WEEKLY BULLETIN

Communicable Disease Threats Report

Week 45, 5 - 11 November 2023

Today's disease topics

- Overview of respiratory virus epidemiology in the EU/EEA
- SARS-CoV-2 variant classification
- West Nile virus One Health seasonal surveillance – 2023
- Measles – Multi-country (World) – Monitoring European outbreaks
- Monthly diphtheria epidemiological monitoring in the EU/EEA - 2023
- Middle East respiratory syndrome coronavirus (MERS-CoV) - Multi-country
- Chikungunya and dengue – Multi-country (World) – Monitoring global outbreaks

Executive summary

Overview of respiratory virus epidemiology in the EU/EEA
ECDC monitors respiratory virus activity in the EU/EEA. Data and a weekly summary of the epidemiological situation in the EU/EEA are available on the European Respiratory Virus Surveillance Summary

SARS-CoV-2 variant classification

- Since the last update on 27 October 2023, and as of 6 November 2023, no changes have been made to ECDC's classifications for variants of concern (VOCs), variants of interest (VOIs), variants under monitoring (VUMs) or de-escalated variants.
- **XBB.1.5-like+F456L** variants currently dominate the global and EU/EEA SARS-CoV-2 variant landscape. As of 4 November 2023, XBB.1.5-like lineages are circulating in a median proportion of 66% in EU/EEA countries (range: 39–76%). The overall proportion of XBB.1.5-like + F456L lineages levelled off in the EU/EEA, with stable trends observed over the past few weeks.
- **XBB.1.5-like+L455F+F456L** variants show an increasing trend in all countries in EU/EEA with sufficient reporting, with a median proportion of 26% (range:17–40%). The lineages mainly present in this umbrella are HK.3 lineages and GK* lineages.
- **BA.2.86** is an emerging SARS-CoV-2 lineage characterised by a high number of spike mutations that are distinct from ancestral BA.2 and currently circulating XBB-derived variants. BA.2.86 is circulating in low proportions in the EU/EEA (median 8% in the EU/EEA overall). In the last two weeks, a slight increase in **JN.1** sequences (a sublineage of BA.2.86) has been observed, although the numbers have been low. JN.1 sequences carry an additional spike L455S mutation compared with BA.2.86.

West Nile virus One Health seasonal surveillance – 2023

- Since the last update, and as of 8 November 2023, 13 human cases of West Nile virus (WNV) infection have been reported by EU/EEA countries and 1 case was reported by EU-neighbouring countries.
- Since the beginning of the 2023 transmission season, 692 human cases of WNV infection have been reported by EU/EEA countries and 92 by EU-neighbouring countries.
- Since the beginning of the 2023 WNV transmission season, and as of 8 November 2023, EU/EEA countries have reported 137 outbreaks among equids and 240 outbreaks among birds.

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

- In September 2023, 258 confirmed cases of measles were reported by nine countries. Between January and September 2023, 1 331 cases of measles were reported in The European Surveillance System (TESSy) by 19 countries.
- Through epidemic intelligence we identified 391 new measles cases in seven EU/EEA countries since the last monthly update, including reports on ongoing outbreaks in France and Romania.
- Measles transmission is currently low in the EU/EEA.
- Relevant updates for outside the EU/EEA are available for Switzerland, England, Ukraine, and the WHO Regions: EUROPE, AFRO, PAHO (no update for WHO regions EMRO, SEARO, and WPRO).

Monthly diphtheria epidemiological monitoring in the EU/EEA - 2023

- Since the beginning of 2023, and as of 7 November, 119 cases of diphtheria have been reported in the EU/EEA through The European Surveillance System (TESSy). Cases have been reported in Germany (79), the Netherlands (14), Belgium (6), Czechia (6), Latvia (3), Slovenia (3), Norway (3), Luxembourg (2), Slovakia (1), Spain (1), and Sweden (1). This represents 27 additional cases since the previous update on 10 October.
- Among the 119 cases reported, 13 presented with respiratory disease, 101 with cutaneous disease, and two with respiratory and cutaneous disease.
- Two of the cases died, one in Belgium and one in Latvia.
- One additional EU/EEA country (Luxembourg) has reported diphtheria cases (n=2) in 2023 since the previous update in October.
- Since September 2022, and as of 7 November 2023, there have been 345 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.

Middle East respiratory syndrome coronavirus (MERS-CoV) - Multi-country

- Since the previous update on 2 October 2023, no new MERS-CoV cases have been reported by WHO or national health authorities.
- Since the beginning of 2023, and as of 6 November 2023, two MERS-CoV cases have been reported with the date of onset in 2023 by United Arab Emirates (1) and Saudi Arabia (1).

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

- In 2023 and as of 31 October, approximately 440 000 CHIKVD cases and over 350 related deaths have been reported worldwide. A total of 26 countries reported CHIKVD cases from the Americas (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 November, over 4.5 million cases and over 4 000 dengue-related deaths have been reported from 80 countries/territories globally.
- In 2023, over 100 autochthonous/non-travel associated dengue cases have been reported in Europe from Italy (72) France (41) 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 moderate, as the environmental conditions are becoming less favourable for vector activity and virus replication in vectors.

1. Overview of respiratory virus epidemiology in the EU/EEA

Overview:

ECDC monitors respiratory virus activity in the EU/EEA. Data and a weekly summary of the epidemiological situation in the EU/EEA are available on the European Respiratory Virus Surveillance Summary.

ECDC assessment:

Consultation rates in primary and secondary care are at expected levels for this time of the year. There is currently limited circulation of influenza and RSV, although co-circulation of these viruses with SARS-CoV-2 can be expected this winter.

SARS-CoV-2 continues to circulate, albeit at much lower levels compared to previous years, with steady increases observed over the past three months. Overall, COVID-19 hospital and ICU admissions are at lower levels than this time last year, although sustained increases observed in these indicators affecting those aged 65 years and above, indicate this group remains at increased risk of severe disease if infected.

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). 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 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.

In response to observed increases in SARS-CoV-2 transmission, ECDC published an epidemiological update on 7 September 2023, which highlights key monitoring and reporting, as well as additional COVID-19 vaccination considerations.

