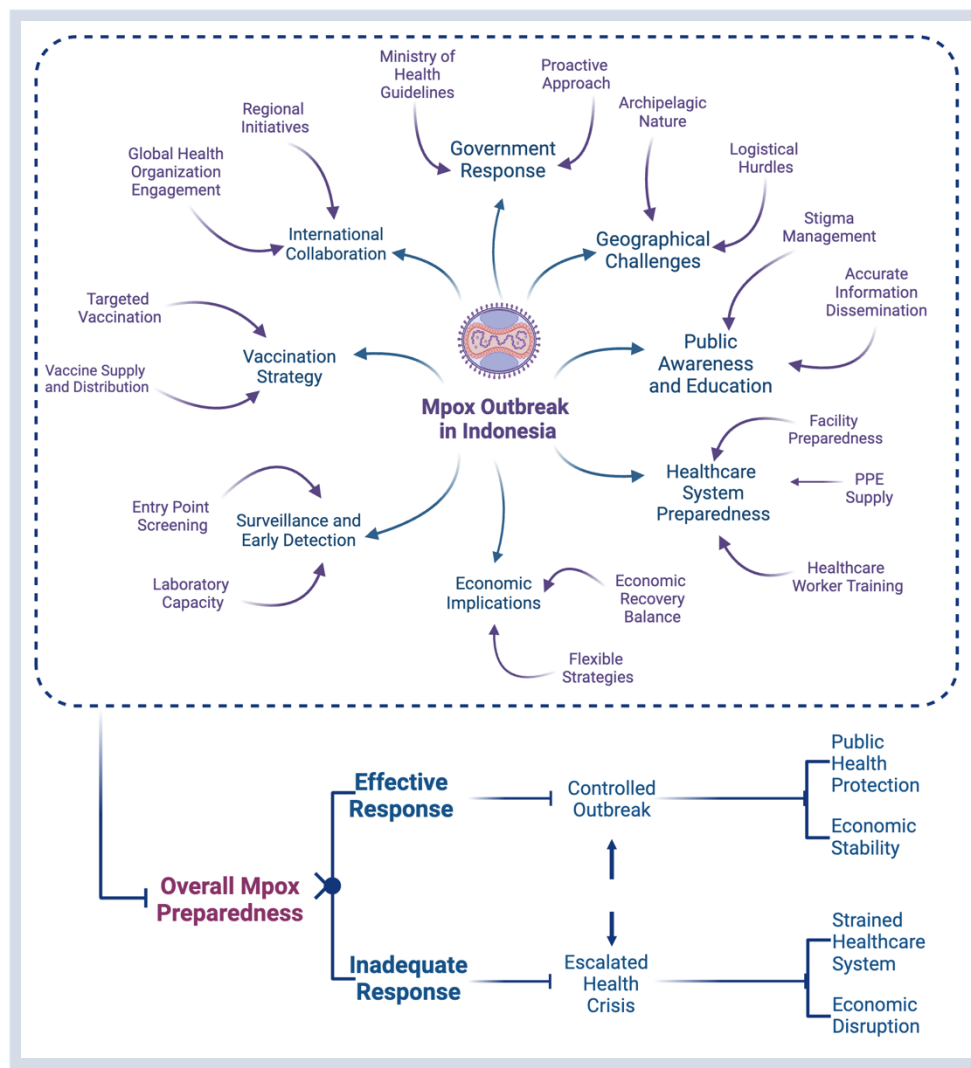


Editorial

Raising the Flag of Vigilance on Mpox Outbreak in Indonesia: Are We Prepared?

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In the wake of the COVID-19 pandemic, the world has become acutely aware of the devastating impact of infectious diseases on public health, economies, and societies. As we gradually recover from the aftermath of COVID-19, another potential threat looms on the horizon, mpox, formerly known as monkeypox. The recent surge in mpox cases worldwide has prompted health authorities to sound an alarm, and Indonesia, as a populous nation with a complex healthcare system, must ask itself: Are we prepared for this emerging challenge?

Mpox, a viral infection caused by the mpox virus, has historically been confined to certain regions of Africa [1]. However, the landscape changed dramatically in 2022, when an unprecedented outbreak occurred in multiple countries where the disease was not endemic [2–4]. This global spread has raised concerns about the potential of the virus to become a significant public health threat, especially in countries such as Indonesia, where a tropical climate and high population density could facilitate transmission. According to data from the Indonesian Ministry of Health, as of August 17, 2024, there have been 88 confirmed cases of MPOX in Indonesia since 2022. These cases were spread across six provinces: Riau Islands, Banten, Capital City of Jakarta, West Java, the Special Region of Yogyakarta, and East Java. Capital City of Jakarta reported the highest number of cases (59 patients), followed by West Java (13 patients). Banten had nine patients, East Java and Yogyakarta each reported three patients, and the Riau Islands had one patient. Moreover, in early September 2024, several new suspected cases were reported and are currently undergoing examination and confirmation tests. These numbers underscore the reality of the threat of mpox in Indonesia and the urgent need for preparedness.

