Multi-country outbreak of monkeypox

External Situation Report 9, published 02 November 2022
Data as received by WHO national authorities by 17:00 CEST, 31 October 2022

Risk assessment
Global risk – Moderate
WHO Regional risk

- European Region, Region of the Americas – High
- African Region, Eastern Mediterranean Region, Southeast Asia Region – Moderate
- Western Pacific Region – Low

Laboratory confirmed cases	Deaths	Countries/ areas/ territories
77 264	36	109

Highlights

- During the week of 17 to 30 October 2022, the number of monkeypox cases reported in the Regions of Europe and the Americas continue to decline, driving the overall downward trend observed since August 2022. The Region of the Americas continues to account for the highest cumulative proportion of monkeypox cases reported globally and the highest proportion of weekly new cases.
- For strategic planning and global support, WHO is appealing for US$ 33.82 million (between July 2022 and June 2023) to take immediate action to stop the monkeypox outbreak in collaboration with the Member States, partners, and other stakeholders. The global appeal covers all six WHO regions, with the greatest needs in the African Region, South-East Asia, and the Eastern Mediterranean in the areas of vaccination (34%), surveillance and contact tracing (17%), diagnostics and testing (13%), and risk communication and community engagement (13%).
- The third meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox, was held on Thursday, 20 October 2022. The Emergency Committee acknowledged that progress has been made in the global response to the outbreak since the last meeting, including the emerging information on the effectiveness of behavioural interventions and vaccines. The Committee held the consensus view that the event continues to meet the IHR criteria for a Public Health Emergency of International Concern (PHEIC) and highlights the primary reasons for ongoing concern. These include ongoing transmission in some regions, continuing preparedness and response inequity within and between WHO Member States, an emerging potential for greater health impact in vulnerable populations, continuing risk of stigma and discrimination, under-diagnosis and under-reporting of cases for a range of reasons, ongoing lack of equitable access to diagnostics, antiviral therapeutics and vaccines, and knowledge gaps needing to be addressed through investment in research.
- WHO released operational planning guidelines on monkeypox strategic preparedness, readiness and response. These guidelines can be used to establish or update existing national plans for monkeypox, for reinforcing five core components (5Cs) of preparedness, readiness and response, while enabling specific capacities and coordinated actions across key public health pillars.

World Health Organization

Epidemiological Update

Data source: WHO Multi-country Monkeypox Outbreak – Global Trends

From 1 January through 30 October 2022, a cumulative total of 77 264 laboratory-confirmed cases of monkeypox and 36 deaths have been reported to WHO from 109 countries/territories/areas (hereafter 'countries'[i]) in all six WHO Regions (Table 1). Since the last edition published on 19 October 2022, 3827 new cases (5.2% increase in total cases), and seven new deaths have been reported.

In the past seven days, 15 countries reported an increase in the weekly number of cases, with the highest increase reported in Nigeria. Overall**,** 58 countries have not reported new cases for over 21 days, the maximum incubation period of the disease, nine more countries since the last report.

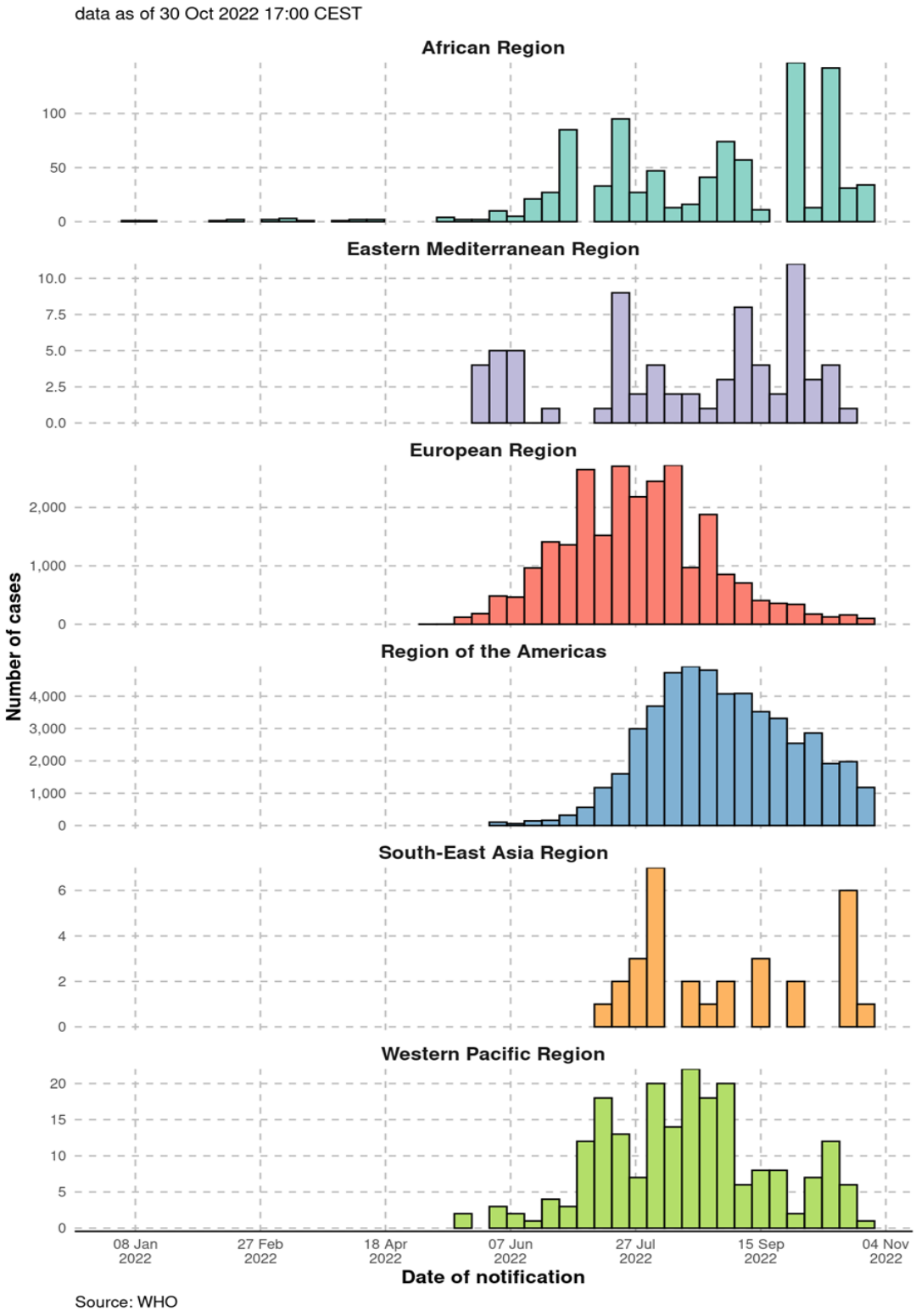
The number of weekly new cases reported globally declined by 40.7% in week 43 (24 through 30 October) (n=1295 cases) compared to week 42 (17 through 23 October) (n=2182 cases), with the largest proportional decrease observed in the Region of the Americas (-41%) and European Region (-38%). Despite these decreases, the majority of cases reported in the past four weeks were from the Region of the Americas (88.7%) and the European Region (7.7%). From 17 through 30 October, a total of seven deaths were reported from the United States of America (n=4), Brazil (n=2), and Mozambique (n=1). Overall, the Region of the Americas has reported the highest number of deaths (16/36; 44.4%).

As of 30 October, the ten countries that have reported the highest cumulative number of cases globally are the United States of America (n=28 379), Brazil (n=9162), Spain (n=7317), France (n=4094), the United Kingdom (n =3698), Germany (n=3662), Colombia (n=3298), Peru (n=3048), Mexico (n=2654), and Canada (n=1437). Together, these countries account for 86.4% of the cases reported globally.

Table 1. Number of cumulative confirmed monkeypox cases and deaths reported to WHO, by WHO Region, from 1 January 2022 to 30 October 17:00 CEST

WHO Region	Confirmed cases	Deaths
African Region	934	14
Region of the Americas	50 716	16
Eastern Mediterranean Region	72	1
European Region	25 303	4
South-East Asia Region	30	1
Western Pacific Region	209	0
Cumulative	77 264	36

Figure 1. Epidemiological curve of weekly aggregated confirmed cases of monkeypox by region, from 1 January to 30 October 2022 17:00 CEST*.

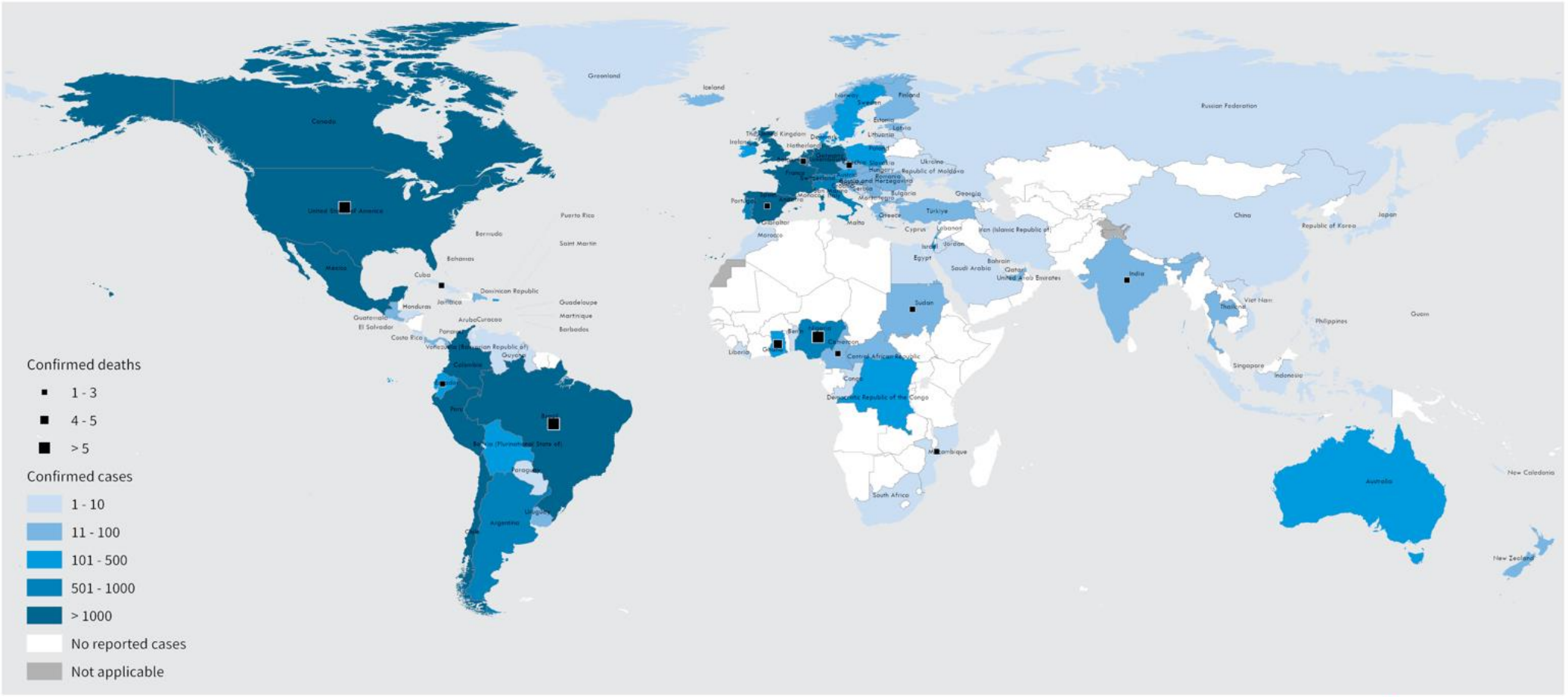


*This figure shows aggregated weekly data, for completed epidemiological weeks ending on Sundays. Data on the current week will be presented in the next situation report.