Sources: ERVISS

Last time this event was included in the CDTR: 06 November 2023

2. SARS-CoV-2 variant classification

Overview:

Weekly update on SARS-CoV-2 variants:
Since the last update on 27 October 2023, and as of 6 November 2023, no changes have been made to ECDC's classifications for variants of concern (VOCs), variants of interest (VOIs), variants under monitoring (VUMs) or de-escalated variants.

XBB.1.5-like + F456L lineages currently dominate the global and EU/EEA SARS-CoV-2 variant landscape. As of 4 November 2023, XBB.1.5-like lineages are circulating in a median proportion of 66% in EU/EEA countries (range: 39–76%). The overall proportion of XBB.1.5-like + F456L lineages levelled off in the EU/EEA, with stable trends observed over the past few weeks.

XBB.1.5-like+L455F+F456L variants show an increasing trend in all countries in EU/EEA with sufficient reporting, with a median proportion of 26% (range:17–40%). The lineages mainly present in this umbrella are HK.3 lineages and GK* 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 of 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 have been detected more frequently and are circulating at a median proportion of 1.4% in the EU/EEA (range: 0–5.5%).

BA.2.86 is an emerging SARS-CoV-2 lineage characterised by a high number of spike mutations that are distinct from ancestral BA.2 and currently circulating XBB-derived variants. BA.2.86 is circulating in low proportions in the EU/EEA (median 8% in the EU/EEA overall). In the last two weeks, a slight increase in **JN.1** sequences (a sublineage of BA.2.86) has been observed, although the numbers have been low. JN.1 sequences carry an additional spike L455S mutation compared with BA.2.86.

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

ECDC assessment:

For the most recent risk assessment, please visit ECDC's dedicated webpage.

Actions:

For the latest update on SARS-CoV-2 variants, please see ECDC's webpage on variants. Detailed country-specific COVID-19 updates are available on the European Respiratory Virus Surveillance Summary (ERVISS)

Last time this event was included in the CDTR: 06 November 2023

3. West Nile virus One Health seasonal surveillance – 2023

Overview:

This is the 24th weekly update of the 2023 West Nile virus (WNV) monitoring season.

Since last week's update, and as of 8 November 2023, European Union (EU) and European Economic Area (EEA) countries reported 13 human cases of West Nile virus (WNV) infection. Cases were reported by Italy (11), Greece (1) and Romania (1). EU-neighbouring countries reported 1 human case of WNV infection. The case was reported by Serbia (1).

This week, among the reporting countries, the following NUTS 3 or GAUL1 regions have reported autochthonous human cases of WNV infection for the first time since the start of this season: Cluj in Romania and Moravicki in Serbia.

Since the beginning of the 2023 transmission season and as of 8 November 2023, EU/EEA countries have reported 692 human cases of WNV infection in Italy (329), Greece (162, of which one with unknown place of infection), Romania (101), France (38), Hungary (29), Spain (16), Germany (6), Croatia (6) and Cyprus (5). EU/EEA countries have reported 63 deaths in Italy (26), Greece (22), Romania (12) and Spain (3). EU-neighbouring countries have reported 92 human cases of WNV infection in Serbia (91) and North Macedonia (1) and two deaths in Serbia (2).

During the current transmission season, within the reporting countries, autochthonous human cases of WNV infection were reported from 140 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, Charente-Maritime, Haute-Corse and Alpes-Maritimes in France, Sömmerda in Germany, Kastoria and Ioannina in Greece, Cosenza, Bari, Salerno, Lecce, Verbano-Cusio-Ossola, Taranto and Imperia in Italy, Gorj and Timiş in Romania, Cáceres, Huelva, Valencia/València, Barcelona and Toledo in Spain.

Since the beginning of the 2023 transmission season, 137 outbreaks among equids and 240 outbreaks among birds have been reported by EU/EEA countries. Outbreaks among equids have been reported by France (38), Spain (34), Hungary (26), Italy (23), Germany (13), Portugal (2) and Austria (1). Outbreaks among birds have been reported by Italy (189), 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 and is expected to decrease further in the coming weeks.

As of 8 November 2023, the most recent onset date reported was 26 October 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:

During the WNV transmission season, ECDC publishes a dashboard and an epidemiological summary every Friday.

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 CDTR: 03 November 2023

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

Overview:

From 1 January to 30 September 2023, a total of 1 331 measles cases were reported by 19 countries to The European Surveillance System (TESSy), with the majority of cases being reported by Romania (925), Austria (154), France (64), Germany (51), Belgium (34), Poland (28), Italy (20) and Sweden (11). The remaining countries with reported cases (Denmark, Estonia, Finland, Hungary, Ireland, Latvia, Liechtenstein, the Netherlands, Norway, 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 7 and 8 November 2023 from official public and media sources detected 391 new suspected and/or confirmed cases of measles since our last monthly update. These were reported in seven EU/EEA countries over the past months: Denmark (4), Estonia (1), France (19), Germany (11), Ireland (1), Romania (350), and Spain (5). An update on ongoing outbreaks have been reported in France, and Romania. No other countries reported new cases or provided updates for previous periods.

To date in 2023, no measles-related deaths have been reported in the EU/EEA.

Relevant updates for outside the EU/EEA are available for England (the UK), Switzerland, Ukraine, and all the WHO Regions.

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:

Denmark has reported eight cases of measles in 2023 as of 7 November 2023: one case in March and July and six cases in August. Of the reported cases, seven were children aged one to 14 years-old, and one adult. Half of the cases acquired infection abroad.

Estonia reported four cases in 2023, an increase of one case since May 2023.

France: the Regional Health Agency of Auvergne-Rhône-Alpes has reported 63 cases of measles, including two hospitalisations, related to an outbreak in in Guilherand-Granges, Ardèche that started on 19 September 2023. There were no new cases detected since 25 October 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.

According to TESSy data, France reported 64 measles cases from January to September 2023.

Germany has reported 118 suspected and confirmed cases as of 8 November 2023, an increase of 11 cases since 10 October 2023.

Ireland has reported nine cases as of week 43 (ending 28 October 2023), an increase of one case since the report for week 39 (ending 30 September 2023).

Poland reported 28 cases in 2023 as of 31 October 2023, a decrease of two cases sine 30 September 2023.

