WEEKLY BULLETIN

Communicable Disease Threats Report

Week 22, 25 - 31 May 2024

This week's topics

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Executive Summary

Highly pathogenic avian influenza A(H5N1) in cattle and related human cases – United States – 2024

- A third human case of highly pathogenic avian influenza (HPAI) A(H5) associated with the ongoing multi-state outbreak of A(H5N1) in dairy cattle in United States was reported on 30 May 2024 in the state of Michigan.
- As of 31 May 2024, there have been three human cases of avian influenza A(H5N1) reported in workers at dairy farms with infected cows. The viruses isolated from the first two cases belonged to HA clade 2.3.4.4b, genotype B3.13, whereas the results of genomic analysis are pending for the third case.
- To date, routine population-based surveillance has not detected any increase in community rates of respiratory infections.
- Viral particles of highly pathogenic avian influenza A(H5N1) have been detected in tissue samples, including muscle, from a cull dairy cow on post-mortem inspection. No meat from the dairy cow has entered the food supply.☐

- The outbreak of highly pathogenic avian influenza (HPAI) A(H5N1) in cattle is still ongoing, with 69 farms affected across nine states of the United States as of 30 May 2024.

Overview of respiratory virus epidemiology in the EU/EEA - weekly monitoring

- Syndromic surveillance in primary and secondary care indicates that respiratory activity has returned to baseline levels in EU/EEA countries.
- **SARS-CoV-2 activity remained low in most reporting EU/EEA countries, but individual countries showed increased activity in primary and secondary care.**
- The pooled SARS-CoV-2 test positivity in primary care systems has increased to 8% after a long period of low activity.
- A four-week increase in SARI test positivity was observed in the age group 65 years and above with a pooled test positivity of 10% for the current reporting week.
- Non-sentinel surveillance mirrors the trend seen in the sentinel system, with seven countries reporting increases in test positivity.
- Seasonal influenza activity at the EU/EEA level remained stable at low levels in almost all EU/EEA countries.
- Respiratory syncytial virus (RSV) activity remained low in all reporting EU/EEA countries.
- Due to a lower number of countries reporting in the reporting week and the overall low testing volumes in primary care sentinel sites, an assessment of the epidemiological situation for the EU/EEA is increasingly challenging and data should be interpreted with some caution.

Imported invasive meningococcal disease in travellers returning from the Kingdom of Saudi Arabia – Multi-country – 2024

- Between 23 April and 29 May 2024, 13 cases of invasive meningococcal disease (IMD), serogroup W have been reported from France (4), Norway (1), the United Kingdom (UK) (3), and the United States (US) (5). The cases are epidemiologically linked to religious practices in the Umrah zones in the Kingdom of Saudi Arabia (KSA).
- Whole genome sequences from the event deposited at pubmlst.org show that one sequence from France, four from the UK and one from the US, taken from samples collected in 2024, form a very tight sub cluster.
- International spread of IMD associated with mass gatherings during pilgrimages in the KSA has been reported in the past.
- Vaccination against meningococcus is recommended for those travelling to KSA to perform Umrah and for Hajj pilgrims.

Mass gathering - Hajj - Kingdom of Saudi Arabia - 2024

- In 2024, the annual Islamic Hajj pilgrimage will take place in the Kingdom of Saudi Arabia between 14 and 19 June.
- ECDC will monitor this event through its epidemic intelligence for mass gathering activities between 10 and 26 June in collaboration with the Gulf CDC and the World Health Organization Regional Office for the Eastern Mediterranean (WHO EMRO).
- Weekly reporting is foreseen to take place in the Communicable Disease Threats Report (CDTR), and ad hoc reporting in case of a detected event or a public health threat.
- The probability of infection for EU/EEA citizens during Hajj is considered low if requirements and recommendations are followed. The probability and impact is considered moderate for people with underlying conditions, older people, and pregnant women.

Cholera – Comoros and Mayotte – 2024 – Weekly monitoring

- On 26 May, French health authorities reported a second death in Mayotte.
- In Mayotte, 28 new cholera cases were reported between 21 and 27 May 2024. Since 18 March and as of 27 May, 122 cholera cases and two deaths were reported in Mayotte.
- Given the identification of several autochthonous cases in Mayotte and the continued importation of cases from the ongoing outbreak in Comoros, the likelihood of further community transmission and the overall risk of cholera for the population in Mayotte remains high.
- In Comoros, since the last available update on 23 May and as of 30 May, 762 new cholera cases and five new deaths have been reported. As of 30 May 2024, 7 838 confirmed cholera cases and 125 deaths have been reported in the country.

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

- Since the beginning of 2024, approximately 240 000 chikungunya virus disease (CHIKVD) cases and 90 deaths have been reported worldwide. A total of 18 countries reported CHIKVD cases from the Americas (11), Asia (6), and Africa (1). No autochthonous cases of CHIKVD have been reported in Europe in 2024.
- Since the beginning of 2024, over seven million dengue cases and over 3 000 dengue-related deaths have been reported globally. No autochthonous dengue cases have yet been reported in Europe in 2024.
- The current likelihood of local transmission events of chikungunya and dengue viruses occurring in areas where the vector is present in mainland EU/EEA is low, as the environmental conditions are not yet favourable for vector activity and virus replication in vectors.
- Doctors in the EU/EEA should be aware of the increased risk of dengue among travellers from affected countries presenting with compatible symptoms in order to ensure prompt diagnosis and clinical management of cases.

Poliomyelitis – Multi-country – Monthly monitoring of global outbreaks

- In 2024, and as of 28 May, six cases of acute flaccid paralysis (AFP) due to wild poliovirus infection have been reported in Pakistan (3) and Afghanistan (3).
- In 2024, and as of 28 May, overall, 3 cases of AFP caused by cVDPV1 were reported form DRC (increase by 2 cases), and 58 cases of AFP caused by cVDPV2 were reported in 11 countries, an increase by 44 cases in the reporting period.

1. Highly pathogenic avian influenza A(H5N1) in cattle and related human cases – United States – 2024

Overview:

Update: A third human case of highly pathogenic avian influenza (HPAI) A(H5) associated with the ongoing multi-state outbreak of A(H5N1) in dairy cattle in United States has been reported by US CDC on 30 May 2024 in Michigan. The dairy farm worker had exposure to infected cows, suggesting probable cow-to-person transmission. Unlike the previous two cases, the patient reported upper respiratory tract symptoms including cough without fever, as well as eye discomfort with watery discharge. The patient received antiviral treatment (oseltamivir), is isolating at home, and their symptoms are resolving. Household contacts and other workers at the farm are being monitored, with no symptoms being reported so far. Household contacts have been offered oseltamivir. There is no indication of human-to-human transmission of A(H5N1) viruses at this time. The sequencing results for the influenza virus neuraminidase (the N in the subtype) as well as further genetic analysis is ongoing at US CDC.

