Multi-country outbreak of monkeypox

External Situation Report 4, published 24 August 2022
Data as received by WHO national authorities by 17:00 CEST, 22 August 2022

Risk assessment	Laboratory confirmed cases	Deaths	Countries/ areas/ territories
Global risk – Moderate WHO Regional risk • European Region – High • African Region, Region of the Americas, Eastern Mediterranean Region, Southeast Asia Region – Moderate • Western Pacific Region – Low-Moderate	41 664	12	96

Highlights

- During the week of 15 to 21 August, the number of cases reported in the Region of the Americas shows a continuing steep rise, confirming trends seen over the last several weeks. Globally, after four consecutive weeks of increase, the number of monkeypox cases reported declined by 21% overall during the same week (n=5907 cases) as compared to the previous week (n=7477 cases). This decrease may reflect early signs of a declining case count in the European region, which would need to be subsequently confirmed.
- On 8 August, WHO convened a meeting of two WHO Collaborating Centres for orthopoxviruses and other experts in poxvirology and viral evolution to consider the naming of monkeypox virus (MPXV) variants. Henceforth, the Congo Basin or Central African clade will be referred to as Clade I; the West African clade will be referred to as Clade II, with subclades IIa and IIb, the latter referring to the variant that is predominant in the multi-country outbreak.
- WHO has updated the interim guidance on vaccines and immunization for monkeypox. Updates include a clearer emphasis on the groups at risk of monkeypox for consideration for preventive vaccination, and updated terminology for pre- and post-exposure vaccination. To reduce confusion with the terms used in the management of HIV, the changes include using primary preventive (pre-exposure) vaccination (PPV) rather than pre-exposure prophylaxis (PrEP), and post-exposure vaccination (PEPV) rather than post-exposure prophylaxis (PEP).

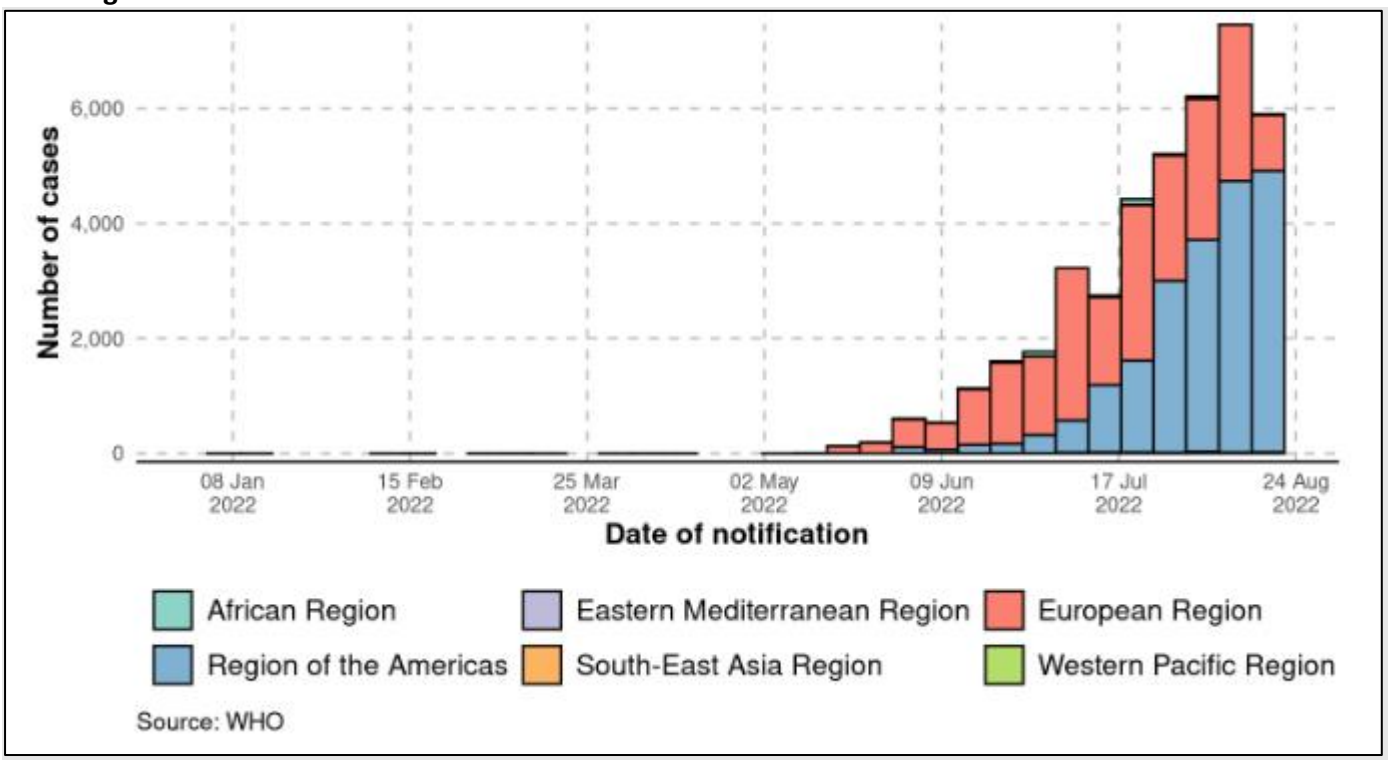
From 1 January through 22 August 2022, 41 664 laboratory-confirmed cases of monkeypox and 12 deaths have been reported to WHO from 96 countries/territories/areas[i] in all six WHO Regions (Table 1). Since the last edition of this report published on 10 August 2022, 13 859 new cases (50% increase) and 1 new death were reported; and 7 new countries reported cases. In the past seven days, 23 countries reported an increase in the weekly number of cases, with the highest increase reported in the United States of America. There are 16 countries that have not reported new cases for over 21 days, the maximum incubation period of the disease.

