Multi-country outbreak of mpox

External Situation Report 33, published 31 May 2024
Data as received by WHO from national authorities as of 30 April 2024

Mpox long-term risk assessment (as of December 2023)[1]	Laboratory-confirmed cases	Deaths	Countries/areas/territories
• For the general population in countries with historical mpox transmission and their neighbours: **MODERATE**. • For gay men, bisexual men, other men who have sex with men, trans and gender diverse people, and sex workers: **MODERATE**. • For the general population in countries not affected prior to the current outbreak: **LOW**. • For the general population in the Democratic Republic of the Congo: **HIGH**	97 208	186	117

Report highlights

- A total of 528 new laboratory-confirmed cases of mpox and one death were reported to WHO from 27 countries in April 2024, illustrating that low-level transmission of mpox continues across the world. The most affected WHO regions, ordered by number of laboratory-confirmed cases, were the Region of the Americas, the African Region, the European Region, the South-East Asia Region, and the Western Pacific Region. The Eastern Mediterranean region has not reported any cases in April 2024.
- As surveillance reporting from countries to WHO has been declining, the current reported global data most likely underestimate the number of mpox cases occurring.
- In the African Region, the Democratic Republic of the Congo reported the most (99.6%) of the confirmed mpox cases in the reporting month. With limited access to testing in rural areas, 16% of clinically compatible (reported as suspected) cases in the country are tested, therefore the case counts are underestimates of the true burden.
- This issue also features:
    - An explainer on the ***WHO Strategic framework for enhancing prevention and control of* mpox**, which provides guidance on outbreak prevention and control, as well as elimination of human-to-human transmission of mpox;
    - A summary of the proceedings of the twenty-fifth meeting of the ***WHO Advisory Committee on Variola Virus Research***, which outlines recommendations for research related to countermeasures developed for smallpox and lessons learned during the global mpox outbreak.
    - Updates to the ***Technical Guidance and Other Resources*** section to include the recently published full report on conclusions and recommendations arising from the ***Meeting of the Strategic Advisory Group of Experts on Immunization (SAGE)*** held from 11 – 13 March 2024 and the recently updated ***Diagnostic testing for the monkeypox virus (MPXV): Interim guidance*** document.

[1] These risks represent population average risk; individual risk varies with behaviour, geographic location, immune status, and other factors.

Epidemiological Update

Data source: 2022-24 Mpox (Monkeypox) Outbreak: Global Trends

From 1 January 2022 through 30 April 2024, a cumulative total of 97 208 laboratory-confirmed cases of mpox, including 186 deaths, were reported to WHO from 117 countries/territories/areas (hereafter 'countries') in all six WHO Regions (Table 1). A total of 528 new cases were reported in April, which represents a 21.2% decline in the number of new cases reported during the preceding month of March, including some cases retrospectively reported for previous months. Most cases in April 2024 were reported from the Region of the Americas (43.8%), followed by the African Region (29.9%), and the European Region (20.6%). All regions reported a reduction in case counts in April 2024 compared to the previous month except the South-East Asia Region (n = 21 vs 12). No case was reported by the Eastern Mediterranean Region.

WHO continues to encourage all countries to ensure that mpox is a notifiable disease and to report mpox cases, including reporting when no cases have been detected (known as 'zero-reporting', as outlined in the Director-General's Standing Recommendations on mpox). This report does not highlight non-reporting countries. Therefore, it should be noted that an absence of reported cases from a country may be due to the country choosing not to report rather than having no cases. Reporting to WHO has been declining; the decline in reported cases at regional level should therefore be interpreted with caution.

In April 2024, 19 of 27 (70%) reporting countries showed an increase in cases compared to March. Mexico (n = nine vs four) reported the highest relative increase in the Region of the Americas, Greece (n = six vs one) reported the highest increase in the European Region, Thailand (n = 19 vs 12) reported the highest increase in the South-East Asia Region, and Japan (n = 3 vs 2) reported the highest increase in the Western Pacific Region.

As of 30 April 2024, the ten countries that have reported the highest cumulative number of confirmed cases globally are the United States of America (n = 32 820), Brazil (n = 11 212), Spain (n = 7 992), Colombia (n = 4 226), France (n = 4 218), Mexico (n = 4 097), the United Kingdom (n = 3 928), Germany (n = 3 841), Peru (n = 3 812), and China (n = 2 357). Together, these countries account for 80.8% of the cases reported globally.

