Clinical management and IPC guidelines for management of Mpox

Safe and Scalable Care Unit
Health Emergencies Programme
WHO, Geneva

World Health Organization

Agenda

Time	Session	Lead
1300 – 1305 (5 mins)	Opening remarks including 05 July EC meeting update	Dr Nedret Emiroglu WHO/WHE Director, Emergency Core Capabilities
1305 – 1310 (5 mins)	Updated on global epidemiology Focus on Africa Interaction with HIV & severity/mortality	Dr Olivier le Polain WHO Unit Head/EAR (Epidemiology and Analytics for Response).
1310 – 1315 (5 mins)	Introductions, overview of IPC guideline process and publication updates	Dr April Baller Team Lead IPC & WASH Safe and Scalable Care, WHO/WHE
1315 – 1322 (7 mins)	Highlights of the new IPC recommendations	Dr Tochi Okwor Chair of IPC guideline development group for Mpox
1322 – 1329 (7 mins)	Current IPC practices and challenges	Professor Andy Bulabula IPC Unit Lead, Africa CDC
1329 – 1339 (7 mins)	Q & A on IPC	Moderator – Dr April Baller, WHO
1339 – 1344 (5 mins)	Recommendation for initiation of antiretrovial treatment in people living with HIV and Mpox who are naive and/or have discontinued their treatment.	Professor Valdiléa G. Veloso GDG member, Oswaldo Cruz Foundation (Fiocruz), Brazil
1344 – 1351 (7 mins)	Recommendation for mothers with mpox to continue breastfeeding whilst limiting direct contact with their non-infected infant until lesions are fully resolved. Recommendation for mothers who recover from mpox infection and who have withheld breastfeeding and direct contact with their infant.	Professor Grace Ndeezi Pediatrician & Specialist group member on breastfeeding, Mpox GDG member Makerere University
1351 – 1401 (7 mins)	Q&A on HIV and breastfeeding recommendations	Moderator – Dr Jamie Rylance, WHO
1401 – 1408 (7 mins)	Next steps and closure	Dr Janet Diaz Unit Head, Safe and Scalable Care, WHO/WHE

Opening remarks

Dr Nedret Emiroglu

Director, Emergency Core Capabilities, World Health Emergencies Programme, WHO

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Update on mpox epidemiology

Dr Olivier le Polain

Unit Head, Epidemiology and Analytics for Response,
World Health Emergencies Programme, WHO

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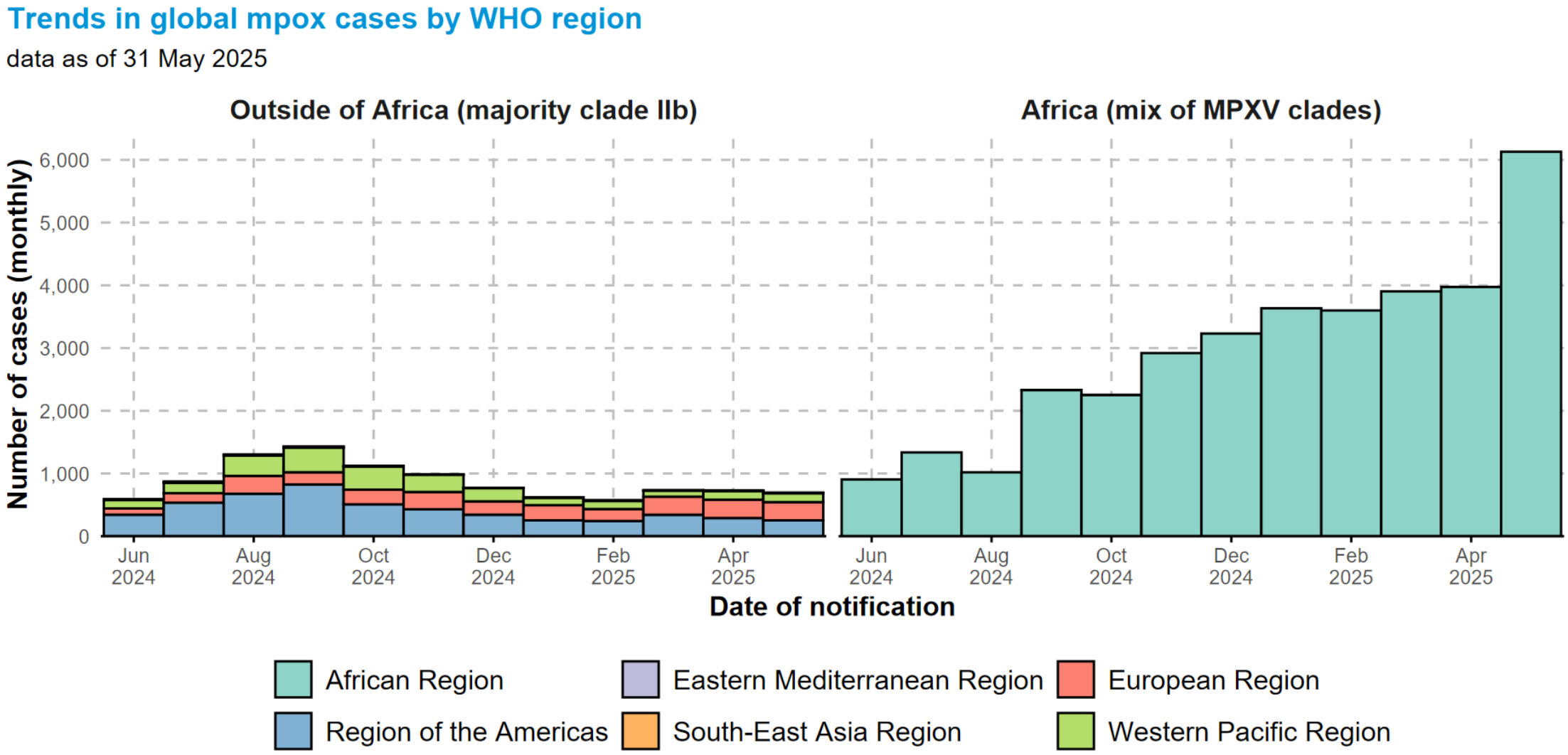
Global confirmed mpox cases by month and WHO region

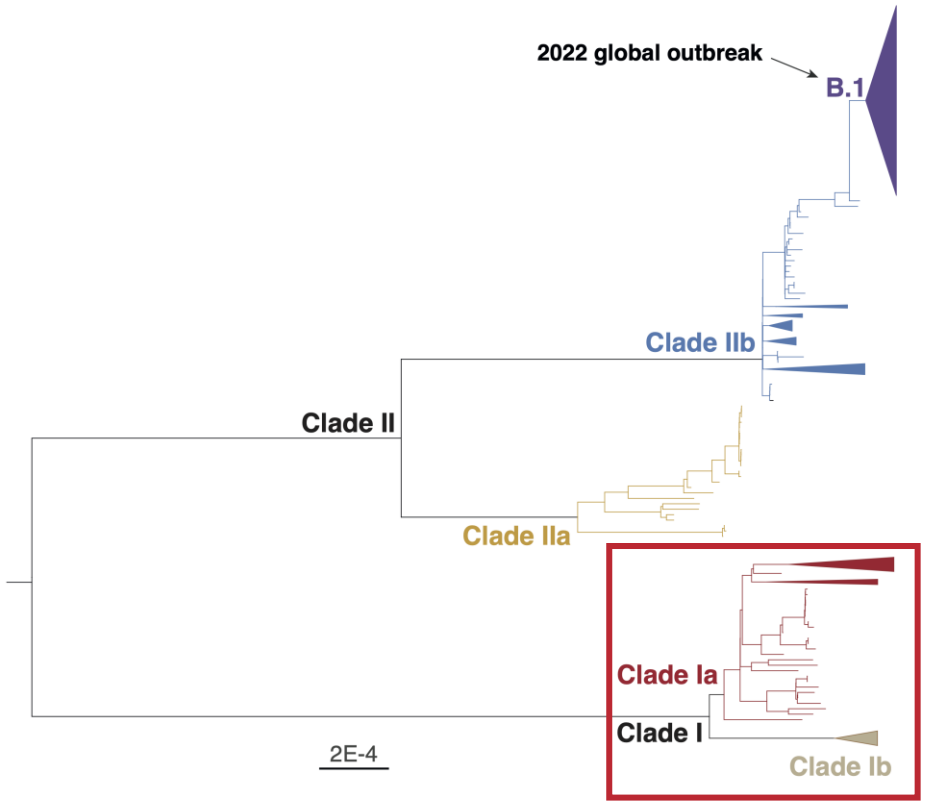
Trends in past 12 months: 1 June 2024 – 31 May 2025

