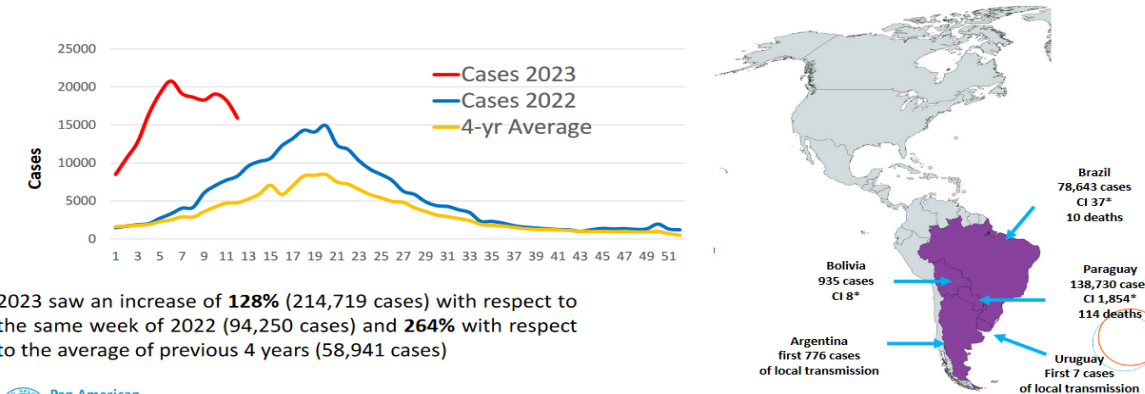




News:

- WHO:** has published the first in a series of WHO public-benefit target product profiles (TPPs) for [snakebite treatments caused by various types of sub-Saharan African snakes](#), in order to improve the quality of antivenoms available in the market. This is [the first-ever guidance](#) to improve the quality of such products.
- ECDC-EMA:** have issued a joint statement on adapted COVID-19 vaccines and considerations for their use during the upcoming autumn 2023 vaccination campaigns. In line with the outcome of recent meetings of [international regulators](#) and the [WHO](#), EMA's Emergency Task Force recommends updating vaccines to target XBB strains (a subgroup of Omicron), which have become dominant in EU and other parts of the world. EMA and ECDC also note that monovalent vaccines (vaccines targeting only one strain such as XBB.1.5) are a reasonable choice to provide protection against current dominant and emerging strains.
- CDC:** launched a new Notice of Funding Opportunity (NOFO) through the [Center for Forecasting and Outbreak Analytics \(CFA\)](#) to establish an outbreak response network for disease forecasting to support decision makers during public health emergencies.
- WHO:** has [certified Belize as malaria-free](#), following the country's over 70 years of continued efforts to stamp out the disease. With this announcement, a total of 42 countries and 1 territory have been certified as malaria-free by WHO, including 11 countries in the Region of the Americas.
- UNICEF:** The new [Water, Sanitation, Hygiene, Waste and Electricity Services in Health Care Facilities: 2023 Global Progress Report](#) highlights that an estimated 8 million people die annually in 137 low- and middle-income countries from poor-quality health care, resulting in US\$6 trillion in economic losses from poor health and premature mortality.
- WHO:** On 2 June 2023, the Ministry of Health of the [United Republic of Tanzania declared the end of the MVD outbreak](#) that affected Bukoba district in Kagera region. This was the first documented MVD outbreak in the country. On 8 June 2023, after two consecutive incubation periods (42 days) without a new confirmed case reported, the [Ministry of Health of Equatorial Guinea declared the end of the Marburg virus disease \(MVD\) outbreak](#), as per the WHO recommendations. A total of 17 confirmed and 23 probable cases were reported from five districts in four provinces; 12 of the 17 confirmed cases died and all of the probable cases were reported deaths.
- ECDC:** published the [Annual Epidemiological Reports for 2021](#) for Zika virus, Malaria, Chikungunya virus and Dengue.
- ECDC:** complemented the handbook (from 2014) for ["Simulation exercises in public health settings - Step-by-step exercise design"](#) by offering practical, operational guidance on how to design, develop, conduct and evaluate tabletop and functional exercises to help an organisation develop and improve its emergency preparedness.

Weekly Chikungunya Cases, 2022-2023 and Four-year Average in the Region of the Americas

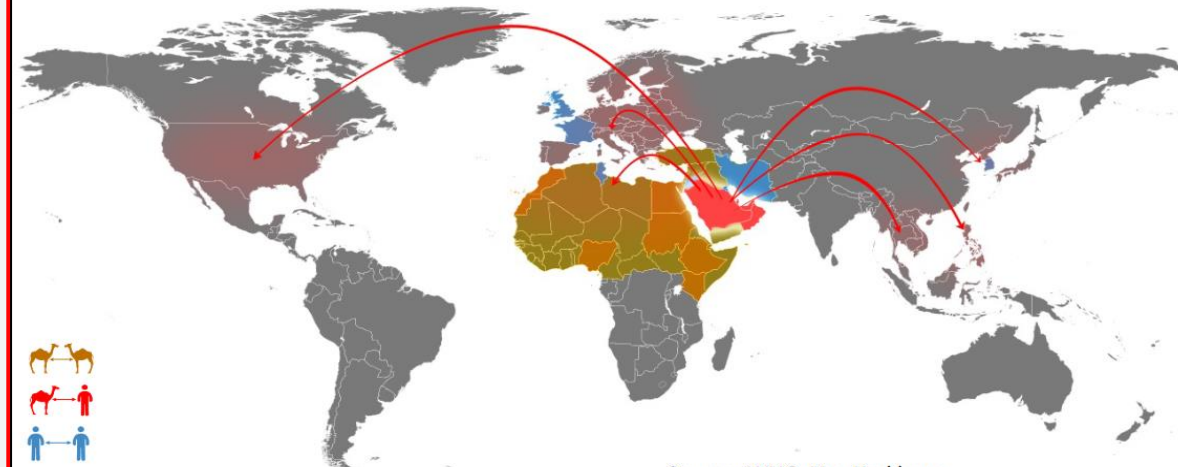


2023 saw an increase of **128%** (214,719 cases) with respect to the same week of 2022 (94,250 cases) and **264%** with respect to the average of previous 4 years (58,941 cases)

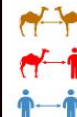


Source: PAHO/WHO Health Information Platform (PLISA)

MERS-CoV – a global threat



Source: WHO, Van Kerkhove



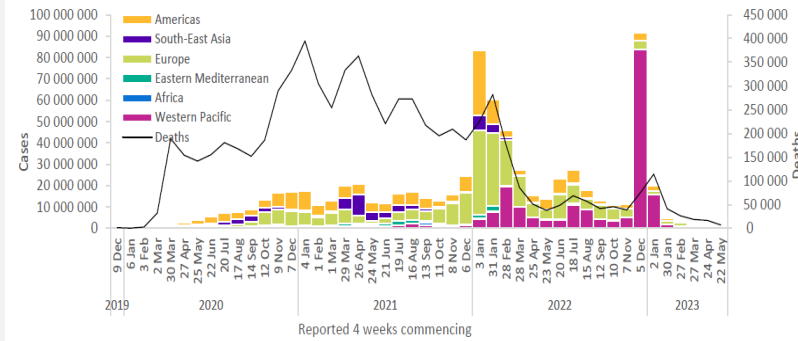
# COVID-19 Situation by WHO Region, as of 22 June

## Global epidemiological situation overview; WHO as of 22 June 2023

Globally, over 1.2 million new cases and over 7100 deaths were reported in the last 28 days (22 May to 18 June 2023) (Figure 1, Table 1). The African region has reported a slight increase in deaths but a decrease in cases, while the other five WHO regions have reported decreases in both cases and deaths. As of 18 June 2023, over 768 million confirmed cases and over 6.9 million deaths have been reported globally.