Table 1. Number of cumulative laboratory-confirmed mpox cases and deaths reported to WHO, by WHO Region, from 1 January 2022 through 30 April 2024

WHO Region	Total confirmed cases	Total deaths among confirmed cases	Cases in March	New cases reported in April	Monthly change in cases (%)
Region of the Americas	62 613	139	270	231	-14
European Region	27 288	10	123	109	-11
Western Pacific Region	3 226	10	83	9	-89
African Region	3 094	24	182	158	-13
South-East Asia Region	892	2	12	21	75
Eastern Mediterranean Region	95	1	0	0	-
Total	97 208	186	670	528	-21.2

NB. The number of reports for previous months include retroactively assigned case reports received since the report for March

The epidemic curves shown in Figure 1 suggest that the outbreak continues at a low level of transmission in the Region of the Americas, the European Region, the South-East Asian Region, and the Western Pacific. The African region shows fluctuating levels of case reporting, indicating continuous transmission.

Figure 1. Epidemic curves of monthly aggregated laboratory-confirmed cases of mpox reported to WHO, by WHO Region, from 1 January 2022 to 30 April 2024

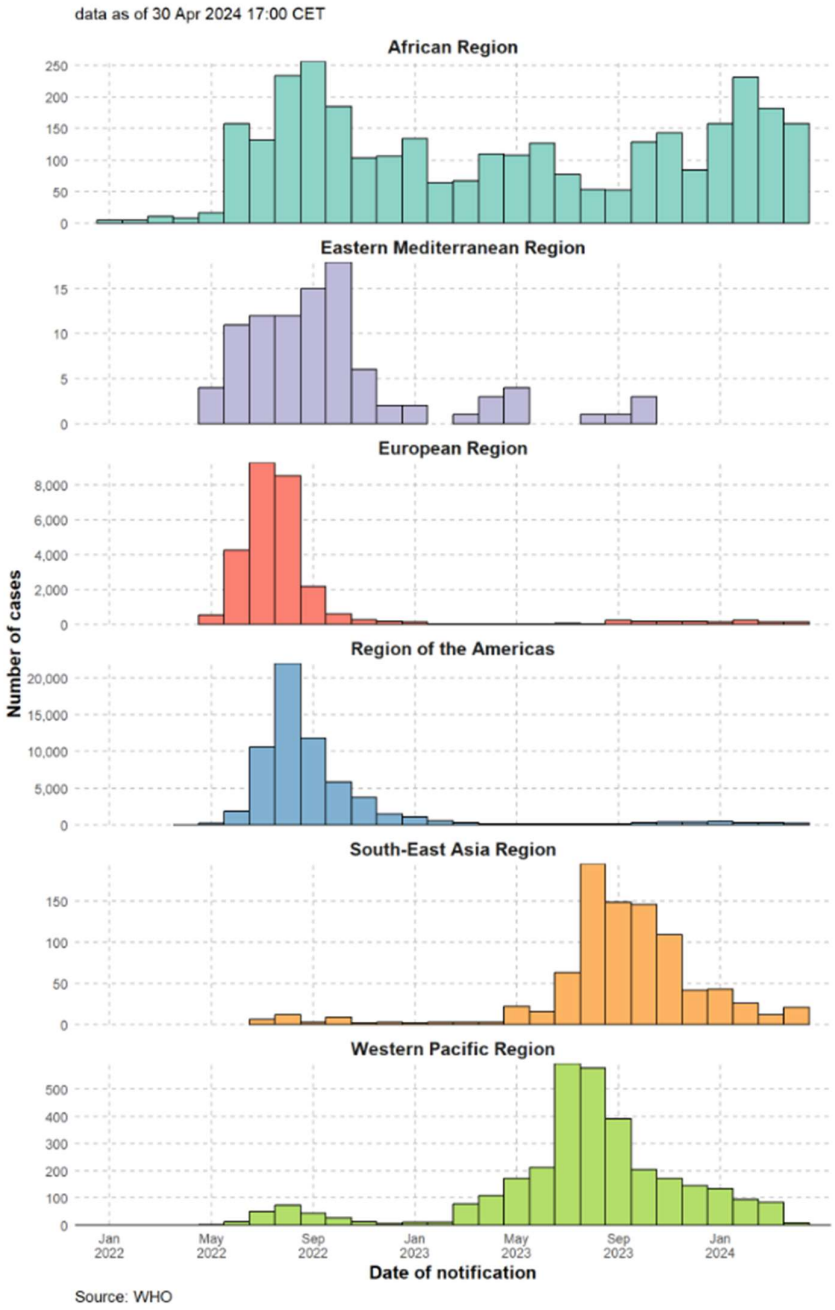
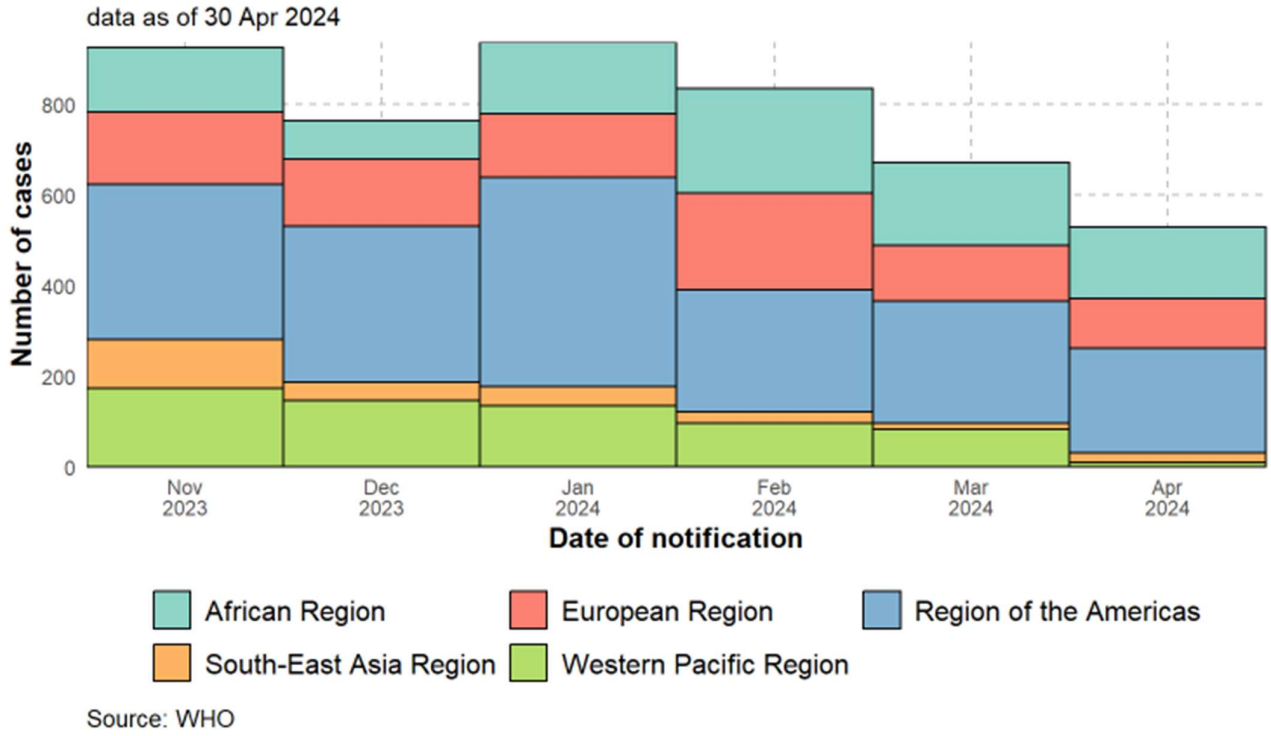


Figure 1 shows aggregated monthly data, ending on the last day of the month.* ***Note the different scales of the y-axes**.*

Figure 2 shows that the number of monthly confirmed mpox cases reported globally in the last six months (1 November 2023 – 30 April 2024) fluctuated between 500 and 1000 cases (averaging 776 cases per month), with most cases reported by the Region of the Americas, followed by the African Region, and the European Region. While April 2024 is the fourth month showing a declining number of cases compared to previous months, as previously mentioned this needs to be interpreted with caution given the usual lag in reporting for some areas, and the decline in global surveillance reporting. Additionally, delayed retrospective reporting, observed in recent months for some countries, could change the overall global trend.

Figure 2. Epidemic curve of monthly aggregated number of confirmed mpox cases reported by WHO region, for the last six months, 1 November – 30 April 2024.



