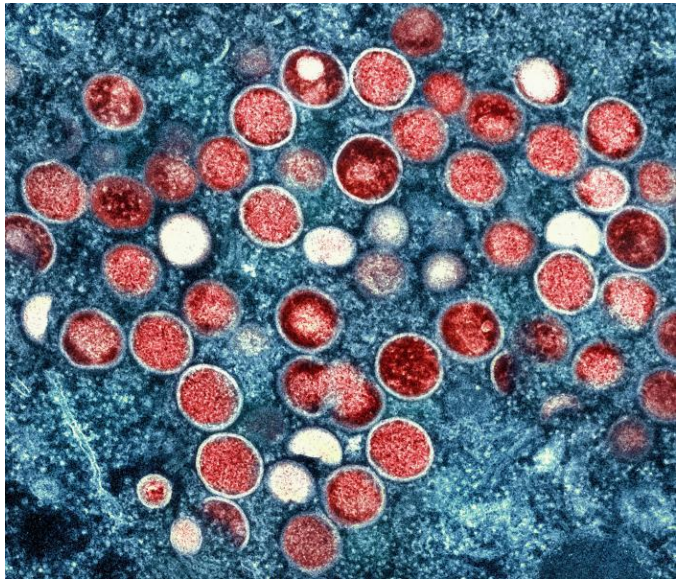
Clade I Mpox Outbreak: Situational Update



Agam Rao, MD
CAPT, U.S. Public Health Service
Chief Medical Officer, Poxvirus and Rabies Branch

ACIP meeting
Oct 24, 2024

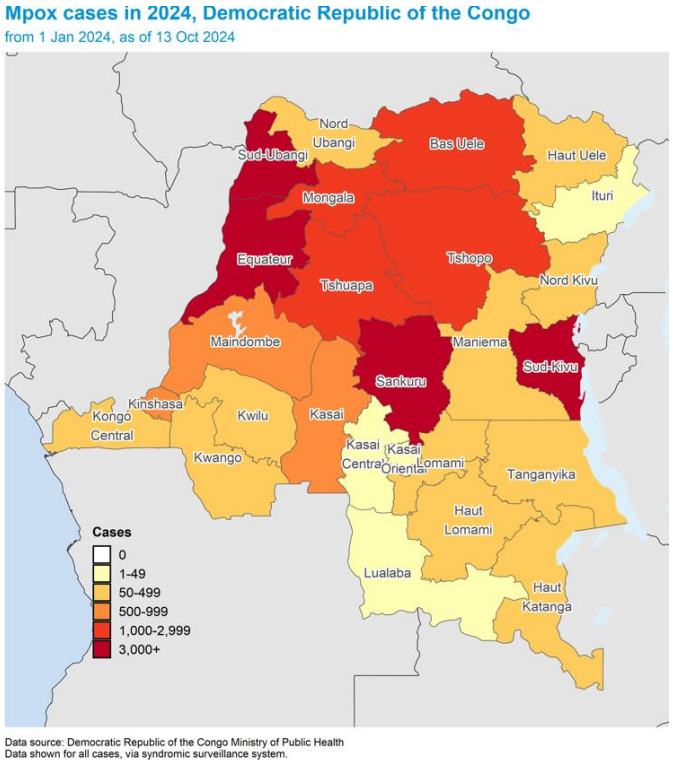
Clade I MPXV: Countries known for decades to be endemic

Democratic Republic of the Congo (DRC), Central African Republic, Republic of Congo, Cameroon, Gabon

Monkeypox virus (MPXV) Transmission

- Exposure to infected wildlife
- Person-to-person spread
  - Skin-to-skin contact (including intimate or sexual contact)
  - Direct contact with respiratory secretions (e.g., via kissing)
  - Direct contact with contaminated objects (e.g., shared towels, bedding)

