

## WEEKLY BULLETIN

# Communicable Disease Threats Report

Week 1, 31 December–6 January 2024

## This week's topics

1. Avian influenza A(H5N6) – Multi-country – Monitoring human cases
2. Avian influenza A(H9N2) – Multi-country (World) – Monitoring human cases
3. SARS-CoV-2 variant classification
4. Overview of respiratory virus epidemiology in the EU/EEA
5. Western Equine Encephalitis – Argentina – 2023

## Executive Summary

### Avian influenza A(H5N6) – Multi-country – Monitoring human cases

- A new lethal case of avian influenza A(H5N6) virus infection in a 33-year-old woman was reported in Sichuan province, China on 23 December 2023.
- Since 2014, 89 cases have been reported in China (88) and Laos (1), of which 35 were fatal (CFR: 39.3%).
- To date, no instances of human-to-human transmission have been documented.
- The risk of zoonotic influenza transmission to the general public in EU/EEA countries remains very low.

### Avian influenza A(H9N2) – Multi-country (World) – Monitoring human cases

- Two new human infections with avian influenza A(H9N2) have been reported in China in a one-year-old boy and a 74-year-old woman from Sichuan province, with onset of symptoms in November 2023.
- Since 1998, 130 human cases of A(H9N2) have been confirmed globally, including two deaths.
- Most of the cases reported to date have been in China (117 cases). No human cases have been reported in the EU/EEA.
- Influenza A(H9N2) is not present in Europe's poultry populations and therefore does not represent a risk for human health in the EU/EEA.

## SARS-CoV-2 variant classification

- ECDC classified **BA.2.86** as a variant of interest (VOI) on 24 November 2023. As of 1 January 2024, BA.2.86 is the dominating lineage in EU/EEA countries and continues to increase rapidly, with a median proportion for week 50 (11 December 2023 to 17 December 2023) of 74.5% (range:38–88.4%).
- A large proportion of the BA.2.86 sequences belong to the sub-lineage **JN.1**. As of 19 December 2023, due to its rapid increase in proportion, [WHO classified JN.1](#) as a separate VOI from the parent lineage BA.2.86. The most likely driver of the success of BA.2.86-descendant lineages is immune escape in a population where immunity is increasingly derived from XBB-variants.
- **XBB.1.5-like+F456L** lineages are circulating with a median proportion of 21% in EU/EEA countries (range: 7.7–43%). The overall proportion of XBB.1.5-like+F456L variants appears to be declining in the EU/EEA.
- **XBB.1.5-like+L455F+F456L** variants have been on a declining trend in the EU/EEA, with a median proportion of 15% (range: 4.3–25.7%). The lineages present in this umbrella are mainly HK.3, JD.1.1 and JG.3.
- Other **XBB.1.5-like** lineages are circulating with a median proportion of 3.2% in EU/EEA countries (range: 0.5–15.2%). The overall proportion of XBB.1.5-like+F456L variants appears to be declining in the EU/EEA.
- **BA.2.75** lineages are circulating in very low proportions and are declining in the EU/EEA, with a median proportion of 0% (range: 0–0.05%)

## Overview of respiratory virus epidemiology in the EU/EEA

- By the end of week 52 (ending 31 December 2023), rates of respiratory illness (influenza-like illness (ILI) and/or acute respiratory infection (ARI)) in the community continue to increase in most EU/EEA countries. Rates of severe acute respiratory infection (SARI) cases presenting to secondary care were at a level comparable to the same time last year and are now notably increasing in one of the two reporting countries.
- Due to decreased testing and reporting during the holiday period, data for weeks 51 and 52 must be interpreted with caution.
- Seasonal influenza is circulating at higher levels than SARS-CoV-2 and respiratory syncytial virus (RSV). Influenza has continued to increase slightly from a median test positivity of 19% (pooled country data: 18%) in week 50 to 24% (pooled country data: 23%) in week 52. Of 13 countries reporting data, 10 reported seasonal influenza activity above the 10% positivity threshold in sentinel primary care in week 52. Concurrently, an increasing number of countries reported the geographical spread as widespread, indicating that influenza activity is intensifying. Influenza activity began later in 2023–2024 than in 2022–2023.
- Countries report a mix of increasing and decreasing trends in SARS-CoV-2 activity and COVID-19 hospitalisations, ICU admissions and deaths, with severe outcomes predominantly among those aged 65 years and above. For RSV, countries continue to report a mix of increasing and decreasing trends for activity and severity indicators. The highest impact of RSV continues to be among children aged 0–4 years.

