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## The surge of mpox in Africa: a call for action



Mpox was previously thought to be a zoonotic disease endemic in parts of central, west, and east Africa; however, from 2022 to 2023, a large global outbreak of mpox from clade II monkeypox virus occurred, marking the first instance of sustained transmission outside of Africa since the first case of mpox in a human was identified in 1970.<sup>1</sup> More recently, clade I monkeypox virus has been responsible for a growing outbreak in the Democratic Republic of the Congo, with evidence of sexual transmission suggesting the potential for global spread. The increasing burden of endemic African mpox, geographic expansion into previously unaffected areas, novel transmission via sexual contact, rising case fatality rates in rural areas, and transmission in urban areas raise serious health concerns, but African researchers still struggle to obtain funding to study this disease. The 2022–23 global mpox outbreak occurred despite repeated warnings from African researchers and calls for investment into diagnostic, therapeutic, and infection prevention tools. Swift public health responses and a notable increase in mpox research occurred almost entirely among high-income countries in Europe and North America.<sup>2</sup> Given the substantial global reduction in mpox cases following the international response and the ongoing outbreaks and changing disease epidemiology in the Democratic Republic of the Congo, research to better understand mpox epidemiology, prevention, and treatment should be prioritised in Africa.<sup>3,4</sup>

We have proposed the establishment of an African-led, multidisciplinary, multicountry Mpox Research Consortium (MpoxReC) in Africa with an overarching goal of establishing a research network to advance the elimination of mpox as a public health problem (with an initial focus on Cameroon, the Central African Republic, the Democratic Republic of the Congo, Ghana, Nigeria, and the Republic of the Congo). MpoxReC will integrate basic research; clinical studies; disease surveillance; risk communication; community engagement; phylogeographic, ecological, and anthropologic studies; novel studies for use of medical countermeasures; and capacity building to address mpox epidemics and ultimately eliminate its human-to-human transmission (appendix p 1).<sup>5</sup> Names of principal investigators and collaborating institutions, organisations, and investigators are available in the appendix (pp 2–3). The

MpoxReC regional research agenda was presented and endorsed at the first high-level international meeting on mpox in Kinshasa, the Democratic Republic of the Congo, in April, 2024.<sup>6</sup>

Mpox-endemic countries need sustainable, local diagnostic laboratories and research capacity and shared national and regional epidemic preparedness frameworks.<sup>7</sup> MpoxReC aims to address these needs and provide outcome monitoring and surveillance across endemic African countries while simultaneously contributing to much-needed South–South, multi-disciplinary, and interprofessional research collaborations and capacity building.<sup>7</sup> Furthermore, the generated data must be analysed and interpreted with a translational lens to ensure that the relevant policies, practices, and procedures are affected by the research outcomes. MpoxReC will also institute an expectation of products, patents, and scalable innovation.

The recent mpox outbreaks highlight global inequities in resource allocation and access to vaccines, diagnostics, and treatments. MpoxReC advocates for the rapid expansion of these medical countermeasures, with concurrent implementation studies to better characterise their distribution, safety, and effectiveness in African contexts. MpoxReC endorses the WHO Strategic Advisory Group of Experts on Immunization (SAGE), which has recommended wider use of attenuated vaccinia-based mpox vaccines (eg, the minimally replicating LC16 and the non-replicating Modified Vaccinia Ankara–Bavaria Nordic) during outbreaks for individuals at elevated risk of infection, such as children, health workers, laboratory personnel, sex workers, and people with multiple sexual contacts. The safety and efficacy of vaccines and antiviral therapies will need to be defined in all of these groups, with special attention paid to children, pregnant women, and breastfeeding women, so that the group-specific outcomes such as vertical transmission and mother-to-infant transmission are evaluated. SAGE also issued a call to action to advance vaccine access, regulatory and procurement processes, data collection, and sustainable investment in research and regulatory capacity in Africa.

To facilitate vaccine access in the region, MpoxReC calls for urgent support for high-quality roll-out at each

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step of the vaccine distribution and monitoring chain. This roll-out includes strengthening policy discussion through regional and national immunisation technical advisory groups<sup>8</sup> and ensuring capacity for vaccine assessment by national regulatory authorities with support from the African Vaccine Regulatory Forum and African Medicines Regulatory Harmonization.<sup>9</sup> Delivery of vaccines and injection materials with attention to logistics, cold chain requirements, health worker training, safety monitoring, and vaccine acceptance is crucial for existing vaccines. For products in development, such as mpox mRNA and protein subunit vaccines, considerations include field-appropriate storage and handling requirements, vaccine presentation and packaging (eg, multidose vials), and innovative administration methods.<sup>10</sup> For new products, seeking consensus on acceptable vaccine assessment and regulatory pathways before registration will be important.

The latest mpox outbreaks in Africa require urgent collaborative efforts to address the evolving epidemiology and transmission dynamics of the disease. MpoxReC aims to establish a multidisciplinary research network to generate knowledge, strengthen surveillance, and enhance African public health responses. Global initiatives for developing effective and affordable diagnostics, vaccines, and therapeutic interventions, and the rapid equitable deployment of such countermeasures, are essential to mitigate the effect of mpox outbreaks on vulnerable populations. With foundational members who are already leaders in mpox research in Africa, we will join forces and collaborate through MpoxReC to advance and promote context-appropriate and effective approaches to stop mpox outbreaks, eliminate human-to-human transmission of mpox, and safeguard global health security.

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