At the country level, the highest numbers of new 28-day cases were reported from the Republic of Korea (363 382 new cases; -21%), Australia (135 144 new cases; +4%), Brazil (85 987 new cases; -41%), France (71 197 new cases; -42%), and Singapore (54 581 new cases; -44%). The highest numbers of new 28-day deaths were reported from Brazil (978 new deaths; -19%), Spain (729 new deaths; +70%), the Russian Federation (577 new deaths; -13%), Australia (496 new deaths; -6%), and Italy (420 new deaths; -36%).

Figure 1. COVID-19 cases reported by WHO Region, and global deaths by 28-day intervals, as of 18 June 2023\*\*



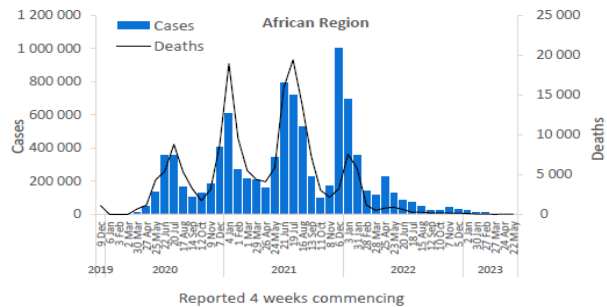
## WHO regional overviews

Data for 22 May to 18 June 2023

### African Region

The African Region reported over 6300 new cases, a 26% decrease as compared to the previous 28-day period. Five (10%) of the 50 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Zambia (1966 vs 192 new cases; +924%), Kenya (392 vs 42 new cases; +833%) and Burundi (274 vs 36 new cases; +661%). The highest numbers of new cases were reported from Mauritius (2355 new cases; 185.2 new cases per 100 000; -59%), Zambia (1966 new cases; 10.7 new cases per 100 000; +924%), and the Democratic Republic of the Congo (519 new cases; <1 new case per 100 000; -37%).

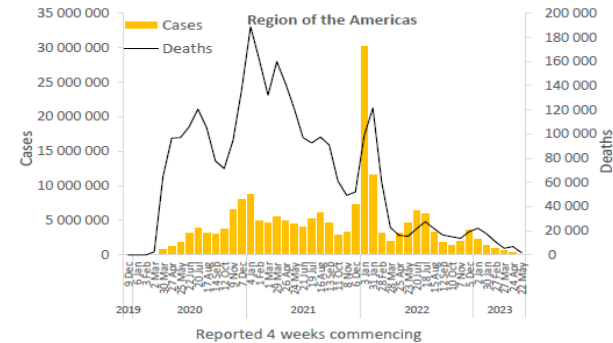
The number of new 28-day deaths in the Region increased by 5% as compared to the previous 28-day period, with 22 new deaths reported. The highest numbers of new deaths were reported from Zimbabwe (11 new deaths; <1 new death per 100 000; +83%), Cameroon (two new deaths; <1 new death per 100 000; +100%), and Mauritius (two new deaths; <1 new death per 100 000; -67%).



### Region of the Americas

The Region of the Americas reported over 150 000 new cases, a 70% decrease as compared to the previous 28-day period. Ten (18%) of the 56 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Haiti (64 vs 11 new cases; +482%), Saint Kitts and Nevis (six vs two new cases; +200%), and Suriname (50 vs 18 new cases; +178%). The highest numbers of new cases were reported from Brazil (85 987 new cases; 40.5 new cases per 100 000; -41%), Mexico (15 301 new cases; 11.9 new cases per 100 000; -52%), and Canada (12 193 new cases; 32.3 new cases per 100 000; -38%).

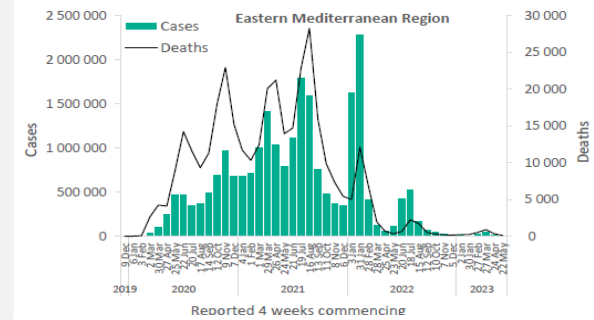
The number of new 28-day deaths in the Region decreased by 73% as compared to the previous 28-day period, with 1875 new deaths reported. The highest numbers of new deaths were reported from Brazil (978 new deaths; <1 new death per 100 000; -19%), Canada (283 new deaths; <1 new death per 100 000; -46%), and Peru (232 new deaths; <1 new death per 100 000; -52%).



### Eastern Mediterranean Region

The Eastern Mediterranean Region reported over 7800 new cases, a 71% decrease as compared to the previous 28-day period. One (5%) of the 22 countries for which data are available reported increases in new cases of 20% or greater: Libya (nine vs five new cases; +80%). The highest numbers of new cases were reported from Afghanistan (2764 new cases; 7.1 new cases per 100 000; -55%), Qatar (2404 new cases; 83.4 new cases per 100 000; -57%), and the Islamic Republic of Iran (1142 new cases; 1.4 new cases per 100 000; -77%).

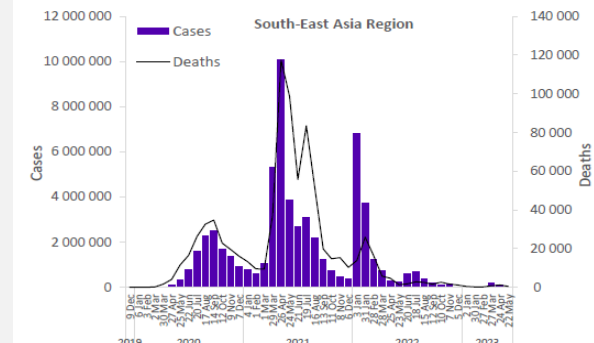
The number of new 28-day deaths in the Region decreased by 70% as compared to the previous 28-day period, with 98 new deaths reported. The highest numbers of new deaths were reported from the Islamic Republic of Iran (60 new deaths; <1 new death per 100 000; -75%), Lebanon (18 new deaths; <1 new death per 100 000; -5%), and Tunisia (11 new deaths; <1 new death per 100 000; -68%).



### South-East Asia Region

The South-East Asia Region reported over 32 000 new cases, a 78% decrease as compared to the previous 28-day period. Two (20%) of the 10 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Bangladesh (2 844 vs 472 new cases; +503%) and Thailand (10 922 vs 8 498 new cases; +29%). The highest numbers of new cases were reported from Thailand (10 922 new cases; 15.6 new cases per 100 000; +29%), Indonesia (9038 new cases; 3.3 new cases per 100 000; -76%), and India (7019 new cases; <1 new case per 100 000; -93%).

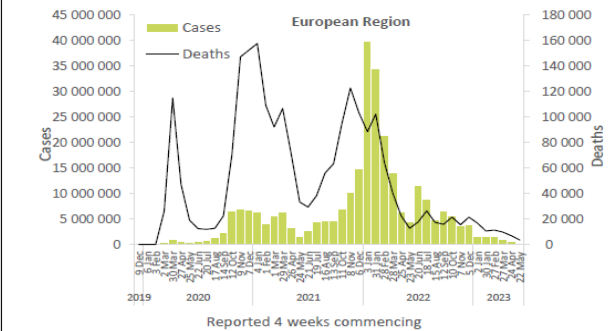
The number of new 28-day deaths in the Region decreased by 57% as compared to the previous 28-day period, with 496 new deaths reported. The highest numbers of new deaths were reported from Thailand (239 new deaths; <1 new death per 100 000; +125%), Indonesia (170 new deaths; <1 new death per 100 000; -66%), and India (63 new deaths; <1 new death per 100 000; -87%).



### European Region

The European Region reported over 315 000 new cases, a 46% decrease as compared to the previous 28-day period. No country has reported increases in new cases of 20% or greater compared to the previous 28-day period. The highest numbers of new cases were reported from France (71 197 new cases; 109.5 new cases per 100 000; -42%), the Russian Federation (46 109 new cases; 31.6 new cases per 100 000; -49%), and Greece (41 730 new cases; 389.3 new cases per 100 000; -25%).