## Western Equine Encephalitis – Argentina – 2023

- Western Equine Encephalitis (WEE) cases were reported for the first time since 1996 in Argentina.
- The first case presented with symptoms in November 2023 and, overall, 12 cases were confirmed up to week 51, 2023. Most cases were reported in adult males.
- WEE is a mosquito-borne disease caused by the WEE virus. Birds are the main reservoir, while equines and humans are dead-end hosts. Outbreaks in equines have been reported in Argentina and Uruguay.
- The risk for the EU/EEA is very low because humans and horses are dead-end hosts, there is no direct migration of birds from South America to Europe, and conditions in Europe are currently unfavourable for vector-borne transmission.

# 1. Avian influenza A(H5N6) – Multi-country – Monitoring human cases

## Overview:

**Update:** A new lethal case of avian influenza A(H5N6) was reported on 23 December 2023 in Bazhoung City, Sichuan province, China. The patient was a 33-year-old woman. No new cases have been detected among her contacts.

**Summary:** Since 2014, and as of 3 January 2024, 89 laboratory-confirmed cases, including 35 deaths (CFR: 39.3%), of human infection with influenza A(H5N6) virus have been reported. The cases were reported from China (88) and Laos (1).

**Sources:** [Press release of the Government of the Hong Kong Special Administrative Region, 23 December 2023](#)

**ECDC assessment:**

Sporadic human cases of avian influenza A(H5N6) have been previously observed. No human-to-human transmission has been reported to date. Sporadic zoonotic transmission cannot be excluded. The implementation of personal protective measures for people directly exposed to poultry and birds potentially infected with avian influenza viruses will minimise the remaining risk. The risk of zoonotic influenza transmission to the general public in EU/EEA countries is considered to be very low.

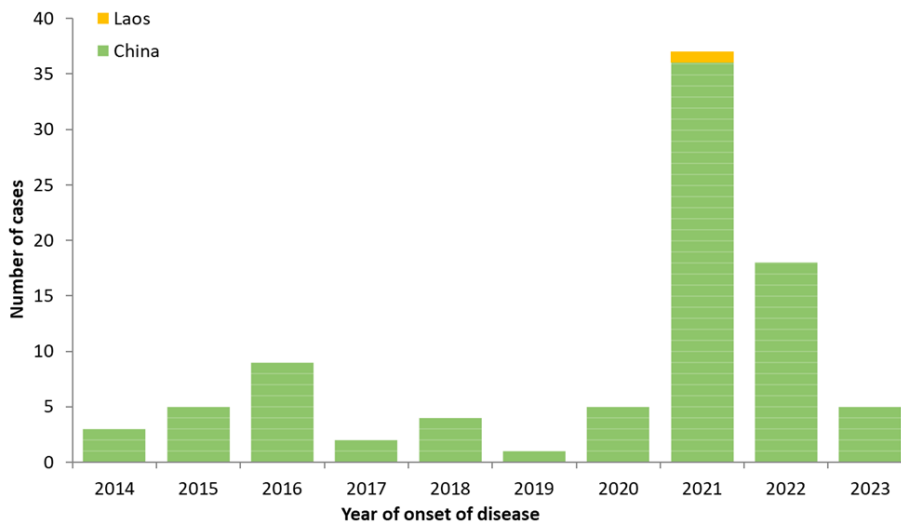
**Actions:**

ECDC monitors avian influenza strains through its epidemic intelligence and disease network activities and collaborates with the European Food Safety Authority (EFSA) and the EU reference laboratory for avian influenza to identify significant changes in the epidemiology of the virus. ECDC works with EFSA and the EU reference laboratory to produce a quarterly [report on the avian influenza situation](#). The most recent report was published in December 2023.