Michigan Department of Health and Human Services further mentioned that neither of the two cases reported in Michigan were wearing full personal protective equipment (PPE). The case reported on 22 May 2024 developed eye symptoms after having milk splashed in their eye, highlighting the importance of appropriate PPE. Since the three reported cases had direct contact with infected cattle, the US CDC's current assessment of the human health risk of A(H5N1) to the general public in the United States does not change.

The United States' Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS) has detected viral particles of HPAI A(H5N1) in tissue samples, including muscle, from a cull dairy cow condemned (declared unfit for consumption) on post-mortem inspection due to signs of systemic disease. Dairy cattle slaughtered for beef production undergo routine inspection before and after slaughter by the FSIS. Meat from dairy cattle condemned at slaughter due to systemic disease do not enter the human food supply.

A study of ground beef inoculated with A(H5N1) suggested cooking burgers medium to well done (to a temperature of 63C to 71C) inactivated the virus, while cooking burgers to 49C (rare) also substantially inactivated the virus.

HPAI A(H5N1) virus has been detected in dairy cattle in several states in the United States (US). As of 30 May 2024, the USDA reports the detection of HPAI A(H5N1) in nine states, affecting 69 dairy farms/herds: Michigan (22), Texas (15), Idaho (10), New Mexico (8), Kansas (4), Colorado (4), South Dakota (4), North Carolina (1), and Ohio (1). The most recently reported detections were on 24 May 2024 in Idaho and Michigan. Markers of influenza A(H5) have also been detected in wastewater in Texas, United States (Tisza et al., 2024; Wolfe et al., 2024). Furthermore, cats fed unpasteurised milk and colostrum from affected cows developed systemic, fatal infection (Burrough et al., 2024).

HPAI A(H5N1) has also been reported in some other mammals in the United States, including goats and alpacas at farms with infected poultry. The virus genotype identified in the infected goats was different than the one identified in cattle (B3.13), while virus from the same genotype B3.13 infected the alpacas.

Genetic material of HPAI A(H5N1) has been detected in milk samples. Studies performed by US FDA have shown that pasteurisation inactivates HPAI in milk and dairy products, with no viable virus being detected following pasteurisation. For further information, please refer to the US FDA update. Samples of ground beef from states with affected dairy herds tested negative for HPAI A(H5N1) (USDA).

According to the CDC report, there are no signs of unusual influenza activity in people in affected states. As of 28 May 2024, there have been two human cases of avian influenza A(H5N1) reported in workers at dairy farms with infected cows.

On 1 April 2024, the first human case of HPAI A(H5N1) was reported in an individual who had prior exposure to dairy cattle presumed to be infected with HPAI A(H5N1) in Texas, US (US CDC). The virus isolated from this case belonged to the HA clade 2.3.4.4b of HPAI A(H5N1), genotype B3.13, and was closely related to the virus detected in dairy cattle in Texas. Genetic analysis revealed some changes in the virus sequence from the patient specimen compared to the viral sequences found in the cattle. The human genome displayed the PB2 E627K mutation, which is associated with viral adaptation to mammalian hosts. However, both the cattle and human sequences remain avian-like (i.e. retain their strong preference for avian and not mammalian receptors). Importantly, there were no markers identified that are known to be associated with resistance to influenza antiviral medications.

On 22 May 2024, the US CDC reported the second human infection with avian influenza A(H5) in a farm worker in Michigan, associated with an ongoing multi-state outbreak of A(H5N1) in dairy cows. The farm worker was being monitored because of their work exposure to A(H5N1) infected cattle. Similar to the previous human case of HPAI A(H5N1) reported on 1 April 2024 in Texas, the individual displayed conjunctivitis as their only symptom. Two specimens were collected from the dairy farm worker after reporting symptoms of conjunctivitis to the local health authorities. The nasal specimen tested negative, while a sample from the eye was confirmed positive for A(H5N1) at the CDC laboratory. According to genomic analysis performed by US CDC, the identified virus belonged to HA clade 2.3.4.4b, genotype B3.13 (GISAID ID: EPI_ISL_19162802). The genome of the virus was closely related to viruses found in dairy cattle, suggesting cow-to-human transmission. The E627K mutation observed in the PB2 segment of the virus from the Texas case was not present. The genome of the virus from the Michigan case did, however, have the PB2 M631L change, which is associated with viral adaptation to mammalian hosts and has been observed in 99% of virus sequences from dairy cows but only occasionally in birds. No markers of antiviral resistance were detected in the virus sequences from the Michigan case and the virus was closely related to existing HPAI A(H5N1) candidate vaccines.

ECDC assessment:

Based on available information, the World Health Organization, together with the Food and Agriculture Organization of the United Nations and the World Organisation for Animal Health assessed the overall public health risk posed by A(H5N1) to be low, and for those exposed to infected animals or contaminated

environments, the risk of infection is considered low-to-moderate. The US CDC has also stated that the overall threat of HPAI A(H5N1) clade 2.3.4.4b to the general public in the US remains low. However, individuals with close or prolonged exposure to infected animals or contaminated environments are considered at a greater risk of infection. The USDA and US FDA highlight that commercially produced milk is safe for consumers and recommend that milk from cattle with clinical signs of infection is removed from the human food chain.

In the latest joint ECDC/EFSA/EURL monitoring report, ECDC assessed the risk of infection from the circulating HPAI A(H5N1) clade 2.3.4.4b viruses as low for the general population and low-to-moderate for those with activities that expose them to infected animals or a contaminated environment (e.g. occupationally exposed to infected animals). To date, there have been no confirmed cases of A(H5N1) infection in humans in the EU/EEA. To date, there have been no reports of A(H5N1) infection in cattle in the EU/EEA. The genotype B3.13 identified in cattle and the human case in the US has not currently been detected in Europe. The current available evidence does not change the overall assessment of the risk for the EU/EEA population. ECDC is monitoring the situation together with partner organisations in Europe and will continue to update its assessment of the risk for humans in the EU/EEA accordingly as new information becomes available.

The EU Wastewater Observatory for Public Health has gathered information on ongoing wastewater surveillance for avian influenza in the EU, with 13 EU countries expressing interest for a coordinated approach. Twelve countries run preliminary studies that can be upgraded. Currently, HPAI A(H5N1) has not been detected in European (waste)waters.

Active monitoring and testing of exposed persons is recommended for early detection of human cases and to assess the possibility of human-to-human transmission, in addition to enhanced surveillance, according to the relevant ECDC guidance documents (Testing and detection of zoonotic influenza virus infections in humans; Investigation protocol of human cases of avian influenza virus; Enhanced surveillance of severe avian influenza virus infections in hospital settings). Given the uncertainties related to mammal-to-mammal transmission and according to the epidemiological situation, a low threshold for testing persons exposed to potentially infected mammals can be considered (for example symptomatic individuals with conjunctivitis or respiratory symptoms). Due to the higher risk of infection for individuals exposed to infected animals and contaminated environments, appropriate personal protective measures and other precautionary measures should always be taken to reduce the risk of infection.