The number of weekly new cases reported globally decreased by 21% in week 33 (15-21 August) (n=5907 cases) compared to week 32 (8-14 August) (n=7477 cases). The majority of cases reported in the past 4 weeks were notified from the Region of the Americas (60.3%) and the European Region (38.7%).

As of 22 August, the ten countries that have reported the highest cumulative number of cases globally are United States of America (n = 14 049), Spain (n = 6119), Brazil (n = 3450), Germany (n = 3295), The United Kingdom (n = 3225), France (n = 2889), Canada (n = 1168), Netherlands (n = 1090), Peru (n = 937), and Portugal (n = 810). Together, these countries account for 88.9% of the cases reported globally.

In the past seven days, two countries reported their first case. These include Iran (Islamic Republic of) and Indonesia.

Figure 1. Epidemiological curve of weekly aggregated confirmed cases of monkeypox by region, from 1 January to 22 August 2022 17:00 CEST*



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

Table 1. Number of cumulative confirmed monkeypox cases and deaths reported to WHO, by WHO Region, from 1 January 2022 to 22 August 17:00 CEST

WHO Region	Confirmed cases	Deaths
African Region	404	7
Region of the Americas	20 438	2
Eastern Mediterranean Region	35	0
European Region	20 652	2
South-East Asia Region	14	1
Western Pacific Region	121	0
Cumulative	41 664	12

Other key epidemiological findings:

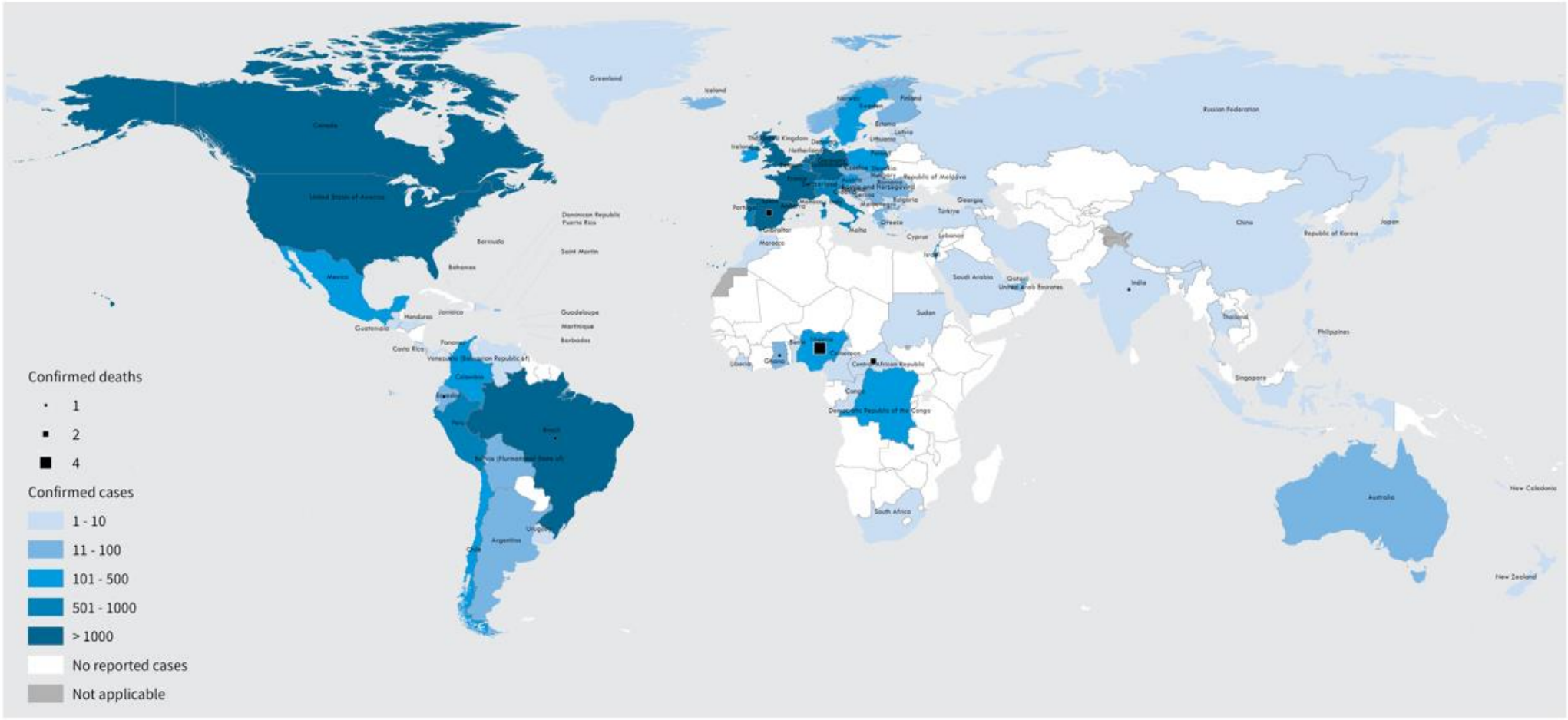
- The outbreak continues to affect young people of male gender, with 98.2% (20 138/20 500) of cases with available data on the gender being males with a median age of 36 years (Interquartile range: 30-43 years). Fewer than 1% (140/23 626) of cases with age data available are aged 0-17 years. This proportion differs between countries, with those in West and Central Africa reporting a greater proportion of cases among young age groups: 38.7% (65/168) of cases for whom age was available were among the age group 0-17, out of which 12.5% (21/168) were aged 0-4.
- Among cases with sexual orientation reported, 95.8% (9484/9899) identified as men who have sex with men. Of all reported types of transmission, a sexual encounter was reported most commonly, with 5954 of 7250 (82.1%) of all reported transmission events.
- The majority of cases were likely exposed in a party setting with sexual contacts, with 2204 of 3639 (60.6%) of all likely exposure categories.
- Among cases with known HIV status, 45% (4501/10 036) are HIV positive.

