Multi-country outbreak of mpox

External Situation Report 26, published 14 July 2023

Data as received by WHO national authorities by 17:00 CEST, 11 July 2023

Risk assessmentGlobal risk – Moderate

Laboratory confirmed cases

Deaths 149 Countries/areas/territories

WHO Regional risk

- African Region, Eastern Mediterranean Region, European Region, Region of the Americas

 – Moderate
- South-East Asia Region, Western Pacific Region – Low

Highlights

- Since the last situation report published on <u>24 June 2023</u>, and as of 11 July, 316 new confirmed mpox cases and two new deaths have been reported to WHO.
- Virus transmission continues at a low level in the majority of countries reporting cases, and the main epidemiological and clinical characteristics of cases have remained stable over time. Seventeen of the 112 affected countries have reported new cases within the last 21 days.
- A significant increase in cases has been observed in the South-East Asia Region, driven by sustained community transmission in Thailand.
- This report includes a summary of the WHO global strategy for the elimination of human-to-human transmission of mpox.
- The report also includes a situation update on mpox in the Democratic Republic of the Congo.
- The next WHO mpox situation report will be published in the second week of August.

From 1 January 2022 through 11 July 2023, a cumulative total of 88 288 laboratory-confirmed cases of mpox, including 149 deaths, have been reported to WHO from 112 countries/territories/areas (hereafter 'countries') in all six WHO Regions (Table 1). Since the last situation report published on 24 June 2023, there have been 316 new cases (0.4% increase in total cases) and two new deaths reported. Although not yet officially shared with WHO, the ministry of health of Trinidad and Tobago has reported their first confirmed mpox case on 11 July 2023ⁱ.

The number of new cases reported weekly increased by 9.2% in week 27 (3 July through 9 July 2023) (n = 83) compared to week 26 (26 June through 2 July 2023) (n = 76). The Western Pacific Region has reported the largest proportion of cases (92 cases, 34%) in the past three weeks (19 June through 10 July 2023), followed by the Americas (88 cases, 32%) and the African and South-East Asia Regions (35 cases each, 13%). In total, 11 countries reported an increase in cases in the last three weeks (20 June through 10 July 2023) compared to the three weeks prior (30 May through 19 June 2023).

As of 11 July 2023, 17 of the 112 affected countries have reported new cases within the last 21 days, the maximum disease incubation period. Six of these countries are in the Region of the Americas, five are in the European Region, three are in the Western Pacific Region, two are in the African Region, and one in the South-East Asia Region. Some of these countries continue to have sustained community transmission of mpox, while others report sporadic cases.

As of 11 July 2023, the ten countries that have reported the highest cumulative number of cases globally are the United States of America ($n = 30\,324$), Brazil ($n = 10\,961$), Spain (n = 7559), France (n = 4147), Colombia (n = 4090), Mexico (n = 4031), Peru (n = 3812), The United Kingdom (n = 3761), Germany (n = 3691), and Canada (n = 1496). Together, these countries account for 83.7% of the cases reported globally.

Table 1. Number of cumulative confirmed mpox cases and deaths reported to WHO, by WHO Region, from 1 January 2022 to 11 July 2023, 17:00 CEST

	Total confirmed	Total	Cases in last	3-week change in
WHO Region	cases	deaths	three weeks ⁱⁱ	cases (%)
Region of the Americas	59 568	119	88	11
European Region	25 935	7	25	14
African Region	1 802	21	35	-22
Western Pacific Region	774	0	92	-25
Eastern Mediterranean Region	90	1	0	-
South-East Asia Region	119	1	35	40
Total	88 288	149	275	-7

The epidemic curves shown in Figure 1 suggest that the outbreak continues with very low levels of transmission in the European Region, low transmission in the Americas, and a significant increase in transmission in the South-East Asia Region. In the African Region, where transmission is more continuous, the number of weekly cases fluctuates but does not show a clear trend. The Western Pacific region, which has been experiencing a relatively high number of cases in recent months, is showing the first potential signs of decrease.

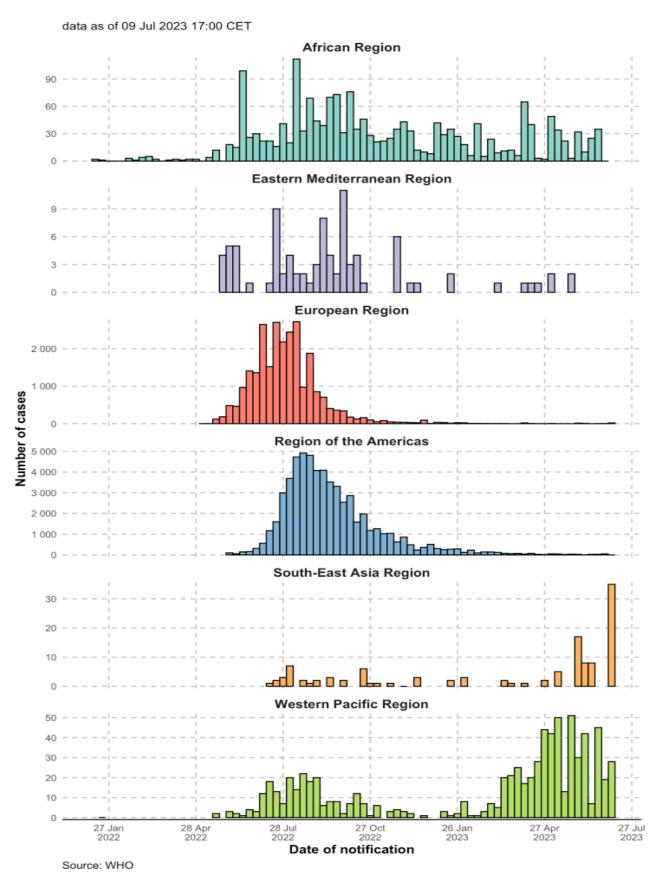
In the last week (3 July through 9 July 2023), a significant increase in the number of cases has been observed in the South-East Asia Region (Figures 1 and 2), driven by local community transmission in Thailand. Available

¹ https://health.gov.tt/media-release-trinidad-and-tobago-records-its-first-case-of-monkeypox-mpox

 $^{^{\}mbox{ii}}$ Using the three most recently completed international standard weeks (Monday - Sunday)

information on these cases shows that all cases are male, self-identified as men who have sex with men, most from Bangkok without a travel history abroad in the 21 days prior to symptom onset. The main route of transmission reported was sexual contact. Around half of the new cases are among people living with HIV, but so far, no severe illness or death due to mpox have been registered in Thailand. Transmission continues also in the Western Pacific driven by new cases in China.

