WEEKLY BULLETIN

Communicable Disease Threats Report
Week 4, 23–29 January 2023

Today's disease topics

1. Weekly Summary

Overview:

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

- In the week ending 22 January 2023, there was a continuing overall improvement in the epidemiological situation in the EU/EEA in case notification rate (all ages and among those aged 65 years and above), hospital admissions, and deaths. Data quality may still be affected by the end-of-year holidays.
- As of 27 January 2023, 14 593 sequences have been deposited in GISAID EpiCoV belonging to XBB.1.5 with the mutational profile in Spike region - Q183E, F486P and F490S. Most of these submissions are from the United States (12 026 sequences), and the United Kingdom (1 085 sequences).
- According to the latest update by China CDC, COVID-19 positive tests peaked around the end of December 2022, and continued decreasing in January 2023. Deaths among hospitalised patients peaked in the first week of January and decreased thereafter. No concerning new variants were identified.

C. diphtheriae among migrants – Europe – 2022

- As of 24 January 2023, and since the last update on 17 January 2023, Austria has reported two new cases of diphtheria.
- As of 24 January 2023, the total number of diphtheria cases reported among migrants in the EU/EEA is 242, while the total number of diphtheria cases reported among migrants in Europe is 340.
- ECDC has no data indicating further transmission and outbreaks of C. diphtheriae in the broader EU/EEA population resulting from the increased number of diphtheria cases observed.

- An unusually broad predicted resistance of Corynebacterium (C.) diphtheriae isolates to common oral and parenteral antibiotics has been reported. ECDC recommends, as a precautionary measure, that antimicrobial susceptibility testing is performed on all C. diphtheriae isolates.

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 appears to have decreased across the WHO European Region since week 52, 2022 following an early start to seasonal influenza activity. However, some of this decrease in certain weeks might be due to the impact of the festive period with lower testing and reporting in some countries and areas.
- Countries are experiencing a mixed distribution of circulating viruses with increasing circulation of A(H1)pdm09 and B viruses.
- Overall this season, influenza A(H3) viruses have dominated in primary care sentinel specimens but with similar proportions of A(H1)pdm09 and A(H3) viruses in non-sentinel specimens.
- Type A viruses (mostly not subtyped) have been detected in hospitalised patients in ICU and other wards and influenza A(H1)pdm09 viruses have dominated in SARI specimens.

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

- Worldwide and in the year 2022, 383 357 cases of chikungunya virus disease and 76 related deaths, as well as 4 110 465 cases of dengue and 4 099 related deaths have been reported.
- In 2022, France has reported 65 locally acquired cases of dengue. According to the French authorities, nine dengue outbreaks reported in the country are now considered as over.
- The current likelihood of the occurrence of local transmission events of the chikungunya and dengue viruses in mainland EU/EEA is very low, as the environmental conditions are not favourable to vector activity and virus replication.

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

- On 12 October 2022, the Polio Emergency Committee under the International Health Regulations (2005) stated that the risk of the international spread of poliovirus still remains a public health emergency of international concern (PHEIC).
- Since the last update, no new AFP case has been reported due to WPV1.
- Since the last update, the new countries reporting AFP cases due to cVDPV2 were Cameroon (2) and Sudan (1).
- Since the last update, the Democratic Republic of the Congo reported 36 new cases of AFP due to cVDPV1 and 45 due to cVDPV2.

Vaccine-derived poliovirus type 2 detection - Canada - 2022 – 2023

- The previously reported environmental samples that tested positive for vaccine-derived polio virus type 2 (VDPV2) in Montreal have now been characterised as circulating VDPV2 due to genetical link with the virus circulating in the United States of America.

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

Overview:

Summary:

In the week ending 22 January 2023, reported data showed a continuing overall improvement in the epidemiological situation in the EU/EEA. Pooled rates of case notification (all ages and among those aged 65 years and above), hospital admissions, and deaths have continued to decrease following the increases that were observed during December in both the general population and long-term care facilities. Please note, that there may still be some residual impact from the end-of-year holidays on the quality of data reported for early January.
Out of 28 countries reporting case notification data up to week 3, 2023, no country reported increasing trends. Only one of 21 countries with data on hospital or ICU admissions/occupancy reported increases in at least one of the indicators, while two of 26 countries reporting data on COVID-19 deaths reported increases. These increases were recent (of 1–2 weeks duration) and the indicators remained relatively low in the affected countries.
Despite what appears to be an improving picture in many EU/EEA countries, the pandemic continues to have a considerable impact, with 1 311 COVID-19 deaths reported by 26 EU/EEA countries in week 3, 2023. In the most recent four weeks, 27% and 63% of deaths for which age was reported were in people aged 65–79 years, and 80 years and above, respectively.

The cumulative uptake of a first booster was 65.4% (country range: 11.3–87.0%) 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 was 16.9% (country range: 0.2–41.8%) among adults aged 18 years and older, 35.0% (country range: 0.3–86.5%) among people aged 60 years and older, and 13.9% (country range: 0.1–33.5%) in the total population.
Among the nine countries with an adequate volume of sequencing or genotyping for weeks 1–2 (2 January to 15 January 2023), the estimated distribution of variants of concern (VOC) or of interest (VOI) was 56.7% (48.4–76.0% from seven countries) for BQ.1, 17.8% (11.3–76.9% from nine countries) for BA.5, 15.6% (6.6–27.8% from eight countries) for BA.2.75, 2.7% (1.4–5.6% from six countries) for XBB.1.5, 2.4% (0.9–6.5% from seven countries) for XBB, 1.2% (0.3–15.3% from eight countries) for BA.2, and 0.2% (0.1–0.9%, 66 detections from eight countries) for BA.4.

As of 20 June 2022, ECDC discontinued the data collection and publication of the number of COVID-19 cases and deaths worldwide. Please refer to the data reported by World Health Organization (WHO) on COVID-19 and WHO's Weekly Epidemiological and Weekly Operational Updates page for non-EU/EEA countries.

For the latest COVID-19 country overviews, please see the dedicated web page.