Other key epidemiological findings:

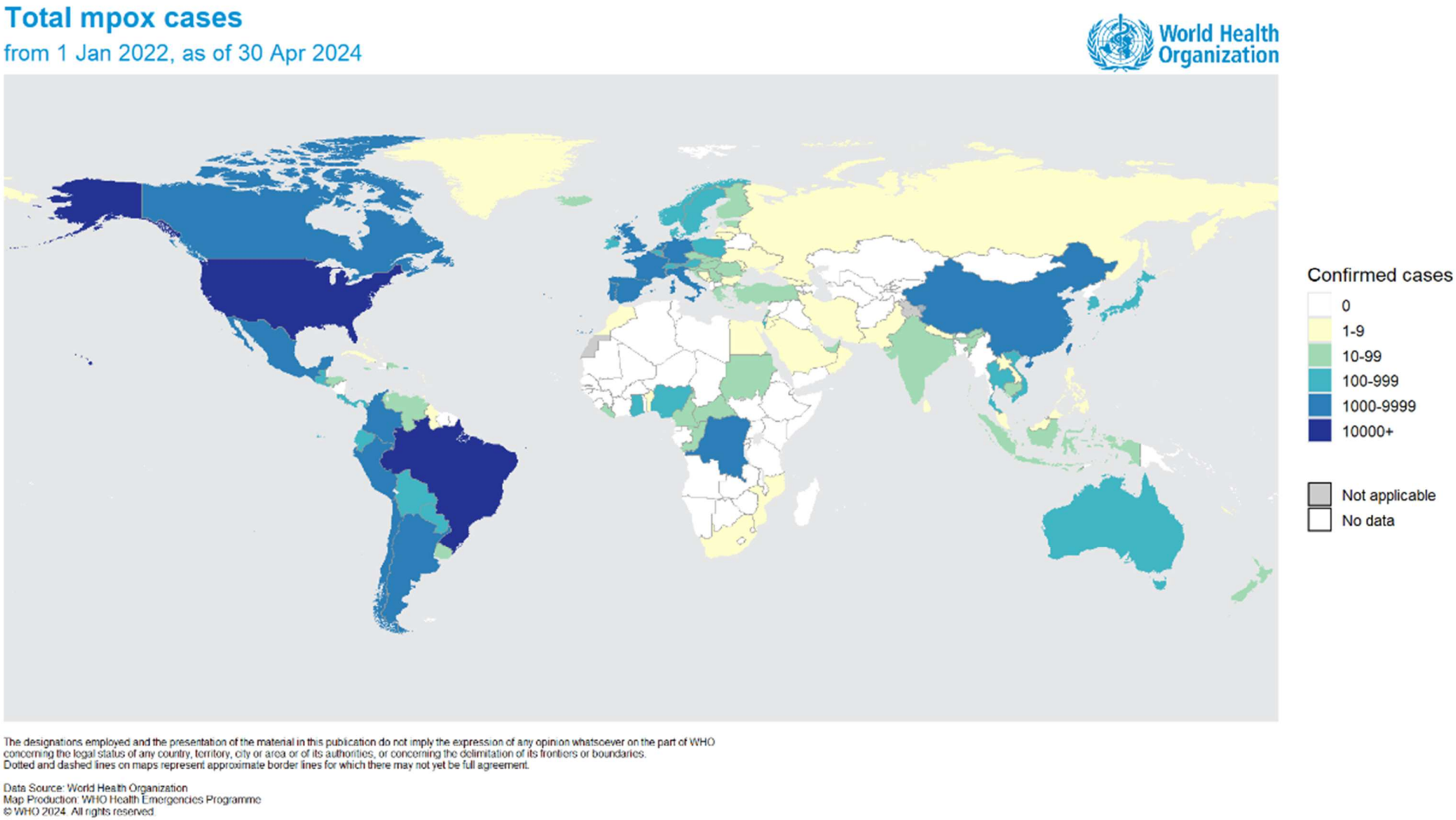
The information presented below is a summary of the main epidemiological characteristics of mpox cases based on a detailed case-based data shared by Member States from 01 January 2022 – 30 April 2024.

