WEEKLY BULLETIN

Communicable Disease Threats Report

Week 50, 10 - 16 December 2023

This week's topics

1. Measles – Multi-country (World) – Monitoring European outbreaks
2. Chikungunya and dengue – Multi-country (World) – Monitoring global outbreaks
3. SARS-CoV-2 variant classification
4. Monthly diphtheria epidemiological monitoring in the EU/EEA - 2023
5. West Nile virus One Health seasonal surveillance – 2023
6. Overview of respiratory virus epidemiology in the EU/EEA
7. Human infection with influenza A(H1N2)v - United Kingdom - 2023

Executive Summary

Measles – Multi-country (World) – Monitoring European outbreaks

- In October 2023, 110 cases of measles were reported by nine countries. Between January and October 2023, 1 453 cases of measles were reported in The European Surveillance System (TESSy) by 22 countries.
- Through epidemic intelligence, we identified 776 new measles cases in eight EU/EEA countries since the last monthly update, including reports on an ongoing outbreak in Romania.
- One measles-related death has been reported in Romania in a child less than one year of age.
- Measles transmission currently remains low in the EU/EEA.
- Relevant updates for outside the EU/EEA are available for Switzerland, Ukraine, and the WHO Regions: EUROPE, AFRO, PAHO and WPRO (no update for WHO regions EMRO, and SEARO).

Chikungunya and dengue – Multi-country (World) – Monitoring global outbreaks

- In 2023 and as of 30 of November, approximately 460 000 CHIKVD cases and over 360 deaths have been reported worldwide. A total of 26 countries reported CHIKVD cases from the America (16), Africa (5) and Asia (5).
- No autochthonous cases of chikungunya virus disease have been reported in Europe to date this year.

- In 2023 and until the beginning of December, over 5 million cases and over 5 000 dengue-related deaths have been reported from 86 countries/territories globally.
- In 2023, over 100 autochthonous/non-travel associated dengue cases have been reported in Europe from Italy (82) France (43) and Spain (3).
- The current likelihood of local transmission events of chikungunya and dengue viruses occurring in areas where the vector is present in mainland EU/EEA is very low, as the environmental conditions are unfavourable for vector activity and virus replication in vectors.

SARS-CoV-2 variant classification

- **BA.2.86**, reclassified as a variant of interest (VOI) on 24 November 2023, continues to rapidly increase in the EU/EEA with a median proportion for week 47 (20 November 2023 to 26 November 2023) of 33% (range :19-54%).
- **XBB.1.5-like+F456L** variants currently dominate the global and EU/EEA SARS-CoV-2 variant landscape. As of 4 December 2023, for week 47, XBB.1.5-like + F456L lineages are circulating with a median proportion of 50% in EU/EEA countries (range: 32–75%). The overall proportion of XBB.1.5-like+F456L variants appears to be stable or slightly declining in the EU/EEA.
- **XBB.1.5-like+L455F+F456L** variants have been increasing but now display an unclear trend in the EU/EEA, with a median proportion of 28% (range: 5.8–34%). The lineages mainly present in this umbrella are HK.3, JD.1.1 and JG.3 lineages.

Monthly diphtheria epidemiological monitoring in the EU/EEA - 2023

- Since the beginning of 2023, and as of 12 December, 131 cases of diphtheria have been reported in the EU/EEA through The European Surveillance System (TESSy). Cases have been reported in Germany (90), the Netherlands (14), Belgium (6), Czechia (6), Slovenia (4), Latvia (3), Norway (3), Luxembourg (2), Slovakia (1), Spain (1), and Sweden (1). This represents 12 additional cases since the previous update on 7 November.
- Among the 131 cases reported, 13 presented with respiratory disease, 113 with cutaneous disease, and two with respiratory and cutaneous disease. For three cases, the clinical presentation was reported as unknown.
- Two of the cases died, one in Belgium and one in Latvia.
- Since September 2022, and as of 12 December 2023, there have been 398 cases of diphtheria including four deaths in the EU/EEA, as reported to TESSy.
- ECDC has no data indicating instances of community transmission or clusters of *Corynebacterium (C.) diphtheriae* as a result of the increased number of sporadic cases observed since the second half of 2022.
- Clinicians should continue to be aware of the clinical features of diphtheria and ensure timely diagnosis and treatment of cases according to existing clinical guidelines.
- An unusually broad predicted resistance of *C. diphtheriae* isolates to common oral and parenteral antibiotics has been reported. As a precautionary measure, ECDC recommends that antimicrobial susceptibility testing is performed on all *C. diphtheriae* isolates.

West Nile virus One Health seasonal surveillance – 2023

- Since the beginning of the 2023 transmission season and as of 13th December 2023, 707 human cases of WNV infection have been reported by EU/EEA countries, and 93 by EU-neighbouring countries.
- Since the beginning of the 2023 WNV transmission season and as of 13th December 2023, EU/EEA countries have reported 152 outbreaks among equids and 247 outbreaks among birds.
- This marks the final update for the season, concluding the publication of the weekly seasonal WNV updates.

Overview of respiratory virus epidemiology in the EU/EEA

- By the end of week 49 (ending 10 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 two of the six reporting countries.
- SARS-CoV-2 continued to circulate at higher levels than seasonal influenza and respiratory syncytial virus (RSV). Countries reported a mix of increasing and decreasing trends for SARS-CoV-2 activity, COVID-19 hospitalisations, ICU admissions and deaths, with those aged 65 years and above predominantly experiencing severe outcomes. Seasonal influenza activity is now notably increasing with six countries reporting positivity in sentinel primary care above 10%. Concurrently a larger number of countries report an increased geographic spread, indicating that the influenza activity is intensifying. RSV activity continued to increase albeit at a slower rate than in previous weeks, with the highest impact among children aged 0–4 years. The

observed plateauing of RSV activity is also seen in sentinel SARI test positivity and non-sentinel hospital admissions.

Human infection with influenza A(H1N2)v - United Kingdom - 2023

- UKHSA published an update on the recently reported human case of swine influenza virus A(H1N2) variant infection, detected in England.
- Although the case did not report having direct contact with pigs, the person resides in an area where several pig farms are located.
- Two close symptomatic contacts were identified retrospectively. Although both tested negative, it was not possible to rule out transmission since testing was performed after symptoms had resolved.
- Enhanced surveillance was established in the area and will continue for the next four weeks. No new cases have been detected to date by this system.
- The infection detected in the UK was caused by a distinct clade 1b.1.1, different from other recent human cases of influenza A(H1N2) detected elsewhere in the world, but similar to viruses detected in UK pigs.
- No human-to-human transmission has been detected so far, although investigations are still ongoing.
- The occurrence of sporadic human cases following exposure to pigs is expected due to the high prevalence of swine influenza viruses in the pig population. Specific protocols are applied to ensure a thorough investigation of all cases and rapid risk assessment.

1. Measles – Multi-country (World) – Monitoring European outbreaks

Overview:

From 1 January to 31 October 2023, a total of 1 453 measles cases have been reported by 22 countries to The European Surveillance System (TESSy), with the majority of cases being reported by Romania (979), Austria (157), France (106), Germany (57), Belgium (39), Poland (28), Italy (22) and Sweden (11). The remaining countries with reported cases (Croatia, Denmark, Estonia, Finland, Hungary, Ireland, Latvia, Liechtenstein, Lithuania, the Netherlands, Norway, Portugal, Slovakia, and Spain) have reported fewer than 10 cases in 2023. Detailed data are available in **ECDC's Surveillance Atlas of Infectious Diseases**.

Complementary epidemic intelligence surveillance data collected between 12 and 14 December 2023 from official public and media sources detected 776 new suspected and/or confirmed cases of measles since our last monthly update. These were reported in eight EU/EEA countries over the past months: Austria (15), France (1), Germany (8), Hungary (1), Lithuania (3), Poland (5), Romania (740), and Spain (3). An update on ongoing outbreaks has been reported in Romania. No other countries reported new cases or provided updates for previous periods.

To date in 2023, one measles-related death has been reported in the EU/EEA (Romania).

Relevant updates for outside the EU/EEA are available for Switzerland, Ukraine, and the following WHO Regions: EUROPE, AFRO, PAHO and WPRO.