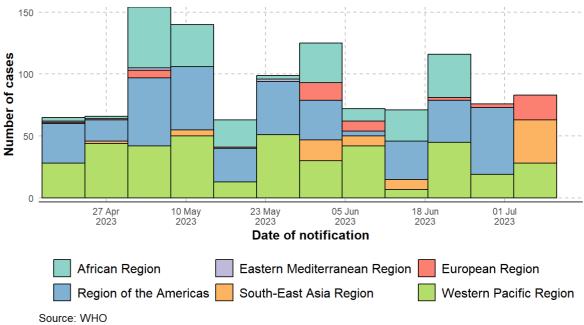
Figure 1. Epidemiological curves of weekly aggregated confirmed cases of mpox by WHO Region, from 1 January 2022 to 09 July 2023, 17:00 CEST*



^{*}Figure 1 shows aggregated weekly data for completed epidemiological weeks ending on Sundays. Data on the current week will be presented in the next situation report. Note the different scales of the y-axes.

Figure 2 shows that the number of weekly mpox cases reported globally in the last 12 weeks (17 April 2023 - 09 July 2023) has fluctuated between 50 and 150 cases, with most cases being reported by the African Region, Region of the Americas and the Western Pacific Region.

Figure 2. Epidemic curve of aggregated number of cases by WHO region, for the last 12 reporting weeks, 17 April 2023 - 09 July 2023.

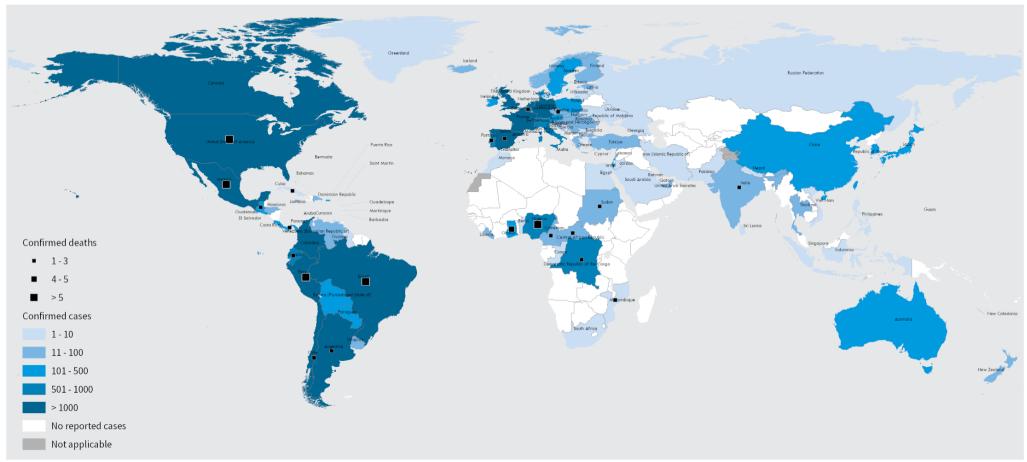


Other key epidemiological findings:

- As of 11 July 2023, 96.2% (76 419/79 432) of cases with available data are men, with a median age of 34 years (interquartile range: 29-41 years). The age and sex distribution of cases remain stable.
- Of cases with age data available, 1.4% (1107/81 879) are aged 0-17 years, including 325 (0.4%) aged 0-4 years. The majority of <18 years cases have been reported from the Region of the Americas (678/1107; 61.2%). The overall proportion of <18 years cases in the Region of the Americas is 1.2% (678/54 928), similar to the proportion which has been observed globally.
- Among cases with information available, 84.1% (26 049 / 30 965) have self-identified as gay, bisexual and
 other men who have sex with men. This proportion, while slightly fluctuating over time, has consistently
 been above 75%, highlighting that most transmission continues to occur in this community. When
 information about the sexual orientation of cases is lacking, a high proportion occurring in men may be,
 in some settings, indicative of transmission occurring among men who have sex with men.
- Of all reported modes of transmission since the start of the outbreak, skin and mucosal contact during sex has been the most reported, in 16 518 of 20 126 (82.1%) reported transmission events, followed by person-to-person non-sexual contact; this pattern has also been observed over the last 12 weeks. Detailed information on the route of transmission is not available for most cases from the WHO African Region, thus the available information on transmission might not fully describe the spread of the virus in the region.
- Where information is available, the most reported exposure setting is a party setting with sexual contact, comprising 4012 of 6052 (66.3%) reported exposure settings. In the last 12 weeks, of 48 cases with a reported exposure setting, the most common setting was Other (21 cases, 44%) with no further explanation, followed by party setting with sexual contact (12 cases, 25%), household (10 cases, 1%), workplace (two cases, 4%), large event with sexual contact (two cases, 4 %) and large event with no sexual contact (one case, 2%)
- Among cases where at least one symptom is reported (n = 34 766), the most common symptom is any rash, reported in 90.0% of cases, followed by fever (55.2%), and systemic rash or genital rash (53.9% and

- 47.5% respectively). The symptomatology of cases has been consistent over time in the countries newly affected in this outbreak.
- Around half (16 631/32 019, 52%) of cases with available information in this outbreak have been reported to be in people living with HIV. This proportion is lower for cases reported in the last 12 weeks (1109/3827, 29%).

Figure 3. Geographic distribution of confirmed cases of mpox reported to or identified by WHO from official public sources from 1 January 2022 to 10 July 2023, 17:00 CEST



The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization Map Production: WHO Health Emergencies Programme Map Date: 12 July 2023



Special preview: Global strategy for the elimination of human-to-human transmission of mpox: Proposed goal, objectives, definitions and contexts

It has been almost one year since the WHO Director-General declared the global outbreak of mpox a public health emergency of international concern (PHEIC) on 23 July 2022, following the second meeting of the International Health Regulations (2005) (IHR) Emergency Committee for the multi-country mpox outbreak. Since the report of the first cases, WHO has worked with communities, governments and other stakeholders worldwide to develop and implement effective strategies to stop the outbreak, which has affected 112 countries to date. Community responses to spread information, combat stigma and support integration of services with HIV/STI and other programmes and community activities have been crucial to the outbreak response.

