

WEEKLY BULLETIN

Communicable Disease Threats Report

Week 12, 19 - 25 March 2023

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1. Weekly Summary

Marburg virus disease - Equatorial Guinea - 2023

- As of 22 March 2023, the World Health Organization published a Disease Outbreak News Item reporting that there are a total of nine laboratory-confirmed cases Marburg virus disease (MVD) in Equatorial Guinea. All 20 of the probable cases and seven of the confirmed cases have died.
- On 23 March 2023, the Ministry of Health of Equatorial Guinea published an epidemiological update according to which of the nine confirmed cases four were reported from Bata (Litoral Province), 3 from Ebebiyin (Kie-Ntem Province) and two from Evinanyong (Centre-Sur Province).
- On 13 February 2023, Equatorial Guinea confirmed the first Marburg virus disease (MVD) outbreak in the country.
- Epidemiological surveillance and contact tracing efforts are ongoing.
- WHO and partners are supporting Equatorial Guinea and neighbouring countries.

Marburg virus disease - Tanzania - 2023

- On 21 March 2023, the Ministry of Health of Tanzania confirmed an outbreak of Marburg virus disease (MVD) in Bukoba district, Kagera region in northwest Tanzania.
- As of 21 March 2023, the cumulative number of MVD cases in the country is eight confirmed cases, including five deaths.
- Currently, 161 contacts have been identified and are being monitored.

- The Ministry of Health of Tanzania has sent a rapid response team to the affected area. Contact tracing, case management, and risk communication are occurring.

Interojenic botulism, exposure in Türkiye

- As of 23 March 2023, 30 cases of botulism have been reported in Germany (27 cases), Austria (one case), France (one case) and Switzerland (one case).
- Cases underwent a medical procedure consisting of intragastric injection of botulinum neurotoxin to treat obesity in Türkiye between 3 and 25 February 2023.
- Furthermore, the IHR National Focal Point for Türkiye has reported 53 cases of botulism between 28 February and 8 March 2023 among individuals who underwent the same procedure in two private hospitals in Istanbul (50 cases) and Izmir (three cases).
- Among 65 cases with known information, the procedure was performed in a single clinic in Istanbul, Türkiye.
- ECDC strongly encourages EU/EEA citizens to avoid intragastric treatments with BoNT for obesity in Türkiye as this is currently associated with a significant risk of developing botulism.
- At this time, it is unclear whether this event represents a therapeutic or procedural issue at the hospitals concerned, or whether there is a problem with the product administered.
- Individuals who travelled to Türkiye for intragastric injection of botulinum neurotoxin between 3 February and 1 March 2023 are encouraged to seek medical advice from their healthcare provider, particularly if they experience symptoms such as weakness, difficulty in breathing and/or swallowing.

COVID-19 associated with SARS-CoV-2 – EU/EEA – 2019-2023

- In week 11 (ending 19 March 2023), overall, there were decreasing or stable trends observed in the majority of EU/EEA indicators. A marginal increase was observed in hospital and ICU occupancy indicators, which remain at low levels compared to pandemic period. The number of countries reporting increasing trends has remained low, suggesting a stabilised epidemiological situation compared to the previous week.
- XBB.1.5 is the dominating lineage in EU/EEA countries and XBB.1.5 is stable/increasing in proportions in most of the EU/EEA countries with adequate sequence reporting volume. As of 23 March 2023, XBB.1.5-like lineages are present in proportions near or above 50% in the following EU/EEA countries: Belgium (48%), Denmark (55%), France (72%), Ireland (66%), Italy (50%), Netherlands (50%), Poland (60%) and Spain (67%), according to GISAID EpiCoV data.
- According to China CDC's latest update on 18 March 2023, the COVID-19 situation in mainland China has stabilised to between 4 000 and 10 000 cases per day, with fluctuations within that range. The decreasing trend in hospitalisations and deaths is closed to zero.

Influenza – Multi-country – Monitoring 2022/2023 season

- The seasonal epidemic activity threshold of 10% positivity in sentinel specimens was first crossed in week 45/2022.
- Influenza activity had been decreasing across the Region until week 4/2023, following a peak at week 51/2022, but has fluctuated around 25% since week 6/2023.
- Overall this season, influenza A(H3) viruses have dominated in sentinel primary care specimens, however higher circulation of A(H1)pdm09 and type B viruses was observed starting from week 50/2022 and week 2/2023, respectively. A similar prevalence of A(H1)pdm09 and A(H3) viruses was detected in non-sentinel specimens.
- Both influenza type A and type B viruses have been detected in hospitalized patients in ICU and other wards and influenza A(H1)pdm09 viruses have dominated among SARI specimens.

Group A streptococcal infection - Multi-country - 2022 – 2023

- EU/EEA countries still report increased number of iGAS cases in young children and the elderly, compared to past seasons.
- Denmark, Ireland, the Netherlands and the UK still report increased activity of group A strep infections and increase of iGAS cases.
- Luxembourg, Czechia and Finland report an increase of iGAS cases.
- Further monitoring is needed in view of the fact that early spring is the regular peak season for GAS infections.

Cholera - Multi-country (World) - Monitoring global outbreaks

- Since the last update on 21 February 2023, 38 871 suspected cholera cases including 254 fatalities have been reported worldwide.
- Countries and territories reporting new cases since the previous update are Afghanistan, Bangladesh, Burundi, Cameroon, the Democratic Republic of the Congo, the Dominican Republic, Ethiopia, Haiti, Kenya, Lebanon, Malawi, Mozambique, Nigeria, Somalia, South Africa, South Sudan, Syria, Tanzania, Zambia, and Zimbabwe.
- Cholera cases have continued to be reported in western Africa, eastern and southern parts of Africa, some parts of the Middle East, South-East Asia, and in two countries in the Americas in recent months. The risk of

cholera infection in travellers visiting these countries remains low, even though sporadic importation of cases in the EU/EEA remains possible.

Poliomyelitis - Multi-country (World) - Monitoring global outbreaks

- On 2 February 2023, the Polio IHR Emergency Committee stated that the risk of international spread of poliovirus remains a Public Health Emergency of International Concern (PHEIC) and recommended the extension of Temporary Recommendations for a further three months.
- Since the last update, in 2023, one new case of AFP caused by wild poliovirus (WPV1) was reported in Pakistan.
- Five new cases of AFP caused by cVDPV1 have been reported from Madagascar in 2023.
- The first detections of cVDPV2 linked with nOPV2 were reported since the roll-out of the new OPV2 vaccine in March 2021. Overall, the risk of outbreaks with nOPV2 is considered much lower than the risk of outbreaks due to mOPV2 or tOPV.

Measles outbreak - Austria - 2023

- Austria reported an outbreak of measles with 89 cases reported between weeks 4 and 11 of 2023.
- The outbreak in Austria is the first significant outbreak of measles reported in the EU/EEA since the start of the COVID-19 pandemic.
- Measles activity in the EU/EEA currently remains low.

Extensively drug-resistant *Pseudomonas aeruginosa* (artificial tears) - USA - 2023

- The US CDC reported an update of outbreak investigation on an extensively drug-resistant strain of *Pseudomonas aeruginosa* related to use of artificial tears/eye drops affecting 68 patients, three of whom died, eight lost vision and for four an eyeball was removed.
- The producer has recalled EzriCare and Delsam Pharma's Artificial Tears products following advice from FDA and US CDC. These products have been sold in the US and on internet.
- Although the disease is severe, the likelihood of infection of VIM-GES-CRPA via exposure to contaminated artificial tears is low for EU/EEA citizens at this time, given the product recalls and public information campaigns.

2. Marburg virus disease - Tanzania - 2023

Overview:

On 17 March 2023, the [Ministry of Health of the Republic of Tanzania](#) reported seven persons affected by an undiagnosed disease in Kagera, northern Tanzania, including five deaths and two persons treated at hospital. The affected individuals presented with symptoms of fever, vomiting, bleeding from various parts of their body and kidney failure. An investigation was initiated to determine the cause of the outbreak.

On 21 March 2023, according to the [Africa Centre for Disease Control \(CDC\)](#), the Ministry of Health confirmed an outbreak of Marburg virus disease (MVD) in Bukoba district, Kagera region in northwest Tanzania. As of 21 March 2023, the cumulative number of MVD cases in the country is eight confirmed cases. Five of these cases have died, one was a healthcare worker. The other three confirmed cases are receiving treatment at medical centres. Currently, 161 contacts have been identified and are being monitored.

The samples were tested and confirmed at the National Public Health Laboratory in Tanzania.

This is the first ever reported outbreak of [MVD](#) in Tanzania. Kagera region is on the border with Uganda, Rwanda, and Burundi. The [population](#) in this region is highly mobile thus creating the risk of cross-border spread. MVD outbreaks have been previously reported in Uganda in regions neighbouring the currently-affected area in Tanzania, which is remote, not densely populated and not much frequented by tourists.