Disclaimer: *The monthly measles report published in the CDTR provides the most recent data on cases and outbreaks based on information made publicly available by the national public health authorities or the media. This report is a supplement to ECDC's monthly measles and rubella monitoring report, based on data routinely submitted by 29 EU/EEA countries to TESSy. Data presented in the two monthly reports may differ.*

Epidemiological summary for EU/EEA countries with epidemic intelligence updates since last month:

Austria reported 172 cases of measles in 2023, and as of 12 December, an increase of 15 new cases since 9 October 2023. The recent cases have been reported from Vienna (n=12), Voralrberg (2) and Upper Austria (n=1). Overall, 49 cases have been reported in Vienna where last two cases have been reported in week 48, 2023. Earlier this year, an outbreak of measles has started in Styria, the mostly affected region, with 105 cases reported since the beginning of the outbreak in week 4, 2023 with the majority of cases detected till week 14, 2023. Cases have been reported in almost all regions, except Salzburg and Tyrol regions.

France: the Regional Health Agency of Auvergne-Rhône-Alpes has reported 64 cases of measles, including two hospitalisations, related to an outbreak in in Guilherand-Granges, Ardèche that started on 19 September 2023. An

increase of one case since the detection of the last case on 6 November 2023. Most of the reported cases were children from the same secondary school. The local authorities have implemented active contact tracing, raised awareness among the general public in affected areas, and are informing different stakeholders on preventive measures, including the monitoring of symptoms and checking of vaccination status.

Vaccination coverage for measles-containing vaccine in the Ardèche department has been approximately 85% for the first dose and lower for the second dose. Two doses of MMR-containing vaccine are compulsory in France for children born on and after 1 January 2018. The first dose is given at 12 months of age and the second dose between 16 and 18 months.

Germany has reported 126 suspected and confirmed cases as of 13 December 2023 (data as of week 50, 2023), an increase of eight cases since 8 November 2023.

Hungary has reported five cases in 2023 as of 3 December 2023, an increase of one case since 9 October 2023.

Ireland has reported five cases as of week 48 (ending 2 December 2023) in their provisional weekly report, a decrease of three cases since the previous monthly CDTR update.

Lithuania has reported three cases of measles in unvaccinated 5 to 14-year-olds, according to the national public health centre on 17 November 2023. These are the first cases reported since 2020.

Poland has reported 33 cases in 2023 as of 30 November 2023, an increase of five cases since 31 October 2023.

The Romanian Ministry of Health has declared a national measles epidemic on 5 December 2023 due to an ongoing outbreak of measles in the country with increased number of hospitalisations in paediatric and infectious disease wards. The declaration of an epidemic implies vaccination of children from 9 to 11 months of age and individuals with incomplete vaccination. The Ministry of Health will carry out an information campaign for parents, together with family doctors, for a better adherence to the vaccination program. Between 1 January and 10 December 2023, 2 010 confirmed measles cases (an increase of 740 cases since 2 November 2023) have been reported in 30 counties, including the Municipality of Bucharest. Most of the cases are reported in Mureş county (n=628), Braşov (n=339), followed by Bucharest (n=290). The vast majority of the cases are in unvaccinated children from 0 to 9 years of age (68.6%, n=1 379), including 242 children under one year of age (12%). Overall, 107 (5.3%) cases received one dose, and two-dose vaccination was reported in 55 cases (2.7%). Vaccination status was unknown for 53 (2.6%) cases. The peak of the outbreak with around 170 cases has been reported in week 44.

One child, less than one year of age, has died following a contact to his sick unvaccinated sibling. The deceased child was not eligible for vaccination due to age.

According to Ministry of Health, vaccination coverage with the first dose of MMR is 78% at national level, and 62% for the second dose. The vaccination coverage has been decreasing for the past ten years in Romania.

Spain has reported 11 cases in 2023 and as of 10 December 2023, an increase of three cases since 29 October 2023, six of which are imported, four related to imported case and one unknown.

Relevant epidemiological summary for countries outside the EU/EEA:

Switzerland reported 40 cases of measles in 2023 as of 4 December 2023, an increase of five cases since 30 October 2023.

Ukraine has reported overall 51 cases as of October 2023 based on the most recent report.

According to the WHO provisional monthly data for January–November* 2023 (data access 14 December 2023) overall 30 601 cases were reported in the region, of these 29 161 in the following non-EU/EEA countries: Kazakhstan (13 254), Russia (6 076), Türkiye (4 058), Kyrgyzstan (3 811), Uzbekistan (540), Armenia (487), Tajikistan (487), United Kingdom (155), Azerbaijan (5), Serbia (52), Ukraine (51), Belarus (49), Switzerland (39), Georgia (28), Israel (12), Albania (3), Bosnia and Herzegovina (3), Republic of Moldova (1), and North Macedonia (1).
**data are incomplete*

The numbers provided to WHO for EU/EEA countries are from TESSy data, updated monthly are partially described in this report and are available in ECDC Surveillance Atlas of Infectious Diseases*.*

According to the World Health Organization Regional Office for Africa (WHO AFRO), as

of 19 November (week 46, 2023), cases and outbreaks of measles in 2023 were reported in the following countries: Cameroon (ongoing outbreak with over 6 000 cases, including 31 deaths), Central African Republic, Chad, Democratic Republic of the Congo (DRC) (247 160 suspected cases, 4 567 deaths (CFR: 1.8%), Ethiopia (ongoing outbreak with 18 899 cases, including 149 deaths), Kenya, Malawi, Mali, Mauritania, Niger, Senegal, South Africa, South Sudan (6 957 cases, 150 deaths (CFR:2.4%)), Uganda (outbreak declared 28 September 2023, 181 suspected cases, 13 deaths), and Zambia (3 715 cases and 31 deaths). Due to varying reporting periods by the countries please visit the latest available weekly bulletin.

According to the WHO Pan American Health Organization (WHO PAHO) in 1-48 week 2023 (ending 2 December 2023), 50 cases were reported by three countries: Canada (8), the United States of America (41) and Chile (1).

According to a WHO Western Pacific Region (WPRO) report for October 2023 (Vol 17, Issue 11), overall, 3 550 confirmed and clinically compatible cases (including 1 715 laboratory confirmed cases), and no deaths have been reported by: Australia (24), Hong
Kong SAR (2), Japan (26), New Zealand (13), Republic of Korea (4), Singapore (8), Cambodia (9), China (632), Laos (2), Malaysia (1 122), Papua New Guinea (12), the Philippines (1 622), and Vietnam (74).

ECDC assessment:

Since 1 January 2023, EU/EEA countries have reported either sporadic cases or outbreaks of measles, following a period of unusually low activity during the COVID-19 pandemic. The substantial decline in cases of measles reported by EU/EEA countries from March 2020 until the end of 2022 is in contrast to the usual annual and seasonal pattern for measles, which peaks during the spring in temperate climates.

Despite some measles outbreaks being reported in 2023 (in Austria, France, and Romania), the majority of EU/EEA countries are still reporting only sporadic measles cases and the overall number of measles cases in the EU/EEA in 2023 remains low.

Active measles surveillance and public health measures, including high vaccination uptake, provide the foundation for a proper response to possible increases in the number of cases/outbreaks.

Actions:

ECDC is monitoring the measles situation through its epidemic intelligence activities, which supplement monthly outputs with measles surveillance data from TESSy routinely submitted by 29 EU/EEA countries. ECDC's latest advice on measles, **'Who is at risk of measles in the EU/EEA?'**, was published on 28 May 2019.

Last time this event was included in the Weekly CDTR: 10 November 2023

2. Chikungunya and dengue – Multi-country (World) – Monitoring global outbreaks

Overview:

Chikungunya virus disease (CHIKVD)
In 2023 and as of 30 of November, approximately 460 000 CHIKVD cases and over 360 deaths have been reported worldwide. A total of 26 countries reported CHIKVD cases from the America (16), Africa (5) and Asia (5). No new countries have reported CHIKVD cases in November and for the first time in 2023.

The majority of countries reporting high CHIKVD burden are from the Americas, in South and Central America. The countries reporting the highest number of cases are Brazil (243 176), Paraguay (123 451), Argentina (1 709), and Bolivia (1 376). Additional countries in the Americas reporting CHIKVD cases can be found at PAHO's dedicated website.

Outside of the Americas, CHIKVD cases were reported in Asia, from India (93 465), Philippines (2 561), Thailand (1 277), Malaysia (177), and Pakistan (18). Five African countries reported CHIKVD cases in 2023: Burkina Faso (473), Senegal (220), Mali (8), Gambia (1), and Namibia (1).

No autochthonous cases of CHIKVD have been reported in Europe in 2023.

CHIKVD associated deaths were reported from Paraguay (272) and Brazil (94).

Since September this year, CHIKVD cases in Burkina Faso continued to increase, reaching a total of 473 cases by 18 November 2023. Confirmed cases have been reported from Bobo (2), Koudougou (2), Ouagadougou (4), Pouytenga (221), and Zhorgo (1).