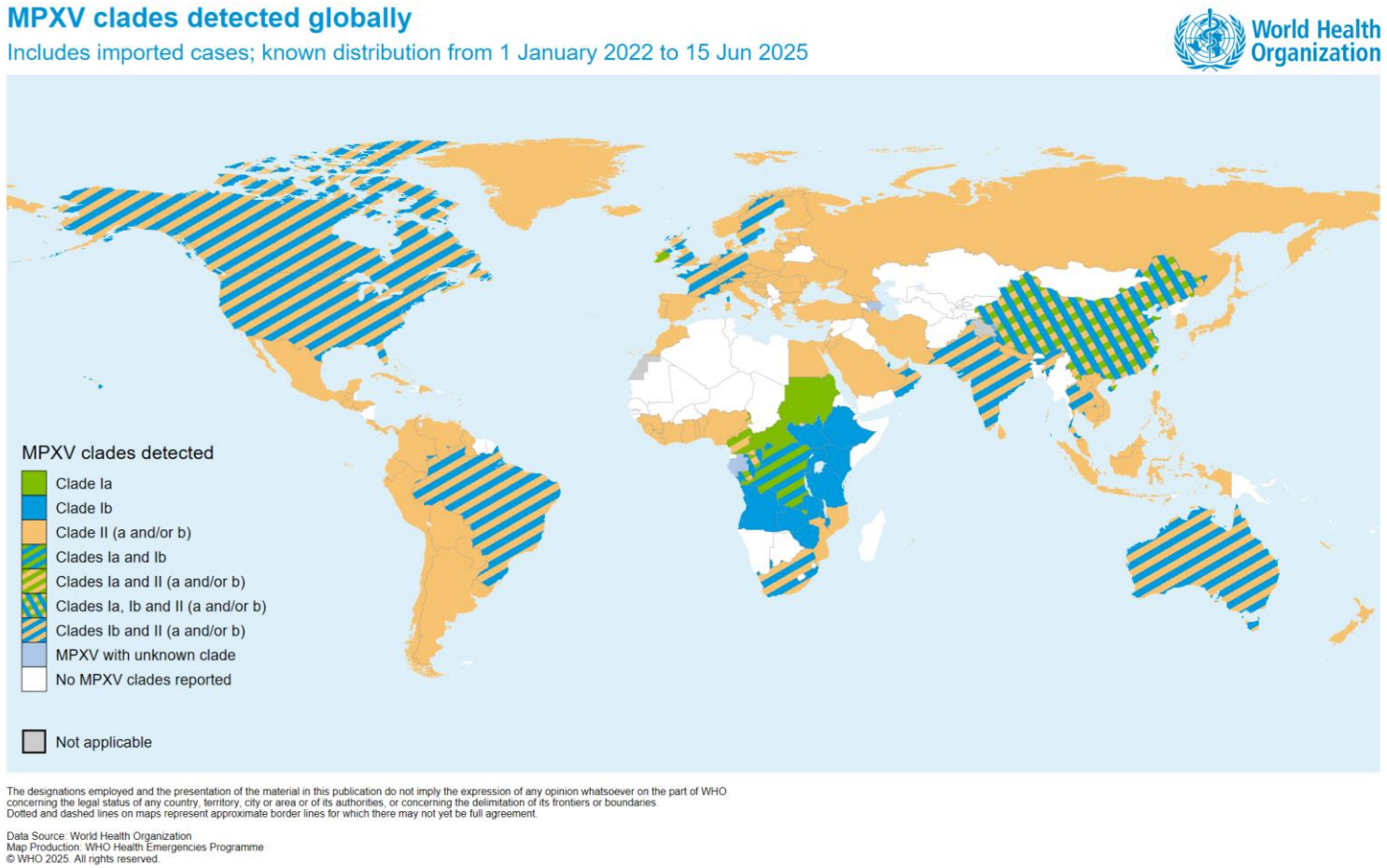


Source: WHO

Monkeypox virus (MPXV) clades detected globally

1 January 2022 – 15 June 2025





The proportion of samples sequenced is still low and the information available might not be fully representative of the clade distribution

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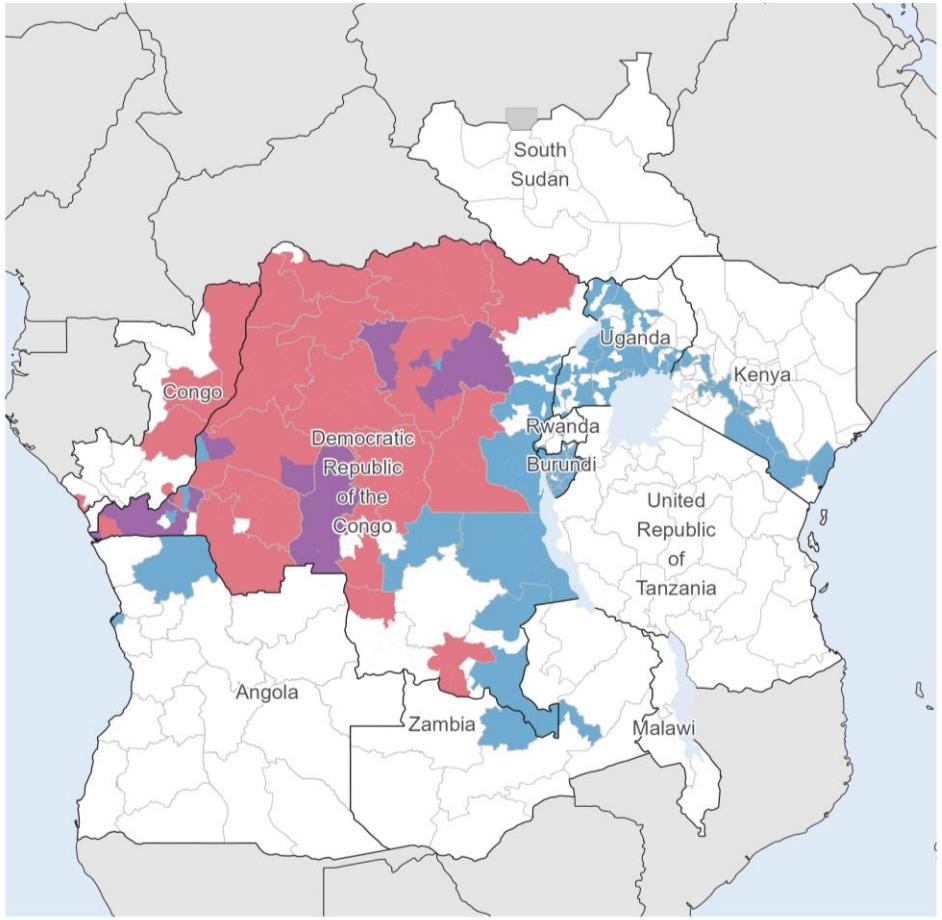
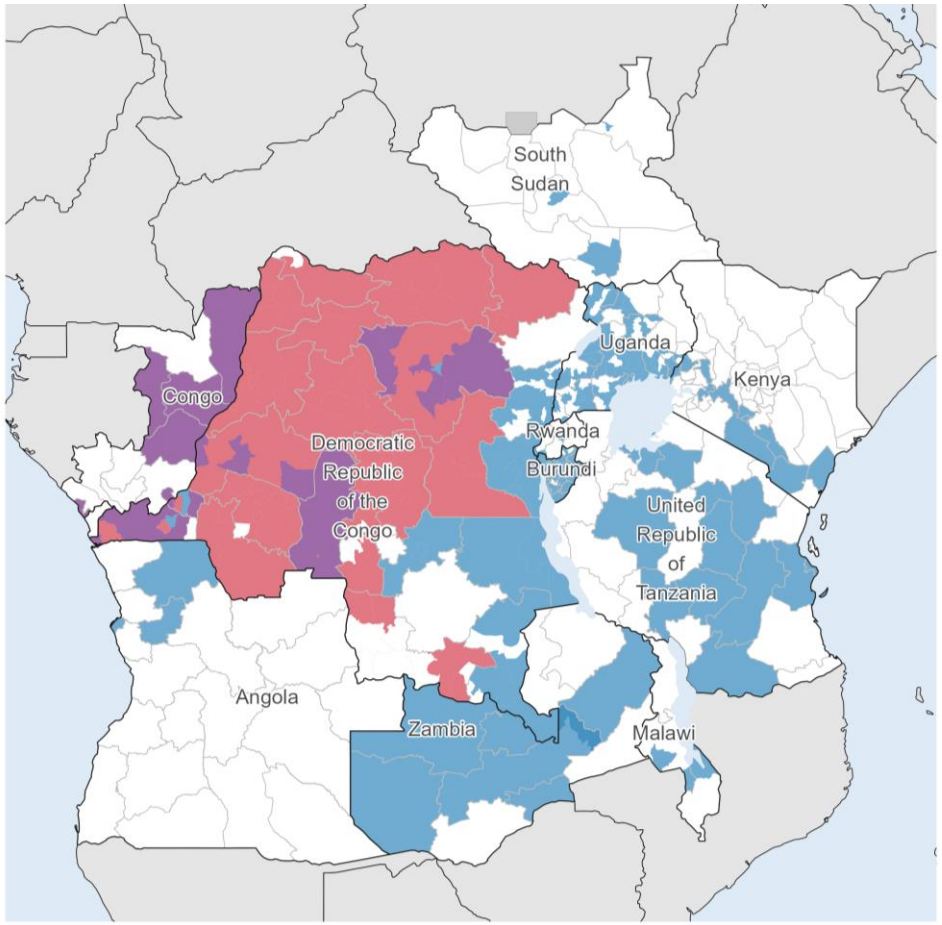
Evolution of mpox clades in Central and East Africa