The Ministry of Health of Tanzania has sent a rapid response team to the affected area. Contact tracing, case management, and risk communication are occurring. The [Africa CDC](#), and [WHO](#) are also assisting the Ministry of Health with the deployment of teams of experts. On 21 March 2023, during a [press conference](#), a WHO representative emphasised the internal capacity and preparedness of Tanzania to manage the situation and stated that the WHO is committed to supporting the Tanzanian government in their response.

Marburg virus disease (MVD), formerly known as Marburg haemorrhagic fever, is a severe disease in humans caused by *Marburg marburgvirus* (MARV), with a **fatality ratio of up to 88%**. Although MVD is uncommon, MARV has the potential to cause epidemics with significant case fatality rates. All recorded MVD outbreaks have originated in Africa.

Since 1967, when MVD was first detected, approximately **600 MVD cases** have been reported in outbreaks in Angola, the Democratic Republic of the Congo, Ghana, Guinea, Equatorial Guinea, Kenya, South Africa and Uganda.

Please refer to the ECDC [factsheet](#) about MVD for additional information. The latest occurrence of MVD is the outbreak in Equatorial Guinea, which was declared on 13 February 2023 and is still ongoing.

ECDC assessment:

This is the first MVD outbreak to occur in Tanzania.

Although the disease is severe with a high fatality rate, the likelihood of exposure and infection by MARV for EU/EEA citizens travelling or residing in Kagera region, Tanzania is currently very low. As a result, the risk of infection by MARV for EU/EEA citizens travelling or residing in the affected region is currently very low, provided they adhere to the recommended precautionary measures.

The most likely route of introduction of MARV into the EU/EEA would be via infected travellers. While importation of the virus cannot be excluded, it is currently very unlikely to occur. Should a case be imported nonetheless, the likelihood of the spread of the virus within the EU/EEA is considered to be very low.

Direct contact with blood and other body fluids of infected people, or indirect contact with contaminated surfaces and materials like clothing, bedding, and medical equipment should be avoided. It is advisable to avoid habitats that may be populated by bats, such as caves or mines in areas/countries where MVD has been reported, as well as any form of close contact with wild animals, including monkeys, forest antelopes, rodents, and bats, both alive and dead, and manipulation or consumption of any type of bushmeat.

Actions:

The ECDC epidemic intelligence team is closely monitoring this event through its epidemic intelligence activities and will update this EpiPulse item as soon relevant information is available.

3. Marburg virus disease - Equatorial Guinea - 2023

Update:

On 23 March 2023, the Ministry of Health of Equatorial Guinea published an [epidemiological update](#) on the Marburg virus disease (MVD) outbreak in the country. According to the update, there are nine confirmed MVD cases (two among healthcare workers) including seven deaths, as previously reported by WHO ([Disease Outbreak News 22/03/2023](#)). Of the nine confirmed cases, four were reported from Bata (Litoral Province), three from Ebebiyin (Kie-Ntem Province) and two from Evinanyong (Centre-Sur Province). According to the [MoH report](#) on 21 March 2023, 67% contacts were still followed up (307 of the 459 identified) and there were six suspected cases for which laboratory results were still pending.

Summary: On 8 February 2023, the [Ministry of Health in Equatorial Guinea](#) published an epidemiological alert regarding an unknown disease-causing haemorrhagic fever in two neighbouring communities in the district Nsok Nsomo, in the province of Kié-Ntem. On 13 February 2023, [Equatorial Guinea](#) confirmed the first MVD outbreak in the country. According to [WHO](#), as of 22 March, there are a total of nine confirmed and 20 probable cases. The confirmed cases were reported from the provinces of Kie-Ntem, Litoral, and Centre-Sur. On 23 March 2023, additional information from the Ministry of Health of Equatorial Guinea were [published](#) reporting that two of the confirmed cases were among healthcare workers and that on 21 March 2023, 67% contacts were still followed up (307 of the 459 identified) and there were six suspected cases for which laboratory results were still pending.

The [index case](#) died in [early January 2023](#) and the Ministry of Health of Equatorial Guinea was notified on 7 February 2023.

The National Technical Committee of Health Emergencies is [working](#) closely with the Ministry of Health and Social welfare to coordinate and strengthen disease control and prevention. [WHO](#) and its [partners](#) are supporting Equatorial Guinea and [neighbouring countries](#).

Marburg virus disease (MVD), formerly known as Marburg haemorrhagic fever, is a severe disease in humans caused by *Marburg marburgvirus* (MARV), with a case **fatality ratio of up to 88%**. Although MVD is uncommon, MARV has the potential to cause epidemics with significant case fatality rates. All recorded MVD outbreaks have originated in Africa.

Since 1967, when MVD was first detected, approximately **600 MVD cases** have been reported in outbreaks in Angola, the Democratic Republic of the Congo, Ghana, Guinea, Equatorial Guinea, Kenya, South Africa, Tanzania and Uganda.

Please refer to the ECDC [factsheet](#) about MVD for additional information.

On 14 February 2023, during an [emergency meeting of the Marburg virus vaccine consortium \(MARVAC\)](#), the [World Health Organization](#) representative for Equatorial Guinea reported that epidemiological surveillance in the country was increasing, including intensified contact tracing. A 30-day response plan was also being developed to assess the needs and impact of the current situation.

ECDC assessment:

This is the first MVD outbreak to occur in Equatorial Guinea.

Although the disease is severe with a high fatality rate, the likelihood of exposure and infection by MARV for EU/EEA citizens travelling or residing in the affected areas in Equatorial Guinea is currently very low. As a result, the risk of infection by MARV for EU/EEA citizens travelling or residing in Equatorial Guinea is currently very low.

The most likely route of introduction of MARV into the EU/EEA would be via infected travellers. While importation of the virus cannot be excluded, it is currently very unlikely to occur. Should a case be imported nonetheless, the likelihood of the spread of the virus within the EU/EEA is considered to be very low.

Direct contact with blood and other body fluids of infected people, or indirect contact with contaminated surfaces and materials like clothing, bedding, and medical equipment should be avoided. Furthermore, habitats that may be populated by bats, such as caves or mines in areas where MVD has been reported, as well as any form of close contact with wild animals, including monkeys, forest antelopes, rodents, and bats, both alive and dead, and the manipulation or consumption of any type of bushmeat should be avoided.

Actions:

ECDC is monitoring this event through its epidemic intelligence activities and will report when relevant information is available.

ECDC is in contact with partners.

4. Iatrogenic botulism, exposure in Türkiye

Update 24 March 2023

The International Health Regulations (IHR) National Focal Point (NFP) for **Türkiye** reported 53 apparently iatrogenic clinical botulism cases between 28 February and 8 March 2023. Cases are reported to have received intragastric botulinum neurotoxin (BoNT) injections for treatment of obesity at two private hospitals; Hospital A in Istanbul (50 cases) and Hospital B in Izmir (three cases).

Cases experienced botulism symptoms approximately one week after treatment with BoNT, and were identified when they presented at different hospitals in Türkiye. The first cases reported were identified on 28 February 2023, and the most recent cases were identified on 8 March 2023. The initial symptom most frequently reported among cases was fatigue. Other symptoms included difficulty swallowing, blurred vision, double vision, and difficulty breathing and weakness.

Patients are receiving medical treatment and are being monitored. Of 53 cases who presented to hospitals, 31 have been hospitalised, three have been admitted to intensive care units, and 22 have been discharged. Seventeen cases were treated with Botulism Antitoxin (BAT). No fatalities have been reported so far. The Istanbul and Izmir Health Directorates are reported to have conducted urgent inspections at the hospitals where patients received treatment with BoNTs. The General Directorate of Public Health, Department of Communicable Diseases and Early Warning is reported to be conducting an epidemiological investigation in collaboration with provincial health centres and other related departments. The Turkish Medicines and Medical Devices Agency has been informed of the issue.

During the inspections, it was understood that patients were treated at two hospitals and the botulinum neurotoxin (BoNT) products administered were seized and taken for examination. The Turkish Medicines and Medical Devices Agency evaluated the products used and found that the imported series was approved, but was deemed to have been used in a manner other than its indicated purpose for gastric botulinum toxin treatment (off-label use). Consequently, the relevant departments of both hospitals have had their activities suspended, and investigations are ongoing against the parties involved.

Germany reports 27 cases of clinical botulism, apparently iatrogenic, due to intragastric injection of botulism neurotoxin (BoNT). The cases are middle-aged adults, originating from different regions of Germany, who underwent treatments with 1 000 to 2 500 units of BoNT in Türkiye between 3 and 25 February 2023 (most cases were treated on 22-25 February). The earliest known case received treatment on 3 February in the implicated clinic in Istanbul and developed symptoms on 7 February. The patient is still ill. From a list of 26 persons treated with intragastric BoNT with discernible links to Germany (German passport, German phone number), 24 were already known as cases or could be contacted: 22 (92%), and all of those with the treatment after 18 February 2023, were ill with symptoms of botulism. The clinical presentation of the cases ranged from mild to severe; several cases have been hospitalised, among whom a number are reported to have been admitted to intensive care units (ICUs).