Romania is experiencing an ongoing outbreak of measles. Between 1 January and 2 November 2023, 1 270 confirmed measles cases and no deaths have been reported in 24 counties, including the Municipality of Bucharest. Most of the cases are reported in Mureş county (44%, n=560), Braşov (17%, n=219), followed by Cluj (14.5%, n=184). The vast majority of the cases are in unvaccinated children from 0 to 9 years of age (72%, n=918), including 151 children under one year of age (12%) who are not eligible for vaccination. Overall, 72 cases received one dose, and two-dose vaccination was reported in 30 cases. Vaccination status was unknown for 10 cases. The peak of the outbreak with over 80 cases was reported in weeks 34 and 42.

Spain has reported eight cases in 2023 and as of 29 October 2023, an increase of five cases since 30 July 2023 (week 43, bulletin number 44), four of which are imported and four related to imported case.

Relevant epidemiological summary for countries outside the EU/EEA:
Switzerland reported 35 cases of measles in 2023 as of 30 October 2023, an increase of three cases since 28 August 2023.

England (the UK) has reported 149 laboratory confirmed measles cases in England from 1 January to 30 September 2023. Of the reported cases, 60% (n=89) have been in London. At least one case has been reported in all regions. Children under 10 years of age accounted for 78% of the cases and 25% of the cases were in teenagers and young people aged 15 to 34 years. Thirty-five cases (23%) were imported and others were locally acquired. In addition, media reports described an outbreak declared in East Midlands following detection of two cases in a university student and school student, both unvaccinated.

Ukraine has reported overall 46 cases as of September 2023 based on the most recent report.

According to the **WHO provisional monthly** reporting data for January to September* 2023 (data access 08 November 2023), in Regional Office for Europe (WHO EUROPE) overall 15 951 cases were reported in the region, of these 15 239 in the following non-EU/EEA countries: Kazakhstan (4 445), Türkiye (4 058), Russia (3 099), Kyrgyzstan (2 087), Tajikistan (482), Armenia (422), Uzbekistan (311), United Kingdom (138), Belarus (48), Serbia (48), Ukraine (44), Switzerland (28), Georgia (15), Azerbaijan (4), Albania (3), Bosnia and Herzegovina (3), Israel (2), 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 16 October (week 42, 2023), cases and outbreaks of measles in 2023 were reported in the following countries: Cameroon, Central African Republic, Chad, Democratic Republic of the Congo (DRC) (247 160 suspected cases, 4 567 deaths (CFR: 1.8%), Ethiopia (ongoing outbreak with 3000 cases), Kenya, Liberia, Mali, Mauritania, Niger, Senegal, South Africa, South Sudan (6 328 cases, 149 deaths (CFR:2.4%), Uganda (outbreak declared 28 September 2023, 11 suspected cases), 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**) report in 1-42 week 2023 (ending 21 October 2023), 38 cases were reported by three countries: Canada (8), the United States of America (28) and Chile (1).

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 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 CDTR: 08 November 2023

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

Overview:

Summary: From the beginning of 2023, and as of 7 November 2023, 119 cases of diphtheria have been reported in the EU/EEA through The European Surveillance System (TESSy). Cases have been reported in Germany (79), the Netherlands (14), Belgium (6), Czechia (6), Latvia (3), Slovenia (3), Norway (3), Luxembourg (2), Slovakia (1), Spain (1), and Sweden (1).

Since the previous update on 10 October 2023, one additional Member State (Luxembourg) has reported confirmed diphtheria cases for the first time in 2023 (n=2).

This represents an increase of 27 cases since the previous update on 10 October 2023. The new cases have been reported from Germany (22), Luxembourg (2), Norway (2) and the Netherlands (1).

Among all the cases reported in 2023, 88 cases were caused by *Corynebacterium (C.) diphtheriae* and the remaining 31 cases were caused by *Corynebacterium (C.) ulcerans*. A hundred and one of the 119 cases had a cutaneous clinical presentation. These cases were from Germany (73), the Netherlands (11), Czechia (5), Belgium (3), Slovenia (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). In 2023, and as of 7 November, 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 119 cases of diphtheria reported in 2023, 39 cases were classified as imported, from Afghanistan (18), Syria (7), Sudan (2), Croatia (1), Ethiopia (1), Indonesia (1), Iraq (1), the Philippines (1), Slovenia (1), and Thailand (1), and for five cases, the origin of importation was unknown. Seven cases were reported as import-related. Thirty-five cases were not imported, and the importation status was unknown for 38 cases.

In 2022, 356 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) and Spain (1). Among the cases reported in 2022, 315 cases of diphtheria, including four deaths, were attributable to *C. diphtheria* and 41 cases, including one death, were attributable to *C. ulcerans*. Of 356 cases, 245 had a cutaneous clinical presentation, 34 had a respiratory presentation, four 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 356 cases reported, 132 were classified as imported cases from Afghanistan (37), Syria (13), Serbia (8), Bulgaria (4), Czechia (4), Austria (3), Türkiye (3), Madagascar (2), Mali (2), Bosnia and Herzegovina (1), Comoros (1), Congo (1), France (1), Latvia (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 7 November 2023, 345 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 7 November 2023, the **United Kingdom Health Security Agency** (UKHSA) reported 13 confirmed cases of diphtheria among asylum-seekers in England, an increase by two cases reported in October.

From 1 January to 30 October 2023, **Switzerland's Federal Office of Public Health** reported 23 confirmed cases of diphtheria in the country, an increase by six cases since 4 September 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 7 November 2023, 119 cases of diphtheria, including two deaths, have been reported in the EU/EEA through TESSy in 2023.

Cases were reported in Germany (79), the Netherlands (14), Belgium (6), Czechia (6), Latvia (3), Slovenia (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, 88 cases, including two deaths, were caused by C. diphtheriae, and the remaining 31 cases were caused by *C. ulcerans*.

In 2022, 356 cases of diphtheria, including five deaths, were reported to TESSy in the EU/EEA. Among the cases reported in 2022, 315 cases of diphtheria, including four deaths, were attributable to *C. diphtheria*, and 41 cases of diphtheria including one death were attributable 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.