January 2024 – February 2025



January 2024 – May 2025



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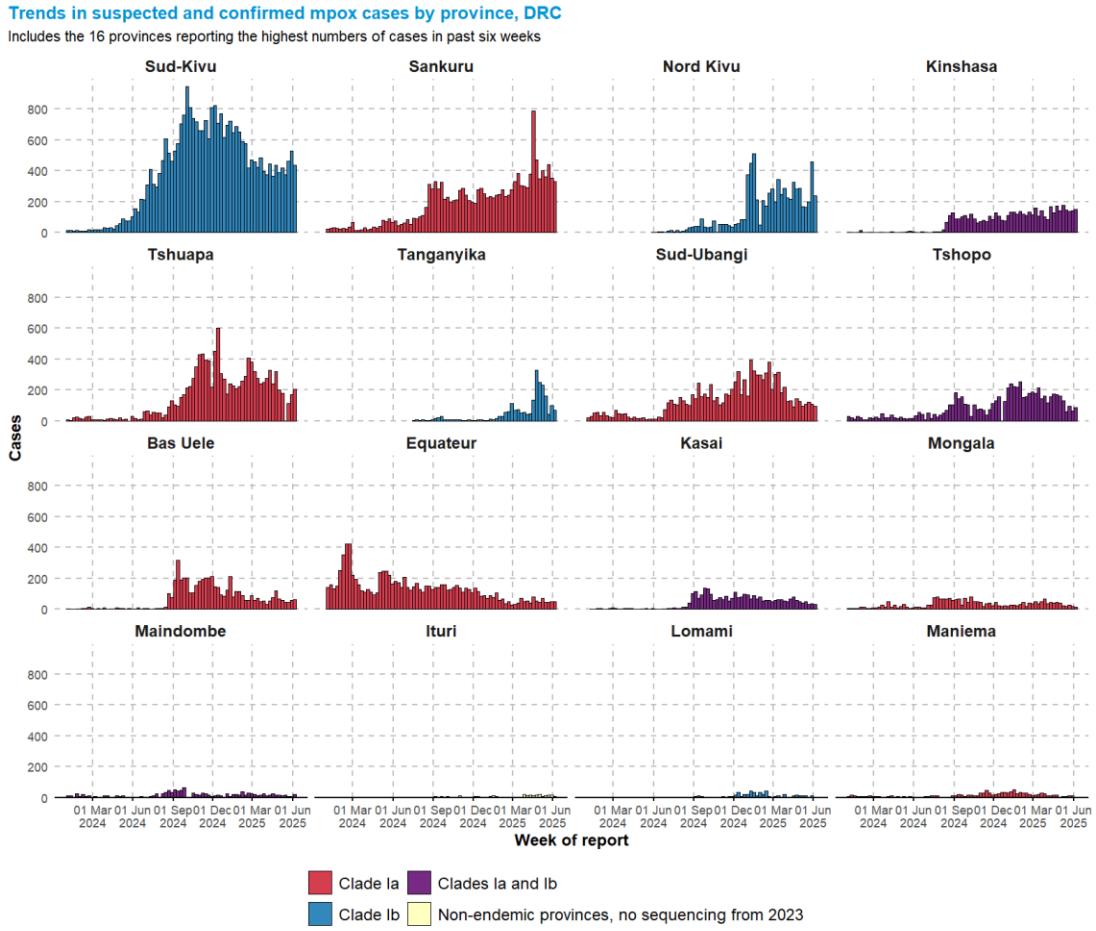
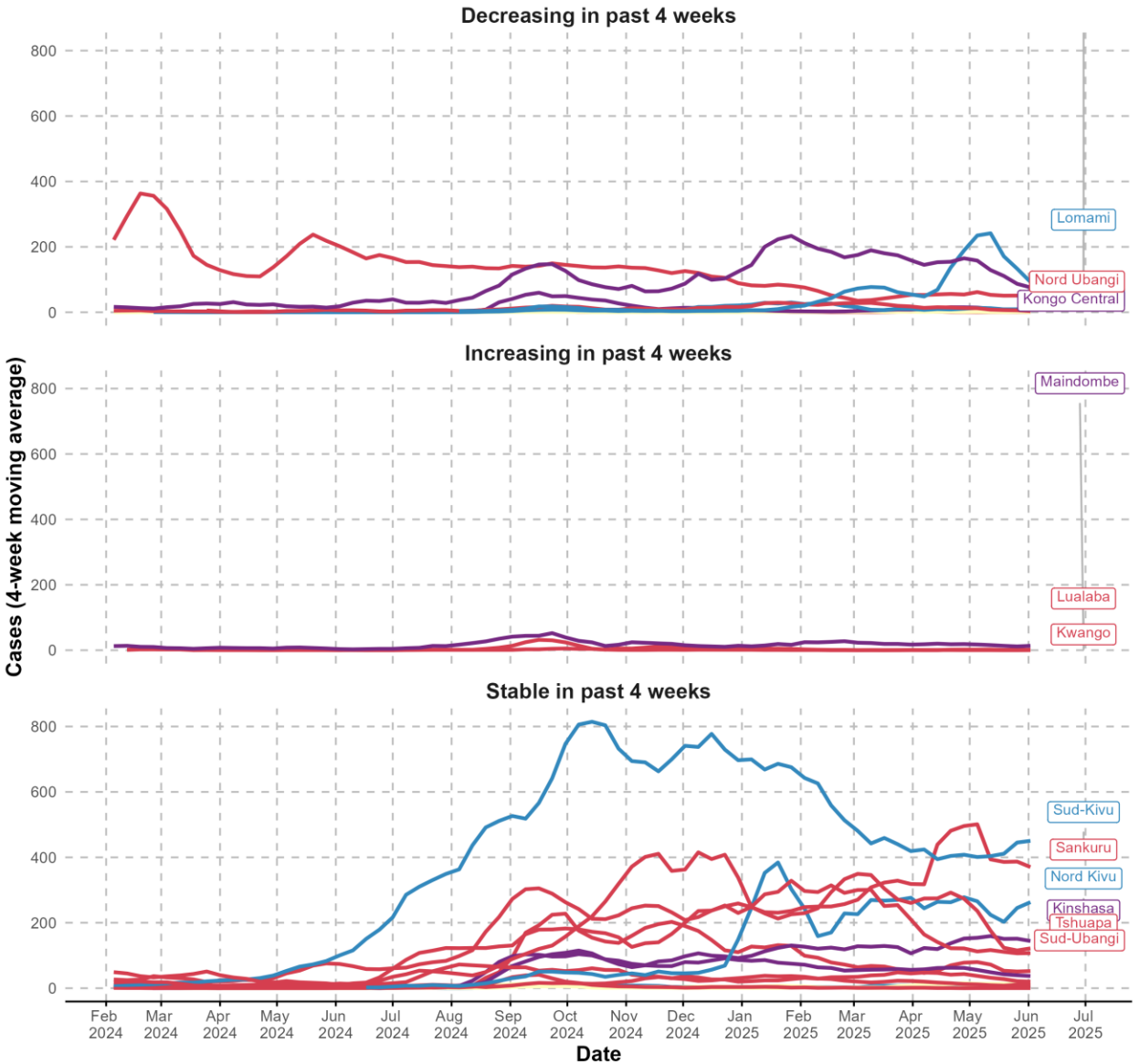
Trends: DRC

Data as of 9 June 2025





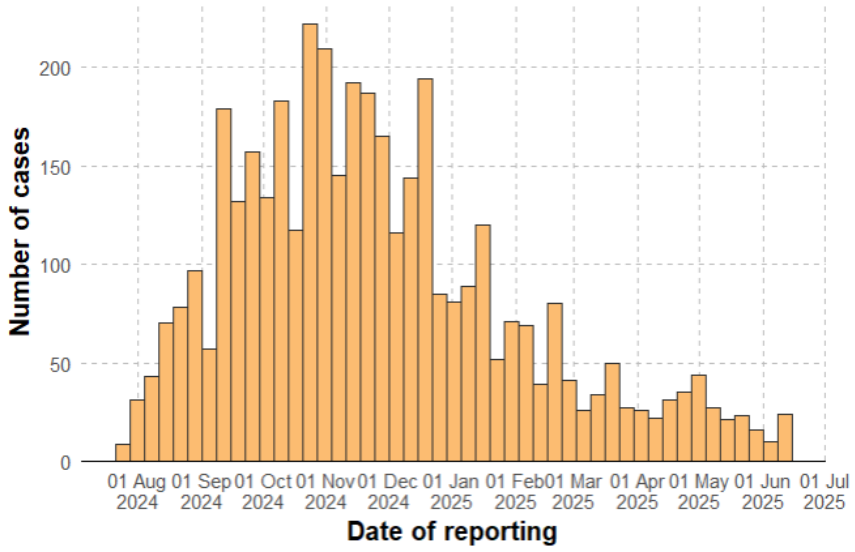
Note: province names shown for the 6 provinces reporting the most cases in each category

World Health Organization

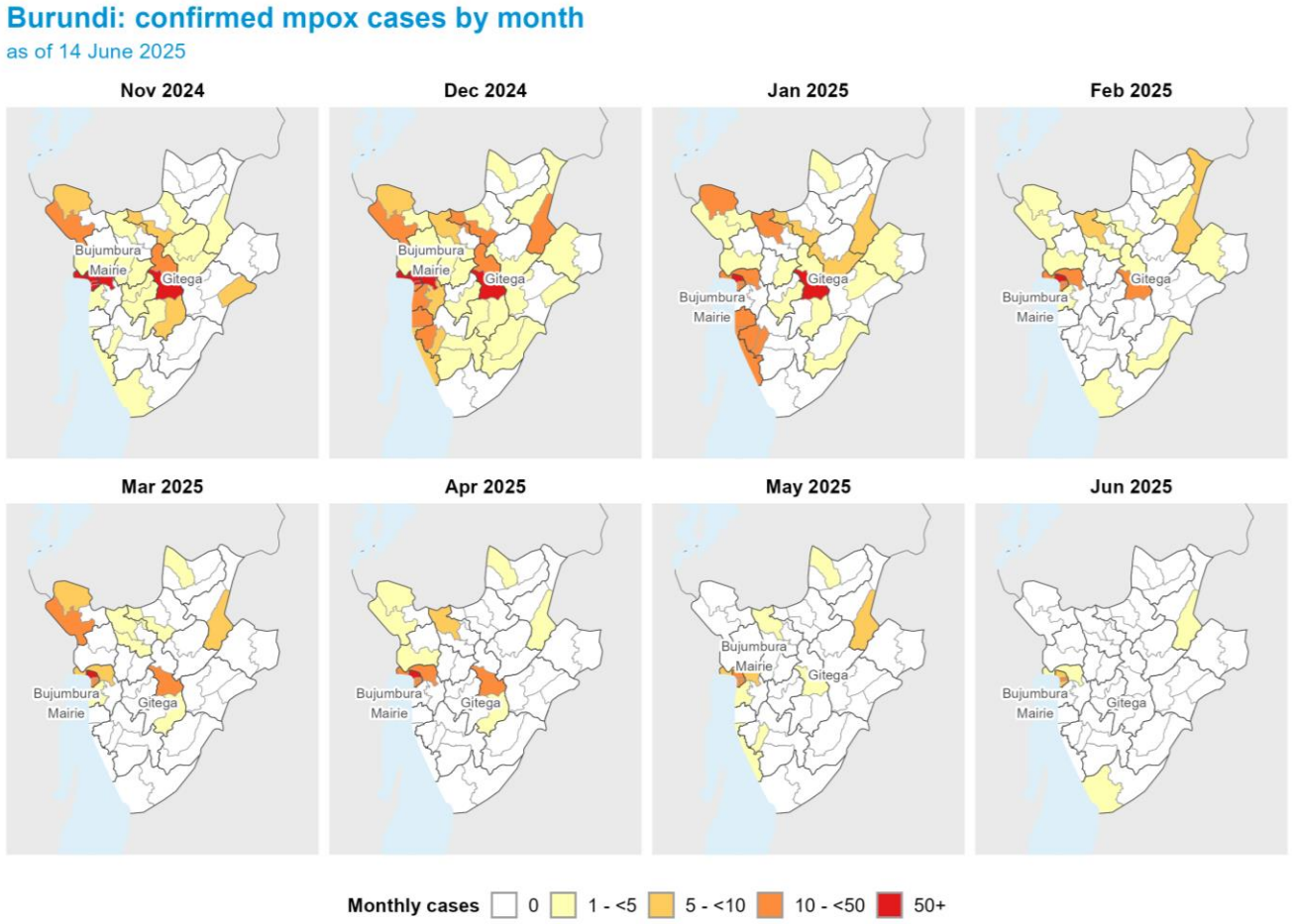
Trends: Burundi

Data as of 14 June 2025

Trends in confirmed cases



Space-time evolution



* Data in the last month may be incomplete.

