

# Multi-country outbreak of mpox

External Situation Report 29, published 20 October 2023

Data as received by WHO, from national authorities on the situation by 30 September 2023

Mpox long-term risk assessment <sup>i</sup>	Laboratory confirmed cases	Deaths	Countries/areas/territories
<ul style="list-style-type: none"><li>For general population in countries not affected prior to the current outbreak is assessed as low.</li><li>For general population in countries with historical mpox transmission and their neighbouring countries is assessed as moderate.</li><li>Overall global risk for men who have sex with men and sex workers, is assessed as moderate.</li></ul>	91 123	157	115

## Highlights

- The mpox surveillance reporting frequency has shifted from weekly to monthly; therefore, the reporting period of this Situation Report, as well as the various indicators and comparisons, have been adjusted.
- Mpox cases continue to be reported in most WHO regions. The most affected regions in September 2023, ordered by number of cases, were the Western Pacific Region, followed by the European Region, the South-East Asia Region, the Region of the Americas and the African Region. One case was reported from the Eastern Mediterranean Region.
- A significant increase in cases was reported in the European Region for the month of September, compared to previous months.
- WHO recently updated the mpox case reporting form (CRF) by reducing the number of variables reported, in order to support sustainability of the global surveillance system.
- This report offers an overview of the mpox event-based surveillance (EBS) conducted by WHO since the start of the global outbreak to support the indicator-based surveillance (IBS) and the overall global response.
- A special focus on mpox among children and adolescents is also included, describing a recently published article based on WHO global surveillance data, as well as other recent relevant literature.

<sup>i</sup> These risks represent population average risks; individual risks will vary depending on individual behaviours, specific geographic location, immune status, and other factors.

The mpox surveillance reporting frequency has shifted from weekly to monthly; therefore, the reporting period of this Situation Report and related indicators and comparisons, have been adjusted accordingly. October is the first month this new system is in place, and this shift may introduce a surveillance artefact in some data; the number of cases for September are to be interpreted with caution. Cases from previous batch reporting from China CDC for June-September 2023 have now been placed in the month the cases were detected.

From 1 January 2022 through 30 September 2023, a cumulative total of 91 123 laboratory-confirmed cases of mpox, including 157 deaths, have been reported to WHO from 115 countries/territories/areas (hereafter 'countries') in all six WHO Regions (Table 1). A total of 868 new cases were reported in September, a 16% decline from the number of new cases reported during the previous month. Most cases during the last month were reported from the Western Pacific Region (45%) and the European Region (26.4%). Overall, the European Region observed the highest change in monthly cases (+660%).

In the last month (1-30 September), 21 countries reported an increase in cases compared to the previous month (1-31 August). Portugal reported the highest relative increase in cases ( $n = 86$  vs  $n = 3$ ). Other countries in the European Region that experienced increase in reported cases include Spain and the United Kingdom. China reported a 34% reduction in the number of new cases last month ( $n = 365$  vs  $n = 556$ ) but continues to influence the high case counts in the Western Pacific Region (Table 1). A decline in reported cases has been observed in the African Region, but it is unclear if this is due to a decrease in cases or a delay in reporting.

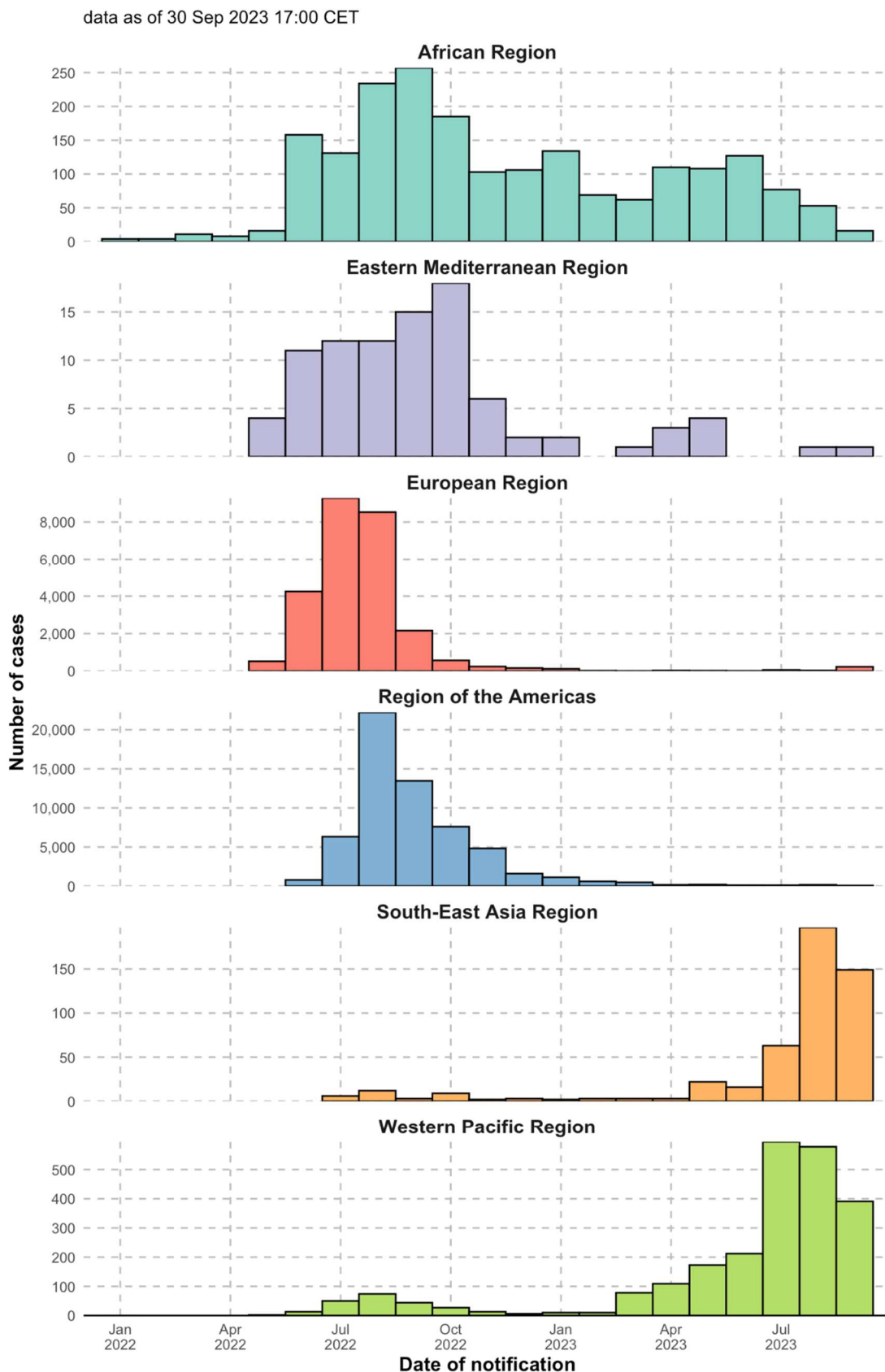
As of 30 September 2023, the ten countries that have reported the highest cumulative number of cases globally are the United States of America ( $n = 30\ 636$ ), Brazil ( $n = 10\ 967$ ), Spain ( $n = 7611$ ), France ( $n = 4158$ ), Colombia ( $n = 4090$ ), Mexico ( $n = 4062$ ), Peru ( $n = 3812$ ), The United Kingdom ( $n = 3805$ ), Germany ( $n = 3708$ ), and China ( $n = 1794$ ) having replaced Canada in the top ten reporting countries. Together, these countries account for 81.9% 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 30 September 2023**

