

## MPox: An Evolving Threat and the Path Forward

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As we revel in the joys of this festive season, it is crucial to remain vigilant against emerging communicable diseases that pose significant health risks. One such threat is Mpox, previously known as Monkeypox, a zoonotic disease caused by a member of the Orthopoxvirus genus within the Poxviridae family. This virus, with a double-stranded DNA structure, shares its lineage with the notorious variola virus which is responsible for smallpox. While smallpox has been eradicated, Mpox has recently gained attention due to its increasing prevalence and the potential threat it poses to public health [1]. On August 14, 2024, the World Health Organization (WHO) declared Mpox as an emergency emphasising the need for heightened surveillance and response measures.

The first human case of Mpox was identified in 1970 in the Democratic Republic of Congo in a 9-month-old boy who presented with smallpox-like symptoms. For many years, Mpox remained a relatively obscure and neglected disease, until the recent resurgence. This is partly attributed to the lowered herd immunity consequent to the cessation of routine smallpox vaccination which provided cross-protection against Mpox. Additionally, increased deforestation and urbanization has led to a greater interaction between humans and the potential Mpox reservoirs.

There are two primary strains (clades) of Mpox; clade 1 is associated with a higher case fatality rate of 3.6%, which may escalate to 11% in unvaccinated children. In contrast, clade 2, which includes the variant responsible for the ongoing pandemic (clade 2b), has a significantly lesser case fatality rate of approximately 0.2%. Despite this lower fatality rate, the disease's impact remains considerable due to its transmission dynamics and associated complications. Mpox spreads through various modes of contact, including skin-to-skin contact, fomites (contaminated objects), respiratory droplets, kissing, sexual contact, and needle pricks. Vertical transmission with poor outcomes like abortion, preterm delivery, and hydrops fetalis, has also been documented [2]. This multi-faceted transmission complicates control efforts

and underscores the importance of preventive measures.

The disease has an incubation period of 7 to 14 days, during which individuals may experience prodromal symptoms such as fever and lymphadenopathy. The rash initially appears in the oral mucosa before spreading centrifugally to the face and extremities. The lesions evolve in stages *viz.* macular, papular, vesicular, and eventually crusting over. Unlike chickenpox, Mpox lesions develop synchronously. The disease course typically spans about a month, with patients remaining infectious until all crusts have fallen off. Mpox can lead to a range of complications, including secondary bacterial infections, meningitis, corneal scarring, pneumonia, dehydration, sepsis, encephalitis, and even death. The progression of the rash at times may lead to dysuria (painful urination) and proctitis (inflammation of the rectum) when lesions affect the groin and perianal areas. Notably, the virus poses severe risks to certain vulnerable populations including infants, pregnant women, individuals with immunodeficiencies, and those with preexisting skin conditions like eczema.

Currently, treatment for Mpox is primarily supportive and symptomatic. Antiviral agents like Tecovirimat, traditionally used for smallpox, have shown some promise [3]. Preventive strategies remain crucial in mitigating the spread of Mpox. These include maintaining proper physical distance, practicing good hygiene, isolating infected individuals, and following vaccination recommendations where applicable. The WHO has prequalified the MVA-BN vaccine as the first vaccine against Mpox. This vaccine is recommended in a two-dose regimen, four weeks apart. However, it is important to note that this vaccine is not yet licensed for individuals under 18 years of age. The Centres for Disease Control and Prevention (CDC) also recommends the JYNNEOS vaccine [4].

As Mpox continues to pose a significant public health challenge, understanding its transmission, clinical presentation, and preventive measures are essential for combating this emerging threat. By staying informed and

adhering to recommended guidelines, we can collectively work towards minimizing the impact of Mpox and safeguarding our communities.

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## REFERENCES

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