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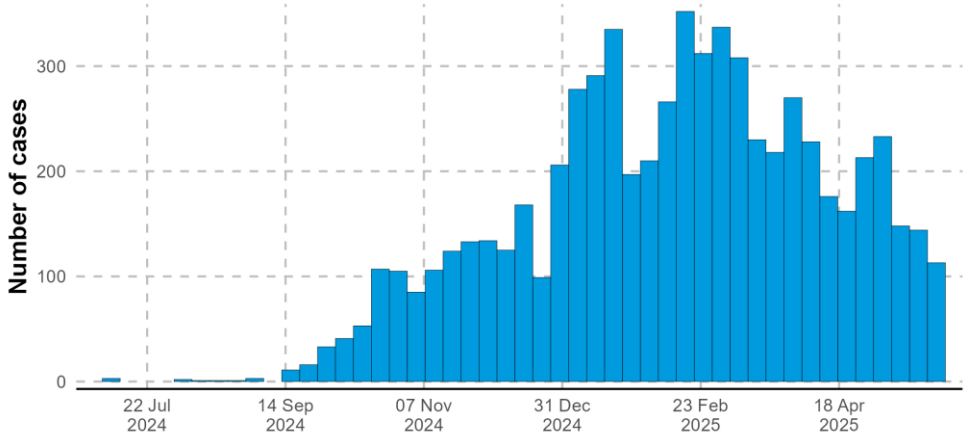
Trends: Uganda

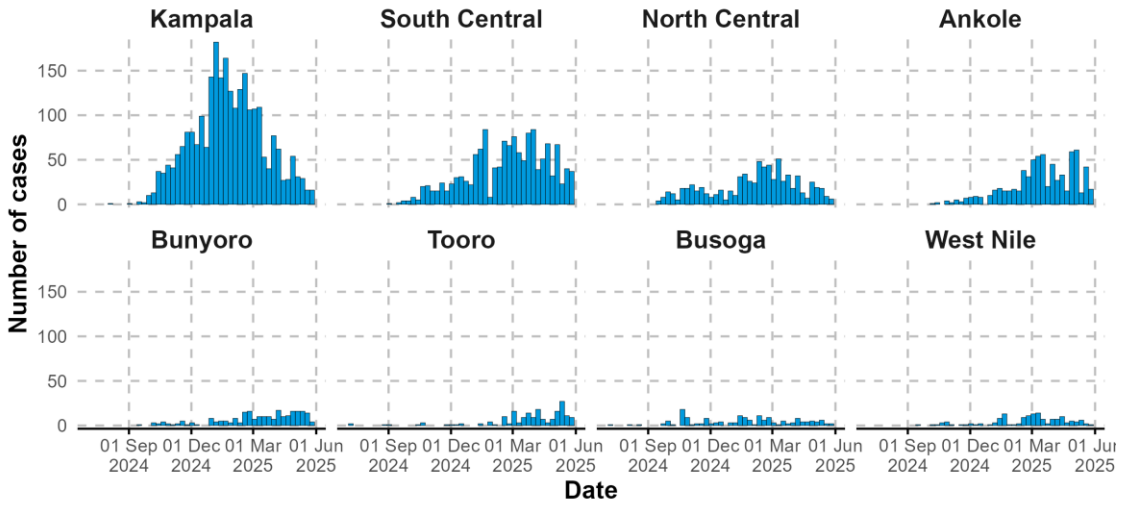
Data as of 25 May 2025

Trends in confirmed cases

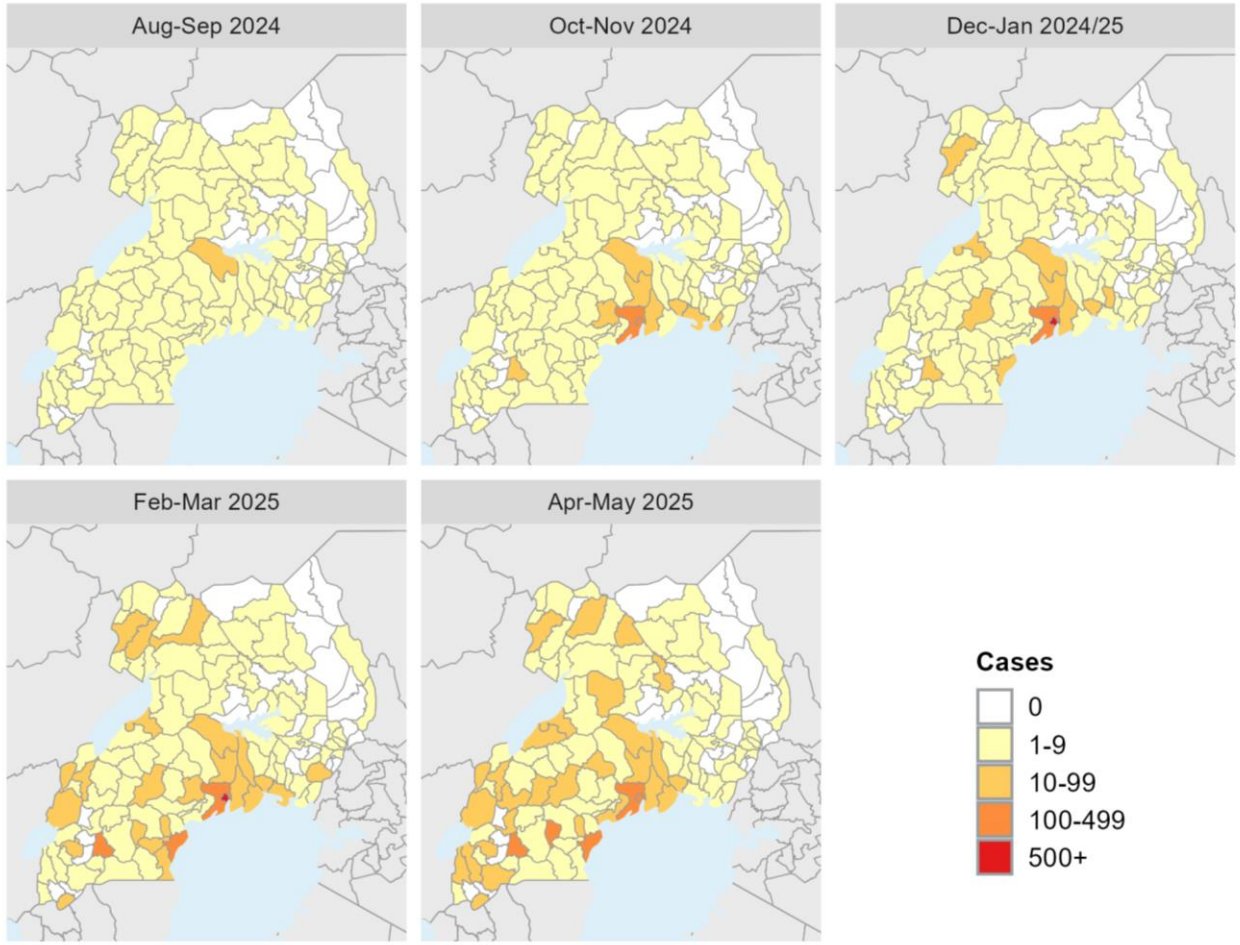


Trends in cases in 8 regions with highest number of total cases

data as of 26-05-2025

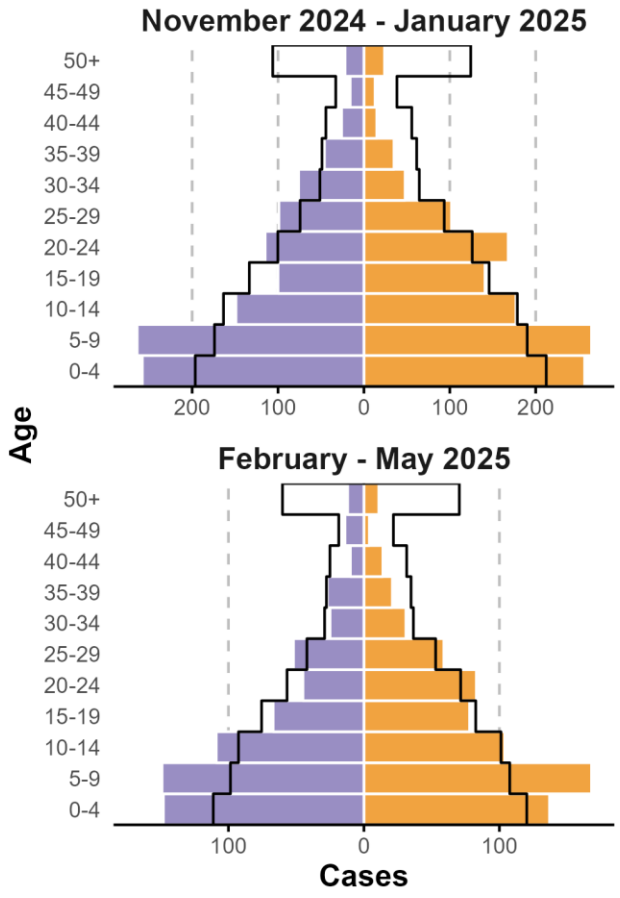


Space-time evolution

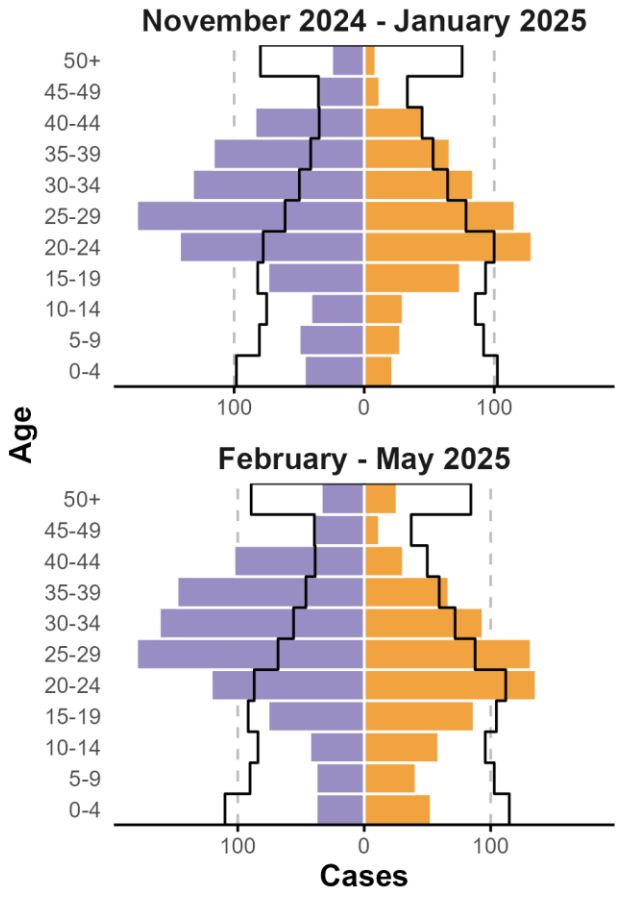


Demographics of confirmed cases in clade Ib MPXV – affected areas: DRC (Kivus and Kinshasa), Uganda, Burundi