**Last time this event was included in the Weekly CDTR:** 29 September 2023

**Maps and graphs**

**Figure 1. Confirmed human cases of avian influenza A(H5N6) virus infection by year of onset and country, 2014 to 3 January 2024 (n=89)**



Source: ECDC

## 2. Avian influenza A(H9N2) – Multi-country (World) – Monitoring human cases

### Overview:

**Update:** Two new human infections with avian influenza A(H9N2) have been reported in China in a one-year-old boy and a 74-year-old woman from Sichuan province. Onset of mild symptoms occurred on 4 and 15 November 2023, respectively. No new cases have been detected among the contacts of the cases. No human-to-human transmission has been reported.

**Summary:** As of 3 January 2024, and since 1998, a total of 130 laboratory-confirmed cases of human infection with avian influenza A(H9N2) viruses, including two deaths, have been reported in eight countries: China (117), Egypt (4), Bangladesh (3), Cambodia (2), Oman (1), Pakistan (1), India (1) and Senegal (1). Most of the cases were children with mild disease.

**Source:** [Press release of the Government of the Hong Kong Special Administrative Region, 23 December 2023](#)

### ECDC assessment:

Sporadic human cases of avian influenza A (H9N2) have been observed outside the EU/EEA, mainly in young children. Influenza A(H9N2) is not present in Europe's poultry populations and therefore does not represent a risk for human health in the EU/EEA.

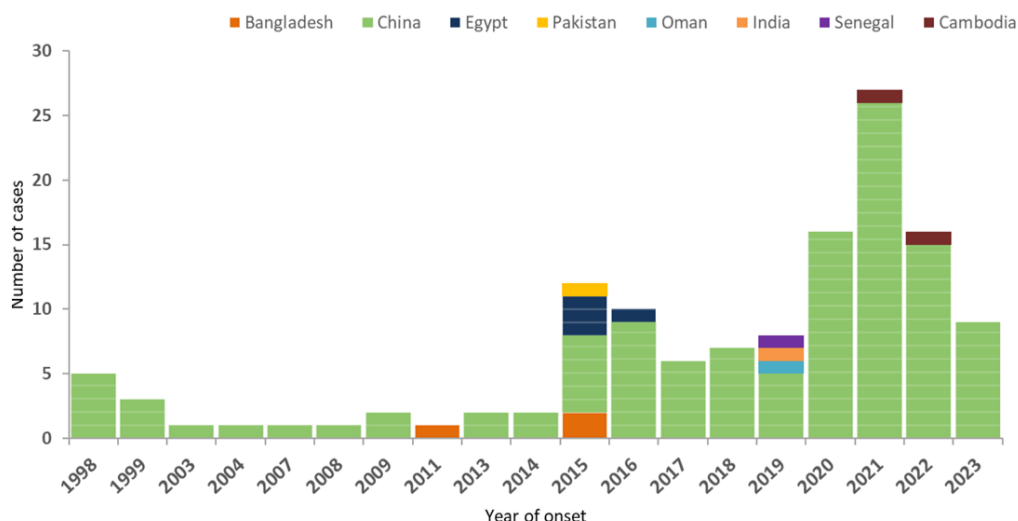
### Actions:

ECDC monitors avian influenza strains through its epidemic intelligence and disease network activities and collaborates with the European Food Safety Authority (EFSA) and the EU reference laboratory for avian influenza to identify significant changes in the epidemiology of the virus. ECDC works with EFSA and the EU reference laboratory to produce a quarterly [report on the avian influenza situation](#). The [most recent report](#) was published in December 2023.