During the PHEIC, WHO published a Strategic Preparedness, Readiness and Response Plan (SPRP) (1) and Operational Planning Guidelines (2) to support Member States to plan for and implement their mpox outbreak responses. On 11 May 2023, following the fifth meeting of the Emergency Committee, the Director-General lifted the PHEIC for mpox, nonetheless stating that "mpox continues to pose significant public health challenges that need a robust, active, and sustainable response (3)." The Emergency Committee recommended that all countries develop and implement plans for mpox control and elimination of human-to-human transmission, while continuing to ensure mitigation of zoonotic transmission (4).

To support this crucial work, WHO will publish a *Global strategic framework for enhancing control and achieving elimination of human-to-human transmission of mpox* and a complementary planning guide for implementation. The framework has been developed through a series of discussions culminating in an open consultation webinar on 28 June 2023 which can be viewed here.

The overarching goal of the Strategic Framework is to *achieve sustained elimination of human-to-human transmission of mpox*. This can be done through three proposed core objectives:

- (1) control mpox in every context to prevent community transmission
- (2) advance mpox research and access to countermeasures
- (3) minimize zoonotic transmission.

The approach to elimination of infectious diseases differs for each target disease (5, 6). For mpox, proposed definitions are as follows:

An <u>outbreak</u> of mpox is the occurrence of one or more cases of mpox in a nationally or locally defined geographic area, regardless of the origin of the case or cases.

<u>Community transmission of mpox</u> is the continuing occurrence of new mpox cases spread via human-to-human direct or indirect (fomite) contact for \geq six weeks following the first reported case.

<u>Control of mpox</u> is the absence of new mpox cases beyond six weeks (i.e., two maximum incubation periods) after the last case reported in an outbreak of any origin and in the presence of adequate surveillance*.

<u>Elimination of human-to-human transmission</u> is the absence of new cases (without any defined travel history or zoonotic exposure) for ≥ three months in the presence of adequate surveillance*.

An outbreak that is stopped within six weeks (I.e., no new cases after six weeks in a named geographic area) would not jeopardize elimination status in the area as, in the presence of adequate surveillance, it demonstrates capacity to detect cases and stop further transmission.

* For these proposed definitions, adequate surveillance refers to epidemiological disease surveillance which includes regular and systematic reporting of suspected, probable and confirmed cases based on up-to-date context-specific case definitions, detailed case investigations with an agreed set of variables, use of contact-tracing and active case search, availability of laboratory diagnostics, and use of laboratory quality and surveillance performance indicators.

To support national control and elimination efforts, ideally, confirmed mpox will be a notifiable disease in all jurisdictions. In some areas where access to laboratory confirmation is a major challenge, a clinical or suspected case definition could be considered as an interim measure. Good surveillance is supported by community engagement and health worker training.

Furthermore, to support elimination of human-to-human transmission of mpox in some contexts, it is also necessary to minimize zoonotic transmission. Minimizing zoonotic transmission is the active pursuit of One Health policies, strategies, interventions and actions to prevent or reduce the occurrence of zoonotic spillover events and mitigate the associated risks and consequences for people. Based on the context, national or local plans to minimize zoonotic transmission should include operational and outcome targets and milestones in order to better understand, document, quantify and reduce zoonotic transmission to a point where nearly all presumed zoonotic infections can be accounted for by documented exposures to animal reservoirs or vectors, in the presence of adequate surveillance.

Since the onset of the global outbreak of 2022-2023, it is clear that mpox can occur in any country or location, and that introduction or re-introduction of the virus that causes mpox remains an ongoing risk for all countries. Most countries (or sub-national areas) fall into one of the four following epidemiological contexts:

- Context A: Areas reporting sporadic cases or sustained community transmission primarily linked to sexual transmission, mainly among men (e.g., Europe and the Americas over the past year, Asia and the Pacific more recently)
- Context B: Mixed modes of transmission, continuous over time, particularly affecting urban or peri-urban areas, in which cases are more evenly distributed between men, women and children with known or presumed person-to-person transmission (e.g., primarily urban areas in West and Central Africa)
- Context C: Episodic or recurrent outbreaks, often in rural areas, involving both person-to-person transmission and potentially linked to presumed zoonotic spillover events (e.g., primarily East and Central Africa)
- Context D: No reported cases, including consideration of areas from which travel-related cases are reported by other jurisdictions.

These contexts are not rigid categories and do not encompass variations with regard to viral clade, secondary mode(s) of transmission, and other factors. Instead, countries and regions are encouraged to use these contexts as a starting point for detailed planning and action, and as a common terminology for assessing regional and global conditions.

Importantly, this elimination goal and the control objectives do not require standalone mpox programmes. The strategy will focus on actions to achieve control and elimination of human-to-human transmission through integration of efforts with other health programmes, including HIV/STI case detection, prevention and care services as well as primary health care and other clinical services.

The strategic framework rests on the guiding principles of support for community leadership, respect for equity and human rights, context-specific collaboration and integration, and commitment to continuous learning. These principles reflect the crucial role of community-led action in achieving control of the outbreak that began in 2022—as is also the case in ongoing interventions for many other public health issues. Most particularly it is important to continue to build on the lessons learned in tackling the HIV pandemic (7). Communities affected by mpox should be actively engaged in the development of control efforts and implementation of elimination plans. Community engagement will help support health emergency prevention, preparedness, response and resilience (HEPR) (8) and strengthen health systems at national and local levels for collaborative surveillance, community protection, clinical care of patients, access to vaccines and therapeutics, research to support elimination efforts, and continuing emergency coordination mechanisms to sustain longer term efforts.

Given the fresh understanding of how mpox spreads between people, this renewed focus on human-to-human transmission is essential to avert the establishment of mpox as an epidemic disease around the world. Following the global eradication of smallpox under WHO leadership 45 years ago, this is critical for global health security today. In addition, this focus also reflects our limited understanding of the ecology of the monkeypox virus in animal reservoirs and vectors, or the dynamics of zoonotic spillover events. Studies needed to address the origins of mpox and determine the role of zoonotic spillover events in the epidemiology of this disease in Africa have been outlined by the WHO Scientific Advisory Group for the origins of novel pathogens (SAGO) (9).

