Multi-country outbreak of mpox(monkeypox)

External Situation Report 11, published 1 December 2022
Data as received by WHO national authorities by 17:00 CEST, 27 November 2022

Risk assessment	Laboratory confirmed cases	Deaths	Countries/ areas/ territories
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	81 107	55	110

Highlights

- Following a series of consultations with global experts, WHO will begin using the term “mpox” as the preferred name for the disease of monkeypox. Both names will be used simultaneously for one year while “monkeypox” is phased out. During the week of 21 to 27 November 2022, the number of mpox cases reported globally continued to decline.
- In the week commencing 21 November, the Eastern Mediterranean Region has reported six new cases after five consecutive weeks without cases. These are retrospective reports of cases diagnosed between 1 October and 25 November 2022.
- Since the last situation report published on 16 November, 1696 new cases (2.1% increase in total cases) and five new deaths have been reported.
- Since the beginning of the outbreak, a high prevalence of HIV infection (52%; 14 573/28 006) has been reported among cases with known HIV status.
- The proportion of cases among females has been gradually increasing since the beginning of the outbreak, reaching 6.7% as of 20 November 2022

From 1 January through 27 November 2022, a cumulative total of 81 107 laboratory-confirmed cases of mpox and 55 deaths have been reported to WHO from 110 countries/territories/areas (hereafter 'countries'[i]) in all six WHO Regions (Table 1). Since the last situation report published on 16 November, 1696 new cases (2.1% increase in total cases) and five new deaths have been reported.

In the past seven days, 10 countries reported an increase in the weekly number of cases, with the highest increase reported in Peru. Overall, 71 countries have not reported new cases for over 21 days, the maximum incubation period of the disease; eight more countries since the last report.

The number of weekly new cases reported globally declined by 46% in week 47 (21 through 27 November) (n = 588 cases) compared to week 46 (14 through 20 November) (n = 1090 cases), with the largest proportional decrease observed in the Region of the Americas (-48%) and the European Region (-15%), the two regions with the highest cumulative number of cases. In the week commencing 21 November, the Eastern Mediterranean Region reported six new cases from Lebanon after five consecutive weeks without cases. These are retrospective reports of cases diagnosed between 1 October and 25 November 2022.

From 14 November through 27 November, a total of five deaths were reported, from the United States of America (3 deaths), Spain (1 death), and Chile (1 death). Overall, the Region of the Americas has reported the highest number of deaths (34/55; 62%).

As of 27 November, the ten countries that have reported the highest cumulative number of cases globally are the United States of America (n = 29 001), Brazil (n = 9905), Spain (n = 7405), France (n = 4107), Colombia (n = 3803), the United Kingdom (n = 3720), Germany (n = 3672), Peru (n = 3444), Mexico (n = 3292), and Canada (n = 1449). Together, these countries account for 86.1% of the cases reported globally.

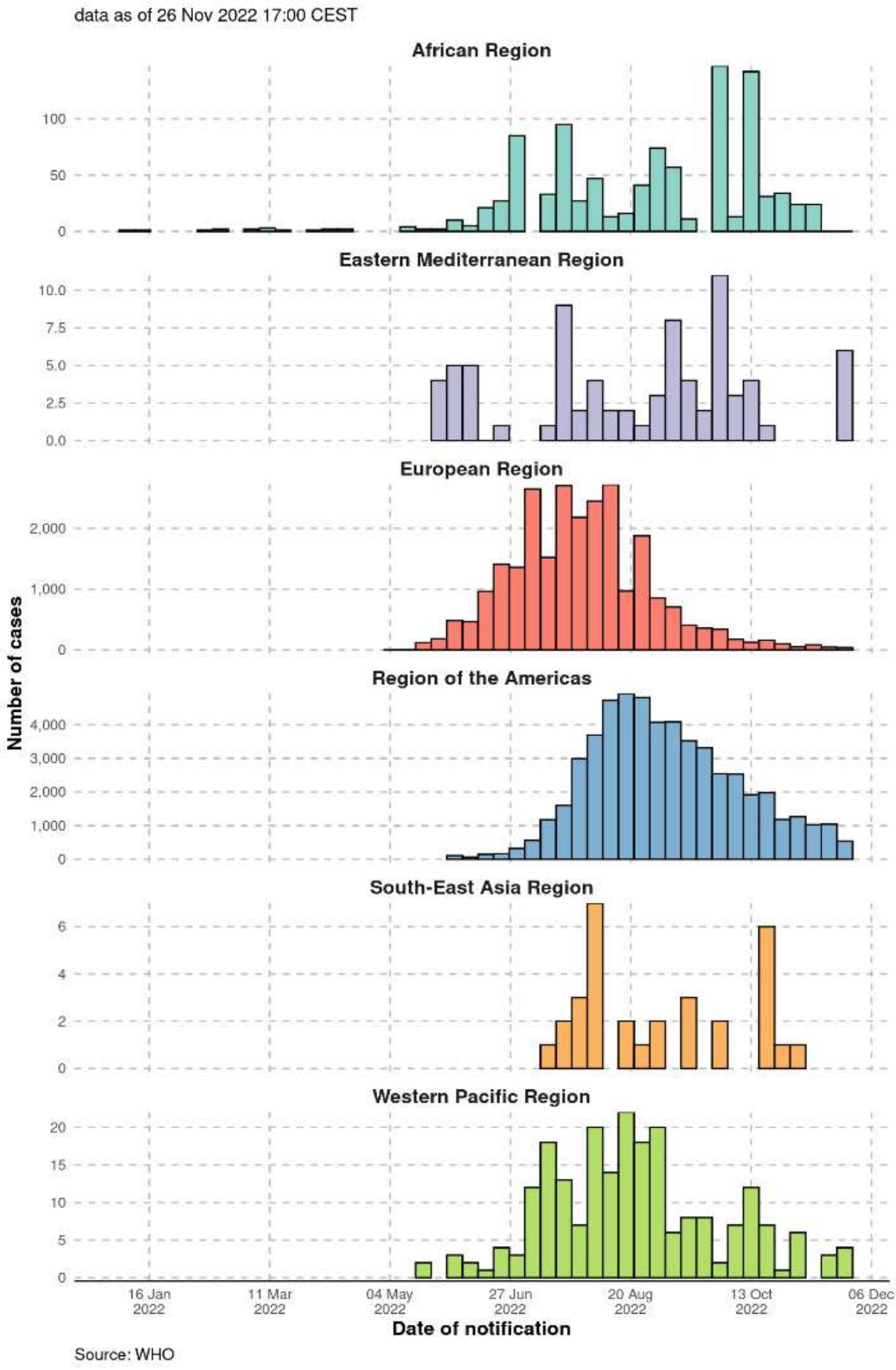
Table 1. Number of cumulative confirmed mpox cases and deaths reported to WHO, by WHO Region, from 1 January 2022 to 27 November 17:00 CEST

