/Bangladesh/4005/2020(H3)_3C.2a1b.2a.2			367
A/Denmark/3264/2019(H3N2)_3C.2a1b+T135K-A			3
Influenza B			3
B/Vic			3
B/Austria/1359417/2021(Victoria lineage_1A.3)			2
B/Washington/02/2019(Victoria lineage_1A(del162-164))			1

ECDC published the [November](#) virus characterization report: Currently type A influenza virus circulation is dominating over type B, due mainly to A(H3) viruses. Vaccination remains the best protective measure for prevention of influenza. However, based on post-infection ferret antisera data, the predominant H3N2 viruses in circulation are not well recognised by antisera raised against viruses genetically and antigenically similar to the vaccine virus, indicating antigenic diversity. It is feasible that the A(H3) vaccine component may induce less good recognition of the prevalent A(H3) viruses. Clinicians should consider early antiviral treatment of at-risk groups with influenza virus infection, according to local guidance, to prevent severe outcomes.

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

Antiviral susceptibility of seasonal influenza viruses

Up to week 01/2022, 367 viruses (241 A(H3) and 8 A(H1)pdm09 genotypically and 126 A(H3) phenotypically) were assessed for susceptibility to neuraminidase inhibitors, and 206 viruses (198 A(H3) and 8 A(H1)pdm09 genotypically) were assessed for susceptibility to baloxavir marboxil. No viruses with reduced susceptibility were identified.

Vaccine

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 24 September 2021, WHO published [recommendations](#) for the components of influenza vaccines for use in the 2022 southern hemisphere influenza season:

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- 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.

It is recommended that **trivalent influenza vaccines** for use in the 2022 southern hemisphere influenza season 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- 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

The full report is published [here](#).

On 26 February 2021, WHO published [recommendations](#) for the components of influenza vaccines for use in the 2021-2022 northern hemisphere influenza season:

Egg-based Vaccines

- an A/Victoria/2570/2019 (H1N1)pdm09-like virus;
- an A/Cambodia/e0826360/2020 (H3N2)-like virus;
- a B/Washington/02/2019 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

Cell- or recombinant-based Vaccines

- an A/Wisconsin/588/2019 (H1N1)pdm09-like virus;
- an A/Cambodia/e0826360/2020 (H3N2)-like virus;
- a B/Washington/02/2019 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

It was recommended that the influenza B virus component of **both trivalent vaccine types** for use in the 2021–2022 northern hemisphere influenza season should be a B/Washington/02/2019-like virus of the B/Victoria-lineage.

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** The administrative boundaries include spatial feature for Kosovo, this designation being without prejudice to position on status, and is in line with United Nations Security Council Resolution 1244 (1999) and the International Court of Justice Opinion on the Kosovo Declaration of Independence.*

This weekly update was prepared by an editorial team at the European Centre for Disease Prevention and Control (Cornelia Adlhoch, Carlos Carvalho, Nishi Dave, and Pasi Penttinen) and the WHO Regional Office for Europe (Margaux Meslé, Piers Mook and Richard Pebody).

External reviewers are: Rod Daniels, WHO Collaborating Centre for Reference and Research on Influenza, Francis Crick Institute (United Kingdom) and Adam Meijer, National Institute for Public Health and the Environment (the Netherlands).

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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