Austria has reported one case (female; 25-44 years) of apparent iatrogenic botulism after an intragastric injection of BoNTs administered in Türkiye on 22 February 2023. The case reported receiving treatment, which was self-arranged, at the same clinic as the cases in Germany and Switzerland. The patient was hospitalised with botulism symptoms (ptosis, dysphagia, dyspnoea, neck weakness, generalised muscle weakness).

France reports one clinical case of botulism in an adult female hospitalised in ICU for surveillance. Date of BoNT injection was on 22 February 2023 in Istanbul.

Switzerland (information reported to ECDC by France on behalf of Switzerland) has reported one suspected case of botulism (female, 45-64 years), probably associated with intragastric injection of BoNT, also administered in Türkiye on 22 February 2023. The patient reported receiving treatment at the same clinic as the cases in Germany and Austria.

Background information

In 2019, **France** reported a suspected case of botulism (female; 25-44 years) following intragastric injection of BoNT in Egypt (in order to lose weight), with hospitalisation in France.

A [WHO medical product alert](#) from August 2022, reported five falsified batches of a BoNT product detected in five countries: Jordan (May 2022), Türkiye (May 2022), Kuwait (June 2022), the United Kingdom (June 2022), and Poland (July 2022). It is not known, however if these batches have been used for treatment in the cases reported so far.

Outbreaks of iatrogenic botulism, sometimes linked to counterfeit or unlicensed BoNT, have also been reported in the past following different clinical procedures, for example in [Egypt](#) and [Türkiye](#).

Botulism is a serious neuromuscular illness caused by BoNTs mainly produced by the bacterium, *Clostridium botulinum*. The disease naturally occurs in four different forms: a) food-borne botulism, b) intestinal botulism, c) infant botulism, and d) wound botulism. There are two other forms of botulism which do not occur naturally: a) inhalation botulism and b) iatrogenic botulism, which is the most recent human-made form of botulism. Intoxication may occur as an adverse event following the administration of BoNTs for therapeutic or cosmetic reasons.

While it is considered rare, individuals receiving BoNT injections for cosmetic purposes (e.g. for facial wrinkle lines) or therapeutic treatments (e.g. for management of muscle spasticity), may develop iatrogenic botulism if they are injected with an excessive dose of the BoNTs.

Symptoms of iatrogenic botulism are characterised by weakness and difficulty swallowing. Toxicities following cosmetic treatment include ophthalmological and oropharyngeal symptoms (blurred vision, drooping eyelid, difficulty swallowing, and dry mouth) while toxicities following therapeutic treatments are linked with difficulty breathing and weakness.

The symptoms of botulism can be very severe, requiring intensive-care treatment as well as the administration of an anti-toxin. Even when such treatments are available, complete recovery usually takes weeks to months. Limited information is available quantifying mortality in iatrogenic botulism cases. For food-borne botulism, 5–10% of cases are fatal.

Further information about botulism can be found on the websites of [ECDC](#), [US CDC](#), and [WHO](#).

ECDC assessment:

This is a multi-country outbreak of at least 30 cases of iatrogenic botulism in Germany (27 cases), Austria (one case), France (one case), and Switzerland (one case) with gastric injections of BoNT administered in Istanbul, Türkiye on dates between 3 and 25 February 2023. The cases are middle-aged adults. Türkiye has reported an additional 53 cases among individuals who underwent the same procedure in two private hospitals in Istanbul (50 cases) and Izmir (three cases) between 28 February and 8 March 2023. Given the possible variation in the clinical presentation of botulism illness, there may be further cases yet to be identified. New cases may occur, particularly among those travelling to Türkiye for medical treatments involving intragastric injection of BoNTs.

ECDC strongly encourages EU/EEA citizens to avoid intragastric treatments with BoNT for obesity in Türkiye as this is currently associated with a significant risk of developing botulism. At present, it is unclear whether this event represents a therapeutic or procedural issue in the involved hospitals, or whether there is a problem with the product administered.

Individuals who have travelled to Istanbul and Izmir for intragastric BoNT treatment between 3 February and 1 March 2023 are encouraged to seek medical advice from their healthcare provider, particularly if they experience symptoms such as weakness, difficulty in breathing and/or swallowing.

Actions:

ECDC is monitoring the event in EpiPulse and via its epidemic intelligence activities and is sharing information through the CDTR report. ECDC encourages countries to report any information relevant to this outbreak in the EpiPulse event.

5. COVID-19 associated with SARS-CoV-2 - Multi-country (EU/EEA) - 2019 - 2023

Summary:

The epidemiological picture at the pooled EU/EEA level over the past 12 months since the initial large Omicron peak has been characterised by periodic waves of infection approximately every two to three months. There has been a general downward trend in the height of the associated peaks in reported cases, hospitalisation, ICU admissions, and deaths in this period.

By the end of week 11 (ending 19 March 2023), overall there were decreasing or stable trends observed in the majority of EU/EEA indicators based on pooled country data. A marginal increase was observed in hospital and ICU occupancy indicators (3% and 6%, respectively), which remain at low levels compared with their pandemic maximum, as well as the maximum observed in recent peaks. The pooled COVID-19 death rate decreased compared to the previous week, with 856 deaths reported from 25 countries in the previous week.

The number of countries reporting increasing trends has remained low, suggesting a stabilised epidemiological situation compared to the previous week.

Among countries reporting increases in any indicator compared to the previous week, values of indicators remain low to moderate (cases below 20%, hospital indicators below 32%, and deaths below 7%) relative to the maximum reported during the pandemic.

The following country-level trends were observed:

- Case rates among people aged 65 years and older increased in nine of 26 countries with data. These trends have continued for the past six to seven weeks in two of the nine countries.
- Eight among 22 countries reporting data reported increases in the last one to three weeks in at least one hospital or ICU indicator.
- Three countries reported one-week increases (3%, 7%, and 2%, respectively) in overall COVID-19 deaths. Increases in the age groups of 65–79 years and/or 80 years and above were reported by six of the 23 countries with age-specific data

Among the seven countries with an adequate volume of sequencing or genotyping for weeks 9–10 (27 February to 12 March 2023), the estimated distribution of variants of concern (VOC) or of interest (VOI) was 54.4% (49.6–66.4% from six countries) for XBB.1.5, 16.8% (5.9–51.7% from seven countries) for BA.2.75, 14.3% (10.5–20.3% from five countries) for XBB, 11.7% (10.5–19.9% from six countries) for BQ.1, 1.6% (1.1–45.5% from seven countries) for BA.5, 1.1% (0.8–2.8% from three countries) for BA.2, and 0.2% (0.1–0.8%, six detections from three countries) for BA.4.

The cumulative uptake of a first booster dose was 65.4% (country range: 11.3–87.1%) among adults aged 18 years and older, 84.9% (country range: 13.3–100.0%) among people aged 60 years and older, and 54.7% (country range: 9.2–75.8%) in the total population. The cumulative uptake of a second booster dose was 17.3% (country range: 0.2–42.0%) among adults aged 18 years and older, 35.5% (country range: 0.4–86.7%) among people aged 60 years and older, and 14.2% (country range: 0.2–33.6%) in the total population.

For the latest COVID-19 country overviews, please see the [dedicated web page](#).

Weekly update on SARS-CoV-2 variants:

Since the last update on 9 March 2023 and as of 24 March 2023, the following changes have been made to ECDC variant classifications for variants of concern (VOC), variants of interest (VOI), variants under monitoring and De-escalated variants:

- The Omicron recombinant lineage XBB.1.16 was added to the list of variants under monitoring. This decision is based on the mutational profile of this lineage, and because it is rapidly increasing in proportions in India. The epidemiological impact of XBB.1.16 is still unclear.
- The XBB.1.5 variant of interest has been renamed as 'XBB.1.5-like', in order to reflect the fact that with this VOI ECDC is monitoring an umbrella of SARS-CoV-2 lineages with similar Spike protein profiles and characterized by a specific set of mutations (S:Q183E, S:F486P and S:F490S). This umbrella includes, for instance, the lineages XBB.1.5, XBB.1.9.1, XBB.1.9.2, and XBB.1.16.

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

ECDC assessment of the XBB.1.5 sub-lineage

XBB.1.5 is a sub-lineage of XBB with an additional spike RBD mutation S486P. This lineage was first detected in the United States with the sample collection dated from 22 October 2022, and this lineage has been seen increasing in numbers since then. The parental lineage XBB and its sub-lineages including XBB.1.5 are categorised as a variant of interest (VOI) [1]. In addition, through the VOI XBB.1.5 lineages, ECDC is monitoring an umbrella of SARS-CoV-2 lineages that have similar Spike protein profiles and characterised by a specific set of mutations (S:Q183E, S:F486P and S:F490S). This umbrella includes, for instance, the lineages XBB.1.5, XBB.1.9.1*, XBB.1.9.2*, and XBB.1.16. In order to make this clearer, we renamed the VOI as 'XBB.1.5-like' to reflect the fact that an umbrella of SARS-CoV-2 lineages with is monitored with this variant of interest.