WHO Region	Total Confirmed Cases	Total Deaths	Cases in past week	7-day change in cases (%)
Region of the Americas	54 277	34	539	- 48%
European Region	25 516	5	39	-15%
African Region	982	14	0	-
Western Pacific Region	223	0	4	33%
Eastern Mediterranean Region	78	1	6	-
South-East Asia Region	31	1	0	-
Total	81 107	55	588	-46%

(-) either the previous week or week beforehand have zero cases

Figure 1. Epidemiological curves of weekly aggregated confirmed cases of mpox by WHO Region, from 1 January to 27 November 2022, 17:00 CEST*

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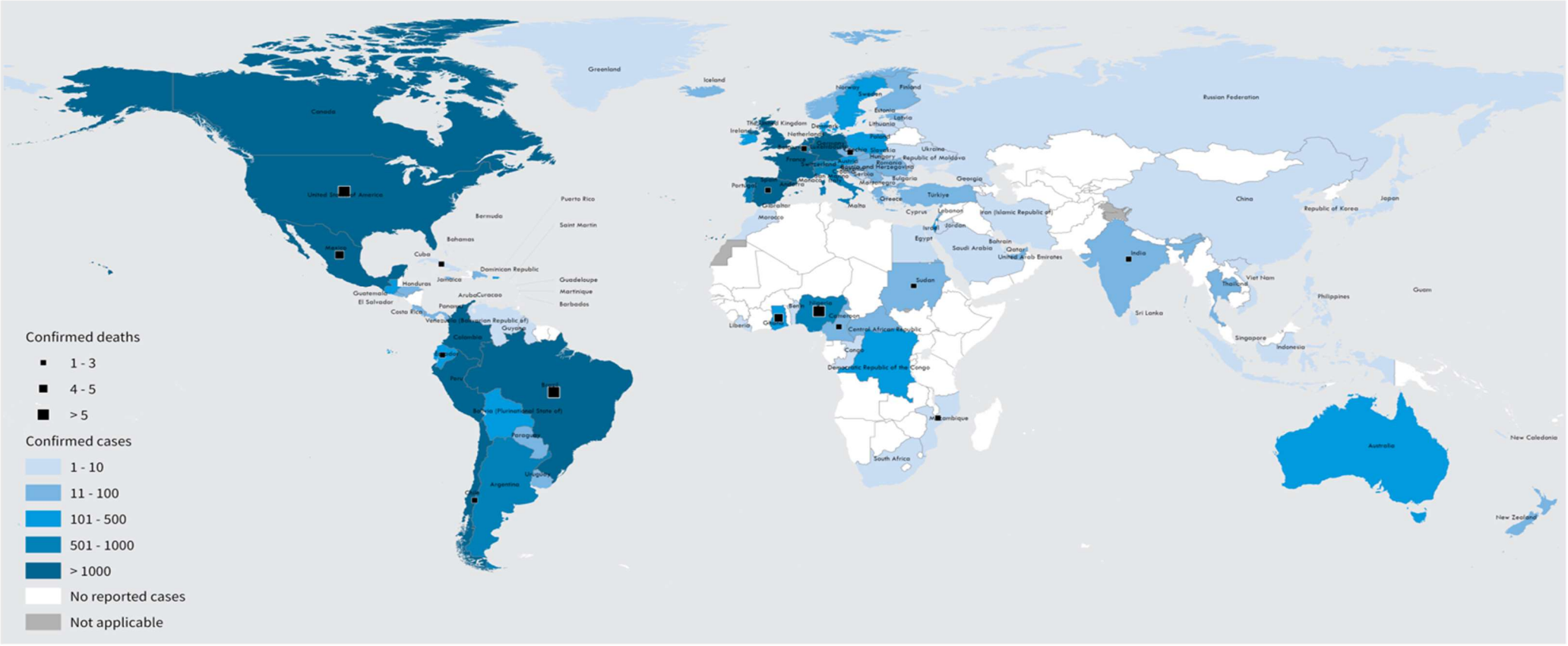


*This figure shows aggregated weekly data, for completed epidemiological weeks ending on Sundays. Data on the current week will be presented in the next situation report.