Dengue

In 2023 and until the beginning of December, over 5 million cases and over 5 000 dengue-related deaths have been reported from 86 countries/territories globally. Autochthonous/non-travel associated dengue cases have been reported in Europe from Italy (82) France (43) and Spain (3).

In the French Antilles, Martinique and Guadeloupe are currently experiencing increasing dengue trends and they have entered an epidemic phase (Phase 4; Sante Publique France 23/08/2023). In the beginning of November (Dengue Surveillance Bulletin, 9/11/2023), Sant-Martin and Saint-Barthélemy, transitioned to the epidemic phase (phase 3) after showing increasing trends in dengue cases since October 2023. According to the epidemiologic report published on 7 December, the indicator number of patients presenting with dengue symptoms in Guadeloupe and Martinique has been decreasing, cases with clinical symptoms are increasing in Saint-Martin but it is stable in Saint-Barthelemy. Dengue cases have also been reported in 2023 in Réunion (low activity) and in French Guyana, where the activity remains high but stable (1948 cases reported since the beginning of the year and until 23 November 2023).

Globally, the region of the Americas has reported the majority of cases in 2023 and as of November 2023 (over 4 million cases, and over 2 000 deaths) (PAHO – Dengue Indicators and PAHO/WHO Data - Dengue serotypes). The region has been reporting significant outbreaks since the beginning of 2023 (WHO Disease Outbreak News: Dengue – the Region of the Americas). Brazil is the country that has reported most cases in the Americas (over 2.9 million) while in 2023 significant outbreaks were reported in Argentina and Peru. On 12 December WHO PAHO published an assessment in which it evaluated the regional public health risk related to dengue in the Americas Region as high given the spread observed in 2023.

In Bangladesh, the total monthly number of dengue cases peaked in September and has been decreasing since (in October and November – Dengue Press Release 12/12/2023).

In Africa, according to the most recent report published by Africa CDC, until the beginning of December, dengue has reported by 14 African Union Member states, i.e., Angola, Burkina Faso, Cape Verde, Chad, Côte d'Ivoire, Egypt, Ethiopia, Guinea, Mali, Mauritius, São Tomé and Principe, Senegal, Sudan and Togo.

Disclaimer

The data presented in this report originates from both official public health authorities and non-official sources, such as news media. Data completeness depends on the availability of reports from surveillance systems and their accuracy, which varies between countries. All data should be interpreted with caution and comparisons, particularly across countries, avoided, due to under-reporting, variations in surveillance system structure, varying case definitions between countries and over time, and use of syndromic definitions.

ECDC assessment:

Chikungunya virus disease and dengue affect people in most countries of the tropics and sub-tropics. EU/EEA citizens travelling to the affected areas should apply personal protective measures against mosquito bites.

The likelihood of onward transmission of dengue and chikungunya virus in mainland EU/EEA is linked to importation of the virus by viraemic travellers into receptive areas with established and active competent vectors (e.g. *Aedes albopictus* and *Aedes aegypti*). *Aedes albopictus* is established in a large part of Europe. *Aedes aegypti* is established notably in Cyprus, on the eastern shores of the Black sea and in the outermost region of Madeira.

The current likelihood of the occurrence of local transmission events of chikungunya and dengue viruses in areas where the vectors are present in mainland EU/EEA is very low, as the environmental conditions are unfavourable for vector activity and virus replication in vectors. In 2023, locally-acquired dengue cases have been reported by France, Italy and Spain.

All autochthonous outbreaks of CHIVD and dengue in mainland EU/EEA have so far occurred between June and November.

More information is available on autochthonous transmission of chikungunya and dengue virus in the EU/EEA on ECDC's webpages, and in ECDC's factsheets on dengue and CHIKVD.

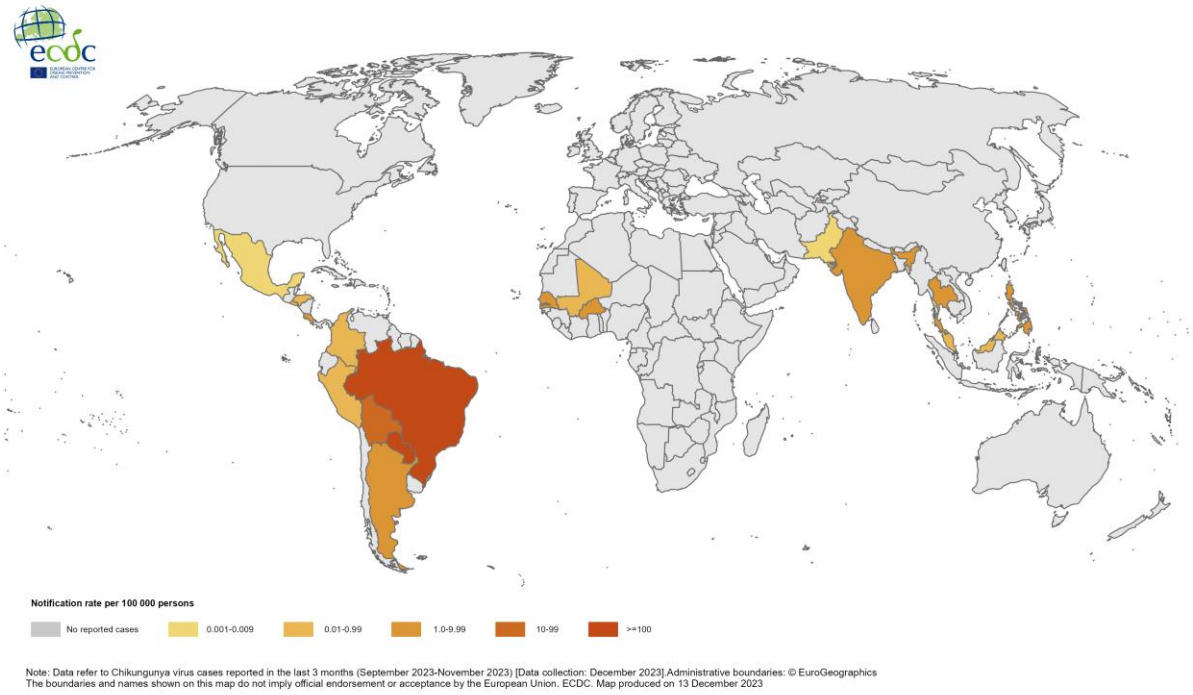
Actions:

ECDC monitors these threats through its epidemic intelligence activities, and reports on a monthly basis. A summary of the worldwide overview of **dengue** and **CHIKVD** is available on ECDC's website.

Last time this event was included in the Weekly CDTR: 10 November 2023

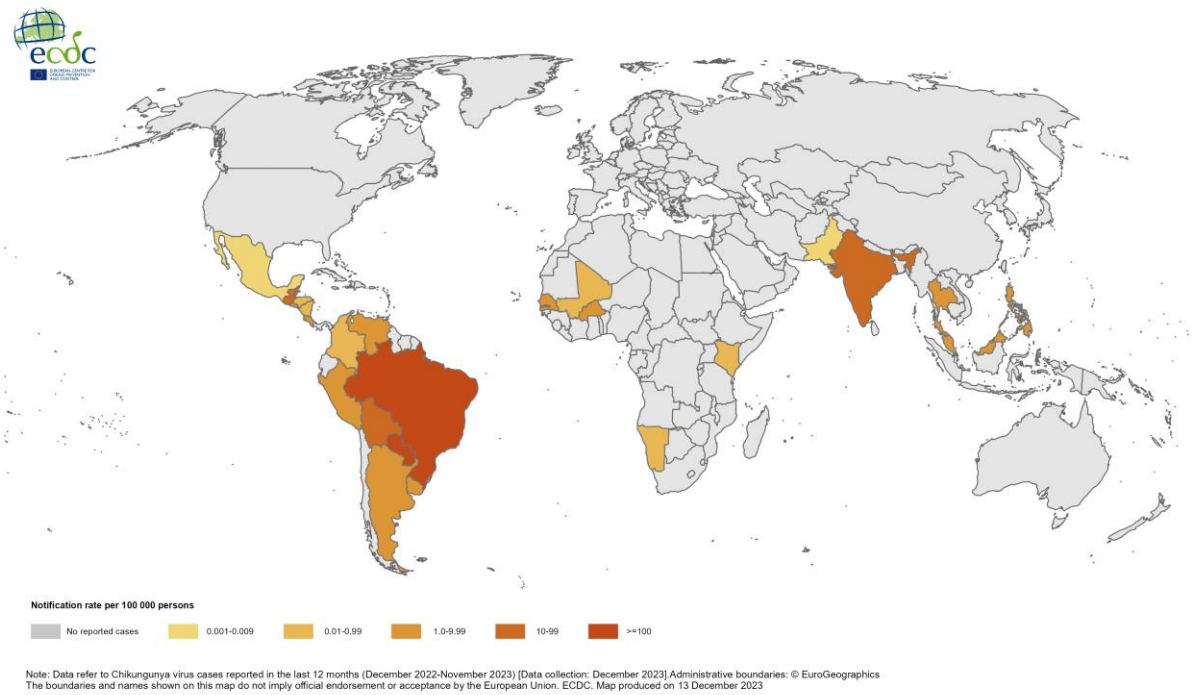
Maps and graphs

Figure 1. Three-month Chikungunya virus disease case notification rate per 100 000 population, September-November 2023