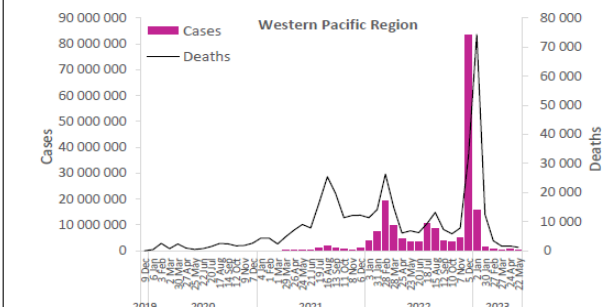
The number of new 28-day deaths in the Region decreased by 49% as compared to the previous 28-day period, with 3523 new deaths reported. The highest numbers of new deaths were reported from Spain (729 new deaths; 1.5 new deaths per 100 000; +70%), the Russian Federation (577 new deaths; <1 new death per 100 000; -13%), and Italy (420 new deaths; <1 new death per 100 000; -36%).



### Western Pacific Region

The Western Pacific Region reported over 698 000 new cases, a 33% decrease as compared to the previous 28-day period. Seven (20%) of the 35 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Fiji (151 vs three new cases; +4933%), Cambodia (143 vs eight new cases; +1688%), and New Caledonia (six vs one new case; +500%). The highest numbers of new cases were reported from the Republic of Korea (363 382 new cases; 708.8 new cases per 100 000; -21%), Australia (135 144 new cases; 530.0 new cases per 100 000; +4%), and Singapore (54 581 new cases; 933.0 new cases per 100 000; -44%).

The number of new 28-day deaths in the Region decreased by 28% as compared to the previous 28-day period, with 1154 new deaths reported. The highest numbers of new deaths were reported from Australia (496 new deaths; 1.9 new deaths per 100 000; -6%), China (246 new deaths; <1 new death per 100 000; +11%), and the Republic of Korea (206 new deaths; <1 new death per 100 000; -21%).

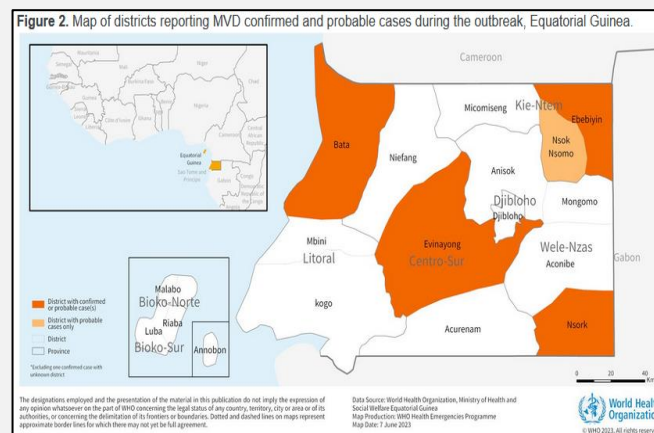




# End of Marburg virus disease outbreak - Equatorial Guinea - WHO initiatives

On 8 June 2023, after two consecutive incubation periods (42 days) without a new confirmed case reported, the Ministry of Health of Equatorial Guinea **declared the end of the Marburg virus disease (MVD) outbreak**, as per the [WHO recommendations](#). A total of 17 confirmed and 23 probable cases were reported from five districts in four provinces; 12 of the 17 confirmed cases died and all of the probable cases were reported deaths.

The last confirmed case admitted to a Marburg treatment center in Bata district in Litoral province was discharged on 26 April, after two consecutive negative PCR tests for MVD. On 8 June 2023, after two consecutive incubation periods (42 days) without a new confirmed case reported, the Ministry of Health of Equatorial Guinea declared the end of the outbreak.



Confirmed or probable cases were reported in five districts (Bata, Ebebiyin, Evinayong, Nsok Nsomo and Nsork) in four of the country's eight provinces (Centro Sur, Kié-Ntem, Litoral and Wele-Nzas).

Five cases (31%) were identified among healthcare workers, of whom two died (CFR among HCWs: 40%).

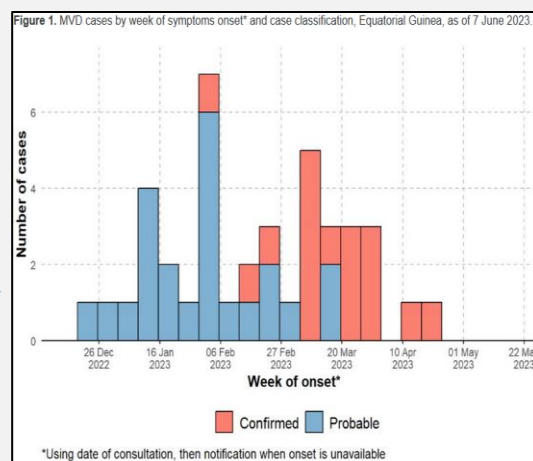
Four patients recovered and were enrolled in a survivor care programme to receive psychosocial and other post-recovery support.

## WHO risk assessment

In compliance with WHO recommendations, the criteria to declare the end of an outbreak after two maximum incubation periods (42 days) was observed with no new confirmed or probable case of MVD detected.

Based on knowledge of past outbreaks of filovirus disease, there remains a risk of re-emergence of MVD even following the declaration of the end of the outbreak. Undetected transmission of Marburg virus may exist in the country; not all chains of transmission were definitively linked, and one confirmed case was never identified. The initial source of the outbreak has not been identified, and a new emergence of disease is possible, including from interaction with animal reservoirs. The virus may also persist for an extended period in body fluids of survivors, including semen, underlying the importance of their participation in the survivors program, and the support the program provides.

Based on the available information at the end of MVD outbreak in Equatorial Guinea, **the risk of MVD re-emerging is considered as low at the national level, low at the subregional level, regional level and at the global level.**



Source: WHO

On 13 February 2023, the Ministry of Health and Social Welfare of Equatorial Guinea declared an outbreak of Marburg virus disease (MVD) after suspected viral haemorrhagic fever deaths were reported between 7 January 2023 - 7 February 2023 and a case testing positive on 12 February 2023 for MVD. <sup>1</sup>

Six clinical experts from the Emerging Diseases Clinical Assessment and Response Network (EDCARN) were rapidly deployed to Equatorial Guinea to support the Ministry of Health in its response to the outbreak. The clinical experts in infectious diseases, critical care, and paediatrics were recruited through the Global Outbreak and Response Network (GOARN). WHO helped set up a 20-bed treatment centre in Bata (the most affected district in the country) and an ambulance referral system for the outbreak.



The ALIMA CUBE allows isolation of patients with highly transmissible infection while allowing healthcare workers to closely observe them in a structure which can get put up quickly.

The 20-bed treatment centre was established to provide a high-level of safe and scalable clinical care to patients; the treatment centre was also equipped with the ALIMA<sup>2</sup> CUBE (Bio-secure Emergency Care Unit for Epidemics) – a self-contained, easily transportable treatment unit for highly infectious diseases that has been developed by The Alliance for International Medical Action (ALIMA).

“The team of clinical experts supported the Ministry of Health to quickly set up a treatment centre and coordinated an ambulance referral system. Together with multi-country readiness training for filoviruses provided by WHO Africa Regional Office, this shows how WHO can work with Member States to support rapid scale-up of activities for emerging infections.” says Dr Abdou Salam Gueye, Regional Emergency Director, WHO Africa Regional Office.

The deployment of EDCARN clinical experts also supported the Ministry of Health's capacity-building efforts by providing extensive, real-time training to the national health workforce. The training was provided to a multidisciplinary workforce on the following topics:

- Clinical case management,
- Collection of standardized clinical data (an important training topic given the uncommon and poorly characterized nature of this disease), which will support future research activities.

