

Strategic response to mpox in the Singapore Armed Forces: Military public health collaboration and preparedness

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Dear Editor,

The Singapore Armed Forces (SAF) has long prioritised infectious disease management as a critical component of military readiness. Mpox, a zoonotic viral disease caused by the monkeypox virus, presents unique challenges due to its transmissibility, potential for severe outcomes, and the logistical vulnerabilities of military environments. With frequent deployments to diverse regions and close living conditions, military personnel are particularly susceptible to outbreaks of emerging infectious diseases.^{1,2} In response to the global mpox outbreaks in 2022 and 2024, the SAF implemented a phased and adaptive strategy that underscores the value of proactive military health planning and robust civil-military collaboration.

The SAF's initial response in 2022 followed the World Health Organization's (WHO) declaration of mpox as a public health emergency of international concern.³ During this phase, early containment measures were paramount. Routine health screenings and symptom checks—targeting signs such as fever, rash and lymphadenopathy—were instituted to facilitate early detection of potential cases.⁴ Educational campaigns emphasised routes of transmission, such as contact with infectious lesions and respiratory droplets, and the importance of personal hygiene practices and symptom reporting.⁴ SAF commanders played a pivotal role in reinforcing compliance with preventive measures, cultivating a culture of vigilance across all ranks. The SAF also established isolation facilities to manage suspected cases and maintained robust personal protective equipment stocks to protect healthcare providers.

Although the SAF did not experience mpox outbreaks in 2022, contingency plans were developed for targeted vaccination of high-risk personnel, including healthcare workers and potential servicemen deployed to regions with active outbreaks. A vaccination census conducted in 2024 found that most active personnel were young, full-time national

servicemen. Due to operational constraints, we are unable to disclose the exact percentage of personnel who had received smallpox vaccination, but the overall rate was low. This highlighted the need for ongoing risk assessments and preventive strategies. Collaboration with Singapore's Ministry of Health (MOH) enabled SAF to access national vaccine reserves and integrate vaccination strategies into broader public health efforts.⁵

The 2024 mpox outbreak presented additional challenges due to the emergence of the Congo Basin/clade I, which was initially believed to be highly virulent but has since been reassessed as having varying severity between sublineages.⁶ In response, the SAF expanded its measures, building on the lessons learned in 2022. Border control protocols were strengthened, incorporating intensified health declarations, enhanced temperature screenings, and monitoring of personnel returning from high-risk regions. These measures were implemented primarily for early identification of potential cases among returning servicemen.

Risk assessments became a cornerstone of the SAF's response strategy in 2024, conducted in close partnership with the MOH. These assessments evaluated the epidemiological risks of deployment destinations, enabling SAF to tailor preventive measures and prepare contingency plans for potential mpox cases. Personnel returning from high-risk areas were subjected to additional monitoring, including health checks and symptom surveillance, ensuring rapid identification and containment of suspected cases.

A notable enhancement was the establishment of in-house diagnostic capabilities. Through collaboration with the Defence Science Organisation (DSO), the SAF procured and deployed diagnostic tools within its medical facilities, enabling rapid mpox testing. This initiative significantly reduced reliance on external laboratories, ensuring swift case identification and containment—particularly critical for military forces

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operating in remote or resource-limited environments. In-house diagnostics also enhanced operational resilience, aligning with SAF's broader strategy of minimising disruptions to military readiness during public health emergencies.⁷ While DSO had the capability to augment national testing, it was not required as Singapore's national testing capacity was sufficient, and no cases of mpox were detected within the SAF.

Communication strategies were also refined during the 2024 response, with regular updates and educational briefings delivered through multiple channels. These efforts reinforced awareness of personal hygiene practices, the importance of symptom reporting, and compliance with preventive measures. This comprehensive approach ensured that personnel across all ranks remained informed and engaged in mpox prevention efforts, particularly in dispersed or overseas deployments where communication gaps could otherwise hinder compliance.

The SAF's response to mpox was underpinned by strong partnerships with national agencies, particularly the MOH. This collaboration enabled SAF to align its strategies with Singapore's public health objectives, leveraging access to real-time epidemiological data, vaccine reserves and public health expertise. MOH's guidance also informed SAF's public health messaging, ensuring that communication efforts were scientifically accurate and sensitive. The SAF's Infectious Disease Specialist Advisory Board further contributed by providing technical expertise on infection control protocols, ensuring alignment with national standards and enhancing SAF's overall capacity to manage infectious disease threats.

Despite its successes, the SAF's response to mpox highlighted areas for improvement. The global shortage of mpox vaccines during the 2022 and 2024 outbreaks showed the importance of strategic vaccine stockpiling and pre-arranged procurement agreements.⁸ Such measures would mitigate the impact of future supply chain disruptions, ensuring timely access to critical resources. Furthermore, while in-house diagnostic capabilities provided a significant advantage, the nature of military operations emphasises the need for portable diagnostic solutions that can be rapidly deployed in remote or austere settings.⁷

Future efforts should also explore enhanced digital communication platforms to improve real-time information dissemination. Such tools would enable infection control updates and preventive guidelines to reach personnel more efficiently, particularly those in geographically dispersed locations. By integrating digital solutions with existing communication networks, military organisations can further enhance their capacity to respond to emerging infectious disease threats.

The SAF's phased response to the 2022 and 2024 mpox outbreaks demonstrates the critical importance of adaptability, collaboration and proactive planning in managing emerging infectious diseases. By aligning its efforts with national public health strategies, the SAF safeguarded personnel health while maintaining operational readiness. This approach provides valuable lessons for other military organisations and public health agencies seeking to enhance their preparedness frameworks for emerging infectious diseases.

Ethics statement

Not applicable.

Declaration

The authors declare there are no affiliations with or involvement in any organisation or entity with any financial interest in the subject matter or materials discussed in this manuscript.

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