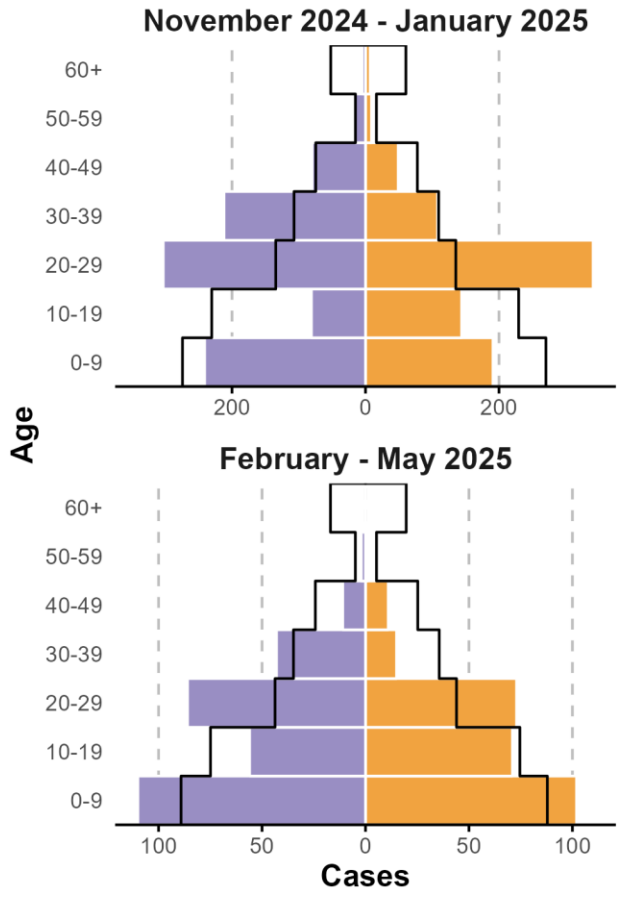
DRC: North and South Kivu



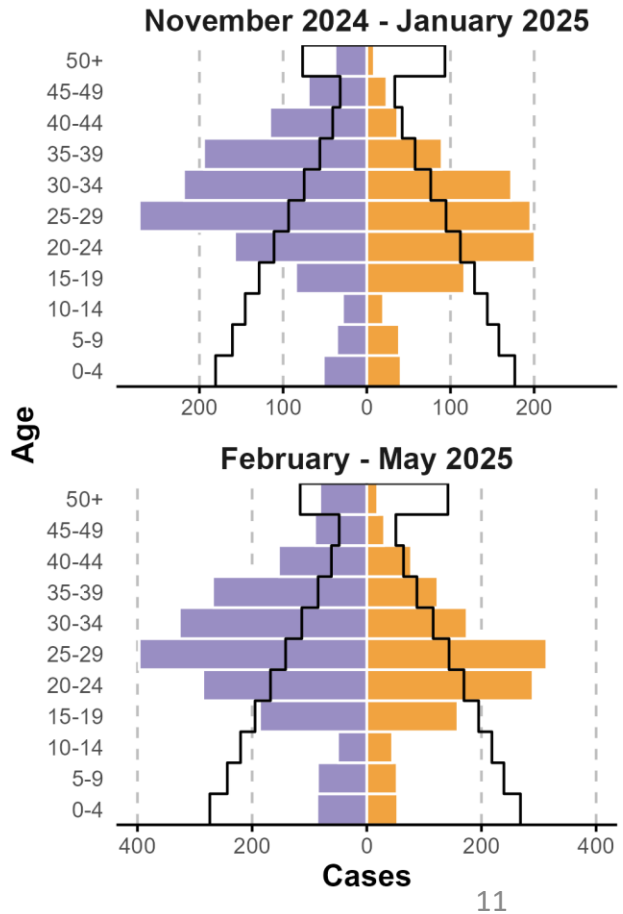
DRC: Kinshasa



Burundi



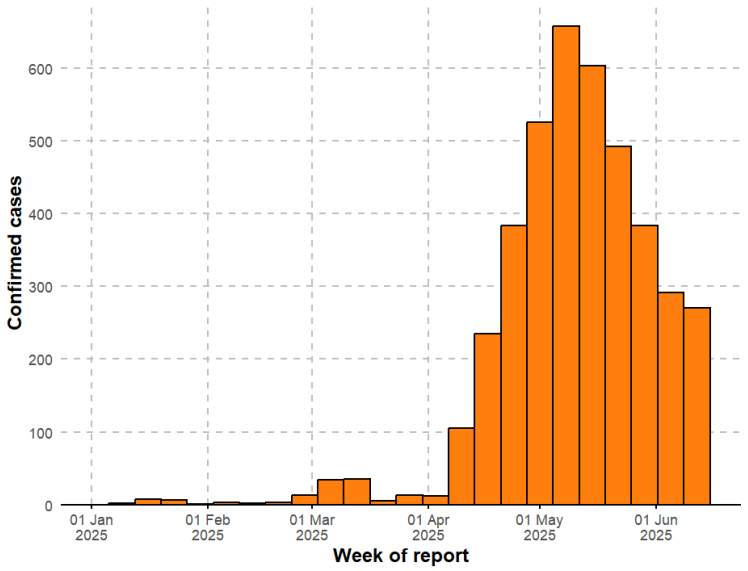
Uganda



Trends: Sierra Leone

Data as of 15 June 2025

- Confirmed cases in all regions
- About 80% of cases are from Freetown
- Even sex distribution: 52% male, 48% female
- Most cases aged 20-34 years



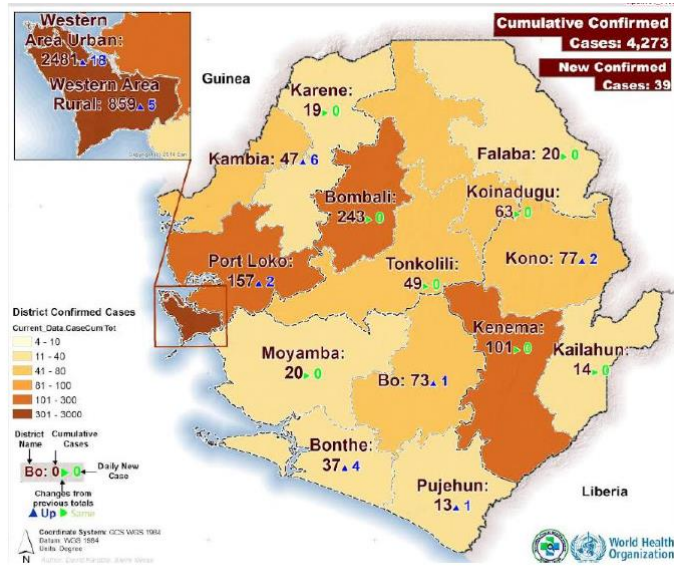
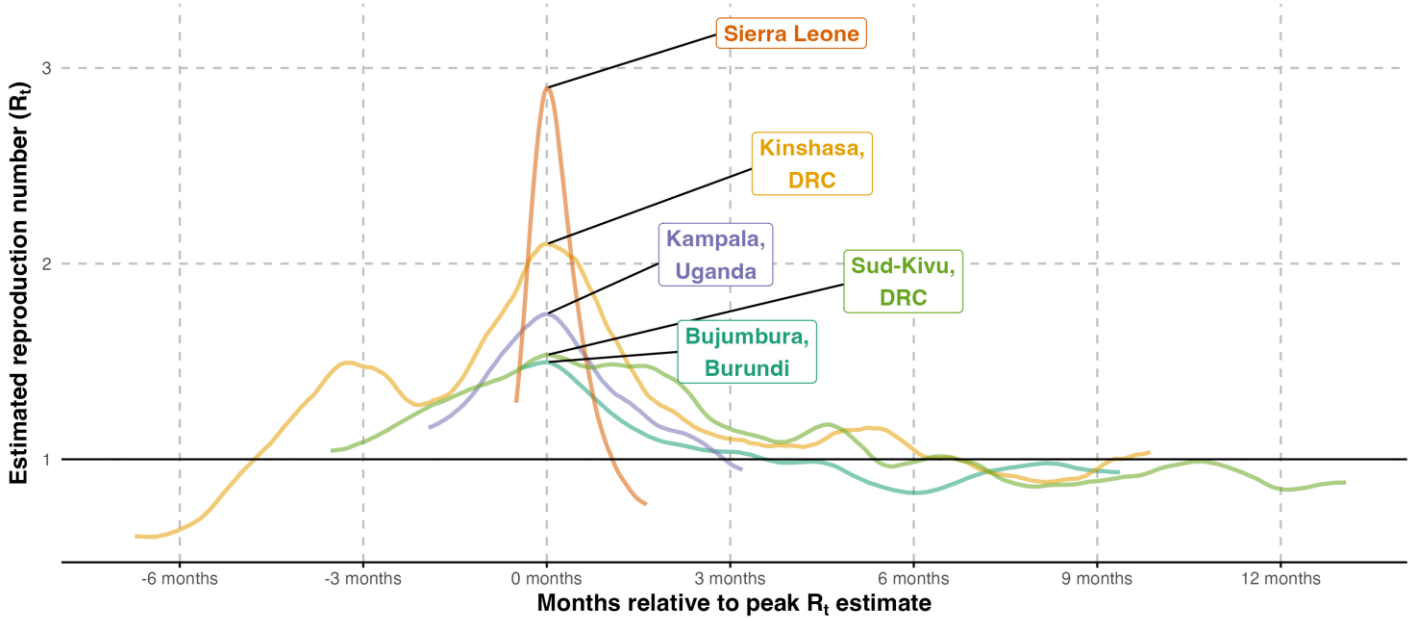


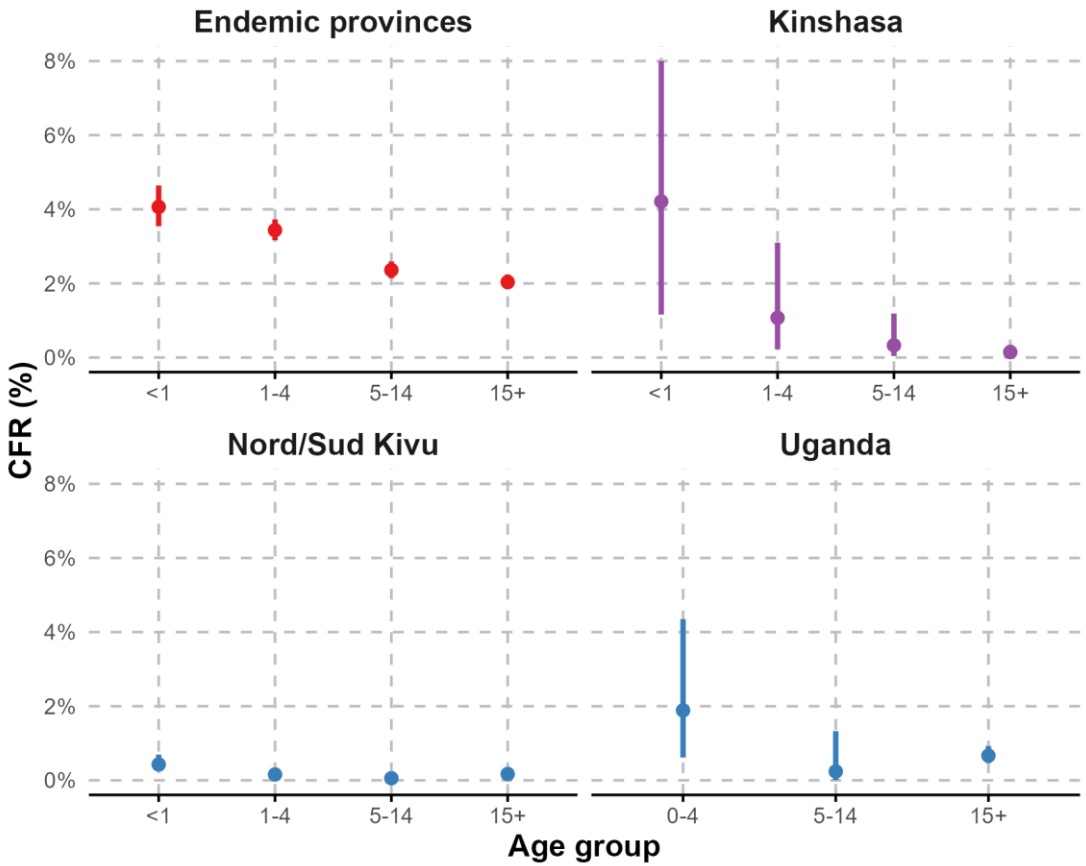
Figure 1: Confirmed cases by district, 20th June 2025