The [US CDC nowcast system](#) estimates the current proportion of the variant around 89.5% (previous week 90.2%) in the USA. For the last week with complete data (week 8 2023), the US CDC reports 82% XBB.1.5 (previous week 77%).

This lineage is currently estimated to have a large growth advantage relative to previously circulating lineages in North America (58%) and Europe (60%) (estimates provided by [CoV-spectrum](#) based on data from GISAID EpiCoV), though these estimates are associated with significant uncertainty.

The most likely explanation of the growth advantage is the already high level of immune escape demonstrated by XBB, combined with the effect of the spike change S486P. This mutation has previously been rare during the pandemic, probably due to it requiring two nucleotide substitutions in the same codon to change from Phenylalanine to Proline. Other variants with this change have however emerged before without becoming successful. A recent [preprint](#) demonstrates that XBB.1.5 is not associated with a higher reduction in neutralisation by vaccine and convalescent sera compared to XBB.1, but that it is associated with a higher ACE2 affinity, which could indicate that the advantage of XBB.1.5 compared to XBB.1 could be caused by an increase in intrinsic transmissibility. Further laboratory and epidemiological investigations are required to elucidate the mechanism of the growth advantage conferred by this change specifically in the XBB variant. There is currently no indication of any change in infection severity associated with the variant.

XBB.1.5 is the dominating lineage in EU/EEA countries and XBB.1.5 is stable/increasing in proportions in most of the EU/EEA countries with adequate sequence reporting volume. Based on GISAID EpiCoV data as of 23 March 2023, XBB.1.5-like lineages are present in proportions near or above 50% in the following EU/EEA countries: Belgium (48%), Denmark (55%), France (72%), Ireland (66%), Italy (50%), Netherlands (50%), Poland (60%) and Spain (67%), according to GISAID EpiCoV data.

[A threat assessment brief on XBB.1.5](#) was published on 13 January 2023.

Public Health Emergency of International Concern (PHEIC):

On 30 January 2020, the World Health Organization (WHO) declared that the outbreak of COVID-19 constituted a PHEIC. On 11 March 2020, the Director-General of WHO declared the COVID-19 outbreak a pandemic.

The [third](#), [fourth](#), [fifth](#), [sixth](#), [seventh](#), [eighth](#), [ninth](#), [tenth](#), [eleventh](#), [twelfth](#), [thirteenth](#), and [fourteenth](#) International Health Regulations (IHR) Emergency Committee meetings for COVID-19 were held in Geneva on 30 April 2020, 31 July 2020, 29 October 2020, 14 January 2021, 15 April 2021, 14 July 2021, 22 October 2021, 13 January 2022, 11 April 2022, 8 July 2022, 13 October 2022, and 27 January 2023 respectively. The Committee concluded during these meetings that the COVID-19 pandemic continues to constitute a PHEIC.

For the latest COVID-19 country overviews, please see the [dedicated web page](#).

Please refer to the [data reported by the World Health Organization \(WHO\)](#) on COVID-19 and [WHO's Weekly Epidemiological Updates and Monthly Operational Updates](#) page for non-EU/EEA countries.

ECDC assessment:

For the most recent risk assessment, please visit [ECDC's dedicated webpage](#).

Actions:

Detailed country-specific COVID-19 updates are available on ECDC's [website](#). For the latest update on SARS-CoV-2 variants of concern, please see [ECDC's webpage on variants](#).

ECDC invites countries to use the EpiPulse event on BQ.1 and sub-lineages to discuss and share information on this variant as it becomes available. Of particular interest is information on virus characterisation and evidence regarding changes in disease severity, virus transmissibility, immune evasion, and effects on diagnostics and therapeutics. Case reporting should continue through TESSy.

COVID-19 associated with SARS-CoV-2 – China – 2022–2023

Sources: [China CDC](#), [media](#), [media](#), [media](#), [media](#), [GISAID](#)

Update

On 18 March 2023, China CDC published an [epidemiological update](#) on the COVID-19 situation in mainland China including data until 16 March 2023. According to the report, on 16 March 2023, 4 917 positive nucleic acid tests and 194 positive antigen tests were reported. Following the peak on December 2022, the COVID-19 situation in mainland China has stabilised between 4 000 and 10 000 cases per day with fluctuations within that range. Additionally, there were seven severe COVID-19 cases hospitalised on 16 March 2023 (99.9% decrease compared to the 128 000 severe cases hospitalised during the peak on 5 January 2023). No deaths were reported in hospitals from 10 March to 16 March. The decreasing trend in hospitalisations and deaths has stabilised.

Since week 6 (6 to 12 February) 2023, China's Influenza Surveillance system has detected an increase in the weekly number Influenza-like illness (ILI). Positive rate for Influenza among ILI samples has constantly increased, reaching 53.2% for week 10 (period 6 to 12 March).

According to the [WHO COVID-19 Dashboard](#), since 3 January 2020 and as of 16 March 2023, a total of 99 185 059 COVID-19 confirmed cases and 120 576 deaths have been reported to WHO (including Taiwan and Special Administrative Regions).

Information on variants from public sources

From 1 January 2023 to 24 March 2023, China has deposited 17 624 sequences. As of 24 March 2023, of the total 17 624 sequences submitted from China, 8 370 sequences had recent sample collection dates between 1 January 2023 and 17 March 2023 in GISAID EpiCoV. These sequences mainly belonged to the lineages BA.5.2.48 (60.9%), BF.7.14 (28.1%), BA.5.2.49 (6%) and BA.5.2 (2.7%). Other lineages (including their sub-lineages) circulating in proportions below 1% include XBB.1.5 (20 samples) and BQ.1 (9 samples).

Several new sub-lineages of Omicron have been assigned from sequence data released by China, which is expected as the virus accumulates random mutations. Most of these lineages carry no spike protein changes compared to previously known lineages, while a few sub-lineages of BF.7 carry single spike protein changes, a part of BF.7.14.1 carries V83F, BF.7.14.2 carries Q14H and BF.7.14.3 carries S626V. None of these changes are likely to provide the virus with a substantial transmission advantage and none of the associated lineages show signs of rapid expansion.

Assessment**ECDC Assessment for the European Union (EU) / European Economic Area (EEA)**

There are currently no data suggesting the emergence of new variants of concern in China. China's CDC is currently providing weekly epidemiological updates which show a significant improvement in the epidemiological situation across the country for all monitored indicators. The surge of cases in China between December and January did not influence the epidemiological situation in the EU/EEA.

ECDC actions

ECDC liaises on a regular basis with the European Commission and the Member States in the Health Security Committee. ECDC is in contact with China CDC on a regular basis to receive updated information on the epidemiological situation. ECDC is also in contact with the Public Health Agency of Canada (PHAC), the Japanese CDC, the Australian CDC, the US CDC, the WHO headquarters and the WHO Regional Office for Europe to cross-check and validate data and assessments with partners outside of China, including sequencing data from Chinese travellers.

ECDC continues to routinely monitor and report on emerging SARS-CoV-2 variant threats via its Strategic Analysis of Variants in Europe (SAVE) Working Group, where variants and epidemiological trends in the EU/EEA and

worldwide will continue to be evaluated. ECDC participates in the global WHO Technical Advisory Group on Virus Evolution (TAG-VE).

6. Influenza – Multi-country – Monitoring 2022/2023 season

Overview:

Week 11/2023 (13 March – 19 March 2023)

- The percentage of all sentinel primary care specimens from patients presenting with influenza-like illness (ILI) or acute respiratory infection (ARI) symptoms that tested positive for an influenza virus remained stable at 25% in week 11/2023, remaining above the epidemic threshold (10%).
- 16 of 37 countries or areas reported medium intensity and 18 of 36 countries reported widespread activity, indicating substantial seasonal influenza virus circulation across the Region.
- Of the 21 countries that reported sentinel primary care specimen influenza virus positivity above the 10% epidemic threshold, only Hungary and the Netherlands reported activity above 40%.
- Influenza type A and type B viruses were detected in sentinel and non-sentinel surveillance, with influenza type B predominating in both systems.
- Hospitalised patients with confirmed influenza virus infection were reported from the ICU (with higher proportions of type B viruses), other wards (1 type A and 1 type B virus) and severe acute respiratory infection (SARI) surveillance (with higher proportions of type B viruses). Four countries or areas reported influenza virus positivity rates above 10% in SARI surveillance.

Source: [Flu News Europe](#)

ECDC assessment:

Influenza activity had been decreasing across the Region until week 4/2023, following a peak at week 51/2022, but has fluctuated around 25% since week 6/2023, due to increased type B virus circulation.

Actions:

ECDC and WHO monitor influenza activity in the WHO European Region. Data are available on the [Flu News Europe](#) website.

7. Group A streptococcal infection - Multi-country - 2022 - 2023

Update

Since the previous report, the following countries have reported updates on invasive group A streptococcal disease (iGAS):

Luxembourg: According to information provided to ECDC, cases of iGAS are not notifiable in Luxembourg, which makes it difficult to assess trends. Laboratories are submitting *Streptococcus* samples from sterile anatomical sites for sequencing. Four cases were identified in February 2023, of which one died. Emm1, emm12, and emm49 were identified.

Czechia: According to information provided to the ECDC, an increase in iGAS notifications was observed in the country. Compared to the period 2017-2021, a higher incidence of emm1, emm12, and emm49 was noticed.

A total of 24 invasive isolates were delivered to NRL for Streptococcal Infections during December 2022. Of these 24 isolates, 7 isolates were from children under 18 years of age.

The trend continues in 2023, when 23 isolates of *S. pyogenes* (iGAS) were delivered to NRL in January. Of these 23 isolates were 4 isolates from children up to 18 years of age. In 2023, and as of 28 February, 9 deaths have been reported of iGAS.

Finland: According to information provided to the ECDC, 80 cases of iGAS have been reported in 2023, compared to 32 cases during the same period in 2022. Emm1 and emm12 types have increased, although emm59 is the most prevalent type in Finland. One fatal case in a four-year-old child was reported in March 2023.

Denmark: In its [update](#) with data up to 14 March 2023, Statens Serum Institut (SSI) reports that iGAS cases are currently more frequent than usual in all age groups, with the highest incidence among those >85 years of age followed by 65-84 year olds. iGAS incidence is again at high levels (>50/100 000 population) more than double what has been reported since 2018. Septicaemia is the more common clinical presentation in adults and children. MLST-28/emm-1.0 and MLST-36/emm-12.0, were detected in 52% and 33% of sequenced isolates in February 2023. A new subvariant of MLST-28/emm-1.0, with a unique combination of virulence genes, was found in 26% of cases in February.

Ireland: On 16 March 2023, the Irish Health Protection Surveillance Centre (HPSC) [published](#) an update on Group A streptococcus in Ireland. From 2 October 2022 and as of 15 March 2023, 179 iGAS cases were notified. Among these, 33% (n = 65) were in children aged under 18 years old. This is a higher proportion than before the COVID-19 pandemic, when up to 25% of iGAS cases were in children under 18 years old. Data from 2023 suggests that iGAS cases may be decreasing since mid-February. However, cases remain high compared to pre-pandemic years. Since October 2022, six paediatric deaths from iGAS have been reported, and 10 in adults.

The Netherlands: According to an [update](#) provided by the National Institute for Public Health and the Environment (RIVM), iGAS cases have continued to increase in the Netherlands since November 2022. The highest number of monthly notifications were registered in February 2023, when 204 iGAS cases were reported, of which 15 were in children 0-5 years of age. This is the highest notification rate of iGAS cases since 2017; however, RIVM strengthened their surveillance system and this increase may partly reflect these changes. Paediatric iGAS cases were increased in 2022 (seven times higher compared to 2016-2019), and at least nine children have died.

United Kingdom: On 12 March 2023, the United Kingdom Health Security Agency (UKHSA) published an [update](#) on scarlet fever, reporting 8 360 new cases since the last update. The UK HSA is still describing an exceptional level of activity at this early point in the season. Since the start of the season, a total of 49 372 cases of scarlet fever have been notified, from week 37 to week 10 (season 2022 to 2023), peaking in week 49, 2022 before Christmas .

A total of 2 415 iGAS cases have been reported this season through laboratory surveillance, peaking in week 52, 2022 with 226 notified cases. Since 1 January 2023, 1 008 iGAS laboratory notifications have been reported. The last comparably high season was observed in 2017-2018, with a total of 2 898 notified cases.

There have been 319 iGAS-related fatalities recorded across all age groups. Among these, 63% (n=204) were recorded in people aged 65 years and over, and 10% (n=32) in children aged 9 years and under.

Summary

On 2 December 2022, an increase in iGAS and scarlet fever notifications caused by diverse emm types was observed in the EU/EEA and the UK, including several associated fatalities. Following the first reports on the increase of iGAS and scarlet fever notifications, retrospective studies based on surveillance data revealed an increase in iGAS and scarlet fever cases since the beginning of 2022 in some EU/EEA countries. Other countries outside the EU/EEA have also issued [alerts](#) on recent increases in iGAS among children. In the EU/EEA, the increase in iGAS notifications has been reported by [France](#), [Ireland](#), [the Netherlands](#), and [Denmark](#). Other EU/EEA [countries](#) have reported an increase in iGAS cases compared to the previous season, but with a lower incidence than before the pandemic.

The age groups most affected are children <10 years of age and people aged >65 years. According to available data, consultations for scarlet fever and iGAS notifications peaked in the pre-Christmas period in December 2022, before decreasing in January 2023.

On 12 December 2022, ECDC published a [news item](#) in collaboration with the WHO Regional Office for Europe advising countries to remain vigilant against increases in GAS and iGAS infections and to increase awareness among healthcare professionals and parents of young children.

ECDC assessment:

Group A streptococcus (GAS) is considered the most common cause of bacterial pharyngitis in school-aged children. It may also affect the younger siblings of affected children. The incidence of GAS pharyngitis usually peaks during winter months and early spring. Outbreaks in kindergartens and schools are frequently reported. GAS pharyngitis is easily diagnosed by a rapid antigen detection test (Rapid Strep) and/or bacterial culture and treated with antibiotics and supportive care. Good hand hygiene and general personal hygiene (e.g. avoiding the sharing of utensils, drinking glasses and personal items, etc.) can help to control transmission within these settings.

Invasive GAS (iGAS) infections are rare life-threatening systematic infections, complicating simple scarlet fever or pharyngitis. Children recovering from viral infections, e.g. varicella (chickenpox), influenza, etc. are at higher risk of developing iGAS infection.

Neither GAS nor iGAS infections are notifiable at the EU level, and the ability to assess increased circulation in EU/EEA countries is limited as a result. However, WHO and ECDC currently estimate that the risk posed by iGAS to the general population is low, given that the current increase in iGAS cases is relatively low overall, the reported cases are not caused by a new strain, and the disease is easily treatable with antibiotics.

This season, typing data suggest that the surge of iGAS cases is not related to a specific or new strain or an increase in antibiotic resistance of GAS. The most common emm types reported are emm 1 and emm 12. Countries experiencing an increased number of cases are encouraged to share any emm-typing, M-typing, multilocus sequence typing (MLST), and/or whole genome sequencing (WGS) data via the related EpiPulse event page.

Actions:

ECDC has opened an EpiPulse item and invited EU/EEA countries and the UK to share information on GAS and iGAS infections. In addition, in collaboration with the WHO Regional Office for Europe, EU/EEA countries and the UK have been contacted by ECDC through EpiPulse about the current situation related to GAS and iGAS infections.

ECDC and the WHO Regional Office for Europe have also published a [news item](#) advising countries to be vigilant against increases in GAS and iGAS infections, and to increase awareness among healthcare professionals and parents of young children.

ECDC is continuing to monitor this event through its epidemic intelligence activities and will report when relevant epidemiological updates are available.

8. Cholera - Multi-country (World) - Monitoring global outbreaks

Summary

Since the last update on 21 February 2023, 38 871 suspected cholera cases including 254 fatalities have been reported worldwide. These include cases retrospectively reported since the start of 2023. The countries with the highest number of new suspected cases since the last update are: Syria (8 042), Malawi (8 336), Bangladesh (5 582), Afghanistan (5 102), Haiti (4 458).

The countries and territories reporting new cases since the previous update are Afghanistan, Bangladesh, Burundi, Cameroon, the Democratic Republic of the Congo, the Dominican Republic, Ethiopia, Haiti, Kenya, Lebanon, Malawi, Mozambique, Nigeria, Somalia, South Africa, South Sudan, Syria, Tanzania, Zambia, and Zimbabwe.

A list of all countries reporting new cases since our previous update can be found below.

Americas

Haiti: Since the last update, 4 458 new suspected cholera cases have been reported in Haiti. In 2023, and as of 9 March 2023, 14 897 suspected cholera cases, 945 confirmed cases, and 136 fatalities have been reported in the country. In 2022, there were 20 593 suspected cholera cases including 253 fatalities.

The Dominican Republic: Since the last update, 45 new cholera cases have been reported in the Dominican Republic. In 2023, and as of 6 March, a total of 89 cholera cases have been reported in the country. The majority of the cases (71) have been [reported](#) in the capital city of Santo Domingo. In 2022, a total of six cholera cases were reported in the country. In October 2022, an [imported](#) cholera case from Haiti was detected.

No additional cholera cases have been reported in other regions of the Americas in 2023.