As the end of the outbreak was declared on 8 June 2023, but WHO will continue supporting the Ministry of Health on their survivor care programme and continue to provide training to ensure that the national health workforce is prepared for any future outbreaks. “WHO's investments through the Country Readiness and Strengthening (CRS) programme creates a network of clinical experts who improve our responses to high consequence infections. By providing professional and logistical support, and working with national colleagues, we strengthen clinical care to those with Viral Haemorrhagic Fever and increase the safety of patients and staff during outbreaks.” says Dr Nedret Emiroglu, Director of Country Readiness & Strengthening, WHO Headquarters.

Source: WHO

1. <https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON459>  
 2. <https://alima.ngo/en/2022/12/15/cube-en/>

# Human Cases of Avian Influenza A(H5N1) - United Kingdom of Great Britain and Northern Ireland

## Situation at a glance

In mid-May, the United Kingdom of Great Britain and Northern Ireland reported to the World Health Organization (WHO) the detection of avian influenza A(H5) virus in a poultry worker at a farm in England where poultry was infected with high pathogenicity avian influenza (HPAI) A(H5N1) viruses. Another detection was reported in a second individual performing culling operations on the farm. Both detections were later confirmed by additional testing as A(H5N1). Both cases were asymptomatic and detected as part of an ongoing enhanced surveillance study of asymptomatic workers exposed to poultry infected with avian influenza.

All the workers at this farm and their contacts have been identified; none of the contacts have reported symptoms, and no other influenza cases have been identified. The United Kingdom Health Security Agency (UKHSA) has not detected evidence of human-to-human transmission.

Based on the available information, WHO considers these as sporadic detections of avian influenza viruses among humans with no evidence of person-to-person transmission to date. **Thus, the likelihood of international disease spread through humans is considered to be low.**

Given the widespread circulation in birds and the constantly evolving nature of influenza viruses, WHO stresses the importance of global surveillance to detect virological, epidemiological and clinical changes associated with circulating influenza viruses which may affect human (or animal) health.

## Description of the situation

In late April, the UKHSA was notified by the Animal and Plant Health Protection Agency (APHA) of an outbreak of HPAI (H5N1) on a poultry farm in England, United Kingdom. The human cases were detected through an ongoing enhanced surveillance study of asymptomatic workers exposed to poultry infected with avian influenza.

The UKHSA Rapid Investigation Team were deployed to the farm in early May 2023 to recruit exposed participants for the study. Of the 24 eligible persons, one tested positive for influenza A (with no detection of human seasonal subtypes H1 or H3) on the first sample self-taken at the premises. Two further nasopharyngeal samples collected from the same person tested negative for influenza A by a UKHSA regional laboratory and by the UKHSA national influenza reference laboratory. The participant remained clinically asymptomatic throughout.

An update from the United Kingdom authorities to WHO in mid-May 2023, notified of an additional case from the same farm as influenza A(H5) positive on two separate samples. This second person was a poultry culler exposed to infected birds at the same farm. The poultry culler worked on the farm in early May using personal protective equipment (PPE). The case was clinically assessed and remains asymptomatic. The case was treated with oseltamivir and was negative on respiratory sampling taken on the last day of isolation.

Sequencing later confirmed the virus detected in both individuals as A(H5N1). All samples from these two individuals were negative for seasonal influenza viruses. All other study participants remain well and have tested negative for influenza A on their samples to date. Follow-up of contacts has been completed. The affected farm is one of the first recruited in the ongoing enhanced surveillance study of asymptomatic workers exposed to poultry infected with avian influenza.

Work to determine whether these are infections or not (i.e., could instead be due to transient mucosal contamination of the nose with virus particles) is underway, though it may be difficult to reach a conclusion.

## Public health response

The United Kingdom implemented the following public health measures:

**Coordination and response:** Since late April 2023, the standard measures for control of avian influenza in England were applied in the affected poultry farm. Situational assessment and response to human detection was coordinated by UKHSA and Public Health Scotland and undertaken by local health protection and National Health Service clinical services.

**Surveillance:** A follow-up response including passive and active surveillance of exposed workers was undertaken for the first detection. For the second detected case, close contacts were offered chemoprophylaxis, swabbing, and were requested to self-isolate for ten days since their last exposure, reporting information about their health conditions. This second case was isolated until the negative swab result.

**Laboratory:** Further samples have been obtained from the second case for analysis in a reference laboratory in Scotland. Virus characterization and genomic analysis are in process by the Respiratory Virus Unit, UKHSA/Scottish reference laboratory.

**Infection prevention and control:** In the affected farms, measures related to the control of the outbreak have been undertaken, including on-site slaughter of the birds, the destruction of contaminated materials that could carry the virus, and cleaning and disinfection of the facilities. All participants involved in the culling process wore personal protective equipment.

As per standard practice for confirmed infected poultry premises in the United Kingdom, a ten-kilometre surveillance zone, and a three-kilometre protection zone were declared by the United Kingdom Department for Environment, Food and Rural Affairs around the infected premises. The zone will remain in place for at least 21 days after preliminary cleansing and disinfection completion. It will not be lifted until surveillance activities, including clinical inspections of all commercial premises in the zone, have been undertaken.

## WHO risk assessment

The two reported individuals with influenza A(H5N1) detection in their samples have remained asymptomatic and tested negative for influenza in their most recent samples to date. Their close contacts were asymptomatic and the follow-up period has been completed.

Both cases were detected as part of an ongoing enhanced surveillance study of asymptomatic workers exposed to poultry infected with avian influenza. In these cases, detections may have resulted from either transient respiratory tract contamination (with no virus replication) or asymptomatic infection. Further testing (e.g., serology) is needed to confirm infection.

Whenever avian influenza viruses are circulating in birds, humans who are exposed to these birds or their environments are at risk of infection.

Sporadic human cases and transient contaminations of humans are rare, but not unexpected in such contexts. Thus far, there is no evidence of person-to-person transmission in this incident.

Although both reported cases were asymptomatic in this instance, previous A(H5N1) infections have resulted in severe infections in humans.

**Based on the available information, WHO assesses that the risk for the general population posed by this virus is low, and for occupationally exposed persons it is low to moderate.**



# MERS-CoV situation update, as of 15 June 2023, 17:00 hours; Rome

## Overview

**Situation:** Middle East Respiratory Syndrome Coronavirus (MERS-CoV): zoonotic virus with pandemic potential.

**Countries with known human cases<sup>1</sup>:** Jordan, Saudi Arabia (KSA), Qatar, the United Arab Emirates (UAE), Oman, Kuwait, Yemen, United Kingdom, France, Germany, Italy, Tunisia, Malaysia, the Philippines, the United States of America (USA), Egypt, Lebanon, the Netherlands, Iran, Algeria, Turkey, Austria, Greece, Republic of Korea, China, Thailand, the Kingdom of Bahrain.

**Findings in humans:** 2,604 cases confirmed with 936 fatalities (since September 2012)<sup>2</sup>. No new outbreaks reported, and no fatalities reported since the last Update (18 May 2023). Please see 'Situation in humans' for further details.

**Countries with published animal findings (serology and/or virology):** Bangladesh, Burkina Faso, Egypt, Ethiopia, Iran, Iraq, Israel, Jordan, Kenya, Kuwait, Mali, Morocco, Nigeria, Oman, Pakistan, Qatar, Saudi Arabia (KSA), Senegal, Somalia, Spain (Canary Islands), Sudan, Tunisia, Uganda, United Arab Emirates.

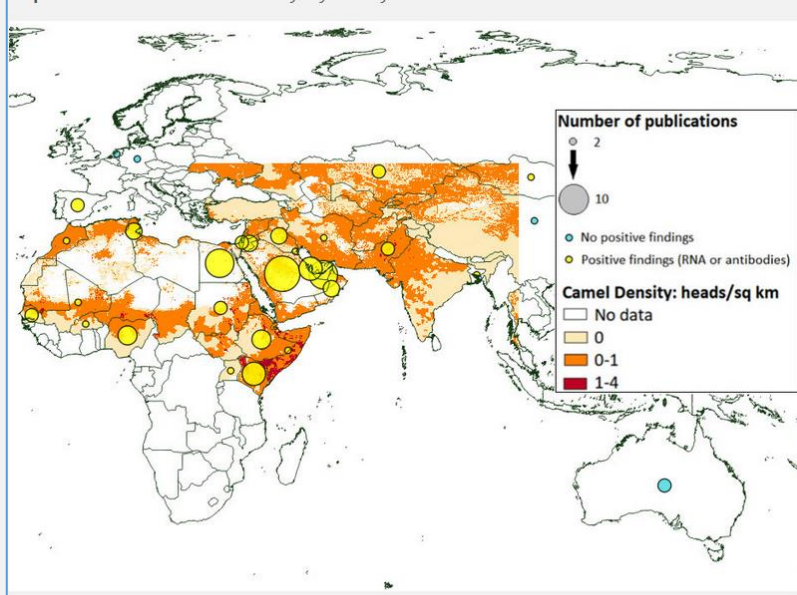
<sup>1</sup> Countries in order of first reported occurrence.

<sup>2</sup> For detailed information on human cases, please refer to WHO at <http://www.who.int/emergencies/mers-cov/en/>.

## Situation in animals

- Map 1 shows results of published MERS-CoV livestock field surveys conducted up to 14/02/2022 at country level, over an estimate of dromedary and Bactrian camel distribution density. Circles indicate countries in which field surveys have occurred. Circle size is proportional to the number of studies conducted in each country (see legend). Yellow circles indicate positive findings in animals (antibodies or antigen), while turquoise circles indicate a lack of positive findings. Please note that the circle in Spain indicates positive findings from the Canary Islands. The density map includes dromedary and bactrian camel distribution, and is an unpublished model based on the methodology described in [Robinson et al. \(2014\)](#).

Map 1. MERS-CoV livestock field surveys by country\*

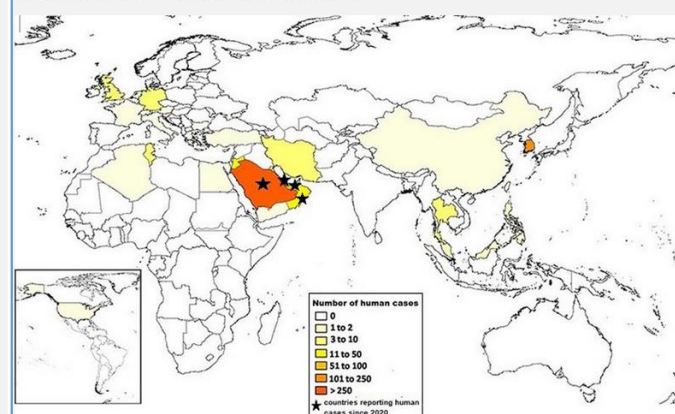


\*Note: Positive findings in Spain refer to samples taken in the Canary Islands. Livestock surveillance in Chile, not pictured, resulted negative.

## Situation in humans

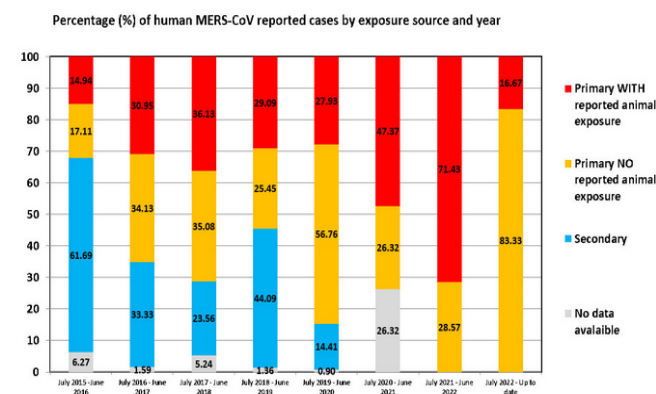
- Between 18 May and 15 June 2023, no new human cases and no fatalities were reported.

Map 2. Global distribution of human cases of MERS-CoV



Note: Stars highlight countries reporting human cases since 2020 (Oman, Saudi Arabia, Qatar, and United Arab Emirates).

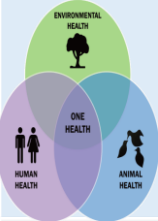
Figure 2. Breakdown of human MERS-CoV cases by potential source of exposure (in percent).



Note: While infection control improves in healthcare settings and history of animal contact is recorded more consistently in case investigations, the overall number of cases has decreased (see Figure 1: Human Epidemiological Timeline). The apparent increase in proportion of primary cases with animal exposure therefore should be interpreted in the overall context of a reduced human case count. Data not displayed prior to July 2015 as a result of inconsistent collection of human epidemiological data before this date.

Table 1. MERS-CoV cases in humans by country and dates of first and most recent observations

Country	Cumulative number of confirmed MERS-CoV human cases	First observation	Last observation
Middle East			
Saudi Arabia	2 196	13/06/2012	31/01/2023
United Arab Emirates	93	19/03/2013	06/11/2021
Jordan	28	02/04/2012	26/09/2015
Qatar	28	15/08/2013	18/03/2022
Oman	26	26/10/2013	28/12/2022
Iran (Islamic Republic of)	6	11/05/2014	18/03/2015
Kuwait	4	30/10/2013	08/09/2015
Lebanon	2	22/04/2014	08/06/2017
Yemen	1	17/03/2014	17/03/2014
Bahrain (the Kingdom of)	1	04/04/2016	04/04/2016
Asia			
Republic of Korea	186	11/05/2015	28/08/2018
Philippines	2	15/04/2014	30/06/2015
Thailand	3	10/06/2015	25/07/2016
China	1	21/05/2015	21/05/2015
Malaysia	2	08/04/2014	24/12/2017
Europe			
United Kingdom	5	03/09/2012	16/08/2018
Germany	3	05/10/2012	07/03/2015
Netherlands	2	01/05/2014	05/05/2014
France	2	23/04/2013	27/04/2013
Austria	2	22/09/2014	08/09/2016
Turkey	1	25/09/2014	25/09/2014
Italy	1	25/05/2013	25/05/2013
Greece	1	08/04/2014	08/04/2014
Americas			
United States of America	2	14/04/2014	01/05/2014
Africa			
Tunisia	3	01/05/2013	17/06/2013
Algeria	2	23/05/2014	23/05/2014
Egypt	1	22/04/2014	22/04/2014



# West Nile virus transmission season in Europe, 2022

Source: [ECDC](#)

## Human infections

As of 31 May 2023, European Union (EU) and European Economic Area (EEA) countries have reported **1 133 human cases** of West Nile virus (WNV) infection through The European Surveillance System (TESSy), including **92 deaths** for 2022, of which **1 112 were locally acquired**, **17 were travel-related**, and **four had an unknown** importation status and unknown place of infection.

Ten EU/EEA countries reported 1 108 locally acquired human cases of WNV infection with known place of infection at NUTS3 level.

Locally acquired cases were reported by Italy (723), Greece (283), Romania (47), Germany (16), Hungary (14), Croatia (8), Austria (6), France (6), Spain (4), and Slovakia (1).

Deaths were reported by Italy (51), Greece (33), Romania (5), and Hungary (3).

Greece reported three and Bulgaria reported one additional locally acquired human case with unknown place of infection at NUTS3 level.

Italy reported two cases and Finland, and Germany each reported one additional case each with unknown importation status and unknown place of infection.

EU-neighbouring countries reported 228 human cases of WNV infection, including 12 deaths, of which 227 were locally acquired and one was related to travel to Türkiye. Cases were reported by Serbia (226) and North Macedonia (two, one of which was travel-related).

In 2022, within the reporting countries human cases of WNV infection were reported from 113 different NUTS 3 or GAUL 1 regions, of which the following regions reported human cases of WNV infection for the first time: Bouches-du-Rhône in France, Harz, Vogtlandkreis, Salzlandkreis, Dahme-Spreewald, Magdeburg Kreisfreie Stadt and Teltow-Fläming in Germany, Pistoia, Lucca, Monza e della Brianza, Biella, Cagliari, Catania and Lecco in Italy, Severoistočen in North Macedonia, Moravicki in Serbia, and Tarragona and Córdoba in Spain.