ECDC relevant publications:

- Testing and detection of zoonotic influenza virus infections in humans in the EU/EEA, and occupational safety and health measures for those exposed at work
- Enhanced surveillance of severe avia influenza virus infections in hospital settings in the EU/EEA.
- Investigation protocol of human cases of avian influenza virus infections in the EU/EEA
- Joint ECDC-EFSA Drivers for a pandemic due to avian influenza and options for One Health mitigation measures

Actions:

ECDC is in contact with US Centers for Disease Control and Prevention (CDC) for further information and closely follows any updates on the event. ECDC monitors avian influenza strains through its influenza surveillance programme and epidemic intelligence activities in collaboration with the European Food Safety Authority (EFSA) and the EU Reference Laboratory for Avian Influenza in order to identify significant changes in the virological characteristics and epidemiology of the virus. Together with EFSA and the EU Reference Laboratory for Avian Influenza, ECDC produces a quarterly updated report of the avian influenza situation.

Last time this event was included in the Weekly CDTR: 24 May 2024

2. Overview of respiratory virus epidemiology in the EU/EEA - weekly monitoring

Overview:

Virus characterisation

Influenza for week 40, 2023 to week 21, 2024

- In the above period, 3 637 A(H1)pdm09, 1 407 A(H3) and 376 B/Victoria viruses from sentinel and non-sentinel sources were genetically characterised. Of the viruses that have been assigned to a clade:
- 3 637 were A(H1)pdm09 – 2 471 (68%) were subclade 5a.2a and 1 116 (31%) were subclade 5a.2a.1.
- 1 407 were A(H3) – 30 (2%) were subclade 2a, 10 (0.7%) were subclade 2a.3a, 1 363 (97%) were subclade 2a.3a.1 and one (0.1%) was subclade 2a.3b.
- 376 were B/Vic – all were subclade V1A.3a.2.

SARS-CoV-2variants for weeks 19–20 (12 May to 19 May 2024)

- The estimated distribution (median and IQR of proportions from four countries submitting at least 10 sequences) of variants of concern (VOCs) or variants of interest (VOIs) was:
- 94% (90–96%) for BA.2.86 (346 detections from four countries);
- 0% (0–0%) for XBB.1.5-like (zero detections from zero countries).

These estimates should be interpreted with caution as they are based on data from four countries, a result of the very low number of sequences deposited in recent weeks during a period of low SARS-CoV-2 transmission

ECDC assessment:

While seasonal influenza activity at the EU/EEA level continues to decrease, SARS-CoV-2 activity in both primary and secondary care has increased markedly following a period of very low activity. Taking into account the signs of an increase in SARS-CoV-2 activity, it remains essential to closely monitor the impact of SARS-CoV-2 and other respiratory viruses on hospital and ICU admissions.

Actions:

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

Further information:

- Short-term forecasts of influenza-like illness (ILI) and acute respiratory infection (ARI) rates in EU/EEA countries are published on ECDC's RespiCast.
- EuroMOMO is a weekly European mortality monitoring activity, aiming to detect and measure excess deaths related to seasonal influenza, pandemics and other public health threats.
- WHO recommends that trivalent vaccines for use during the 2023–2024 influenza season in the northern hemisphere contain the following (egg-based and cell culture or recombinant-based vaccines respectively): an A/Victoria/4897/2022 or A/Wisconsin/67/2022 (H1N1)pdm09-like virus (subclade 5a.2a.1); an A/Darwin/9/2021 or A/Darwin/6/2021 (H3N2)-like virus (clade 2a); and a B/Austria/1359417/2021 (B/Victoria lineage)-like virus (subclade V1A.3a.2).
- Antigenic characterisation data presented in the WHO 2024-2025 northern hemisphere vaccine composition report indicate current northern hemisphere vaccine components are well matched to circulating 5a.2a and 5a.2a.1 A(H1N1)pdm09 subclades and V1A.3a.2 B/Victoria subclades. While components also appear well matched for 2a.3a A(H3) clade viruses, 2a.3a.1 clade viruses are less well matched. Based on human post-vaccination serology studies, haemagglutination inhibition and virus neutralisation against some recent 2a.3a.1 viruses were significantly reduced for some serum panels.
- ECDC has published interim influenza vaccine effectiveness (VE) estimates for the 2023–2024 season. Analysis of data submitted from multi-country primary care and hospital study sites between September 2023 and January 2024 indicated that up to 53% and 44% of vaccinated individuals in primary care or hospital settings, respectively, were protected against mild and severe influenza.

Sources: ERVISS

Last time this event was included in the Weekly CDTR: 24 May 2024

Maps and graphs

Figure 1. Overview of key indicators of activity and severity in week 21

Indicator	Syndrome or pathogen	Reporting countries		EU/EEA summary		Comment
		Week 21	Week 20	Description	Value	
Primary care consultation rates	ARI	8 rates (6 MEM)	13 rates (10 MEM)	Distribution of country MEM categories	5 Baseline 1 Low	
	ILI	13 rates (13 MEM)	18 rates (18 MEM)		13 Baseline	
Primary care sentinel positivity	SARS-CoV-2	10	14	Pooled (median; IQR)	8.5% (2.6; 0.4–4.7%)	Several countries showed increasing trend in test positivity, with one country reporting 12% positivity.
	Influenza	9	13		3% (3.3; 1.6–5.4%)	Decreasing or stable trends were reported in almost all EU/EEA countries. Decreasing or stable trends were also observed in non-sentinel detections.
	RSV	11	12		0% (0; 0–0%)	Decreasing or stable trends continue to be observed at country level.
SARI consultation rates	SARI	7	10			
SARI positivity	SARS-CoV-2	5	9	Pooled (median; IQR)	7.1% (6.9; 3.4–17%)	Three countries showed an increasing trend in secondary care test positivity. In non-sentinel systems, one country reported increase in hospitalisations and one country report an increase in deaths in the 65 years and above group.
	Influenza	5	9		0.9% (0.5; 0–1%)	Decreasing or stable trend were observed at a country level.
	RSV	5	8		0.3% (0; 0–0%)	Stable trends continue to be observed at a country level.
Intensity (country-defined)	Influenza	17	23	Distribution of country qualitative categories	10 Baseline 6 Low 1 Medium	
Geographic spread (country-defined)	Influenza	16	22	Distribution of country qualitative categories	4 No activity 5 Sporadic 1 Local 5 Regional 1 Widespread	

Source: ECDC

Figure 2. Virological distribution for week 21 and the period week 25, 2023 to week 21, 2024