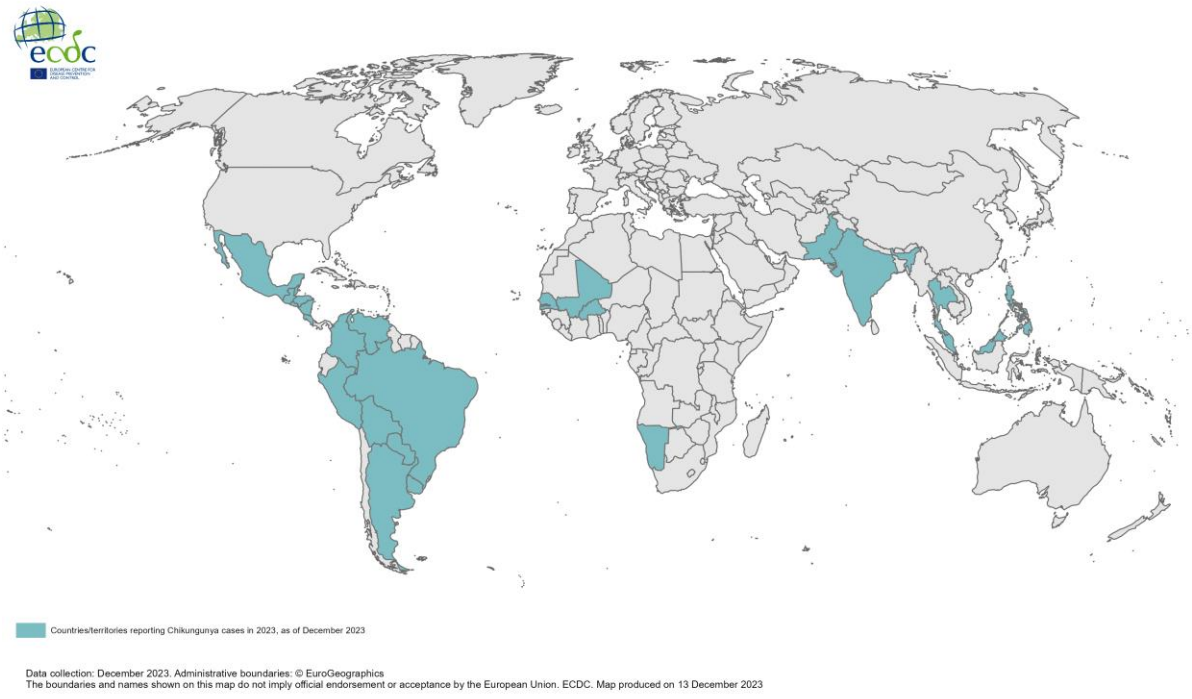
Source: ECDC

Figure 2. 12-month Chikungunya virus disease case notification rate per 100 000 population, December 2022-November 2023



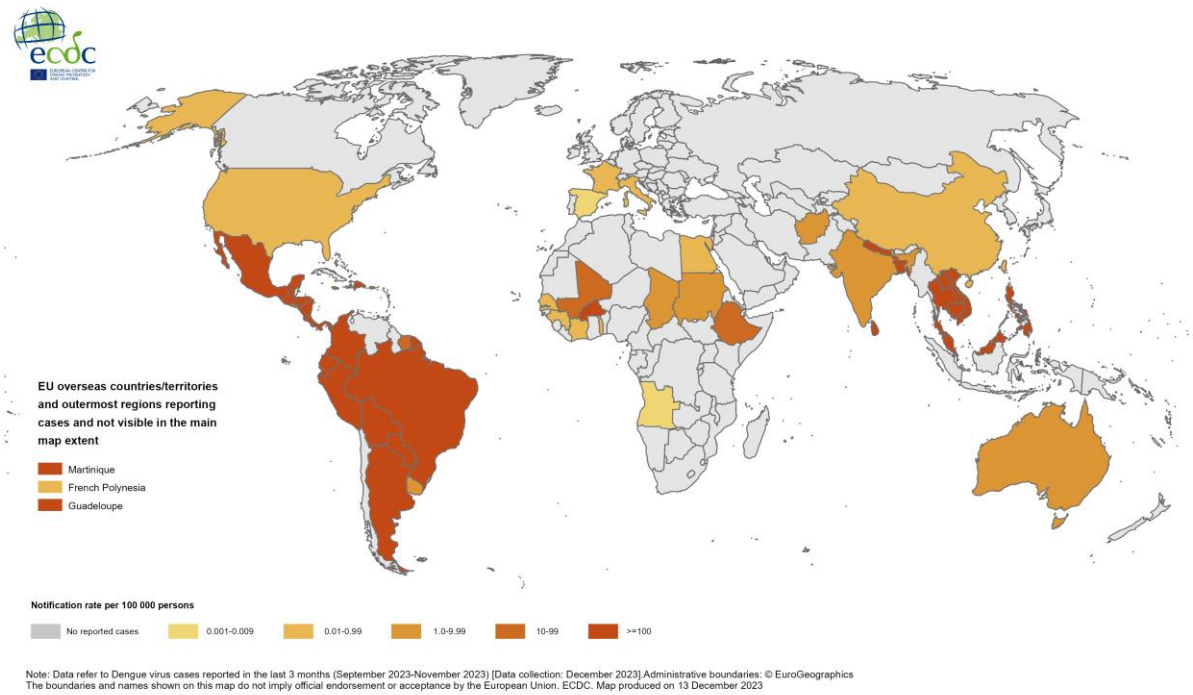
Source: ECDC

Figure 3. Countries/territories reporting Chikungunya cases since the beginning of 2023 and as of December 2023.



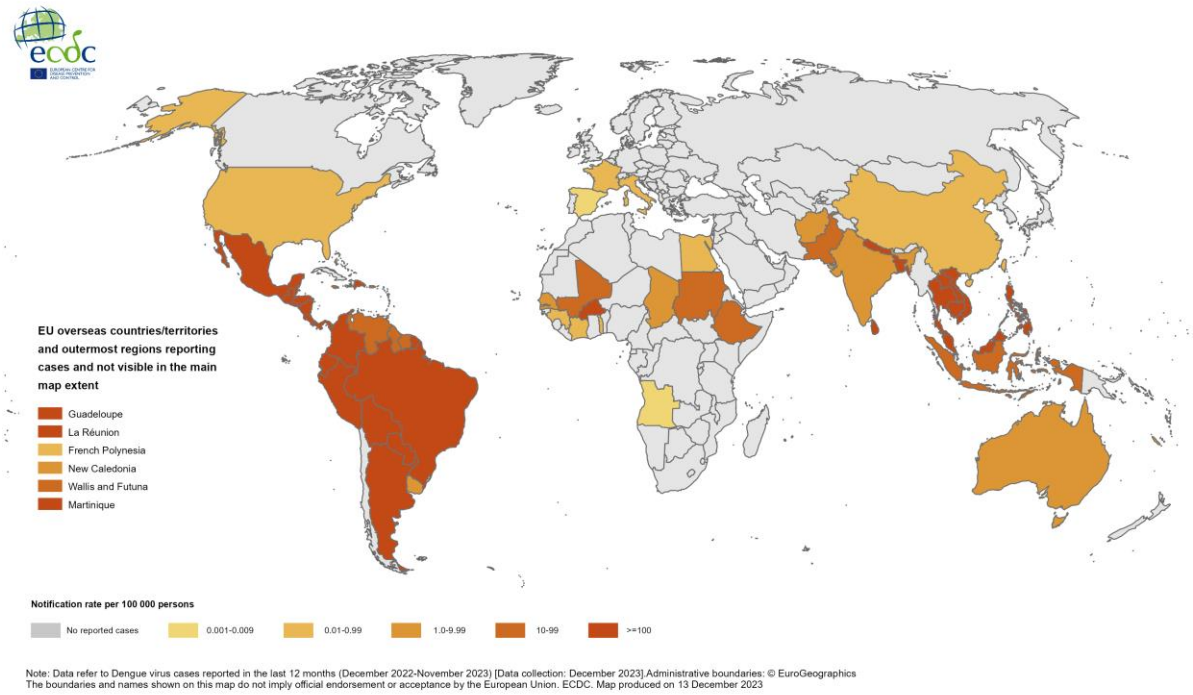
Source: ECDC

Figure 4. Three-month dengue virus disease case notification rate per 100 000 population, September-November 2023



