

Multi-country outbreak of mpox

External Situation Report 28, published 19 September 2023

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

Risk assessment	Laboratory confirmed cases	Deaths	Countries/areas/territories
Global risk – Moderate	90 439	157	115

Mpox long-term risk assessment

- For general population in countries not affected prior to the current outbreak is assessed as low.
- For general population in countries with historical mpox transmission and their neighboring countries is assessed as moderate.
- Overall global risk for men who have sex with men and sex workers, is assessed as moderate.

Highlights

- Following publication of the last Situation Report on [14 August 2023](#), up until 11 September 2023, WHO has received reports of 1131 new confirmed cases of mpox and five new related deaths.
- Transmission of monkeypox virus (MPXV) continues at a low level in most of the reporting countries, with the main epidemiological and clinical characteristics of cases remaining stable. As of 11 September 2023, 22 of the 115 affected countries have reported new cases to WHO within the last 21 days.
- Sustained community transmission continues to be observed mainly in the South-East Asia and Western Pacific regions.
- The global outbreak has shifted the understanding of mpox as an infectious disease that spreads between people. In addition to ongoing risks of human-to-human transmission everywhere, outbreaks related to zoonotic transmission will continue to occur in some settings.
- This situation report therefore includes a special focus on a Long-term Risk Assessment conducted by WHO to assess the global risk of mpox.
- The global public health risk associated with mpox is low in the general population. However, in African settings where mpox has historically been reported and continues to occur regularly, the risk for the general population is moderate, and for men who have sex with men and for sex workers, the risk is assessed as moderate in all settings and contexts.
- A summary of the Director-General's standing recommendations for mpox is provided.
- The report includes a special focus on an animal surveillance study among susceptible wildlife in Nigeria, planned to start in September 2023.
- The next WHO mpox situation report will be published in the second week of October 2023.

From 1 January 2022 through 11 September 2023, a cumulative total of 90 439 laboratory-confirmed cases of mpox, including 157 deaths, have been reported to WHO from 115 countries/territories/areas (hereafter 'countries') in all six WHO Regions (Table 1). Since the last situation report published on [14 August 2023](#), and up until 11 September 2023, a total of 1131 new cases (1.3% increase in total cases) and five new deaths have been reported. Two countries, Malaysia and Lao People's Democratic Republic, reported their first mpox cases since the last situation report.

The number of weekly new cases reported globally has increased by 328% in week 36 (04 September through 10 September 2023) (n = 621 cases) compared to week 35 (28 August through 03 September 2023) (n = 145 cases). Most of this increase is explained by the reporting of cases for the month of August by [China in week 36](#). Globally, there is a 25% increase in reported cases in the last three weeks compared to the previous three weeks.

Fourteen countries reported an increase in cases in the last three weeks (21 August through 10 September 2023) compared to the three weeks prior (31 July through 20 August 2023), with Australia reporting the highest relative increase in cases (eight cases versus two).

The Western Pacific Region reported over half (57%) of cases in the past three weeks (21 August through 10 September 2023), followed by the South-East Asia and Americas regions (Table 1). Fourteen countries reported an increase in cases in the last three weeks (21 August through 10 September 2023) compared to the three weeks prior (31 July through 20 August 2023). A decline in reported confirmed and probable cases has been observed in the African Region, but it is unclear if this is due to a decrease in cases or a delay in reporting.

As of 11 September 2023, 22 of the 115 affected countries have reported new cases within the last 21 days, the maximum disease incubation period. Eleven of these were in the European Region, five in the Western Pacific Region, two in the African Region, two in the Region of the Americas, one in the Eastern Mediterranean Region, and one in the South-East Asia Region.

As of 11 September 2023, the ten countries that have reported the highest cumulative number of cases globally continue to be the United States of America (n = 30 610), Brazil (n = 10 967), Spain (n = 7580), France (n = 4154), Colombia (n = 4090), Mexico (n = 4061), Peru (n = 3812), The United Kingdom (n = 3782), Germany (n = 3697), and Canada (n = 1496). Together, these countries account for 82% 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 September 2023, 17:00 CEST

WHO Region	Total confirmed cases	Total deaths	Cases in last three weeks ⁱ	3-week change in cases (%)
Region of the Americas	59 919	127	123	23
European Region	26 088	7	88	35
African Region	1 964	20	25	-24
Western Pacific Region	2 024	0	548	2
South-East Asia Region	353	2	136	-
Eastern Mediterranean Region	91	1	1	-
Total	90 439	157	921	25