Elimination of human-to-human transmission of mpox is a global effort that depends on local action. This is an opportunity to discuss and share your thoughts and ideas for achieving elimination of human-to-human mpox transmission in your context and ensure attainment of the ambitious goal and objectives of the coming strategy.

References

- World Health Organization (WHO). <u>Strategic Preparedness, Readiness, and Response Plan: Monkeypox</u>. [Internet] 2022. [Cited 2023 7 July] <u>Available from: <a href="https://cdn.who.int/media/docs/default-source/documents/health-topics/monkeypox/sprp-monkeypox-final-(05oct22).pdf?sfvrsn=711814b6_2&download=true.
 </u>
- 2. World Health Organization. (WHO). Mpox Strategic Preparedness, Readiness and Response Plan Operational Planning Guidelines. [Internet] 2022. [Cited 2023 7 July] Available from: https://www.who.int/publications/m/item/monkeypox-strategic-preparedness-readiness--and-response--operational-planning-guidelines
- 3. World Health Organization (WHO). Virtual press conference on COVID-19 and other global health issues transcript 11 May 2023. [Internet] 2023. [Cited 2023 7 July] Available from: https://www.who.int/publications/m/item/virtual-press-conference-on-covid-19-and-other-global-health-issues-transcript---11-may-2023
- 4. World Health Organization (WHO). Fifth Meeting of the International Health Regulations (2005) (IHR) Emergency Committee on the Multi-Country Outbreak of mpox (monkeypox) 10 May 2023. [Internet] 2023. Available from: https://www.who.int/news/item/11-05-2023-fifth-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-on-the-multi-country-outbreak-of-monkeypox-(mpox)
- 5. World Health Organization (WHO). Eighth report of the Strategic and Technical Advisory Group for Neglected Tropical Diseases (STAG-NTDs) [Internet]. 2015 [cited 2023 7 July]. Available from: https://www.who.int/publications/m/item/eighth-report-of-the-strategic-and-technical-advisory-group-for-neglected-tropical-diseases-(stag-ntds)
- 6. World Health Organization (WHO). Multi-country outbreak of mpox, External situation report #25 [Internet] 24 June 2023. Available from: https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--25---24-june-2023
- World Health Organization (WHO). Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period 2022-2030. [Internet] 2022. [Cited 2023 7 July]. Available at: https://www.who.int/publications/i/item/9789240053779
- 8. World Health Organization (WHO). Strengthening the global health architecture for health emergency prevention, preparedness, response and resilience. [Internet]. 2023. [Cited 2023 7 July] Available at: https://www.who.int/publications/m/item/strengthening-the-global-architecture-for-health-emergency-prevention--preparedness--response-and-resilience
- World Health Organization (World Health Organization). Recommendations to better understand the origins of and factors for the
 emergence and re-emergence of mpox: Statement from the Scientific Advisory Group for the Origins of Novel Pathogens. [Internet].
 2022. [Cited 2023 7 July]. Available at: https://cdn.who.int/media/docs/default-source/scientific-advisory-group-on-the-origins-of-novel-pathogens/sago monkeypox-statement final 21.pdf?sfvrsn=c9e5b8a 1&download=true

Special Focus: Mpox in the Democratic Republic of the Congo – Situation update

General description

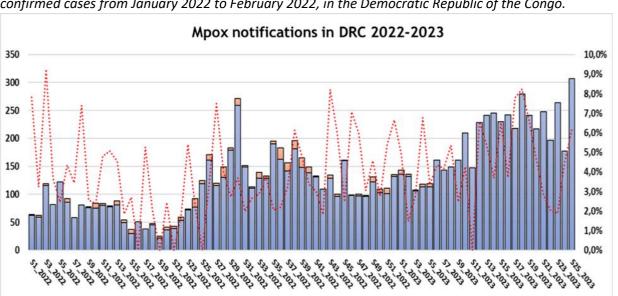
The first human case of mpox in the Democratic Republic of the Congo (DRC; then called Zaire) was documented in 1970 in the Équateur province. Prior to the ongoing global outbreak, DRC was the country reporting the most mpox cases worldwide, with the cases being reported in 17 of its 26 provinces, including in Kinshasa. Many of these affected areas fall within the equatorial rainforest, where the virus circulates among wild animals, presumed to be at the root of zoonotic transmission events, which however remain largely unconfirmed. In 2023, cases are being notified from Kwango province for the first time, illustrating the continuing geographic expansion of mpox in the country.

Mpox has long been known to spread to humans through contact with wild animals such as forest-dwelling small rodents such as sun squirrels, as well as primates such as colobus monkeys. However, it can also be transmitted from human to human via direct contact with skin lesions of a person with mpox, or contact with materials contaminated by their skin lesions or bodily fluids.

Over the past few years, multiple mpox outbreaks have occurred in the DRC, mostly in rural and remote areas where many people depend on forest products for protein, including from wild animal sources. Often, access to diagnostic services and healthcare is limited, which complicates disease control efforts.

The DRC has a surveillance system in place that monitors both suspected and confirmed mpox cases, along with associated deaths. From January 2022 to June 2023, there has been a steady rise in the number of suspected mpox cases in the DRC compared to previous years, with case fatality ratios fluctuating between 0 and 10% (Figure 1). Most suspected cases are not laboratory-confirmed due to limited specimen collection in remote rural areas of the country, which directly diminishes testing capacity for clinical diagnostic and surveillance purposes. The Institut National de Recherche Biomédicale (INRB, National Institute of Biomedical Research) in Kinshasa is the only reference laboratory capable of confirming mpox with polymerase chain reaction (PCR), making the process challenging as many affected areas are distant with poor roads or other infrastructure connections to Kinshasa.

Genomic sequencing for mpox is also solely available at the INRB in Kinshasa. So far, all sequenced samples, both from humans and animals, have demonstrated the presence of Clade I monkeypox virus (MPXV).



Confirmed

····· Mortality

Suspected

Figure 1: Number of suspected mpox cases and case fatality among these from January 2022 to June 2023, and confirmed cases from January 2022 to February 2022, in the Democratic Republic of the Congo.