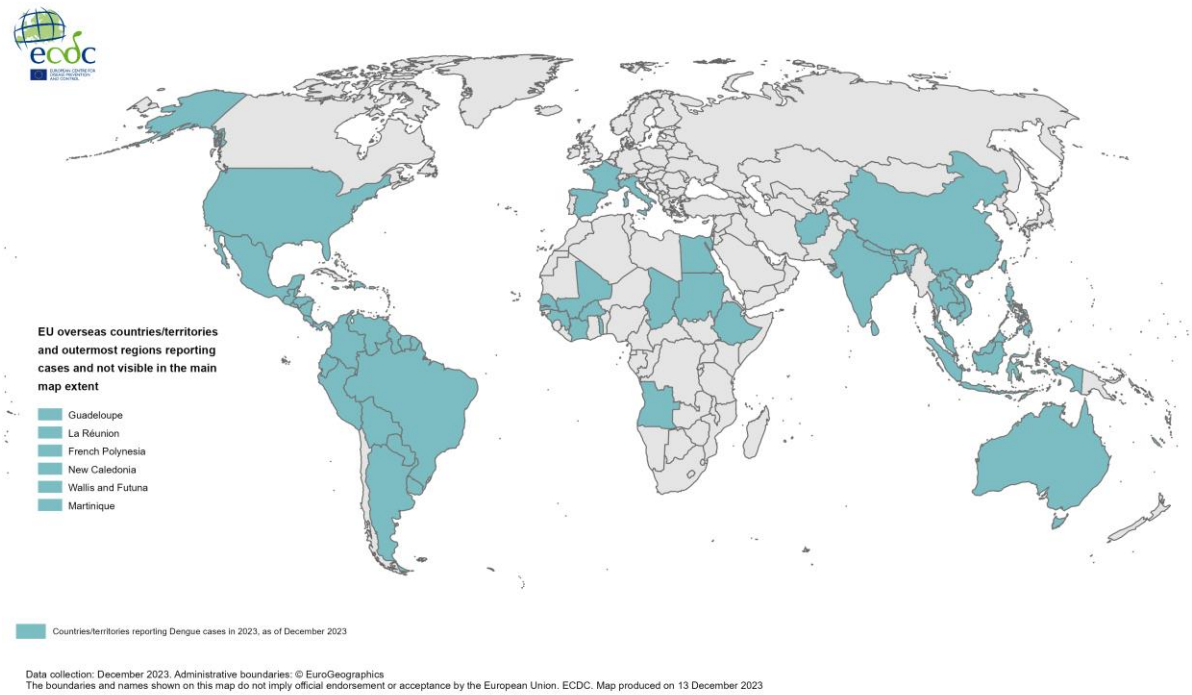
Source: ECDC

Figure 5. 12-month dengue virus disease case notification rate per 100 000 population, December 2022-November 2023



Source: ECDC

Figure 6. Countries/territories reporting dengue cases since the beginning of 2023 and as of December 2023.



Source: ECDC

3. SARS-CoV-2 variant classification

Overview:

Weekly update on SARS-CoV-2 variants:

As of 24 November 2023, **BA.2.86** was reclassified from a variant under monitoring (VUM) to a **variant of interest (VOI)** due to increasing proportions in the EU/EEA. 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 47 (20 November 2023 to 26 November 2023), the proportions of BA.2.86 lineages were as follows: Austria (20%), Belgium (42%), Denmark (22%), France (41%), Germany (40%), Ireland (35%), Italy (23%), Netherlands (38%), Norway (24%), Poland (19%), Spain (54%), Sweden (31%). The overall increasing trend has been observed for BA.2.86 in recent weeks (Figure 1).

The variant proportions listed below are reported for week 47 (20 November 2023 to 26 November 2023).

XBB.1.5-like+F456L lineages currently dominate the global and EU/EEA SARS-CoV-2 variant landscape. As of 4 December 2023, XBB.1.5-like lineages are circulating with a median proportion of 50% in EU/EEA countries (range: 32– 75%). The overall proportion of XBB.1.5-like+F456L variants appears to be slightly declining in the EU/EEA.

XBB.1.5-like+L455F+F456L variants show increasing trends in some EU/EEA countries (France, Ireland, Italy, the Netherlands, Spain, and Sweden) and reached an overall median proportion of 28% (range: 5.8–34%). The lineages mainly present in this umbrella are the 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 compared 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.

The combination of these mutations (L455F and F456L) has also been increasing in BA.2.75 lineages. The **DV.7.1** variants that carry these mutations are circulating at very low proportions at a median of 0.7% in the EU/EEA (range: 0–2.2%).

For the latest information on variants, please see ECDC's **webpage on variants**.

Actions:

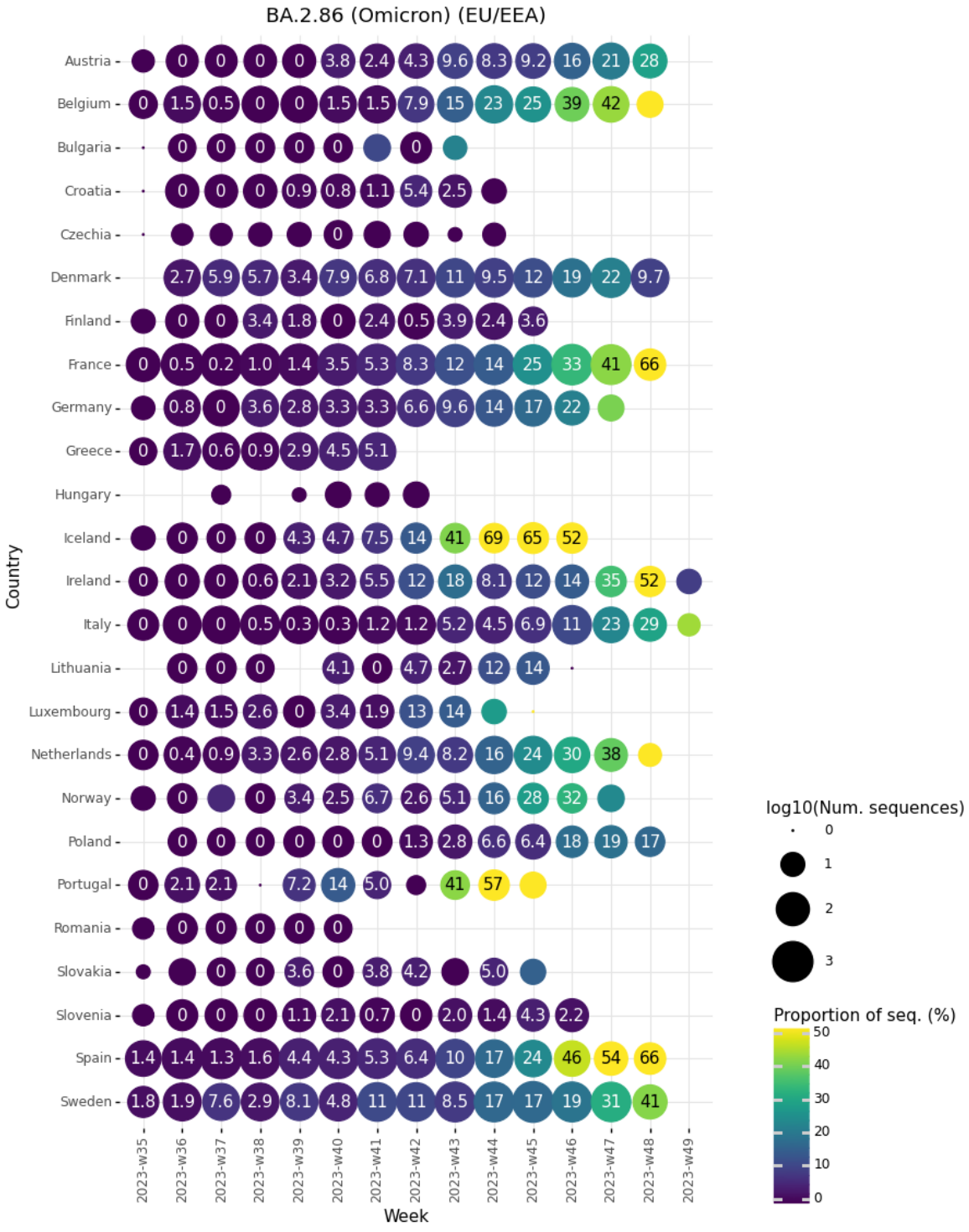
ECDC has created the following EpiPulse item to facilitate sharing of epidemiological and microbiological information from countries for BA.2.86: 2023-IRV-00009. In particular, countries are encouraged to share emerging evidence on BA.2.86 transmissibility, severity, immunological escape and vaccine effectiveness to support ongoing variant assessment.

