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Editorial

The Mpox Outbreak – A Global Health Wake-Up Call

Introduction

On August 14, 2024, the World Health Organization (WHO) declared an upsurge of Mpox (formerly known as monkeypox) in the Democratic Republic of the Congo (DRC) and its spread to neighboring countries as a Public Health Emergency of International Concern (PHEIC). This declaration came as the DRC, which has long battled Mpox as an endemic disease, witnessed a dramatic rise in cases, now affecting neighboring countries like Uganda, South Sudan, and the Republic of Congo. The resurgence of Mpox raises significant concerns about preparedness, health equity, and the world's ability to respond effectively to zoonotic diseases.

Mpox: A Persistent Threat in Central Africa

Mpox was first identified in humans in 1970 in the DRC, and it has since remained endemic in parts of Central and West Africa. The virus, which is transmitted zoonotically from animals such as rodents and primates to humans, has seen sporadic outbreaks over the years. Human-to-human transmission, while less common, occurs through close contact with bodily fluids, respiratory droplets, and contaminated materials such as bedding or clothing.[1]

The 2024 resurgence in the DRC marks a significant uptick in cases, highlighting the persistence of Mpox in African regions with poor healthcare infrastructure and inadequate disease surveillance.[2] Conflict, displacement, and ecological changes such as deforestation are believed to have exacerbated the spread, as human populations increasingly interact with wildlife reservoirs of the virus.

The WHO's Declaration of a Public Health Emergency of International Concern

In response to the rising cases, the WHO declared the Mpox upsurge a PHEIC on August 14, 2024, a designation that aims to mobilize international resources and action to prevent further spread.[3] A PHEIC is the highest level of alert under the International Health Regulations (IHR), signaling the need for a coordinated global response. The 2024 Mpox crisis echoes previous outbreaks of zoonotic diseases, such as Ebola and COVID-19, underscoring the critical importance of early intervention and cross-border cooperation.

The 2024 Outbreak: Causes and Consequences

Several factors have contributed to the ongoing Mpox outbreak in the DRC and its neighboring countries. Deforestation, for instance, has increased human contact with wildlife, facilitating zoonotic spillover events.[4] Additionally, the region's fragile healthcare infrastructure has made it challenging to contain the virus once it spread beyond its typical rural confines.[5]

Neighboring countries such as Uganda and South Sudan, which already face their own public health challenges, have reported increasing numbers of Mpox cases, raising concerns about further regional spread.[6] Weak surveillance systems and under-resourced healthcare facilities have hindered timely detection and containment efforts, which are essential in preventing Mpox from becoming a more significant international health crisis.

Public Health Response: Successes and Shortcomings

Vaccine Deployment and Equity

One of the most significant components of the global response to the 2024 Mpox outbreak has been the rapid deployment of vaccines. The smallpox vaccine, which provides cross-protection against Mpox, has proven effective in reducing the severity of cases and preventing further transmission.[7] However, vaccine distribution has once again highlighted significant inequities between wealthy nations and low- and middle-income countries.

Countries like the United States and members of the European Union have stockpiled vaccines, while many African nations have struggled to secure doses despite bearing the brunt of Mpox for decades.[8] This inequitable distribution mirrors the global response to the 2022 Mpox outbreak, during which wealthier nations received the lion's share of vaccines, leaving African countries with limited access despite their endemic burden.[9]

Public Awareness and Combating Stigma

Another challenge in managing the 2024 outbreak has been public awareness and misinformation. As seen during the 2022 Mpox outbreak, early public health messaging led to stigma, particularly against men who have sex with men (MSM), who were disproportionately affected during the initial stages of the outbreak.[10] Public health campaigns in Africa and around the world have been critical in combating stigma and ensuring that at-risk populations are informed and able to seek care without fear of discrimination.

In Africa, however, the stigma associated with Mpox and other infectious diseases has made it difficult to engage vulnerable populations, particularly in conflict zones where healthcare access is already limited. Addressing these

challenges requires targeted interventions, robust public health campaigns, and collaboration between international health agencies and local organizations.[11]

Challenges and Lessons Learned

The 2024 Mpox outbreak provides several critical lessons for global public health preparedness and response.