Other key epidemiological findings:

- The outbreak continues to affect primarily young men, with 96.9% (43 513/44 911) of cases with available data being men, with a median age of 34 years (interquartile range: 29-41 years); 1.2% (n=534) of cases with age data available are aged 0-17 years, out of which 138 (0.3%) are aged 0-4 years. This proportion differs between regions, with the largest proportion of cases aged 0-17 years being reported from the Region of the Americas (388/534; 73%).
- Among cases with sexual orientation reported, 87.3% (22 539/25 805) identified as gay, bisexual and other men who have sex with men. Of all reported types of transmission, transmission through skin and mucosal contact during sexual activities was most commonly reported, with 13 276 of 18 513 (71.7%) of all reported transmission events.
- Of all settings in which cases reported their likely exposure setting, the most commonly reported was in a party setting with sexual contact, comprising 3522 of 8116 (43.4%) reported exposure settings.
- Among the cases that reported at least one symptom, the most common symptom is any rash, and is reported in 85.5% of cases, followed by systemic rash in 59.2% of cases, fever at 58.3%, and genital rash in 46.1% of cases.
- A high prevalence of HIV infection, up to 49.1% (10 917/22 236), has been reported among persons with monkeypox. Persons with immunosuppression related to HIV are likely to be more susceptible to infection and are at higher risk of developing severe disease. Monkeypox and HIV share common behavioral risk factors such as transmission through sexual contact. Consideration should be given to testing any person with monkeypox infection for HIV infection if their status is not already known.

Figure 2. Geographic distribution of confirmed cases of monkeypox reported to or identified by WHO from official public sources from 1 January 2022 to 30 October 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: 1 November 2022

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Updates and WHO Advice

WHO continues to closely monitor and respond to the outbreak and support international coordination and information sharing with Member States and partners. Clinical and public health incident response have been activated by Member States to coordinate comprehensive case finding, contact tracing, laboratory investigation, supported isolation, clinical management, implementation of infection prevention and control measures, risk communication and community engagement, and vaccination activities, as well as support ongoing epidemiological and countermeasures research.

Building upon the framework of the Monkeypox Strategic Preparedness, Readiness and Response Plan, the Operational Planning Guidelines serves as a practical guide outlining the public health measures needed to prepare for and respond to the monkeypox outbreak. These can be used to establish or update existing national plans for monkeypox, for reinforcing five core components (5Cs) of preparedness, readiness and response, while enabling specific capacities and coordinated actions across key public health pillars. Use of the Operational Planning Guidelines is also facilitated by the Partners Platform, to help enable national authorities, UN Country teams and partners to collectively plan and implement these actions.

Emergency Committee

The third meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox, was held on Thursday, 20 October 2022. The Committee collectively advised the WHO Director-General that the multi-country outbreak of monkeypox continues to meet the criteria included in the definition of the PHEIC provide by Article 1 of the IHR. The updated Temporary Recommendations issued by the WHO Director-General extend, modify or add to those previously issued on 23 July 2022.

Recommendations apply to States Parties according to their epidemiological situation, patterns of transmission and capacities with respect to monkeypox outbreak response. It should be assumed that any State Party may experience importation or local human-to-human transmission of monkeypox. Thus, each State Party should undertake surveillance and be ready to engage in outbreak response for suspected cases, since any case from any source may lead to human-to-human transmission. Some States Parties may have a history of, or be experiencing, zoonotic transmission or may observe spillback of monkeypox from humans to animals. Finally, States Parties in a position to support scaling up access to vaccines, diagnostics and therapeutics, including through technology transfer, should make every effort to do so.

Clinical care and therapeutics

Most patients with monkeypox have mild to moderate disease presenting with localized skin lesions and pain along with systemic symptoms such as fever, headache, malaise, and/or lymphadenopathy. The pattern of most skin lesions during the current multi-country monkeypox outbreak is atypical and is often located in the genital, anal, and perianal areas, without the typical centrifugal distribution with cases of proctitis, urethritis, and pharyngitis also described. They should be treated symptomatically with antipyretics to control fever, oral and topical analgesics for pain management, localized care to keep skin lesions clean, and encouraged to maintain nutrition and hydration.

Hospitalization due to monkeypox continues to be low, studies report proportions between 5-10%. Patients may occasionally develop complications related to monkeypox requiring hospitalization, with the most common reasons including severe genital and anorectal pain requiring analgesia, bacterial superinfection (cellulitis)

involving the genital and perineal region, urinary retention from penile edema, or ocular involvement. Skin lesions should be kept clean, and patients should be monitored for complications that include the progression of skin and soft tissue infections such as cellulitis, abscesses, pyomyositis, or necrotizing soft tissue infections which may require antimicrobial therapy and localized wound care. Other complications include proctitis, urethritis, respiratory distress, severe pneumonia, keratitis or corneal infections which may lead to vision loss, vomiting or diarrhea which may lead to severe dehydration, electrolyte abnormalities or malnutrition, sepsis or shock, cervical lymphadenopathy leading to retropharyngeal abscesses or respiratory compromise, sepsis, and in rare cases myocarditis, encephalitis and other neurological abnormalities. These cases should be treated with optimal supportive care and be evaluated by appropriate specialists as indicated. (See WHO Guidelines)

Patients who are pregnant, children or people who are immunocompromised, such as those with advanced or untreated HIV, may be at risk for severe or complicated monkeypox infection such as developing a more widespread rash. Some individuals presenting with monkeypox have received their first HIV diagnosis during their monkeypox infection.

The use of antivirals for monkeypox should be under collaborative clinical efficacy studies using standardized design methods and data collection tools for clinical and outcome data to rapidly increase evidence generation on efficacy and safety. If this is not possible, their use can still be considered under expanded access protocols (MEURI – Monitored Emergency Use of Unregistered and Investigational Interventions) using harmonized data collection for safety and clinical outcomes (such as the WHO Clinical Data Platform for Monkeypox) that would represent the desirable minimum in the context of an outbreak such as the current one.

Risk Communication and Community Engagement

WHO continues to engage high-risk populations and conduct risk communication activities in order to help individuals and communities protect themselves and others from monkeypox and to seek vaccination, testing and care as needed (Risk communication and community engagement public health advice).

Infodemic Management and EPI-WIN

WHO continues to analyze infodemic insights to understand and respond to public perceptions and concerns. On 5 October 2022, a WHO Information Network for Epidemics (EPI-WIN) held a webinar on "WHO monkeypox technical briefing for the transport and tourism sector". This sector is part of the WHO Health in the World of Work (H-WOW) network, and the webinar highlighted the key considerations for that sector and addressed their queries and concerns.

World Health Organization

Regional Updates

Monkeypox situation update: Region of the Americas

As of 30 October 2022, a total of 50 716 confirmed cases of monkeypox, including 16 deaths have been reported from 31 countries and territories in the region of Americas. The Region of the Americas continues to account for the highest cumulative proportion of monkeypox cases reported globally and the highest proportion of weekly new cases. Six countries in the region (United States of America, Brazil, Peru, Colombia, Mexico, and Canada) are among the top ten countries globally, reporting a combined total 47 978 confirmed cases and accounting for 62% of the global number of cases and 94% of cases in the Region. Two of the six countries: Mexico, and Colombia, were recently added to the list of the top ten countries, indicating ongoing transmission in more countries in the region. Up to 84% of 12 563 cases in the Americas with available information on the mode of transmission are locally transmitted cases.

WHO has received detailed case data from Member States for 93% (n=46 957) of the total reported cases. Of the 18 968 cases with information on gender, 95.3% (n=18 069) were male; 19 926 cases had information on age, which ranged from 0 to 95 years old (median 32 years, mean 33.4 years). Of 11 329 cases with known data on sexual orientation, 7964 (70%) identified as gay, bisexual and other men who have sex with men. Among 25 808 cases with hospitalization information, 1649 (6%) were hospitalized (including for isolation purposes).

Additionally, there is a likelihood of increased transmission in other population groups. The most at-risk populations have predominantly remained men with an average age of 33 years; however, cases among women, including pregnant women, as well as in children cannot be overlooked. Approximately 5% of reported cases with information on gender are women (899/18 968), including 25 pregnant women. A total of 33 female cases, including three pregnant women, required hospitalization (including for isolation purposes). A total of 415 cases, including five cases among infants (<1 year old) have been reported among persons <18 years old, from eight countries (Brazil, Canada, Chile, Colombia, Dominican Republic, Ecuador, Mexico, Peru).

Cases among indigenous and incarcerated persons are of concern due to their situation of vulnerability. The outbreak response should continue to have a key focus on communication with and engagement of at-risk communities, leveraging mass gatherings for communication and preventive measures, the timely detection and treatment of patients, and protection of health workers.

WHO response to monkeypox in the Americas

WHO is providing technical cooperation and multisectoral coordination to create efficient response plans to control and stop transmission of monkeypox in the region as below:

- **Laboratory:** WHO is supporting the procurement and distribution of laboratory supplies and reagents for molecular diagnostics. The laboratory information systems are being adapted to include diagnostics of the monkeypox virus with support from WHO in countries who have requested it.
- **Surveillance:** A dashboard has been developed to facilitate data visualization, analysis and follow up of monkeypox cases. Electronic data collection and reporting tools are being developed. WHO has been supporting implementation and updating of the Go Data tool for case notification, investigation, and contact tracing.
- To facilitate the implementation of WHO guidelines on monkeypox, which are adaptable for each country's context, WHO is supporting the development of a summary of Integrated Monkeypox

Surveillance Guidance for Eastern Caribbean Countries. WHO is supporting implementation of the WHO global clinical platform for monkeypox which is a secure, limited-access, password-protected platform intended to describe and assess the clinical characteristics of monkeypox.

- **Coordination:** In Mexico, WHO has held meetings with the Undersecretary for Health Prevention and Promotion, and the Directorate for Epidemiological Surveillance of Communicable Diseases of the General Directorate of Epidemiology. Both WHO and national health authorities will work towards strengthening monkeypox surveillance and disseminating messages on prevention and risk communication strategies in the country.
- **Therapeutics:** WHO is providing support to Member States on how to implement WHO's monitored emergency use of unregistered and experimental interventions (MEURI) protocol for monkeypox in the Americas. An ad hoc meeting of its Ethics Review Committee was held to review the monkeypox MEURI protocol to enable the emergency use of potential treatments to manage monkeypox cases under specific ethical conditions.
- **Vaccination:** WHO delivered the first doses of monkeypox vaccines during the first week of October to Brazil and Chile. Ecuador, El Salvador, Jamaica, and Panama also received vaccine doses through WHO's Revolving Fund during the month of October 2022. A total of 18 200 doses have been delivered to countries in the Americas.

Technical guidance and other resources

Strategic Planning and Global Support

- 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)

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

- 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 Guidance and Public Health Advice

- WHO Surveillance, case investigation and contact tracing for Monkeypox: Interim guidance, 25 August 2022. https://www.who.int/publications/i/item/WHO-MPX-Surveillance-2022.3
- WHO Vaccines and immunization for monkeypox: Interim guidance, 24 August 2022. https://apps.who.int/iris/bitstream/handle/10665/361894/WHO-MPX-Immunization-2022.2-eng.pdf
- WHO Global clinical data platform for monkey case report form (CRF), 21 July 2022, https://www.who.int/publications/i/item/WHO-MPX-Clinical_CRF-2022.3
- 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
- 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

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

- 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 related to monkey pox 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
- Monkeypox Q&A, 31 August 2022. https://www.who.int/news-room/questions-and-answers/item/monkeypox
- Monkeypox: public health advice for gay, bisexual and other men who have sex with men, 18 July 2022. https://www.who.int/publications/m/item/monkeypox-public-health-advice-for-men-who-have-sex-with-men
- 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
- 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
- Risk communication and community engagement. Public health advice on the recent outbreak of monkeypox in the WHO European Region, 24 May 2022. https://www.euro.who.int/__data/assets/pdf_file/0004/538537/public-health-advice-monkeypox-eng.pdf

EPI - WIN Webinars and Updates

The recordings of the previous EPI-WIN Webinars related to current monkeypox outbreak:

- 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 (Sept. 22, 2022)
- How is monkeypox spreading? What do we know so far (July 27, 2022)
- Monkeypox outbreak and mass gatherings (June 24, 2022)

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

Disease Outbreak News and situation reports

- Monkeypox outbreak 2022: https://www.who.int/emergencies/situations/monkeypox-oubreak-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: https://www.who.int/emergencies/emergency-events/item/2022-e000121
- 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/emergencies/outbreak-toolkit/disease-outbreak-toolboxes/monkeypox-outbreak-toolbox
- WHO factsheet on monkeypox, 19 May 2022. http://www.who.int/news-room/fact-sheets/detail/monkeypox
- 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
- 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
- Monkeypox in the Region of the Americas - Risk assessment. https://www.paho.org/en/documents/monkeypox-region-americas-risk-assessment

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 monkeypox by WHO region and country from 1 January 2022 to 30 October 2022, 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	12	2
	Central African Republic	11	0
	Congo *	5	0
	Democratic Republic of the Congo	206	0
	Ghana	105	4
	Liberia *	3	0
	Mozambique	1	1
	Nigeria	583	7
	South Africa *	5	0
Eastern Mediterranean Region	Bahrain *	1	0
	Egypt *	1	0
	Iran (Islamic Republic of) *	1	0
	Jordan *	1	0
	Lebanon	18	0
	Morocco *	3	0
	Qatar *	5	0
	Saudi Arabia *	8	0
	Sudan	18	1
	United Arab Emirates *	16	0
European Region	Andorra *	4	0
	Austria	323	0
	Belgium	785	1
	Bosnia and Herzegovina	9	0
	Bulgaria *	6	0
	Croatia *	29	0
	Cyprus *	5	0

	Czechia *	70	1
	Denmark	191	0
	Estonia *	11	0
	Finland *	41	0
	France	4094	0
	Georgia *	2	0
	Germany	3662	0
	Gibraltar *	6	0
	Greece	84	0
	Greenland *	2	0
	Hungary	80	0
	Iceland *	16	0
	Ireland	206	0
	Israel	262	0
	Italy	894	0
	Latvia *	6	0
	Lithuania *	5	0
	Luxembourg *	55	0
	Malta *	33	0
	Monaco *	3	0
	Montenegro *	2	0
	Netherlands	1235	0
	Norway	93	0
	Poland	206	0
	Portugal	944	0
	Republic of Moldova *	2	0
	Romania	43	0
	Russian Federation *	2	0
	San Marino *	1	0
	Serbia *	40	0
	Slovakia *	14	0
	Slovenia *	47	0
	Spain	7317	2
	Sweden	212	0
	Switzerland	546	0
	The United Kingdom	3698	0
	Türkiye *	12	0
	Ukraine*	5	0
Region of the Americas	Argentina	675	0
	Aruba *	3	0
	Bahamas *	2	0
	Barbados *	1	0
	Bermuda *	1	0
	Bolivia (Plurinational State of)	241	0
	Brazil	9162	8
	Canada	1437	0
	Chile	1149	0

	Colombia	3298	0
	Costa Rica	8	0
	Cuba *	4	1
	Curaçao *	3	0
	Dominican Republic *	52	0
	Ecuador	243	1
	El Salvador	13	0
	Guadeloupe *	1	0
	Guatemala	74	0
	Guyana *	2	0
	Honduras	7	0
	Jamaica	16	0
	Martinique *	1	0
	Mexico	2654	0
	Panama *	16	0
	Paraguay	3	0
	Peru	3048	0
	Puerto Rico	199	0
	Saint Martin *	1	0
	United States of America	28 379	6
	Uruguay	13	0
	Venezuela (Bolivarian Republic of)	10	0
South-East Asia Region	India	17	1
	Indonesia *	1	0
	Thailand	12	0
Western Pacific Region	Australia	140	0
	China *	6	0
	Guam *	1	0
	Japan *	7	0
	New Caledonia *	1	0
	New Zealand	28	0
	Philippines *	4	0
	Republic of Korea *	2	0
	Singapore *	19	0
	Viet Nam *	1	0
Cumulative	109 Countries/territories/areas	77 264	36