Situation in 2023

From 1 January to 25 June 2023, there have been 5236 suspected cases and 229 deaths from mpox among suspected cases reported in the DRC. PCR testing was performed on 614 out of 5236 (12%) of the suspected cases, of which 455 out of 614 (74%) were confirmed to be mpox. The majority of suspected cases (70%) and deaths (72%) occurred among individuals aged between 0 and 15 years. The number of confirmed cases in the country is regularly reported in the Weekly bulletin on outbreaks and other emergencies (1) of the WHO African Regional office. As previously noted, the DRC is completing the investigation of clusters of cases of mpox in Kwango province linked to sexual transmission. Formal confirmation of the virus clade is underway.

During 2023, samples were taken from 156 wild animals, including rodents and primates, during specific sampling activities for animal surveillance and research purposes. Of these, 100 (64%) tested positive for the MPXV. None were directly linked to zoonotic spillover events or mpox in human populations.

The ongoing mpox situation in the DRC remains a significant public health concern that necessitates continual monitoring and response. In response to this situation, the Ministère de la Santé publique, Hygiène et Prévention (the national Ministry of Health), in collaboration with WHO and other partners, established an incident management team in February 2023.

The incident management team has since conducted surveillance training and field case investigations in eight provinces and shipped 1000 sampling kits to these areas in March-April 2023. In two of the most affected provinces, the validation of GeneXpert for mpox diagnosis is ongoing under a research protocol.

Infection prevention and control training has taken place in three provinces, with 158 healthcare providers participating. Risk communication and community engagement activities have been carried out in six priority provinces, resulting in the training of 500 community workers.

The mpox outbreak response in the DRC continues to face significant financial, logistic and human resource challenges which limit access to diagnostics and laboratory confirmation of cases.

Although antiviral treatment is not yet widely or commercially available in the DRC, one clinical trial of tecovirimat in the treatment of mpox was initiated in the provinces of Maniema and Sankuru in February 2023 (2). These two provinces have been equipped with essential drugs for symptomatic case management of mpox, and a simplified version of the mpox case management protocol has been made available.

Likewise, a study to assess the immunogenicity and safety of the MVA-BN smallpox/mpox vaccine has been underway in the DRC since 2016 (3). This is now being supplemented by a further study to assess the safety profile of the vaccine among health workers in the tecovirimat study in the country mentioned above (4).

While the mpox outbreak response in the DRC continues to face significant financial, logistic and human resource challenges which limit laboratory confirmation of cases and access to care. important steps are being taken to better understand and manage the situation through establishment of a coordinated emergency response mechanism, strengthening surveillance and diagnostics, training health workers to improve clinical care, and raising awareness of all possible modes of mpox transmission through risk communication and community engagement. In this complex environment, a One Health approach remains essential.

References:

- WHO. Weekly Bulletin on Outbreaks and Other Emergencies [Internet]. Available from: https://apps.who.int/iris/bitstream/handle/10665/370961/OEW27-0309072023.pdf
- 2. National Institutes of Health. ClinicalTrials.gov. Tecovirimat for Treatment of Monkeypox Virus. Available from: https://classic.clinicaltrials.gov/ct2/show/NCT05559099
- 3. National Institutes of Health. ClinicalTrials.gov. IMVAMUNE® Smallpox Vaccine in Adult Healthcare Personnel at Risk for Monkeypox in the Democratic Republic of the Congo. Available from: https://classic.clinicaltrials.gov/ct2/show/NCT02977715
- 4. National Institutes of Health. ClinicalTrials.gov. Assessment of Safety Profile of MVA-BN Vaccine in the PALM-007 Study in DRC. Available from: https://classic.clinicaltrials.gov/ct2/show/NCT05734508

Technical guidance and other resources

Strategic Planning and Global Support

- World Health Organization. (2023). Epidemiology of human monkeypox (mpox) worldwide, 2018–2021. Weekly Epidemiological Record, 98 (03), 29 - 36. World Health Organization. https://apps.who.int/iris/handle/10665/365630
- Lewis RF, Kuppalli K, Hoxha A, Doherty MC; WHO mpox response incident management team. Emergency committee recommendations on mpox what's next? Bull World Health Organ. 2023 May 1;101(5):300-300A. doi: 10.2471/BLT.23.290134.
 PMID: 37131950; PMCID: PMC10140684. WHO factsheet on monkeypox, 18 April 2022. https://www.who.int/news-room/fact-sheets/detail/monkeypox
- WHO commentary on the naming of mpox disease and monkeypox virus clades has been published in the Lancet Infectious Diseases. 6 February 2023. New nomenclature for mpox (monkeypox) and monkeypox virus clades
- WHO recommends new name for monkeypox disease-28 November 2022 https://www.who.int/news/item/28-11-2022-who-recommends-new-name-for-monkeypox-disease
- Monkeypox Strategic Preparedness, Readiness and Response Plan (SPRP) Operational planning guidelines 2 November 2022
 https://www.who.int/publications/m/item/monkeypox-strategic-preparedness--readiness--and-response--operational-planning-guidelines
- WHO Emergency Appeal: Monkeypox July 2022 June 2023, 13 October 2022 https://www.who.int/publications/m/item/who-emergency-appeal--monkeypox---july-2022---june-2023
- Monkeypox Strategic Preparedness, Readiness, and Response Plan (SPRP)- 5 October 2022, https://www.who.int/publications/m/item/monkeypox-strategic-preparedness--readiness--and-response-plan-(sprp)
- Invited comment. Why the monkeypox outbreak constitutes a public health emergency of international concern. Ghebreyesus TA. *BMJ* 2022;378:o1978. 09 August 2022. https://www.bmj.com/content/378/bmj.o1978

International Health Regulations Emergency committee and Temporary Recommendations of the Director-General

- WHO Fifth meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak
 of mpox (monkeypox), 10 May 2023. <a href="https://www.who.int/news/item/11-05-2023-fifth-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-on-the-multi-country-outbreak-of-monkeypox-(mpox)
- WHO fourth meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox, 15 February 2023. https://www.who.int/news/item/15-02-2023-fourth-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-on-the-multi-country-outbreak-of-monkeypox-(mpox)
- WHO Third meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox, 1 November 2022. https://www.who.int/news/item/01-11-2022-third-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox
- WHO Second meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox, 23 July 2022. https://www.who.int/news/item/23-07-2022-second-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox
- WHO Director-General's statement at the press conference following IHR Emergency Committee regarding the multi-country outbreak of monkeypox, 23 July 2022. https://www.who.int/director-general/speeches/detail/who-director-general-s-statement-on-the-press-conference-following-IHR-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox--23-july-2022