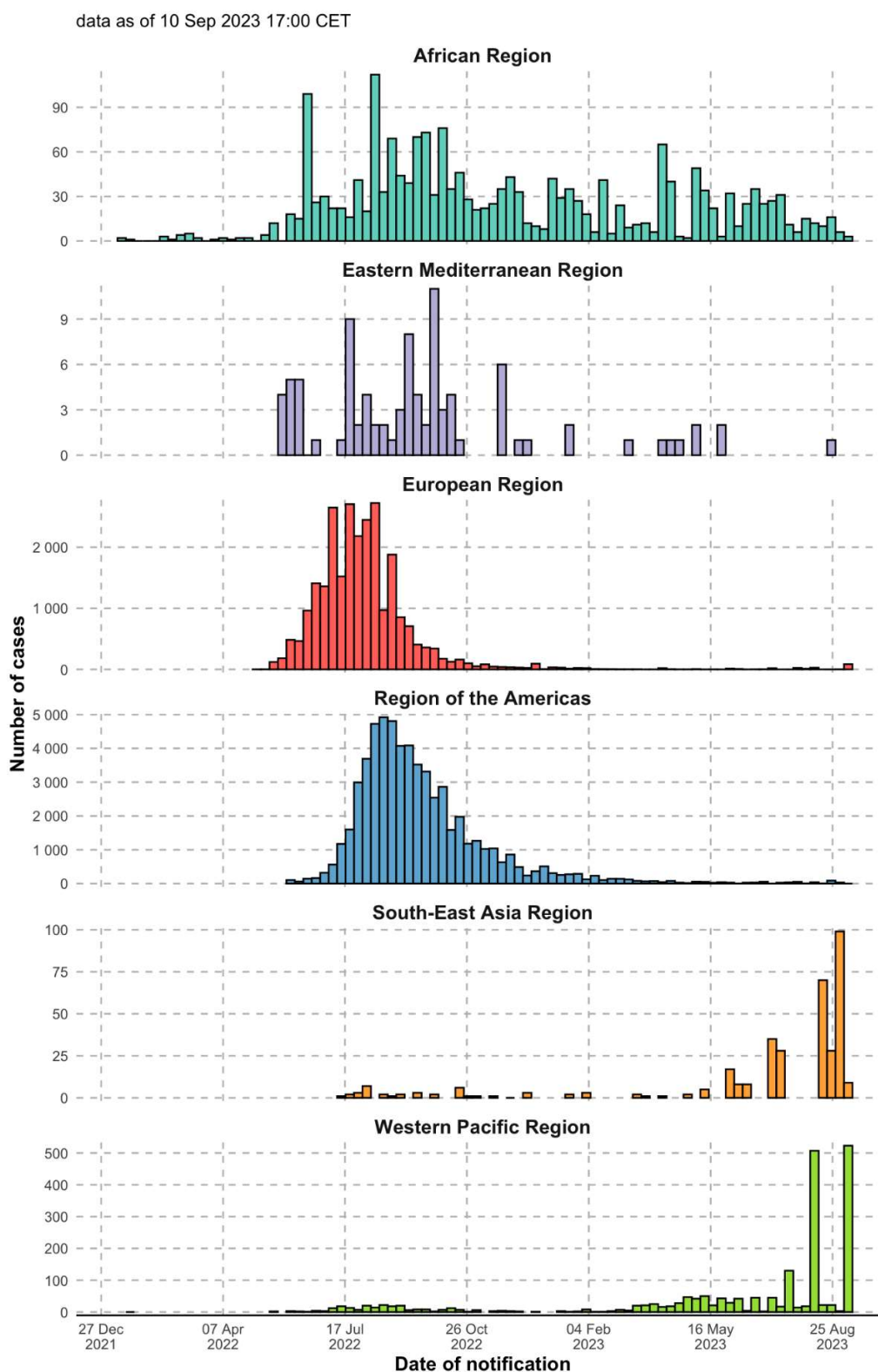
The epidemic curves shown in Figure 1 suggest that the outbreak continues at a low level of transmission in the European Region and in Region of the Americas, while a higher transmission is observed in the Western Pacific and South-East Asia regions. In the African Region, where transmission is more continuous, the number of weekly

ⁱ Using the three most recently completed international standard weeks (Monday - Sunday)

reported confirmed cases fluctuates without a clear trend. Based on data shared with WHO, the Eastern Mediterranean Region is experiencing mainly sporadic mpox cases.

On 8 September, China CDC reported a batch of 501 new mpox cases, covering the period 1-31 August 2023.