Infection among Health Care Workers

As of 22 August 2022, a small proportion of cases have been reported among health workers (HW) (n=256; 5.2% of cases with information available on the route of transmission), however, most were infected in the community and further investigation is ongoing to determine whether the remaining infection was due to occupational exposure. Healthcare-associated infection (HAI) has been confirmed in three cases to date.

For further information, please see the WHO Multi-country Monkeypox Outbreak – Global Trends.

Figure 3. Geographic distribution of confirmed cases of monkeypox reported to or identified by WHO from official public sources from 1 January 2022 to 22 August 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: 23 August 2022

Updates and WHO Advice

WHO continues to closely monitor and respond to the outbreak and support international coordination and information sharing with the 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.

Surveillance and Laboratory

WHO has updated the Monkeypox Case investigation form (CIF), as well as a minimum dataset Case reporting form (CRF), to include the latest information on symptomatology and epidemiological parameters, and to align with the Temporary Recommendations issued by the Director General, after the declaration of the Public Health Emergency of International concern (PHEIC).

Currently, WHO has received the CRF for around 90% of the total confirmed cases reported at the global level. The consistency and completeness of these data vary widely between countries, but overall the analysis of the collected information in the global report provides a good view of the ongoing outbreak.

WHO is piloting a systematic collection of information about the outbreak response implemented by countries for monkeypox through a Policy and Response Tracker, which includes information about surveillance, testing, isolation, quarantine and vaccination.

On 8 August, WHO convened a meeting of two WHO Collaborating Centres for orthopoxviruses and other experts in poxvirology and viral evolution to consider the nomenclature of monkeypox virus (MPXV) variants. Going forward the Congo Basin or Central African clade will be referred to as Clade I; the West African clade will be referred to as Clade II, with subclades IIa and IIb, the latter referring to the variant that is predominant in the global outbreak.

Clinical management, vaccines and therapeutics

Vaccines

WHO has updated the interim guidance on vaccines and immunization for monkeypox. Updates include a clearer emphasis on the groups at risk of monkeypox for consideration for preventive vaccination, and updated terminology for pre- and post-exposure vaccination. To reduce confusion with the terms used in the prevention of HIV infection, the changes include using primary preventive (pre-exposure) vaccination (PPV) rather than pre-exposure prophylaxis (PrEP), and post-exposure vaccination (PEPV) rather than post-exposure prophylaxis (PEP). The guidance emphasizes that the effectiveness of vaccination in the context of the current monkeypox outbreak remains uncertain. As before, WHO strongly encourages Member States to convene their national immunization technical advisory groups (NITAGs) to review the emerging evidence and develop policy recommendations for

the use of vaccines as relevant to the national context, both to ensure readiness in countries where there are few or no cases reported, as well as to support a timely response when required. It is recommended to implement vaccine efficacy studies during vaccine roll-out to document vaccine effectiveness and evaluate immunization strategies.

Post-exposure vaccination (PEPV) is recommended for close contacts of cases, ideally within four days of first exposure (and up to 14 days in the absence of symptoms), to prevent onset or mitigate severity of the disease.

Primary preventive vaccination before exposure (PPV) is recommended for individuals at high risk of exposure (importantly but not exclusively gay, bisexual and other men who have sex with men and/or have multiple sexual partners) and for health workers at high risk of exposure, laboratory personnel working with orthopoxviruses, clinical laboratory personnel performing diagnostic testing for monkeypox, and outbreak response team members (as designated by national public health authorities).

Persons at risk of exposure and at higher risk of severe disease (e.g. immunocompromised persons, pregnant women, or children who are potential contacts or members of the same household as persons with monkeypox) should be offered vaccination with appropriate vaccine on a case-by-case basis. All decisions around immunization of individuals with monkeypox or smallpox vaccines (before or following potential exposure) should be by shared clinical decision-making between the health care provider and prospective vaccinee, based on a joint assessment of risks and benefits, on a case-by-case basis.