Africa

Burundi: Since the last update, 31 new suspected cholera cases have been reported in Burundi. In 2023, and as of 13 March, 176 suspected cholera cases and one fatality have been reported in the country. Seven health districts in three provinces have reported cases, some of them bordering the Democratic Republic of the Congo and Rwanda. In 2022, between 30 and 31 December, 12 confirmed cholera cases were [reported](#).

Cameroon: Since the last update, 107 new suspected cholera cases including nine fatalities have been reported in Cameroon. In 2023, and as of 5 March, 163 suspected cholera cases and 10 fatalities have been reported in the country. In 2022, a total of 15 108 suspected cases including 302 fatalities were reported in the country.

The Democratic Republic of the Congo (DRC): Since the last update, 1 130 suspected cholera cases, including three fatalities, have been reported in the DRC. In 2023, and as of 10 March, 5 284 suspected cholera cases and 39 fatalities have been reported in the country. In 2022, a total of 17 135 suspected cholera cases, 1 356 confirmed cholera cases, and 285 fatalities (CFR: 1.7%) were reported in 97 health zones across 17 provinces of the Democratic Republic of the Congo.

Ethiopia: Since the last update, 697 cholera cases including 11 fatalities have been reported in Ethiopia. In 2023, and as of 12 March, a total of 955 cholera cases, and 12 associated fatalities have been reported in the country. In 2022, 1 141 suspected cholera cases, 27 cholera cases, including 27 fatalities were reported.

Kenya: Since the last update, 835 cholera cases including two fatalities have been reported in Kenya. In 2023, and as of 6 March, 2 721 cholera cases, and 32 fatalities have been reported in the country. Three of the most affected counties border with Somalia, and one with Ethiopia. In 2022, a total of 2 959 suspected cholera cases including 55 fatalities were reported.

Malawi: Since the last update, Malawi has reported 8 336 new cholera cases, including 192 deaths. In 2023, and as of 16 March, 36 672 cholera cases, including 1 084 fatalities have been reported in the country. In 2022, 17 448 cholera cases including 576 fatalities were reported in Malawi.

Mozambique: Since the last update, 3 089 suspected cholera cases including 14 fatalities have been reported in Mozambique. In 2023, and as of 12 March, a total of 6 082 suspected cholera cases and 45 fatalities have been reported in the country. In February 2023, Tropical Storm Freddy caused significant flooding in south central Mozambique which negatively impacted cholera mitigation measures. In 2022, 3 930 suspected cholera cases including 21 fatalities (CFR 0.5%) were reported.

Nigeria: Since the last update, 243 suspected cholera cases including eight fatalities have been reported in Nigeria. In 2023, and as of 28 February, 672 suspected cholera cases and 25 fatalities have been reported in the country. In 2022, 20 768 suspected cholera cases, including 498 fatalities (CFR 2.4%), were reported from 31 Nigerian states.

Somalia: Since the last update, 220 suspected cholera cases including four confirmed cases have been reported in Somalia. In 2023, and as of 12 February, 1 307 suspected cholera cases, four confirmed cases, and one associated fatality have been reported in the country. In 2022, a total of 15 653 suspected cholera cases, including 88 fatalities, were reported in the country. The most affected districts are Afmadow, Daynile, Kismayo, and Dharkenley.

South Sudan: As of 12 March 2023, 269 suspected cholera cases and one fatality have been reported in South Sudan. On 7 March 2023, the Ministry of Health of South Sudan declared a cholera outbreak in Upper Nile State. In 2022, a total of 424 suspected cholera cases, 61 cholera cases, and one associated fatality were reported in the country.

South Africa: On 30 January 2023, two cases of cholera were detected in two travellers returning from Malawi. A family member of one of the travellers who did not leave South Africa also contracted cholera. Since then, three cases of autochthonous cholera have been reported. In 2023, and as of 4 March, four cases of non-travel related cholera and one fatality have been reported in South Africa. Cholera cases in the country were last reported in 2018.

Tanzania: As of 10 March 2023, 72 suspected cholera cases and three fatalities have been reported in Tanzania. On 22 January 2023, the first cholera case was reported in Ruvuma Region. In 2022, a total of 359 suspected cholera cases, 43 cholera cases, and seven fatalities (CFR: 1.9%) were reported in the country.

Zambia: Since the last update, 186 suspected cholera cases and four fatalities have been reported in Zambia. In 2023, and as of 12 March, 225 suspected cases and five fatalities have been reported in the country. The first case was detected on 21 January 2023, close to the border with Mozambique. In 2022, a total of 359 suspected cholera cases, 43 cholera cases, and seven fatalities (CFR: 1.9%) were reported in the country.

Zimbabwe: On 15 February 2023, Zimbabwe confirmed one case of cholera in Chengutu town, West Province. In 2023, and as of 5 March, 58 suspected cases, two confirmed cases, and no fatalities have been reported. In 2022, a total of 135 suspected cases, one confirmed case, and no deaths were reported in the country.

No updates were available regarding previous outbreaks reported in [Benin](#), [Burkina Faso](#), [Niger](#), [Togo](#), and [Uganda](#).

Asia

Afghanistan: Since the last update, 5 102 suspected cholera cases, including two fatalities have been reported in Afghanistan. In 2023, and as of 25 February, a total of 19 328 suspected cholera cases and seven fatalities have been reported. According to [WHO](#), approximately 55.3% of all reported cases were children below five years of age. In 2022, a total of 242 562 suspected cholera cases including 87 deaths were reported.

Bangladesh: Since the last update, 5 582 suspected cholera cases have been reported in Bangladesh. In 2023, and as of 11 February, 15 910 suspected cholera cases and 16 confirmed cases have been reported. In 2022, a total of 603 511 suspected cholera cases including 29 fatalities were reported in the country.

Lebanon: Since the last update, 367 suspected cholera cases have been reported from Lebanon. In 2023, and as of 14 March 2023, 1 100 suspected cholera cases and one confirmed case have been reported in the country. In

2022, a total of 5 810 confirmed cholera cases and 23 associated fatalities were reported in the country. This is the first cholera outbreak in the country since 1993.

Syria: Since the last update, 8 042 suspected cholera cases have been reported in Syria. In 2023, and as of 15 February, a total of 39 770 suspected cholera cases and four associated fatalities have been reported in Syria. The most affected governorates are Idleb, Deir-ez-Zor, Aleppo, and Ar-Raqqa. In 2022, a total of 52 879 suspected cholera cases including 97 fatalities were reported in the country.

No updates were available regarding previous outbreaks reported in [India](#), [Iraq](#), [Nepal](#), [Pakistan](#), and the [Philippines](#).

Disclaimer: Data presented in this report originate from several sources, both official public health authorities and non-official, such as the 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 as there may be areas of under-reporting and figures may not reflect the actual epidemiological situation.

ECDC assessment:

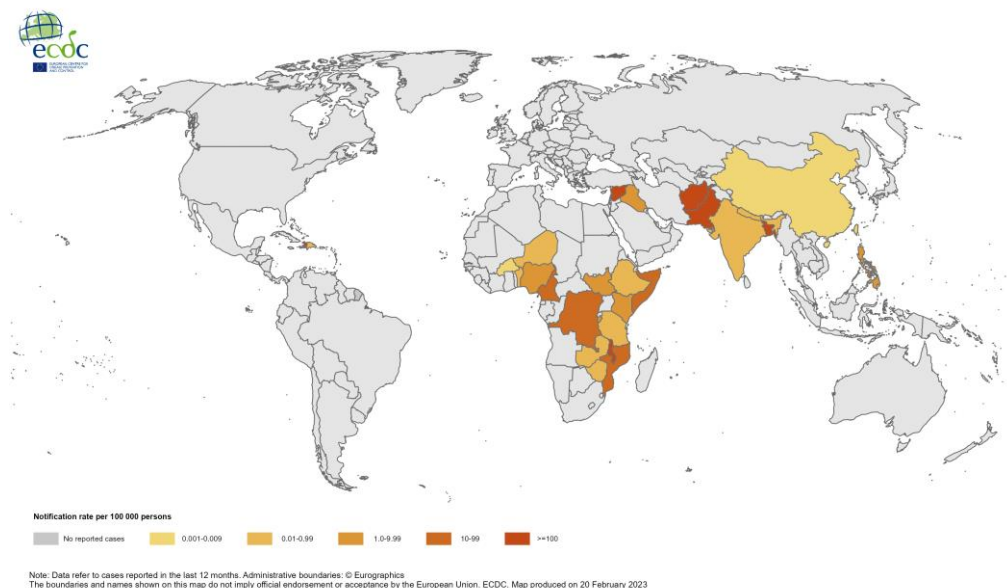
Cholera cases have continued to be reported in western Africa, and southeast Asia over the past months. Cholera outbreaks have also been notified in the eastern and southern parts of Africa, parts of the middle east and in two countries in the Americas. Despite the number of cholera outbreaks reported worldwide, few cases are reported each year among returning EU/EEA travellers. In this context, the risk of cholera infection in travellers visiting these countries remains low, even though sporadic importation of cases in the EU/EEA remains possible. In 2021, two cases were reported in the EU/EEA Member States, while three, and 26 cases were reported in 2020, and 2019, respectively. All cases had travel history to cholera-affected areas. According to WHO, vaccination should be considered for travellers at higher risk such as emergency and relief workers who are likely to be directly exposed. Vaccination is generally not recommended for other travellers. Travellers to cholera-endemic areas should seek advice from travel health clinics to assess their personal risk and apply precautionary sanitary and hygiene measures to prevent infection. These can include drinking bottled water or water treated with chlorine, carefully washing fruit and vegetables with bottled or chlorinated water before consumption, regularly washing hands with soap, eating thoroughly cooked food, and avoiding consumption of raw seafood products.