Mortality

Case fatality rate by age group

All syndromic cases in DRC, confirmed cases in Uganda, as of 11 May 2025



Endemic provinces: 59359 cases, 1601 deaths
Nord/Sud Kivu: 33014 cases, 55 deaths
Kinshasa: 4396 cases, 14 deaths
Uganda: 5934 cases, 41 deaths

Country	Clade	Deaths since 2024	Summary of epidemiological profiles
Uganda	Ib	41	• Among deaths for whom information is available: ○ **55%** of deaths among **people living with HIV** ○ Other comorbidities reported include **malnutrition, sickle cell disease, neonatal sepsis,** and **hypertension** ○ Evenly distributed by sex ○ Most deaths among those aged 20 – 39 years old
Kenya	Ib	1	• **HIV positive**
Burundi	Ib	1	
DRC	Ib	55	• Risk of mortality slightly higher among <1s but no evidence of further age association
DRC Kinshasa	Ia & Ib	14	• Risk of mortality higher among <1s but no evidence of further age association
DRC	Ia	*1601*	• Highest risk in <1s (CFR 4-5%), with risk decreasing with age (CFR 2% in over 15s)*

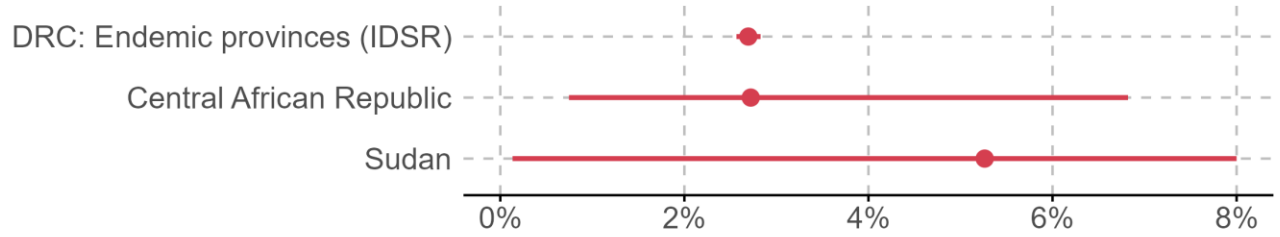
*Based on syndromic cases so likely confounded with other factors

Mortality by clade

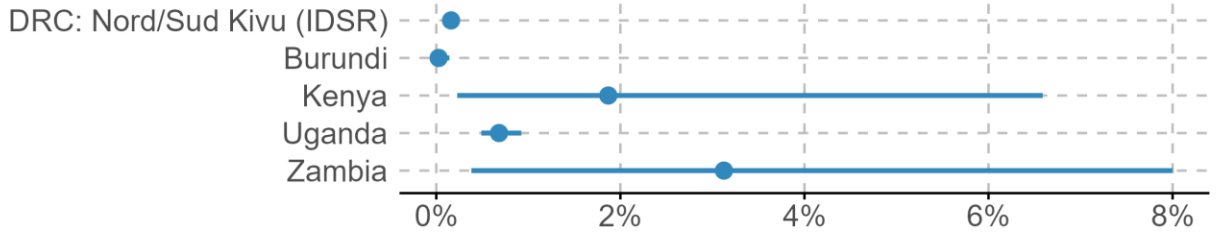
Time period of estimation:

- **DRC**: Jan 2024-May 2025
- **CAR**: Jan 2022-May 2025
- **Sudan**: Aug 2022-Apr 2023
- **Clade Ib countries**: Jun 2024-May 2025
- **Clade II (a/b) countries**: 2022-2023

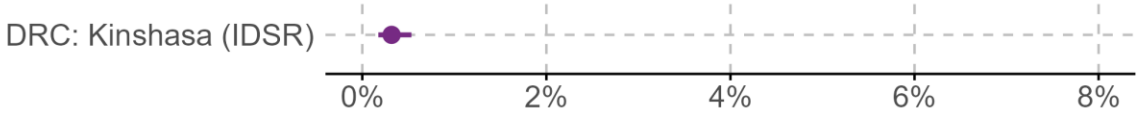
Clade Ia



Clade Ib

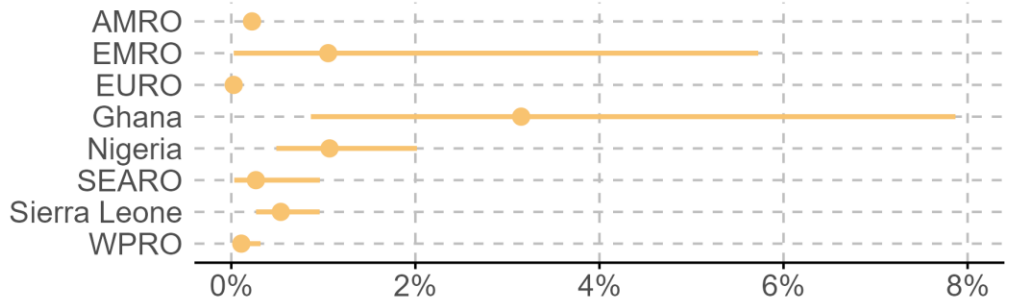


Clade Ia and Ib (co-circulation)



Clade II (a/b)

* WHO regional estimates from 2022-2023



External products

- Situation reports: Multi-country outbreak of mpox, External situation report #53 - 29 May 2025

- Global epidemiological dashboard: https://worldhealthorg.shinyapps.io/

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Overview of Infection Prevention and Control guideline development process and publication updates

Dr April Baller

Team Lead IPC/WASH, Safe and Scalable Care,
World Health Emergencies Programme, WHO

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What triggered the need for new Mpox guideline?

Triggers

- WHO produced “interim” guidance in 2022.
- Increased availability of clinical and epidemiological data and more case management experience.
- Emergence of a new clade (Ib) and changing transmission patterns.
- Improving quality of care can reduce mortality and morbidity, while ensuring health workers and other patients seeking care remain safe.

Espoir went to the health centre in the Democratic Republic of the Congo with Mpox and waits for treatment

Credit: Moses Sawasawa (used with permission)

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Process of developing the WHO Living Guideline on Clinical Management and IPC for Mpox (May 2025)

- WHO commissioned an updated **systematic review on IPC measures to reduce mpox transmission**, expanding on the publication by *Kuehn et al*.
  - Key findings of updated review:
    - **>95%** of transmission occurred via **direct physical contact**—both **sexual and non-sexual**—with skin lesions or lesion exudate.
    - **No confirmed cases** of **inhalation-based transmission** were reported.
    - **Only one case** of **self-reported droplet exposure** was identified.
    - **Health and care worker infections** were rare and primarily due to **needlestick injuries** during specimen collection or clinical procedures.
  - ➢ These findings informed the IPC recommendations

- WHO convened a multidisciplinary mpox Guideline Development Group (GDG) composed of experts in infectious disease, IPC, clinical care, public health, HIV, pediatrics, and maternal health.
- At GDG meetings Grading of Recommendations Assessment, Development and Evaluation (**GRADE**) Evidence to Decision **(EtD)** framework approach used**:** evidence obtained from the systematic reviews used to formulate statements (recommendations or good practice statements)

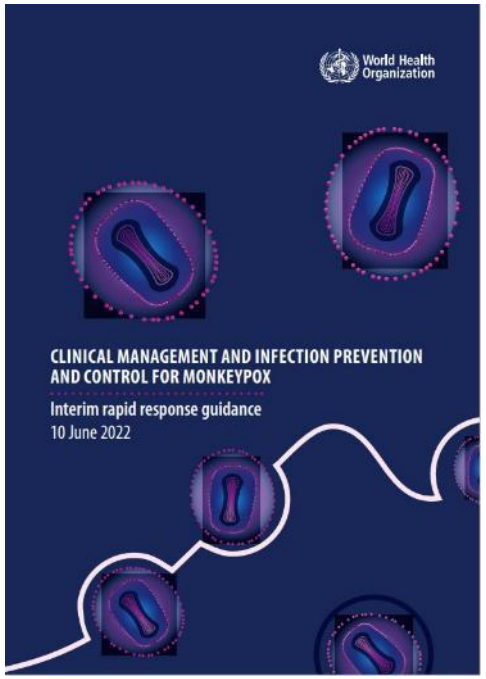
What's new?