WHO Region	Total confirmed cases	Total deaths	Cases in last month	Monthly change in cases (%)
Region of the Americas	59 949	127	82	-54
European Region	26 231	7	229	+660
Western Pacific Region	2 385	0	391	-32
African Region	1 973	20	16	-70
South-East Asia Region	493	2	149	-24
Eastern Mediterranean Region	92	1	1	-
Total	91 123	157	831	-16

The epidemic curves shown in Figure 1 suggest that the outbreak continues at a low level of transmission in the European Region and in the Region of the Americas, while greater transmission is observed in the Western Pacific and South-East Asia regions. In the African Region, where transmission is more continuous, the number of weekly reported confirmed cases fluctuates without a clear trend. Based on data shared with WHO, the Eastern Mediterranean Region has experienced mainly sporadic mpox cases although WHO is aware that some countries have ceased reporting despite ongoing reports of travel-related cases from non-reporting countries or higher case counts documented in scientific publications from the region.

**Figure 1. Epidemiological curves of monthly aggregated confirmed cases of mpox by WHO Region, from 1 January 2022 to 30 September 2023**

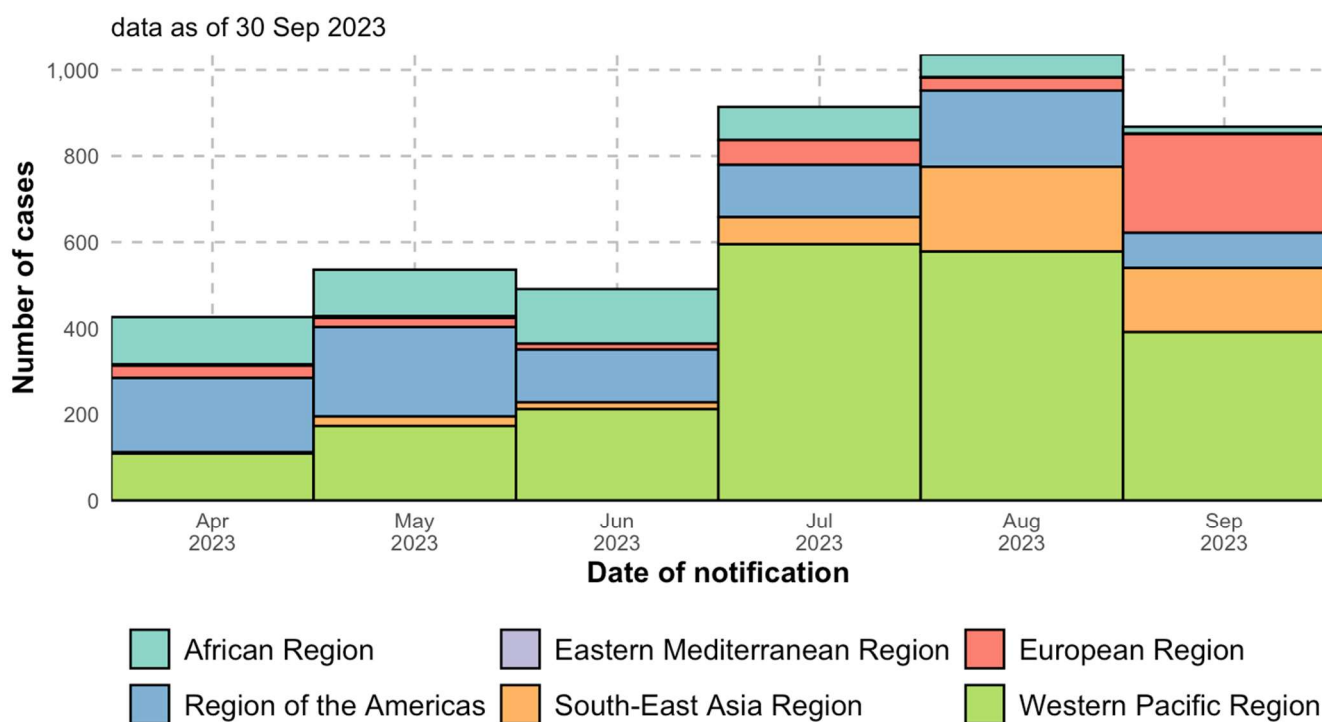


Source: WHO

\*Figure 1 shows aggregated monthly data, ending on the last day of the month. **Note the different scales of the y-axes.**

Figure 2 shows that the number of monthly mpox cases reported globally in the last six months (1 April 2023 - 30 Sep 2023) has fluctuated between 400 and 1000 cases (average 712 cases per month), with most cases being reported by the Western Pacific Region, followed by the Americas, South-East Asia and Europe.

**Figure 2. Epidemic curve of monthly aggregated number of mpox cases by WHO region, for the last six months, 1 April – 30 September 2023.**



Source: WHO

**Other key epidemiological findings:**

- As of 30 September 2023, 96.3% (82 158 / 85 286) of cases with available data are male, with a median age of 34 years (interquartile range: 29 - 41 years) The age and sex distributions of cases remain stable.
- Of cases with age data available, 1.3% (1148 / 88 404) are aged 0-17 years, including 333 (0.4%) aged 0-4 years. The majority of cases aged 0-17 years were reported from the Region of the Americas (708 / 1148; 62%). The overall proportion of cases under 18 years of age in the Region of the Americas is 1.2% (708 / 59 425), similar to the proportion observed globally.
- Of all reported modes of transmission, sexual encounter is the most common, comprising 18 108 of 21 938 (82.5%) of all reported transmission events, followed by person-to-person non-sexual contact; this pattern has persisted over the last six months with 95.6% (863 / 903) of new cases reporting sexual contact. Detailed information on the routes of transmission is not available for most cases from the WHO African Region, thus the available information on transmission might not fully describe the spread of the virus in this region.
- From May 2022 to the end of September 2023, WHO collected information on the reported settings of monkeypox virus exposure. For the data collected in this period, where information is available, the most reported exposure setting was a party setting with sexual contact, comprising 4102 of 6437 (63.7%) reported settings. From October 2023 exposure setting information is not collected anymore.
- Among cases where at least one symptom is reported (n = 37 485), the most common symptom is any rash, reported in 90.3% of cases, followed by fever (58.2%), and systemic rash or genital rash (56.0% and 50.6% respectively). The symptomatology of cases has been very consistent over time in this outbreak. Information on clinical description from countries in West and Central Africa is lacking in the surveillance data.

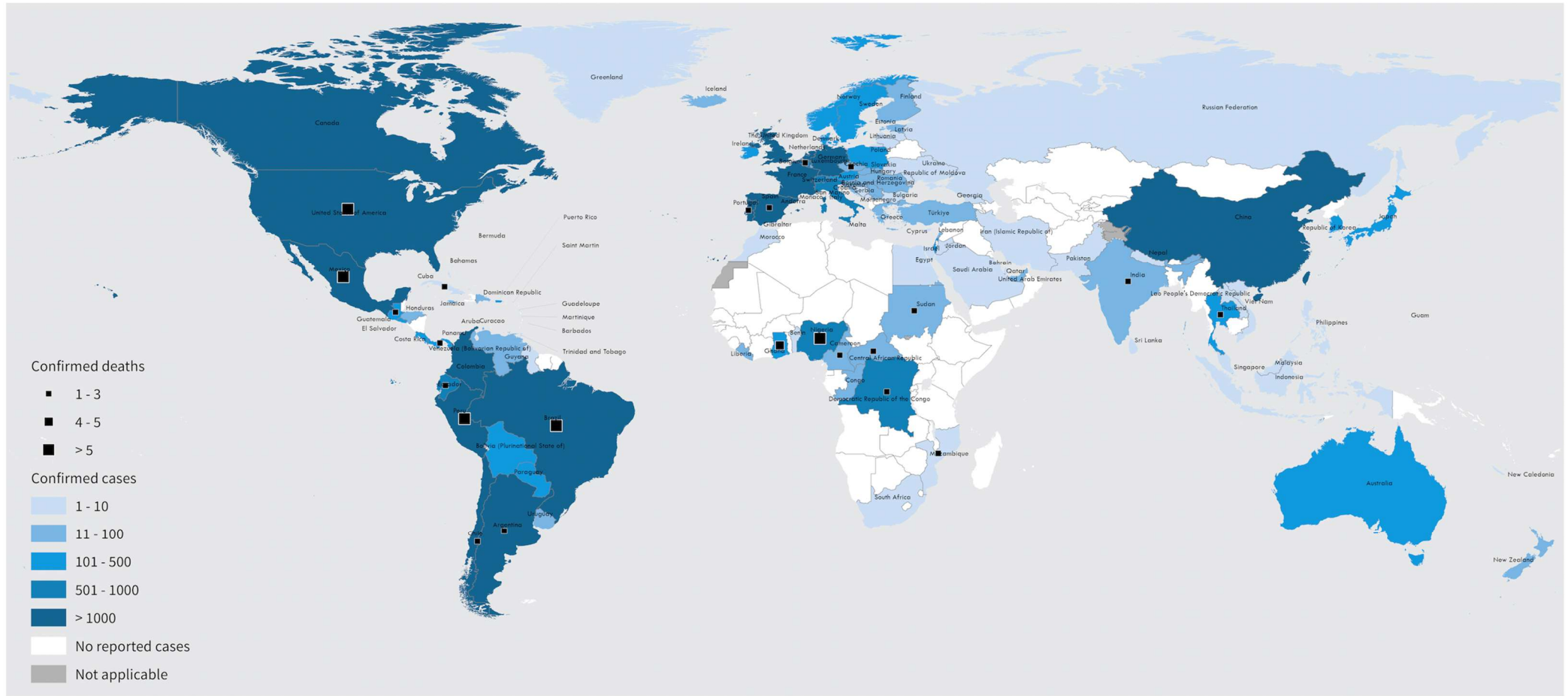
- Around half (18 394 / 34 894; 52.7%) of cases with available information in this outbreak are reported to be in persons living with HIV. This proportion is consistent also for cases reported in the last six months (987 / 1758; 56.1%).
- In September, a significant increase (660%) in cases was reported from the European Region, mainly driven by cases in Portugal, Spain, the United Kingdom, Germany and Ireland. There is no information that the cases and clusters reported by these European countries are linked to any known gathering event. The WHO switch to monthly reporting may have partially affected this observation; therefore, this is to be interpreted with caution. Regardless, reported cases have increased in the European Region in the last month.

### Updated case reporting form

To sustain the mpox global surveillance system for the coming year as requested by the [mpox standing recommendations](#), WHO has updated [the case reporting form \(CRF\)](#) by reducing the number of variables for which information is requested.

The CRF is a minimum data set capturing key epidemiologic variables on mpox cases, which facilitates reporting to WHO under the International Health Regulations (IHR 2005) Article 6 and the mpox standing recommendations, for global situational awareness and reporting. The mpox case investigation form ([CIF](#)), useful for conducting thorough epidemiological investigations of mpox cases and their contacts, has not been changed.

**Figure 3. Geographic distribution of confirmed cases of mpox reported to or identified by WHO from official public sources, from 1 January 2022 to 30 September 2023**



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: 30 September 2023



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## Special focus: Event-based surveillance during the global mpox outbreak

Since the beginning of the multi-country outbreak in May 2022, WHO has been conducting mpox surveillance globally. The aim of mpox surveillance is to rapidly detect and monitor cases, clusters, and new countries confirming mpox, as well as to understand the features of the outbreak such as circulating strains, disease severity, populations at risk, and others. To achieve this, WHO set up an indicator-based surveillance (IBS) system to collect information on probable and confirmed mpox cases and deaths<sup>1</sup> (while suspected cases are also notified to WHO in the African region) and an event-based surveillance (EBS) system based on unstructured information from multiple sources not captured by IBS,<sup>2</sup> such as media reports, communication from national health departments, social media, and literature publications, to rapidly detect unusual clusters, changes in transmission, disease severity, and other important epidemiological features of the outbreak.

The WHO approach to event-based surveillance evolved out of rumour surveillance developed during the smallpox eradication era and informed by other more recent examples such as during the 2004 severe acute respiratory syndrome (SARS) outbreak in the WHO Western Pacific Region.<sup>3</sup> The EBS approach has proven to be an early warning mechanism to detect acute public health events. It is used to complement IBS, especially in emergencies when IBS systems are not in place or extensive enough to provide all relevant information to inform response. It has also been used to monitor changes in disease trends and transmission patterns in protracted emergencies where surveillance resources are limited, for example for tracking the COVID-19 pandemic in emergency settings.<sup>4</sup>

The specific objectives of mpox EBS conducted by WHO have evolved since May 2022. Initially, the main objective was to detect new countries reporting mpox cases and tracking cases and deaths, while IBS was being established. During this period, EBS signals were sent to the relevant national focal points through the International Health Regulations (2005) (IHR) channels for verification. Later, following the establishment of formal IBS reporting channels,<sup>1</sup> EBS began to focus more on understanding outbreak transmission dynamics, populations at risk, disease severity, and outbreak response (Table 2). The systematic recording of EBS signals presented below began in August 2022.

EBS for mpox involves daily scanning for signals from different pieces of information and several platforms. The Epidemic Intelligence from Open Sources (EIOS) platform<sup>5</sup> is mainly used for media scanning, along with targeted scanning using search engines such as Google. A shared EIOS board between WHO headquarters and WHO regional offices was created where pieces of information are pinned and directly imported into a signal management platform (WHO Signal App) managed internally. The pinned pieces of information are processed into nine types of signals within the WHO Signal App (Table 2). Signals captured are then shared with the mpox Incident Management Support Team (IMST) for awareness and to inform outbreak response and strategic planning. Signals which require follow-up are discussed within the IMST, and an action plan is agreed.

From 1 August 2022 to 5 October 2023, more than 58 000 pieces of information related to mpox were scanned, and 291 signals were selected and shared with the IMST. Most signals concerned transmission in the community, disease severity, and miscellaneous mpox signals that did not fall under our categories (e.g., news articles simply commenting on the occurrence of additional cases) (Table 3). Few signals on clusters were captured, and none were linked to pride events or sex parties despite these being considered events where mpox transmission occurred at the start of the outbreak in May-June 2022. In recent months, more mpox journal articles have been published as more information becomes available, and such articles are also captured if within the scope of our EBS objectives.

Table 2: Types and sub-types of signals in event-based surveillance of mpox

Type of signal	Sub-type	
Clusters		
Disease severity		
Healthcare capacity		
Other		
PHSM	Restriction implementation	
	Restriction easing	
	Special populations	Children and youth
		Elderly
		Healthcare workers
Other vulnerable groups		
Transmission	People with co-morbidities	
	Refugees and IDPs	
	Animal cases	
	Community	
	Household	
Unusual epi	Nosocomial	
	Women	
Vaccines		

Table 3: Types and sub-types of signals captured through event-based surveillance for mpox between 1 August 2022 and 5 October 2023

Type of signal	Number of signals (n=291)	Proportion (%)
Transmission	96	33
Disease severity	38	13
Special populations	32	11
Unusual epi	28	10
Vaccines	25	8.6
Healthcare capacity	12	4.1
PHSM	11	3.8
Clusters	8	2.7
Other	41	14

Source: World Health Organization, Geneva, Switzerland  
 PHSM = Public health and social measures; IDP = internally displaced persons

EBS is directly affected by public interest in a topic; therefore, the information available fluctuates based on public interest in mpox at different points in time and declines over time as public interest wanes. Before May 2022, a daily average of 30 pieces of information on mpox were imported into EIOS (Figure 4). A sharp rise was seen in August 2022, with a daily average of 829 pieces of information in EIOS, likely because mpox had been declared a public health emergency of international concern (PHEIC) on 23 July 2022, influencing public interest. However, information on mpox imported into EIOS has steadily decreased since then to a current daily average of 59 (Figure 5). The dependence on public interest for availability of information is one of the major limitations of this surveillance system.

The trend of daily signals captured during our EBS activities (Figure 5) versus the relevant pieces of information imported into EIOS (Figure 5) has changed over time. Over the period of surveillance, a relatively stable trend in the number of signals captured daily is observed (min=1, max=10) (Figure 6), despite fewer pieces of information being captured. The reason that the number of signals captured has not decreased is because the range of information sources and topics of interest have broadened in scope as the outbreak has evolved. EBS is flexible and easy to adapt to changes in surveillance objectives, which is the system’s major advantage. It remains a major source of ad hoc information for mpox surveillance, especially for contextualizing indicator-based data received by WHO and better understanding the mpox situation in WHO Member States.

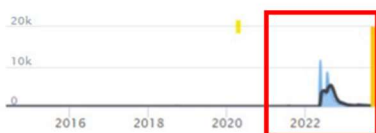


Figure 4: Pieces of information on mpox before and after 2022 in EIOS

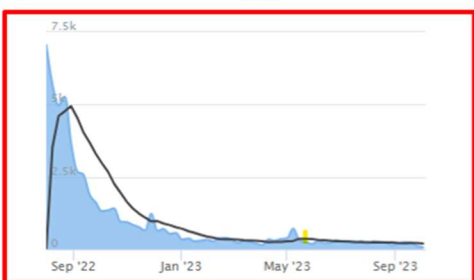


Figure 5: Pieces of information on mpox pulled into EIOS declined over time since August 2022

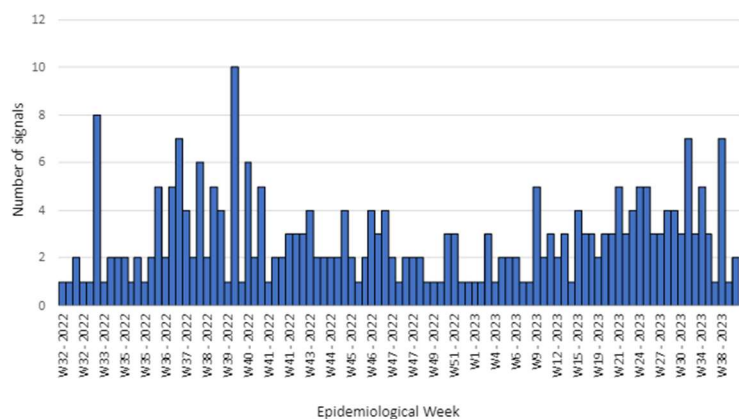


Figure 6: The number of signals on mpox captured through event-based surveillance between 1 August 2022 and 5 October 2023



## Special focus: Mpox in children and adolescents

Historically, mpox has affected all age groups, however, the majority of cases in previously affected African countries predominantly involved children.<sup>6</sup> The global outbreak of 2022-23 has brought attention to the significance of sexual transmission of mpox,<sup>7</sup> a phenomenon previously documented during the 2017-2018 outbreak in Nigeria.<sup>8,9</sup>

WHO recently published an article detailing the incidence of mpox among children and adolescents below 18 years of age during the 2022-23 outbreak.<sup>10</sup> These data were collected from Member States via the global IBS surveillance system. From 1 January 2022 to 22 May 2023, only 1.3% (1118 out of 84 614) of the globally confirmed mpox cases were patients under 18 years. The article highlighted several key findings:

- The proportion of cases involving those under 18 years during this global outbreak is notably lower compared to previous outbreaks in African nations.
- The severity of the disease in this age group globally where clade IIb monkeypox virus (MPXV) is circulating was generally low, especially when compared to past reports from countries such as the Democratic Republic of the Congo (where to date only clade I MPXV has been reported in humans) and Nigeria.<sup>11,12</sup> Of the cases with available data, 14% (47 / 335) were hospitalized, one required intensive care, and none died.
- There is a discernible variation in the distribution by sex and age based on the monkeypox virus clade. For the 297 cases from countries reporting Clade I MPXV, all age groups displayed a balanced sex distribution. In contrast, of the 805 cases from countries reporting Clade II, more males than females (269 vs 104) were observed in the 13–17 age bracket.
- Adolescents under 18 years of age who are sexually active are at risk of contracting mpox via sexual encounters. Sexual contact was the primary transmission route for adolescents aged 13-17 during this outbreak, globally, while this data remains unreported for the African region countries with continuous reporting of mpox.
- The predominant clinical symptom of mpox in children and adolescents was any rash. However, the occurrence of genital rash was less frequent than in adult patients.

For an in-depth understanding of the study, please refer to the complete publication [here](#).

Another recent study from the global outbreak, including 129 children (<16 years old) who were household contacts of mpox patients, described that only six children were contracted mpox, yielding a secondary attack rate of 4.7%. None of the children had severe disease.<sup>13</sup>

## References:

1. World Health Organization. Surveillance, case investigation and contact tracing for Monkeypox: Interim guidance. Accessed October 17 2023. <https://www.who.int/publications-detail-redirect/WHO-MPX-Surveillance-2022.4>
2. Early detection, assessment and response to acute public health events: implementation of early warning and response with a focus on event-based surveillance. Accessed 17 October 2023. <https://www.who.int/publications-detail-redirect/WHO-HSE-GCR-LYO-2014.4>
3. Lowbridge C, Chiew M, Russell K, Yamagishi T, Olowokure B, Ailan L. Regional event-based surveillance in WHO's Western Pacific Region. *West Pac Surveill Response J WPSAR*. 2020;11(2):11-19. doi:10.5365/wpsar.2018.9.5.009
4. Togami E, Griffith B, Mahran M, et al. The World Health Organization's public health intelligence activities during the COVID-19 pandemic response, December 2019 to December 2021. *Euro Surveill Bull Eur Sur Mal Transm Eur Commun Dis Bull*. 2022;27(49):2200142. doi:10.2807/1560-7917.ES.2022.27.49.2200142
5. World Health Organization. The EIOS system. Epidemic Intelligence from Open Source. Accessed 17 October 2023. <https://www.who.int/initiatives/eios/eios-technology>
6. Monkeypox | NEJM. Accessed 17 October 2023. <https://www.nejm.org/doi/full/10.1056/NEJMra2208860>
7. Laurenson-Schafer H, Sklenovská N, Hoxha A, et al. Description of the first global outbreak of mpox: an analysis of global surveillance data. *Lancet Glob Health*. 2023;11(7):e1012-e1023. doi:10.1016/S2214-109X(23)00198-5
8. The 2017 human monkeypox outbreak in Nigeria—Report of outbreak experience and response in the Niger Delta University Teaching Hospital, Bayelsa State, Nigeria | PLOS ONE. Accessed 17 October 2023. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0214229>
9. Ogoina D, James IH. Monkeypox among linked heterosexual casual partners in Bayelsa, Nigeria. *Qeios*. Published online 24 August 2022. doi:10.32388/2Z4ZH4.2
10. Hoxha A, Kerr SM, Laurenson-Schafer H, et al. Mpox in Children and Adolescents during Multicountry Outbreak, 2022–2023 - Volume 29, Number 10 October 2023 - Emerging Infectious Diseases journal - CDC. doi:10.3201/eid2910.230516
11. Bunge EM, Hoet B, Chen L, et al. The changing epidemiology of human monkeypox—A potential threat? A systematic review. *PLoS Negl Trop Dis*. 2022;16(2):e0010141. doi:10.1371/journal.pntd.0010141
12. An Estimation of Five-decade Long Monkeypox Case Fatality Rate: Systematic Review and Meta-analysis. *Journal of Pure and Applied Microbiology*. Published December 30, 2022. Accessed 17 October 2023. <https://microbiologyjournal.org/an-estimation-of-five-decade-long-monkeypox-case-fatality-rate-systematic-review-and-meta-analysis/>
13. Household Transmission of Mpox to Children and Adolescents, California, 2022 | The Journal of Infectious Diseases | Oxford Academic. Accessed 17 October 2023. <https://academic.oup.com/jid/advance-article/doi/10.1093/infdis/jiad448/7311272>

## Technical guidance and other resources

### Strategic Planning and Global Support

- Responding to the global mpox outbreak: ethics issues and considerations: a policy brief, 19 July 2023. [https://www.who.int/publications/i/item/WHO-Mpox-Outbreak\\_response-Ethics-2023.1](https://www.who.int/publications/i/item/WHO-Mpox-Outbreak_response-Ethics-2023.1)
- World Health Organization. (2023). Epidemiology of human monkeypox (mpox) – worldwide, 2018–2021. Weekly Epidemiological Record, 98 (03), 29 - 36. World Health Organization. <https://apps.who.int/iris/handle/10665/365630>
- Lewis RF, Kuppalli K, Hoxha A, Doherty MC. Emergency committee recommendations on mpox - what's next? Bull World Health Organ. 2023 May 1;101(5):300-300A. doi: 10.2471/BLT.23.290134. PMID: 37131950; PMCID: PMC10140684. WHO factsheet on monkeypox, 18 April 2022. <https://www.who.int/news-room/fact-sheets/detail/monkeypox>
- New nomenclature for mpox (monkeypox) and monkeypox virus clades - The Lancet Infectious Diseases. Accessed September 19, 2023. [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(23\)00055-5/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(23)00055-5/fulltext)
- WHO recommends new name for monkeypox disease-28 November 2022 <https://www.who.int/news/item/28-11-2022-who-recommends-new-name-for-monkeypox-disease>
- Monkeypox Strategic Preparedness, Readiness and Response Plan (SPRP) Operational planning guidelines – 2 November 2022 <https://www.who.int/publications/m/item/monkeypox-strategic-preparedness--readiness--and-response--operational-planning-guidelines>
- WHO Emergency Appeal: Monkeypox - July 2022 – June 2023, 13 October 2022 <https://www.who.int/publications/m/item/who-emergency-appeal--monkeypox---july-2022---june-2023>
- Monkeypox Strategic Preparedness, Readiness, and Response Plan (SPRP)- 5 October 2022, [https://www.who.int/publications/m/item/monkeypox-strategic-preparedness--readiness--and-response-plan-\(sprp\)](https://www.who.int/publications/m/item/monkeypox-strategic-preparedness--readiness--and-response-plan-(sprp))
- Invited comment. Why the monkeypox outbreak constitutes a public health emergency of international concern. Ghebreyesus TA. BMJ 2022;378:o1978. 09 August 2022. <https://www.bmj.com/content/378/bmj.o1978>