Pathogen or (sub-)type	Primary care sentinel						SARI sentinel						Non-sentinel			
	week 21			Period 2023-2024			week 21			Period 2023-2024			week 21		Period 2023-2024	
	n	%	positivity	n	%	positivity	n	%	positivity	n	%	positivity	n	%	n	%
Influenza	27	100	3%	15,165	100	15.2%	7	100	0.9%	7,119	100	12%	239	100	168,245	100
Influenza A (total)	7	26	0.8%	13,671	91	13.7%	3	100	0.4%	2,748	97	4.6%	121	53	153,220	95
A(H1)pdm09	3	(100)		9,040	(78)		1	(100)		1,277	(72)		9	(64)	24,972	(72)
A(H3)				2,543	(22)					506	(28)		5	(36)	9,784	(28)
A (unknown)	4			2,088			2			965			107		118,464	
Influenza B (total)	20	74	2.2%	1,411	9	1.4%				82	3	0.1%	108	47	7,691	5
B/Vic	9	(100)		777	(100)					4	(100)		4	(100)	1,512	(100)
B (unknown)	11			634						78			104		6,179	
Influenza untyped				83		0.1%	4		0.5%	4,289		7.2%	10		7,334	
RSV	0		0%	4,058		4.9%	2		0.3%	5,022		8.6%	27		64,880	
SARS-CoV-2	75		8.5%	10,600		11.2%	57		7.1%	7,555		12.6%	3,189		2,055,331	

Source: ECDC

3. Imported invasive meningococcal disease in travellers returning from the Kingdom of Saudi Arabia – Multi-country – 2024

Overview:

Summary

Thirteen cases of IMD have been reported in France (4), Norway (1), the UK (3), and the US (5) in recent weeks, all among travellers or contacts of travellers returning from the KSA, most of them belonging to meningococcus serogroup W.

France reported the first case on 23 April, with hospitalisation dates between 13 and 19 April and one further case on 17 May 2024.

Norway reported one case on 23 May with atypical symptoms with only fever and vomiting, rapid progression and a fatal outcome. The patient had no record of MenACWY vaccination. The case had not travelled to Saudi Arabia recently but had contact with persons in April 2024 who had done so. All close contacts were treated with ciprofloxacin according to national guidelines.

The UK reported three cases, diagnosed between 16 and 26 April, after their return from the Umrah pilgrimage. The isolates were sensitive to antibiotics. The patients had no record of MenACWY vaccination.

The US identified five cases, three of which were infected by *N. meningitidis* serogroup W and one by serogroup C. For the remaining case, the serotyping results are pending.

Whole genome sequences from the event deposited at pubmlst.org fall into a multi-country cluster with sequences from 2024 reported by France (3), the UK (4), and the US (1), in addition to historical isolates from Germany (one sequence, 2015) and the Russian Federation (two sequences, 2019 and 2020). Of these, one sequence from France, four from the UK and one from the US (all from samples collected in 2024), form a very tight sub cluster, which indicates an epidemiological link.

Background
International spread of IMD associated with mass gatherings accompanying Hajj/Umrah pilgrimages to the KSA has been documented before. However, since 2001, no outbreaks of IMD have been associated with pilgrimage.

IMD is an acute severe bacterial infection, with high case fatality, presenting with meningitis and/or sepsis, often with a rapid progression, requiring medical support and prompt treatment with antibiotics. The highest incidence occurs in young children, adolescents and young adults.

According to routine surveillance data submitted to ECDC, 1 149 IMD cases were reported in EU/EEA countries in 2022. Among cases with serotype information available, serogroup B was the most frequent (62%), whereas serogroup W accounted for 10% of cases. Overall, between 2018 and 2022, 1 096 cases of serogroup W infections were recorded. Meningococcus serogroup W has been associated with higher disease severity and case fatality.

ECDC assessment:

ECDC assesses the risk of IMD to the general public in the EU/EEA in connection with these imported cases as very low due to the very low probability of exposure and potential infection. For pilgrims visiting the Hajj and Umrah zones in KSA who are already vaccinated with the quadrivalent meningococcal vaccine, the likelihood of infection is low, as they are protected from the vaccine-induced immunity. For unvaccinated pilgrims, the likelihood of infection is higher, reaching the moderate level of risk.

ECDC recommends public health authorities in the EU/EEA to:

- Ensure that travellers to the Hajj and Umrah zones in KSA eligible for vaccination are counselled to receive the quadrivalent (ACWY) meningococcal vaccine at least 10 days before departure.
- Raise awareness among clinicians of the possibility of meningitis in returning travellers and include travel history in their assessment of IMD cases, particularly as regards travelling to KSA for religious purposes. ECDC has published guidance on meningococcal disease where case management and treatment is described.
- Appropriately manage newly detected cases. Early suspicion and treatment, isolation of meningitis cases, identification of close contacts, provision of chemoprophylaxis, and monitoring of close contacts for clinical symptoms for at least 10 days from the latest possible exposure are essential for the management of cases. Healthcare workers managing suspected or confirmed cases should follow their national infection, prevention and control protocols.

- Continue surveillance, including molecular surveillance, as well as antibiotic susceptibility testing of all IMD cases, to inform prevention and control measures. IMD cases, particularly if linked to travel to the Hajj and Umrah zones, should be promptly reported to the EpiPulse platform (through nominated persons) to allow better risk assessment and the provision of updated recommendations.

Furthermore, meningococcal isolates should be genotyped by whole genome sequencing and reported to pubmlst.org or to the European Meningococcal Epidemiology in Real Time database (EMERT-II) in order to allow for the rapid identification and control of multinational clusters. ECDC can provide sequencing support upon request.

Actions:

ECDC will monitor this event through epidemic intelligence activities and is in contact with relevant partners.
In addition, ECDC performs routine genomic surveillance for IMD and encourages real-time submission of isolates from country experts, including when possibly linked to this event.

Last time this event was included in the Weekly CDTR: 17 May 2024

4. Mass gathering - Hajj - Kingdom of Saudi Arabia - 2024

Overview:

This year, the annual Islamic Hajj pilgrimage will take place in the Kingdom of Saudi Arabia (KSA) between 14 and 19 June. Pilgrims aged 12 years and above are allowed to attend the pilgrimage. Over two million pilgrims are expected to attend Hajj from all over the world, including from 24 EU/EEA countries.

In recent weeks, 13 cases of invasive meningococcal disease (IMD) serogroup W have been reported in France (4), the United Kingdom (3), the United States (5) and Norway (1), all among travellers or contacts of travellers returning from Umrah pilgrimage in KSA. Travellers eligible for vaccination should be counselled to receive the quadrivalent (ACWY) meningococcal vaccine at least 10 days before departure. Please refer to the ECDC weekly CDTR w20 for further information.

On 29 April 2024, the first MERS-CoV fatality was reported in the Kingdom of Saudi Arabia. Since April 2021, overall 2 610 laboratory-confirmed cases of MERS-CoV have been reported, including 940 deaths (CFR: 40%) in 12 countries.

The Ministry of Health of Saudi Arabia issued a list of requirements for 2024 Hajj and Umrah pilgrims, which includes vaccination requirement with quadrivalent meningococcal vaccine (ACYW) polysaccharide vaccine 10 days prior to arrival and should not exceed three years. Quadrivalent (ACYW) conjugated vaccine within the last five years, and at least 10 days prior to arrival).