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: 08 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 11 December 2023.



4. Monthly diphtheria epidemiological monitoring in the EU/EEA - 2023

Overview:

Summary: From the beginning of 2023, and as of 12 December 2023, 131 cases of diphtheria have been reported in the EU/EEA through The European Surveillance System (TESSy). Cases have been reported in Germany (90), the Netherlands (14), Belgium (6), Czechia (6), Slovenia (4), Latvia (3), Norway (3), Luxembourg (2), Slovakia (1), Spain (1), and Sweden (1).

This represents an increase of 12 cases since the previous update on 7 November 2023. The new cases have been reported from Germany (11) and Slovenia (1).

Among all the cases reported in 2023, 99 cases were caused by *Corynebacterium (C.) diphtheriae* and the remaining 32 cases were caused by *Corynebacterium (C.) ulcerans*. A hundred and thirteen of the 131 cases had a cutaneous clinical presentation. These cases were from Germany (84), the Netherlands (11), Czechia (5), Slovenia (4), Belgium (3), Norway (2), Latvia (1), Slovakia (1), Spain (1), and Sweden (1). Thirteen cases had a respiratory presentation. These cases were from Germany (6), Belgium (3), Latvia (2), Czechia (1), and the Netherlands (1). Two cases had a cutaneous and respiratory presentation (the Netherlands). For three cases, the clinical presentation was reported as unknown. In 2023, and as of 12 December, two fatal cases – Belgium (1) and Latvia (1) – have been reported in the EU/EEA. Both the fatal cases were attributable to *C. diphtheriae* infections and had a respiratory presentation.

Among the 131 cases of diphtheria reported in 2023, 46 cases were classified as imported, from Afghanistan (21), Syria (9), Sudan (2), Croatia (1), Ethiopia (1), Indonesia (1), Iraq (1), the Philippines (1), Slovenia (1), and Thailand (1), and for seven cases, the origin of importation was unknown. Eight cases were reported as import-related. Thirty-six cases were not imported, and the importation status was unknown for 41 cases.

In 2022, 359 cases of diphtheria, including five deaths, were reported to TESSy in the EU/EEA. Cases were reported in Germany (171), Austria (62), France (60), Belgium (31), Slovakia (8), Norway (8), the Netherlands (6), Czechia (5), Sweden (4), Italy (3) and Spain (1). Among the cases reported in 2022, 318 cases of diphtheria, including four deaths, were attributable to *C. diphtheria* and 41 cases, including one death, were attributable to *C. ulcerans*. Of 359 cases, 247 had a cutaneous clinical presentation, 34 had a respiratory presentation, five had a cutaneous and respiratory presentation, three had a nasal presentation, four had another clinical presentation, and for 66 cases the clinical presentation was unknown. Among the 359 cases reported, 133 were classified as imported cases from Afghanistan (36), Syria (13), Serbia (8), Bulgaria (4), Czechia (4), Austria (3), Türkiye (4), Madagascar (2), Mali (2), Bosnia and Herzegovina (1), Comoros (1), Congo (1), France (1), Latvia (1), Liechtenstein (1), Nigeria (1), Poland (1), Senegal (1), Slovenia (1), Sudan (1), Switzerland (1), Thailand (1), Ukraine (1), and for 43 cases the origin of importation was unknown.

Since September 2022, and as of 12 December 2023, 398 cases of diphtheria, including four deaths, have been reported to TESSy in the EU/EEA.

ECDC has no information on community transmission or outbreaks of diphtheria in the broader EU/EEA population as a result of the increased number of diphtheria cases observed since the second half of 2022.

Other news: From 2 January to 5 December 2023, the **United Kingdom Health Security Agency** (UKHSA) reported 13 confirmed cases of diphtheria among asylum-seekers in England, no new cases reported in November.

From 1 January to 4 December 2023, **Switzerland's Federal Office of Public Health** reported 25 confirmed cases of diphtheria in the country, an increase by two cases since 30 October 2023.

Disclaimer: *The monthly diphtheria epidemiological monitoring report **published in the CDTR** provides the most recent data on cases and outbreaks, based on information made publicly available by national public health authorities or the media in the EU/EEA, and detected during epidemic intelligence screening activities. This report also includes the data routinely submitted by 29 EU/EEA countries to TESSy.*

Background:
As of 12 December 2023, 131 cases of diphtheria, including two deaths, have been reported in the EU/EEA through TESSy in 2023.

Cases were reported in Germany (90), the Netherlands (14), Belgium (6), Czechia (6), Slovenia (4), Latvia (3), Norway (3), Luxembourg (2), Slovakia (1), Spain (1), and Sweden (1). The deaths were reported in Belgium (1) and Latvia (1). Among all the cases reported in 2023, 99 cases, including two deaths, were caused by *C. diphtheriae*, and the remaining 32 cases were caused by *C. ulcerans*.

In 2022, 359 cases of diphtheria, including five deaths, were reported to TESSy in the EU/EEA. Among the cases reported in 2022, 318 cases of diphtheria, including four deaths, were attributed to *C. diphtheria*, and 41 cases of diphtheria including one death were attributed to *C. ulcerans*.

Following the increase in cases of diphtheria in migrants during the second half of 2022, ECDC adapted the TESSy metadata to allow for the reporting of additional variables, such as the country of origin of the case, whether it is part of an ongoing cluster of cases, and whether the case shows resistance to antibiotic treatment. This is seen as a regular update of the metadata for routine diphtheria reporting, even after the end of the current outbreak. The uploading of data on cases linked to the ongoing outbreak in migrants should be prioritised. The mechanism to monitor the outbreak is the reporting of all cases of diphtheria to TESSy on a monthly basis by the last day of each month. The data uploaded to TESSy will be published both in ECDC's online **Surveillance Atlas of Infectious Diseases** and in ECDC's Communicable Disease Threats Report (CDTR) on a monthly basis.

ECDC assessment:

Diphtheria is a rare disease in EU/EEA countries. According to the **World Health Organization/United Nations Children's Fund (WHO/UNICEF)**, the estimates of immunisation coverage for diphtheria/tetanus/toxoid and pertussis (DTP3) in 2022 in the EU/EEA varied across Member States, ranging from 85% (Austria) to 99% (Greece, Hungary, Luxembourg, Malta, and Portugal). Universal immunisation is the only effective method for preventing the toxin-mediated disease. This includes the administration of a booster dose of diphtheria toxoid, as per national recommendations. The occurrence of the disease in fully-vaccinated individuals is very rare.

The increase in cases of diphtheria among migrants reported since the second half of 2022 in several EU/EEA countries is unusual and needs to be carefully monitored alongside the implementation of necessary public health measures to avoid the occurrence of more cases and further spread.

In this context, the probability of developing the disease is very low for individuals residing in the community, provided that they have completed a full diphtheria vaccination series and have an up-to-date immunisation status. Nevertheless, the possibility of secondary infections in the community cannot be excluded, and severe clinical diphtheria is possible in unvaccinated or immunosuppressed individuals.

Recent scientific communications have reported the occurrence of isolates showing a genomic profile suggestive of antimicrobial resistance in **Switzerland** and **Germany**. **These findings** are preliminary and more evidence would be needed to assess the potential implications of these observations, including the adaptation of the currently recommended antibiotic treatment regimes. Nevertheless, similar observations in other European countries cannot be ruled out, and in view of these developments ECDC recommends that antimicrobial susceptibility testing is performed on all *C. diphtheriae* isolates as a precautionary measure.

