



LAST UPDATED:
26 JULY 2023

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DIGEST

3

Changing perspectives of mpox

What has been learned from the latest outbreak and what is the approach now for elimination and control?



World Health
Organization

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EPIDEMIC
& PANDEMIC
PREPAREDNESS
& PREVENTION

Overview

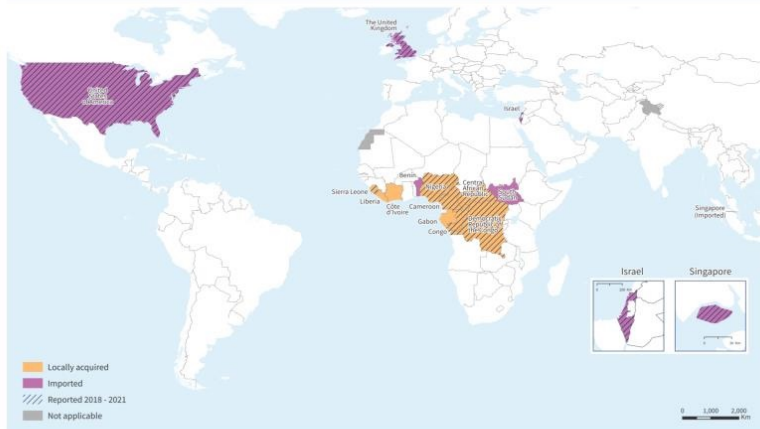
- The International Health Regulations (IHR) Emergency Committee (EC) for mpox **lifted the public health emergency of international concern (PHEIC)** on 11 May 2023.
- **2022/23 mpox outbreak is still classified as a protracted WHO Level 2 emergency.**
- **2022/23 mpox outbreak is epidemiologically different to previous outbreaks.**
- As of 24 July 2023, there have been 88 600 cases of mpox and 152 deaths reported to WHO, from 113 countries from the 2022/2023 outbreak.
- WHO is developing a **global strategy and planning guide** to support countries to control mpox and eliminate human-to-human transmission.
- All regions and countries should **continue surveillance and reporting** to WHO.
- Countries should ensure **coordination and integration of prevention and control efforts into other health programmes.**
- WHO will continue to address **research gaps, access to diagnostics, vaccines and therapeutics, and prevention and control** in all settings.
- WHO has used **infodemic tools to understand changing public and healthcare worker perceptions** of the mpox outbreak, to better respond to community needs and concerns.

Changing epidemiology in current outbreak: geographical spread

1970–2021

2022–2023 outbreak

Countries reporting confirmed human cases of monkeypox [mpox] 1970 – 2021



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.

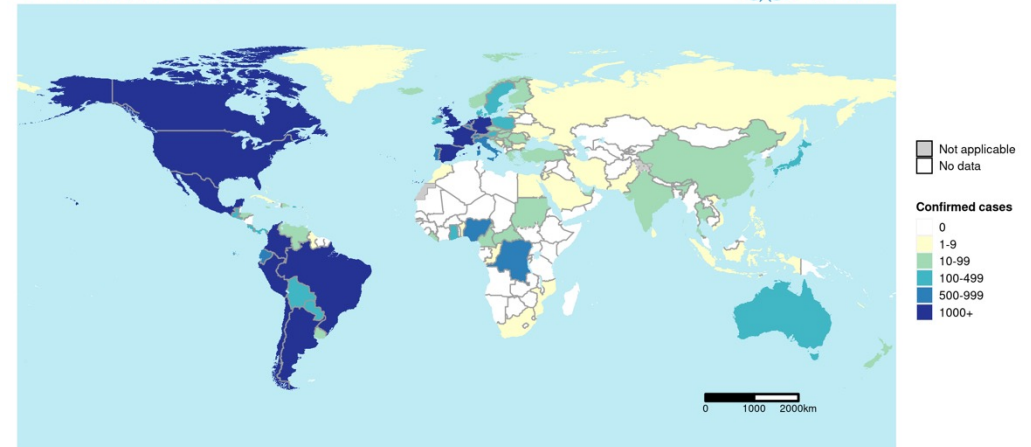
Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme
Map Date: 6 December 2022
Request ID: RTM00011