The Indonesian government's response to the mpox threat has been commendable in several respects. In July 2022, the Ministry of Health issued guidelines for mpox prevention and control, demonstrating a proactive approach to potential outbreaks [5]. These guidelines outline surveillance strategies, diagnostic procedures, and treatment protocols. However, the following question remains: is this enough to safeguard a nation of over 270 million people spread across thousands of islands? One of the primary challenges Indonesia faces in preparing for mpox is its vast and diverse geography. The archipelagic nature of Indonesia presents unique logistical hurdles to implementing a unified health response. Ensuring that even the most remote islands have access to diagnostic tools, vaccines, and treatment facilities is a daunting task that requires meticulous planning and substantial resources [6]. The success of Indonesia's mpox preparedness hinges on its ability to overcome geographical barriers and establish a robust nationwide health infrastructure. The roadmap for handling the mpox outbreak in Indonesia and the short and long term outbreak management strategies are presented in frontispiece of this manuscript.

Public awareness and education are critical aspects of redox preparedness. The stigma associated with mpox, partly because of its initial prevalence among men who have sex with men (MSM) in the 2022 outbreak, could hinder effective public health responses [7,8]. The MSM experienced the social stigma associated with both mpox and HIV infections [9]. Given its conservative social norms, Indonesia must carefully navigate this sensitive issue. Public health campaigns need to strike a balance between providing accurate information about transmission routes and avoiding the stigmatization of specific groups. Failure to do so could lead to underreporting of cases and reluctance to seek medical help, potentially fuelling the spread of the virus. The Indonesian healthcare system, which is already strained by the COVID-19 pandemic, faces the additional challenge of preparing for it. Healthcare workers, especially in primary healthcare, need to be trained to recognize and manage mpox cases, and healthcare facilities must be equipped to handle potential outbreaks. This preparation includes ensuring an adequate supply of personal protective equipment, establishing isolation wards, and implementing proper infection control measures. The lessons learned from the COVID-19 response should inform and enhance these preparations.

Surveillance and early detection systems play crucial roles in controlling the spread of mpox. Indonesia needs to strengthen its disease surveillance capabilities, particularly at points of entry, such as airports and seaports. This includes implementing thermal screening, training immigration officers to recognize potential symptoms, and establishing clear protocols for isolating and testing suspected cases. Moreover, the country's laboratory capacity for mpox testing needs to be expanded to ensure rapid and accurate diagnosis across the archipelago. The

vaccination strategy is another vital component of mpox preparedness [10]. Although the WHO has not recommended mass vaccination for mpox, targeted vaccination of high-risk groups and healthcare workers may be necessary if the outbreak escalates. Indonesia must develop a clear vaccination strategy, secure an adequate vaccine supply, and establish an efficient distribution system. A country's experience with the COVID-19 vaccination campaign can provide valuable insights into this endeavor.

International collaboration is essential for the fight against mpox. Indonesia should actively engage with global health organizations and neighboring countries to share information, coordinate responses, and access resources. The country's participation in regional health initiatives, such as the Association of South-East Asian Nations (ASEAN) Center for Public Health Emergencies and Emerging Diseases, can strengthen its preparedness and response. Thus, the economic implications of a potential mpox outbreak cannot be overlooked. Indonesia, which is still recovering from the economic impact of COVID-19, must carefully balance its public health measures with economic considerations. Overly restrictive measures could hamper economic recovery, whereas inadequate responses could lead to a health crisis with severe economic consequences. Policymakers need to develop flexible, evidence-based strategies that can be quickly adjusted on the basis of evolving situations [11].

In conclusion, although Indonesia has taken initial steps to prepare for a potential mpox outbreak, significant challenges remain. The country's vast geography, diverse population, and complex healthcare system necessitate a comprehensive and well-coordinated approach to mpox preparedness. Strengthening surveillance systems, enhancing healthcare capacity, increasing public awareness, and fostering international collaboration are critical components of an effective response strategy. As we raise the flag of vigilance against mpox, Indonesia's preparedness is clearly in progress. The country has demonstrated resilience and adaptability in facing previous health crises; however, it presents unique challenges that require innovative solutions. By learning from past experiences, leveraging technology, and fostering a culture of preparedness at all levels of society, Indonesia can build robust defenses against mpox and other emerging infectious diseases.

The question "Are we prepared?" may not have a simple yes or no answer. Instead, it should serve as a reminder of the need for vigilance, adaptation, and continuous improvement in public health systems. As we navigate this new health challenge, the true measure of Indonesia's preparedness is its ability to respond swiftly, effectively, and equitably to protect the health and well-being of all citizens.

CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

AUTHOR CONTRIBUTIONS

Conceptualization, Methodology, Validation, Formal analysis, Resources, Writing - Original Draft, Writing - Review & Editing: IMDMA, MS, LL, and RPA; Visualization: IMDMA.

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