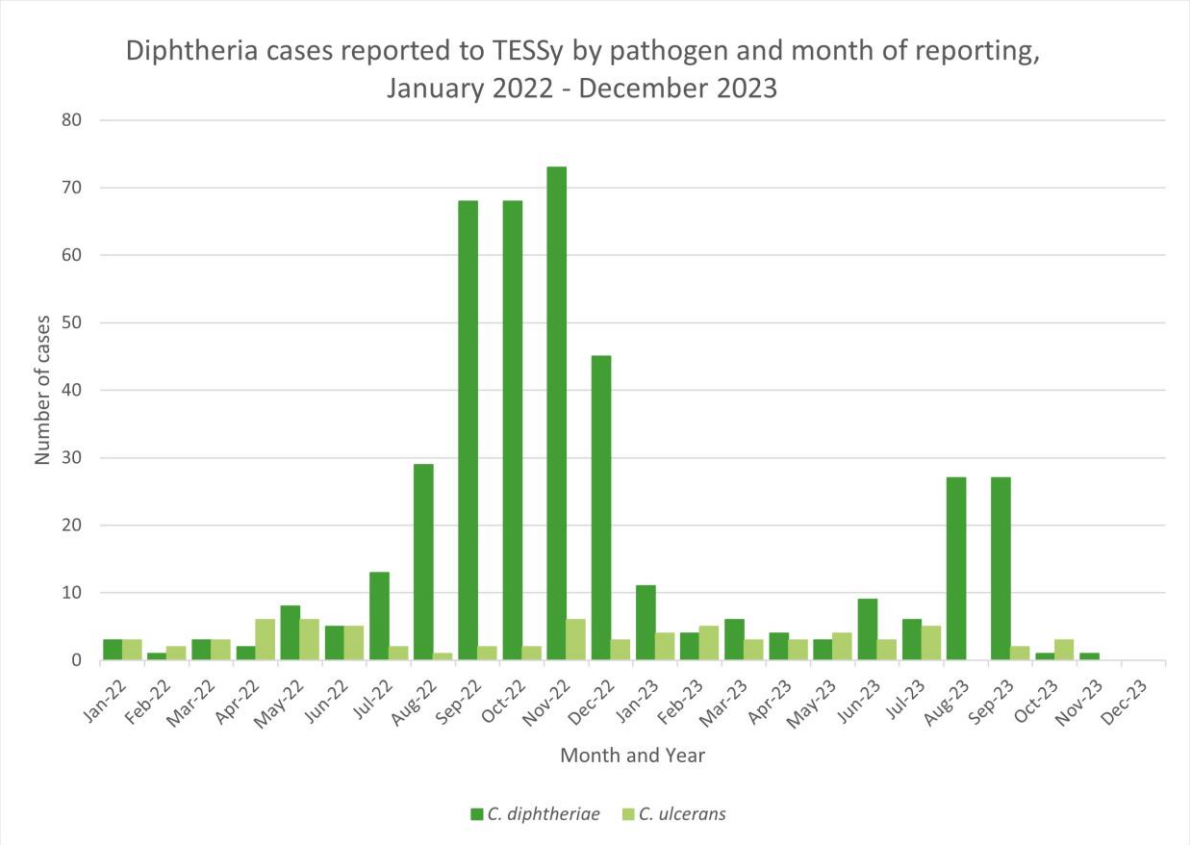
Actions:

ECDC continues to monitor the diphtheria epidemiological situation in Europe and will provide monthly updates. The latest available information can be found on **EpiPulse**, the **Surveillance Atlas of Infectious Diseases**, and in **ECDC's CDTR**.

Last time this event was included in the Weekly CDTR: 10 November 2023

Maps and graphs

Figure 1. Diphtheria cases reported to TESSy by pathogen and month of reporting, January 2022 - December 2023.



5. West Nile virus One Health seasonal surveillance – 2023

Overview:

This is the final weekly update of the 2023 West Nile virus (WNV) monitoring season.

Since the beginning of the 2023 transmission season and as of 13 December 2023, EU/EEA countries have reported 707 human cases of WNV infection in Italy (336), Greece (162, of which one had unknown place of infection), Romania (103), France (43), Hungary (29), Spain (17), Germany (6), Croatia (6) and Cyprus (5). EU/EEA countries have reported 67 deaths in Italy (29), Greece (23), Romania (12) and Spain (3). EU-neighbouring countries have reported 93 human cases of WNV infection in Serbia (91) and North Macedonia (2) and 2 deaths in Serbia (2).

During the current transmission season, within the reporting countries, autochthonous human cases of WNV infection were reported from 141 different NUTS 3 or GAUL 1 regions, of which the following regions reported autochthonous human cases of WNV infection for the first time ever: Gironde, Charente-Maritime, Alpes-Maritimes, Charente and Haute-Corse in France; Sömmerda in Germany; Kastoria and Ioannina in Greece; Imperia, Taranto, Lecce, Cosenza, Bari, Salerno and Verbano-Cusio-Ossola in Italy; Gorj and Timiş in Romania; and Cáceres, Huelva, Valencia/València, Barcelona and Toledo in Spain.

Since the beginning of the 2023 transmission season and as of 13 December 2023, 152 outbreaks among equids and 247 outbreaks among birds have been reported by EU/EEA countries. Outbreaks among equids have been reported by France (44), Spain (37), Hungary (26), Italy (25), Germany (14), Portugal (5), and Austria (1).

Outbreaks among birds have been reported by Italy (196), Germany (19), Spain (19), Bulgaria (6), Hungary (3), France (2), Austria (1), and Greece (1).

Please refer to the **West Nile virus infection webpage** for maps and a dashboard.

Sources: The European Surveillance System (TESSy), Animal Disease Information System (ADIS).

ECDC assessment:

As the weather conditions have become less favourable for vector-borne transmission in most of the affected areas, the intensity of WNV circulation has decreased.

As of 13 December 2023, the most recent onset date reported was 5 November 2023.

In accordance with the **Commission Directive 2014/110/EU**, prospective blood donors should be deferred for 28 days after leaving a risk area for locally acquired WNV infection, unless the result of an individual nucleic acid test is negative.

Actions:

As the weather conditions in most of the affected regions have become unfavourable and considering the current epidemiological situation, we hereby conclude the publication of the weekly West Nile virus epidemiological updates for this season.

Further information:

Data on human cases of WNV are collected via The European Surveillance System (TESSy), managed by ECDC. Imported cases are not included in this report. The following EU-neighbouring countries reported human cases of WNV infection to ECDC: Albania, Kosovo*, Montenegro, North Macedonia, Serbia, and Türkiye.

Animal data (i.e. outbreaks among equids and birds) are collected through the Animal Disease Information System (ADIS) of the European Commission. Reporting of WNV in equids and birds is mandatory at the EU/EEA level.

The distribution of human infections covers EU/EEA and EU-neighbouring countries, whereas the distribution of outbreaks among equids and birds only relates to EU/EEA countries.

**This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo Declaration of Independence.*

Last time this event was included in the Weekly CDTR: 08 December 2023

6. 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 48. Moving epidemic method (MEM) thresholds were available for seven countries for ARI and 15 countries for ILI. While most EU/EEA countries still report baseline levels, two report high activity, three report medium activity and five low activity levels indicating a substantial 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, median test positivity at the EU/EEA level remained highest for SARS-CoV-2 at 22% (pooled country data: 22.7%; IQR of country values: 14–25%). While the median SARS-CoV-2 positivity data has remained high since the summer period, there has been a continuous increase since week 44. At the country level, both increasing and decreasing trends for SARS-CoV-2 test positivity were observed during this period. SARS-CoV-2 detections in non-sentinel data were similar to those reported for sentinel data, with a mixture of increasing and decreasing trends at the country level.
- RSV activity in sentinel primary care continued to increase albeit at a slower rate than in previous weeks. Median test positivity for RSV was 10% (pooled: 10.7%; IQR: 2–16%). RSV detections in non-sentinel data

were reported by 18 countries in week 49. Both the number of non-sentinel tests and detections decreased as compared to last week.

- Seasonal influenza activity is now increasing with a median test positivity of 9% (pooled: 9%; IQR: 6–10%). Six countries reported positivity in sentinel primary care above 10%. Concurrently, the qualitative indicators reported for seasonal influenza confirm increased influenza activity and geographic spread in the EU/EEA. Of the 19 countries reporting qualitative indicators, 14 countries reported levels above baseline for seasonal influenza activity (low: eight countries and medium: five countries, and high: one country) and in all 19 countries some level of geographical spread of seasonal influenza was reported (widespread: six countries, regional: two countries, local: one country, and sporadic: 10 countries). Seasonal influenza detections in non-sentinel data continue to increase.
- Among the 184 sentinel primary care detections of seasonal influenza, 177 were typed as influenza virus type A and seven were typed as influenza virus type B. 78% of the influenza type A detections were further subtyped (n=138) as either A(H1)pdm09 (n = 106) or A(H3) (n = 32). Three of the influenza type B detections were further subtypes as B/Vic.