Source:

<https://apps.who.int/iris/bitstream/handle/10665/365629/WER9803-eng-fre.pdf>

Confirmed cases of mpox
from 1 Jan 2022, as of 09 May 23



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Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme
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Source: https://worldhealthorg.shinyapps.io/mpx_global/

Changing epidemiology in current outbreak: clinical manifestations



1970–2021 outbreak

- Initial prodromal (early) phase with fever, headache, fatigue
- Lesions in centrifugal distribution, primarily on face, trunk, arms, and legs, palms, soles
- Genital and mucosal lesions well documented

Source: <https://www.nejm.org/doi/full/10.1056/NEJMra2208860>



2022-23 outbreak

- Some cases do not have a prodromal phase
- There are cases with few or no lesions
- Some cases present with anorectal mucosal lesions
- More genital lesions than previously observed
- New clinical manifestations include urinary retention
- In some cases, prolonged infection

Source: <https://www.nejm.org/doi/full/10.1056/nejmoa2207323>
<https://www.nejm.org/doi/full/10.1056/NEJMicm2206893>
<https://academic.oup.com/cid/article-abstract/76/3/528/6692817>

Changing epidemiology in current outbreak: transmission dynamics

	1970 - 2021	2022-23 outbreak
Most affected groups	<ul style="list-style-type: none">• Children and young adults	<ul style="list-style-type: none">• Primarily adult men who have sex with men (MSM) (as well as other groups)
Epidemiology	<ul style="list-style-type: none">• Clade I - Sporadic cases and outbreaks• Clade II – outbreak due to imported mammals	<ul style="list-style-type: none">• Sudden outbreaks followed by sustained community spread
Transmission & dissemination	<ul style="list-style-type: none">• Clade I - Contact with infected animals; short chains of human-to-human transmission (up to 9 serial infections documented)• Clade II - Outbreak in Nigeria began (2017), sexual transmission not well recognized• Household spread and local or international travel	<ul style="list-style-type: none">• Clade I - outbreaks emerge in new areas (e.g. Sudan) and populations (e.g. refugees) without known animal contact• Clade II - Almost exclusively human-to-human transmission, through sexual networks, amplifying events and sustained community transmission

Changing epidemiology in current outbreak: **disease severity**

1970 - 2021

- Information based on studies from DRC, Nigeria, Congo, Central African Republic and United States of America (2003)
- More severe in children, pregnant women, immunocompromised patients
- Case fatality ratio (CRF):
 - historically < 1% for Clade II
 - 6% of confirmed cases in Nigeria since 2017 due to deaths in patients with untreated HIV
 - Up to 11%; 10% of suspected cases Clade I

2022-23 outbreak

- Information from many countries, mainly in Europe and the Americas, delayed outbreaks (Western Pacific Region) and resurgence of cases
- Most cases present with less severe illness
- More severe disease in children, elderly, people living with HIV and immunocompromised patients
- Case fatality ratio (CRF):
 - ~0.16% globally
 - ~1.1% in Africa (Clades I and II together)

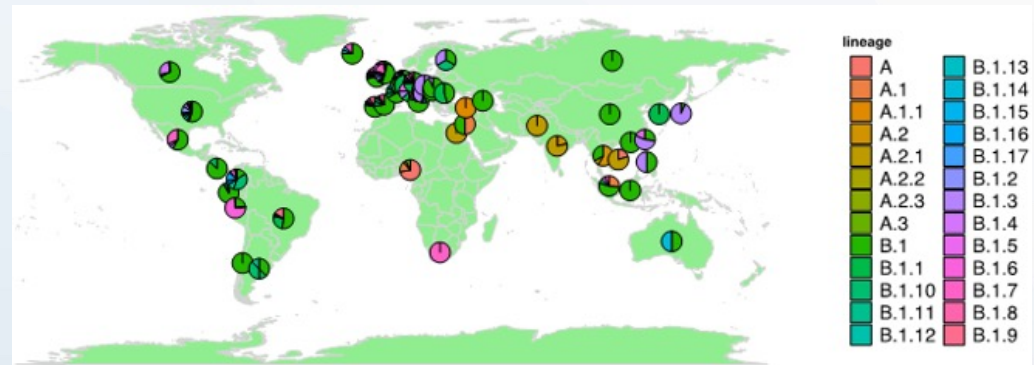
Potential confounders: Surveillance, healthcare capacity and access