In addition, since it is a densely populated event and there is a heightened risk of respiratory infectious diseases, KSA MoH recommends to:

- wear regular face masks when in crowded places;
- wash hands frequently, with soap and water or a disinfectant, especially after coughing, sneezing, after using toilets, before handling and consuming food, and after touching animals;
- use disposable tissues when coughing or sneezing and dispose of used tissues in wastebaskets;
- avoid contact with those who appear ill and avoid sharing personal belongings;
- avoid visits and contact with camels in farms, markets, or barns;
- avoid drinking unpasteurised milk or eating raw meat or animal products that have not been thoroughly cooked, as well as applying measures to avoid insect bites during the day and night.

Authorities in Saudi Arabia do not permit entry of food with arriving travellers for Hajj except in properly canned or sealed containers. Travellers arriving to Hajj areas for Hajj, seasonal work or other purposes are recommended to observe the following:

- wash hands before and after eating and after going to the toilet;
- clean and wash fresh vegetables and fruit;
- cook food thoroughly and store at safe temperatures;

- keep raw and cooked food separated.

Pilgrims are recommended to take necessary measures to avoid mosquito bites during the day and evening, which include:

- wearing protective clothing (preferably light-coloured) that covers as much of the body as possible;
- using physical barriers such as window screens and closed doors;
- applying insect repellent (as per the label instructions on the product) to skin or clothing that contains DEET, IR3535 or Icaridin.

ECDC assessment:

ECDC assesses the risk of IMD to the general public in the EU/EEA in connection with these imported cases as very low due to the very low probability of exposure and potential infection. For pilgrims visiting the Hajj and Umrah zones in KSA who are already vaccinated with the quadrivalent meningococcal vaccine, the likelihood of infection is low, as they are protected from the vaccine-induced immunity. For unvaccinated pilgrims, the likelihood of infection is higher, reaching the moderate level of risk.

The probability of infection to the EU/EEA citizens with communicable diseases during the 2024 Hajj is considered to be low, due to the vaccination requirements for travelling to Mecca and Medina and the preparedness plans by Saudi Arabia that address the management of health hazards before, during, and after Hajj. The risk of infection is considered to be moderate for people with underlying conditions, the elderly, and pregnant women, with a moderate probability of infection and moderate impact. As with other mass gathering events, the risk of communicable disease outbreaks is highest for respiratory, food-, waterborne, and vector-borne diseases.

The risk of vaccine-preventable and vector-borne diseases is considered low if preventive measures are applied. A risk of infection and importation of cases to Europe after Hajj remains.

ECDC published a rapid risk assessment on Hajj on 2 July 2019. The risks and advice to pilgrims attending Hajj remain valid for this year.

Actions:

ECDC will monitor this event through its epidemic intelligence for mass gathering activities between 10 and 26 June 2024 in collaboration with the World Health Organization Regional Office for the Eastern Mediterranean (WHO/EMRO), and including weekly updates in the Communicable Disease Threats Report (CDTR).

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

5. Cholera – Comoros and Mayotte – 2024 – Weekly monitoring

Overview:

Update

On 26 May, French health authorities reported a death in Cavani, a neighbourhood in the city of Mamoudzou. In accordance with the cholera control protocol, the intervention teams went to the site to disinfect the housing and take care of the contacts.

Since the previous update on 21 May and as of 27 May, French health authorities have reported 28 new cholera cases.

Since 18 March and as of 21 May, 122 cholera cases have been reported in Mayotte, including two deaths. According to the ARS Mayotte's bulletin, a total of 702 contacts of the cases have received antibiotic chemoprophylaxis and 5 458 contacts have been vaccinated.

Further information on the case definition and close contacts is available on the Prefect of Mayotte website.

Since the last update on 23 May and as of 30 May, Comoros health authorities have reported 762 new cholera cases and five new deaths. Since the outbreak was declared on 2 February 2024 in the Union of the Comoros, and as of 30 May, a total of 7 838 cases and 125 deaths have been reported on the three islands. In all, 7 460 cases have recovered.

Summary
On 31 January 2024, a boat from Tanzania carrying 25 people arrived in Moroni, the capital of the Comoros archipelago. One person on board died of suspected cholera and several others were symptomatic. The Comoros Ministry of Health declared a cholera outbreak on 2 February. The first locally transmitted cases in Comoros were reported on 5 February in Moroni. Cholera cases were also detected in Moheli and Anjouan by the end of February and the first week of March.

Following the increase in cholera cases in Comoros during February, the Mayotte Regional Health Agency (ARS Mayotte) announced that health surveillance capacities would be strengthened on the island, including risk communication for health professionals and passengers. The first imported cholera case was detected in Mayotte on 18 March.

Background
There is frequent undocumented population movement between the Comoros archipelago and the French territory of Mayotte. No cholera cases had been reported in Mayotte since 2000.

Cholera is a bacterial disease caused by the bacterium *Vibrio cholerae*. The main risk factors are associated with poor water, sanitation and hygiene practices. Several countries in eastern and southern Africa are currently responding to cholera outbreaks. Response efforts are constrained by global shortages of cholera vaccines.

ECDC assessment:

Given the detection of several autochthonous cases of cholera in Mayotte, ECDC assesses the likelihood of further community transmission of cholera in Mayotte as high. The impact of the cholera outbreak in Mayotte is considered to be high. The overall risk of cholera for the population in Mayotte is therefore assessed as high.

Early detection and response activities are essential and have been reinforced in the French territory of Mayotte, as well as increasing awareness among healthcare workers and at points of entry.

Actions:

ECDC is in contact with French authorities and relevant partners and is monitoring the situation through its epidemic intelligence activities.

Last time this event was included in the Weekly CDTR: 24 May 2024

6. Chikungunya and dengue – Multi-country (World) – Monitoring global outbreaks - Monthly update

Overview:

Chikungunya virus disease (CHIKVD)

In 2024 and as of 30 of April, approximately 240 000 CHIKVD cases and over 90 deaths have been reported worldwide. A total of 18 countries reported CHIKVD cases from the Americas (11), Asia (6), and Africa (1). No new countries reported CHIKVD cases in April.

The majority of countries reporting a high CHIKVD burden are in South and Central America. Among these, countries reporting the highest number of cases are Brazil (243 024), Paraguay (3 121),

Argentina (382), and Bolivia (268). Additional countries in the Americas reporting CHIKVD cases are listed on PAHO's dedicated website.

Outside of the Americas, CHIKVD cases were reported in Asia from Thailand (208), India (195), Timor-Leste (195), The Maldives (182), Pakistan (38), and Malaysia (13). One African country reported CHIKVD cases in 2024: Senegal (6).
No autochthonous cases of CHIKVD have been reported in Europe in 2024.

CHIKVD associated deaths were reported from Brazil (99).