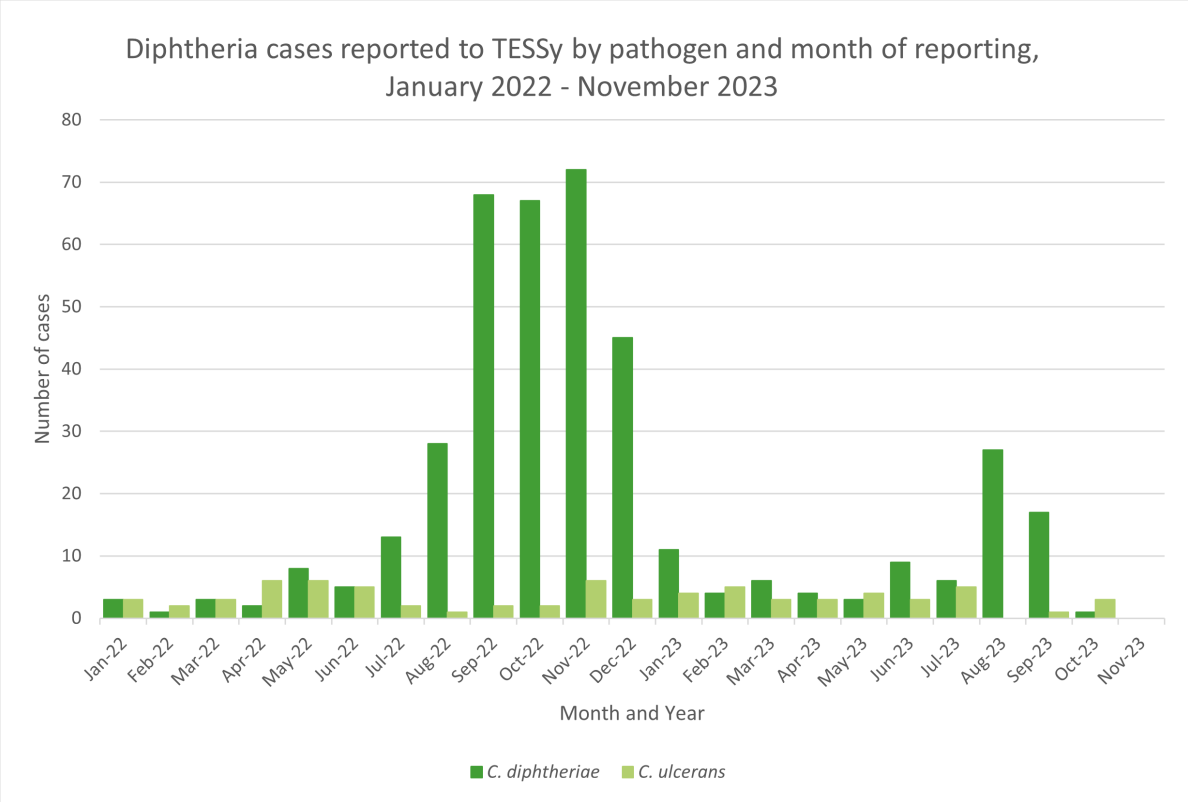
Actions:

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 CDTR: 08 November 2023

Maps and graphs

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



6. Middle East respiratory syndrome coronavirus (MERS-CoV) - Multi-country

Overview:

Update: Since the previous update on 2 October 2023, no new MERS-CoV cases have been reported by WHO or national health authorities.

Summary: Since the beginning of 2023, and as of 6 November 2023, two MERS-CoV cases have been reported with the date of onset in 2023 by United Arab Emirates (1) and Saudi Arabia (1).

Since April 2012, and as of 6 November 2023, a total of 2 617 cases of MERS-CoV, including 947 deaths, have been reported by health authorities worldwide.

Sources: ECDC MERS-CoV page | WHO MERS-CoV | ECDC factsheet for professionals | WHO updated global summary and assessment of risk (November 2022) | Qatar MoPH Case #1 | Qatar MoPH Case #2 | FAO MERS-CoV situation update | WHO DON Oman | WHO DON Saudi Arabia | WHO DON UAE | WHO DON Saudi Arabia

ECDC assessment:

Human cases of MERS-CoV continue to be reported in the Arabian Peninsula. However, the number of new cases detected and reported through surveillance has dropped to the lowest levels since 2014. The risk of sustained human-to-human transmission in Europe remains very low. The current MERS-CoV situation poses a low risk to the European Union (EU), as stated in the Rapid Risk Assessment published by ECDC on 29 August 2018, which also provides details on the last case reported in Europe.

ECDC published a technical report, Health emergency preparedness for imported cases of high-consequence infectious diseases in October 2019, which is still useful for EU Member States wanting to assess their level of preparedness for a disease such as MERS-CoV. ECDC also published Risk assessment guidelines for infectious diseases transmitted on aircraft (RAGIDA) – Middle East Respiratory Syndrome Coronavirus (MERS-CoV) on 22 January 2020.