Changing epidemiology in current outbreak: **genomic spread**

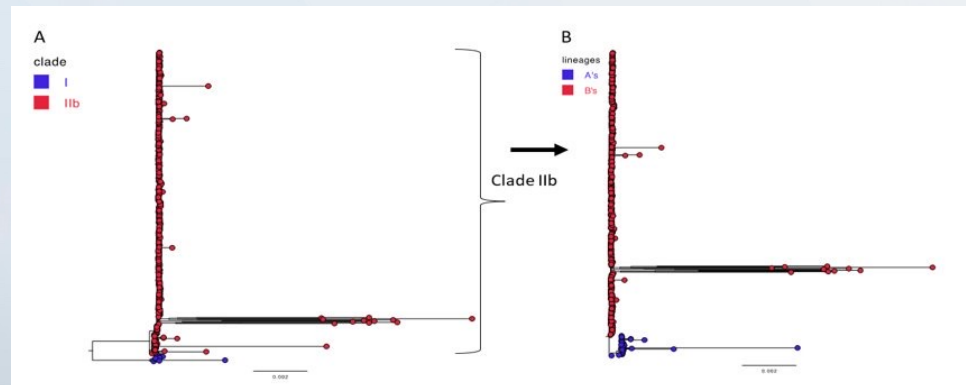
Monkeypox virus (MPXV)

- Clade I → only in African countries, animals and humans
- Clade II
 - Lineage IIa in animals and humans
 - Lineage IIb only in humans, driver of 2022-23 outbreak
 - First identified in Nigeria in 1971

MPXV clade IIb geographical distribution 2022-23



MPXV clade IIb detected in 2022-23



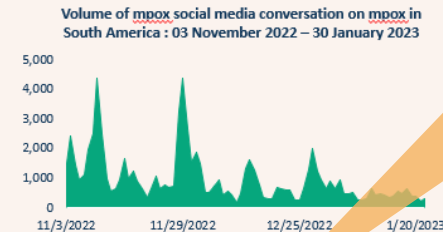
Changing public and healthcare worker (hcw) perceptions of mpox: WHO infodemic insights since June 2022

Understanding perceptions, needs and concerns of the public and hcws over time, in 3 languages (English, French and Spanish) in different countries.

Most common topics for public:

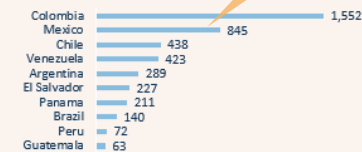
- Persistent stigmatization of LGBTQI+ community
- Polarized opinions on mpox vaccines access

Spotlight: Conversations from South America



- Distribution of mpox vaccine (Colombia)
- mpox cases in Mexico

Top locations for social media conversation on mpox in Latin America: 17 January - 30 January 2023



06 October 2022:
Discussion around mpox treatment and universal masking guidelines in health care settings.

Volume of mpox knowledge social media mentions posted by hcws (English, French & Spanish): 23 July 2022 - 15 December 2022

WHO 5th International Health Regulations (IHR) Emergency Committee (EC) for mpox meeting 10 May 2023

- 11 May 2023: WHO Director-General determines the global mpox outbreak is no longer a Public Health Emergency of International Concern
 - Decline in reported cases with no change in severity or clinical presentation.
- Remaining uncertainties include:
 - Modes of transmission in some countries
 - Immunity duration following infection or vaccination
 - Still emerging evidence about vaccine effectiveness
 - Lack of vaccines and therapeutics in African countries
 - Poor quality of reported data from some countries.
- Long-term strategy and partnerships needed to manage public health risks posed by mpox.
- Countries to transition to mpox elimination or control actions.



[Link: Mpox \(monkeypox\) IHR Emergency Committee\(who.int\)](https://www.who.int/emergencies/diseases/mpox)

Image credit: WHO / Christopher Black

Strategic directions for mpox elimination and control

Countries to develop elimination or control plans according to national context

Maintain surveillance

Maintain epidemiological surveillance.

Consider making mpox infection nationally notifiable.

Continue to share confirmed and probable mpox case reports with WHO to support

Integrate with HIV & STI programmes

Integrate mpox surveillance, detection, prevention, care and research into innovative primary health care, sexual health, HIV and STI prevention and control programmes and services.

Strengthen capacity

Strengthen capacity in resource-limited settings where mpox continues to occur, including for risk communication and for One Health and animal health.

Implement research

Implement a strategic research agenda to ensure ongoing evidence generation.

Enhance access

Enhance access to diagnostics, vaccines and therapeutics through allocation mechanisms and technology transfer to advance global health equity, including for ethnic and racial

Global strategy for mpox elimination and control

Goal

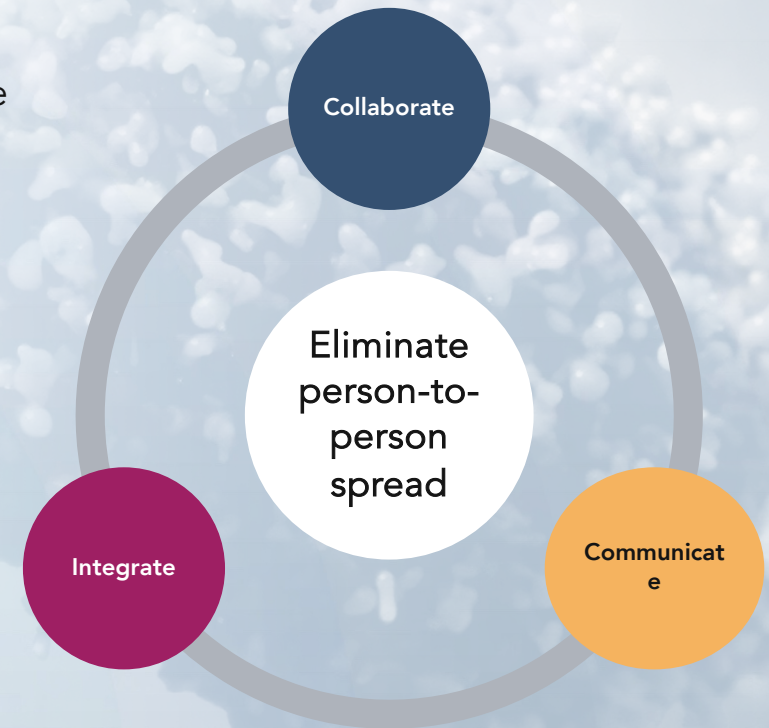
For WHO and Member States is to achieve control of mpox globally and eliminate person-to-person transmission everywhere

Objectives

Outline a global approach to control mpox and prevent resurgence by stopping or preventing person-to-person transmission

Develop tailored sustainable approaches to mpox outbreak readiness, control, and elimination of person-to-person transmission

Align planning to common principles



Key consideration

Goal and objectives apply for all countries and contexts for all modes of transmission

Global strategy for mpox elimination and control: **approaches and guiding principles**

Approach

Know your epidemic

Know your risks

Know your needs

Take action

Guiding Principles

Context-appropriate,
community-led

Equity and human rights

Integrated programmes
and services

Continuous learning

Mpox open consultation on global strategy: EPI-WIN webinar 28 June 2023

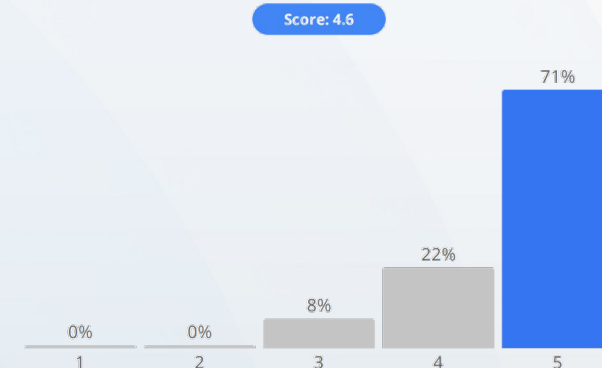
- Over 350 people attended a WHO open consultation on the draft WHO global mpox strategy held via a WHO EPI-WIN webinar.
- Participants included stakeholders from various sectors, including WHO staff, Member States, partners and the public.