All other cases reported through TESSy were from areas that have been affected during previous transmission seasons.

EU/EEA countries reported 17 travel-related cases of WNV infection this transmission season, associated with travel to Italy (6), Greece (2), Serbia (2), Morocco (2), Croatia (1), Senegal (1), Spain (1), Israel (1), and the United States (1). No deaths were reported among these cases.

An exceptionally early locally acquired case, with disease onset on 16 April, was reported by Italy, while the second locally acquired case had 19 June as date of onset (also reported by Italy). The last cases were reported by Greece and Italy, with disease onset on 4 and 5 November, respectively. An additional case was reported by France with reported disease onset on 12 December, but it should be noted that the case was immunosuppressed and this may have interfered with and prolonged the duration of the incubation period. It may also have contributed to the long period of viremia.

Two EU countries (**Italy and Greece**) and one EU-neighbouring country (**Serbia**) reported high numbers of human WNV cases of infection in 2022. **The number of cases in Italy in 2022 was the highest on record.**

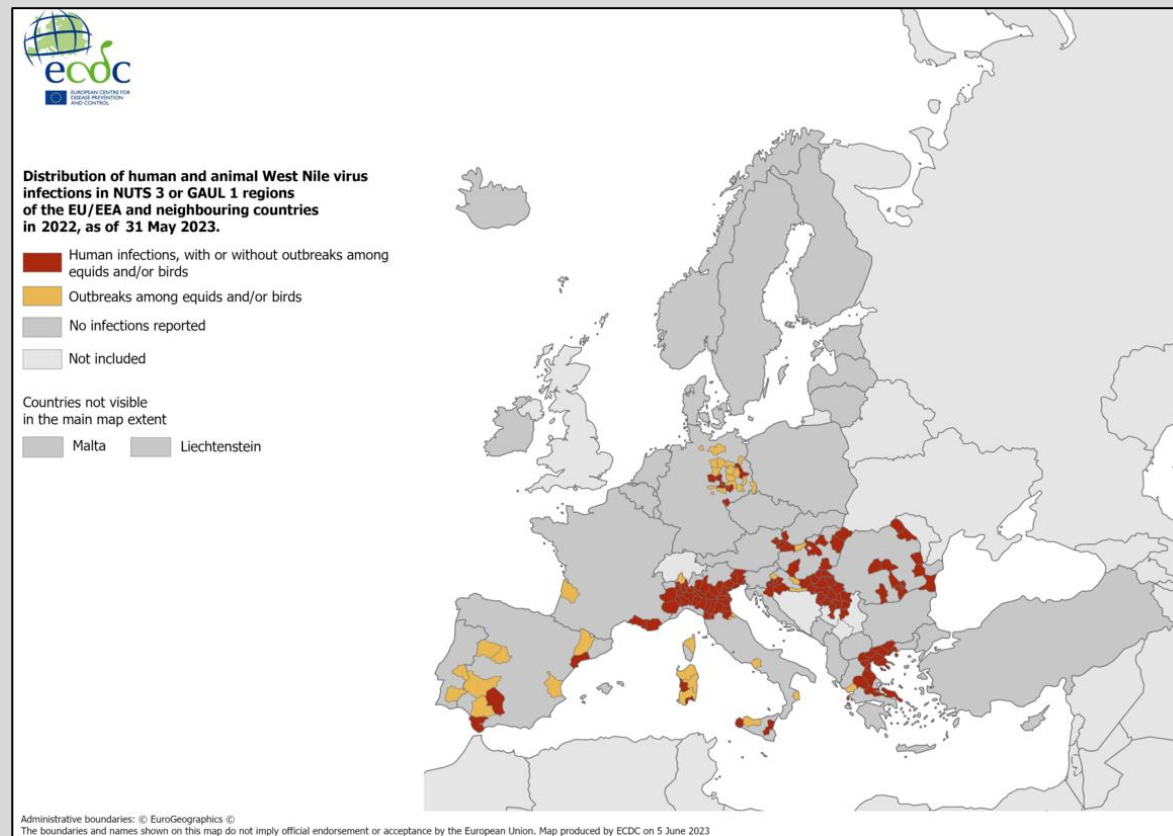
## Animal outbreaks

Animal data are collected through the Animal Disease Information System (ADIS) of the European Commission. The distribution reports for WNV outbreaks among equids and birds only cover EU/EEA countries.

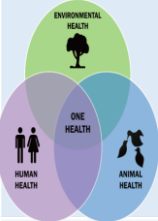
**In 2022, nine EU/EEA countries reported 101 outbreaks among equids and 328 outbreaks among birds.**

Outbreaks among equids were reported by Italy (47), Germany (16), Greece (9), Spain (8), Croatia (8), France (6), Hungary (3), Portugal (3), and Austria (1). These were more than twice as many outbreaks reported as for 2021, but only around half and one third of reported outbreaks for 2020 and 2018, respectively. In Italy, this was the highest number of outbreaks reported since 2018.

Outbreaks among birds were reported by Italy (260), Germany (53), Spain (9), Austria (3), Croatia (2), and Hungary (2). With the exception of Portugal, all these countries also reported human WNV infections in 2022.





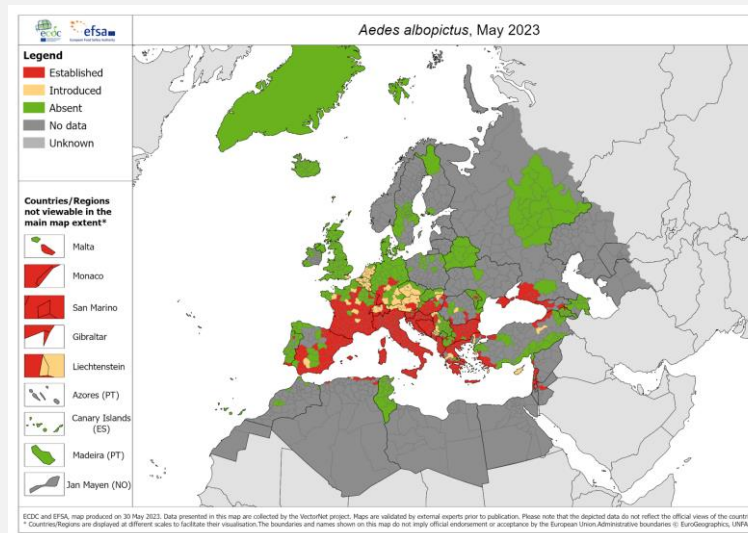


# Increasing risk of mosquito-borne diseases in EU/EEA following spread of Aedes species

Source: [ECDC](#)

The mosquito species *Aedes albopictus*, a known vector of chikungunya and dengue viruses, is establishing itself further northwards and westwards in Europe, according to the latest data from ECDC. Also, *Aedes aegypti*, known to transmit dengue, yellow fever, chikungunya, zika and West Nile viruses, has been established in Cyprus since 2022 and may continue to spread to other European countries.

Europe is experiencing a warming trend where heat waves and flooding are becoming more frequent and severe, and summers are getting longer and warmer. This creates more favourable conditions for invasive mosquito species such as *Aedes albopictus* and *Aedes aegypti*. Ten years ago, in 2013, the *Aedes albopictus* mosquito was established in 8 EU/EEA countries, with 114 regions being affected. Now in 2023, the mosquito is established in 13 countries and 337 regions.



In 2022, **1 133 human cases and 92 deaths of West Nile virus infection** were reported in the EU/EEA, of which **1 112 were locally acquired in 11 countries**, the highest number of cases since the peak epidemic year in 2018. Locally acquired cases were reported by Italy (723), Greece (286), Romania (47), Germany (16), Hungary (14), Croatia (8), Austria (6), France (6), Spain (4), Slovakia (1) and Bulgaria (1).