Figure 1. Epidemiological curves of weekly aggregated confirmed cases of mpox by WHO Region, from 1 January 2022 to 10 September 2023, 17:00 CEST*

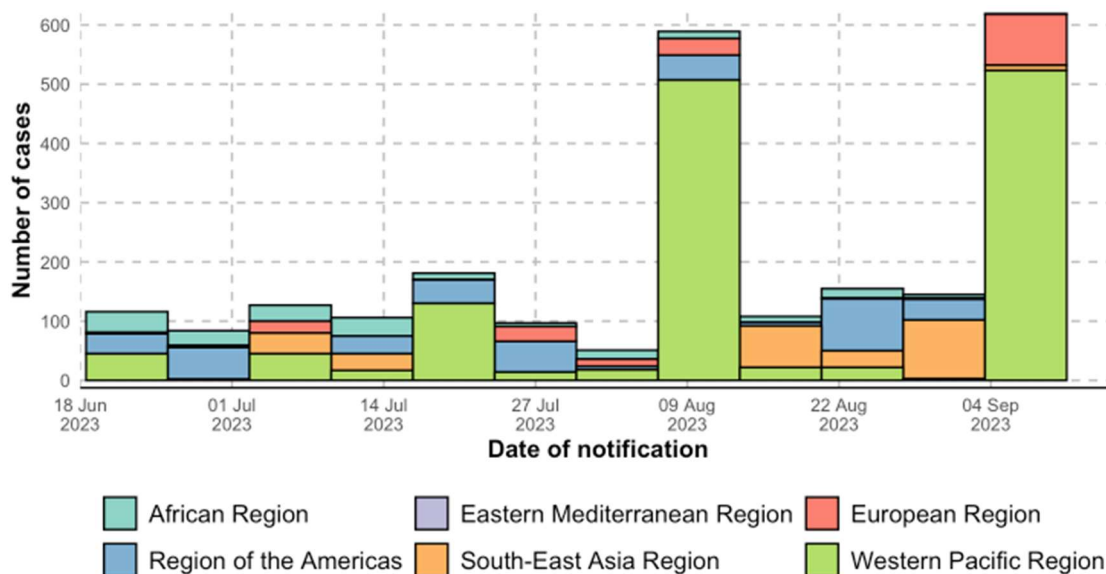


Source: WHO

*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 (19 Jun 2023 - 10 Sep 2023) has fluctuated between 100 and 600 cases, with most cases being reported by the Western Pacific Region, followed by the Americas, South-East Asia and Europe.

Figure 2. Epidemic curve of aggregated number of cases by WHO region, for the last 12 reporting weeks, 19 June 2023 – 10 September 2023.



Source: WHO

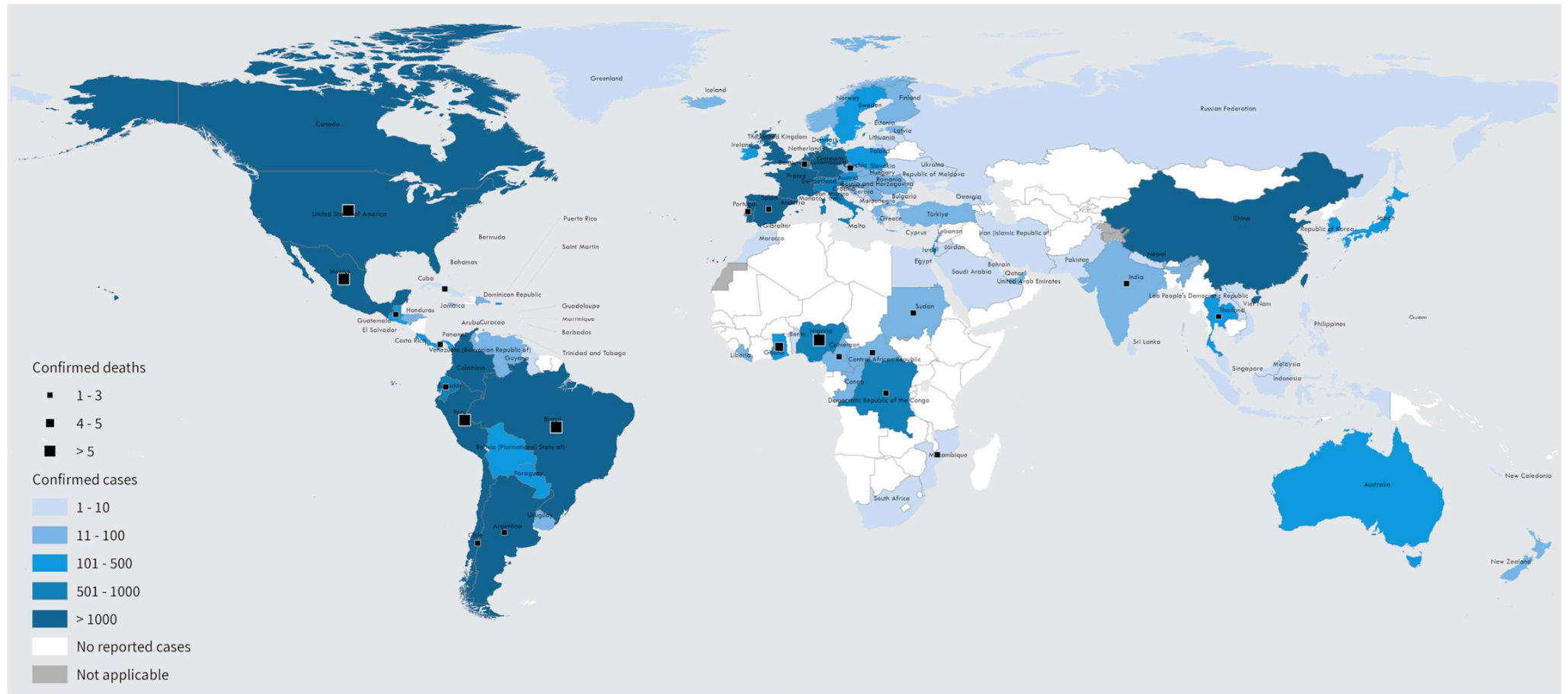
Other key epidemiological findings:

- As of 11 September 2023, 96.3% (81 352 / 84 461) of cases with available data are male, with a median age of 34 years (interquartile range: 29 - 41 years) The age and sex distributions of cases remain stable.
- Of cases with age data available, 1% (1140 / 87 181) are aged 0-17 years, including 332 (0.4%) aged 0-4 years. The majority of 0-17 years old cases were reported from the Region of the Americas (705 / 1140; 61.8%). The overall proportion of cases less than 18 years old in the Region of the Americas is 1.2% (705 / 58 867), similar to the proportion which has been observed globally.
- Of all reported modes of transmission, sexual encounter is the most common, comprising 18 011 of 21 830 (82.5%) of all reported transmission events, followed by person-to-person non-sexual contact; this pattern has persisted over the last 12 weeks. Detailed information on the routes 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 this region.
- Where information is available, the most reported exposure setting over the course of the global outbreak is party setting with sexual contact, comprising 4102 of 6437 (63.7%) reported settings. In the last 12 weeks, of 140 cases with a reported exposure setting, the most common remained party setting with sexual contact (66 cases; 47%), followed by household (32 cases; 23%), 'other' (with no further explanation) (29 cases; 21%), party setting without sexual contact (five cases, 4%), large event with sexual contact (four cases, 3%), workplace (two cases; 1%) and large event with no sexual contact (two case; 1%)
- Among cases where at least one symptom is reported (n = 37 424), the most common symptom is any rash, reported in 90.2% of cases, followed by fever (58.2%), and systemic rash or genital rash (56.1% and 50.5% respectively). The symptomatology of cases has been very consistent over time in this outbreak.
- Around half (18 115 / 34 325; 53%) of cases with available information in this outbreak is reported to be in persons living with HIV. This proportion is lower for cases reported in the last 12 weeks (1502 / 4412; 34%).
- A significant number of cases has been reported by China for the months of July and August 2023. Based on the information shared, cases have been distributed across 25 of the 31 Chinese provinces,

autonomous regions and municipalities. The main demographic characteristics are similar to those of the global outbreak: almost all cases are adult males, primarily men who have sex with men. The number of mpox cases for the month of Aug 2023 (n = 501) is similar to July 2023 (n = 491). The clinical presentations have entailed fever, rash, and lymphadenopathy, without any severe cases or fatalities documented. No relevant major gathering event has been reported in recent months in China. In July 2023, China issued a national plan for mpox prevention and control. Chinese authorities have been informing the public about the risks and encouraging people with symptoms to seek health care.

- A significant increase in cases in recent months has been reported also by Thailand, with 48 new cases in June, 80 in July and 145 in August 2023. So far only one mpox related death has been recorded among the 325 reported cases, in an immunocompromised patient (case fatality ratio 0.30%). While the outbreak was initially centered in Bangkok, it has now expanded, with cases being reported in 28 of the 76 national provinces. Most cases (95%) do not have a recent travel history, suggesting local acquisition of the virus. The majority of cases are adult and young men, primarily men who have sex with men.

Figure 3. Geographic distribution of confirmed cases of mpox reported to or identified by WHO from official public sources from 1 January 2022 to 11 September 2023, 17:00 CEST



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

Special focus: Long-term risk assessment of mpox

WHO has recently assessed the risk of mpox at a global level from a longer-term perspective, in comparison to the previous quarterly rapid risk assessments conducted during the period of the Public Health Emergency of International Concern for mpox. In conducting this new risk assessment, three distinct populations were considered: (i) the general population in countries not affected prior to the global outbreak; (ii) the general population in countries with historical monkeypox virus (MPXV) transmission and neighbouring countries; and (iii) gay men, bisexual men, other men who have sex with men, trans and gender diverse people, and sex workers. Several reasons justify this differential approach to mpox risk assessment:

- The primary mode of transmission of MPXV in the ongoing outbreak has been sexual contact and the outbreak has disproportionately affected sexual networks of gay men, bisexual men, other men who have sex with men, trans and gender diverse people, and sex workers, leading to higher risks of exposure and transmission.
- Persons in these sexual networks have a higher probability of living with HIV, which can lead to immunosuppression if not well-controlled; this can lead to a higher risk of morbidity and mortality.
- The sexual networks affected encompass communities that face intersecting forms of stigma and discrimination, including homophobia, biphobia, transphobia, and HIV-related stigma. These communities may be subject to further mpox-related stigma and discrimination, leading to barriers to accessing testing, vaccination, and care services.
- People living in countries with historical MPXV transmission have a higher risk of MPXV exposure, due to the higher local incidence of MPXV infection among humans and the presence of the virus in local wild fauna (which may include ecologically similar areas of neighbouring countries that have not historically reported cases).
- Availability and access to quality healthcare is limited in some areas of countries with historical MPXV transmission as well as in neighbouring countries, hence the health consequences from mpox in these regions may be more severe, particularly in the more vulnerable including children and persons living with HIV who may not have adequate access to care.
- Historically affected countries and their neighbours currently have no access to countermeasures such as mpox vaccines and tecovirimat, which can support with prevention of mpox, outbreak response, and management of more severe cases.
- The geographic area experiencing MPXV transmission has been expanding over the last few years within countries and to new countries in Africa. The disease is also affecting populations and settings not previously affected, such as refugee camps; in such camps, the risk of onward transmission is high due to high population density, and access to services may be poor.

Therefore, while we maintain an overview of the general risk of mpox, we also highlight the distinctive risks faced by the above population groups. It should be further noted that these risks are based on population-level assessments; within these population groups, the risk for individuals is heavily influenced by individual factors such as behaviours and immune status related to concurrent medical conditions.

The three dimensions of risk assessed for each population were: the risk for human health at global level, the risk of the event spreading globally; and the risk of insufficient control capacities at global level. Additionally, confidence in the available information for each of the populations was considered.

Based on currently available information, the risk of MPXV infection for the general population in countries not affected prior to the current outbreak is assessed as low; for the general population in countries with historical mpox transmission and neighbouring countries, risk is assessed as moderate; and for gay men, bisexual men, other men who have sex with men, trans and gender diverse people, and sex workers, risk is assessed as moderate.

Regardless of geographic area, epidemiological context, biological sex, gender identity or sexual orientation, individual-level risk is largely dependent on individual factors such as behaviours and immune status.

Special focus: Standing Recommendations for mpox issued by the Director-General of the World Health Organization (WHO) in accordance with the International Health Regulations (2005) IHR

Based on the significant decline in the number of reported mpox cases and growing response capacity, the WHO Director-General, following the advice of the Emergency Committee (EC), terminated the Public Health Emergency of International Concern on 11 May 2023¹.

In order to address the long-term challenges posed by mpox within the framework of the International Health Regulation (IHR) (2005)², the Director-General convened a Review Committee of international public health experts to advise him on Standing Recommendations for mpox³. The IHR Review committee met on 27 July 2023⁴. On 21 August 2023, the Director-General issued Standing Recommendations for mpox, which will be in effect initially for one year⁵. These Standing Recommendations focus on seven main areas Member States should address in order to contain the risk posed by mpox, which include a focus on national plans for elimination of human-to-human transmission of mpox, as follows:

- A. Have national mpox plans integrated into broader health systems, including into HIV and sexually transmitted infection (STI) programmes, as well as sustain capacities built in resource-limited settings and among marginalized groups.
- B. Strengthen and sustain testing and surveillance capacity, support genomic sequencing, and ensure that new cases of mpox are notified nationally and to WHO, including cases linked with international travel.
- C. Protect communities through risk communication and community engagement; continue to strive for equity, build trust and fight stigma and discrimination.
- D. Invest in research and generate evidence to better understand mpox disease and monkeypox virus transmission patterns, and develop improved vaccines, tests, and treatments.
- E. Provide travelers with information to protect themselves and others before, during and after travel or attendance at events and gatherings.
- F. Deliver optimal clinical care to mpox patients, integrated within primary care, HIV and STI, or other relevant programmes and services, support access to specific treatment, and ensure measures to protect health workers and caregivers are in place.
- G. Work towards equitable access to safe, effective and quality-assured vaccines, tests and treatments for mpox, with special attention to marginalized population groups.

The full text of the Standing recommendations to countries is available [here](#).

WHO is drafting country planning guidance and a monitoring and evaluation framework to support countries in implementing these recommendations and measuring progress over time.

Special focus: Monkeypox virus at the human-animal-environment interface

While the primary route of transmission during the global 2022-23 mpox outbreak has been human-to-human, there is consensus among scientists that there are animal reservoirs for monkeypox virus (MPXV) in some countries in Central and Western Africaⁱⁱ. In these countries, sporadic spillovers of MPXV from animals to humans will continue to occur, as they have in the past, thereby causing suffering within local communities. In addition, spillover events lead to onward human-to-human transmission and have the potential to trigger new international outbreaks. Identifying animal reservoirs and understanding major transmission pathways between animals and humans is therefore key for the development and implementation of better mpox prevention strategies in the future. This will help to minimize zoonotic transmission, as outlined in the objectives of the WHO Strategic Preparedness, Readiness, and Response Plan for mpox (2022-2023)ⁱⁱⁱ and draft Strategic Framework for sustaining control and achieving elimination of human-to-human transmission of mpox which includes a strategic objective to minimize zoonotic transmission⁶.