- Globally, 96.4% (85 759/88 961) of cases with available data are male, with a median age of 34 years (interquartile range: 29 - 41 years). The age and sex distribution of cases remain stable over time, especially outside the African Region, as males between 18-44 years old continue to be disproportionately affected by this outbreak and account for 79.4% of reported cases.
- Among cases with age data available, 1.3% (1 158 / 91 386) are aged 0 - 17 years, including 334 (0.4%) aged 0 - 4 years. The majority of confirmed mpox cases aged 0 — 17 years were reported from the Region of the Americas (708 / 1 158; 61%). The overall proportion of cases under 18 years of age in the Region of the Americas is 1.12%, similar to the proportion observed globally. In newly affected countries, children have been the least affected group in the outbreak. Conversely, in historically affected countries such as the Democratic Republic of the Congo, children under 15 years of age represent most reported mpox cases. Due to limited access to testing, these are classified in-country as suspected cases (i.e. clinically compatible cases

which, following investigation, meet the national case definition for mpox) and are not included in this section of the report.

- Among modes of transmission, sexual contact is the most commonly reported (18 758 of 22 447, 83.6%), followed by person-to-person non-sexual contact. This pattern has persisted over the last six months, with 96.0% (578 / 602) of new cases reporting sexual contact. Detailed information on the routes of transmission is not available for most cases from the African Region, thus, the available information on transmission does not fully describe the spread of the virus in this Region, which is more diverse and includes zoonotic exposure in addition to human-to-human transmission.
- Among cases where at least one symptom is reported (n = 36 085), the most common symptom is any rash (88.6% of cases), followed by fever (58.0%), and systemic rash or genital rash (54.8% and 49.5% respectively). The symptomatology of cases has been very consistent over time in this outbreak. Although information on clinical presentation from countries in East, West and Central Africa is missing in the global surveillance data, other sources of information support rash being the main mpox symptom among cases there as well.
- Around half (18 384 / 35 425, 51.9%) of cases with available information on their HIV status are reported to be in persons living with HIV. This proportion is consistent for cases reported in the last six months (352 / 586; 52.91.7%) and is related to the common risk factor of sexual exposure between the two conditions. Information on HIV status is not available for most cases in the African Region, and the above description might not be fully representative of cases with different demographics in this region.
- In the African region specifically, of the 672 cases (22% of 3 094 cases reported from 1 January 2022) where age and sex data were available, 339 (50.4%) were aged 0-17, of which 119 (17.7%) were aged 0-4 years. The median age was 17 (interquartile range: 7-32) and 53.4% (359/672) of cases are male. The different demographics of cases within the region and compared to the global outbreak are indicative of the more diverse modes of transmission.

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 April 2024



Just published: Strategic framework for enhancing prevention and control of mpox

WHO published the Strategic framework for enhancing prevention and control of mpox (2024-2027) on 24 May 2024**.** This framework provides guidance for all WHO Member States on how to sustain and strengthen mpox prevention and response activities for mpox launched during the global multi-country outbreak, which the WHO Director-General declared to be a public health emergency of international concern (PHEIC)(1, 2).

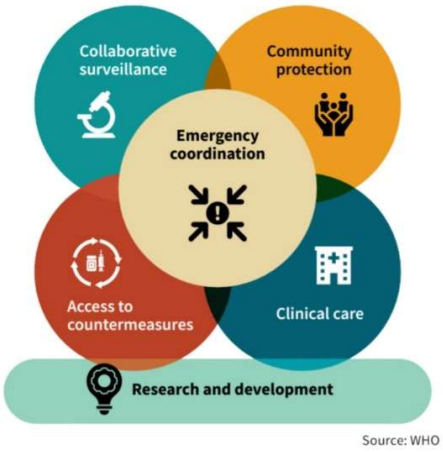
The Framework serves as an additional resource for countries in implementing the Director-General's Standing Recommendations for mpox (3) issued to all WHO Member States in August 2023 under the International Health Regulations (2005) and presented to the 77th World Health Assembly in May 2024 (4).

The development of this framework was supported by extended global consultation in 2023. As the Director-General writes in the introduction to the framework, "From experiences in widely differing contexts, we know it is possible to eliminate human-to-human transmission of mpox." The overarching goal to achieve and sustain elimination of human-to-human transmission of mpox can be reached with investment of the necessary resources and coordinated collaboration towards three core objectives, which are to:

(1) achieve control of mpox outbreaks in every context;
(2) advance mpox research and access to countermeasures; and
(3) minimize zoonotic transmission.

Importantly, these objectives do not require stand-alone programmes. This framework emphasizes combining efforts with other health programmes, including epidemiological disease surveillance; sexual health services, HIV/STI testing, prevention and care, primary health care, immunization programme delivery and other clinical services and infection prevention and control interventions, all supported by risk communication and community engagement. See figure 4 for the core component of the mpox prevention and control strategy.