Other News

On 24 January 2023, the World Health Organization (WHO) Director-General, Tedros Adhanom Ghebreyesus, announced that WHO's Emergency Committee on COVID-19 will meet to discuss whether the current situation still constitutes an public health emergency of international concern. This will be the fourteenth meeting of the International Health Regulations (2005) Emergency Committee regarding the COVID-19 pandemic.

On 26 January 2023, the European Medicines Agency (EMA) published clinical data supporting the use of the COVID-19 vaccine, Valneva, in adults aged 18–50 years.

Weekly update on SARS-CoV-2 variants:

Since the last update on 12 January 2023 and as of 26 January 2023, the following changes have been made to ECDC variant classifications for variants of concern (VOC), variants of interest (VOI), variants under monitoring (VUM) and de-escalated variants:

The recombinant lineage XAY (BA.2-Delta recombinant) was added as variants under monitoring (VUM). XAY.2 is by far the most prevalent XAY lineage in the world, but for now it has only been detected at very low levels. XAY.2 has mainly been detected in Denmark, where it is present at around 2% of sequences in recent weeks, but the growth of the variant is not quick, in proportion.

For the latest information on 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 (US) with the sample collection dates from 22 October 2022. 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 variants of interest (VOI).

As of 27 January 2023, 14 593 sequences have been deposited in GISAID EpiCoV belonging to XBB.1.5 with the mutational profile in Spike region - Q183E, F486P and F490S. Most of these submissions are from the US (12 026 sequences), and the United Kingdom (1 085 sequences).

The United States Centers for Disease Prevention and Control (US CDC) nowcast tool estimates the current proportion of the variant to be around 49.1% (37.2% in the previous week) in the US. For the last week with complete data (week 52, 2022), the US CDC reported XBB.1.5 at 17.1% (previous week 11.3%).

This lineage is currently estimated to have a large growth advantage relative to previously circulating lineages in North America (61%) and Europe (95%) (estimates provided by CoV-spectrum, based on data from GISAID EpiCoV), though these estimates are associated with significant uncertainty. The US CDC reports a doubling time of the proportion of XBB.1.5 of nine days. The rapid growth in the US does not necessarily mean that the variant will become dominant in the EU/EEA, because major differences in variant circulation between North America and Europe have been observed several times previously during the pandemic.

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 not enough information available to assess any change in infection severity associated with the variant.

Based on the GISAID EpiCoV data as of 23 January 2023, XBB.1.5 is increasing from low proportions in most EU/EEA countries with adequate sequence reporting volume. These estimated proportions for week 1, 2023 and week 52, 2022 in parenthesis are: Austria 1.2% (0.9%), Denmark 2.9% (1.2%), France 1.7% (0.3%), Germany 1.6% (0.3%), Italy 0.6% (0.6%), the Netherlands 3.8% (2.2%) and Spain 6.3% (1.3%).

There is a risk that this variant may have an increasing effect on the number of cases of COVID-19 in the EU/EEA, but not within the coming month as the variant is currently only present at very low levels. Due to uncertainties associated with the growth rate of the variant, this assessment is associated with a high degree of uncertainty. A threat assessment brief on XBB.1.5 was published on 13 January 2023.

Countries should remain vigilant for signals of increases in the proportion of XBB.1.5. Countries should therefore strengthen sentinel surveillance systems (primary care ILI/ARI and SARI) and continue to collect data on laboratory-confirmed cases (from non-sentinel sites) to maintain sensitive and representative testing and genomic surveillance with timely sequence reporting. Countries should continue to monitor COVID-19 case rates – especially in people aged 65 and older – and severity indicators such as hospitalisations, ICU admissions, ICU occupancy and death.

Improving COVID-19 vaccine uptake of the primary course and booster doses remains a priority for all eligible individuals who are not up to date with the recommended schedule, especially among population groups at higher risk of severe disease and in countries with lower vaccine uptake.

Countries are encouraged to perform and share results of field investigations and laboratory assessments with ECDC to improve understanding of the potential impacts on COVID-19 epidemiology, severity, effectiveness of public health and social measures, diagnostic methods, immune responses, antibody neutralisation, and other relevant characteristics.

Laboratories in countries that have cases of this variant are encouraged to pursue virus isolation and sharing of virus isolates with other laboratories if possible. Virus characterisation services are available through ECDC.

Public Health Emergency of International Concern (PHEIC):

On 30 January 2020, the World Health Organization (WHO) declared that the outbreak of COVID-19 constitutes 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, and thirteenth 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, and 13 October 2022 respectively. The Committee concluded during these meetings that the COVID-19 pandemic continues to constitute a PHEIC.

As of 20 June 2022, ECDC discontinued the data collection and publication of the number of COVID-19 cases and deaths worldwide. Please refer to the data reported by World Health Organization (WHO) on COVID-19 and WHO's Weekly Epidemiological Updates and Monthly Operational Updates page for non-EU/EEA countries.
For the latest COVID-19 country overviews, please see the dedicated web page.

ECDC assessment:

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

Actions:

On 27 January 2022, ECDC published its Rapid Risk Assessment, 'Assessment of the further spread and potential impact of the SARS-CoV-2 Omicron variant of concern in the EU/EEA, 19th update'.

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.

Further information:

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

Sources: China CDC, media, media, media, media, GISAID

Update

On 25 January 2023, the Chinese Center for Disease Control and Prevention (China CDC) published an epidemiological update on the ongoing COVID-19 situation. According to the update, COVID-19 positive tests showed an increasing trend from 8 December 2022 (when the testing policies changed and COVID-19 testing was no longer mandated in China) until the end of December 2022, followed by a decreasing trend in January 2023. COVID-19 consultations in clinics also increased in December showing a downward trend afterwards (end December 2022 – January 2023) with the same trends in urban and rural areas. Hospitalisations among new cases peaked in the beginning of January 2023, approximately two weeks after the peak reported among cases. The same pattern is reported for fatalities among hospitalised patients (peak in beginning of January 2023).