**Last time this event was included in the Weekly CDTR:** 17 November 2023

## Maps and graphs

**Figure 1. Distribution of confirmed human cases of avian influenza A(H9N2) virus infection by year of onset and country, 1998–2023 (updated on 3 January 2024, n=130)**



Source: ECDC

## 3. SARS-CoV-2 variant classification

### Overview:

#### Weekly update on SARS-CoV-2 variants:

Since the last update on 15 December 2023 and as of 5 January 2024, **no changes** have been made to ECDC variant classifications for variants of concern (VOCs), variants of interest (VOIs), variants under monitoring and escalated variants.

The variant proportions listed below are reported for week 50 (11 December 2023 to 17 December 2023) and as of 1 January 2024.

As of 1 January 2024, BA.2.86 is the dominating lineage in EU/EEA countries and continues to increase rapidly, with a median proportion for week 50 of 74.5% (range: 38–88.4%). In addition, the genetic distance between BA.2.86 and other currently circulating variants may have a potential impact on [immunity](#) and [transmissibility](#). Among the 12 EU/EEA countries reporting at least 20 sequences to GISAID EpiCoV for week 50, the proportions of BA.2.86 lineages were as follows: Austria (62.9%), Belgium (75.8%), Denmark (88.4%), France (74.5%), Germany (80.0%), Ireland (65.2%), Italy (54.3%), Netherlands (86.1%), Norway (84.6%), Poland (38.0%), Spain (83.3%) and Sweden (60.6%). This overall increasing trend has been observed for BA.2.86 in recent weeks (Figure 1).

A large proportion of the BA.2.86 sequences belong to the sub-lineage **JN.1**. As of 19 December 2023, due to its rapid increase in proportion, [WHO classified](#) JN.1 as a separate variant of interest from the parent lineage BA.2.86. The most likely driver of the success of BA.2.86-descendant lineages is immune escape in a population where immunity is increasingly derived from XBB-variants.

**XBB.1.5-like+F456L** variants currently dominate the global and EU/EEA SARS-CoV-2 variant landscape. As of 1 January 2024 and for week 50, XBB.1.5-like+F456L lineages are circulating with a median proportion of 21% in EU/EEA countries (range: 7.7–43%). The overall proportion of XBB.1.5-like+F456L variants appears to be declining in the EU/EEA.

**XBB.1.5-like+L455F+F456L** variants have been on a declining trend in the EU/EEA, with a median proportion of 15% (range: 4.3–25.7%). The lineages mainly present in this umbrella are HK.3, JD.1.1 and JG.3 lineages. [Preliminary studies](#) indicate that XBB.1.5-like+L455F+F456L variants may bind more efficiently to human ACE-2 and have similar immune evasive properties to XBB.1.5-like+F456L variants and XBB.1.5-like+L455F variants. Virtually all the lineages are already included in the existing VOIs XBB.1.5-like+F456L, but are being monitored specifically as VUMs.

**BA.2.75** lineages are circulating in EU/EEA countries in very low proportions with a median proportion of 0% (range: 0–0.05%).

For the latest information on variants, please see ECDC's [webpage on variants](#).