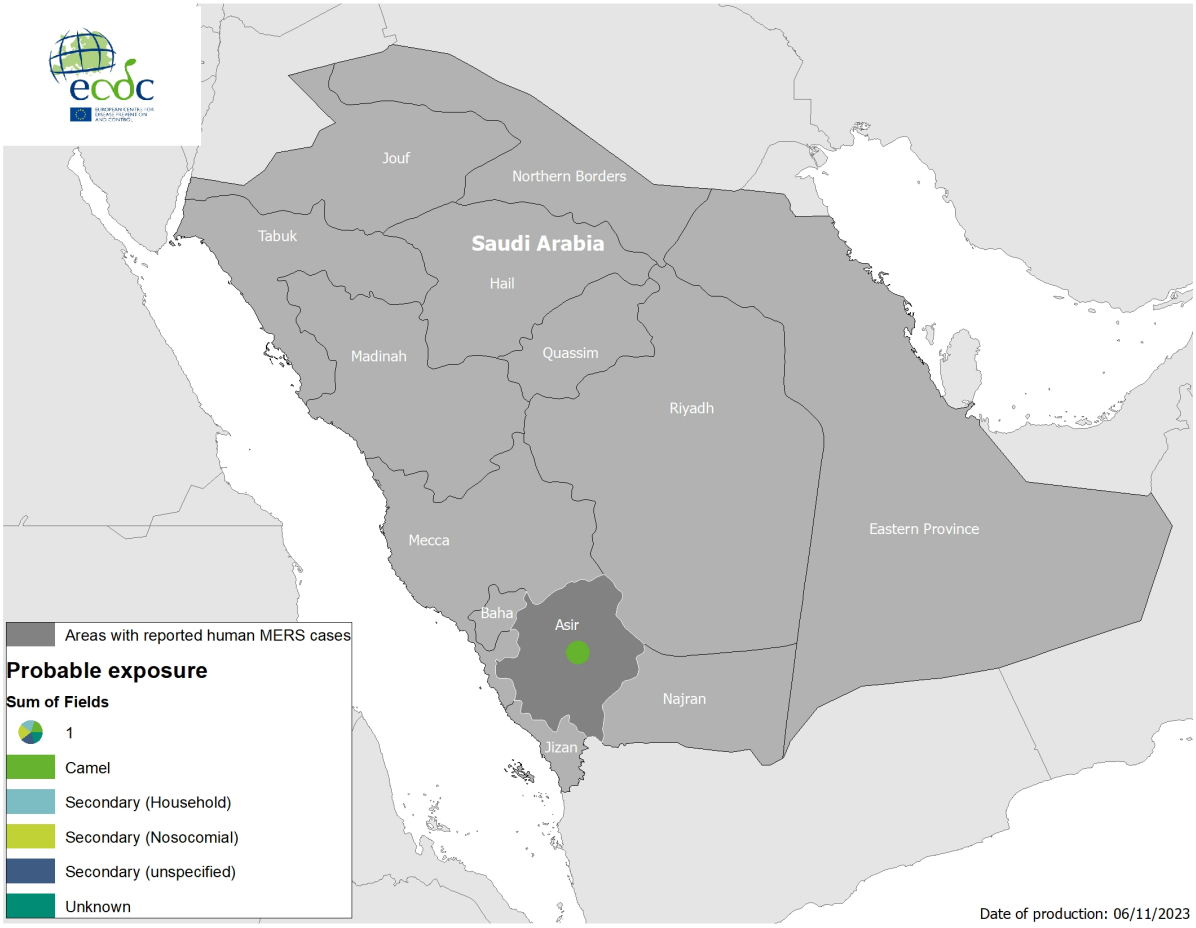
Actions:

ECDC is monitoring this situation through its epidemic intelligence activities and reports on a monthly basis.

Last time this event was included in the CDTR: 07 November 2023

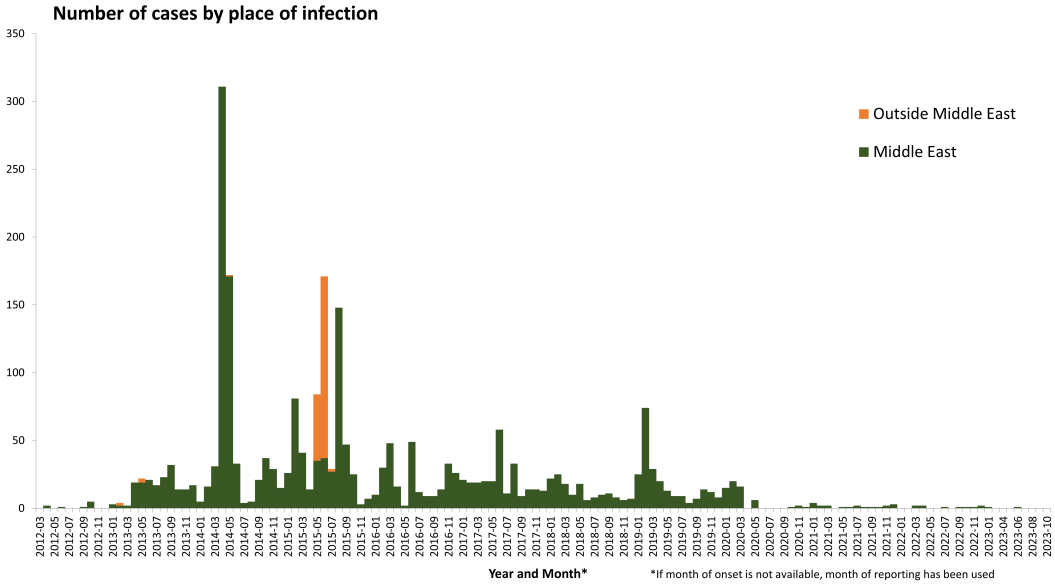
Maps and graphs

Figure 1. Geographical distribution of confirmed cases of MERS-CoV in Saudi Arabia by probable region of infection and exposure, with dates of onset from 1 January to 6 November 2023



Source: ECDC

Figure 2. Distribution of confirmed cases of MERS-CoV by place of infection and month of onset, March 2012– 6 November 2023



Source: ECDC

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

Overview:

Chikungunya virus disease (CHIKVD)
In 2023 and as of 31 of October, approximately 440 000 CHIKVD cases and over 350 deaths have been reported worldwide. A total of 26 countries reported CHIKVD cases from the America (16), Africa (5) and Asia (5). Countries reporting CHIKVD cases in October and for the first time in 2023 are Pakistan and Mali.

The majority of countries reporting high CHIKVD burden are from the Americas, in South and Central America. Countries reporting the highest number of cases are Brazil (218 613), 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.

CHIKVD cases in West African countries continued to increase during the recent weeks reaching a total of 483 cases by 28 October 2023. CHIKVD cases are mainly located in the Sahel region (Senegal, The Gambia, Burkina Faso, and Mali) where ongoing or previous local transmission of CHIKVD occurred. Current outbreaks' extensions vary from one country to another, and most of the affected regions have an African Savanna ecosystem.

Dengue
In 2023 and until the beginning of November, over 4.5 million cases and over 4 000 dengue-related deaths have been reported from 80 countries/territories globally. Autochthonous/non-travel associated dengue cases have been reported in Europe from Italy (72) France (41) and Spain (3).