Despite the above-mentioned risks, MPXV at the human-animal-environment interface is still poorly understood. While the specific animal reservoir(s) of MPXV remain(s) to be identified, MPXV antigens or antibodies have been detected in over 40 animal species, especially amongst rodents. It is thought that transmission from infected animals to humans mainly occurs by direct inoculation via bites, scratches or by direct contact with the body fluids and/or the meat of infected animals during hunting and other activities involving infected animal species. The virus may subsequently spread through the local community by sustained human-to-human transmission, with risk of international spread (see Figure 4).

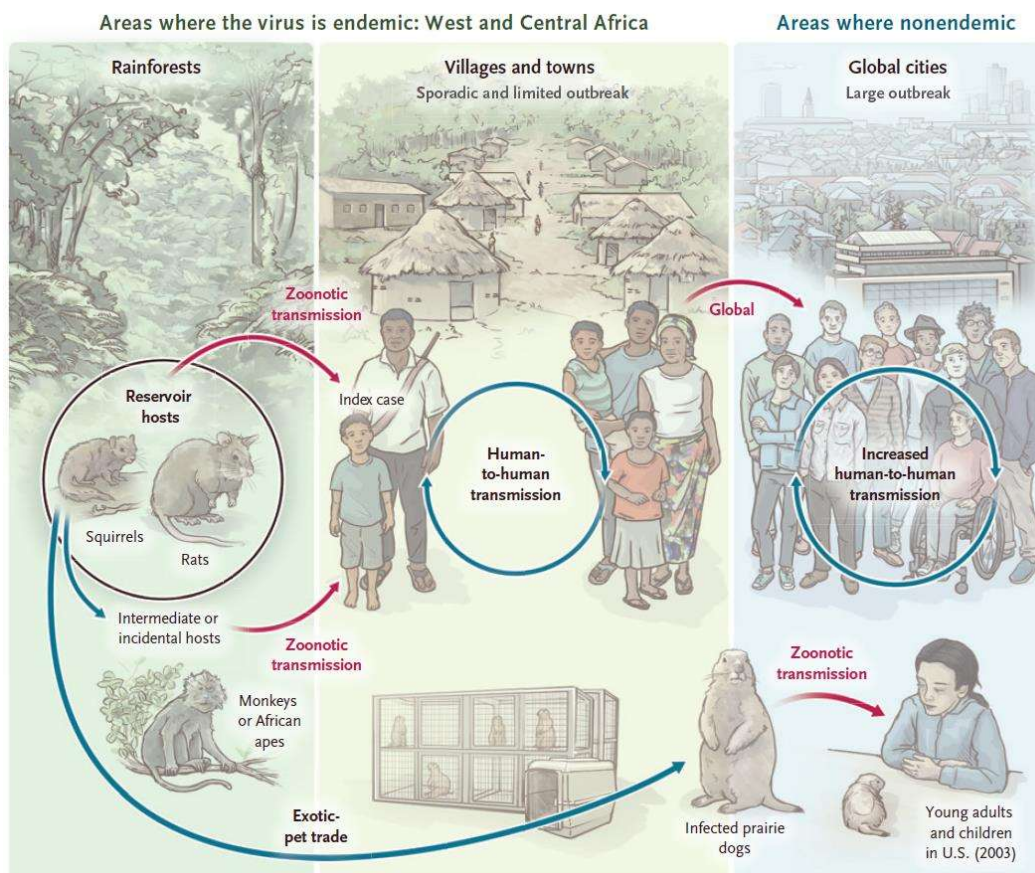


Figure 4. Natural history of mpox. Image from Gessain et al, NEJM, 2022ⁱⁱ

ⁱⁱ Gessain A, Nakoune E, Yazdanpanah Y.: *Monkeypox*. N Engl J Med. **2022**;387(19):1783–1793

ⁱⁱⁱ [WHO: Monkeypox Strategic Preparedness, Readiness, and Response Plan \(SPRP\). 2022](#)

To tackle some of the knowledge gaps at the human-animal-environment interface, WHO is working together with the National Veterinary Research Institute (NVRI) of Nigeria to perform several months of MPXV surveillance among susceptible wildlife species in national mpox hotspots starting September 2023. Since 2018, a One Health, multi-agency, and multidisciplinary team comprising the United States Centers for Disease Control and Prevention (CDC), the NVRI Nigeria, the Nigeria Centre for Disease Control (NCDC), the Federal Ministry of Agriculture and Rural Development, the Ministry of Environment, and the African Field Epidemiology Network (AFENET), have been collaborating on ecological surveillance for animal reservoirs of MPXV in the country. The Animal Surveillance Team (AST) consists of veterinarians, medical doctors, virologists, epidemiologists, environmental specialists and medical sociologists. The AST has supported outbreak response in communities in eight states in Nigeria where human mpox cases have been reported. Published data based on their surveillance activities revealed the detection of antibodies against Orthopoxviruses (not specifically MPXV) in rodent populations in communities with a history of confirmed human mpox, which suggests that Orthopoxviruses may be circulating in rodents^{iv}.