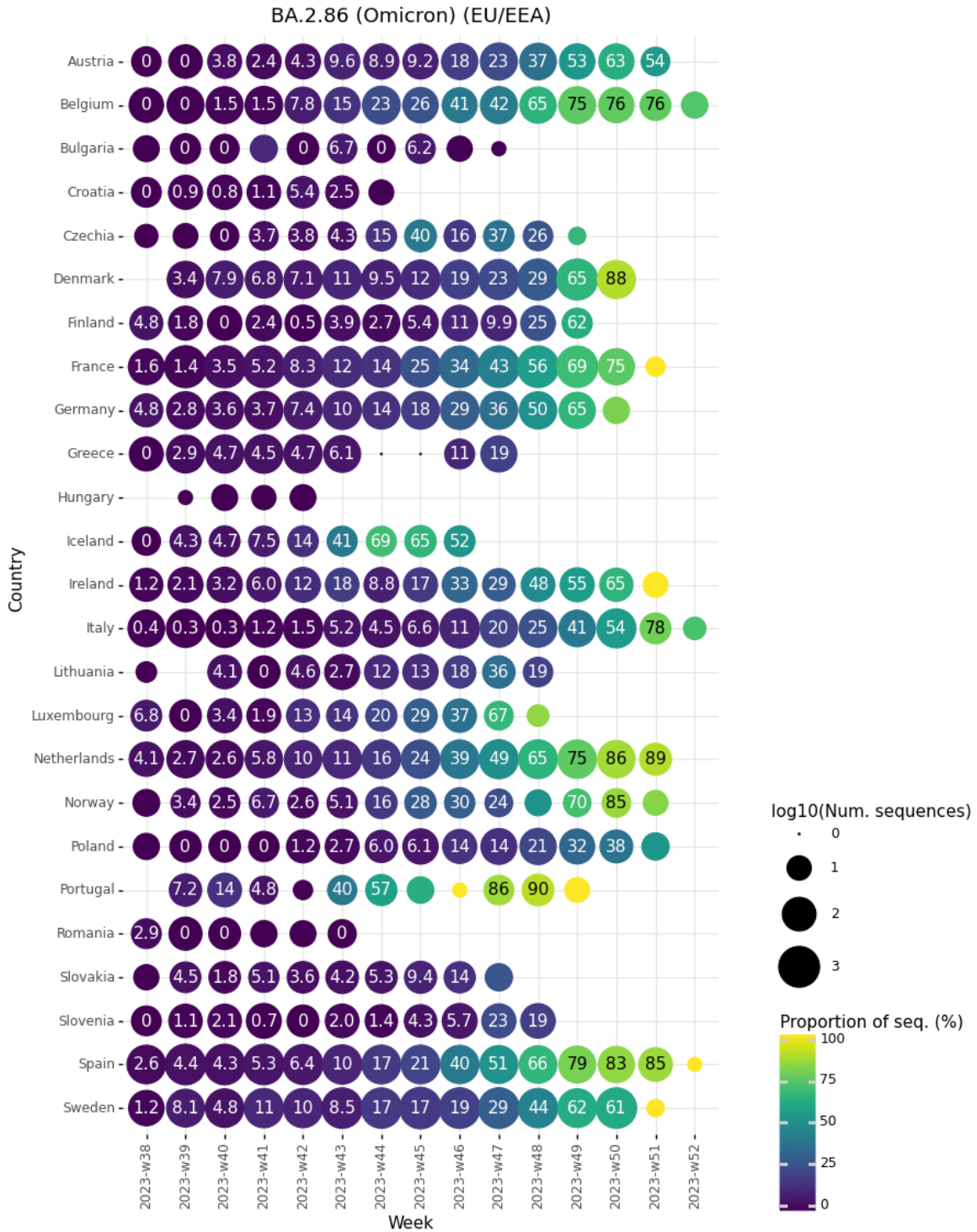
### Actions:

For the latest update on SARS-CoV-2 variant classifications, please see [ECDC's webpage on variants](#). Variant surveillance data, including the distribution of VOC and VOI variant proportions in the EU/EEA, and detailed country-specific COVID-19 updates are available as part of the [European Respiratory Virus Surveillance Summary \(ERVISS\)](#).

**Last time this event was included in the Weekly CDTR:** 22 December 2023

## Maps and graphs

**Figure 1. Proportion of sequences belonging to BA.2.86 lineages per sample collection week, reported by EU/EEA countries to GISAID EpiCoV as of 18 December 2023**