In 2022, **71 cases of locally acquired dengue** were recorded in mainland EU/EEA, which is equivalent to the total number of cases reported between 2010 and 2021. Locally acquired dengue cases were reported by France (65 cases) and Spain (6 cases).

## Preventive measures

Sustainable ways to control mosquito populations include eliminating standing water sources where mosquitoes breed, using eco-friendly larvicides, and promoting community awareness about mosquito control.

Personal protective measures include the use of mosquito bed nets (preferably insecticide-treated nets) or sleeping or resting in screened or air-conditioned rooms, using window screens, wearing of clothes that cover most of the body, and the use of mosquito repellent.

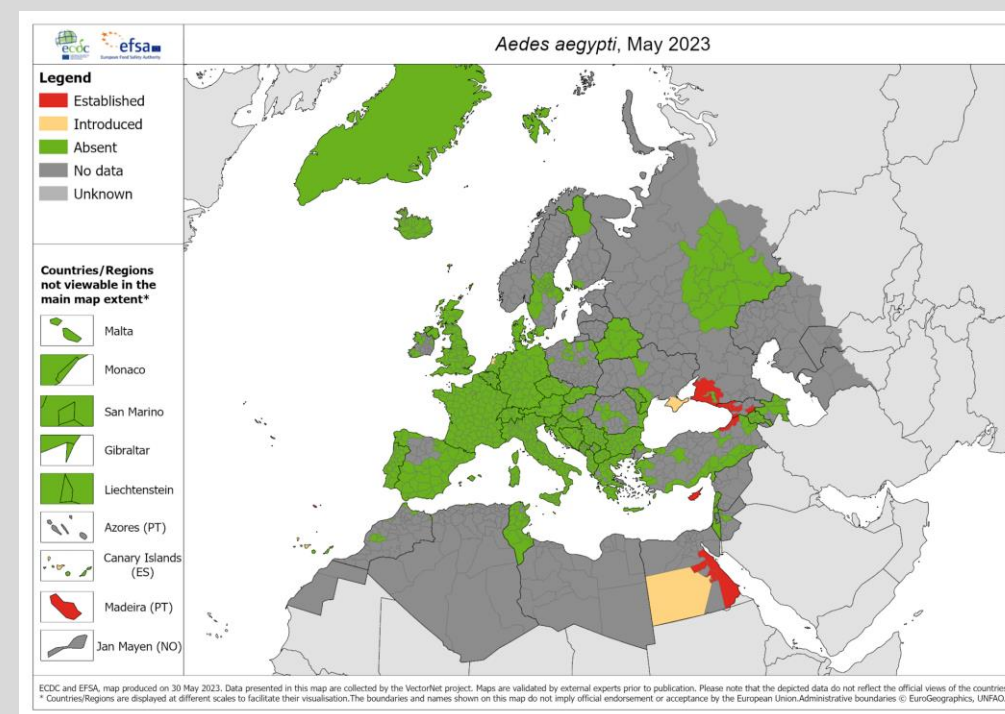
Raising awareness among the general public, healthcare professionals, and travellers about diseases transmitted by mosquitoes is also essential.

## Facts

The establishment of mosquito species is defined as having self-sustained mosquito populations that are overwintering and reproducing in a given administrative region.

Dengue is a viral infection caused by the dengue virus, transmitted to humans through the bite of infected mosquitoes. The disease is transmitted by *Aedes* mosquitoes (especially *Aedes aegypti* globally and *Aedes albopictus* in Europe), which breed in or around human habitats. Dengue is endemic in more than 100 countries in Africa, the Americas, South and South East Asia, and the Western Pacific region. The incidence of dengue has grown dramatically around the world in recent decades.

West Nile virus is transmitted among birds via the bite of infected *Culex* mosquitoes and, incidentally, humans and other mammals (e.g. horses) may become infected. About 80% of West Nile Virus infections in humans are asymptomatic. West Nile fever is the most common clinical presentation and is characterised by a sudden onset of symptoms that may include headache, malaise, fever, myalgia, vomiting, rash, fatigue and eye pain. Elderly and immunocompromised persons are at higher risk of developing West Nile neuroinvasive disease which can be fatal. No specific prophylaxis or treatment exists against the disease in humans.



# Other Infectious Disease Outbreaks

## Marburg virus disease - Equatorial Guinea and the United Republic of Tanzania – Follow up

Equatorial Guinea and the United Republic of Tanzania have been responding to separate outbreaks of Marburg virus disease (MVD) since early February and early April 2023, respectively.

In Equatorial Guinea, from the outbreak declaration until 7 June 2023, 17 confirmed and 23 probable cases were reported. Twelve of the confirmed cases died and all of the probable cases were reported deaths (the case fatality ratio among confirmed cases is 75%, excluding one confirmed case with an unknown outcome).

On 8 June 2023, after two consecutive incubation periods (42 days) without a new confirmed case reported, the Ministry of Health of Equatorial Guinea **declared the end of the Marburg virus disease (MVD) outbreak**.

WHO and partners provided technical support to the government to contain this outbreak through its country office.

WHO encourages maintaining most response activities for three months after the outbreak ends. This is to make sure that if the disease re-emerges, health authorities are able to detect it immediately, prevent the disease from spreading again, and ultimately save lives.

**WHO risk assessment:** Based on the available information at the end of MVD outbreak in Equatorial Guinea, the risk of MVD remerging is considered as **low at the national level, low at the subregional level, regional level and at the global level**.

Source: [WHO](#)

On 2 June 2023, the Ministry of Health of the United Republic of Tanzania **declared the end** of its first documented outbreak of Marburg virus disease (MVD). Between 21 March and 31 May, a total of nine cases (eight laboratory-confirmed and one probable) were reported. All cases were reported from Bukoba district, Kagera region. A total of six deaths (case fatality ratio 67%) were reported during the outbreak.

In accordance with WHO recommendations, the declaration was made 42 days (twice the maximum incubation period for Marburg virus infection) after the last possible exposure to an MVD probable or confirmed case.

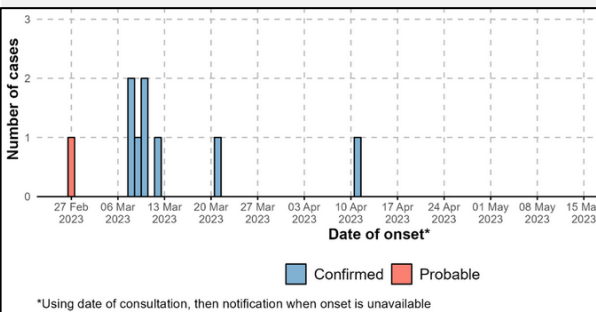
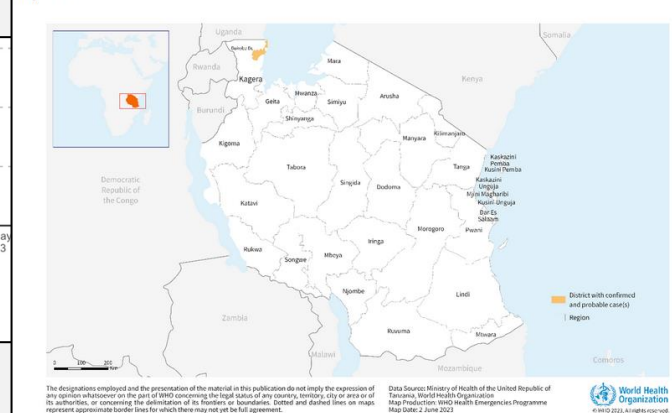


Figure 2. Map of district reporting MVD confirmed and probable cases in the United Republic of Tanzania, as of 31 May 2023.



## **WHO risk assessment:**

Marburg virus has been isolated from fruit bats (*Rousettus aegyptiacus*) that are present in the United Republic of Tanzania and countries neighboring the affected Kagera region, therefore the same bat species may carry the virus in this region.

Based on the available information at the end of MVD outbreak in the United Republic of Tanzania, the risk is considered as **low at national level, low at the subregional level, regional level and at the global level**.

Source: [WHO](#)

## Influenza A(H1N1) variant virus – Brazil

On 7 June 2023, Brazil notified the World Health Organization (WHO) of a fatal laboratory-confirmed human case of infection with a swine-origin influenza A(H1N1) variant (v) virus in the inner state of Paraná.

Sporadic human cases of influenza A(H1N1)v have been reported previously, including from Brazil. According to the International Health Regulations (IHR) 2005, a human infection caused by a novel influenza A virus subtype is an event that has the potential for high public health impact and must be notified to the WHO

**WHO risk assessment:** Based on the information currently available, WHO considers this a **sporadic case**, and there is no evidence of person-to-person transmission of this event. **The likelihood of community-level spread among humans and/or international disease spread through humans is low.**

Source: [WHO](#), [ECDC](#)

## Outbreak of suspected fungal meningitis associated with surgical procedures performed under spinal anaesthesia – the United States of America and Mexico

On 11 May 2023, the United States of America Centers for Disease Control and Prevention (US CDC) notified the Mexico General Directorate of Epidemiology (DGE) of five cases with central nervous system infection (CNSI) in the United States of America. All five cases were females with a history of undergoing surgical procedures performed under spinal anaesthesia in Mexico. The surgeries were performed in two private clinics, located in the city of Matamoros, Tamaulipas state, on the border with the USA.

Laboratory test results from samples collected from patients in the USA and Mexico were consistent with meningitis caused by pathogenic fungi.

Fungal meningitis is rare but can be fatal and requires immediate medical care.

**WHO risk assessment:** Each year, more than a million people from the USA participate in medical tourism. In 2017, more than 1.4 million Americans sought health care in a variety of countries around the world. These medical tourists commonly travel to Mexico, Canada, and countries in Central America, South America, and the Caribbean. At present, there is no evidence to suggest any secondary spread from these cases of health care associated fungal meningitis. The involved healthcare facilities where the procedures were undertaken have been closed since 13 May. However, there is an ongoing investigation and follow up of people who may have been exposed to fungal infections. This may lead to additional cases being reported until the follow up of people exposed to such procedure is completed.

WHO continues to monitor the epidemiological situation based on the latest available information.

Source: [WHO](#)

## Enterovirus Infection - France

On 5 May 2023, France reported an increase in cases of severe neonatal sepsis associated with Enterovirus (Echovirus-11 (E-11)). A total of nine cases of neonatal sepsis with hepatic impairment and multi-organ failure were reported between July 2022 and April 2023 from four hospitals in three regions of France. As of 5 May 2023, seven cases have died and two were still hospitalized in neonatal unit.

The current increase in incidence and severity in neonates, associated with a recombinant lineage of E-11 that previously was not detected in France, and is considered unusual due to the extremely rapid deterioration and associated case fatality rate amongst the affected babies.

**WHO risk assessment:** Based on the limited information available, WHO assesses the public health **risk for the general population to be low**, despite the concerning nature of the increase.

Source: [WHO](#)



# Other Infectious Disease Outbreaks



## Avian Influenza A(H5N1) - United Kingdom of Great Britain and Northern Ireland

In mid-May, the United Kingdom of Great Britain and Northern Ireland reported to the World Health Organization (WHO) the detection of avian influenza A(H5) virus in a poultry worker at a farm in England where poultry was infected with high pathogenicity avian influenza (HPAI) A(H5N1) viruses. Another detection was reported in a second individual performing culling operations on the farm. Both detections were later confirmed by additional testing as A(H5N1). Both cases were asymptomatic and detected as part of an ongoing enhanced surveillance study of asymptomatic workers exposed to poultry infected with avian influenza.

All the workers at this farm and their contacts have been identified; none of the contacts have reported symptoms, and no other influenza cases have been identified. The United Kingdom Health Security Agency (UKHSA) has not detected evidence of human-to-human transmission.

**WHO risk assessment:** Based on the available information, WHO considers these as sporadic detections of avian influenza viruses among humans with no evidence of person-to-person transmission to date. Thus, the likelihood of **international disease spread through humans is considered to be low**.

**WHO advice:** Given the widespread circulation in birds and the constantly evolving nature of influenza viruses, WHO stresses the importance of global surveillance to detect virological, epidemiological and clinical changes associated with circulating influenza viruses which may affect human (or animal) health.

Source: [WHO](#)

## Mass gatherings - Hajj - Saudi Arabia - 2023

This year, the annual Islamic Hajj pilgrimage will take place in Saudi Arabia between 26 June and 1 July. Pilgrims aged 12 years and above will be allowed to attend. Over two million pilgrims attend Hajj from all over the world, including from 24 EU/EEA countries.

The Ministry of Health of Saudi Arabia has issued a list of requirements and recommendations for this event, including recommendations on personal and food hygiene, urging the avoidance of contact with sick people, avoiding visits and contact with camels in farms, markets, or barns, and avoiding 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.

Due to the presence of MERS-CoV disease in Saudi Arabia, people returning from the Hajj should be made aware of the need to seek immediate medical advice if they have a fever (38°C and over), cough or difficulties breathing within 14 days of their return. Returning travellers should immediately seek medical attention if they experience symptoms suggestive of any type of infection, e.g. gastrointestinal or respiratory symptoms. They should also mention their travel history to their healthcare provider.

**ECDC assessment:** The risk to EU/EEA citizens of infection with **communicable diseases** during the 2023 Hajj is considered to be **low**, due to the vaccination requirements for travelling to Mecca and the Saudi Arabian preparedness plans 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- and waterborne diseases, 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 the Hajj remains](#). ECDC published a rapid risk assessment on Hajj on 2 July 2019; the risks and advice to pilgrims attending the Hajj remain valid for this year.

## **Actions:**

ECDC monitors this event through its epidemic intelligence for mass gatherings activities between 19 June and 7 July 2023 in collaboration with WHO/EMRO, and includes weekly updates in the Communicable Disease Threats Report (CDTR).

## **Weekly monitoring update**

**MERS-CoV:** outbreaks were last reported from the Arabian Peninsula in 2022. To date, no new cases have been reported with disease onset in 2023 in Saudi Arabia or globally.

No other events of public health importance were detected during the monitoring week.

Source: [Ministry of Health of Saudi Arabia](#), [ECDC weekly CDTR w24](#)

## Plague - USA

Montezuma County Public Health has identified a human case of plague in a resident, according to a news release [Mon 26 Jun 2023] from the department. The Colorado Department of Public Health and Environment and Montezuma County Public Health Department continue to investigate the case and "will provide additional information as it becomes available," the news release said. The unsigned news release was emailed to The Journal by Vicki Schaffer, public information officer for Montezuma County. It did not provide details about when, how or where the infected resident might have contracted the plague or whether the infected resident was involved with other groups of people in activities where the potentially fatal disease could be spread.

Source: [ProMed Mail](#)

## Oz Virus Infection – Japan

The Ministry of Health in Japan has confirmed the world's first historical human infection and death due to the Oz virus. A woman over the age of 70, a resident of Ibaraki Prefecture, northeast of Tokyo. Presented to a local hospital in the summer of 2022 with fever, fatigue, and joint pain (unspecified timeframe of duration). She was diagnosed with pneumonia and was prescribed antibiotics but her condition worsened requiring hospitalization at Tsukuba Medical Centre. During the hospitalization, a tick was found on her upper thigh. Laboratory investigations confirmed the tick was infected with the Oz virus. The woman developed myocarditis (inflammation of the heart) and passed away 26 days after hospitalization in 2022. According to the National Institute of Infectious Diseases (NIID), the Oz virus was first detected in 2018 in a hard tick identified as *Amblyomma testudinarium*, in Ehime Prefecture, in the northwest quarter of Shikoku Island.

Source: [ProMedMail](#)

## Influenza Europe; 2023

The 2022/2023 influenza season marked the return of influenza virus activity at almost pre-pandemic levels in the EU/EEA countries.

This season was characterized by an earlier start of the seasonal epidemic and earlier peak in positivity compared to the four previous seasons.

Source: [ECDC](#)