Other key epidemiological findings:

- The outbreak continues to affect primarily young men, with 96.9% (46 691/48 188) of cases with available data being men, with a median age of 34 years (interquartile range: 29-41 years); 1.2% (n=570) of cases with age data available are aged 0-17 years, and 146 (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 (422/570; 74%).
- Among cases with sexual orientation reported, 84.8% (24 251/28 607) identified as gay, bisexual and other men who have sex with men. Of all reported modes of transmission, transmission through skin and mucosal contact during sexual activities was most reported, in 13 904 of 19 609 (70.9%) of all reported transmission events. Detailed information on the route of transmission is not available for most cases from Africa and the above transmission information might not fully describe the epidemiological spread of the virus there. Countries from this region have both person-to-person transmission as well as infection from presumed contact with infected animals.
- The most reported exposure setting was a party setting with sexual contact, comprising 3767 of 6381 (59%) reported exposure settings.

Figure 2. Geographic distribution of confirmed cases of mpox reported to or identified by WHO from official public sources from 1 January 2022 to 27 November 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: 28 November 2022

World Health Organization

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HIV and mpox

People living with HIV may be at risk of developing mpox because of weak immune systems. There is evidence that being immunocompromised may increase your risk of becoming infected if you are exposed, and of having serious illness or dying from mpox. However, more data are needed to fully understand this.

Since the beginning of the outbreak, a high prevalence of HIV infection (52%; 14 573/28 006) has been reported among cases with known HIV status. Although many people with mpox in the current outbreak are also living with HIV, there have been relatively few severe cases of mpox, likely because in most cases their HIV infection was well-controlled. Mpox and HIV share common behavioural risk factors such as transmission through sexual contact. Consideration should be given to testing any person with mpox infection for HIV infection if their status is not already known.

People with multiple sexual partners, including people who are living with HIV, are encouraged to take steps to reduce their risk of being exposed to mpox by avoiding close contact with anyone who has symptoms and by avoiding high-risk situations where multiple contacts may occur, even with persons who may not realize they have mpox. Reducing the number of sexual partners may reduce your risk.

WHO's Strategic Preparedness, Readiness and Response plan to strengthen mpox response for people living with HIV

- **Comprehensive response:** Conduct mapping of health services with particular attention to where population groups at higher risk of mpox seek care, in order to establish links between urgent care, sexual health, diagnostic and laboratory services, HIV prevention and care, and other relevant health service delivery points.
- **Key activities and capacities:** Develop/revise and disseminate mpox surveillance guidance and SOPs containing case and contact definitions, case investigation forms, and reporting protocols, to health facilities and health workers in public and private sectors, at national and subnational levels, particularly those which serve at-risk population groups (e.g., sexual health services, HIV prevention and care, One Health and veterinary services, and refugee camps).
- **Ensure laboratory data are linked with key epidemiological and clinical data**, including clinical information and test results for HIV and sexually transmissible infections, through design of appropriate information management systems to enable timely data linkage, analysis and action.
- **Community engagement:** Where population groups at higher risk of infection are marginalized and stigmatized, work with existing community networks established to reach and support those groups, including those represented by affected and vulnerable populations, HIV support networks, as well as those of faith organizations, employers and businesses, and others.
- **Vaccination:** Where appropriate vaccines are available, consider post-exposure preventive vaccination (PEPV) for close contacts of cases prior to the onset of any symptoms, ideally within four days of first exposure (and up to 14 days in the absence of symptoms), to prevent onset of disease or mitigate disease severity. PEPV may be considered for individuals in special population groups, e.g. during pregnancy, for children, or for persons with immune suppression, including people living with HIV (PLWH), if a vaccine appropriate for these groups is available, following a careful evaluation of risks and benefits.
- **Case Management:** Surge clinical care capacity according to the epidemiological situation, leveraging existing professional networks such as those for sexually transmitted infections (STIs), HIV, or dermatology.
- **Ensure comprehensive care** for those with mpox, including management of other infections (e.g., HIV, STIs, bacterial infections).

Special focus: Mpox in females

The ongoing outbreak is largely observed in men who have sex with men (Figure 3), however infections among other populations, including females, have also been recorded. The proportion of female cases has been gradually increasing since the beginning of the outbreak, reaching 6.7% as of 20 November 2022, however the increase needs to be interpreted in the light of low number of absolute cases in the past weeks. Among female cases, the median age is 30 years (interquartile range: 22-40 years). Where age data are available, 215 (14.5%) females are aged 0-17 years, 1024 (68.9%) are aged 18-44 years, 212 (14.3%) are aged 45-64 years, and 35 (2.4%) are aged 65 years and older. The majority of these cases were reported from the Region of the Americas (1002/1497; 67%) and the European Region (422/1497; 28.2%). Female cases have also been reported in the African Region (61/1497; 4,1%), the South-East Asian Region (5/1497; 0.3%), the Eastern Mediterranean Region (4/1497; 0.3%), and the Western Pacific Region (3/1497; 0.2%).