Scope

Builds on previous WHO guidance from 2022:

- integrates IPC and clinical aspects
- makes new clinical and IPC evidence-based recommendations based on systematic literature reviews (7 new recommendations, 2 Good practice statements)
- thematic areas addressed;
  - infection prevention and control measures in health care setting and during home-based care
  - initiation and continuation of anti-retroviral therapy for those with HIV co-infection; and breastfeeding.
- may be used as a standalone document or adopted/adapted into national guidelines
- "living" guideline – new recommendations will be added as become available

2022



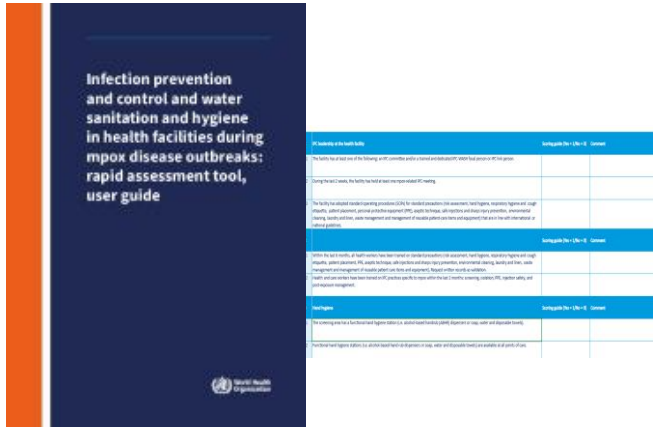
2025

https://www.who.int/publications/i/item/B09434

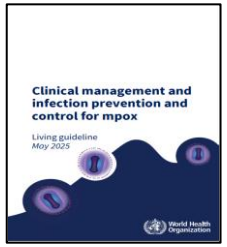
And online on Magic platform:

https://app.magicapp.org/#/guideline/6878

IPC guidances & derivative products

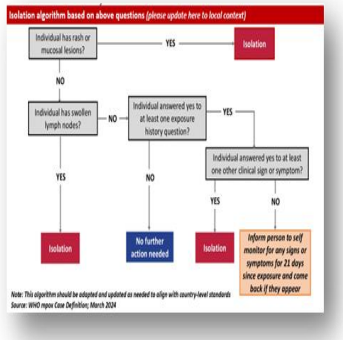


Infection prevention and control and water sanitation and hygiene in health facilities during mpox disease outbreaks: rapid assessment tool, user guide



Clinical management and infection prevention and control for monkeypox (June 2025)

Interim public health advice for mpox-related prevention and control measures in school settings (in collaboration with AFRO)



- HW occupational exposure risk assessment tool

- PPE posters
  - Steps to put on PPE
  - Steps to remove PPE

Source: Strengthening hand hygiene practices in community settings and health-care facilities in the context of mpox

Infection prevention and control and water, sanitation and hygiene measures during mpox vaccination activities

Operational guide: homecare measures for IPC and WASH (WHO/UNICEF)

Summary one pager for CHW

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Highlights of the new Infection Prevention and Control recommendations

Tochi Okwor

Chair of IPC guideline development group for mpox

World Health Organization

Mpox IPC guidelines: healthcare setting recommendation

In health care settings:

In patients with suspected or confirmed* mpox, WHO suggests that health and care workers use contact and droplet precautions. *

(Conditional recommendation for, low certainty evidence)

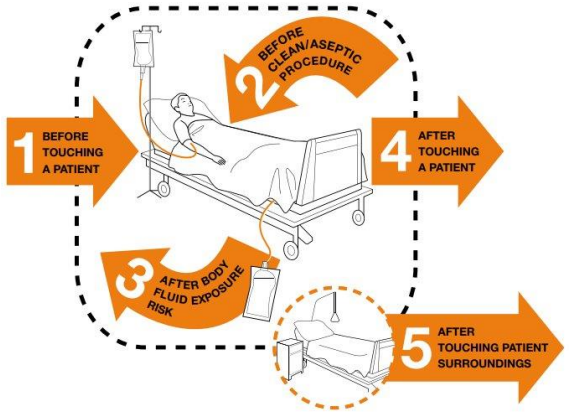
- Consider using a respirator –a special mask to filter particles - when the ventilation is poor or unknown or based upon a risk assessment (e.g. immunocompromised status or presence of mucosal lesions).
- Airborne precautions should be implemented if varicella zoster virus (i.e. chickenpox) or measles are suspected and until they are excluded.
- Airborne precautions should be implemented when performing AGPs.
- If single rooms are not available or in limited supply, cohort confirmed patients and prioritize single rooms for suspect and probable patients

** Confirmed mpox means via laboratory confirmation; probable meets clinical signs and symptoms with epidemiological link.*

*** **Contact precautions** include the following PPE: gloves, gown.*

*** **Droplet precautions** include the following PPE: a medical mask, consider eye protection based upon a risk assessment.*

Mpox IPC guidelines: healthcare settings implementation considerations



Hand Hygiene

PATIENT PLACEMENT

PERSONAL PROTECTIVE EQUIPMENT

INJECTION SAFETY

ENVIRONMENTAL CLEANING AND DISINFECTION

HANDLING AND TRANSPORT OF LINEN

DECONTAMINIATION AND REPROCESSING OF REUSABLE PATIENT CARE ITEMS AND EQUIPMENT

WASTE MANAGEMENT

IPC guidelines for Mpox: Supporting patient interaction with visitors

WHO recommends that measures should be put in place to support patient interaction with family and visitors to promote well-being:

Visitors or caregivers should perform appropriate hand hygiene before and after entering/exiting the patient room, and be closely supervised on PPE use

Vulnerable and high-risk individuals should be counselled to make an informed decision on whether to visit the patient

Alternate modes of communication such as video conference to be offered

Community settings: IPC measures to mitigate and control mpox transmission

In community settings *apply and adapt the following IPC measures including:*


Hand Hygiene


Dedicated personal items


Linen and laundry handling


Environmental cleaning and disinfection


Waste management

(Good practice statement)

Mpox IPC guidelines: home-based care considerations

Engage community health care workers and volunteers

Ensure clear, accessible instructions for infection prevention at home

Promote environmental cleaning and waste disposal systems

Provide support to vulnerable groups

Monitoring and follow-up through community health workers

Risk communication and community engagement

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Mpox IPC guideline: Home-based care recommendation

In community settings:

WHO suggests that persons with mild, uncomplicated mpox lesions cared for at home are not required to isolate*, provided their lesions are covered and they wear a well-fitting medical mask when in close proximity with others until all lesions are healed.
(Conditional recommendation for, low certainty evidence)

- Persons with mpox who cannot cover lesions or wear a medical mask should isolate at home.
- IPC measures to reduce environmental contamination at home should be implemented.

** Isolation: the separation of infected people with a contagious disease from people who are not infected.*

Clinical management and infection prevention and control for mpox: living guideline, May 2025

Mpox IPC guidelines: home care implementation considerations

😷 Mask & Lesion Covering

- Always **wear a medical mask** near others (fabric if unavailable).
- **Cover lesions** with clothing or bandages when around people.

📱 Remote Follow-up

- Use **telemedicine or phone** for check-ups—**no in-person visits**.

Hygiene & Environment

- **Clean and disinfect** all personal spaces and frequently touched surfaces daily.

🚗 When leaving home

- **Wear a mask** and **cover all lesions**.
- Use **private, well-ventilated transport**.
- **Inform health facility in advance** if seeking care.

Self-Care & Support

- Person with mpox should **manage their care** or designate a **healthy caregiver** (preferably vaccinated or previously infected).

Caregiver keeps 1-meter distance

- When closer contact is required (e.g., cleaning, laundry):
  - **Wear a medical mask + gloves**
  - **Practice strict hand hygiene** before and after glove use.

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Current IPC practices and challenges

Professor Andy Bulabula

IPC Unit Lead

Africa CDC

World Health Organization

Rationale for new IPC healthcare recommendation

Challenges:

- Limited access to essential **IPC supplies** in healthcare settings (however medical masks are more accessible then respirators)
- Some health care workers may not like to wear a respirator and may prefer the use of a medical mask
- Use of respirators have been associated with reports of verbal and non-verbal communication barriers

IPC challenges with health care isolation capacity:

- **During outbreaks and in resource-constrained settings**, health facilities and treatment centers are overwhelmed (and may be overcrowded) resulting in limited health care facilities **isolation** capacity for mpox patients
- Inadequate **WASH** services in healthcare facilities
- Fear of being isolated can lead to **concealment of symptoms**, reducing early detection and public trust.
  - **The above make** home-based care a sustainable and patient-centered option for *mild, uncomplicated cases.*

IPC challenges with home-based care isolation:

- **Isolation in the context of home-based care:**
  - Currently lack of evidence for its effectiveness
  - May cause **mental health challenges**, including **loneliness, anxiety, and depression**
  - Can **amplify stigma** towards infected individuals, leading to social isolation
  - May result in **economic hardship** due to missed work or disruption of daily income-generating activities.
    - ➢ All the above can lead to lack of **compliance** with home-based care isolation, making home-based care without isolation as an option

Q&A on IPC recommendations

Moderator: Dr April Baller

Team Lead IPC/WASH, Safe and Scalable Care,
World Health Emergencies Programme, WHO

World Health Organization

Clinical recommendations followed by Q&A

Moderator: Dr Jamie Rylance

Clinical team, Safe and Scalable Care,

World Health Emergencies Programme, WHO

World Health Organization

Summary of new recommendations – HIV and antiretrovirals

Professor Valdiléa G. Veloso

GDG member

Oswaldo Cruz Foundation (Fiocruz), Brazil

World Health Organization

Antiretroviral therapy (ART)

WHO recommends rapid initiation of antiretroviral therapy (ART) in people with mpox infection and HIV who are ART naïve or have had a prolonged interruption of ART

(Strong recommendation, moderate certainty evidence)

Additional remarks

Early HIV testing should be conducted with suspected or confirmed mpox infection

Refer for ART as soon as possible, aim to start within 7 days of HIV diagnosis, and offer same-day start

For those on ART and with undetectable viral load, continue without interruption

Perform a new viral load if previous more than 1 year old

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Why was the ART recommendation made

- There are some concerns about immune reconstitution inflammatory syndrome (IRIS)
  - which has been seen in individuals with mpox and very low immunity
- Current WHO recommendation for rapid ART initiation is based on high-quality evidence
  - 3 randomized controlled trials (7418 patients)
- There was no direct RCT evidence for HIV + mpox
  - direct evidence regarding the timing of ART for mpox is very low certainty
  - low-certainty evidence from comparison of uncontrolled versus controlled HIV in mpox that delayed ART may increase hospitalizations in mpox patients
    - 5 non-randomized studies, 2037 participants, OR = 4.19, 95% CI 2.11–8.34

The guideline panel judged

*"**harms from delay were very likely**, including reduced linkage and retention in care, and progression of mpox viral replication"*

Summary of new recommendations - breastfeeding

Professor Grace Ndeezi

Specialist group member on breastfeeding and GDG member

Pediatrician, Makerere University, Uganda

World Health Organization

Continuing breastfeeding

WHO suggests that mothers with mpox continue breastfeeding whilst limiting direct contact with their non-infected infant until lesions are fully resolved*

(Conditional recommendation, low certainty evidence)

Additional remarks

Take IPC measures including limited contact between mother and infant except during breastfeeding and cover active lesions on other parts of the body.

Mothers with areolar lesions should use the other breast to feed.

Inform the mother of the risk of infection, and discuss alternatives feeding strategies

Context will drive the feasibility, availability and safety of alternatives to breast feeding. Whenever it is safe and feasible, expressed breastmilk or milk substitutes and no direct mother-infant contact is advised.

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** lesions are crusted, the scab of lesions have fallen off and a fresh layer of intact skin has formed underneath*

Resuming breastfeeding

WHO suggests that mothers who recover from mpox infection and who had withheld breastfeeding and direct contact, to resume breastfeeding and direct contact with the infant as soon as lesions are healed.*

(Conditional recommendation, very low certainty evidence)

Additional remarks

The mother needs to be supported to continue to express milk while not breastfeeding to maximize the likelihood of reinitiating breastfeeding once recovers and avoid complications (e.g. mastitis).

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** lesions are crusted, the scab of lesions have fallen off and a fresh layer of intact skin has formed underneath*

Why was the breastfeeding recommendation made?