WHO Interim technical guidance

- WHO Vaccines and immunization for monkeypox: Interim guidance, 16 November 2022. https://apps.who.int/iris/bitstream/handle/10665/364527/WHO-MPX-Immunization-2022.3-eng.pdf
- Clinical management and infection prevention and control for monkeypox: Interim rapid response guidance, 10 June 2022. https://www.who.int/publications/i/item/WHO-MPX-Clinical-and-IPC-2022.1
- Emergency use of unproven clinical interventions outside clinical trials: ethical considerations: https://www.who.int/publications-detail-redirect/9789240041745
- WHO Technical brief (interim) and priority actions: enhancing readiness for monkeypox in WHO South-East Asia Region, 7 July 2022. https://cdn.who.int/media/docs/default-source/searo/whe/monkeypox/searo-mpx-tbrief22.pdf

Surveillance

- Surveillance, case investigation and contact tracing for mpox (monkeypox): interim guidance, 22 December 2022. https://www.who.int/publications/i/item/WHO-MPX-Surveillance-2022.4
- WHO Global clinical data platform for monkeypox case report form (CRF), 21 July 2022, https://www.who.int/publications/i/item/WHO-MPX-Clinical CRF-2022.3
- Technical Guidelines for Integrated Disease Surveillance and Response in the African Region: Third edition: https://www.afro.who.int/publications/technical-guidelines-integrated-disease-surveillance-and-response-african-region-third

Data management

- Monkeypox Case and contact investigation form (CIF) and minimum dataset Case reporting form (CRF). 19 August 2022. https://www.who.int/publications/m/item/monkeypox-minimum-dataset-case-reporting-form-(crf)
- The WHO Global Clinical Platform for monkeypox, 14 June 2022. https://www.who.int/tools/global-clinical-platform/monkeypox
- WHO Go.Data: Managing complex data in outbreaks. https://www.who.int/tools/godata

Risk communication and community engagement and Public Health Advice

- Risk communication and community engagement (RCCE) for monkeypox outbreaks: Interim guidance, 24 June 2022. https://www.who.int/publications/i/item/WHO-MPX-RCCE-2022.1
- Interim advice for public health authorities on summer events during the monkeypox outbreak in Europe, 2022. 14 June
 2022. https://www.who.int/europe/publications/m/item/interim-advice-for-public-health-authorities--on-summer-events-during-the-monkeypox--outbreak-in-europe--2022

- Interim advice on Risk Communication and Community Engagement during the monkeypox outbreak in Europe, 2022. Joint report by WHO Regional office for Europe/ECDC, 2 June 2022. https://www.euro.who.int/ data/assets/pdf file/0009/539046/ECDC-WHO-interim-advice-RCCE-Monkeypox-2-06-2022-eng.pdfhttps://www.who.int/publications/m/item/public-health-advice-on-mpox-(monkeypox)-and-sex-on-premises-venues-and-events
- Public health advice on mpox and congregate settings: settings in which people live, stay or work in proximity, 20 March 2023: https://www.who.int/publications/m/item/public-health-advice-on-mpox-and-congregate-settings--settings-in-which-people-live-stay-or-work-in-proximity
- Public health advice for gay, bisexual and other men who have sex with men and mpox. Version 3. 9 March 2023: https://www.who.int/publications/m/item/monkeypox-public-health-advice-for-men-who-have-sex-with-men
- Public health advice on mpox and sex-on-premises venues and events 01 March 2023:
- Public health advice for sex workers on monkeypox. 30 September 2022. https://www.who.int/publications/m/item/public-health-advice-for-sex-workers-on-monkeypox
- Risk communication and community engagement public health advice on understanding, preventing and addressing stigma and discrimination to monkeypox. 1 September 2022. https://www.who.int/publications/m/item/communications-and-community-engagement-interim-guidance-on-using-inclusive-language-in-understanding--preventing-and-addressing-stigma-and-discrimination-related-to-monkeypox
- Public health advice for gatherings during the current monkeypox outbreak, 28 June 2022: https://www.who.int/publications/i/item/WHO-MPX-Gatherings-2022.1
- Mpox Q&A on mpox testing for health workers and individuals. 2 March 2023: https://www.who.int/news-room/questions-and-answers/item/testing-for-mpox-individuals-and-communities
- Monkeypox Q&A, 31 August 2022. https://www.who.int/news-room/questions-and-answers/item/monkeypox
- Infographic on getting tested for mpox 27 February 2023: https://www.who.int/multi-media/details/getting-tested-for-mpox--what-you-need-to-know
- Mpox infographics: https://who.canto.global/v/UNNOPG0353/folder/K677K?viewIndex=0

EPI - WIN Webinars and Updates

- The recordings of the previous EPI-WIN Webinars related to current monkeypox outbreak:
 - WHO EPI-WIN webinar: Global mpox strategy for elimination and control: open consultation (28 June)" https://www.who.int/news-room/events/detail/2023/06/28/default-calendar/who-epi-win-webinar-global-mpox-strategy-for-elimination-and-control-open-consultation
 - WHO EPI-WIN webinar: Changing perspectives of the mpox outbreak (22 February 2023): https://www.who.int/news-room/events/detail/2023/02/22/default-calendar/who-epi-win-webinar-changing-perspectives-of-the-mpox-outbreak
 - EPI-WIN webinar: How is Monkeypox spreading? What we know so far (27 July 2022): https://www.who.int/news-room/events/detail/2022/07/27/default-calendar/WHO-EPI-WIN-webinar-how-is-monkeypox-spreading
 - EPI-WIN webinar: Monkeypox outbreak and mass gatherings (24 June 2022): https://www.who.int/news-room/events/detail/2022/06/24/default-calendar/WHO-EPI-WIN-webinar-monkeypox-and-mass-gathering
- WHO monkeypox technical briefing for the transport and tourism sector, 5 October 2022: https://www.who.int/news-room/events/detail/2022/10/05/default-calendar/technical-briefing-on-monkeypox-for-transport-and-tourism-sector
- Managing stigma and discrimination in health-care settings in public health emergencies such as monkeypox (22 Sept 2022)
- How is monkeypox spreading? What do we know so far (27 July 2022)
- Monkeypox outbreak and mass gatherings (24 June 2022)
- WHO Monkeypox outbreak: update and advice for health workers, 26 May 2022. https://www.who.int/docs/default-source/coronaviruse/risk-comms-updates/update_monkeypox-.pdf?sfvrsn=99baeb03_1