Clade I Outbreak in DRC, 2023-present



- Reason for concern
  - High number of suspect cases
  - Laboratory confirmed cases identified in provinces previously without cases
- At least two concurrent outbreaks
  - Clade Ia (e.g., Equateur Provence in western DRC): Mortality rate historically reported as 1.4-11%; however, NIH trial in DRC indicates routine supportive care led to mortality rate of ~1.7%*
  - Clade Ib (e.g., Sud Kivu in eastern DRC): Seems to cause less severe disease than clade Ia; mortality rate <1% in DRC

https://www.who.int/emergencies/disease-outbreak-news/item/2024-DON522

*https://www.nih.gov/news-events/news-releases/antiviral-tecovirimat-safe-did-not-improve-clade-i-mpox-resolution-democratic-republic-congo

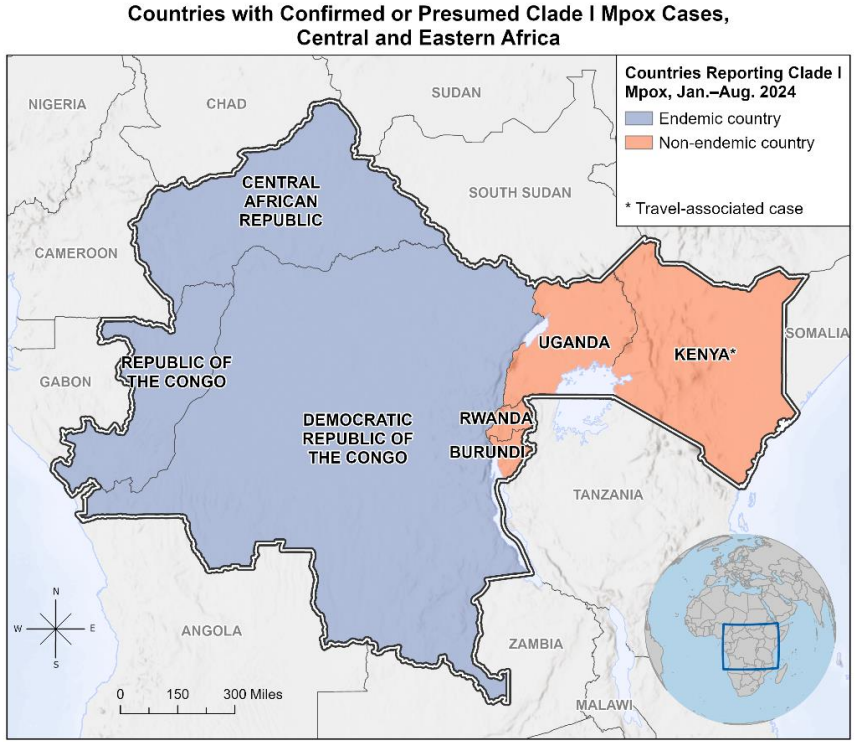
How Clade I Mpox is Spreading in DRC*

- Clade Ia: multifactorial
  - From animals to people: high proportion of cases in children
  - Human-to-human spread in households: both adults and children
  - Sexual contact, regardless of sexual orientation and gender identity: adults
- Clade Ib: Sexual contact comprises large proportion

*Based on what is known at this time

Cases Outside of DRC

- Clade Ia: Only detected in endemic countries (Central African Republic and Republic of the Congo)
- Clade Ib:
  - Associated with sustained spread: Burundi, Uganda, Rwanda
  - Not associated with sustained spread: Kenya, Thailand, Sweden, India, Germany



https://emergency.cdc.han/2024/han00513.asp

https://wwwnc.cdc.gov/travel/notices/level2/mpox-drc-neighboring-countries

List of countries with sustained spread maintained here: https://www.cdc.gov/mpox/vaccines/index.html

How Clade I Mpox is Spreading to Non-Endemic Countries*

- Primarily via sex (e.g., transactional sex) while visiting countries with sustained transmission
- Secondary spread
  - Limited (if any) in several non-endemic countries (e.g., Thailand, Sweden, India)
  - Uncertain at this time in some countries but believed to be associated with close household contact

*Based on what is known at this time

Laboratory Confirmed Clade I Mpox Cases During 2024 (As of 13 October)