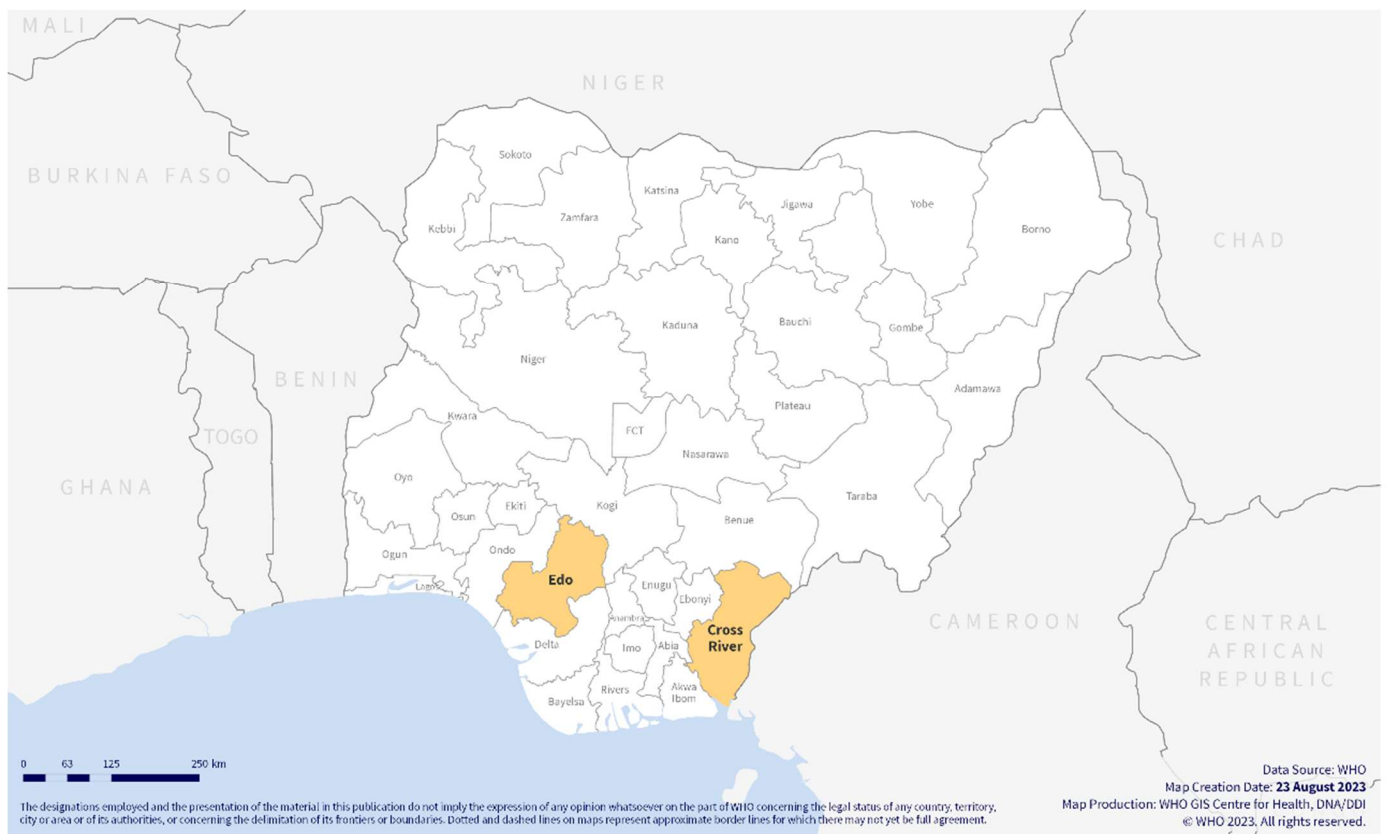


Figure 5: Primary areas where targeted animal surveillance will be performed in Nigeria, 2023

In the coming months, the AST team will set up targeted surveillance activities and support research to (i) identify specific animal reservoirs by investigating rodents, small mammals, and nonhuman primates in areas identified as hotspots for MPXV (ii) characterize the confirmed *orthopoxvirus*-positive samples collected from animals using molecular methods, and (iii) identify major transmission pathways between animals and humans. The primary locations of interest are Edo and Cross River states but may also include the Federal Capital Territory (FCT), Lagos, and Rivers State, where *Orthopoxvirus* was detected in rodents from previous animal surveillance studies (see Figure 5).