Of the cases where sexual orientation is reported, the majority of females were heterosexual (648/747; 87%); the most reported exposure setting was in a household (87/204; 43%), and the most common form of transmission was via sexual encounters (198/474; 42%) (Figures 4 and 5).

Of the 1054 cases with at least one reported symptom, 74% presented with any rash, 66.5% with systemic rash, 24.1% with genital rash and 2% with rash at unknown location. After rashes, fever was the second most common symptom (52%), followed by headache (41.5%) and muscle ache (32.9%) (Figure 6). While genital rash was reported among 23.9% of female cases compared to 46.8% among male cases in our dataset, a recently published peer-reviewed publication found that clinical features of mpox in females and non binary individuals were similar to those described in males, including the presence of anal and genital lesions with prominent mucosal involvement. The lower reported prevalence of genital rash among females in surveillance data could be due to the rash being less visible and/or less diagnosed during the first consultation when the reporting forms are completed. More research is needed to understand the transmission routes and clinical presentation of mpox among females.

Figure 3. The proportion of male mpox cases, as of November 20, 2022.

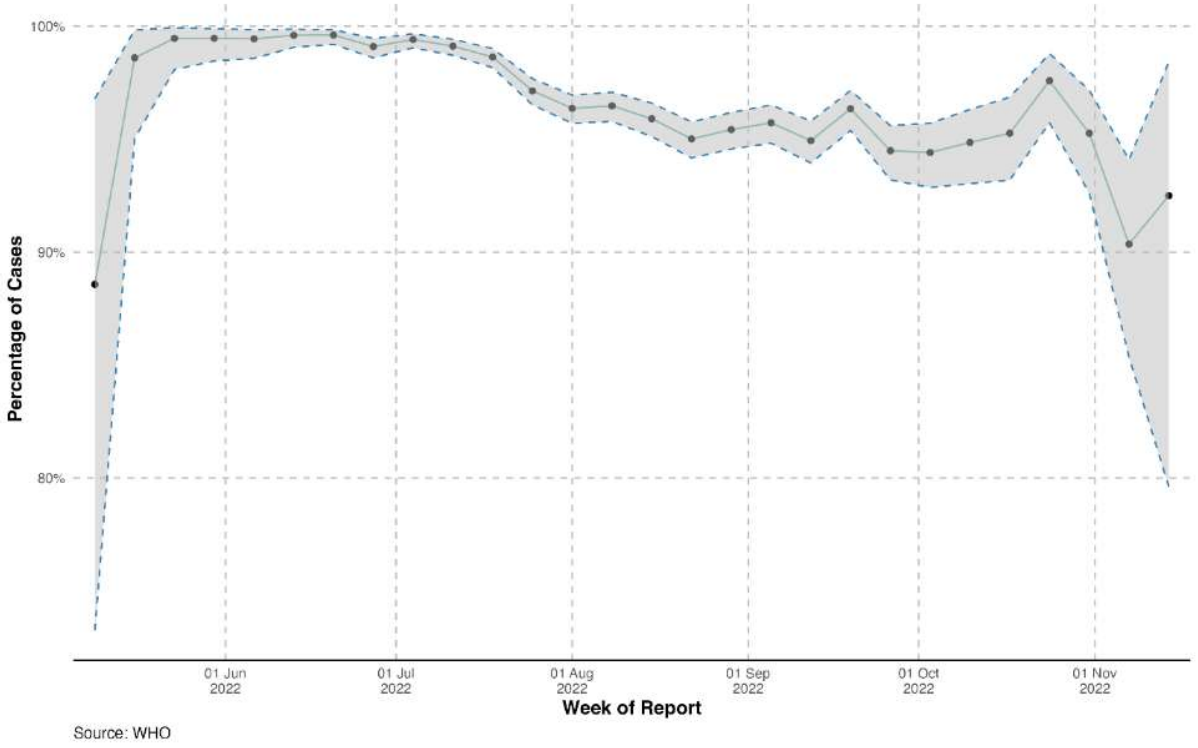


Figure 4: Exposure type among mpox female cases (n=204), as of November 20, 2022.