Severe disease

- Rates of severe acute respiratory infection (SARI) cases are increasing compared to previous weeks in two of the six reporting countries reporting data. The reported rates remain comparable to the same time last year.
- Increases in pooled SARI SARS-CoV-2 test positivity have been observed between week 29 and week 44 in people aged 15–64 years and 65 years and above, with a mixed picture at the country level. However, a decreasing trend has been observed for these age groups since week 44. Overall, non-sentinel hospital admissions and ICU rates have gradually increased since week 36, especially in the 65 years and above age group. Although a decreasing trend has been observed over the last one to two weeks in these three indicators, this may be attributable to a reporting delay. COVID-19 death rate appears to have peaked at week 45 is now gradually decreasing.
- In recent weeks, increasing trends in RSV test positivity were observed in two of five countries reporting RSV data from SARI systems. Three countries reported data for week 48, with test positivity plateauing when compared to the previous week particularly in the 0-4-years age group (pooled test positivity 61.4%). The second highest test positivity was in the 5–14-years age group (21.7%) and the test positivity continued to rise in this age group. Non-sentinel RSV hospital admissions remained high in two counties for the 0–4-years age group but continued to decrease.
- Pooled test positivity for seasonal influenza in sentinel SARI systems has increased from 4% to 5% since last week. Increases continue to be observed in the 5–14-years age group with a pooled positivity reaching 15.2% in this age group. Non-sentinel detections of seasonal influenza in hospital and ICU remained low.
- EuroMOMO pooled estimates of weekly excess all-cause mortality showed an elevated level of mortality in the age group 75 to 84 years and above.

Virus characterisation

SARS-CoV-2 variants for weeks 47–48 (26 November to 3 December 2023)

The estimated distribution (median and IQR of proportions from 16 countries) of variants of concern (VOCs) or variants of interest (VOIs) was 46% (35–54%) for XBB.1.5+F456L, 38% (23–43%) for BA.2.86, 8% (5–13%) for XBB.1.5, and 1% (0–1%) for BA.2.75. The proportion of BA.2.86 has been growing, 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 40–49, 2023, 87 A(H1)pdm09, 37 A(H3) and seven B/Victoria viruses from sentinel and non-sentinel sources were genetically characterised. Of the A(H1)pdm09 viruses, 41 were reported as clade 5a.2a and 46 were subclade 5a.2a.1. Of the A(H3) viruses, one was reported as clade 2a.3a and 36 were subclade 2a.3a.1. All of the B/Victoria viruses were reported as subclade V1A.3a.2.

Period overview (weeks 25–49, 2023)

Following relatively low respiratory illness activity over the summer period, consultation rates have been increasing in primary care settings since September. Transmission of SARS-CoV-2 began increasing in late summer and continues to show an increase based on sentinel median test positivity data as well as severity indicators (hospital admissions, ICU admissions). The impact of SARS-CoV-2 on severe disease mainly affects those aged 65 years and above. RSV activity which started increasing around week 36 has resulted in increasing hospital admissions particularly among the 0–4 years age group. Since week 48, RSV activity appears to be plateauing and a decrease in activity in the 0-4 years of age group was observed. Influenza activity has started to increase notably in week 49

with six countries currently reporting primary care positivity above the 10% threshold. While all three influenza virus types/subtypes (A(H1)pdm09, A(H3) and B) are co-circulating, influenza A subtypes are predominant in sentinel and non-sentinel virological surveillance data.

ECDC assessment:

SARS-CoV-2 continued to circulate at higher levels than seasonal influenza and respiratory syncytial virus (RSV). Countries reported a mix of increasing and decreasing trends for SARS-CoV-2 activity and severity. Severity indicators, hospital admissions, ICU rates and death rates have gradually increased since week 36, 2023 especially in the 65 years and above age group. Although a decreasing trend has been observed over the last one to two weeks in these three indicators, this may be attributable to a reporting delay. RSV activity continues to increase albeit at a slower rate than in previous weeks, with the highest impact among children aged 0–4 years. Seasonal influenza activity is notably increasing and most EU/EEA countries report increasing intensity and geographical spread; six countries have crossed the 10% positivity threshold. As both SARS-CoV-2 and seasonal influenza activity is increasing it remains essential to continue monitor the impact on hospital and ICU admissions closely. The combined effect of co-circulating acute respiratory pathogens is likely to increase severe disease burden in the EU/EEA which may result in significant pressure on healthcare systems in the coming weeks.

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). y virus activity in the EU/EEA, presenting findings in the European Respiratory Virus Surveillance Summary (ERVISS.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: 08 December 2023

7. Human infection with influenza A(H1N2)v - United Kingdom - 2023

Overview:

On 11 December 2023, the UK Health Security Agency (UKHSA) released a technical briefing regarding a recently reported human case with swine influenza virus A(H1N2) variant (A(H1N2)v) infection. In addition to already reported information, UKHSA reports that despite the case living in a region which contains pig farms and in proximity to sites containing animals (including a veterinary facility and a live auction market), no direct link or chain of transmission could be identified between the case and any animal. Environmental sampling is ongoing.

The authorities performed contact tracing, PCR testing and serology. Two symptomatic contacts were identified, one of which was in a household, however they were not tested as their symptoms resolved by the time they were identified. At the time of testing, one of these contacts had a non-influenza respiratory pathogen detected, although its significance is unclear given the timing with respect to symptoms. To date, no further cases have been detected through the investigation including follow-up of contacts (including precautionary follow up of the contacts of symptomatic contacts). Serological assessment is ongoing.

Enhanced surveillance is being conducted in the community, through local GP practices and hospitals. Following the index case, no further cases have been detected to date. Enhanced surveillance will continue for a further four weeks.

Previously, on 27 November 2023, the UK Health Security Agency (UKHSA) reported the first human case with swine influenza virus A(H1N2) variant (A(H1N2)v) infection, which is very similar to the viruses circulating among pigs in UK.

The infected person is over 75 years of age from North Yorkshire, and was tested at a general practitioners (GP) due to mild respiratory symptoms. A(H1N2)v was later confirmed by PCR and characterised by genome sequencing by UKHSA. The person fully recovered. Investigation is ongoing to identify the source of infection. Close contacts of the case were followed up by UKHSA and partner organisations and offered testing and advice on further care in case symptoms occur or there is a positive test. UKHSA has increased surveillance among GP surgeries and hospitals in parts of North Yorkshire to assist the detection of cases and assessment of transmission. Health officials are asking pig keepers to immediately report any suspicion of swine influenza in their herds to their local veterinary. According to UKHSA preliminary information, the infection detected in the UK is a distinct clade 1b.1.1, which is different from recent human cases of influenza A(H1N2) elsewhere in the world but is similar to viruses detected in UK pigs.

Background: Since 2005, globally, there have been 50 human cases of swine influenza A(H1N2)v reported, none of these genetically related to this strain detected in UK. In 2023, there have been four cases reported from the US (2), Taiwan (1) and recent case from UK. In the EU/EEA there have been five cases reported since 2018 from the Netherlands (in 2018 and 2022), Denmark (in 2019), France (in 2021), and Austria (in 2021).

Source: UKHSA, UKHSA rapid technical assessment

ECDC assessment:

Sporadic transmission of influenza viruses of swine origin to humans have been reported from several countries globally, including in the EU/EEA. Symptoms in infected individuals have ranged from mild to severe respiratory disease. Infection has been observed in healthy individuals without other underlying conditions. Swine influenza viruses circulate widely in pig populations and exposure to pigs represents the most common risk factor for infection. To date, no human-to-human transmission has been documented. The source of exposure of the current case is still under investigation.

When a human infection is detected, contact tracing should be performed to exclude onward transmission to contacts and to implement control measures to prevent human-to-human spread. Zoonotic influenza viruses isolated from patients should be further sequenced and characterised, as well as shared with the national influenza reference laboratories and WHO Collaborating Centres. ECDC has published a guidance on testing and detection of zoonotic influenza viruses in humans Testing and detection of zoonotic influenza virus infections in humans in the EU/EEA, and occupational safety and health measures for those exposed at work (europa.eu)

Actions:

ECDC is monitoring zoonotic influenza events through its epidemic intelligence activities and disease experts in order to identify significant changes in the epidemiology of the virus. Cases should be immediately reported to the Early Warning and Response System (EWRS), EpiPulse and International Health Regulations (IHR).

Last time this event was included in the Weekly CDTR: 01 December 2023