Sampling will focus on selected forested areas and national parks where suspected spillover transmission of MPXV is reported. The surveillance involves trapping and sampling rodents and other small mammals in forested habitats and peri-urban or urban community interfaces as well as sampling bushmeat and/or wildlife at markets,

^{iv} Meseko C. et al.: *Orthopoxvirus Infections in Rodents, Nigeria, 2018–2019*. Emerging Infectious Diseases. **2023**;29(2)

salespoints and distribution chains. The collected samples will be processed in a mobile laboratory set up in remote areas under strict biosecurity standards or at any of the NVRI outstations' laboratories. The first results are expected by the end of 2023, with the goal to better understand the human-animal-environment interface of mpox and foster more international support for further mpox research in Africa going forward.



Figure 6: Technical field workers sampling animals for MPXV (provided by NVRI Nigeria).

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Technical guidance and other resources

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- 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-\(crf\)](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.pdf[https://www.who.int/publications/m/item/public-health-advice-on-mpox-\(monkeypox\)-and-sex-on-premises-venues-and-events](https://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--health-workers> & <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>](#)

One Health and animal health

- [WOAH Risk Guidance on Reducing Spillover 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 #27- 14 August 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-27---14-august-2023>
- Multi-country outbreak of mpox, External situation report #26- 14 July 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--26---14-july-2023>
- Multi-country outbreak of mpox, External situation report #25- 24 June 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--25---24-june-2023>
- 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: <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: <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---16-february-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: <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: <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>
- WHO. Weekly Bulletin on Outbreaks and Other Emergencies [Internet]. Available from: <https://apps.who.int/iris/bitstream/handle/10665/370961/OEW27-0309072023.pdf>

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. Moreover, at the present stage of the 2022-23 global mpox outbreak, frequency of reporting of cases to WHO has decreased substantially, therefore presented data might not be fully representative of the overall epidemiological situation in several countries.

[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 11 September 2023, 17:00 CEST.

*Countries with no reported cases for more than 21 days (about 3 weeks)

WHO Region	Country	Total Confirmed Cases	Total Deaths [#]
African Region	Benin*	3	0
	Cameroon*	41	3
	Central African Republic*	30	1
	Congo	12	0
	Democratic Republic of the Congo	889	2
	Ghana*	127	4
	Liberia*	13	0
	Mozambique*	1	1
	Nigeria*	843	9
	South Africa*	5	0
Eastern Mediterranean Region	Bahrain*	2	0
	Egypt*	3	0
	Iran (Islamic Republic of) *	1	0
	Jordan*	1	0
	Lebanon*	27	0
	Morocco*	3	0
	Pakistan	6	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	4 154	0
	Georgia*	2	0
	Germany	3 697	0
	Gibraltar*	6	0
	Greece*	88	0
	Greenland*	2	0
	Hungary*	80	0
	Iceland	17	0
	Ireland	232	0
	Israel*	263	0
	Italy	960	0
	Latvia*	6	0
	Lithuania*	5	0
	Luxembourg	59	0
	Malta*	34	0
	Monaco*	3	0
	Montenegro*	2	0
	Netherlands	1 267	0
	Norway*	96	0
	Poland*	217	0
	Portugal	1 050	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	7 580	3
	Sweden	262	0
	Switzerland*	554	0
	The United Kingdom	3 782	0
	Türkiye*	12	0
	Ukraine*	5	0
Region of the Americas	Argentina*	1 130	2
	Aruba*	3	0
	Bahamas*	3	0
	Barbados*	1	0
	Bermuda*	1	0
	Bolivia (Plurinational State of)*	265	0
	Brazil*	10 967	16
	Canada*	1 496	0
	Chile*	1 442	3
	Colombia*	4 090	0
	Costa Rica*	225	0

	Cuba*	8	1
	Curaçao *	3	0
	Dominican Republic*	52	0
	Ecuador*	557	3
	El Salvador*	104	0
	Guadeloupe*	1	0
	Guatemala*	405	1
	Guyana*	2	0
	Honduras*	44	0
	Jamaica*	21	0
	Martinique*	7	0
	Mexico	4 061	30
	Panama*	237	1
	Paraguay*	126	0
	Peru*	3 812	20
	Puerto Rico*	211	0
	Saint Martin*	1	0
	Trinidad and Tobago*	3	0
	United States of America	30 610	50
	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	325	1
Western Pacific Region	Australia	155	0
	China	1 452	0
	Guam*	1	0
	Japan	196	0
	Lao People's Democratic Republic	1	0
	Malaysia*	2	0
	New Caledonia*	1	0
	New Zealand*	41	0
	Philippines*	5	0
	Republic of Korea	141	0
	Singapore*	26	0
Viet Nam*	3	0	
Cumulative	115 Countries/territories/areas	90 439	157

#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.