Updates from selected countries
An outbreak of CHIKVD is ongoing in the Maldives since March 2024. Since the start of the outbreak and as of 30 April, 182 CHIKVD cases have been reported in the country. The majority of cases have been reported from Malé and Hulhumalé, the most populated islands of the archipelago.

In 2006, the first ever outbreak of CHIKVD was reported in the Maldives. Since then, sporadic cases of CHIKVD have been reported in the archipelago and among travellers returning to the EU/EEA. The last large documented outbreak of CHIKVD cases in the Maldives happened in 2019. During this outbreak, CHIKVD cases were detected in the EU/EEA among returning travellers. Between February 2019 and February 2020, eight cases of CHIKVD were imported into the EU/EEA among travellers returning from the Maldives, corresponding with the period of the last documented outbreak in the archipelago.

Dengue

Since the beginning of 2024, over 7.5 million dengue cases and over 3 000 dengue-related deaths have been reported from 73 countries/territories. Most cases globally have been reported from the WHO PAHO region, with Brazil reporting most cases (over 6 million, WHO/PAHO Situation Report for week 27, 2024).

In mainland Europe, imported cases from endemic areas have been reported in 2024 but no autochthonous cases have been reported so far.

The French outermost regions Guadeloupe and Martinique continue facing an epidemic classified as in phase 4 and level 1, but a decreasing trend in cases has been reported the past month (mid-April to mid-May). In Saint-Martin, dengue circulation continues, but at lower levels with sporadic cases reported. (Bulletin de surveillance de la dengue - point épidémiologique régional du 16 mai 2024.pdf (guadeloupe.gouv.fr)) .

In French Guyana, cases have been decreasing during the past weeks, after a peak in January 2024 (25/04/2024 Epi update).

Overall, 910 cases of dengue have been reported in La Réunion until 12 May 2024, according to the Epidemiological Bulletin published on 18 May 2024. Dengue circulation is at higher levels compared to 2023 and case numbers have been showing an increasing trend since the beginning of 2024.

Dengue circulation has also been reported in the WHO SEARO Region and WPRO Region as well as in Africa in April 2024.

On 30 May 2024, WHO published a Disease Outbreak News Item on the Global Situation on dengue circulation, highlighting the increases in cases that have been observed this year and presenting also a new dashboard with a global overview of surveillance data on dengue cases.

Note: the data presented in this report originate from both official public health authorities and non-official sources, such as news media, and depending on the source, autochthonous and non-autochthonous cases may be included. 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 under-reporting, variations in surveillance system structure, different case definitions from country to country and over time, and use of syndromic definitions.

ECDC assessment:

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

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

The current likelihood of the occurrence of local transmission events of chikungunya and dengue viruses in areas where the vectors are present in mainland EU/EEA is low, as the environmental conditions are not yet favourable for vector activity and virus replication in vectors. In 2023, locally-acquired dengue cases were reported by France, Italy, and Spain.

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

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

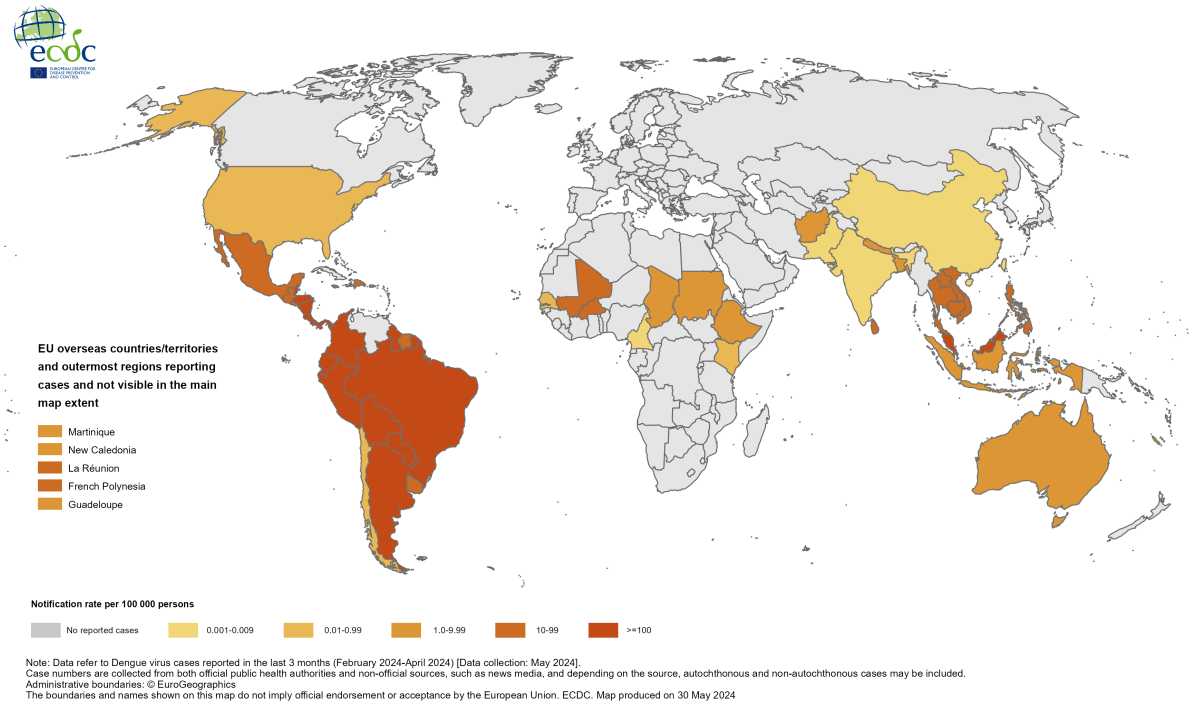
Actions:

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

Last time this event was included in the Weekly CDTR: 19 April 2024

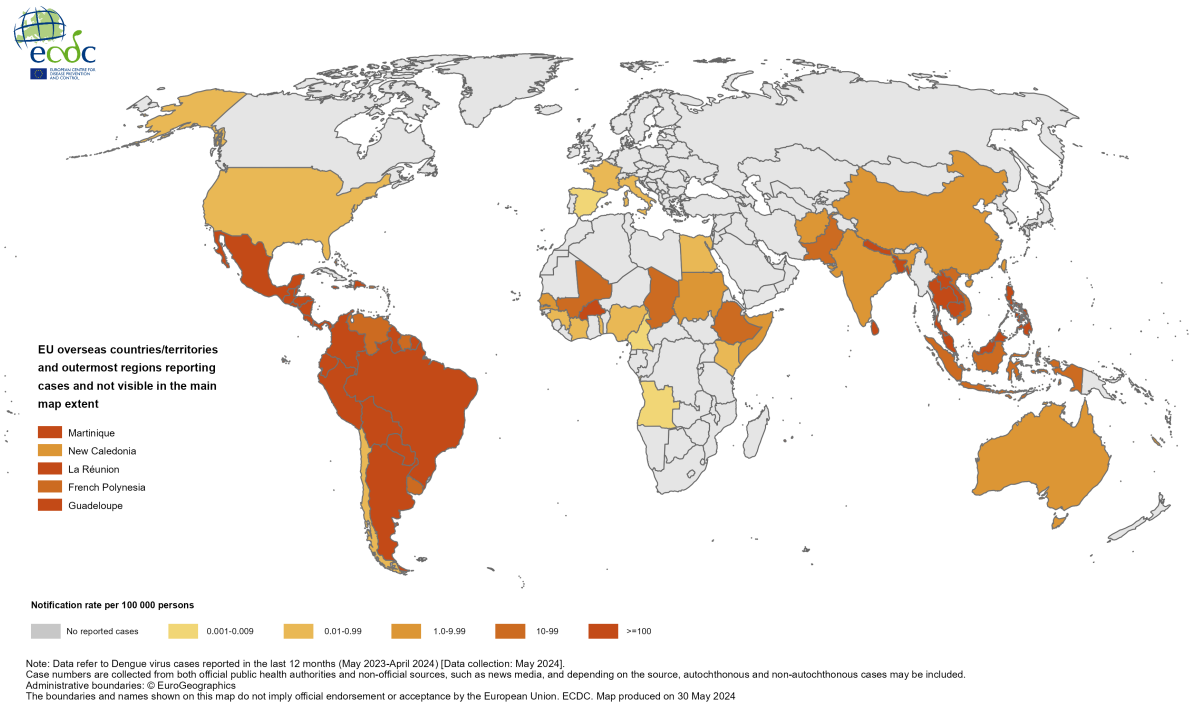
Maps and graphs

Figure 1. Three-month dengue virus disease case notification rate per 100 000 population, February-April 2024



Source: ECDC

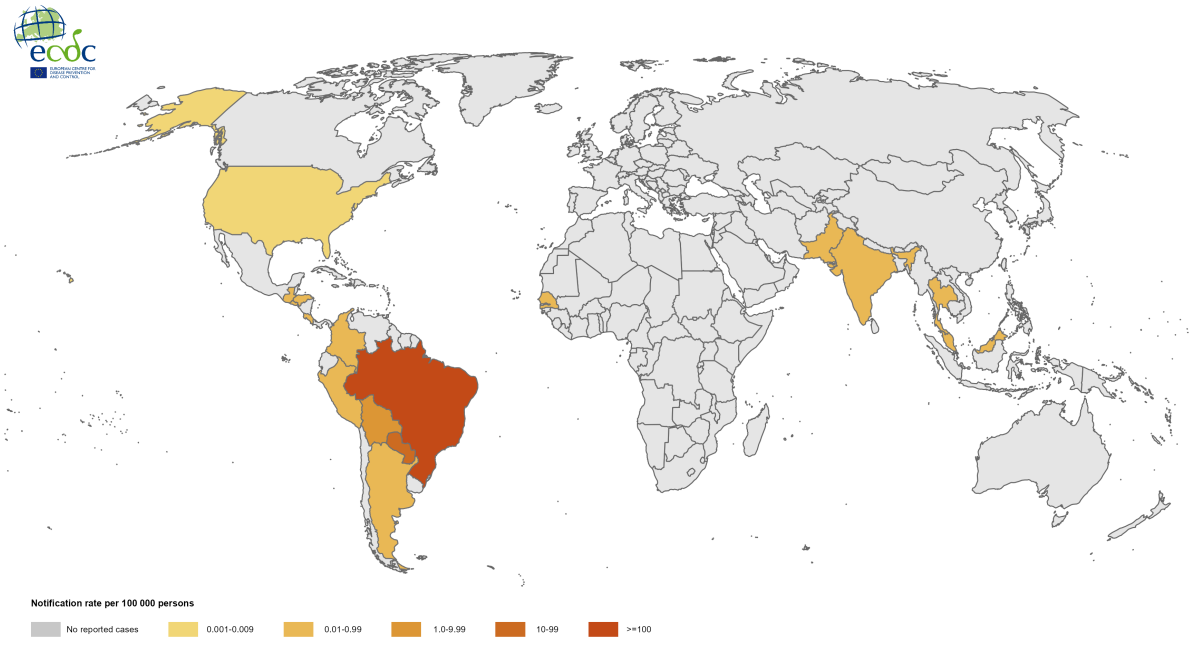
Figure 2. 12-month dengue virus disease case notification rate per 100 000 population, May 2023-April 2024



Note: Data refer to Dengue virus cases reported in the last 12 months (May 2023-April 2024) [Data collection: May 2024].
Case numbers are collected from both official public health authorities and non-official sources, such as news media, and depending on the source, autochthonous and non-autochthonous cases may be included.
Administrative boundaries: © EuroGeographics
The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union. ECDC. Map produced on 30 May 2024

Source: ECDC

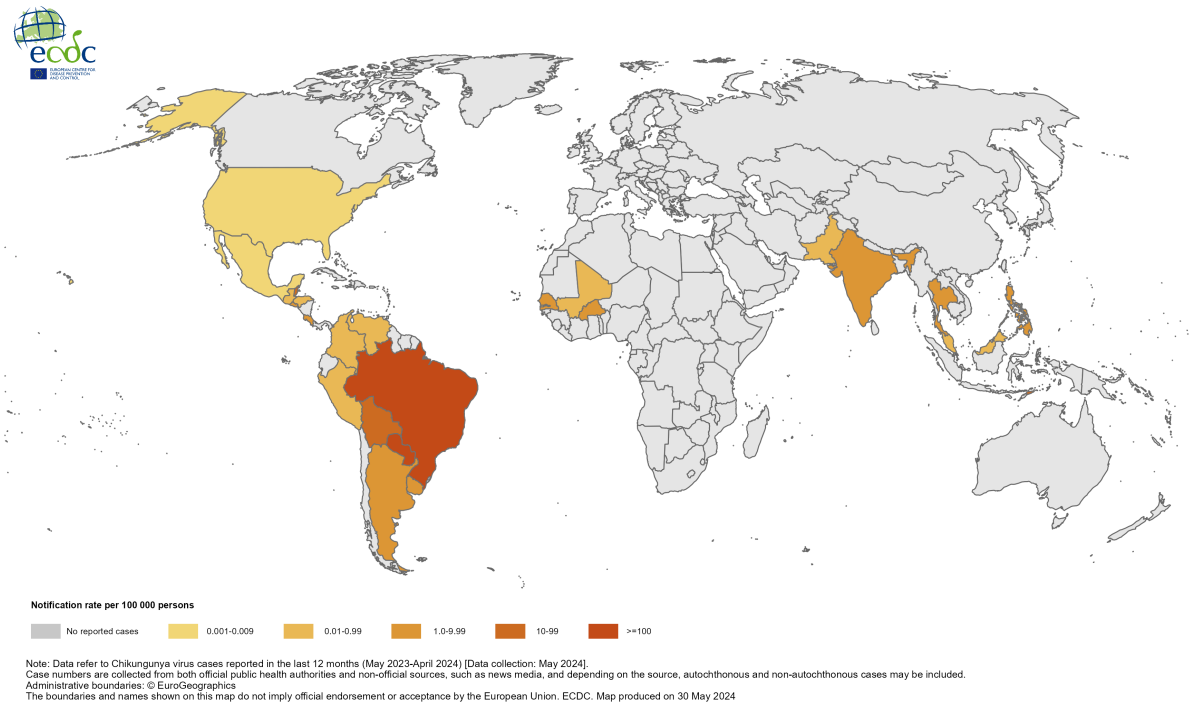
Figure 3. Three-month Chikungunya virus disease case notification rate per 100 000 population, February-April 2024