### International Health Regulations Emergency Committee, Review Committee and Recommendations of the Director-General

- Standing recommendations for mpox issued by the Director-General of the World Health Organization (WHO) in accordance with the International Health Regulations (2005) (IHR), 21 August 2023. [https://www.who.int/publications/m/item/standing-recommendations-for-mpox-issued-by-the-director-general-of-the-world-health-organization-\(who\)-in-accordance-with-the-international-health-regulations-\(2005\)-\(ihr\)](https://www.who.int/publications/m/item/standing-recommendations-for-mpox-issued-by-the-director-general-of-the-world-health-organization-(who)-in-accordance-with-the-international-health-regulations-(2005)-(ihr))
- Report of the Review Committee regarding standing recommendations for mpox, 16 August 2023. Available at: <https://www.who.int/publications/m/item/report-of-the-review-committee-regarding-standing-recommendations-for-mpox>
- WHO Fifth meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of mpox (monkeypox), 10 May 2023. [https://www.who.int/news/item/11-05-2023-fifth-meeting-of-the-international-health-regulations-\(2005\)-\(ihr\)-emergency-committee-on-the-multi-country-outbreak-of-monkeypox-\(mpox\)](https://www.who.int/news/item/11-05-2023-fifth-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-on-the-multi-country-outbreak-of-monkeypox-(mpox))
- WHO Fourth meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox, 15 February 2023. [https://www.who.int/news/item/15-02-2023-fourth-meeting-of-the-international-health-regulations-\(2005\)-\(ihr\)-emergency-committee-on-the-multi-country-outbreak-of-monkeypox-\(mpox\)](https://www.who.int/news/item/15-02-2023-fourth-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-on-the-multi-country-outbreak-of-monkeypox-(mpox))
- WHO Third meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox, 1 November 2022. [https://www.who.int/news/item/01-11-2022-third-meeting-of-the-international-health-regulations-\(2005\)-\(ihr\)-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox](https://www.who.int/news/item/01-11-2022-third-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox)
- WHO Second meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox, 23 July 2022. [https://www.who.int/news/item/23-07-2022-second-meeting-of-the-international-health-regulations-\(2005\)-\(ihr\)-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox](https://www.who.int/news/item/23-07-2022-second-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox)
- WHO Director-General's statement at the press conference following IHR Emergency Committee regarding the multi-country outbreak of monkeypox, 23 July 2022. <https://www.who.int/director-general/speeches/detail/who-director-general-s-statement-on-the-press-conference-following-ihr-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox--23-july-2022>

### WHO Interim technical guidance

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

### Surveillance

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

## Data management

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

## Risk communication and community engagement and Public Health Advice

- Risk communication and community engagement (RCCE) for monkeypox outbreaks: Interim guidance, 24 June 2022. <https://www.who.int/publications/i/item/WHO-MPX-RCCE-2022.1>
- Interim advice for public health authorities on summer events during the monkeypox outbreak in Europe, 2022. 14 June 2022. <https://www.who.int/europe/publications/m/item/interim-advice-for-public-health-authorities--on-summer-events-during-the-monkeypox--outbreak-in-europe--2022>
- Interim advice on Risk Communication and Community Engagement during the monkeypox outbreak in Europe, 2022. Joint report by WHO Regional office for Europe/ECDC, 2 June 2022. [https://www.euro.who.int/\\_data/assets/pdf\\_file/0009/539046/ECDC-WHO-interim-advice-RCCE-Monkeypox-2-06-2022-eng.pdf](https://www.euro.who.int/_data/assets/pdf_file/0009/539046/ECDC-WHO-interim-advice-RCCE-Monkeypox-2-06-2022-eng.pdf)[https://www.who.int/publications/m/item/public-health-advice-on-mpox-\(monkeypox\)-and-sex-on-premises-venues-and-events](https://www.who.int/publications/m/item/public-health-advice-on-mpox-(monkeypox)-and-sex-on-premises-venues-and-events)
- Public health advice on mpox and congregate settings: settings in which people live, stay or work in proximity, 20 March 2023: <https://www.who.int/publications/m/item/public-health-advice-on-mpox-and-congregate-settings--settings-in-which-people-live--stay-or-work-in-proximity>
- Public health advice for gay, bisexual and other men who have sex with men and mpox. Version 3. 9 March 2023: <https://www.who.int/publications/m/item/monkeypox-public-health-advice-for-men-who-have-sex-with-men>
- Public health advice on mpox and sex-on-premises venues and events 01 March 2023:
- Public health advice for sex workers on monkeypox. 30 September 2022. <https://www.who.int/publications/m/item/public-health-advice-for-sex-workers-on-monkeypox>
- Risk communication and community engagement public health advice on understanding, preventing and addressing stigma and discrimination to monkeypox. 1 September 2022. <https://www.who.int/publications/m/item/communications-and-community-engagement-interim-guidance-on-using-inclusive-language-in-understanding--preventing-and-addressing-stigma-and-discrimination-related-to-monkeypox>
- Public health advice for gatherings during the current monkeypox outbreak, 28 June 2022: <https://www.who.int/publications/i/item/WHO-MPX-Gatherings-2022.1>
- Mpox Q&A on mpox testing for health workers and individuals. 2 March 2023: <https://www.who.int/news-room/questions-and-answers/item/testing-for-mpox--health-workers-&> <https://www.who.int/news-room/questions-and-answers/item/testing-for-mpox--individuals-and-communities>
- Monkeypox Q&A, 31 August 2022. <https://www.who.int/news-room/questions-and-answers/item/monkeypox>
- Infographic on getting tested for mpox 27 February 2023: <https://www.who.int/multi-media/details/getting-tested-for-mpox--what-you-need-to-know>
- Mpox infographics: <https://who.canto.global/v/UNNOPG0353/folder/K677K?viewIndex=0>

