

Summary

Week 52/2021 (27 December 2021– 2 January 2022)

- Influenza activity continued to increase throughout the European Region
- Albania, Israel, North Macedonia, Norway, Russian Federation and Sweden reported widespread influenza activity and/or medium influenza intensity.
- 23% of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms tested positive for influenza virus, with a predominance of A(H3) viruses.
- Six countries reported seasonal influenza activity above the 10% positivity threshold in sentinel primary care: Armenia (78%), Israel (68%), Sweden (36%), France (33%) Republic of Moldova (24%) and Albania (18%).
- Hospitalized cases with confirmed influenza virus infection were reported from intensive care units (29 type A viruses and 1 type B) and SARI surveillance (18 type A viruses).
- 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.
- 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 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:

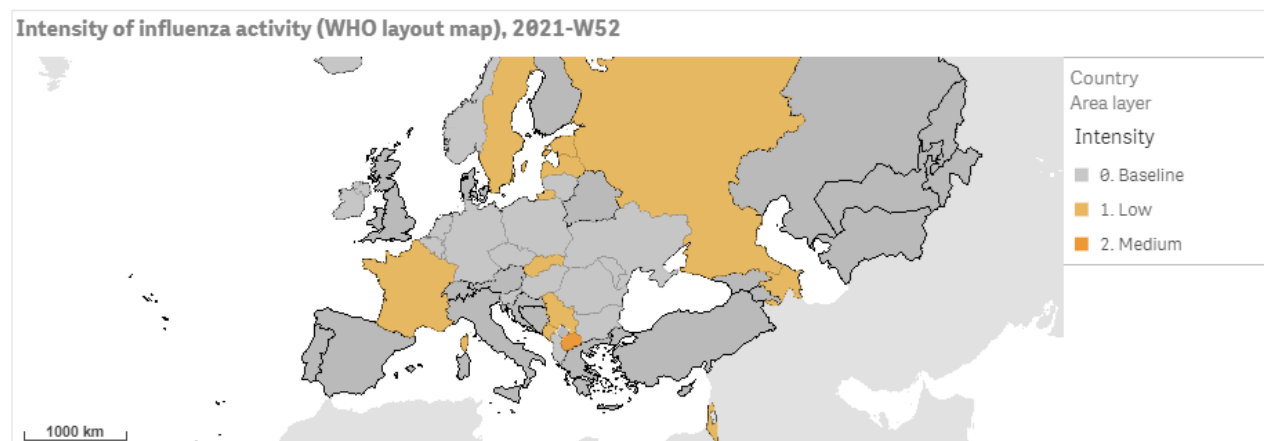
- WHO website: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- ECDC website: <https://www.ecdc.europa.eu/en/novel-coronavirus-china>

Qualitative indicators

For week 52/2021, of 30 countries and areas reporting on intensity of influenza activity, 19 reported baseline-intensity, 10 reported low-intensity and 1 reported medium-intensity (North Macedonia) (Fig. 1).

Of 30 countries and areas reporting on geographic spread of influenza viruses, 9 reported no activity, 10 reported sporadic spread, 2 reported local spread (Estonia and Serbia), 4 reported regional spread (France, North Macedonia, Republic of Moldova and Ukraine) and 5 reported widespread activity (Albania, Israel, Norway, Russian Federation and Sweden) (Fig. 2).

Figure 1. Intensity of influenza activity in the European Region, week 52/2021



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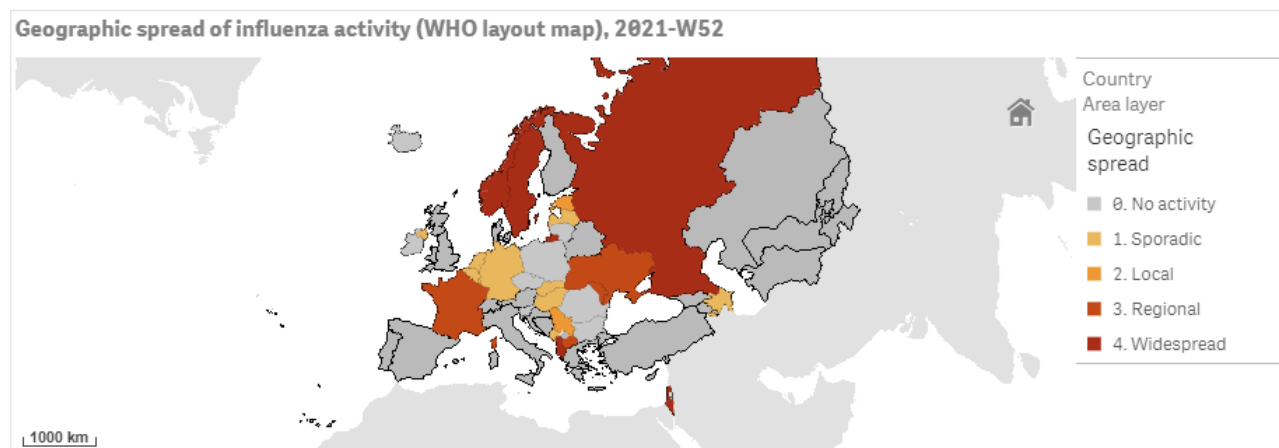
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Figure 2. Geographic spread of influenza viruses in the European Region, week 52/2021



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

Please note:

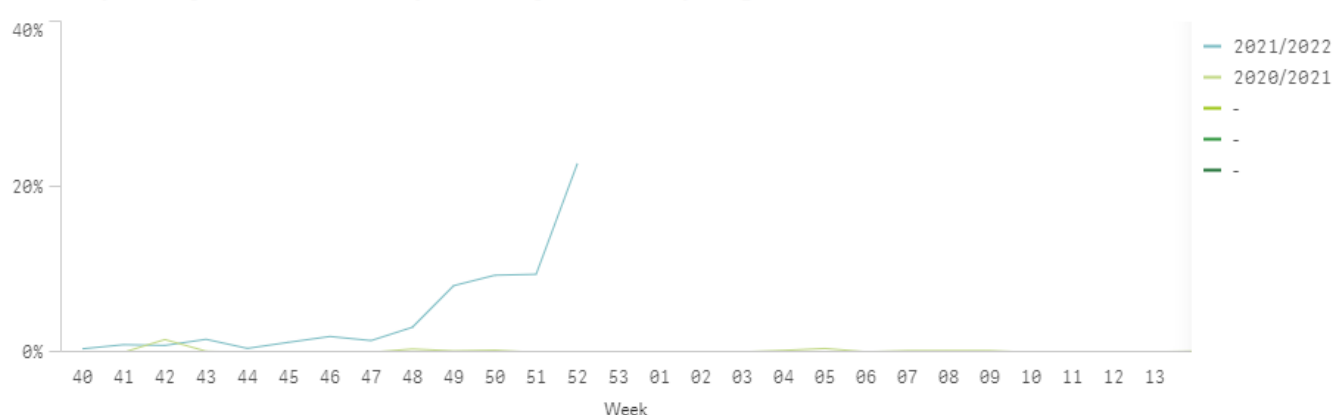
- Assessment of the intensity of activity indicator includes consideration of ILI or ARI rates. These ILI or ARI rates might be driven by respiratory infections other than influenza virus, including SARS-CoV-2, leading to observed increases in the absence of influenza virus detections.
- Assessment of 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 is 23% and above the 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 52/2021 overall pooled EuroMOMO estimates of all-cause mortality for the participating European countries showed a substantial 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 24 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=2; Azerbaijan, Russian Federation), northern (n=1; Ireland), southern (n=2; Israel, Serbia) and western (n=1; Belgium) 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 baseline levels.

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 52/2021, 193 (23%) of 845 sentinel specimens tested positive for an influenza virus; all were type A. Of 184 subtyped A viruses, 4% were A(H1N1)pdm09 and 96% A(H3) (Fig. 4 and Table 1). Of 13 countries or areas across the Region that each tested at least 10 sentinel specimens in week 52/2021, 6 reported rates of influenza virus detection above 10% (median 35%; range 18% - 78%): Armenia, 78%; Israel, 68%; Sweden, 36%, France, 33%; Republic of Moldova, 24%; and Albania: 18%).

For the season to date, 1 135 (4%) of 26 648 sentinel specimens tested positive for an influenza virus. More influenza type A (n=1 116, 98%) than type B (n=19, 2%) viruses have been detected. Of 725 subtyped A viruses, 46 (6%) were A(H1N1)pdm09 and 679 (94%) were A(H3). Of 5 influenza type B viruses ascribed to a lineage, all were B/Victoria (74% 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

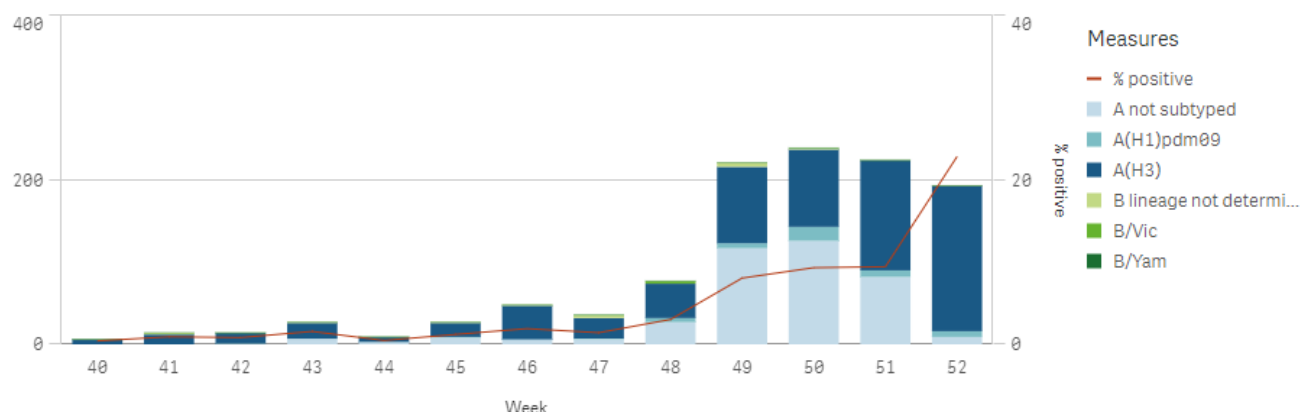


Table 1. Influenza virus detections in sentinel source specimens by type and subtype for week 52/2021 and cumulatively for the season

Sentinel	Current Week (52)		Season 2021-2022	
Virus type and subtype	Number	% ^a	Number	% ^a
Influenza A	193	100	1 116	98.3
A(H1)pdm09	7	3.8	46	6.3
A(H3)	177	96.2	679	93.7
A not subtyped	9	-	391	-
Influenza B	0	0	19	1.7
B/Victoria lineage	0	-	5	100
B/Yamagata lineage	0	-	0	0
Unknown lineage	0	-	14	-
Total detections (total tested)	193 (845)	22.8	1135 (26 648)	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](https://influenzanet.eu/) 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 52/2021.

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 52/2021, 30 laboratory-confirmed influenza cases were reported from ICU wards (in France, Sweden and United Kingdom (England)). Influenza type A viruses (97%, n=29) were detected more frequently than influenza type B viruses (3%, n=1) (Fig. 5 and 6).

Since week 40/2021, more influenza type A (n=146, 94.2%) than type B (n=9, 5.8%) viruses were detected. Of 45 subtyped influenza A viruses, 31.1% were A(H1)pdm09 and 68.9% A(H3). No influenza B viruses were ascribed to a lineage. Of 117 cases with known age, 52 were 15-64 years old, 25 were 0-4 years old, 25 were aged 64 years and older, and 15 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...

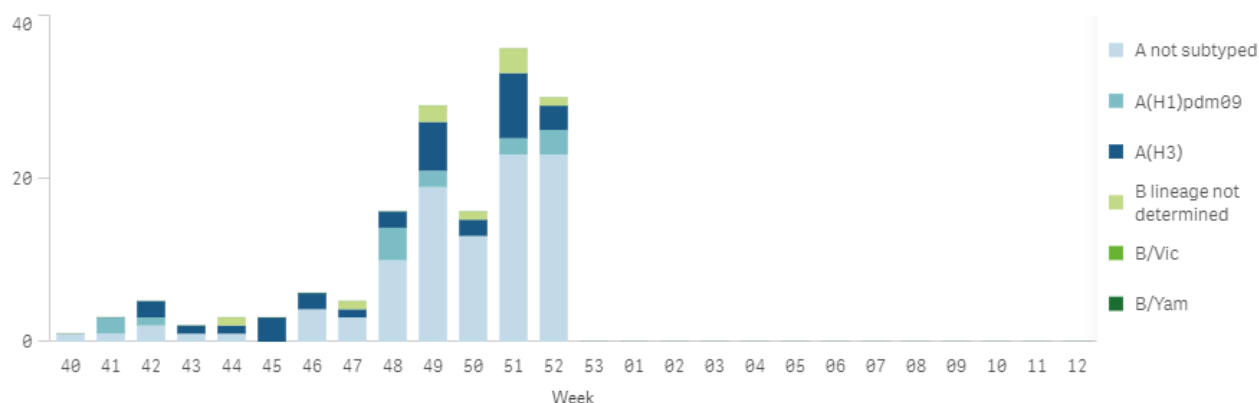
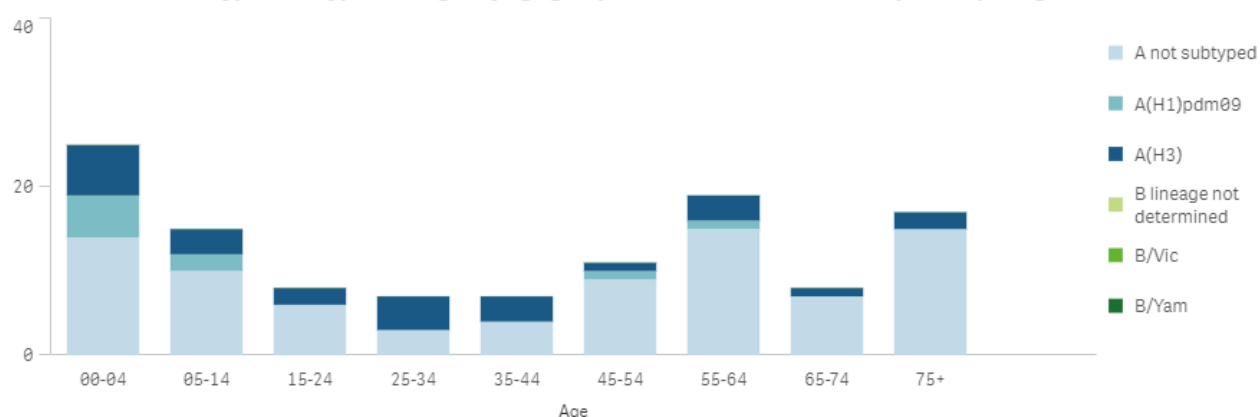


Figure 6. Distribution of virus types, subtypes/lineages by age group in intensive care units (ICU), WHO European Region, season 2021/2022

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 52/2021, there were no reports of hospitalized laboratory-confirmed influenza cases in other wards (Fig. 7 and 8).

Since week 40/2021, there has been 1 influenza type A virus detected which was not ascribed to a subtype. The patient was in the 0-4 years age range.

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 -...

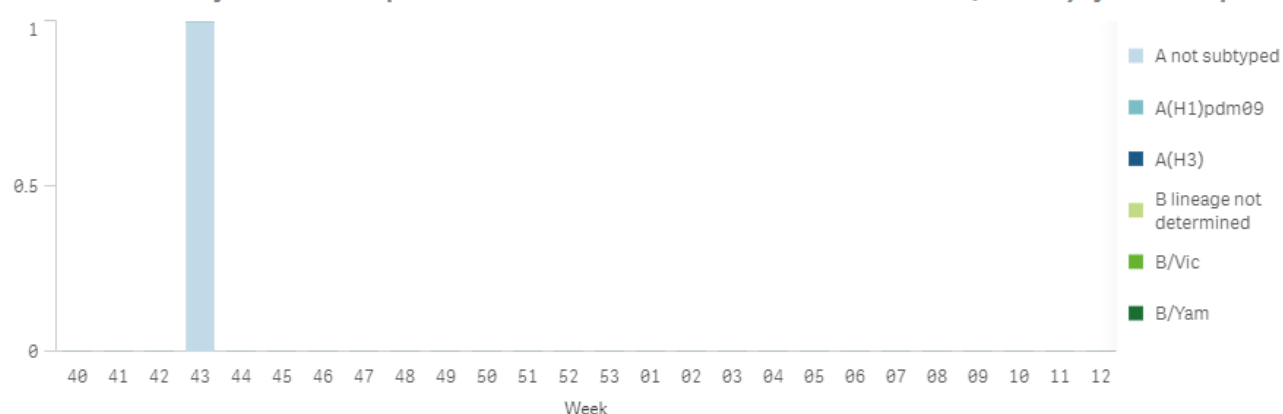
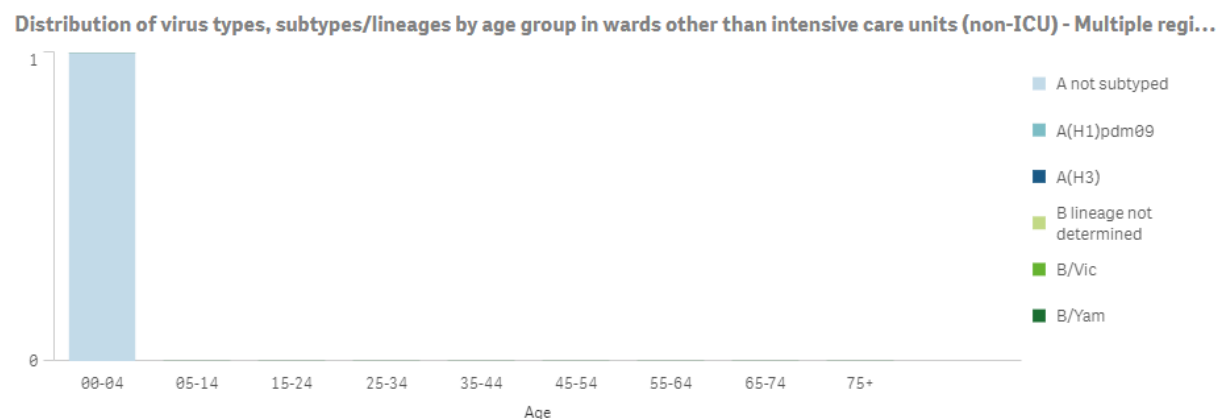


Figure 8. Distribution of virus types, subtypes/lineages by age group in wards other than intensive care units (non-ICU), WHO European Region, season 2021/2022



Severe acute respiratory infection (SARI)-based hospital surveillance

For week 52/2021, 1 459 SARI cases were reported by 8 countries or areas (Albania, Germany, Malta, Montenegro, Republic of Moldova, Russian Federation, Serbia and Ukraine). Of 219 specimens tested for influenza viruses, 8% (n=18) were positive. All were influenza A (Fig. 9). The highest positivity rates for influenza viruses were reported by Armenia (25%), Uzbekistan (21%), Kazakhstan (20%) and Kyrgyzstan (20%)

For the season, 59 980 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=527, 99%). Of 505 subtyped influenza type A viruses, all were infected by A(H3) viruses. No influenza B viruses were detected (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...

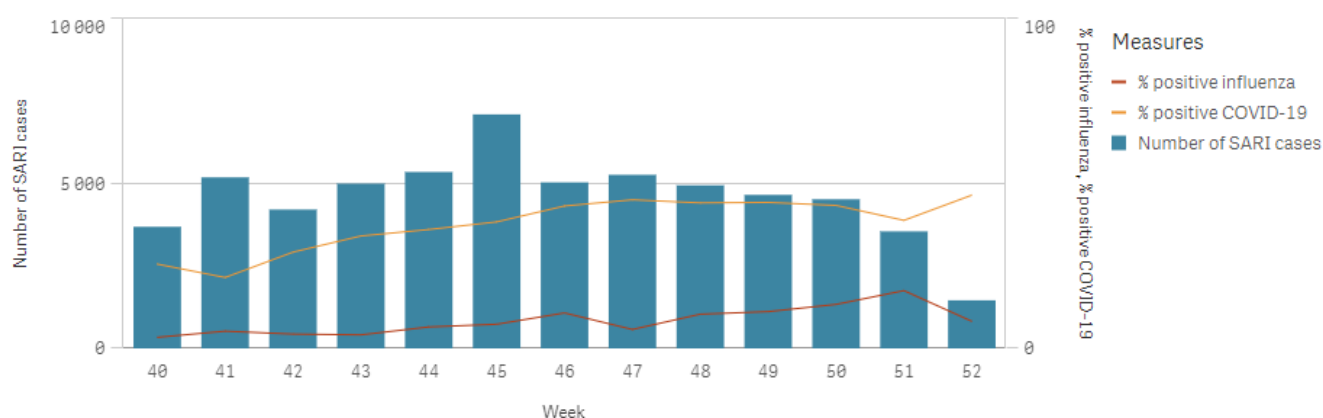
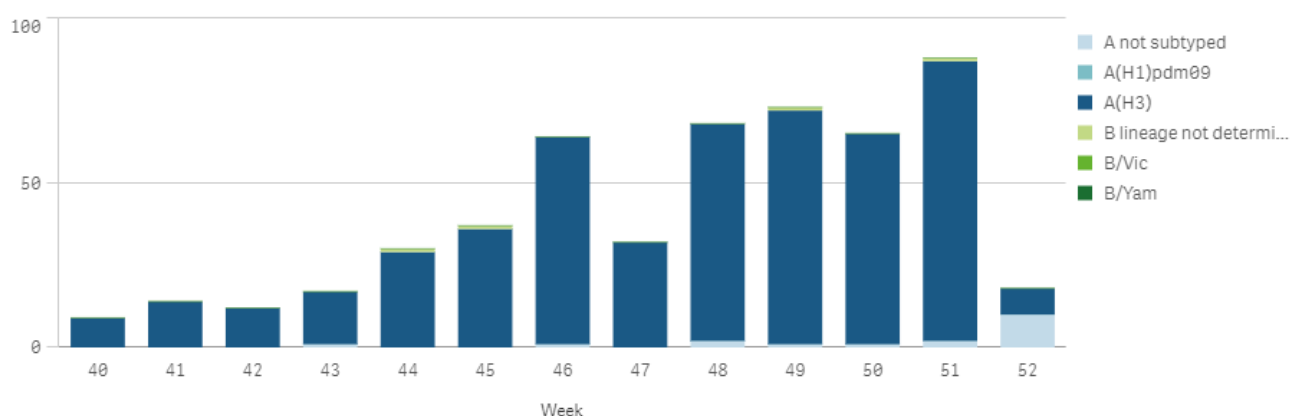


Figure 10. Influenza detections by virus type, subtype/lineage from severe acute respiratory infection (SARI), WHO European Region, season 2021/2022

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 52/2021, 3 666 of 60 398 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; 3 634 (99%) were type A and 32 (1%) were type B. Of 1 459 subtyped A viruses, 41 (3%) were A(H1)pdm09 and 1 418 (97%) were 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=21 108, 96%) than type B (n=1 003, 4%) viruses have been detected. Of 8 265 subtyped A viruses, 274 (3%) were A(H1)pdm09 and 7 991 (97%) 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

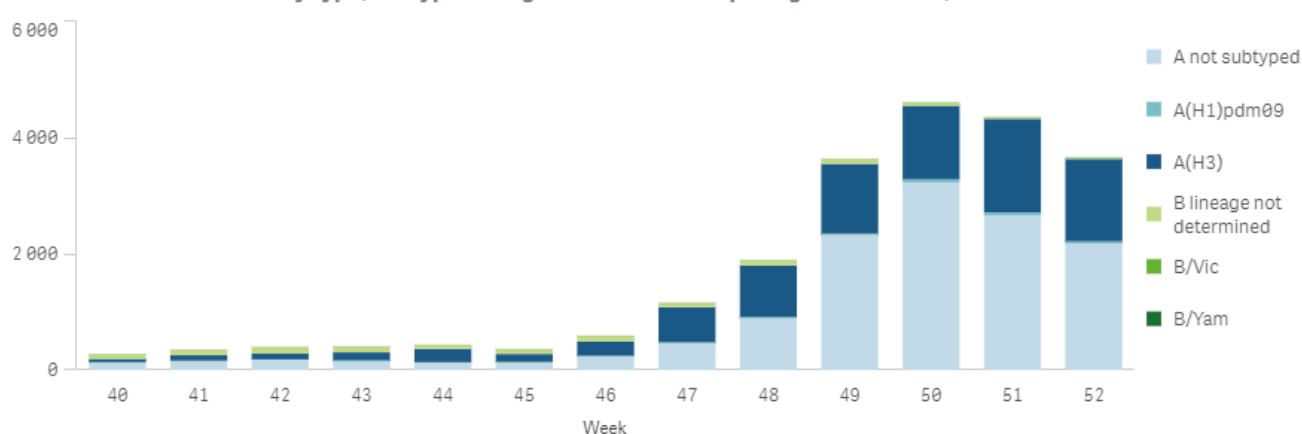


Table 2. Influenza virus detections in non-sentinel source specimens by type and subtype, week 52/2021 and cumulative for the season

Virus type and subtype	Current Week (52)		Season 2021-2022	
	Number	% ^a	Number	% ^a
Influenza A	3 634	99.1	21 108	95.5
A(H1)pdm09	41	2.8	274	3.3
A(H3)	1 418	97.2	7 991	96.7
A not subtyped	2 175	-	12 843	-
Influenza B	32	0.9	1 003	4.5
B/Victoria lineage	0	-	7	87.5
B/Yamagata lineage	0	-	1	12.5
Unknown lineage	32	-	995	-
Total detections (total tested)	3 666 (60 398)	-	22 111 (841 768)	-

^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 52/2021, 320 A(H3) viruses had been characterized genetically, 319 of which belonged to clade 3C.2a1b.2a.2. One A(H3) virus from week 41 was characterized genetically and attributed to clade 3C.2a1b.1a. One A(H1) virus from week 42 was characterized genetically and not attributed to any clade and one A(H1) virus from week 45 belonged to clade 6B.1A.5a.1. Up to week 52/2021, 3 B/Victoria viruses were characterized genetically, one belonging to clade V1A.3a.2 and two to clade V1A.3.

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

	Number of influenza viruses attributed to genetic groups 2021/2022
Total	325
Influenza A	322
A(H1)pdm09	2
A/Guangdong-Maonan/SWL1536/2019(H1N1)pdm09	2
A(H3)	320
A/Bangladesh/4005/2020(H3)_3C.2a1b.2a.2	319
A/Denmark/3264/2019(H3N2)_3C.2a1b+T135K-A	1
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 52/2021, 225 viruses (224 A(H3) and 1 A(H1)pdm09) were assessed for susceptibility to neuraminidase inhibitors, and 125 viruses (124 A(H3) and one A(H1)pdm09) were assessed for susceptibility to baloxavir marboxil. No amino acid substitutions previously associated 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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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).

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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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