Member States using vaccines against monkeypox are strongly encouraged to do so within a framework of collaborative clinical studies using standardized design methods and data collection tools for clinical and outcome data, in order to rapidly increase evidence generation, especially on vaccine efficacy/effectiveness and safety. Where participation in placebo-controlled clinical efficacy trials for monkeypox vaccines and schedules is not considered feasible, the use of a range of other robust study designs to assess vaccine effectiveness should be rapidly put in place employing standard data collection methods, where resources allow.

Therapeutics

Caring for patients with suspected or confirmed monkeypox requires early recognition through screening protocols adapted to local settings, and rapid implementation of appropriate IPC measures (including implementation of transmission-based precautions and prompt isolation), testing to confirm diagnosis, symptomatic management of patients with mild or uncomplicated monkeypox and monitoring for and treatment of complications and life-threatening conditions such as progression of skin lesions, severe pain, proctitis, urinary retention, secondary bacterial infection of skin lesions, ocular lesions, and rarely, encephalitis, myocarditis and/or death. Patients with mild or uncomplicated monkeypox who isolate at home require careful assessment of the ability to safely isolate and maintain required IPC precautions in their home to prevent transmission to other household and community members and have access to care if they progress or worsen. Precautions (isolation and IPC measures) should remain in place until lesions have crusted, scabs have fallen off and a fresh layer of skin has formed underneath.

To enable reliable evaluation of therapeutic interventions, randomized trials using CORE protocols are the preferred approach. Unless there are compelling reasons not to do so, every effort should be made to implement randomized trial design. It is feasible to conduct placebo-controlled studies, especially in individuals at low risk for serious disease. Harmonised data collection for safety and clinical outcomes using the WHO Global Clinical Platform for monkeypox, would represent a desirable minimum dataset in the context of an outbreak, including the current event.

WHO is seeking feedback on the Target Product Profile (TPP) therapeutics for monkeypox cases from experts in the industry, product developers, the scientific community, national infection control programme personnel and clinicians currently involved in the management and control of monkeypox. The TPP is intended to guide and prioritize the evaluation of repurposed therapeutic agents for monkeypox or the development of new therapeutic agents.

Risk Communication and Community Engagement

Balanced risk communication and community engagement approaches need to reach the most affected populations. It is most effective to use existing trusted networks to reach those who identify as gay, bisexual or men who have sex with men (MSM) and those with recent multiple sex partners. In most countries these networks can be accessed by partnering with HIV/AIDS networks. Engagement efforts should include open questions with detailed advice and answers, that present alternatives to high-risk activities which are co-developed with affected population groups.

Affected persons should be aware of emerging information and knowledge about symptoms and updated behavioural advice to avoid further spread of monkeypox. As vaccines, testing and therapeutics become more available, communication with individuals on; 1) who should access these measures, 2) how they can be accessed, 3) how they work, 4) the known limitations of specific measures, should be consistently communicated. This information should be shared through trusted channels, key influencers and community based and civil society organizations representing affected populations. Unknowns and nuances of vaccines, testing and therapeutics should be consistently and transparently shared with people receiving these.

Technical guidance and other resources

WHO Guidance and Public Health Recommendations

- 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 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 Global clinical data platform for monkeypox case report form (CRF), 15 July 2022. https://www.who.int/publications/i/item/WHO-MPX-Clinical_CRF-2022.2
- 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
- WHO Surveillance, case investigation and contact tracing for Monkeypox: Interim guidance, 24 June 2022. https://www.who.int/publications/i/item/WHO-MONKEYPOX-surveillance-2022.2
- 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
- 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