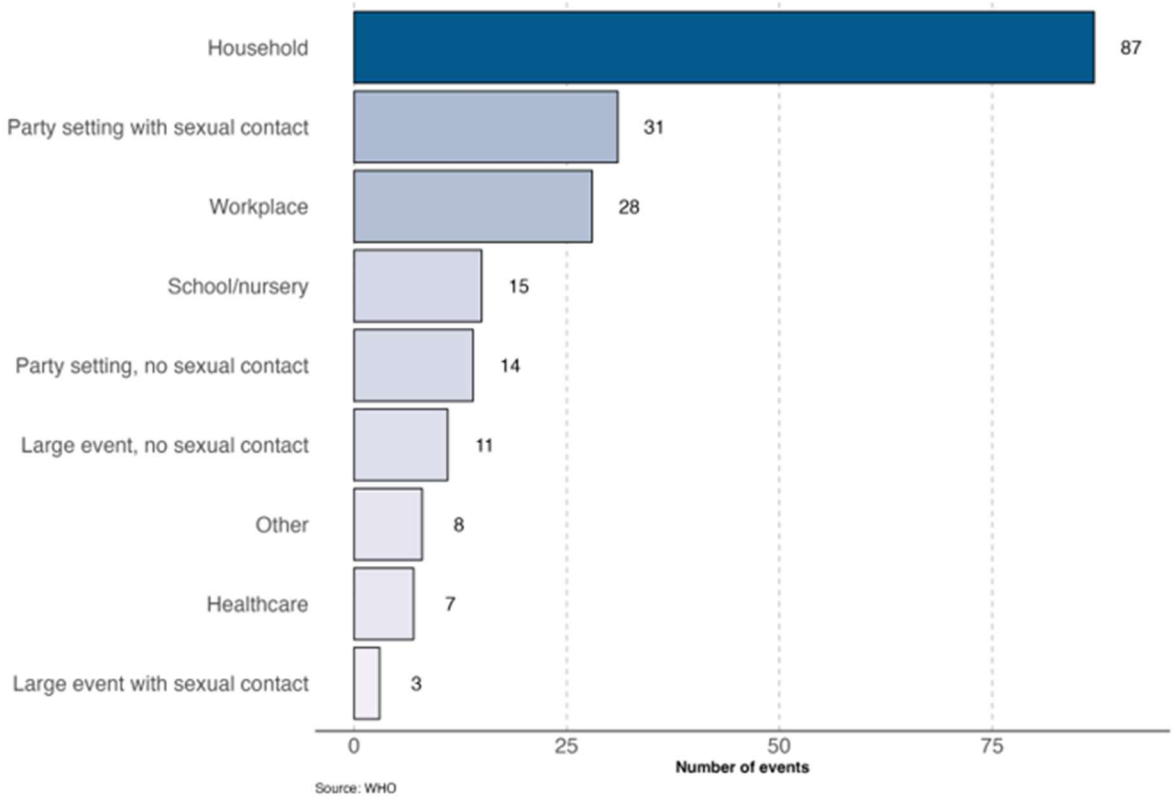


Figure 5. Type of mpox transmission among female cases (n=474), as of November 20, 2022.