Country	Total cases	Case fatality ratio (%)	Cases in 2024	Deaths in 2024	Cases in the past six weeks[1]	Deaths in the past six weeks[1]	Clades detected in country	Date of last reported case
The Democratic Republic of the Congo	8,207*	0%	6,962	25	1914	0	Clades Ia and Ib	13-Oct-24
Central African Republic	104	2%	57	1	10	0	Clade Ia	29-Sep-24
Republic of Congo	48	4%	22	0	1	0	Clade Ia	29-Sep-24
Burundi	1,169	0%	1,169	0[†]	841	0	Clade Ib	13-Oct-24
Uganda	91	0%	91	0	76	0	Clade Ib	13-Oct-24
Kenya	13	8%	13	1[§]	9	1	Clade Ib	13-Oct-24
Rwanda	6	0%	6	0	2	0	Clade Ib	15-Sep-24

*Only ~20% of suspected cases are laboratory confirmed; total DRC population = >110 million people

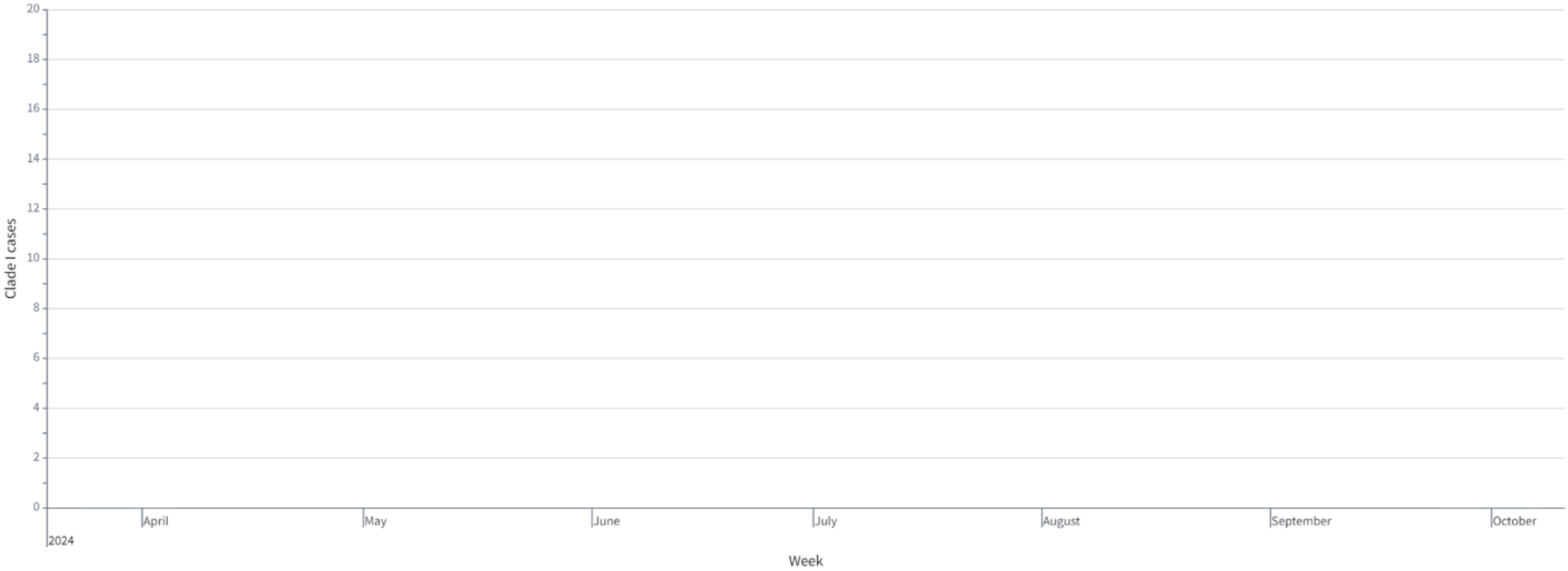
[†]Many are cases among children; no deaths

[§]Death in an individual with underlying health conditions and may not be due to mpox

https://worldhealthorg.shinyapps.io/mpx_global/#24_Data_by_country

Clade I Mpox Cases and the United States

No Clade I Cases in the United States*



*Active surveillance conducted via clade-specific testing of high proportion of MPXV positive specimens, including those tested in commercial laboratories