Figure 4. Core components of mpox preparedness, readiness, and response: 2024–2027



The strategic approach rests on the guiding principles of **support for community leadership**, **respect for equity and human rights**, **context-specific collaboration and integration**, and **commitment to continuous learning** and builds on the six core components of Health Emergency Preparedness and Response (Figure 4). Engaging affected communities is central to efforts to support health emergency prevention, preparedness, response and resilience. Further, the framework emphasizes the importance of strengthening health systems for collaborative surveillance, community awareness and protection, clinical care of patients, access to diagnostics, vaccines and therapeutics, targeted research efforts, and coordination to sustain longer term efforts.

This resource builds on the Strategic preparedness and response plan published in 2022, and offers new and/or updated content to support all WHO Member States and stakeholders in developing plans for prevention, control and elimination of human-to-human mpox transmission, including:

- Definitions of five broad epidemiological contexts for mpox based on the most current available data that can be used for planning at national and subnational levels.
- Detailed definitions of mpox control and elimination phases including suspected and confirmed outbreaks, community transmission, and elimination of human-to-human transmission.
- Sample definitions and epidemiological criteria for each control and elimination phase.
- Implementation considerations for all Member States and for specific epidemiological contexts.
- Implementation priorities, action steps and milestones for diverse stakeholders including Member States, researchers, industry, WHO and other partners.

The framework calls for immediate action to ensure that surveillance, testing, treatment and vaccination responses established in the context of the global outbreak make the transition from emergency action to sustainable preparedness and response with elements integrated within the health system, including for improved clinical care and infection control measures. For countries with gaps in high-quality surveillance or in access to countermeasures, defining and making plans to fill these gaps is key.

Acknowledging the tremendous country-led efforts and collaboration in mpox response to date, the framework calls for further international cooperation, resource sharing and stakeholder support are in the form of technical assistance, financial contributions, and research and development expertise in support of low- and middle-income settings within and across countries. The approach calls for this work to be done in collaboration with affected communities to ensure that every mpox response is "effective, nimble and attentive to ethical challenges including the needs of local communities and issues of stigma and discrimination."

The full Strategic framework (available here), also contains a comprehensive resource list to support tailored action. For more information and to share or request resources, please contact pox@who.int.

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Special focus: WHO Advisory Committee on Variola Virus Research - Development of countermeasures used for mpox outbreaks

The World Health Organization (WHO) Advisory Committee on Variola Virus Research (ACVVR) held its twenty-fifth meeting from 25-26 October 2023. This report, presented to the 77th World Health Assembly in May 2024 outlines progress on development of medical countermeasures for smallpox and the recommendations offered by the Committee.

The Committee received progress reports and new proposals from the WHO Collaborating Centres and variola virus repositories at the Centers for Disease Control and Prevention (CDC), Atlanta, the United States of America (USA) and at the Federal Budgetary Research Institution – State Research Center of Virology and Biotechnology (VECTOR), Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing (FBRI SRC VB VECTOR, Rospotrebnadzor), Koltsovo, Novosibirsk Oblast, Russian Federation.

There are three antiviral compounds approved for the treatment of smallpox. Oral tecovirimat is approved for treatment of smallpox by the regulatory authorities in Canada, the European Union (where it is also approved for treatment of mpox), the United Kingdom of Great Britain and Northern Ireland, and USA (where the intravenous formulation is also approved). Several clinical studies to assess the efficacy of oral tecovirimat for mpox are underway. The occurrence of viral resistance to tecovirimat during the global mpox outbreak, although rare, suggests that additional antivirals will be needed.

Oral brincidofovir is approved in the United States for treatment of smallpox in the form of tablets for adults and an oral suspension for children. The antiviral agent NIOCH-14 is licensed in the Russian Federation for treatment of smallpox, mpox, and cowpox, and studies of 23 additional compounds with activity against variola virus are underway. Both collaborating centres continue to explore development of monoclonal antibodies for treatment of smallpox and mpox.