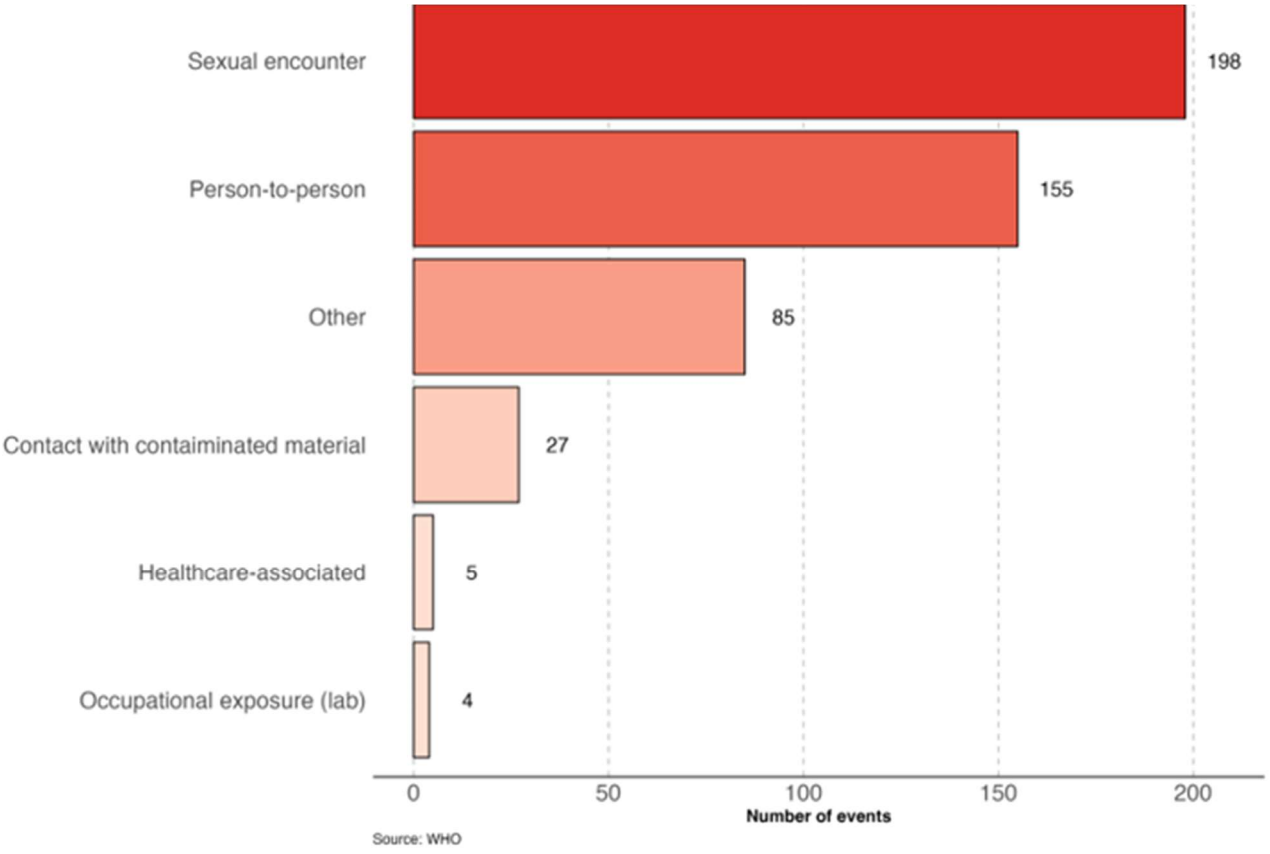
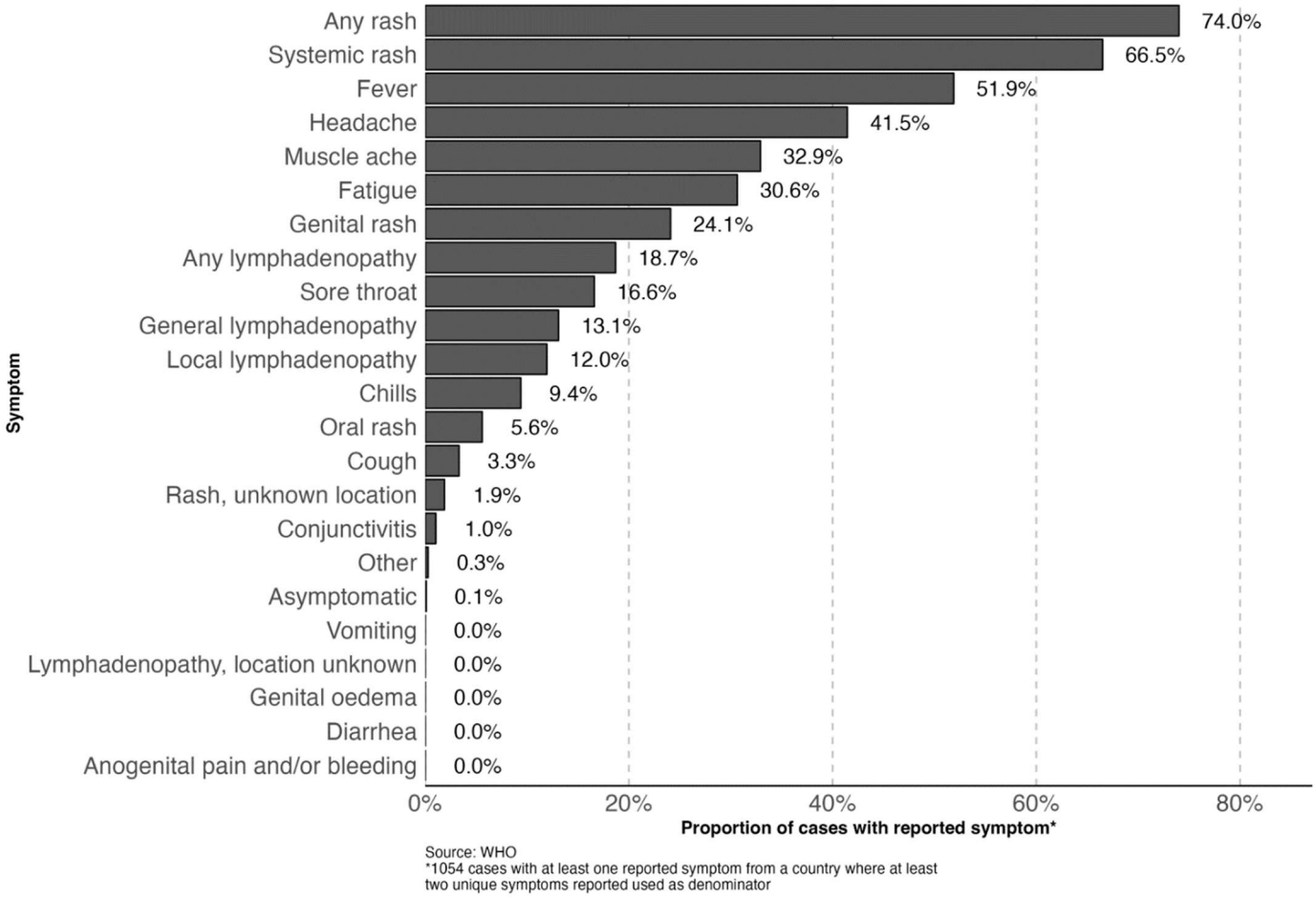


Figure 6. List of symptoms presented by female mpox cases, as of November 20, 2022.



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, in order to: encourage and advise on 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; enhance access to antiviral therapeutics; and support ongoing epidemiological and countermeasures research.

Mpox:new name for monkeypox disease

A new name has been adopted for the disease following a series of consultations with global experts. WHO will begin using a new term "mpox" as the preferred name for the disease of monkeypox. Both names will be used simultaneously for one year while "monkeypox" is phased out.

When the outbreak of mpox expanded earlier this year, racist and stigmatizing language was observed and reported to WHO. In several meetings, public and private, a number of individuals and countries raised concerns and asked WHO to propose a way forward to change the name.

Assigning names to new and, very exceptionally, to existing diseases is the responsibility of WHO under the International Classification of Diseases (ICD) and the WHO Family of International Health Related Classifications, through a consultative process which includes WHO Member States. WHO, in accordance with the ICD update process, held consultations to gather views from a range of experts, as well as countries and the general public, who were invited to submit suggestions for new names. Based on these consultations, and further discussions with WHO's Director-General Dr Tedros Adhanom Ghebreyesus, WHO recommends the following:

- Adoption of the new synonym, mpox, in English for the disease.
- Mpox will become a preferred term under the ICD, replacing monkeypox, after a transition period of one year. This serves to mitigate concerns raised by experts about confusion caused by a name change in the midst of a global outbreak. It also gives time to complete the ICD update process and to update WHO publications.
- The synonym Mpox will be included in the ICD-10 online in the coming days. It will be a part of the official 2023 release of ICD-11, which is the current global standard for health data, clinical documentation and statistical aggregation.
- The term "monkeypox" will remain a searchable term in the ICD, to match historic information.

Clinical management and therapeutics

WHO recommends patients with suspected or confirmed mpox be cared for within the mpox clinical care pathway that entails early diagnosis, appropriate infection prevention and control measures, and symptomatic treatments such as pain control and care of lesions. Early recognition and appropriate clinical management of complications such as severe pain, secondary skin infections, eye involvement, proctitis, urethritis, progressive lesions and dehydration is essential.

Use of antivirals such as tecovirimat should be under randomized controlled trials to rapidly increase evidence generation on efficacy and safety; where that is not possible, antivirals may be used under expanded access protocols such as MEURI. Tecovirimat, an antiviral agent developed for smallpox, is approved by the European Medicines Agency (EMA) and the UK Medicines and Healthcare Products Regulatory Agency (MHRA) for the

treatment of mpox, cowpox, smallpox, and complications from vaccinia virus under exceptional circumstances based on animal data, under the condition that SIGA Technologies Inc., the manufacturers, provide data on the effectiveness and safety of the medicine in patients given the medicine.

WHO and SIGA Technologies Inc. have reached a donation agreement for the emergency use of tecovirimat for mpox under an expanded access protocol. Through this arrangement, tecovirimat will be made available to low- and middle-income countries who express interest in participating. More information can be found at: Clinical Management of monkeypox. Multiple randomized controlled trials are underway around the world. Multiple randomized controlled trials are underway around the world.

Risk Communication and Community Engagement

Following the third meeting of the IHR Emergency Committee for the mpox outbreak, the WHO risk communication and community engagement (RCCE) team has updated their strategy for this outbreak response. The strategy will focus on adopting approaches that are focused on the local drivers of transmission (sexual contact, household contacts and/or zoonotic transmission). Seven strategic priorities have been identified:

- **Priority 1:** Provide technical RCCE guidance and support to Member States, partners and community actors (targeted support to the African Region)
- **Priority 2:** Support technical pillars of the Incident Management Support Team (laboratory, vaccines, Infection prevention and control, clinical management etc.) and external communications
- **Priority 3:** Increase the availability of socio-behavioural evidence to inform the mpox response
- **Priority 4:** Prevent and address existing stigma associated with mpox
- **Priority 5:** Identify opportunities and challenges for integrating mpox prevention and care in existing programmes for STIs and HIV
- **Priority 6:** Provide public health advice for high-risk groups, settings and behaviours
- **Priority 7:** Engage affected populations in the planning and implementation of mpox outbreak response strategies.

Key activities have been identified under each priority area. WHO is also updating the interim RCCE guidance for mpox outbreaks (originally published in June 2022). Three public health advice documents are in development: the third iteration of the advice for gay, bisexual and other men who have sex with men; advice for congregate settings; and advice for sex on premise venues and events. These documents will be published in the coming weeks.

EPI-WIN/ Infodemic Management

Infodemic insights for the period of 1 to 21 November show:

- emerging interest among online users who argued that demographic groups like women and non binary people had been underserved when seeking care for mpox (narratives from USA and UK predominantly)
- the extent to which mpox can be considered a sexually transmitted disease generated significant debate on social media
- criticism of public health authorities for the mismanagement of mpox response, and questions around lack of vaccines persisted in Latin America.

Update on mpox in the Western Pacific Region

As of 27 November, a total of 223 confirmed cases of mpox have been reported from twelve countries and areas in the Western Pacific Region (WPR), with 19 May 2022 being the earliest onset date reported. No deaths have been reported in the Region. Since the week commencing 29 August 2022, there has been an overall downward trend in the number of weekly new cases reported in the WPR. The majority of the cases reported have been from Australia (143/223; 64%), followed by New Zealand (36/223; 16%) and Singapore (19/223; 9%).

Of those cases with available data on gender (179/223; 80%), 174 cases are male, and five are female. Of those cases with available data on age (54/223; 24%), 52% are aged between 30-39 years old. There have been no cases reported among children (aged <17 years) in the WPR.

Where data on sexual orientation are available (32/223; 14%), 29 cases identified as gay, bisexual or other men who have sex with men and three cases as heterosexual, two of whom are female. Limited data (9/223) are available on the mode of transmission in WPR; sexual transmission is reported among seven cases and household transmission is reported in one case. The first occupational transmission was reported on 22 November 2022, after a medical worker was exposed by needlestick injury while sampling a skin lesion.

Of those with available data on travel history (107/223; 48%), 60 have reported international travel in past three weeks. Imported cases have mostly reported travel to countries in Europe and North America.

At the time of reporting and where data are available (48/223; 22%), 40 cases have been hospitalized for treatment or isolation and there have been no reports of cases being admitted to intensive care units.

Genomic sequencing data from case reporting forms are available in GISAID for 10% (23/223) of cases from seven countries, and all are reported as Clade IIb.