## EPI - WIN Webinars and Updates

- The recordings of the previous [EPI-WIN Webinars](#) related to current monkeypox outbreak:
  - WHO EPI-WIN webinar: Global mpox strategy for elimination and control: open consultation (28 June)” <https://www.who.int/news-room/events/detail/2023/06/28/default-calendar/who-epi-win-webinar-global-mpox-strategy-for-elimination-and-control-open-consultation>
  - WHO EPI-WIN webinar: Changing perspectives of the mpox outbreak (22 February 2023): <https://www.who.int/news-room/events/detail/2023/02/22/default-calendar/who-epi-win-webinar-changing-perspectives-of-the-mpox-outbreak>
  - EPI-WIN webinar: How is Monkeypox spreading? What we know so far (27 July 2022): <https://www.who.int/news-room/events/detail/2022/07/27/default-calendar/WHO-EPI-WIN-webinar-how-is-monkeypox-spreading>
  - EPI-WIN webinar: Monkeypox outbreak and mass gatherings (24 June 2022) : <https://www.who.int/news-room/events/detail/2022/06/24/default-calendar/WHO-EPI-WIN-webinar-monkeypox-and-mass-gathering>
- WHO monkeypox technical briefing for the transport and tourism sector, 5 October 2022: <https://www.who.int/news-room/events/detail/2022/10/05/default-calendar/technical-briefing-on-monkeypox-for-transport-and-tourism-sector>
- [Managing stigma and discrimination in health-care settings in public health emergencies such as monkeypox](#) (22 Sept 2022)
- [How is monkeypox spreading? What do we know so far](#) (27 July 2022)
- [Monkeypox outbreak and mass gatherings](#) (24 June 2022)
- WHO Monkeypox outbreak: update and advice for health workers, 26 May 2022. [https://www.who.int/docs/default-source/coronaviruse/risk-comms-updates/update\\_monkeypox-.pdf?sfvrsn=99baeb03\\_1](https://www.who.int/docs/default-source/coronaviruse/risk-comms-updates/update_monkeypox-.pdf?sfvrsn=99baeb03_1)

## EPI-WIN updates

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

## Laboratory and diagnostics

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

## Clinical management and Infection, prevention and Control

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

## One Health and animal health

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

## Disease Outbreak News and situation reports

- Monkeypox outbreak 2022: <https://www.who.int/emergencies/situations/monkeypox-oubreak-2022>
- Multi-country outbreak of mpox, External situation report #28- 19 September 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-28---19-september-2023>
- Multi-country outbreak of mpox, External situation report #27- 14 August 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-27---14-august-2023>
- Multi-country outbreak of mpox, External situation report #26- 14 July 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--26---14-july-2023>
- Multi-country outbreak of mpox, External situation report #25- 24 June 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--25---24-june-2023>
- Multi-country outbreak of mpox, External situation report #24- 10 June 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--24---10-june-2023>
- Multi-country outbreak of mpox, External situation report #23- 26 May 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--23---26-may-2023>
- Multi-country outbreak of mpox, External situation report #22- 11 May 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--22---11-may-2023>
- Multi-country outbreak of mpox, External situation report #21- 27 April 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-21---27-april-2023>
- Multi-country outbreak of mpox, External situation report #20- 13 April 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--20---13-april-2023>
- Multi-country outbreak of mpox, External situation report #19- 30 March 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--19---30-march-2023>
- Multi-country outbreak of mpox, External situation report #18- 16 March 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--18---16-march-2023>
- Multi-country outbreak of mpox, External situation report #17- 2 March 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report---17---2-march-2023>
- Multi-country outbreak of mpox, External situation report #16- 16 February 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--16---16-february-2023>
- Multi-country outbreak of mpox, External situation report #15- 2 February 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-15--2-february-2023>
- Multi-country outbreak of mpox, External situation report #14- 19 January 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-14--19-january-2023>
- Multi-country outbreak of mpox, External situation report #13- 5 January 2023: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--13---5-january-2023>
- Multi-country outbreak of mpox, External situation report #12- 14 December 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-12--14-december-2022>
- Multi-country outbreak of mpox, External situation report #11- 1 December 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report--11---1-december-2022>
- Multi-country outbreak of monkeypox, External situation report #10- 16 November 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--10---16-november-2022>
- Multi-country outbreak of monkeypox, External situation report #9- 2 November 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--9---2-november-2022>
- Multi-country outbreak of monkeypox, External situation report #8- 19 October 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--8---19-october-2022>
- Multi-country outbreak of monkeypox, External situation report #7- 5 October 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--7---5-october-2022>
- Multi-country outbreak of monkeypox, External situation report #6- 21 September 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--6---21-september-2022>
- Multi-country outbreak of monkeypox, External situation report #5- 7 September 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--5---7-september-2022>
- Multi-country outbreak of monkeypox, External situation report #4- 24 August :



- <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--4---24-august-2022>
- Multi-country outbreak of monkeypox, External situation report #3 - 10 August 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--3---10-august-2022>
- WHO Multi-country outbreak of monkeypox, External situation report #2 – 25 July 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--2---25-july-2022>
- WHO Multi-country outbreak of monkeypox, External situation report #1 - 6 July 2022: <https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--1---6-july-2022>
- [WHO disease outbreak news: Monkeypox, all items related to multi-country outbreak](#)
- WHO disease outbreak news: Monkeypox, all previous items including endemic countries and traveler-associated outbreaks <https://www.who.int/emergencies/emergency-events/item/monkeypox>

#### Training and Education

- WHO monkeypox outbreak toolbox, June 2022. <https://www.who.int/docs/default-source/documents/emergencies/outbreak-toolkit/monkeypox-toolbox-20112019.pdf>
- Health topics – Monkeypox: <https://www.who.int/health-topics/monkeypox>
- Open WHO. Online training module. Monkeypox: Introduction. 2020
  - English: <https://openwho.org/courses/monkeypox-introduction>
  - Français: <https://openwho.org/courses/variole-du-singe-introduction>
- Open WHO. Extended training. Monkeypox epidemiology, preparedness and response. 2021.
  - English: <https://openwho.org/courses/monkeypox-intermediate>;
  - Français: <https://openwho.org/courses/variole-du-singe-intermediaire>