In the French Antilles, Martinique and Guadeloupe are currently experiencing increasing dengue trends and they have entered an epidemic phase (Sante Publique France 23/08/2023). According to the epidemiologic report published on 26 October, the indicator number of patients presenting with dengue symptoms in Guadeloupe and Martinique has been decreasing in the past two weeks. In Saint-Martin and Saint-Barthélemy, dengue cases are showing an increasing trend, and the epidemiological situation is characterised as one having the potential to evolve (Dengue Surveillance Bulletin - 26 October 2023 - Guadeloupe, Martinique, St Martin, St Barthélemy). Dengue cases have also been reported in 2023 in Réunion (low activity) and in French Guyana, where the activity remains high.

Globally, the region of the Americas has reported the majority of cases in 2023 and as of October 2023 (over 3.7 million cases, 1.6 of which are confirmed, and over 1700 deaths) (PAHO – Dengue Indicators). The region has been reporting significant outbreaks since the beginning of 2023 (WHO Disease Outbreak News: Dengue – the Region of the Americas).

Dengue outbreaks have been reported in India where, according to provisional data, 94 198 cases and 91 deaths have been recorded until 17 September 2023. In Bangladesh, the total number of dengue cases reported in October was lower compared to the number of cases reported in September (67 769 cases and 359 deaths in October vs 79 598 cases and 396 deaths in September).

In Africa, according to the most recent report published by Africa CDC, dengue cases have been reported in Angola, Burkina Faso, Chad, Côte d'Ivoire, Egypt, Ethiopia, Guinea, Mali, Mauritius, Sao Tome and Principe, Senegal and Sudan.

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 moderate, as the environmental conditions are becoming less favourable for vector activity and virus replication in vectors. In 2023, locally-acquired dengue cases been reported in 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.

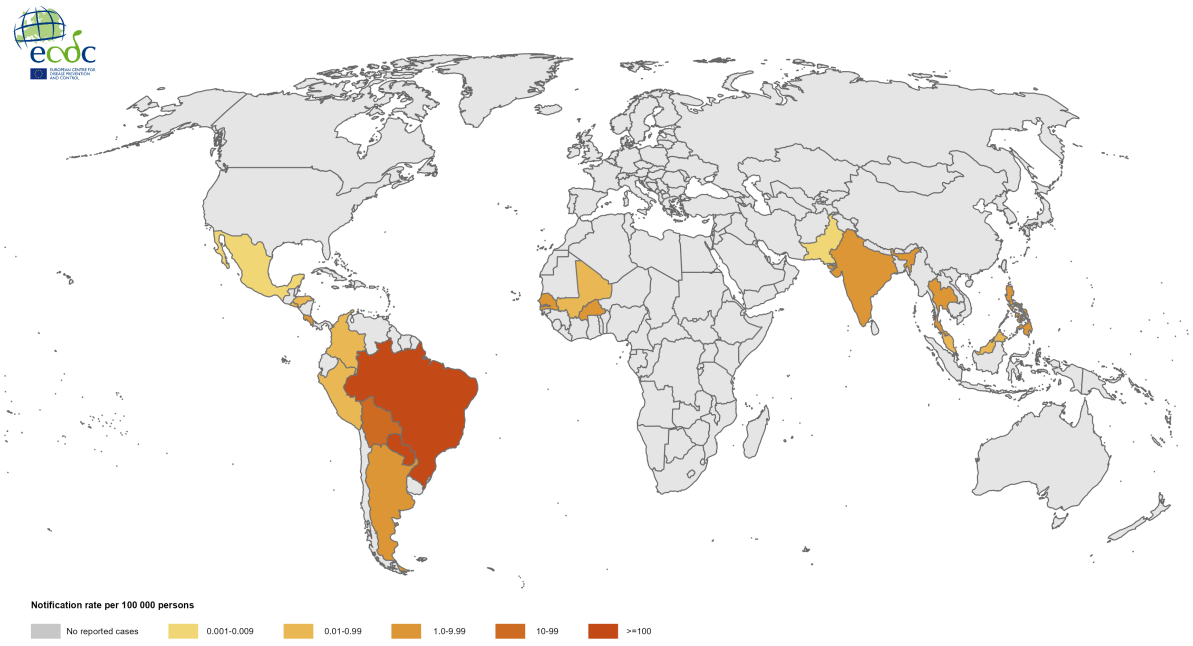
Actions:

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 CDTR: 06 October 2023

Maps and graphs

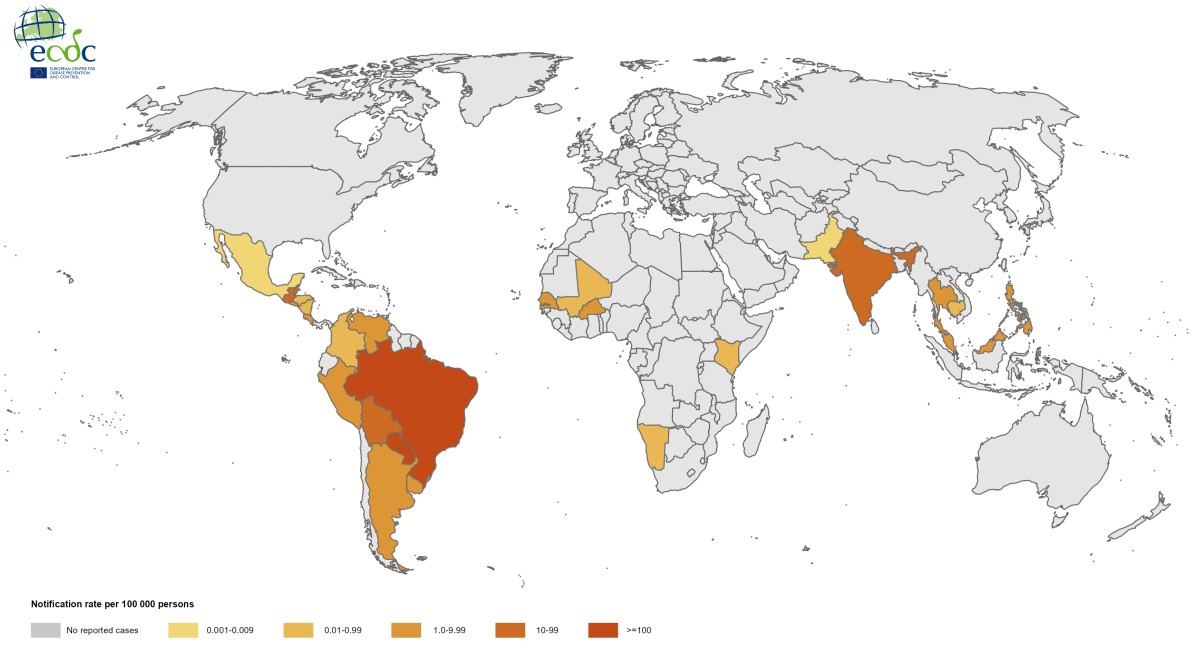
Figure 1. Three-month Chikungunya virus disease case notification rate per 100 000 population, August-October 2023