With respect to vaccines, there are second-, third-, and fourth-generation vaccines approved for prevention of smallpox. These vaccines contain live attenuated strains of vaccinia, an orthopoxvirus. Regulatory indications for the vaccine in different jurisdictions include prevention of smallpox, mpox and other orthopoxvirus infections. LC16, MVA-BN and OrthopoxVac are approved for prevention of mpox. The LC16 vaccine is approved and in use in Japan for mpox response and being used under study protocol in Colombia. Clinical safety, efficacy and effectiveness studies are underway. Effectiveness of MVA-BN vaccine in preventing mpox has been demonstrated in several studies during the global outbreak. In the Democratic Republic of Congo, MVA-BN has also shown an excellent safety profile in health workers. The fourth-generation vaccine OrthopoxVac demonstrated lower reactogenicity while retaining immunogenic properties and was licensed in the Russian Federation in 2022 for prevention of smallpox, mpox, and other orthopoxviruses. CDC presented a new proposal to characterize an orthopoxvirus mRNA vaccine.

With respect to diagnostics, four kits for detection and differentiation of pathogenic orthopoxviruses developed at VECTOR were licensed in 2017 and 2022. CDC continues to improve nucleic acid- and protein-based rapid diagnostic tests and to develop diagnostics using Loop Mediated Isothermal Amplification (LAMP).

In conclusion, the Committee noted that the countermeasures developed for smallpox preparedness have been key in responding to the global mpox outbreak and overall recommended that research should continue to develop therapeutics with different mechanisms of action and to continue characterization and development of vaccines to prevent smallpox and mpox. The Committee noted that the mpox outbreak continued to inspire development of rapid, point-of-care diagnostics and reaffirmed the importance of continuing efforts to develop and validate protein-based orthopoxvirus assays.

Technical guidance and other resources

Strategic Planning and Global Support

- ***NEW*** Strategic framework for enhancing prevention and control of mpox- 2024-2027 https://www.who.int/publications/i/item/9789240092907
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WHO Interim technical guidance

- ***NEW*** Meeting of the Strategic Advisory Group of Experts on Immunization (SAGE), 11 – 13 March 2024: conclusions and recommendations. WHO Weekly Epidemiological Record, 31 May 2024
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Surveillance

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Data management

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Risk communication and community engagement and Public Health Advice

- ***NEW*** Risk communication and community engagement readiness and response toolkit: mpox, 23 April 2024. Risk communication and community engagement readiness and response toolkit: mpox (who.int)
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- 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: English: https://www.who.int/multi-media/details/mpox-what-we-know French: https://cdn.who.int/media/docs/default-source/documents/emergencies/outbreak-toolkit/mpox-infographic-fr-v03.pdf?sfvrsn=a4dac1d_1

EPI - WIN Webinars and Updates

- The recordings of the previous EPI-WIN Webinars related to current monkeypox outbreak:
    - WHO EPI-WIN webinar: Global mpox strategy for elimination and control: open consultation (28 June)" https://www.who.int/news-room/events/detail/2023/06/28/default-calendar/who-epi-win-webinar-global-mpox-strategy-for-elimination-and-control-open-consultation
    - WHO EPI-WIN webinar: Changing perspectives of the mpox outbreak (22 February 2023): https://www.who.int/news-room/events/detail/2023/02/22/default-calendar/who-epi-win-webinar-changing-perspectives-of-the-mpox-outbreak
    - EPI-WIN webinar: How is Monkeypox spreading? What we know so far (27 July 2022): https://www.who.int/news-room/events/detail/2022/07/27/default-calendar/WHO-EPI-WIN-webinar-how-is-monkeypox-spreading
    - EPI-WIN webinar: Monkeypox outbreak and mass gatherings (24 June 2022) : https://www.who.int/news-room/events/detail/2022/06/24/default-calendar/WHO-EPI-WIN-webinar-monkeypox-and-mass-gathering
- WHO monkeypox technical briefing for the transport and tourism sector, 5 October 2022: https://www.who.int/news-room/events/detail/2022/10/05/default-calendar/technical-briefing-on-monkeypox-for-transport-and-tourism-sector
- Managing stigma and discrimination in health-care settings in public health emergencies such as monkeypox (22 Sept 2022)

- How is monkeypox spreading? What do we know so far (27 July 2022)
- Monkeypox outbreak and mass gatherings (24 June 2022)
- WHO Monkeypox outbreak: update and advice for health workers, 26 May 2022. https://www.who.int/docs/default-source/coronaviruse/risk-comms-updates/update_monkeypox-.pdf?sfvrsn=99baeb03_1