WHO response to mpox in the Western Pacific Region

Surveillance: Surveillance data continue to be collated daily from open sources and case-reporting forms shared by Member States through IHR notifications. As of 27 November, nine countries and areas have shared information under the IHR. WHO is facilitating communication through International Health Regulation channels and is also supporting Member States to complete the IHR survey for the monitoring and evaluation of the mpox outbreak response, with 12 countries and areas registered and eight that have already submitted the survey.

Laboratory: WHO is working closely with Member States and reference laboratories in the region. Support has been provided to ten countries and areas for sample referral and procurement of primers, probes and positive controls, in partnership with the National Institute of Infectious Diseases (NIID), Japan and the Victorian Infectious Diseases Reference Laboratory (VIDRL), Australia. Seven countries and areas have requested support to obtain commercial PCR kits and 16 laboratories from 11 Member States are participating in the WHO EQA program. The regional stockpile has been activated and WHO is on standby to dispatch available consumables, including reagents, infectious shippers, sample transport solutions, and personal protective equipment.

Clinical management and infection prevention and control: Member States are using WHO's interim rapid response guidance (10 June 2022) for infection prevention and control preparedness. To date, WHO has supported two Member States to adapt guidelines to their local context and has also responded to enquiries from Member States concerning the clinical characteristics of mpox. WHO guidance on injection safety and sharp injury prevention is being disseminated.

Risk communication and community engagement: WHO is supporting communication focal points to engage with Ministries of Health and partners to prepare for cases, sustain efforts to raise awareness about the disease, and share public health advice. WHO is also coordinating and disseminating messages that target at-risk groups through effective channels and trusted influencers; developing content and materials for healthcare facilities, including for healthcare workers and patients; and conducting social listening at the regional level to keep a pulse on public sentiment, detect and respond to rumours and misinformation, and inform the communications response.

Technical guidance and other resources

Strategic Planning and Global Support

- 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)

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 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
- 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 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 #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
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- 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
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Other Resources

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- WHO 5 moments for hand hygiene. https://www.who.int/campaigns/world-hand-hygiene-day
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- 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)
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- Monkeypox in the Region of the Americas - Risk assessment. https://www.paho.org/en/documents/monkeypox-region-americas-risk-assessment
- WOAH Risk Guidance on Reducing Spillback of Monkeypox Virus from Humans to Wildlife, Pet Animals and other Animals
- WOAH Website and FAQs on Monkeypox in animals

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 27 November 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	16	2
	Central African Republic*	12	0
	Congo*	5	0
	Democratic Republic of the Congo*	206	0
	Ghana*	107	4
	Liberia*	3	0
	Mozambique*	1	1
	Nigeria	624	7
	South Africa*	5	0
Eastern Mediterranean Region	Bahrain*	1	0
	Egypt*	1	0
	Iran (Islamic Republic of) *	1	0
	Jordan*	1	0
	Lebanon	24	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	326	0
	Belgium	789	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*	42	0
	France	4107	0
	Georgia*	2	0
	Germany	3672	0
	Gibraltar*	6	0
	Greece	85	0
	Greenland*	2	0
	Hungary*	80	0
	Iceland	16	0
	Ireland	217	0
	Israel*	262	0
	Italy	918	0
	Latvia*	6	0
	Lithuania*	5	0

	Luxembourg	57	0
	Malta*	33	0
	Monaco*	3	0
	Montenegro*	2	0
	Netherlands	1248	0
	Norway*	93	0
	Poland	213	0
	Portugal	948	0
	Republic of Moldova*	2	0
	Romania	45	0
	Russian Federation*	2	0
	San Marino*	1	0
	Serbia*	40	0
	Slovakia*	14	0
	Slovenia*	47	0
	Spain	7405	3
	Sweden	220	0
	Switzerland*	546	0
	The United Kingdom	3720	0
	Türkiye*	12	0
	Ukraine*	5	0
Region of the Americas	Argentina	894	0
	Aruba*	3	0
	Bahamas*	2	0
	Barbados*	1	0
	Bermuda*	1	0
	Bolivia (Plurinational State of)	252	0
	Brazil	9905	12
	Canada	1449	0
	Chile	1278	1
	Colombia	3803	0
	Costa Rica	24	0
	Cuba	8	1
	Curaçao*	3	0
	Dominican Republic*	52	0
	Ecuador	346	2
	El Salvador	21	0
	Guadeloupe*	1	0
	Guatemala	172	0
	Guyana*	2	0
	Honduras	11	0
	Jamaica*	16	0
	Martinique*	1	0
	Mexico	3292	4
	Panama	48	0
	Paraguay	17	0
	Peru	3444	0
	Puerto Rico	205	0
	Saint Martin*	1	0
	United States of America	29001	14
	Uruguay*	14	0

	Venezuela (Bolivarian Republic of) *	10	0
South-East Asia Region	India*	17	1
	Indonesia*	1	0
	Sri Lanka*	1	0
	Thailand*	12	0
Western Pacific Region	Australia	143	0
	China*	6	0
	Guam*	1	0
	Japan*	7	0
	New Caledonia*	1	0
	New Zealand	36	0
	Philippines*	4	0
	Republic of Korea	4	0
	Singapore*	19	0
	Viet Nam*	2	0
Cumulative	110 Countries/territories/areas	81 107	55