Note: Data refer to Chikungunya virus cases reported in the last 3 months (August 2023-October 2023) [Data collection: November 2023].Administrative boundaries: © EuroGeographics
The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union. ECDC. Map produced on 09 November 2023

Source: ECDC

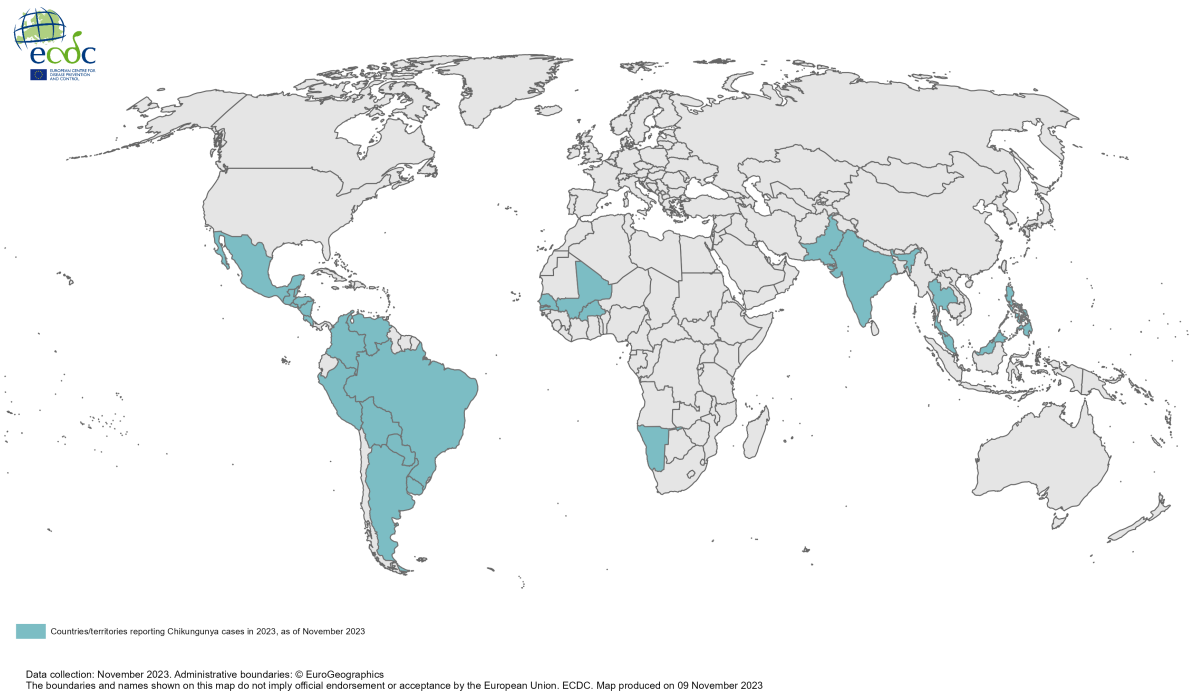
Figure 2. 12-month Chikungunya virus disease case notification rate per 100 000 population, November 2022-October 2023



Note: Data refer to Chikungunya virus cases reported in the last 12 months (November 2022-October 2023) [Data collection: November 2023].Administrative boundaries: © EuroGeographics
The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union. ECDC. Map produced on 09 November 2023