Feedback was gathered and participants contributed insights to enhance the strategy, including by identifying topics where countries and regions require guidance such as wanting to know more about **how mpox vaccines work** and the need to **address access to countermeasures**.

Feedback was given on the feasibility of the proposed elimination target.

"WHO should advance mpox control and elimination strategies for all regions and countries."

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Example consultation questions and responses from the webinar, [recording available](#).

Next steps (global): Performance, quality, monitoring and evaluation (M&E) areas of work

➤ National programme surveys

- Continue 2 X per year, adapt as needed, programme integration policies/initiatives

➤ Surveillance quality indicators

- IHR notification, timeliness, lab processing times...

➤ Outbreak performance indicators

- % Suspected cases tested in the lab
- Timeliness of confirmation of first case and initiation of response
- Detailed case investigation, contact tracing and follow up

➤ Progress towards elimination

- % Regions/countries with plans
- n (%) countries in elimination/control/community transmission status
- Time since last case and complete follow up of all contacts
- Absence of viral material in wastewater surveillance

Next steps (regional)

- Lobby health authorities and civil society to **maintain interest in mpox**.
- **Integrate mpox with HIV/ STI programmes**, including surveillance and integrated care for key populations (MSM, sex workers, trans women, among others).
- Continue to **engage civil society groups** for risk communication and prevention.
- Ensure **sustainable supplies** of vaccines, diagnostics, and therapeutics.
- **Evaluate** inclusion of mpox as part of multi-disease and multi-pathogen elimination frameworks at regional level, for example the PAHO Disease Elimination Initiative.
- Participate in **research** regarding new diagnostic testing technologies, vaccine effectiveness, infection prevention and control and therapeutics.

Useful links

- Fifth meeting report of the Emergency Committee on the multi-country outbreak of mpox
- The WHO Director General issued 14 temporary recommendations for mpox on 11 May 2023.
- Meeting report and full list of recommendations:
[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 mpox page:
https://www.who.int/health-topics/monkeypox#tab=tab_1

Temporary Recommendations issued by the WHO Director-General in relation to the multi-country outbreak of mpox

These Temporary Recommendations continue to support the goal of the [WHO Strategic Preparedness, Readiness and Response Plan for Monkeypox 2022–2023](#) and [WHO operational guidelines](#) to stop the outbreak and meet the objectives to interrupt human-to-human transmission, protect the vulnerable, and minimize zoonotic transmission of the virus.

Any State Parties may experience importation or local transmission of mpox and some States Parties may also be experiencing zoonotic transmission. These Temporary Recommendations apply to all States Parties in all stages of mpox readiness or response, as outlined in previous sets of Temporary Recommendations, in order to further support mpox control and eventual elimination of human-to-human transmission. States Parties in a position to support scaling up access to medical countermeasures in low- and middle-income countries should continue to do so.

In implementing these Temporary Recommendations, States Parties should ensure full respect for the dignity, human rights and fundamental freedoms of persons, in line with the principles set out in Article 3 of the IHR. The WHO advises States Parties to maintain a collaborative approach in collaboration with key communities, partners and other stakeholders.

To meet the objectives above, States Parties should:

1. Sustain and promote key elements of the mpox response strategy to inform public health policies, programmes and actions.
2. Develop and implement integrated mpox control plans and strategies of preventing and stopping human-to-human transmission and zoonotic transmissions, as appropriate.



11 May 2023 | Statement

Fifth Meeting of the International Health Regulations (2005) (IHR) Emergency Committee on the Multi-Country Outbreak of mpox (monkeypox)