Source: GISAID EpiCoV as of January 1, 2024

## 4. Overview of respiratory virus epidemiology in the EU/EEA

### Overview:

#### Respiratory virus activity

- Consultation rates of patients presenting to general practitioners with respiratory illness (ILI and/or ARI) were reported by 18 EU/EEA countries up to week 52. Moving epidemic method (MEM) thresholds were available for seven countries for ARI and 15 countries for ILI. While many of the EU/EEA countries still report baseline levels, one country reported very high ARI activity and one reported low ARI activity; for ILI, one country reported very high activity, one reported high activity, and three reported low activity. This indicates an increase in acute respiratory infections presenting in primary care in EU/EEA countries.
- Among countries reporting data on testing in primary care sentinel settings for influenza, RSV or SARS-CoV-2, the median test positivity at the EU/EEA level was highest for influenza at 24% (pooled country data: 23%; IQR of country values: 13–30%). However, the number of tests for all three pathogens was low during week 52, which is not unusual for the holiday period when testing and reporting historically decrease at the national level. Ten countries reported seasonal influenza activity above the 10% positivity threshold in sentinel primary care. Concurrently, the qualitative indicators reported for seasonal influenza confirm increased influenza activity and geographic spread in the EU/EEA. Of 19 countries reporting qualitative assessments of seasonal influenza activity, 17 countries reported levels above baseline (low: nine countries; medium: six countries; and high: two countries). Of 18 countries reporting on geographical spread of seasonal influenza, all reported some level of activity (widespread: 12 countries; regional: one country; local: two countries; and sporadic: three countries). Seasonal influenza detections in data from non-sentinel sites continued to increase in week 51. Detections from non-sentinel sites decreased in week 52, which is most likely attributable to a significant decrease in testing over the holiday period.
- Fourteen countries reported sentinel primary care data for SARS-CoV-2, with a median test positivity of 14% (pooled country data: 12%; IQR of country values: 5–17%). Following a continuous increase in the overall median SARS-CoV-2 positivity from week 44 to week 49, decreases have been observed since week 50. Both increasing and decreasing trends for SARS-CoV-2 test positivity were observed at the national level during this period. SARS-CoV-2 detections and testing in non-sentinel data were similar to those reported for sentinel data, with most countries reporting decreasing trends. However, in some countries, SARS-CoV-2 positivity and detections in non-sentinel data are notably increasing, especially in those aged 65 years and above.
- RSV detections in sentinel primary care were reported by 13 countries and median test positivity decreased to 3% (pooled: 9%; IQR: 0–11%) in week 52. This is most likely attributable to a substantial decrease in testing and reporting over the holiday period. RSV detections in non-sentinel data were reported by 12 countries in week 52 and showed a similar pattern to sentinel detections.
- Among the 249 sentinel primary care detections of seasonal influenza, 243 were typed as influenza virus type A and six were typed as influenza virus type B. Of the influenza type A detections, 58% (n = 142) were further subtyped as either A(H1N1)pdm09 (n = 127) or A(H3) (n = 15). Three of the influenza type B detections were further subtypes as B/Vic.

#### Severe disease

- Based on syndromic sentinel secondary care data, rates of severe acute respiratory infection (SARI) cases are increasing compared with previous weeks in one of the two countries reporting data. Reported rates remain comparable to the same time last year.
- Pooled SARS-CoV-2 test positivity in SARI cases continued to decrease in recent weeks, plateauing over weeks 51–52 along with a lower number of tests, with a mixed picture at the national level. Overall, non-sentinel hospital admissions and ICU rates gradually increased from week 36, especially in the age group 65 years and above; however, rates have plateaued over the past 3–4 weeks. The COVID-19 death rate continued to increase up to week 50. Decreases observed in weeks 51–52 are likely attributable, at least in part, to reporting delays over the holiday period.
- RSV tests among SARI cases were reported by two countries in week 52, with a pooled test positivity of 17% and a low number of tests over weeks 51–52. The highest test positivity was observed in the 0–4 years age group (pooled test positivity: 53%) and the second highest test positivity was in the 5–14 years age group (pooled test positivity: 14%). Non-sentinel RSV hospital admissions remained high in week 51 in one country for the 0–4 years age group, but with a continued decreasing trend.

