



# **The Role and Differences of Primary Care and Preventive Health Services in a Potential Mpox Pandemic**

***Tuğba Güler Sönmez<sup>1</sup>, \*İzzet Fidancı<sup>2</sup>***

1. General Directorate of Public Health, Republic of Türkiye Ministry of Health, Ankara, Türkiye
2. Department of Family Medicine, Faculty of Medicine, Hacettepe University, Ankara, Türkiye

**\*Corresponding Author:** Email: izzetfidanci@gmail.com

(Received 20 Sep 2024; accepted 11 Oct 2024)

## **Dear Editor-in-Chief**

The zoonotic origin, the Mpox virus, belonging to the Poxviridae family, is a significant pathogenic threat due to causing symptoms very similar to smallpox in humans. The virus was first isolated in Denmark from laboratory monkeys back in 1958 but was first reported in human infections in 1970 in the Democratic Republic of Congo (1). Although Mpox is endemic in parts of Central and West Africa, it caused worldwide concern in 2022 when a widespread outbreak occurred (2). The current national outbreak of Mpox has, not surprisingly, raised significant public health issues and debates related to the potential of an Mpox pandemic on primary care and preventive health services.

As such, the COVID-19 pandemic resulted in an overhauling of health care services across the globe, thereby making major changes in primary care services. At the beginning of the pandemic, most primary care services were greatly reduced to monitoring patients, testing, and referring cases for emergency intervention in hospitals (3). This resulted in severe disruptions of routine healthcare services, including management of chronic diseases. Considering the mode of transmission and characteristics of COVID-19, large-scale public health interventions, mass vaccination programs, and social distancing were

prioritized. In the case of an Mpox virus infection, it mainly occurs due to direct contact and skin lesions; therefore, it would show that the type of organization and priorities of primary care services could also be quite different in a possible pandemic caused by Mpox (4).

During a probably impending outbreak of monkeypox, management of physical examination and isolation of patients will take on new meaning as part of primary care services. In contrast with COVID-19, where large-scale public health interventions were needed, individual isolation and contact tracing will be done in the case of monkeypox. This may call for family physicians to take a more active role in patient isolation management and symptom monitoring. Moreover, fast identification and isolation of contacts will help in containing the spread of the outbreak (2).

AI could be very instrumental in revolutionizing primary and preventive care services, especially in the event of a potential pandemic by monkeypox. AI tools can contribute to the detection of outbreaks through trend analysis in symptoms and data. Machine learning algorithms, for example, could deduce high-risk areas from mobility patterns, contact tracing data, and environmental factors for targeted interventions (5). It could also offer AI-powered telehealth platforms for



Copyright © 2025 Güler Sönmez et al. Published by Tehran University of Medical Sciences.

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International license.

(<https://creativecommons.org/licenses/by-nc/4.0/>). Non-commercial uses of the work are permitted, provided the original work is properly cited

DOI: <https://doi.org/10.18502/ijph.v54i7.19162>

remote triaging of patients so as to reduce pressure from healthcare facilities, ensuring continuity of care.

AI can optimize the process of contact tracing by efficiently segregating data and tracing contacts at super speed. This could be very effective in containing the spread of monkeypox, given that timely isolation of the infected case is of essence. AI-driven predictive models could also, therefore, help policymakers plan resource allocations such as vaccines and personal protective equipment to ensure resources are directed where needed most in the case of a resurgence (6).

From the standpoint of preventive health, measures to be taken in case of a possible outbreak of Mpox will likely vary from the ones implemented during the COVID-19 pandemic. In this pandemic, as much as possible, it gave emphasis on the essence of vaccination and provided mass vaccination programs. However, in the case of the Mpox virus, it would be more focused on isolation of cases and contacts' monitoring, rather than mass vaccination (1). It would be very useful with quick identification and isolation of contacts. Family physicians, in this regard, will also play a vital role in educating people, tracing contacts, and rapid isolation.

Integrating applications of digital health were critical during the COVID-19 pandemic in the reduction of interruptions in healthcare services. In a similar regard, in case an Mpox pandemic happens, the use of digital health tools in a considerable manner is going to be very important in ascertaining the continuity of primary care services. In this respect, telehealth services will help family physicians to frequently and safely communicate with patients, consequently reducing exposure to the risk of infection (3). This will ensure that the health status of the patients is observed while at the same time not causing a disruption in healthcare services. Infection control practices should therefore be followed very strictly to ensure the continuity of primary care in the face of a possible Mpox pandemic. The family physician should therefore be very keen on the use of personal protective equipment, and the PPE supplies should be available to ensure max-

imum protection for the health worker as well as for the patients (4). The implementation of infection control will further prevent potential discontinuation of health care services.

As such, a potential pandemic due to Mpox will require different primary care and preventive health services than the COVID-19 pandemic did. Integrate digital health applications, fortify the role of the family physician, and adhere to infection control protocols stringently to avoid the type of disruptions experienced during the COVID-19 pandemic. More importantly, the integration of AI tools in early detection, contact tracing, and resource allocation will support preparedness and resilience in pandemic management. Family physicians will have an active role in isolating patients, tracing contacts, and educating people with the support of AI and digital health innovations, which will be very important in maintaining continuity in healthcare services and control of the outbreak.

## Conflict of Interest

The authors declare that there is no conflict of interests.

## References

1. McCollum AM, Damon IK. Human monkeypox. *Clin Infect Dis*. 2014;58(2):260-267.
2. World Health Organization. Monkeypox. <https://www.who.int/news-room/fact-sheets/detail/monkeypox>. Accessed August 2024.
3. Reynolds MG, Yorita KI, Kuehnert MJ, et al (2006). Clinical manifestations of human Mpox influenced by route of infection. *J Infect Dis*, 2006;194(6):773-780.
4. Kozlov M (2022). Mpox in Africa: the science the world ignored. *Nature*, 607(7918):17-18.
5. Topol EJ (2019). High-performance medicine: the convergence of human and artificial intelligence. *Nat Med*, 25(1):44-56.
6. Briganti G, Le Moine O (2020). Artificial Intelligence in Medicine: Today and Tomorrow. *Front Med (Lausanne)*, 7:27.