EPI-WIN updates

- Update 79: Monkeypox outbreak update: Situation transmission countermeasures
- Update 78: Monkeypox and mass gatherings
- Update 77: Monkeypox outbreak, update and advice for health workers

Laboratory and diagnostics

- Monkeypox: experts give virus variants new names, 12 August 2022. https://www.who.int/news/item/12-08-2022-monkeypox-experts-give-virus-variants-new-names
- WHO Laboratory testing for the monkeypox virus: Interim guidance, 23 May 2022. https://apps.who.int/iris/handle/10665/354488
- WHO Guidance on regulations for the transport of infectious substances 2021-2023, 25 February 2021. https://www.who.int/publications/i/item/9789240019720
- Genomic epidemiology of monkeypox virus. https://nextstrain.org/monkeypox?c=country

Clinical management and Infection, prevention and Control

- Clinical management and infection prevention and control for monkeypox: Interim rapid response guidance, 10 June 2022. https://www.who.int/publications/i/item/WHO-MPX-Clinical-and-IPC-2022.1
- Atlas of mpox lesions: a tool for clinical researchers.
- mhGAP intervention guide version 2.0. Geneva: World Health Organization; 2019.
- mhGAP training manuals for the mhGAP intervention guide for mental, neurological, and substance use disorders in non-specialized health settings. Geneva: World Health Organization; 2017. https://apps.who.int/iris/handle/10665/250239

- WOAH Risk Guidance on Reducing Spillback of Mpox (Monkeypox) virus from Humans to Wildlife, Pet Animals and other Animals
- WOAH Website and FAQs on Monkeypox in animals

Disease Outbreak News and situation reports

- Monkeypox outbreak 2022: https://www.who.int/emergencies/situations/monkeypox-oubreak-2022
- Multi-country outbreak of mpox, External situation report #24- 10 June 2023:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--24---10-june-2023
- Multi-country outbreak of mpox, External situation report #23- 26 May 2023:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--23---26-may-2023
- Multi-country outbreak of mpox, External situation report #22- 11 May 2023:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--22---11-may-2023
- Multi-country outbreak of mpox, External situation report #21- 27 April 2023:
- https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-21---27-april-2023
- Multi-country outbreak of mpox, External situation report #20- 13 April 2023:
 - $\underline{\text{https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--20--13-april-2023}$
- Multi-country outbreak of mpox, External situation report #19- 30 March 2023:
 - $\underline{\text{https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--19---30-march-2023}$
- Multi-country outbreak of mpox, External situation report #18- 16 March 2023:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--18---16-march-2023
- Multi-country outbreak of mpox, External situation report #17- 2 March 2023:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report---17---2-march-2023
- Multi-country outbreak of mpox, External situation report #16- 16 February 2023:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--16--ebruary-2023
- Multi-country outbreak of mpox, External situation report #15- 2 February 2023:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-15--2-february-2023
- Multi-country outbreak of mpox, External situation report #14- 19 January 2023:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-14--19-january-2023
- Multi-country outbreak of mpox, External situation report #13- 5 January 2023:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--13---5-january-2023
- Multi-country outbreak of mpox, External situation report #12- 14 December 2022:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-12--14-december-2022
- Multi-country outbreak of mpox, External situation report #11- 1 December 2022:
 - $\underline{\text{https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--11---1-december-2022}$
- Multi-country outbreak of monkeypox, External situation report #10- 16 November 2022:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--10---16-november-2022
- Multi-country outbreak of monkeypox, External situation report #9- 2 November 2022:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--9---2-november-2022
- Multi-country outbreak of monkeypox, External situation report #8- 19 October 2022:
 - $\underline{\text{https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--8---19-october-2022}$
- Multi-country outbreak of monkeypox, External situation report #7-5 October 2022:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--7---5-october-2022
- Multi-country outbreak of monkeypox, External situation report #6- 21 September 2022:
- https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--6---21-september-2022
- Multi-country outbreak of monkeypox, External situation report #5- 7 September 2022:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--5---7-september-2022
- Multi-country outbreak of monkeypox, External situation report #4- 24 August :
- https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--4---24-august-2022
- Multi-country outbreak of monkeypox, External situation report #3 10 August 2022:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--3---10-august-2022
- WHO Multi-country outbreak of monkeypox, External situation report #2 25 July 2022:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--2---25-july-2022
- WHO Multi-country outbreak of monkeypox, External situation report #1 6 July 2022:
 - https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--1---6-july-2022
- WHO disease outbreak news: Monkeypox, all items related to multi-country outbreak
- WHO disease outbreak news: Monkeypox, all previous items including endemic countries and traveler-associated outbreaks https://www.who.int/emergencies/emergency-events/item/monkeypox

Training and Education

- WHO monkeypox outbreak toolbox, June 2022. https://www.who.int/docs/default-source/documents/emergencies/outbreak-toolkit/monkeypox-toolbox-20112019.pdf
- Health topics Monkeypox: https://www.who.int/health-topics/monkeypox
- Open WHO. Online training module. Monkeypox: Introduction. 2020
 - English: https://openwho.org/courses/monkeypox-introduction

- Français: https://openwho.org/courses/variole-du-singe-introduction
- Open WHO. Extended training. Monkeypox epidemiology, preparedness and response. 2021.
 - English: https://openwho.org/courses/monkeypox-intermediate;
 - Français: https://openwho.org/courses/variole-du-singe-intermediaire

Other Resources

- WHO AFRO Weekly Bulletin on Outbreaks and Other Emergencies, all previous items: https://www.afro.who.int/health-topics/disease-outbreaks/outbreaks-and-other-emergencies-updates
- WHO 5 moments for hand hygiene. https://www.who.int/campaigns/world-hand-hygiene-day
- WHO One Health. https://www.who.int/health-topics/one-health
- World Organisation for Animal Health, founded as OIE: Monkeypox. https://www.woah.org/en/disease/monkeypox/
- Joint WHO Regional Office for Europe European Centre for Disease Prevention and Control, Monkeypox surveillance bulletin Situation reports (who.int)
- Joint WHO Regional Office for Europe European Centre for Disease Prevention and Control, Monkeypox Resource toolkit to support
 national authorities and event organizers in their planning and coordination of mass and large gathering events.
 https://www.who.int/europe/tools-and-toolkits/monkeypox-resource-toolkit-for-planning-and-coordination-of-mass-and-large-gathering-events/
- WHO. Monkeypox & mass gatherings. Recommendations for mass gatherings during a monkeypox outbreak. https://cdn.who.int/media/docs/default-source/epi-win/update78 monkeypox-mass-gatherings.pdf?sfvrsn=dfc9ee5a 1&download=true
- WHO European Region Interim advice for public health authorities on summer events during the monkeypox outbreak in Europe, 2022 https://www.who.int/europe/publications/m/item/interim-advice-for-public-health-authorities--on-summer-events-during-the-monkeypox--outbreak-in-europe--2022
- Weekly epidemiological record (WER) no.11, 16 March 2018, Emergence of monkeypox in West Africa and Central Africa 1970-2017. http://apps.who.int/iris/bitstream/handle/10665/260497/WER9311.pdf;jsessionid=7AB72F28D04CFE6CE24996192FC478FF?sequence=1 Jezek Z., Fenner F.: Human Monkeypox. Monogr Virol. Basel, Karger, 1988, vol 17, pp 1-5. doi: 10.1159/isbn.978-3-318-04039-5
- Monkeypox in the Region of the Americas Risk assessment. https://www.paho.org/en/documents/monkeypox-region-americas-risk-assessment
- mhGAP humanitarian intervention guide (mhGAP-HIG): clinical management of mental, neurological, and substance use conditions in humanitarian emergencies. Geneva: World Health Organization; 2015. https://www.who.int/publications/i/item/9789241548922

Annex 1: Data, table and figure notes

Caution must be taken when interpreting all data presented. Differences are to be expected between information products published by WHO, national public health authorities, and other sources using different inclusion criteria and different data cut-off times. While steps are taken to ensure accuracy and reliability, all data are subject to continuous verification and change. Case detection, definitions, testing strategies, reporting practice, and lag times differ between countries/territories/areas. These factors, amongst others, influence the counts presented, with variable underestimation of true case and death counts, and variable delays to reflecting these data at the global level.

^[i] Countries' may refer to countries, territories, areas or other jurisdictions of similar status. The designations employed, and the presentation of these materials do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Annex 2: Confirmed cases of mpox by WHO region and country from 1 January 2022 to 10 July 2023, 17:00 CEST.

*Countries with no reported cases for more than 21 days

WHO Region	Country	Total Confirmed Cases	Total Deaths#
African Region	Benin*	3	0
	Cameroon	41	3
	Central African Republic*	30	1
	Congo*	5	0
	Democratic Republic of the Congo	734	3
	Ghana*	127	4
	Liberia*	13	0
	Mozambique*	1	1
	Nigeria*	843	9
	South Africa*	5	0
Eastern Mediterranean	Bahrain*	2	0
Region	Egypt*	3	0
	Iran (Islamic Republic of) *	1	0
	Jordan*	1	0
	Lebanon*	27	0
	Morocco*	3	0
	Pakistan*	5	0
	Qatar*	5	0
	Saudi Arabia*	8	0
	Sudan*	19	1
	United Arab Emirates*	16	0
European Region	Andorra*	4	0
	Austria*	328	0
	Belgium*	795	2
	Bosnia and Herzegovina*	9	0
	Bulgaria*	6	0
	Croatia*	33	0
	Cyprus*	5	0
	Czechia*	71	1
	Denmark*	196	0

	Estonia*	11	0
	Finland*	42	0
	France	4 147	0
	Georgia*	2	0
	Germany*	3 691	0
	Gibraltar*		0
	Greece*	6	0
	Greenland*	88	
		2	0
	Hungary*	80	0
	Iceland*	16	0
	Ireland*	229	0
	Israel	263	0
	Italy*	957	0
	Latvia*	6	0
	Lithuania*	5	0
	Luxembourg*	57	0
	Malta*	34	0
	Monaco*	3	0
	Montenegro*	2	0
	Netherlands*	1 265	0
	Norway	96	0
	Poland*	217	0
	Portugal	965	1
	Republic of Moldova*	2	0
	Romania*	47	0
	Russian Federation*	2	0
	San Marino*	1	0
	Serbia*	40	0
	Slovakia*	14	0
	Slovenia*	47	0
	Spain*	7 559	3
	Sweden*	260	0
	Switzerland*	554	0
	The United Kingdom	3 761	0
	Türkiye*	12	0
	Ukraine*	5	0
Region of the Americas	Argentina*	1 129	2
	Aruba*	3	0
	Bahamas	3	0
	Barbados*	1	0
	Bermuda*	1	0
	Bolivia (Plurinational State of)*	265	0
	Brazil		
		10 961	16
	Canada*	1 496	0
	Chile*	1 441	2
	Colombia*	4 090	0
	Costa Rica*	225	0
	Cuba*	8	1
	Curação *	3	0
	Dominican Republic*	52	0

	Ecuador*	533	3
	El Salvador*	104	0
	Guadeloupe*	1	0
	Guatemala*	405	1
	Guyana*	2	0
	Honduras*	44	0
	Jamaica*	21	0
	Martinique*	7	0
	Mexico	4 031	30
	Panama	237	1
	Paraguay*	126	0
	Peru	3 812	20
	Puerto Rico*	211	0
	Saint Martin*	1	0
	United States of America	30 324	43
	Uruguay*	19	0
	Venezuela (Bolivarian Republic of)*	12	0
South-East Asia Region	India*	22	1
	Indonesia*	1	0
	Nepal*	1	0
	Sri Lanka*	4	0
	Thailand	91	0
Western Pacific Region	Australia*	145	0
	China	246	0
	Guam*	1	0
	Japan	188	0
	New Caledonia*	1	0
	New Zealand*	41	0
	Philippines*	5	0
	Republic of Korea	120	0
	Singapore*	25	0
	Viet Nam*	2	0
Cumulative	111 Countries/territories/areas	88 288	149

^{*}Only deaths among confirmed cases are reported here; the reported number of deaths due to mpox among suspected cases is available at regional or national level.