- Pooled test positivity for seasonal influenza for SARI cases increased to 27% in week 51 and 33% in week 52; however, this is based on data from two countries and a lower number of tests compared with previous weeks. Increases were observed in all age groups, but positivity was highest in those aged 15–64 years, with a pooled test positivity of 40%. Non-sentinel detections of seasonal influenza in the ICU remained low, but an increasing trend in detections in both hospital and ICU admissions was observed.
- [EuroMOMO](#) pooled estimates of weekly excess all-cause mortality showed an elevated level of mortality in the age group 65 years and above.

## Virus characterisation

### SARS-CoV-2 variants for weeks 50–51 (11 to 24 December 2023)

The estimated distribution (median and IQR of proportions from 13 countries) of variants of concern (VOCs) or variants of interest (VOIs) was 70% (61–80%) for BA.2.86, 21% (15–33%) for XBB.1.5+F456L, 3.2% (2.0–5.8%) for XBB.1.5, and 0% (0–0.3%) for BA.2.75. The proportion of BA.2.86 continues to grow, with XBB.1.5-like+F456L and XBB.1.5 showing a decreasing trend.

## Influenza

WHO recommends that trivalent vaccines for use in the 2023–2024 influenza season in the northern hemisphere contain the following (egg-based and cell culture or recombinant-based vaccines respectively): an A/Victoria/4897/2022 or A/Wisconsin/67/2022 (H1N1)pdm09-like virus (subclade 5a.2a.1); an A/Darwin/9/2021 or A/Darwin/6/2021 (H3N2)-like virus (clade 2a); and a B/Austria/1359417/2021 (B/Victoria lineage)-like virus (subclade V1A.3a.2).

During weeks 40–52, 2023, 233 A(H1)pdm09, 102 A(H3) and 12 B/Victoria viruses from sentinel and non-sentinel sources were genetically characterised. Of the A(H1)pdm09 viruses, 90 were reported as clade 5a.2a and 143 were subclade 5a.2a.1. Of the A(H3) viruses, two were reported as clade 2a.3a and 100 were subclade 2a.3a.1. All of the B/Victoria viruses were reported as subclade V1A.3a.2.

### Period overview (weeks 25–52, 2023)

Following relatively low respiratory illness activity over the summer period, consultation rates increased in primary care settings from September. Transmission of SARS-CoV-2 began increasing in late summer, with clear increases observed at the EU/EEA level up to week 49 and decreases in activity observed since week 50. At the national level, both increasing and decreasing trends were reported for COVID-19 hospitalisations, ICU admissions and deaths. SARS-CoV-2 continues to predominantly impact individuals 65 years and above. RSV activity began increasing in approximately week 41. In recent weeks, a mixed epidemiological picture with increasing and decreasing trends at the national level has been observed. The highest impact of RSV continues to be among children aged 0–4 years. Week 50 marked the start of the seasonal influenza epidemic for the current period and activity continues to increase. Test positivity for influenza among SARI cases also increased to above 10% in week 50, with levels comparable to previous years at the start of the seasonal epidemic. Both influenza type A and type B viruses were detected, with a dominance of A(H1)pdm09 viruses in sentinel and non-sentinel virological surveillance data.

## Other news

Following the increases in respiratory viruses incidence over the last weeks, higher pressure in hospitals has been reported and covered in media in EU/EEA countries (e.g., [Ireland](#), [Italy](#), [Portugal](#) and [Spain](#)).

### ECDC assessment:

After marking the start of the seasonal influenza epidemic in the EU/EEA in week 50, seasonal influenza was circulating at higher levels than SARS-CoV-2 and RSV in week 52. With continued co-circulation of all three respiratory viruses, it remains essential to continue to monitor the impact on hospital and ICU admissions closely. The combined effect of co-circulating acute respiratory pathogens is likely to convey an increased burden of severe respiratory disease in the EU/EEA, which may continue to result in significant pressure on healthcare systems in the coming weeks. As expected, the holiday period has resulted in decreases in testing and reporting. Consequently, the epidemiological data submitted during weeks 51–52 must be interpreted with caution.