Actions:

ECDC continues to monitor cholera outbreaks globally through its epidemic intelligence activities in order to identify significant changes in epidemiology, and to facilitate timely updates to public health authorities. Reports are published on a monthly basis. The worldwide overview of cholera outbreaks is available on [ECDC's website](#).

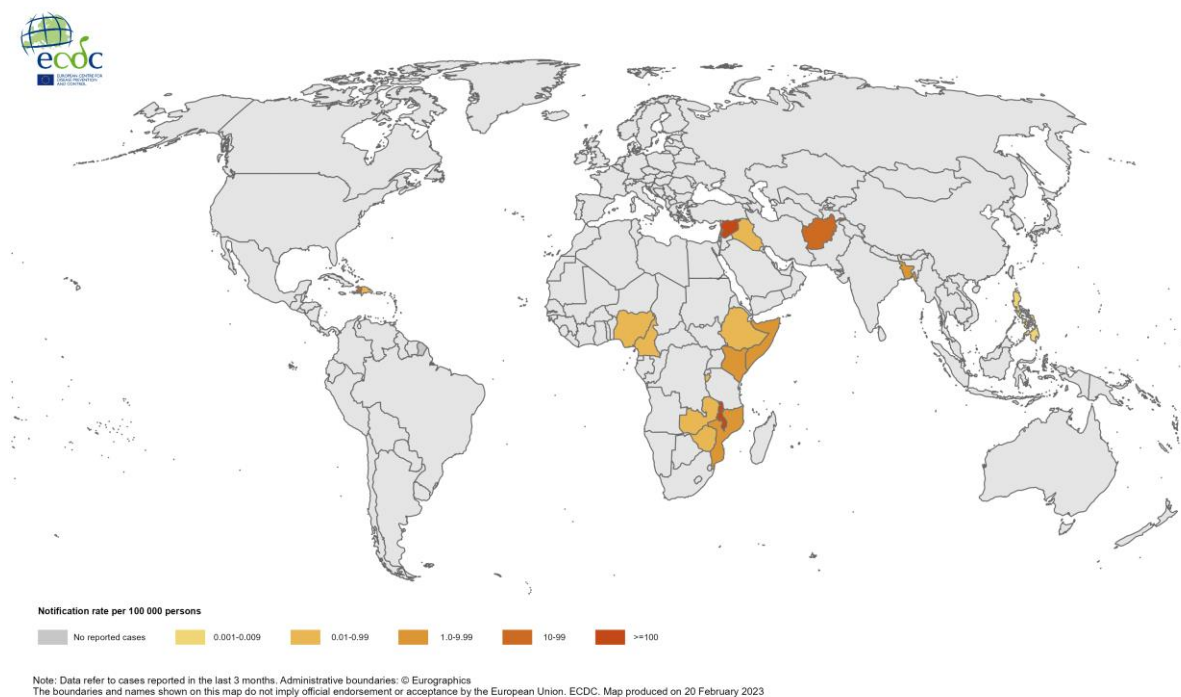
Maps and graphs

Figure 1. Geographical distribution of cholera cases reported worldwide from February 2022 to February 2023



Source: ECDC

Figure 2. Geographical distribution of cholera cases reported worldwide from January to February 2023



Source: ECDC

9. Poliomyelitis - Multi-country (World) - Monitoring global outbreaks

Overview:

Global public health efforts to eradicate polio are continuing through the immunisation of every child until transmission of the virus stops and the world becomes polio-free. On 5 May 2014, polio was declared a public health emergency of international concern (PHEIC) by the World Health Organization (WHO) due to concerns over the increased circulation and international spread of wild poliovirus in 2014. On 2 February 2023, the [34th meeting](#) of the Polio Emergency Committee under the International Health Regulations (2005) was held to discuss the international spread of poliovirus and it was agreed this remains a PHEIC and they recommended the extension of Temporary Recommendations for a further three months.

In June 2002, the WHO European Region was officially declared polio-free.

Update:

Wild poliovirus (WPV1):

Since 21 February 2023 and as of 21 March 2023, one new case of AFP caused by wild poliovirus (WPV1) was reported in Pakistan.

Circulating vaccine-derived poliovirus (cVDPV):

Since the previous update, the following cases of polio due to circulating vaccine-derived poliovirus (cVDPV) have been reported with the date of onset of symptoms in 2022:

- Since the last update, a new country reported AFP cases due to vCDPV1 (1 case, Congo). Twenty-six new cases of acute flaccid paralysis (AFP) caused by cVDPV1 have been reported from the Congo (1) and the Democratic Republic of the Congo (25).
- Since the last update, a new country reported AFP cases due to cVDPV2 (1 case, Burundi). Forty-two new cases of AFP due to cVDPV2 were reported in 2022 from nine countries: Benin (1), Burundi (1), Chad (1), Cameroon (1), Democratic Republic of the Congo (34), Mali (1), Niger (1), Nigeria (1), Yemen (1).
- No new cases of AFP due to cVDPV3 have been reported.

Since the previous update, the following cases of polio due to cVDPV have been reported with the date of onset of symptoms in 2023:

- Five new cases of AFP caused by cVDPV1 have been reported from Madagascar in 2023.
- Six new cases of AFP caused by cVDPV2 have been reported from five countries: Benin (1), Chad (2), Indonesia (1), Israel (1), Somalia (1).
- No new cases of AFP due to cVDPV3 have been reported.

On 16 March 2023, [Global Polio Eradication Initiative](#) published a statement about the detection of seven cases of circulating vaccine-derived poliovirus type 2 (cVDPV2) linked with the novel oral polio vaccine type 2 (nOPV2) detected in Burundi and the Democratic Republic of the Congo (DRC). The viruses were isolated from the stool samples of seven children with acute flaccid paralysis (AFP) in eastern Tanganyika and South Kivu provinces, DRC (six cases), and one in Bujumbura Rural province, Burundi; also from five environmental samples collected in Burundi (Bujumbura Mairie province). All reported isolates stem from two separate and new emergences of cVDPV2 linked with nOPV2 that originated in Tanganyika and South Kivu provinces in DRC.

This is the first time cVDPV2 linked with nOPV2 was detected since the rollout of the vaccine in March 2021 and it is not unexpected. To date about 600 million doses of nOPV2 have been administered across 28 countries globally, and the majority of countries have seen no further transmission of cVDPV2 after two rounds of immunisation. All available clinical and field evidence continues to demonstrate that nOPV2 is safe and effective and has a significantly lower risk of reverting to a form that cause paralysis in low immunity settings when compared to monovalent oral polio vaccine type 2 (mOPV2).

A preliminary assessment suggests an estimated 30–40 new cVDPV2 emergences, conditional on surveillance inputs, would have been detected by 1 March 2023 if mOPV2 was used instead of nOPV2 at the same scale. Overall, the risk of outbreaks with nOPV2 is considered much lower than the risk of outbreaks due to mOPV2 or OPV.

Summary:

Wild poliovirus:

In 2022, and as of 21 March 2023, 30 cases of AFP caused by WPV1 have been reported. These have been reported from the two endemic countries, Pakistan (20) and Afghanistan (2), and one non-endemic country, Mozambique (eight). One associated death has been reported in Pakistan.

In 2023, and as of 21 March 2023, one case of AFP caused by WPV1 has been reported in Pakistan with date of onset of symptoms in 2023.

Circulating vaccine-derived poliovirus (cVDPV):

With the date of onset of symptoms in 2022:

In 2022, and as of 21 March 2023, 157 cases of AFP caused by cVDPV1 have been reported from Congo (1), DRC (117), Mozambique (21), Madagascar (14), and Malawi (4).

Overall, in 2022, 634 cases of AFP caused by cVDPV2 have been reported from 20 countries: Algeria (3), Benin (11), Burundi (1), DRC (321), Cameroon (3), Central African Republic (5), Chad (44), Eritrea (1), Ethiopia (1), Ghana (3), Indonesia (1), Mali (2), Mozambique (4), Niger (15), Nigeria (48), Somalia (5), Sudan (1), Togo (2), United States of America (1), Yemen (162).

In 2022, one case of AFP caused by cVDPV3 was reported from Israel.