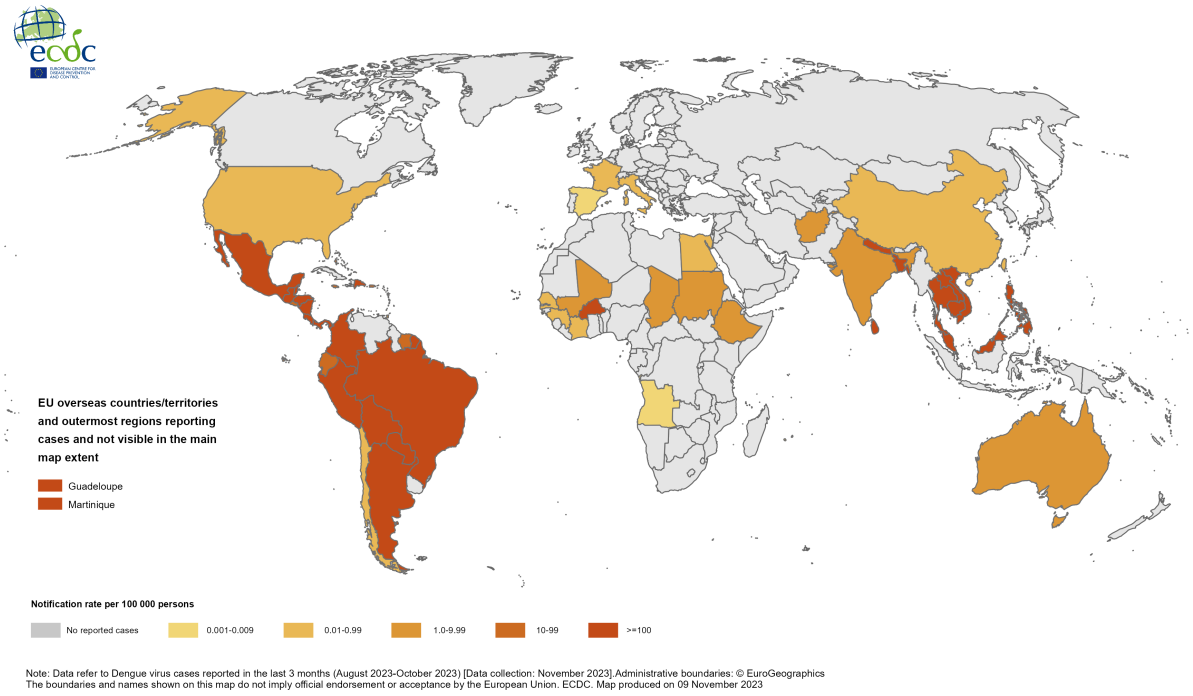
Source: ECDC

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



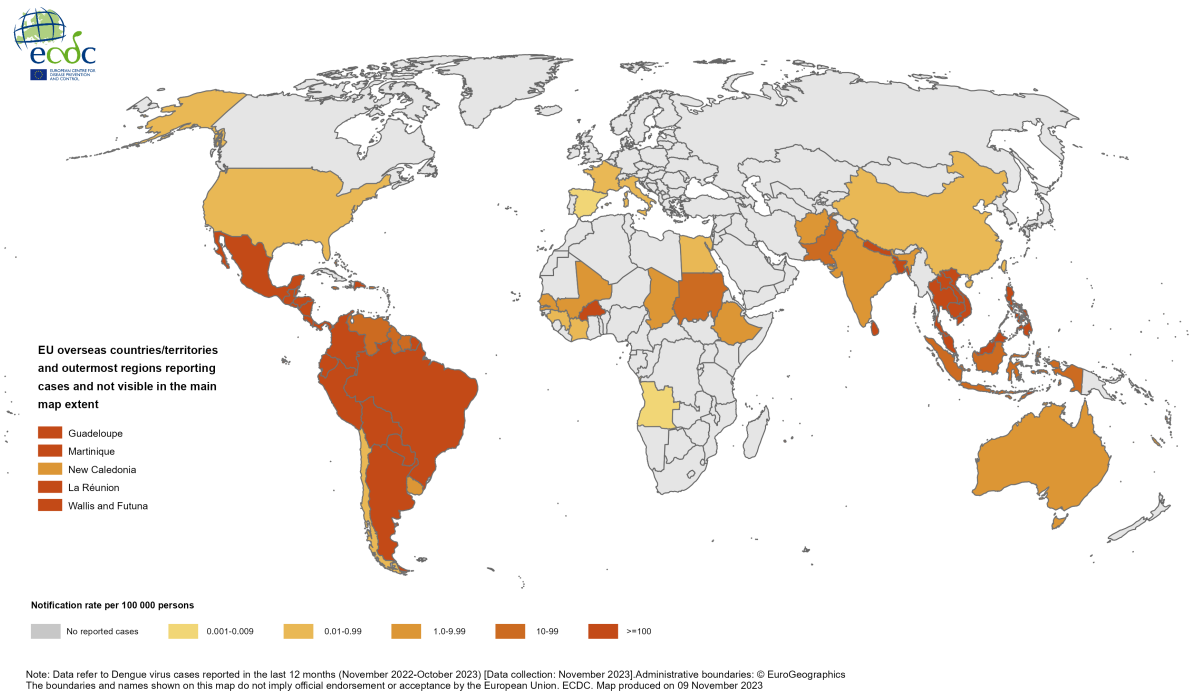
Source: ECDC

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



Source: ECDC

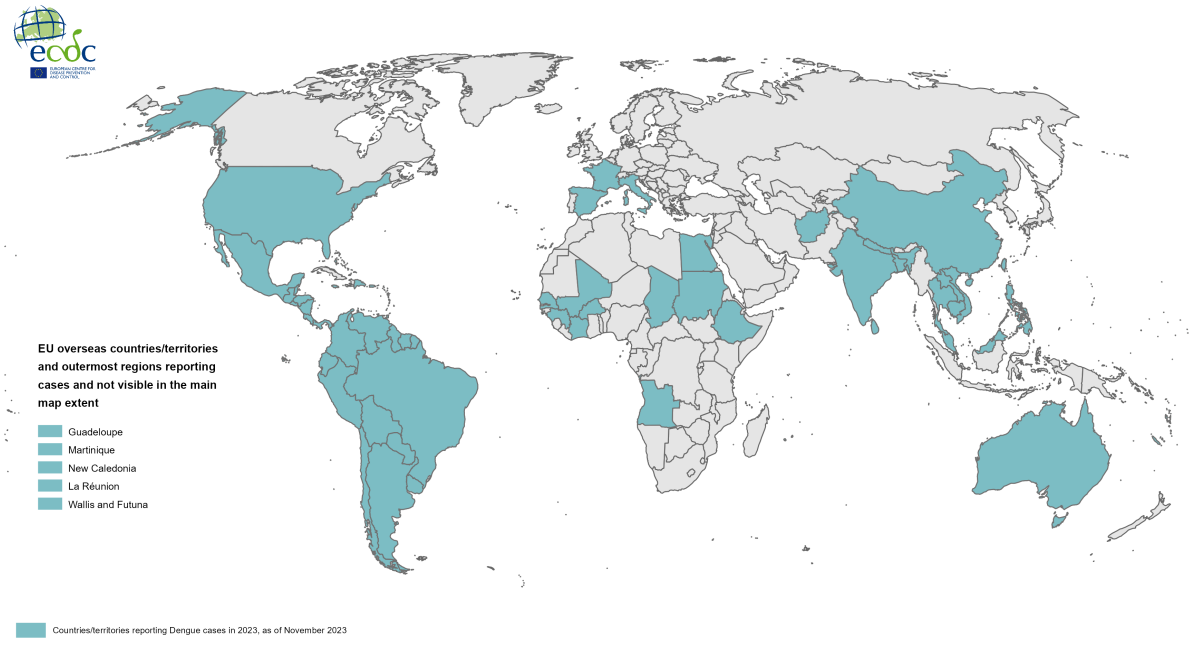
Figure 5. 12-month dengue virus disease case notification rate per 100 000 population, November 2022-October 2023



Note: Data refer to Dengue virus cases reported in the last 12 months (November 2022-October 2023) [Data collection: November 2023].Administrative boundaries: © EuroGeographics
The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union. ECDC. Map produced on 09 November 2023

Source: ECDC

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



Data collection: November 2023. Administrative boundaries: © EuroGeographics
The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union. ECDC. Map produced on 09 November 2023