**Actions:**

ECDC monitors rates of respiratory illness presentation and respiratory virus activity in the EU/EEA, presenting findings in the European Respiratory Virus Surveillance Summary ([ERVISS.org](https://erwiss.org)). Updated weekly, ERVISS describes the epidemiological and virological situation for respiratory virus infections across the EU/EEA and follows the principles of integrated respiratory virus surveillance outlined in [Operational considerations for respiratory virus surveillance in Europe](#).

ECDC has published an epidemiological [update](#) which describes the epidemiological situation of acute respiratory infections in the EU/EEA countries and provides updated ECDC recommendations for mitigating their impact.

ECDC has published guidance on [vaccination roll-out for autumn/winter 2023](#), which stresses the importance of influenza and COVID-19 vaccination to protect individuals at increased risk of severe disease, e.g. people aged over 60 years and other vulnerable individuals (such as those with underlying comorbidities), irrespective of age.

**Sources:** [ERVISS](#)

**Last time this event was included in the Weekly CDTR:** 22 December 2023

## 5. Western Equine Encephalitis – Argentina – 2023

**Overview:**

On 20 December 2023, the Ministry of Health of Argentina [reported](#) that a case of Western Equine Encephalitis (WEE) was detected in Santa Fe. The report was followed by a [Disease News Item \(DON\) published by WHO on 28 December 2023](#). According to the DON, the patient developed symptoms in November and was working in an area where WEE cases were reported in equines. Human WEE cases were reported previously in Argentina in 1983 and 1996.

Epidemiological surveillance was initiated on 28 November 2023, after the initial alert at the national level. [According to the epidemiological bulletin of the Ministry of Health of Argentina](#), up to week 51 (starting 18 December 2023), 63 suspected WEE cases were reported, of which 12 were confirmed. Of the 12 confirmed cases, six were reported in Santa Fe (including one death in a 66-year-old male), five in Buenos Aires and one in Entre Rios. Most cases were reported in males (92%) aged 30–70 years old (11/12 cases) and all were hospitalised.

WEE is a mosquito-borne disease caused by the Western Equine Encephalitis virus (genus Alphavirus, family Togaviridae). The main reservoir for WEE virus is birds, while humans and equines are dead-end hosts. Up to 30 December 2023, over 1 000 WEE outbreaks in equines had been [reported](#) in Argentina. Outbreaks in equines were also [reported](#) in 2023 in Uruguay. Prior to this event, the most recent human case was in [Uruguay](#) in 2009.

Detailed laboratory guidelines for the detection of WEE virus infection in humans were [published](#) by WHO PAHO in 20 December 2023.

**ECDC assessment:**

WEE used to be widespread in the Americas, from Canada to Argentina, with epidemics with thousands of cases in the 1940s. Since then, case numbers have decreased, with no human cases since 2009. There is no clear explanation for the decline. The disease continues to be detected in serological studies in birds and other animals. It is possible that the current large outbreak in wildlife, with spill-over into equines and humans, spreads to countries neighbouring Argentina and Uruguay. However, the probability of infection for humans is relatively low, especially if personal protective measures against mosquito bites are applied, which include the use of repellents, protective clothing, door and window screens, and mosquito nets.

The risk for the EU/EEA is very low because humans and horses are dead-end hosts, there is no direct migration of birds from South America to Europe, and conditions in Europe are currently unfavourable for vector-borne transmission.

**Actions:**

ECDC is monitoring the event through epidemic intelligence.

**Further information:**

- [Equine encephalomyelitis \(Western\) - WOAHP - World Organisation for Animal Health](#)
- [Epidemiological alert - Risk to human health associated with Western Equine Encephalitis Virus infection in Equines - 19 December 2023 - PAHO/WHO | Pan American Health Organization](#)
- [Ministerio de Salud Argentina - Encefalitis Equina del Oeste: Circular para la vigilancia epidemiológica y laboratorial, la prevención y el control \(08/12/2023\)](#)

**Last time this event was included in the Weekly CDTR: -**