Information on variants from public sources

From 1 December 2022 to 27 January 2023, China has deposited 8 295 sequences, out of which 8 280 sequences have been deposited since 25 December 2022. As of 27 January 2023, out of the total of 8 295 sequences submitted from China, 5 604 had recent sample collection dates between 1 December 2022 and 27 January 2023 in GISAID EpiCoV. 6% of these sequences are reported local cases, 3% are imported cases and 91% are not reported as either local or imported. These sequences mainly belonged to the lineages (including their sub-lineages) BA.5.2 (65%), BF.7 (30%), BQ.1 (1.6%), BA.2.75 sub-lineages including BN.1, CH.1.1 and others (0.7%), and XBB (0.3%). No new variant has been detected.

On 4 January 2023, a statement was issued by the WHO Technical Advisory Group on Virus Evolution (TAG-VE) that met on 3 January 2023.

Summary

The number of COVID-19 cases has reached record levels in mainland China. There continues to be limited data on COVID-19 cases, hospital admissions, deaths and ICU capacity and occupancy in China. High levels of SARS-CoV-2 infections and increased pressure on healthcare services in China are anticipated due to low population immunity and the relaxation of non-pharmaceutical interventions. Projection models published by the Institute for Health Metrics and Evaluation at the University of Washington anticipate steep increases in infections, hospitalisations, and deaths through April 2023. However, in the absence of more detailed and timely data from official sources on epidemiological indicators and sequencing, the public health impact, and the size and severity of the current surge of COVID-19 cases are difficult to assess.

Assessment

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

Given the higher population immunity in the EU/EEA, and the fact that the variants currently circulating in China have already been circulating in the EU/EEA, the current surge in cases of these variants in China is not expected to have any significant impact on the COVID-19 epidemiological situation in the EU/EEA. There are currently no data suggesting the emergence of new variants of concern in China. The ECDC assessment is based on the information currently available. ECDC will revisit its assessments as new information becomes available.

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 the 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 as well as the WHO headquarters and the WHO Regional Office for Europe to cross-check and validate data and assessments with partners outside of China, including on 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 as well as worldwide will continue to be evaluated. ECDC participates in the global WHO Technical Advisory Group on Virus Evolution (TAG-VE).

3. C. diphtheriae among migrants – Europe – 2022 - 2023

Overview:

Summary: As of 24 January 2023, and since the last update on 17 January 2023, Austria reported two new cases of diphtheria.

Background: Since the beginning of 2022, and as of 24 January 2023, there have been 242 cases of diphtheria among migrants reported by eight EU/EEA countries: Austria (72), Belgium (25), France (14), Germany (116), Italy (2), the Netherlands (5), Norway (7) and Spain (1). Cases have also been reported in Switzerland (25) and the United Kingdom (73), bringing the overall number for Europe to 340.

Among these cases, more than two-thirds (69%) presented with an exclusively cutaneous form of the disease (n=237). A total of 54 cases had a respiratory presentation; of those, six cases had both respiratory and cutaneous presentations. Thirty cases were asymptomatic, and information was missing for 19 cases. All cases were caused by toxigenic C. diphtheriae, and the majority were detected in male migrants aged 8–49 years.

ECDC has no data indicating further transmission and outbreaks of C. diphtheriae in the broader EU/EEA population resulting from the increased number of diphtheria cases.

On 3 November 2022, a rapid communication published in Eurosurveillance reported two C. diphtheriae isolates in Switzerland possibly linked to the increase observed in the EU/EEA, and an unusually broad predicted resistance to common oral and parenteral antibiotics. According to the authors, these findings challenged the treatment options for bacterial co-infections in the wounds of the cases.

On 11 November 2022, the United Kingdom Health Security Agency (UKHSA) published updated guidelines on the public health control and management of diphtheria in England, followed by the publication of a supplementary guidance document (in December 2022) for cases and outbreaks in asylum-seeker accommodation settings.

On 17 November 2022, another rapid communication was published in Eurosurveillance, in which phenotypic and predicted resistance data from cases in Germany confirmed the predicted resistance profile observations from the two isolates in Switzerland.

On 1 December 2022, the UK HSA published 'Supplementary guidance for cases and outbreaks in asylum seeker accommodation settings', in which antimicrobial susceptibility testing of all C. diphtheriae isolates is recommended.

ECDC assessment:

Diphtheria is a rare disease in EU/EEA countries. According to WHO/UNICEF, immunisation coverage estimates for diphtheria tetanus toxoid and pertussis (DTP3) in 2021 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 if more than 10 years have passed since the last dose. The occurrence of the disease in fully vaccinated individuals is very rare.

The increase in cases reported among this group and the recent occurrence of similar outbreaks 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 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.

In exposed unvaccinated or immunosuppressed people in migrant centres, a severe outcome following a diphtheria infection is possible. Nevertheless, the impact of the disease for people with a completed course of diphtheria vaccination is considered to be low. Given the moderate probability of exposure and the potential individual impact as described above, the risk is considered to be moderate for unvaccinated or immunosuppressed people in migrant reception centres or other similar crowded settings in the EU/EEA, but low for fully vaccinated people in those settings.

The occurrence of isolates (in other European countries) showing a genomic profile suggestive of antimicrobial resistance similar to that observed in Switzerland and Germany cannot be ruled out. However, these findings are preliminary and more evidence would be needed before assessing the potential implications of these observations, including the adaptation of the currently recommended antibiotic treatment regimes. In view of these ongoing developments, ECDC recommends, as a precautionary measure, that antimicrobial susceptibility testing is performed on all C. diphtheriae isolates.