Note: Data refer to Chikungunya virus cases reported in the last 3 months (February 2024-April 2024) [Data collection: May 2024].
Case numbers are collected from both official public health authorities and non-official sources, such as news media, and depending on the source, autochthonous and non-autochthonous cases may be included.
Administrative boundaries: © EuroGeographics
The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union. ECDC. Map produced on 30 May 2024

Source: ECDC

Figure 4. 12-month Chikungunya virus disease case notification rate per 100 000 population, May 2023-April 2024



Source: ECDC

7. Poliomyelitis – Multi-country – Monthly monitoring of 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 20 March 2024, the 38th meeting of the Polio Emergency Committee under the International Health Regulations (IHR) (2005) was held to discuss the international spread of poliovirus and it was agreed that it remains a PHEIC. It was recommended that the temporary recommendations be extended for a further three months.
☐
In June 2002, the WHO European Region was officially declared polio-free.

Update:

Wild poliovirus type 1 (WPV1):
Since 16 April 2024 and as of 28 May 2024, two new cases of AFP caused by WPV1 have been reported in Afghanistan and Pakistan.

Circulating vaccine-derived poliovirus (cVDPV):
Since the previous update on 16 April 2024 and as of 28 May 2024, the following new cases of polio due to cVDPV have been reported, with date of symptom onset in 2023 and in 2024:

- No new cases have been reported in 2023 with cVDPV1.
- Three new cases of AFP caused by cVDPV2 were reported in 2023, from Niger (1), Burkina Faso (1), the Democratic Republic of the Congo (DRC) (1).
- In 2024, two new cases of AFP caused by cVDPV1 were reported in DRC and 44 new cases of cVDPV2 in a list of countries.
- No cases of AFP due to cVDPV3 were reported in 2023 and in 2024.

Summary:

Wild poliovirus (WPV):
In 2024, six cases of AFP due to wild poliovirus infection have been reported, three in Pakistan and three in Afghanistan.

Circulating vaccine-derived poliovirus (cVDPV):
With date of symptom onset in 2023 (as of 28 May 2024):
In 2023, 134 cases of AFP caused by cVDPV1 (no new cases in the reporting period) have been reported from three countries: the DRC (106), Madagascar (24) and Mozambique (4).

In 2023, 393 cases of AFP caused by cVDPV2 (three new cases in the reporting period) were reported from 22 countries: Benin (3), Burkina Faso (3), Burundi (1), Central African Republic (14), Chad (55), Côte d'Ivoire (6), the DRC (118), Guinea (47), Indonesia (6), Israel (1), Kenya (8), Mali (15), Mauritania (1), Mozambique (1), Niger (3), Nigeria (87), Somalia (8), South Sudan (3), Tanzania (2), Yemen (8), Zambia (1), Ethiopia (1), and Zimbabwe (1).

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

With date of symptom onset in 2024 (as of 16 April 2024):

In 2024, overall, three cases of AFP caused by cVDPV1 (two new cases in the reporting period) were reported in DRC.

In 2024, overall, 58 cases of AFP caused by cVDPV2 (increase of 44 cases in the reporting period) were reported by 11 countries: Nigeria (27), Chad (4), Guinea (2), Ethiopia (5), DRC (3), Angola (2), Niger (1), South Sudan (4), Somalia (2), Yemen (7), and Mali (1).

In 2024, no cases of AFP caused by cVDPV3 were reported.

Sources: Global Polio Eradication Initiative | ECDC | ECDC dashboard | 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, and Ukraine) remain at high risk of a sustained polio outbreak following wild poliovirus importation or the emergence of circulating vaccine-derived poliovirus (cVDPV). This is due to suboptimal vaccination 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 intermediate risk of sustained polio outbreaks. The continuing circulation of wild poliovirus type 1 (WPV1) in Pakistan and Afghanistan, and the detection of WPV1 cases in Mozambique in 2022 (which are genetically linked to a strain from Pakistan), shows that there is still a risk of the disease being imported into the EU/EEA. The outbreaks of cVDPV that emerge and circulate due to lack of polio immunity in the population also 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 that 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 causing international spread of polio: an additional dose of poliovirus vaccine should be administered between four weeks and 12 months prior to international travel. Travellers to areas with active

transmission of a wild or vaccine-derived poliovirus should be vaccinated according to their national schedules.

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. ECDC 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.

Last time this event was included in the Weekly CDTR: 19 April 2024

Events under active monitoring

- Chikungunya and dengue – Multi-country (World) – Monitoring global outbreaks - Monthly update - last reported on 31 May 2024
- Poliomyelitis – Multi-country – Monthly monitoring of global outbreaks - last reported on 31 May 2024
- Cholera – Comoros and Mayotte – 2024 – Weekly monitoring - last reported on 31 May 2024
- Highly pathogenic avian influenza A(H5N1) in cattle and related human cases – United States – 2024 - last reported on 31 May 2024
- Imported invasive meningococcal disease in travellers returning from the Kingdom of Saudi Arabia – Multi-country – 2024 - last reported on 31 May 2024
- Overview of respiratory virus epidemiology in the EU/EEA - weekly monitoring - last reported on 31 May 2024
- Mass gathering - Hajj - Kingdom of Saudi Arabia - 2024 - last reported on 31 May 2024
- Avian influenza A(H5N6) – Multi-country – Monitoring human cases - last reported on 24 May 2024
- Influenza A(H5N1) – Multi-country (World) – Monitoring human cases - last reported on 24 May 2024
- Cholera – Multi-country (World) – Monitoring global outbreaks - Monthly update - last reported on 24 May 2024
- Measles – Multi-country (World) – Monitoring European outbreaks - monthly monitoring - last reported on 17 May 2024
- Western equine encephalitis – Multi-country – 2023 - last reported on 08 May 2024
- Crimean-Congo haemorrhagic fever - Spain - 2024 - last reported on 03 May 2024
- Middle East respiratory syndrome coronavirus (MERS-CoV) – Multi-country – Monthly update - last reported on 03 May 2024
- SARS-CoV-2 variant classification - last reported on 03 May 2024