EPI-WIN updates

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

Laboratory and diagnostics

- ***NEW*** Diagnostic testing for the monkeypox virus (MPXV): interim guidance, 24 April 2024.
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- Dianostic testing for the monkeypox virus (MPXV): interim guidance, 9 November 2023. https://www.who.int/publications/i/item/who-mpx-laboratory-2023-1
- 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 characterization of mpox including monitoring the use of therapeutic interventions: statistical analysis plan, 13 October 2023. Clinical characterization of mpox including monitoring the use of therapeutic interventions: statistical analysis plan, 13 October 2023 (who.int)
- 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 Spillback 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 #32- 30 April 2024: https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-32--30-april-2024
- Multi-country outbreak of mpox, External situation report #31- 22 December 2023: https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-31---22-december-2023
- Multi-country outbreak of mpox, External situation report #30- 25 November 2023: https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-30---25-november-2023
- Multi-country outbreak of mpox, External situation report #29- 20 October 2023: https://www.who.int/publications/m/item/multi-country-outbreak-of-mpox--external-situation-report-29---20-october-2023
- 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 2022:
- 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
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- Open WHO. Extended training. Monkeypox epidemiology, preparedness and response. 2021.
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Other Resources

- ***NEW*** WHO Advisory Committee on Variola Virus Research (ACVVR), Report of the twenty-fifth meeting, Geneva, Switzerland, 25-26 October 2023. World Health Organization. WHO advisory committee on variola virus research: report of the twenty-fifth meeting, Geneva, Switzerland, 25-26 October 2023
- 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/

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- 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
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- 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 2022-24 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 through 30 April 2024, 17:00 CEST.

***Countries with no reported cases in the last month**

WHO Region	Country	Total Confirmed Cases	Total Deaths
African Region	Benin*	3	0
	Cameroon*	48	5
	Central African Republic*	50	1
	Congo	55	2
	Democratic Republic of the Congo	1 920	2
	Ghana*	131	4
	Liberia*	23	0
	Mozambique*	1	1
	Nigeria*	858	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
	Oman*	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	346	1
	Belgium	809	2
	Bosnia and Herzegovina*	9	0
	Bulgaria*	6	0
	Croatia	34	0
	Cyprus*	5	0
	Czechia	81	1
	Denmark*	198	0
	Estonia*	11	0
	Finland*	43	0
	France	4 218	0
	Georgia*	2	0
	Germany	3 841	0

	Gibraltar*	6	0
	Greece	98	0
	Greenland*	2	0
	Hungary*	83	0
	Iceland*	17	0
	Ireland	246	0
	Israel	294	0
	Italy	1 043	0
	Latvia*	6	0
	Lithuania*	5	0
	Luxembourg*	61	0
	Malta*	35	0
	Monaco*	3	0
	Montenegro*	2	0
	Netherlands	1 301	0
	Norway	106	0
	Poland*	221	0
	Portugal*	1 193	3
	Republic of Moldova*	2	0
	Romania*	47	0
	Russian Federation*	4	0
	San Marino*	1	0
	Serbia*	40	0
	Slovakia*	16	0
	Slovenia*	47	0
	Spain	7 992	3
	Sweden	286	0
	Switzerland*	579	0
	The United Kingdom	3 928	0
	Türkiye*	12	0
	Ukraine*	5	0
Region of the Americas	Argentina*	1 149	2
	Aruba*	3	0
	Bahamas*	3	0
	Barbados*	1	0
	Bermuda*	1	0
	Bolivia (Plurinational State of)*	265	0
	Brazil*	11 212	16
	Canada	1 525	0
	Chile*	1 449	3
	Colombia	4 226	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	4 097	34
	Panama*	239	1
	Paraguay*	126	0
	Peru*	3 812	20
	Puerto Rico*	221	0
	Saint Martin*	1	0
	Trinidad and Tobago*	3	0
	United States of America	32 820	58
	Uruguay*	19	0
	Venezuela (Bolivarian Republic of) *	12	0
South-East Asia Region	India*	27	1
	Indonesia	86	0
	Nepal*	1	0
	Sri Lanka*	4	0
	Thailand	774	1
Western Pacific Region	Australia*	156	0
	Cambodia*	13	0
	China	2 357	1
	Guam*	1	0
	Japan	245	1
	Lao People's Democratic Republic*	1	0
	Malaysia*	9	0
	New Caledonia*	1	0
	New Zealand*	50	0
	Philippines*	9	0
	Republic of Korea	156	0
	Singapore	59	0
	Viet Nam*	169	8
Cumulative	**117 Countries/territories/areas**	**97 208**	**186**

[#]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.