1. Vaccine Equity

The issue of equitable vaccine distribution remains a critical challenge. Low- and middle-income countries, particularly in Africa, continue to face difficulties accessing vaccines despite the fact that Mpox has been endemic in the region for decades. Global mechanisms for equitable vaccine allocation must be improved to ensure that all countries have access to life-saving vaccines during public health emergencies.[12]

2. Strengthening Regional Healthcare Systems

The Mpox outbreak has revealed weaknesses in the healthcare systems of the DRC and its neighbors. Investment in healthcare infrastructure, including diagnostic tools, healthcare worker training, and surveillance systems, is essential to prevent future outbreaks from becoming regional or international health crises.[13] Strengthening healthcare systems will not only help contain Mpox but also prepare these countries for other emerging zoonotic diseases.

3. Surveillance and Early Detection

A robust global surveillance system is critical to detecting and responding to zoonotic diseases before they become widespread. Early detection, combined with rapid response measures, can help prevent localized outbreaks from spreading beyond national borders. In the case of Mpox, stronger surveillance in African nations could have facilitated quicker containment and a more efficient response.[14]

4. International Cooperation and Funding

The international response to Mpox must go beyond short-term emergency funding. Sustainable financial support for African countries facing endemic diseases like Mpox is critical. Long-term investment in healthcare, infrastructure, and research can help mitigate the risks posed by zoonotic diseases and ensure that countries are better prepared for future outbreaks.[15]

Conclusion

The 2024 Mpox outbreak in the DRC and its spread to neighboring countries is a stark reminder of the ongoing vulnerabilities in global health systems. The WHO's declaration of a PHEIC underscores the importance of international cooperation, equitable vaccine distribution, and the need for stronger healthcare infrastructure, particularly in regions most affected by zoonotic diseases.

Moving forward, the international community must prioritize preparedness, invest in healthcare systems in low- and middle-income countries, and ensure that future outbreaks are met with equitable and coordinated global responses. Mpox may be the current threat, but the lessons learned from this crisis will be invaluable for addressing future public health challenges.

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References:

1. World Health Organization. Monkeypox fact sheet. WHO; 2024.

2. Bunge EM, Hoet B, Chen L, et al. The changing epidemiology of human monkeypox—A potential threat? A systematic review. PLoS Negl Trop Dis. 2022;16(2)

3. World Health Organization. WHO declares monkeypox a public health emergency of international concern. WHO; 2024.

4. Thornhill JP, Barkati S, Walmsley S, et al. Monkeypox virus infection in humans across 16 countries—April–June 2022. N Engl J Med. 2022;387(8):679-691.

5. Centers for Disease Control and Prevention (CDC). Monkeypox Outbreak Global Map. CDC; 2024.

6. Ogoina D, Iroezindu M, James HI, et al. Clinical course and outcome of human monkeypox in Nigeria. Clin Infect Dis. 2020;71(8)

7. Fine PE, Jezek Z, Grab B, Dixon H. The transmission potential of monkeypox virus in human populations. Int J Epidemiol. 1988;17(3):643-650.

8. Kozlov M. Monkeypox in Africa: The science the world ignored. Nature. 2022;607(7917):17-18.

9. Kupferschmidt K. The next pandemic? Scientists worry monkeypox could fill the void left by smallpox. Science. 2022;376(6596):799-800.

10. World Health Organization. Public health advice for gay, bisexual, and other men who have sex with men (MSM) in the context of the monkeypox outbreak. WHO; 2022.

11. Heymann DL, Szczeniowski M, Esteves K. Re-emergence of monkeypox in Africa: A review of the past six years. Br Med Bull. 1998;54(3):693-702.

12. Centers for Disease Control and Prevention (CDC). Monkeypox: Vaccine information statement. CDC; 2024.

13. Rimoin AW, Mulembakani PM, Johnston SC, et al. Major increase in human monkeypox incidence 30 years after smallpox vaccination campaigns cease in the Democratic Republic of Congo. Proc Natl Acad Sci U S A. 2010;107(37):16262-16267.

14. Mahase E. Monkeypox: Experts raise concerns about virus spreading in Africa as cases surge globally. BMJ. 2022;377

15. Gessain A, Nakoune E, Yazdanpanah Y. Monkeypox: Update on current knowledge and guidance for prevention and treatment. BMJ. 2022;379