On 6 October 2022, ECDC published a Rapid Risk Assessment (RRA) on the increase of reported diphtheria cases among migrants in Europe due to Corynebacterium diphtheriae, stressing the importance of universal immunisation with diphtheria toxoid-containing vaccines. Options for responses recommended in this RRA included:

- Identification and vaccination of individuals residing in migrant centres who have incomplete vaccination status.
- Provision of information to migrant centres' health service providers for the rapid identification and isolation of possible cases pending diagnostic confirmation.
- Respiratory droplet isolation of all confirmed or suspected cases with respiratory diphtheria.
- Contact precautions, such as avoiding contact with wounds and the dressing of wounds, for confirmed and suspected cases of cutaneous diphtheria.
- Isolation of all confirmed cases (respiratory and cutaneous presentation) until the elimination of the organism is demonstrated by two negative cultures obtained at least 24 hours apart after the completion of antimicrobial treatment.
- Identification of close contacts, including the personnel providing assistance, especially if they have performed procedures without appropriate personal protective equipment (PPE).
- Antimicrobial post-exposure prophylaxis and vaccination of incompletely vaccinated or unvaccinated close contacts.
- Alerting clinicians to the possibility of cutaneous and/or respiratory diphtheria among migrants and travellers returning from endemic areas.
- Collection of data on the country of origin and migratory route from all suspected diphtheria cases.
- Up-to-date vaccination status for all personnel working in reception centres for migrants.
- Limiting situations of overcrowding in migrant centres, verification of the availability of laboratory diagnostics in each country.
- Timely reporting to authorities of cases confirmed according to the EU case definition for diphtheria.
- Enhanced surveillance, including molecular typing and whole genome sequencing of patient isolates to improve the understanding and monitoring of transmission patterns.

Additional ECDC tools may be of relevance during outbreak investigation activities, such as, the 'Expert Opinion on the public health needs of irregular migrants, refugees or asylum seekers across the EU's southern

and south-eastern borders', the 'Handbook on implementing syndromic surveillance in migrant reception/detention centres and other refugee settings', and the 'Handbook on using the ECDC preparedness checklist tool to strengthen preparedness against communicable disease outbreaks at migrant reception/detention centres'.

Actions:

ECDC continues to monitor this event through its epidemic intelligence activities and will provide weekly updates. The latest information available can be found on EpiPulse.

On 6 October 2022, ECDC published a Rapid Risk Assessment (RRA) on the increase of reported diphtheria cases among migrants in Europe due to Corynebacterium diphtheriae. The conclusions and options for response proposed in this RRA remain valid for this event. Additionally, on 5 December 2022, ECDC published an epidemiological update on the 'Increase of reported diphtheria cases among migrants in Europe due to Corynebacterium diphtheriae, 2022'.

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

Overview:

Week 3, 2023 (16 January – 22 January 2023)

- The percentage of 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 above the epidemic threshold (10%) and remained stable at 22% from 23% in the previous week.
- Out of 38 countries or areas, 31 reported high or very-high intensity and/or widespread activity indicating high seasonal influenza virus circulation across the region.
- Belgium, Finland, the Netherlands, Romania, Slovenia and Kosovo (in accordance with UN Security Council Resolution 1244 (1999)) reported seasonal influenza activity above 40% positivity in sentinel primary care.
- Both influenza types A and B viruses were detected with A(H1)pdm09 viruses dominating in both sentinel and non-sentinel surveillance systems.
- Hospitalised patients with confirmed influenza virus infection were reported from ICU, other wards (with mainly influenza type A unsubtyped viruses reported) and SARI surveillance (with mainly influenza A(H1)pdm09 subtype viruses reported). Nine countries or areas reported influenza positivity rates above 10% in SARI surveillance.

Source: Flu News Europe

ECDC assessment:

Seasonal influenza activity is still widespread in the EU/EEA with overall decreasing intensity and positivity in sentinel specimens. Some countries in the south-eastern part are still experiencing high virus circulation. Influenza activity has peaked in week 51, 2022 in the EU/EEA.

Actions:

ECDC and WHO monitor influenza activity in the WHO European Region. Data are available on the Flu News Europe website.

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

Overview:

Chikungunya virus disease: In 2022, and up to 31 December 2022, 383 357 cases of chikungunya virus disease and 76 deaths have been reported. The majority of cases have been reported from Brazil (265 289), India (108 957), Paraguay (2 443), Guatemala (1 933) and Thailand (1 370). Deaths have been reported from Brazil (75) and Kenya (1). Since the previous CDTR published on week 51 2022, 20 151 new cases have been reported, with no new deaths. The five countries reporting most new cases are Brazil (17 752), Paraguay (1 507), Thailand (261), Peru (244), and Guatemala (133).

Dengue: In 2022, and up to 31 December 2022, 4 110 465 cases of dengue and 4 099 deaths have been reported. The majority of cases have been reported from Brazil (2 363 490), Vietnam (367 729), the Philippines (220 705), Indonesia (125 888) and India (110 473). The majority of deaths have been reported from Indonesia (1 082), Brazil (991), the Philippines (722), Vietnam (140), and India (86). Since the previous CDTR published on week 51 2022, 344 312 new cases and 517 new deaths have been reported. The five countries reporting most new cases are Brazil (181 261), Vietnam (42 125), Indonesia (31 533), the Philippines (19 196) and Sri Lanka (5 956). The five countries reporting most new deaths are Indonesia (229), the Philippines (66), Brazil (62), Somalia (29), and Vietnam (28).

In the EU and as of 31 December 2022, 65 autochthonous cases of dengue have been reported in France.

Chikungunya virus disease

Europe

No autochthonous cases of chikungunya virus disease have been reported in Europe in 2022.

Americas and the Caribbean

In 2022, and up to 31 December 2022, the WHO Pan American Health Organization (PAHO) reported 271 006 cases of chikungunya virus disease and 75 associated deaths, in the Americas. The five countries reporting most cases are: Brazil (265 289), Paraguay (2 443), Guatemala (1 933), Peru (595), and Bolivia (232). This is an increase of 19 790 cases since the last update. There have been no deaths since the last update.

Asia

India: In 2022 and as of 31 October 2022, 108 957 cases of chikungunya virus disease, including 5 320 confirmed cases and no deaths, have been reported.
Malaysia: In 2022 and as of 31 December 2022, 814 confirmed cases of chikungunya virus disease and no deaths have been reported. This is an increase of 51 confirmed cases since 10 December 2022.
The Philippines: In 2022 and as of 17 December 2022, 600 confirmed cases of chikungunya virus disease and no deaths have been reported. This is an increase of 49 confirmed cases since 12 November 2022.
Thailand: In 2022 and as of 31 December 2022, 1 370 cases of chikungunya virus disease and no deaths have been reported. This is an increase of 261 cases since 27 November 2022.

Africa

Ethiopia: In 2022 and as of 8 May 2022, 311 cases, including three confirmed cases of chikungunya virus disease and no deaths, have been reported.
Kenya: In 2022 and as of 11 December 2022, 291 cases, including five confirmed cases of chikungunya virus disease and one death, have been reported.
Sudan: In 2022 and as of 6 October 2022, eight cases of chikungunya virus disease and no deaths have been reported.

Australia and the Pacific

No autochthonous cases of chikungunya virus disease have been reported in 2022.

Dengue

France: In 2022, France has reported a total of nine outbreaks with 65 locally acquired cases of dengue. According to French authorities, all nine outbreaks are now considered over.

Americas and the Caribbean:

In 2022, and up to 31 December 2022, PAHO reported 2 803 567 cases of dengue and 1 289 associated deaths, in the Americas. The five countries reporting most cases are: Brazil (2 363 490), Nicaragua (97 541), Peru (72 851), Colombia (69 497), and Mexico (59 918). This is an increase of 217 114 cases and 107 deaths since the last update.

All four dengue virus serotypes (DENV-1, DENV-2, DENV-3, and DENV-4) are currently circulating in the Americas. The figures for each country of the Region of the Americas can be found on the PAHO Health Information Platform.

In the French Antilles from 1 January and up to 15 December 2022, confirmed cases of dengue were reported from Guadeloupe (35), Martinique (10), and Saint-Martin (1). In Guadeloupe, the number of suspected and confirmed cases has increased sharply since October 2022, with a total of 850 suspected cases and 35 confirmed cases up to 15 December 2022. This is an increase of 170 suspected cases and 12 confirmed cases since 30 November 2022.

Asia:
Afghanistan: From 1 January 2022 and as of 31 December 2022, 1 266 cases of dengue and two deaths have been reported. This is an increase of 210 cases since 26 November 2022.

Bangladesh: From 1 January 2022 and as of 31 December 2022, a total of 82 743 confirmed cases of dengue and 302 deaths have been reported by the country's Ministry of Health and the WHO. This is an increase of 1 679 confirmed cases and 10 deaths since 17 December 2022.

Cambodia: From 1 January 2022 and as of 17 December 2022, 12 591 cases of dengue and 19 deaths have been reported. This is an increase of 872 cases and three deaths since 29 October 2022.

China: From 1 January 2022 and as of 30 November 2022, 537 cases of dengue and no deaths have been reported. This is an increase of 528 cases since 31 August 2022.

India: From 1 January 2022 and as of 31 October 2022, 110 473 cases of dengue and 86 deaths have been reported.

Indonesia: From 1 January 2022 and as of 31 December 2022, 125 888 cases of dengue and 1 082 deaths have been reported. This is an increase of 31 533 cases and 229 cases since 1 October 2022.

Laos: From 1 January 2022 and as of 31 December 2022, 32 364 cases of dengue and 28 deaths have been reported. This is an increase of 2 279 cases since 26 November 2022.

Malaysia: From 1 January and as of 24 December 2022, 64 078 cases of dengue and 50 deaths have been reported. This is an increase of 5 839 cases and 11 deaths since 3 December 2022.

Maldives: From 1 January 2022 and as of 31 December 2022, 2 705 cases of dengue and no deaths have been reported. This is an increase of 337 cases since 30 November 2022.

Nepal: From 1 January 2022 and as of 31 December 2022, 54 784 cases of dengue and 88 deaths have been reported. This is an increase of 552 cases and 21 deaths since 11 December 2022.

Oman: In 2022 and as of 22 May 2022, 127 cases of dengue and no deaths have been reported.

Pakistan: From 1 January 2022 and as of 27 December 2022, 78 554 cases of dengue and 149 deaths have been reported. This is an increase of 2 344 cases and 13 deaths since 5 December 2022.

The Philippines: From 1 January 2022 and as of 17 December 2022, 220 705 cases of dengue and 722 deaths have been reported. This is an increase of 19 196 cases and 66 deaths since 12 November 2022.

Singapore: From 1 January 2022 and as of 31 December 2022, 31 883 cases of dengue have been reported. A total of 13 deaths has been reported from 1 January to 30 September 2022 by the country's National Environment Agency.

Sri Lanka: From 1 January 2022 and as of 31 December 2022, 65 933 cases of dengue have been reported. This is an increase of 6 016 cases since 16 December 2022.

Taiwan: From 1 January 2022 and as of 31 December 2022, 20 cases of dengue and no deaths have been reported.

Thailand: From 1 January 2022 and as of 31 December 2022, 33 489 cases of dengue and one death have been reported. This is an increase of 4 264 cases and one death since 29 November 2022.

Timor-Leste: From 1 January 2022 and as of 31 December 2022, 5 624 cases of dengue and 57 deaths have been reported. This is an increase of 144 cases since 21 October 2022.

Vietnam: From 1 January 2022 and as of 31 December 2022, 367 729 cases of dengue and 140 deaths have been reported. This is an increase of 42 125 cases and nine deaths since 26 November 2022.

Africa:
Côte d'Ivoire: From 1 January 2022 and as of 30 September 2022, 380 cases of dengue and three deaths have been reported.

Kenya: In 2022 and as of 28 April 2022, 34 cases, including 32 confirmed cases of dengue and no deaths, have been reported.

Réunion: From 1 January 2022 and as of 25 December 2022, 1 212 confirmed cases of dengue and two deaths have been reported. This is an increase of 23 cases since 3 December 2022.

São Tomé and Príncipe: From 15 April 2022 and as of 1 January 2023, 1 161 confirmed cases of dengue and eight deaths have been reported. This is an increase of 24 confirmed cases and two deaths since 27 November 2022.

Senegal: From 1 January 2022 and as of 3 January 2023, 238 confirmed cases of dengue and no deaths have been reported. This is an increase of 92 confirmed cases since 4 December 2022.

Somalia: In 2022 and as of 30 September 2022, 5 350 cases of dengue and 29 deaths have been reported.

Sudan: From 1 January 2022 and as of 30 November 2022, 4 800 cases of dengue, including 600 confirmed cases and 29 deaths have been reported.

Australia and the Pacific:

Australia: From 1 January 2022 and as of 31 December 2022, 407 cases of dengue and no deaths have been reported. This is an increase of 26 cases since 17 December 2022.

Cook Islands: In 2022 and as of 19 November 2022, three cases of dengue and no deaths have been reported.

Fiji: In 2022 and as of 16 May 2022, 1 960 cases of dengue and no deaths have been reported.

Micronesia (Federated States of Micronesia): In 2022 and as of 19 November 2022, 22 cases of dengue and no deaths have been reported.

New Caledonia: In 2022 and as of 30 November 2022, one confirmed case of dengue and no deaths have been reported.

Palau: In 2022 and as of 19 November 2022, 38 cases of dengue and no deaths have been reported.

Samoa: In 2022 and as of 19 November 2022, 107 cases of dengue and no deaths have been reported.

Solomon Islands: In 2022 and as of 6 October 2022, 34 cases of dengue and no deaths have been reported.

Vanuatu: From 1 January 2022 and as of 19 November 2022, 148 cases of dengue and no deaths have been reported.

Wallis and Futuna: From 1 January 2022 and as of as of 12 November 2022, 72 cases of dengue have been reported.

Disclaimer
N.B: 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, should be avoided, due to various reasons, including under-reporting, variations in

surveillance system structures, varying case definitions between countries over time, and use of syndromic definitions.

ECDC assessment:

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

The likelihood for onward transmission of dengue and chikungunya virus disease in mainland EU/EEA is, among other things, linked to importation of the virus by viraemic travellers into receptive areas with established and active competent vectors (e.g. Aedes albopictus). Aedes albopictus is established in a large part of Europe. The current likelihood of the occurrence of local transmission events of the chikungunya and dengue viruses in mainland EU/EEA is very low, as the environmental conditions are not favourable to vector activity and virus replication. All autochthonous outbreaks of chikungunya virus disease and dengue in mainland EU/EEA have so far occurred between June and November.

The occurrence of the nine outbreaks in France, including a cluster of over 30 cases, has been unusual. Previously, all dengue clusters in Europe were of limited size (up to 10 cases). According to French authorities, all nine outbreaks are now considered to be over.

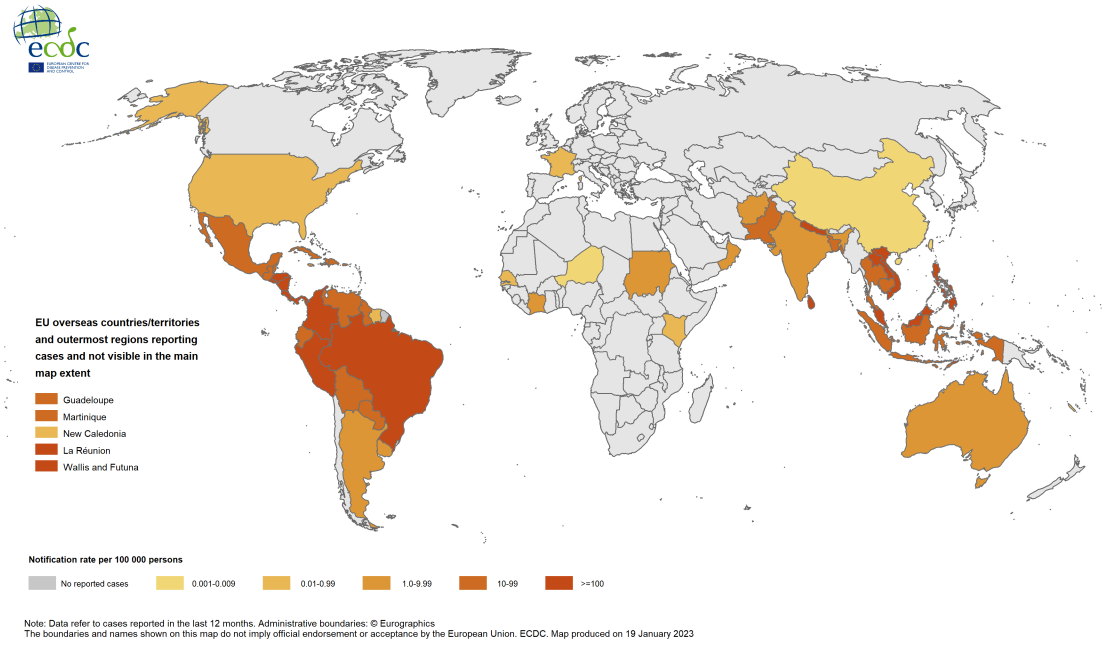
More information is available on ECDC's webpages on autochthonous transmission of chikungunya and dengue virus in the EU/EEA, as well as on ECDC's factsheets on dengue and chikungunya.

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 chikungunya virus disease is available on ECDC's website.

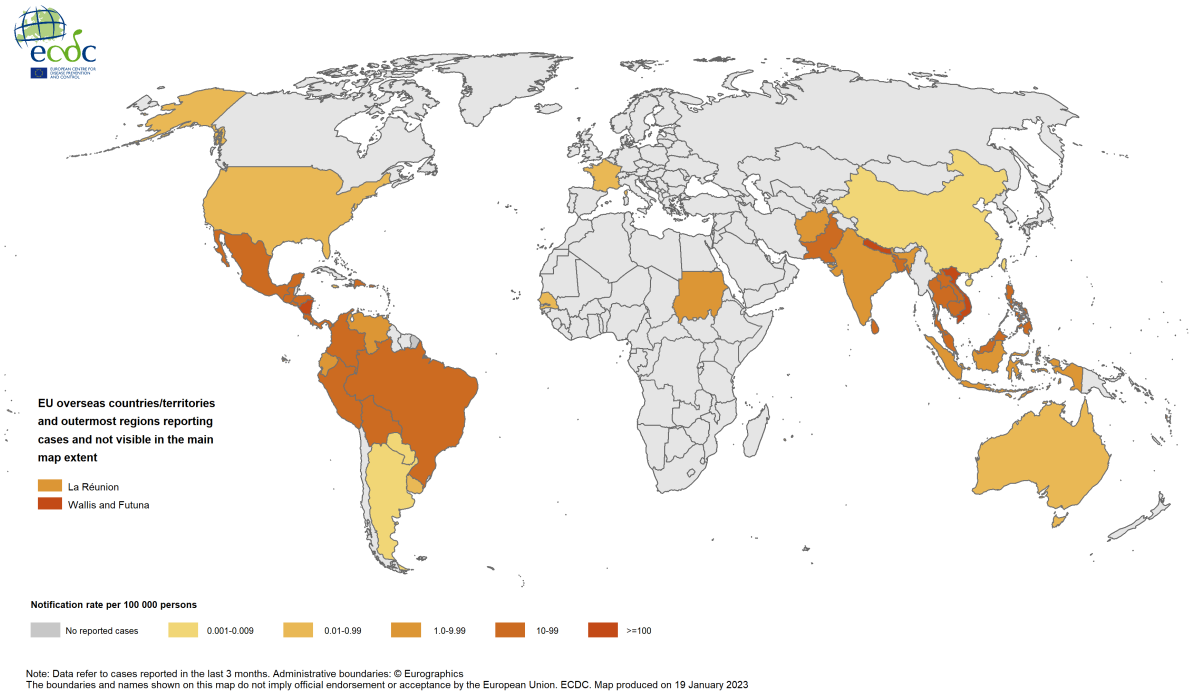
Maps and graphs

Figure 1. 12-month dengue case notification rate per 100 000 population, January–December 2022



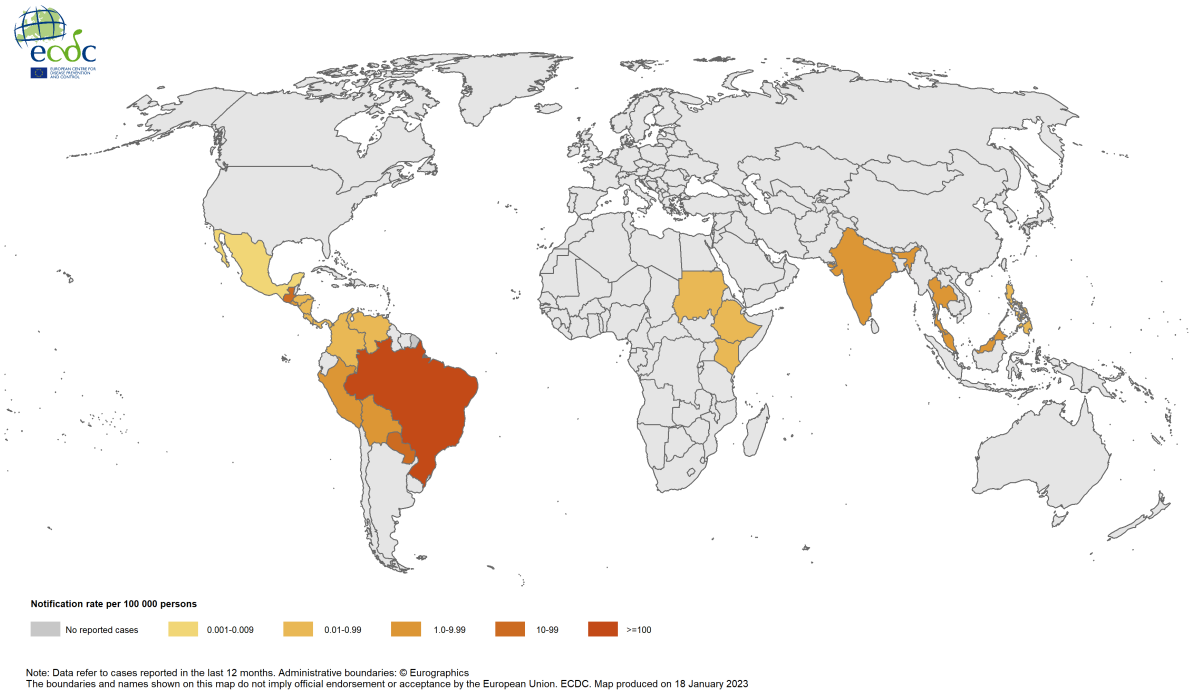
Source: ECDC

Figure 2. Three-month dengue case notification rate per 100 000 population, October–December 2022



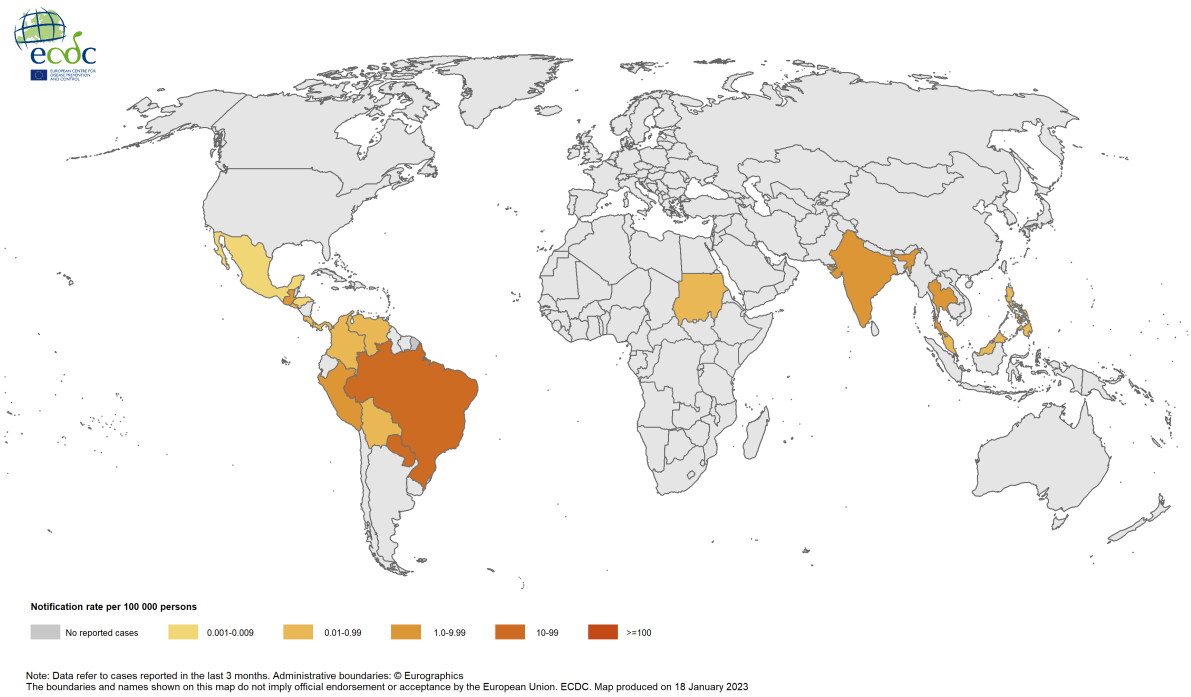
Source: ECDC

Figure 3. 12-month chikungunya virus disease case notification rate per 100 000 population, January–December 2022



Source: ECDC

Figure 4. Three-month chikungunya virus disease case notification rate per 100 000 population, October–December 2022



Source: ECDC

6. 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. The Emergency Committee under the International Health Regulations (2005) stated that the risk of the international spread of poliovirus remains a PHEIC. On 12 October 2022, the 33rd meeting of the Polio IHR Emergency Committee was held to discuss the international spread of poliovirus.

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

Update:

Since 13 December 2022 and as of 24 January 2023, the following cases of polio have been reported with the date of onset of symptom in 2022:
Wild poliovirus (WPV1):

- No new cases of AFP caused by WPV1 have been reported.

Circulating vaccine-derived poliovirus (cVDPV):

- Thirty-eight new cases of acute flaccid paralysis (AFP) caused by cVDPV1 have been reported from the Democratic Republic of the Congo (DRC) (36), Mozambique (1), and Malawi (1).
- Since the last update, new countries reporting AFP cases due to cVDPV2 were: Cameroon (2) and Sudan(1). Fifty-nine new cases of AFP due to cVDPV2 have been reported in 2022 from 10 countries: DRC (45), Chad (5), Cameroon (2), Nigeria (1), Central African Republic (1), Niger (1), Algeria (1), Yemen (1), Somalia (1), and Sudan (1).
- No new cases of AFP due to cVDPV3 have been reported.

No cases of AFP due to poliovirus have been reported in 2023.

Summary:

Wild poliovirus:
In 2022, and as of 24 January 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 (8). One associated death has been reported in Pakistan.

Circulating vaccine-derived poliovirus (cVDPV):
In 2022, and as of 24 January 2023, 120 cases of AFP caused by cVDPV1 have been reported from DRC (484), Mozambique (19), Madagascar (13), and Malawi (4).

Overall, 535 cases of AFP caused by cVDPV2 have been reported from 18 countries: DRC (255), Yemen (159), Nigeria (43), Chad (27), Niger (14), Benin (10), Somalia (5), Mozambique (4), Central African Republic (4), Ghana (3), Togo (2), Algeria (2), Cameroon (2), Sudan(1), Ethiopia (1), Eritrea (1), Indonesia (1), and the United States of America (1).

One case of AFP caused by cVDPV3 has been reported from Israel.

Sources: Global Polio Eradication Initiative | ECDC | ECDC Polio interactive map | 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. Two EU/EEA countries (Poland and Romania) and one neighbouring country (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 September 2021, referring to data from 2020. According to the same report, 11 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 worrying 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 an interactive map showing countries that are still endemic for polio and have ongoing outbreaks of cVDPV.

7. Circulating vaccine-derived poliovirus type 2 detection - Canada - 2022

Overview:

Update: According to the Global Polio Eradication Initiative (GPEI), the previously reported environmental samples that tested positive for vaccine-derived polio virus type 2 (VDPV2) collected in Montreal, Canada on 27 August and 8 September 2022 are genetically related to the circulating VDPV2 of an acute flaccid paralysis (AFP) case from the Rockland County and polioviruses found in environmental samples collected from several New York State counties between May and December 2022.

Summary: On 23 December 2022, the World Health Organization (WHO) and the Canadian authorities reported a detection of VDPV2 in two wastewater samples collected in August 2022. The National Microbiology Laboratory of Canada (NML) retrospectively analysed the wastewater samples and detected two samples which were positive for VDPV2: (i) one environmental sample collected on 27 August 2022, from a wastewater treatment plant, with eight nucleotides different from the VP1 region of Sabin-like type 2 poliovirus; and (ii) one environmental sample collected on 30 August 2022 at a sampling site, with six nucleotides of difference to Sabin-like type 2 poliovirus. All other samples (n=23) tested negative for poliovirus detection.

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. Based on the lack of evidence of circulation of this VDPV2 after summer 2022, the risk for the importation of cVDPV2 from Canada to the EU/EEA related to this event is very low.

According to WHO, given the high level of vaccination coverage and robust surveillance system in Canada, the risk of further spread is likely to be low.

To limit the risk of reintroduction and sustained transmission of wild types of poliovirus (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 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 or long-term visitors (>4 weeks) in 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.

Actions:

Local and national public health authorities are continuing to monitor the situation, and – while Canada has overall high national vaccination coverage – conducting analyses to identify any potential subnational vaccination coverage gaps.