With the date of onset of symptoms in 2023:

In 2023, and as of 21 March 2023, five cases of AFP caused by cVDPV1 have been reported from Madagascar.

In 2023, nine cases of AFP caused by cVDPV2 have been reported from six countries: Benin (1), Chad (2), Indonesia (3), Israel (1), Nigeria (1), Somalia (1).

In 2023, no cases of AFP caused by cVDPV3 have been reported.

Sources: [Global Polio Eradication Initiative](#) | [ECDC](#) | [ECDC dashboard](#) | [WHO DON](#) | [WPV3 eradication certificate](#)

ECDC assessment:

The WHO European Region, including the EU/EEA, has remained polio-free since 2002. Inactivated polio vaccines are used in all EU/EEA countries.

As long as there are non-vaccinated or under-vaccinated population groups in European countries and poliomyelitis is not eradicated globally, the risk of the virus being reintroduced in Europe remains. One EU/EEA country (Romania) and three neighbouring countries (Bosnia and Herzegovina, Montenegro, Ukraine) remain at high risk of a sustained polio outbreak following wild poliovirus importation or the emergence of cVDPV, due to sub-optimal programme performance and low population immunity, according to the [European Regional Certification Commission for Poliomyelitis Eradication \(RCC\) report](#) published in February 2023, referring to data from 2021. According to the same report, eight EU/EEA countries are at an intermediate risk of sustained polio outbreaks. The continuing circulation of wild poliovirus type 1 (WPV1) in Pakistan and Afghanistan and detection of WPV1 cases in Mozambique in 2022, genetically linked to a strain from Pakistan, shows that there is still a risk of the disease being imported into the EU/EEA. Furthermore, the concerning outbreaks of circulating vaccine-derived poliovirus (cVDPV), which emerges and circulates due to lack of polio immunity in the population, illustrate the potential risk for further international spread.

To limit the risk of reintroduction and sustained transmission of WPV and cVDPV in the EU/EEA, it is crucial to maintain high vaccine coverage in the general population and increase vaccination uptake in pockets of under-immunised populations. EU/EEA countries should review their polio vaccination coverage data and ensure there are no immunity gaps in the population and that there is capacity to identify virus circulation through well-performing surveillance systems.

ECDC endorses WHO's temporary recommendations for EU/EEA citizens who are residents of or long-term visitors (>4 weeks) to countries categorised by [WHO](#) as having the potential risk of the international spread of polio: an additional dose of poliovirus vaccine should be administered between four weeks and 12 months prior to international travel.

ECDC links: [ECDC comment on risk of polio in Europe](#) | [ECDC risk assessment](#)

Actions:

ECDC provides updates on the polio situation on a monthly basis. The Agency also monitors polio cases worldwide through its epidemic intelligence activities in order to highlight polio eradication efforts and identify events that increase the risk of wild poliovirus being reintroduced into the EU/EEA.

ECDC maintains a [dashboard](#) showing countries that are still endemic for polio and have ongoing outbreaks of cVDPV.

10. Measles outbreak - Austria - 2023

Overview:

The Austrian Agency for Health and Food Safety ([AGES](#)) reported an outbreak of measles with a total of 89 confirmed cases in 2023. Compared with the national report from 3 March 2023 ([ECDC CDTR week 10](#)), there was an increase of 55 cases based on data as of 21 March. The outbreak is mostly localised to the region of Styria, where 80 (of 89) cases were reported as of week 11, and the first case was reported in week four of 2023. Cases have also been reported from Upper Austria (5), Vienna (3), and Carinthia (1). The age distribution and vaccination status of the cases have not been provided by the health authority. [Media](#) reports some of the cases are children. Austrian authorities are encouraging full vaccination according to the national immunisation program.

According to [TESSy data](#), there was one case of measles reported in Austria in January 2023 (note: February data are not yet available in TESSy), one case in 2022, one in 2021, and 25 in 2020. Before the COVID-19 pandemic, 151 cases were reported in 2019.

In the EU/EEA in January 2023, a total of nine cases of measles were reported in six EU/EEA countries, 127 and 57 cases in 2022 and 2021, respectively.

The measles vaccination coverage in Austria was 94–95% for the first dose and 84–88% for the second dose in 2018–2021.

ECDC assessment:

The outbreak in Austria is the first significant outbreak of measles reported in the EU/EEA since the start of the COVID-19 pandemic. Between March 2020 and January 2023, only sporadic cases or very small clusters of cases were reported across the EU/EEA. Aside from the outbreak in Austria, measles activity in the EU/EEA currently remains low.

The risk for the general population is considered low, however outbreaks of measles can occur in populations with suboptimal levels of population immunity.

There was a substantial decline in measles cases reported by EU/EEA countries after March 2020, which continued through 2021 and 2022, and contrasts with the usual annual and seasonal pattern for measles which peaks during the spring in temperate climates. A similar decrease has been observed in other countries worldwide during the same period. Under-reporting, under-diagnosis, or a real decrease due to the direct or indirect effects of the COVID-19 pandemic measures could explain the observed decline in cases. 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 continues to monitor the measles situation in EU/EEA countries and globally, and reports on a monthly basis through epidemic intelligence and disease specific activities.

11. Extensively drug-resistant *Pseudomonas aeruginosa* (artificial tears) - USA - 2023

Overview:

On 21 March 2023 the U.S. Centers for Disease Control and Prevention ([US CDC](#)) published an update on their investigation of an extensively drug-resistant strain of *Pseudomonas aeruginosa* related to the use of artificial tears/eye drops. The outbreak strain, carbapenem-resistant *Pseudomonas aeruginosa* combining Verona integron-mediated metallo- β -lactamase and Guiana extended-spectrum- β -lactamase (VIM-GES-CRPA) had not been reported before in the US.

As of 14 March 2023, 68 patients, including three deaths, were detected in 16 states. Of the 68 cases, eight people reported vision loss and four had surgical eyeball removal; 37 patients were related to four healthcare facility clusters. The majority of the patients used EzriCare or Delsam Pharma's Artificial Tears products among over ten other brands of artificial tears. This preservative-free product is sold in multidose bottles and was the only common artificial tears product identified across all four healthcare facility clusters.

The presence of VIM-GES-CRPA, matching the outbreak strain, was detected via laboratory testing in opened EzriCare bottles, which were collected from patients with and without eye infection in two states. Test results are pending for the samples from unopened bottles to evaluate if contamination might have occurred during manufacturing. US CDC and FDA advise to immediately stop the use of EzriCare or Delsam Pharma's Artificial Tears products pending additional information and guidance from CDC and [FDA](#).

The involved products are manufactured in India and are sold over-the-counter in the US and via the internet. They are not sold in the EU/EEA, however EU/EEA citizens could potentially purchase them through the internet or while travelling.

Pseudomonas aeruginosa is one of the leading causes of severe healthcare-associated infections, especially in the immunocompromised patients. The reported strain produces the Verona integron-mediated metallo- β -lactamase (VIM) and the Guiana extended-spectrum- β -lactamase (GES). Isolates are *P. aeruginosa* sequence type (ST) 1203 and harbor blaVIM-80 and blaGES-9. The isolates are extensively resistant to most of the broad-spectrum antibiotics. CDC reports that five of the isolates tested susceptible for cefiderocol.

Sources: [US CDC outbreak report](#), [media](#), [FDA](#), Global Pharma: [Recall of Artificial Tears Lubricant Eye Drops](#), [Recall of Artificial Eye Ointment Lubricant](#)

ECDC assessment:

This is the first documented outbreak of *Pseudomonas aeruginosa* containing VIM and GES. VIM carbapenemases and GES beta-lactamases, which confer high-level resistance to bacteria, were once considered rare and have become more common in many countries world-wide. Of note, VIM has been found in humans, animals, and the environment in India, as summarised in a recent review [article](#) on carbapenemases in India.

Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA) is associated with high morbidity and mortality, as seen with this outbreak. Treatment is difficult and can require novel and experimental treatments such as bacteriophage therapy.

Although the disease is severe, the likelihood of infection of VIM-GES-CRPA via exposure to contaminated artificial tears is low for EU/EEA citizens at this time, given the product recalls and public information campaigns.

This outbreak highlights the known risk for bacterial contamination of multi-use vials of preservative-free products. While investigation into the source of contamination is complicated by complex international supply chains, the network of clinical and public health laboratories that screened for VIM-CRPA helped identify cases for epidemiological investigation and product trace-back. Continued testing for plasmid-mediated carbapenemase genes and whole genome sequencing are important for cluster detection and infection prevention. Where such testing capacity is limited, public health laboratories can assist with appropriate testing.

Actions:

ECDC is monitoring this event through its epidemic intelligence activities.

Additional Sources:

Sources: [US CDC outbreak report](#), [media](#), [FDA](#), Global Pharma: [Recall of Artificial Tears Lubricant Eye Drops](#) , [Recall of Artificial Eye Ointment Lubricant](#)