- The WHO Global Clinical Platform for monkeypox, 14 June 2022. https://www.who.int/tools/global-clinical-platform/monkeypox
- Global clinical data platform for monkeypox case report form (CRF), 14 June 2022. https://www.who.int/publications/i/item/WHO-MPX-Clinical-CRF-2022.1
- Case and contact investigation form (CIF), 16 June 2022. https://www.who.int/publications/m/item/monkeypox-minimum-dataset-case-reporting-form-(crf)
- WHO Go.Data: Managing complex data in outbreaks. https://www.who.int/tools/godata
- Monkeypox Case investigation form (CIF) and minimum dataset Case reporting form (CRF). https://www.who.int/publications/m/item/monkeypox-minimum-dataset-case-reporting-form-(crf)

Risk communication and community engagement

- Monkeypox Q&A, 23 August 2022. https://www.who.int/philippines/news/feature-stories/detail/frequently-asked-questions-about-monkeypox
- 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
- 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. 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

Laboratory and diagnostics

- 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
- 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

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 #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 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

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 22 August 2022, 17:00 CEST*

WHO Region	Country	Confirmed Cases	Confirmed Deaths
African Region	Benin	3	0
	Cameroon	7	0
	Central African Republic	3	2
	Congo	3	0
	Democratic Republic of the Congo	163	0
	Ghana	47	1
	Liberia	2	0
	Nigeria	172	4
	South Africa	4	0
Eastern Mediterranean Region	Iran (Islamic Republic of)	1	0
	Lebanon	6	0
	Morocco	1	0
	Qatar	3	0
	Saudi Arabia	6	0
	Sudan	2	0
	United Arab Emirates	16	0

European Region	Andorra	4	0
	Austria	218	0
	Belgium	624	0
	Bosnia and Herzegovina	3	0
	Bulgaria	4	0
	Croatia	22	0
	Cyprus	4	0
	Czechia	39	0
	Denmark	169	0
	Estonia	9	0
	Finland	22	0
	France	2889	0
	Georgia	2	0
	Germany	3295	0
	Gibraltar	6	0
	Greece	50	0
	Greenland	2	0
	Hungary	63	0
	Iceland	12	0
	Ireland	113	0
	Israel	208	0
	Italy	689	0
	Latvia	4	0
	Lithuania	5	0
	Luxembourg	45	0
	Malta	31	0
	Monaco	3	0
	Montenegro	2	0
	Netherlands	1090	0
	Norway	76	0
	Poland	114	0
	Portugal	810	0
	Republic of Türkiye	1	0
	Republic of Moldova	2	0
	Romania	34	0
	Russian Federation	1	0
	Serbia	31	0
	Slovakia	12	0
	Slovenia	43	0
	Spain	6119	2
	Sweden	141	0
	Switzerland	416	0
	The United Kingdom	3225	0
Region of the Americas	Argentina	72	0
	Bahamas	2	0

	Barbados	1	0
	Bermuda	1	0
	Bolivia (Plurinational State of)	37	0
	Brazil	3450	1
	Canada	1168	0
	Chile	189	0
	Colombia	164	0
	Costa Rica	3	0
	Curaçao	1	0
	Dominican Republic	6	0
	Ecuador	19	1
	Guadeloupe	1	0
	Guatemala	4	0
	Honduras	3	0
	Jamaica	4	0
	Martinique	1	0
	Mexico	252	0
	Panama	4	0
	Peru	937	0
	Puerto Rico	66	0
	Saint Martin	1	0
	United States of America	14 049	0
	Uruguay	2	0
	Venezuela (Bolivarian Republic of)	1	0
South-East Asia Region	India	9	1
	Indonesia	1	0
	Thailand	4	0
Western Pacific Region	Australia	89	0
	China	3	0
	Japan	4	0
	New Caledonia	1	0
	New Zealand	4	0
	Philippines	4	0
	Republic of Korea	1	0
	Singapore	15	0
Cumulative	**96 countries/territories/areas**	**41 664**	**12**

Corrigendum: This report was revised on 25 August to correct the number of cases reported in week 32 (8-14 August) from 5213 cases to 7477 cases.