- WHO Recommendations on postnatal care of the mother and newborn
  - Undernutrition is associated with 45% of child deaths
- WHO and UNICEF recommend:
  - early initiation of breastfeeding within 1 hour of birth
  - exclusive breastfeeding for 6 months
  - continued breastfeeding up to 2 years of age or beyond.
- The mpox recommendation aligns with this
  - Although mother's mpox increases the risk to the infant or child, good nutrition is especially important in vulnerable populations
  - Safe temporary alternatives to breastfeeding can be used where feasible

Q&A on breastfeeding/HIV recommendations

Professor Valdiléa G. Veloso

Professor Grace Ndeezi

Moderator: Dr Jamie Rylance

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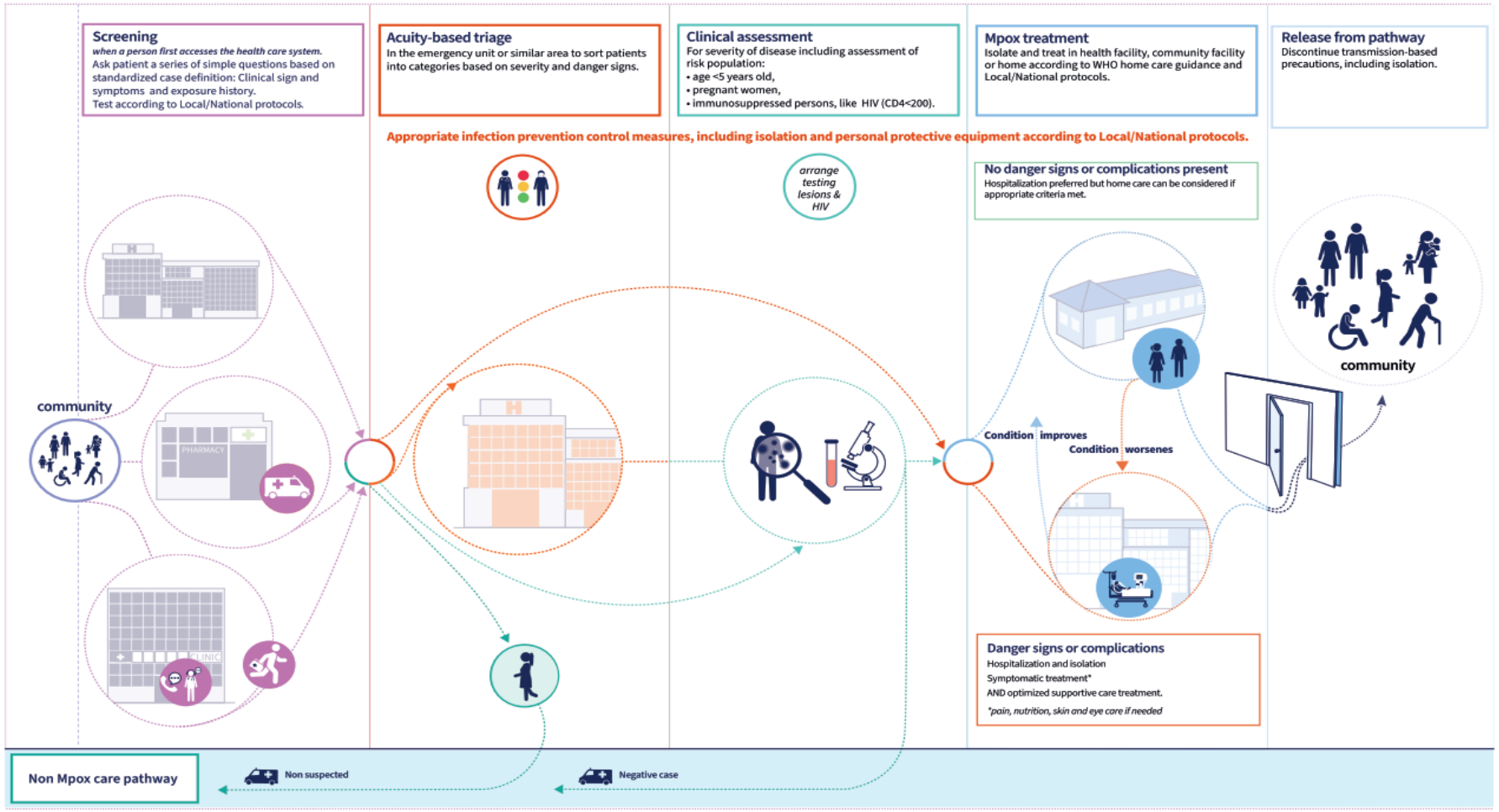
Mpox pathway – where the new recommendations apply



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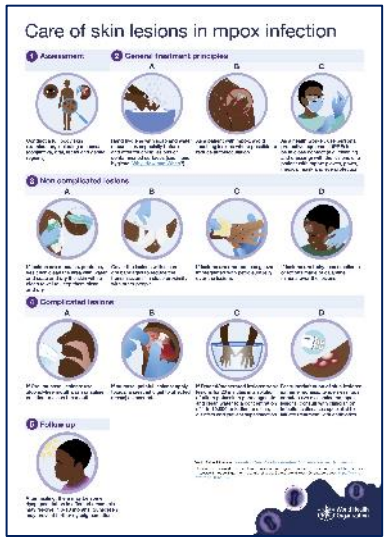
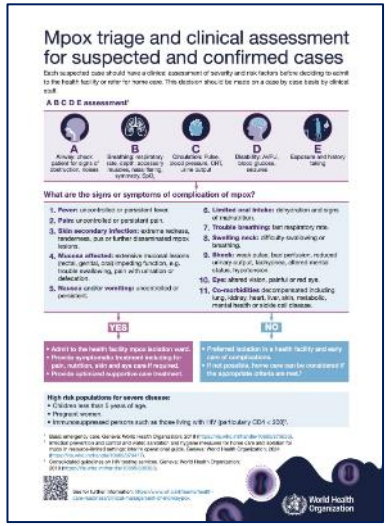
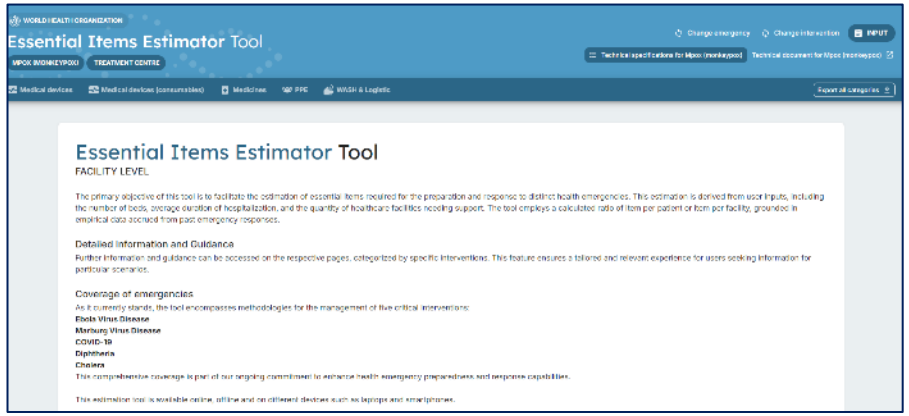
Resources – posters and job-aids

- Mpox screening tool for health workers
- Mpox lesions differential diagnosis
- Mpox triage and clinical assessment for suspected and confirmed cases
- Care of skin lesions in mpox infection

- Essential items supply estimator tool







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Resources – other webinars

Project ECHO WHO-Africa CDC Mpox Case Management Webinar Series

Session 1:Topic: Overview of Mpox Case Management
- https://www.youtube.com/watch?v=Ieq5doZfsl4 (English)
- https://www.youtube.com/watch?v=rlC8bT5zRd0 (Portuguese)
- https://www.youtube.com/watch?v=jmfaNCVeDkQ (French)

Session 2: Management of Skin Lesions and Hydration Status in Mpox Patients
- https://www.youtube.com/watch?v=UX_-seJpRnE (English)
- https://www.youtube.com/watch?v=kdpLALM87Fs (Portuguese)
- https://www.youtube.com/watch?v=XK3_Jn1LEfM (French)
- https://www.youtube.com/watch?v=TaoUo2aYXGA (Arabic)

Session 3: Management of Oral Lesions and Nutritional Care in Mpox
- https://www.youtube.com/watch?v=vjOgxJ3X4Hw (English)
- https://www.youtube.com/watch?v=AyaS2QNrAMk (Portuguese)
- https://www.youtube.com/watch?v=qZNGQLu6UcQ (French)

Session 4: Mpox and the Eye; Clinical Presentation, complications and management(stand Mpox treatment centre design
- https://www.youtube.com/watch?v=9H_DyKk1zI8 (English)
- https://www.youtube.com/watch?v=9jAc0DDMlJE (Portuguese)
- https://www.youtube.com/watch?v=2UNwXuOI4ag (French)
- https://www.youtube.com/watch?v=h_jVWwqirHA (Arabic)

Session 5: Management of Co-infections in Mpox/HIV, measles, VZV and Syphilis
- https://www.youtube.com/watch?v=UfOoscOAV2o (English)
- https://www.youtube.com/watch?v=LbmM4FhgGCE (Portuguese)
- https://www.youtube.com/watch?v=02qIU8yZ6lc (French)
- https://www.youtube.com/watch?v=qrfoRw7xTL8 (Arabic)

Session 6: Home based care
- https://youtu.be/q4XILr3iVL0 (English)
- https://youtu.be/jVN3N1Tz1o0 (French)
- https://youtu.be/OmCFPBJMX0w (Portuguese)

Session 7 : Planned for 8 April (Case Management in a Treatment Unit – including Unit Design, IPC/WASH, EPI, Screening and Triage aspects).

Session 8: May 20 " Improving Mpox Outcomes for patients: Your voice in setting WHO guideline priorities.

Closure

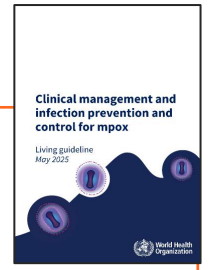
Dr Janet Diaz

Unit head, Safe and Scalable Care,

World Health Emergencies Programme, WHO

World Health Organization

Next steps...continue to optimize Safe and Scalable Care



French Translation in process...

Living guideline next update has already started....

1. Update on **Clinical Practice recommendations** to optimize supportive care to cover skin care, care of skin-related complications, care of eye-related complications, use of antibiotics, and others

2. **Best Practices** for IPC and WASH

Global collaborations ongoing

1. Characterization of mpox-related complications in pregnancy and newborns, HIV & IRIS, and mid- and long-term sequela of mpox
2. Clinical studies on antivirals for mpox-related eye complications (red and/or painful eye)
3. Update V2.0 Mpox skin atlas

Thank you

Health Care Readiness (who.int)

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