#### Other Resources

- WHO AFRO Weekly Bulletin on Outbreaks and Other Emergencies, all previous items: <https://www.afro.who.int/health-topics/disease-outbreaks/outbreaks-and-other-emergencies-updates>
- WHO 5 moments for hand hygiene. <https://www.who.int/campaigns/world-hand-hygiene-day>
- WHO One Health. <https://www.who.int/health-topics/one-health>
- World Organisation for Animal Health, founded as OIE: Monkeypox. <https://www.woah.org/en/disease/monkeypox/>
- Joint WHO Regional Office for Europe - European Centre for Disease Prevention and Control, Monkeypox surveillance bulletin [Situation reports \(who.int\)](#)
- Joint WHO Regional Office for Europe - European Centre for Disease Prevention and Control, Monkeypox Resource toolkit to support national authorities and event organizers in their planning and coordination of mass and large gathering events. <https://www.who.int/europe/tools-and-toolkits/monkeypox-resource-toolkit-for-planning-and-coordination-of-mass-and-large-gathering-events/>
- WHO. Monkeypox & mass gatherings. Recommendations for mass gatherings during a monkeypox outbreak. [https://cdn.who.int/media/docs/default-source/epi-win/update78\\_monkeypox-mass-gatherings.pdf?sfvrsn=dfc9ee5a\\_1&download=true](https://cdn.who.int/media/docs/default-source/epi-win/update78_monkeypox-mass-gatherings.pdf?sfvrsn=dfc9ee5a_1&download=true)
- WHO European Region Interim advice for public health authorities on summer events during the monkeypox outbreak in Europe, 2022 <https://www.who.int/europe/publications/m/item/interim-advice-for-public-health-authorities--on-summer-events-during-the-monkeypox--outbreak-in-europe--2022>
- Weekly epidemiological record (WER) no.11, 16 March 2018, Emergence of monkeypox in West Africa and Central Africa 1970-2017. <http://apps.who.int/iris/bitstream/handle/10665/260497/WER9311.pdf;jsessionid=7AB72F28D04CFE6CE24996192FC478FF?sequence=1>. Jezek Z., Fenner F.: Human Monkeypox. Monogr Virol. Basel, Karger, 1988, vol 17, pp 1-5. doi: 10.1159/isbn.978-3-318-04039-5
- Monkeypox in the Region of the Americas - Risk assessment. <https://www.paho.org/en/documents/monkeypox-region-americas-risk-assessment>
- mhGAP humanitarian intervention guide (mhGAP-HIG): clinical management of mental, neurological, and substance use conditions in humanitarian emergencies. Geneva: World Health Organization; 2015. <https://www.who.int/publications/i/item/9789241548922>
- WHO. Weekly Bulletin on Outbreaks and Other Emergencies [Internet]. Available from: <https://apps.who.int/iris/bitstream/handle/10665/370961/OEW27-0309072023.pdf>



## Annex 1: Data, table and figure notes

Caution must be taken when interpreting all data presented. Differences are to be expected between information products published by WHO, national public health authorities, and other sources using different inclusion criteria and different data cut-off times. While steps are taken to ensure accuracy and reliability, all data are subject to continuous verification and change.

Case detection, definitions, testing strategies, reporting practice, and lag times differ between countries/territories/areas. These factors, amongst others, influence the counts presented, with variable underestimation of true case and death counts, and variable delays to reflecting these data at the global level. Moreover, at the present stage of the 2022-23 global mpox outbreak, frequency of reporting of cases to WHO has decreased substantially, therefore presented data might not be fully representative of the overall epidemiological situation in several countries.

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

## Annex 2: Confirmed cases of mpox by WHO region and country from 1 January 2022 to 30 September 2023, 17:00 CEST.

\*Countries with no reported cases in the last month

WHO Region	Country	Total Confirmed Cases	Total Deaths <sup>#</sup>
African Region	Benin*	3	0
	Cameroon	44	3
	Central African Republic*	30	1
	Congo	18	0
	Democratic Republic of the Congo	889	2
	Ghana*	127	4
	Liberia*	13	0
	Mozambique*	1	1
	Nigeria*	843	9
	South Africa*	5	0
Eastern Mediterranean Region	Bahrain*	2	0
	Egypt*	3	0
	Iran (Islamic Republic of) *	1	0
	Jordan*	1	0
	Lebanon*	27	0
	Morocco*	3	0
	Pakistan	7	0
	Qatar*	5	0
	Saudi Arabia*	8	0
	Sudan*	19	1
	United Arab Emirates*	16	0
European Region	Andorra*	4	0
	Austria	330	0
	Belgium*	795	2
	Bosnia and Herzegovina*	9	0
	Bulgaria*	6	0
	Croatia*	33	0

	Cyprus*	5	0
	Czechia*	71	1
	Denmark	198	0
	Estonia*	11	0
	Finland*	42	0
	France	4 158	0
	Georgia*	2	0
	Germany	3 708	0
	Gibraltar*	6	0
	Greece*	88	0
	Greenland*	2	0
	Hungary*	80	0
	Iceland	17	0
	Ireland	239	0
	Israel*	263	0
	Italy	963	0
	Latvia*	6	0
	Lithuania*	5	0
	Luxembourg*	59	0
	Malta*	34	0
	Monaco*	3	0
	Montenegro*	2	0
	Netherlands	1 274	0
	Norway	101	0
	Poland*	217	0
	Portugal	1 091	1
	Republic of Moldova*	2	0
	Romania*	47	0
	Russian Federation*	2	0
	San Marino*	1	0
	Serbia*	40	0
	Slovakia*	14	0
	Slovenia*	47	0
	Spain	7 611	3
	Sweden	264	0
	Switzerland	559	0
	The United Kingdom	3 805	0
	Türkiye*	12	0
	Ukraine*	5	0
Region of the Americas	Argentina*	1 130	2
	Aruba*	3	0
	Bahamas*	3	0
	Barbados*	1	0
	Bermuda*	1	0
	Bolivia (Plurinational State of)*	265	0
	Brazil*	10 967	16
	Canada*	1 496	0
	Chile	1 445	3
	Colombia*	4 090	0
	Costa Rica*	225	0

	Cuba*	8	1
	Curaçao *	3	0
	Dominican Republic*	52	0
	Ecuador*	557	3
	El Salvador*	104	0
	Guadeloupe*	1	0
	Guatemala*	405	1
	Guyana*	2	0
	Honduras*	44	0
	Jamaica*	21	0
	Martinique*	7	0
	Mexico	4 062	30
	Panama*	237	1
	Paraguay*	126	0
	Peru*	3 812	20
	Puerto Rico*	211	0
	Saint Martin*	1	0
	Trinidad and Tobago*	3	0
	United States of America	30 636	50
	Uruguay*	19	0
Venezuela (Bolivarian Republic of) *	12	0	
South-East Asia Region	India	27	1
	Indonesia*	1	0
	Nepal*	1	0
	Sri Lanka*	4	0
	Thailand	460	1
Western Pacific Region	Australia	156	0
	China	1 794	0
	Guam*	1	0
	Japan	206	0
	Lao People's Democratic Republic	1	0
	Malaysia*	2	0
	New Caledonia*	1	0
	New Zealand*	42	0
	Philippines*	5	0
	Republic of Korea	141	0
	Singapore	31	0
	Viet Nam	5	0
<b>Cumulative</b>	<b>115 Countries/territories/areas</b>	<b>91 123</b>	<b>157</b>

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