Risk Considered Low for U.S. Travelers

- Pre-travel counseling about risk reduction strategies
  - Avoid close contact with people sick with signs and symptoms of mpox, including skin or genital lesions
  - Avoid contact with contaminated materials used by people who are sick (e.g., clothing, bedding)
- Vaccination, irrespective of sexual orientation and gender identity, for travelers to certain countries* who anticipate any of the following during travel
  - Sex with a new partner
  - Sex at a commercial sex venue (such as a sex club or bathhouse)
  - Sex in exchange for money, goods, or other trade
  - Sex in association with a large public event (such as a rave, party, or festival)

*List of countries maintained here: https://www.cdc.gov/mpox/outbreaks/2023/index.html

https://emergency.cdc.gov/han/2024/han00516.asp

Risk Considered Low for General U.S. Population*

- Even in extreme scenario (e.g., household secondary attack risk of 30%, double the previously considered worse case scenario)†
  - Most simulated outbreaks were small (66% had ≤ 5 cases and 73% had ≤10 cases)
  - Most simulated outbreaks had minimal spread between households (72% affected ≤ 3 households)
- Modeling suggests that even with extremely high secondary attack risk, household clusters (including cases in children) would most likely involve 10 or fewer MPXV clade I cases, with limited spread between households
- Based on what we know today and current characteristics of viral spread, do not expect children to be heavily impacted if clade I diagnosed domestically §

*https://www.cdc.gov/cfa-qualitative-assessments/php/data-research/mpox-risk-assessment/index.html

† https://www.cdc.gov/cfa-modeling-and-forecasting/mpox-transmission-technical-brief/index.html and unpublished data

§ https://www.cdc.gov/mpox/php/data-research/clade-i-mpox-in-children-in-africa-and-potential-impacts-on-children-in-the-united-states.html

What CDC and Other U.S. Government Partners are Doing

Internationally

- Providing technical assistance and funding to DRC's Ministry of Health
- Working with USAID, WHO, International Organization for Migration, African Field Epidemiology Network, and other partner teams on the ground to help manage outbreaks
- Collaborating with public health officials in several countries bordering DRC to assess needs and provide support for outbreak preparedness
- Donating 1 million doses of JYNNEOS vaccine and $500 million for support

Domestically

- Increasing capacity to rapidly detect, contain, and manage clade I cases should they occur domestically
- Increasing capacity to detect cases of clade I and clade II mpox through existing surveillance systems, including wastewater testing in communities across the United States and in select airports
- Coordinating with state, tribal, local, and territorial public health departments to provide clinical, diagnostic, and other guidance
- Raising awareness: Regular communications and updates

* https://www.cdc.gov/nwss/wastewater-surveillance/mpox-data.html

Summary*

- High number of suspected clade I mpox cases in DRC; ~20% are laboratory-confirmed
- Travel-associated spread of clade Ib to some countries
  - Cases milder than those associated with clade Ia
  - Predominantly associated with sex (e.g., transactional sex) with subsequent spread to others (e.g., children) likely via household contact
- Risk to U.S. travelers low but counseling and vaccination should be provided to travelers
- Impact to persons in the United States (including children) expected to be low

*Conclusions are based on investigations and other data available to CDC at the time this presentation was given; findings and CDC guidance may change over time

ACIP

Workgroup

- Reforming
  - Dr. Bonnie Maldonado, Workgroup chair
  - Dr. Faisal Minhaj: Workgroup lead
- Workgroup charge
  - Review NIH study about use of JYNNEOS in persons 12-17 years of age
  - Consider bringing to an ACIP vote, use of JYNNEOS in persons 12-17 years of age at risk for mpox during mpox outbreaks (including the global clade IIb outbreak)
- Anticipating presentations (including Terms of Reference) during February 2025 ACIP meeting
- Planning publication of ACIP recommendations for persons 12 years of age and older in one consolidated MMWR

Thank you

poxvirus@cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention