

REVIEW ARTICLE

# Reforming China's healthcare management in the wake of COVID-19: A psychological well-being perspective

Leilei Jiang<sup>1</sup>, Walton Wider<sup>2,3,\*</sup>, Jem Cloyd M. Tanucan<sup>4</sup>, Jonna Karla C. Bien<sup>5</sup>

<sup>1</sup> Faculty of Education and Liberal Arts, INTI International University, Nilai, 71800, Malaysia

<sup>2</sup> Faculty of Business and Communications, INTI International University, Nilai, 71800, Malaysia

<sup>3</sup> Metharath University, Pathum Thani, 12160, Thailand

<sup>4</sup> College of Teacher Education, Cebu Normal University, Cebu City, 6000, Philippines

<sup>5</sup> Department of Psychology, Polytechnic University of the Philippines, Manila, 1016, Philippines

## ABSTRACT

The COVID-19 pandemic has led to a reevaluation of global health capabilities, highlighting the importance of prioritizing the welfare of frontline healthcare workers. These individuals encountered difficult circumstances on a global scale, including longer work hours, heightened risk of virus exposure, and substantial strain on their mental and physical well-being. Healthcare professionals in China faced similar challenges. This article discusses systemic issues that have been exacerbated by the pandemic and argues for a sustained emphasis on the well-being of healthcare workers, rather than solely addressing it as a crisis response. Given the increasing likelihood of future global pandemics, it is crucial to emphasize the establishment of a durable support system that can enhance resilience and crisis management capabilities. This study examines the systemic challenges of the Chinese healthcare system, with a particular focus on the difficulties encountered during the pandemic. We advocate for a paradigm shift that acknowledges healthcare workers as essential stakeholders within healthcare systems. The objective is to encourage a worldwide conversation for implementing initiatives that transcend national boundaries, with the goal of consistently incorporating a culture of compassion and assistance into healthcare systems. We propose the implementation of a comprehensive support system that encompasses all facets of healthcare, going beyond the mere management of crises. Our vision is for health systems to prioritize the well-being of healthcare workers and the communities they serve, with a focus on resilience.

## KEYWORDS

healthcare workers; physical health; mental health; well-being; healthcare system; China

## ARTICLE INFO

Received: 24 August 2023

Accepted: 12 September 2023

Available online: 18 October 2023

## \*CORRESPONDING AUTHOR

Walton Wider,

Faculty of Business and Communications, INTI International University, Nilai, 71800, Malaysia  
walton.wider@newinti.edu.my

## CITATION

Jiang L, Wider W, Tanucan JCM, Bien JKC (2023). Reforming China's healthcare management in the wake of COVID-19: A psychological well-being perspective. *Journal of Infrastructure, Policy and Development* 7(3): 2680. doi: 10.24294/jipd.v7i3.2680

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## **1. Introduction**

The COVID-19 pandemic has prompted significant changes in the global healthcare industry. The pandemic has significantly influenced our perception and approach to healthcare, ranging from improving medical systems to protecting global communities (Ripp et al., 2020). In the midst of this transformation, it is crucial to focus on the frontline healthcare workforce. The experiences, challenges, and needs of healthcare workers underscore the significance of implementing effective mechanisms to prioritize their physical and mental well-being, as they are essential to a strong healthcare system. Frontline healthcare workers faced the challenge of managing a worldwide health crisis while also dealing with personal difficulties (Marinaci et al., 2021). The individuals' dedication to the community's well-being resulted in them facing challenging circumstances, including extended work hours, frequent exposure to disease and mortality, and a heightened risk of infection (Franklin and Gkiouleka, 2021; A. H. Shah, et al., 2022). Consequently, their mental and physical health experienced significant strain.

This situation was a global phenomenon, not limited to any specific country (Kaur et al., 2022). Healthcare workers in China, like their global counterparts, demonstrated exceptional dedication and bravery by risking their lives to combat the pandemic (Kinman et al., 2020). Healthcare workers encountered significant obstacles, including limited availability of medical resources, extended shifts, and heightened susceptibility to contracting diseases. The pandemic has exposed and intensified the underlying problems in healthcare systems worldwide, including material deficiencies and insufficient support mechanisms. Given these circumstances, it is evident that there is a need for comprehensive analyses of these challenges and the development of effective solutions. Efforts have been undertaken to address the negative consequences of these challenges, through the implementation of various interventions and supportive measures. The interventions include structural changes such as staffing and provision of personal protective equipment, as well as psychological interventions targeting burnout, sleep quality, and emotional regulation (David et al., 2021; Branjerdporn et al., 2022). A resilient health system can absorb the shock of an emergency while continuing to provide regular health services (Durski et al., 2020). Although these measures may effectively tackle immediate concerns, they frequently fail to foster a long-term culture of enduring well-being. The COVID-19 pandemic has shown that establishing a culture is an ongoing process, rather than a final objective. In light of the possibility of more frequent global pandemics, it is crucial to draw lessons from the current crisis and apply them to establish a comprehensive and sustainable framework of support for our healthcare workforce. The implementation of such a framework would enhance the quality of work and resilience of professionals, enabling them to effectively respond to future crises (Robertson et al., 2020).

## **2. Key targets**

This paper examines the challenges encountered by healthcare workers during the COVID-19 pandemic and aims to provide insights into the broader issues within China's healthcare systems. This study aims to emphasize the importance of adopting a comprehensive and sustainable approach towards promoting the well-being of healthcare workers, extending beyond the immediate response to crises. Furthermore, this highlights the necessity of changing our viewpoint regarding healthcare workers. Instead of perceiving them solely as care recipients, we should recognize them as essential

stakeholders whose well-being is vital for the effective operation of healthcare systems. The paper utilizes the experiences of Chinese healthcare workers during the COVID-19 pandemic, but its implications and recommendations have broader applicability beyond China. The objective is to promote global dialogue and action, urging healthcare institutions worldwide to gain insights from the challenges faced during the pandemic and apply them to enhance their strategies in the post-epidemic period. This paper contributes to the global effort in establishing resilient health systems that prioritize the well-being of both their workforce and the communities they serve. This paper emphasizes that supporting healthcare workers is not solely about addressing challenges during a crisis. Instead, it requires a thorough and ongoing endeavor to integrate the values of care, support, and well-being into the core of our healthcare systems. This approach should extend beyond the current crisis and encompass all aspects of healthcare service delivery.

### **3. COVID-19: A challenge for China's healthcare workers**

During the COVID-19 pandemic, the Chinese healthcare system faced significant challenges. The surge in healthcare service demand has underscored the need for careful examination of critical areas. The main challenges faced by healthcare workers during the pandemic included limited medical supplies, extended working hours, and increased risk of infection. Each issue brought to light structural flaws and reaffirmed the necessity of building China's healthcare system to be more adaptable, helpful, and effective. In this discussion, we explore the impacts, lessons learned, and strategies developed in relation to these issues.

#### **3.1. Shortage of medical supplies**

The COVID-19 pandemic posed significant challenges for healthcare systems worldwide, including notable shortages of medical supplies. This was evident across Europe, where hospitals faced acute shortages and were sometimes reliant on donations from private entities or even DIY solutions (Filip et al., 2022). Because China was the first place where the pandemic was formally recognized, it had unusually acute shortages during the early wave. The shortage of personal protective equipment (PPE) in Wuhan during the health crisis posed challenges for healthcare workers (Zhao et al., 2020). The shortages had implications for both the safety of healthcare staff and the quality of patient care. For instance, reports emerged of healthcare workers using raincoats and plastic bags as makeshift protective gear, exposing them to increased risks (Sharma et al., 2020). During the crisis, healthcare professionals faced the necessity of reusing personal protective equipment (PPE) or using inadequate alternatives, which increased their risk of infection (Fan et al., 2020). Additionally, the limited availability of supplies posed difficulties in carrying out their responsibilities efficiently, potentially resulting in a decrease in the standard of patient care. This had a cascading effect, where the increased stress on healthcare professionals could lead to mistakes or oversights, further compromising patient health and safety.

Despite the challenges, China's healthcare system showed resilience. Ramping up production capacities played a crucial role in addressing the early PPE supply challenges in Wuhan and other affected areas. As the largest manufacturer of PPE, China swiftly mobilized its resources to enhance production (Sigala et al., 2022). However, in the initial stages, there were challenges related to the distribution, quality control, and speed of manufacturing to meet the sudden surge in demand (Bown, 2022). For instance, there might have been instances where the rush to produce led to some batches

of PPE not meeting the standard specifications, or logistical issues causing delays in distributing these supplies to the areas that needed them the most (Best and Williams, 2021). The experiences of front-line medical staff provide valuable insights for future pandemic responses, demonstrating the importance of strong supply management strategies (Ding et al., 2021; Stennett et al., 2022). Beyond mere supply, it's clear that a globalized approach to stockpile essential medical supplies, coupled with swift logistical responses, could be pivotal in mitigating similar challenges in the future.

### **3.2. Long working hours**

During the chaotic period, healthcare professionals not only in China but also in various regions like Europe, the US, and other parts of Asia were pushed to their limits. They often worked long hours, with an average of 13.4 hours per day and some extending their shifts to 16 hours (Du et al., 2020). The arduous nature of this reality had a significant impact on their overall well-being. Under such challenging circumstances, a rise in psychological distress was inevitable. Li et al. (2021) found a direct association between the pressures of the pandemic and increased psychological distress among frontline workers, indicating the negative impact on their mental health. The strain extended beyond mental health. The intense work environment increased the likelihood of workplace violence, further adding to the already demanding nature of the job (Qi et al., 2022). The extended work hours had consequences that impacted both healthcare workers and their families. Many of them were separated from their families for extended periods to minimize the risk of infection, which added another layer of psychological strain. Ying et al. (2020) found that the situation resulted in notable mental health challenges for individuals. Healthcare professionals commonly experience exhaustion, stress, and anxiety, largely due to their heavy workload.

The challenging circumstances exacerbated the stress and burnout, making it difficult to achieve a work-life balance. The psychological impact of the pandemic on healthcare workers has been extensively documented in studies by Yang et al. (2021) and W. R. Zhang, et al. (2020). Furthermore, the system's inability to quickly adapt and provide healthcare workers with the necessary protective equipment and training in the early stages of the pandemic reveals a clear need for reforms in healthcare management (Blumenthal et al., 2020). In various regions, the infrastructure was ill-prepared to handle the surge in cases, which led to inadequate patient care and further strain on healthcare workers (Sagan et al., 2022).

The need to promote resilience and offer strong mental health support to healthcare workers is crucial in effectively managing large-scale health crises (Baskin and Bartlett, 2021). Moreover, there is an evident requirement for systemic changes to ensure flexibility, adequate resource allocation, capacity building, and workforce management, as emphasized by experts (Khalil et al., 2022).

### **3.3. Increased risk of infection**

Healthcare workers were at high risk of infection during the COVID-19 pandemic due to their frontline position. The individuals' risk of exposure and subsequent infection were influenced by their close proximity to infected patients, as well as other important factors (Wang et al., 2020). Zheng et al. (2020) found that workplace conditions and practices significantly influenced infection rates. The utilization of personal protective equipment (PPE) was crucial. Instances of non-adherence to PPE protocols, potentially caused by shortages or miscommunication, significantly heightened

the risk of infection. Strict infection control measures, such as regular sanitization and isolation of infected patients, had a significant impact on reducing infection risk in hospital settings. M. Zhang et al. (2020) asserted that knowledge, attitudes, and practices related to COVID-19 were significant factors. Misinformation or inadequate information may result in failure to comply with safety protocols, thereby increasing the risk of infection. This highlights the importance of continuous healthcare education and training, promoting a culture of safety and vigilance in preventing the spread of the virus.

The pandemic had a significant psychological impact on healthcare workers, making them more susceptible to adverse effects (Lai et al., 2020). Individuals working in high-stress environments may experience burnout, which can negatively impact their physical health and potentially weaken their immune system, thereby increasing their susceptibility to infections (Chua et al., 2021). The mental health challenges, along with increased stress levels, necessitated timely and efficient interventions to protect their overall well-being. The risk of infection had broad implications, impacting not only immediate health concerns but also long-term workforce stability. The pandemic's stress and risks resulted in higher turnover intentions, which could potentially lead to staff shortages (Hou et al., 2021). Furthermore, the presence of chronic fatigue and insomnia among healthcare workers had exacerbated this problem (Zou et al., 2021), emphasizing the importance of sufficient rest intervals and supportive systems in the workplace. Protecting healthcare workers from infection encompasses measures beyond the implementation of physical barriers against the virus. Chua et al. (2021) argued that a comprehensive approach is necessary, which includes safe work practices, ongoing education, mental health support, and sustainable working conditions.

#### **4. A call for empowerment, transparency, and resilience amid pandemic lessons**

The COVID-19 pandemic has put the global healthcare system to an unprecedented test, exposing significant weaknesses in its current structures. The shortage of healthcare workers is a growing problem across the globe. Nurses and physicians, in particular, are vulnerable as a result of the COVID-19 pandemic (de Vries et al., 2023). China's healthcare system faced significant challenges as it confronted the rapid spread of the virus. Healthcare workers faced significant challenges due to the novel nature of the pathogen and systemic issues within China's healthcare management model. The crisis highlighted the pressing need for reform in this model, aimed at reducing the excessive workload on healthcare workers and improve the overall effectiveness and resilience of the system.

Healthcare workers faced numerous challenges during the pandemic, including shortages of medical supplies, extended working hours, and heightened risk of infection (Yang, 2021). According to a meta-analysis study, at the height of the pandemic, 38% of Chinese healthcare workers reported having anxiety symptoms and 40% reported having depression symptoms (Deng et al., 2021). The combination of these challenges significantly impacted their physical and mental well-being, resulting in a high prevalence of burnout and distress. Upon closer analysis, it becomes evident that these issues stem from the healthcare management model, which is characterized by an overwhelmed, hierarchical, and bureaucratic system that struggled to meet the demand of the crisis. The need to reform this management model is now more evident than ever (Cao et al., 2020).

One potential reform approach would be to restructure the hierarchical system, creating a more efficient and adaptable architecture that empowers frontline workers. Sustainable employability

amongst healthcare workers is an important asset for healthcare institutions (van den Broek et al., 2023). A flat organizational structure, characterized by reduced hierarchy and decentralized decision-making, may enhance communication channels in terms of robustness and efficiency (Su and Hahn, 2022). For instance, Sweden's healthcare system, which promotes decentralized decision-making, witnessed quicker adaptability in resource allocation during the initial stages of the pandemic (Ohrling et al., 2022). Empowering healthcare workers would provide them with increased influence over matters pertaining to their working conditions and the care they provide to patients. This change has the potential to greatly improve the adaptability and effectiveness of the healthcare system by promoting collaboration and efficient resource allocation. Furthermore, the implementation of a comprehensive feedback system is crucial in fostering open and transparent communication regarding working conditions (Lee et al., 2021). Seeking and implementing feedback from frontline workers can offer valuable insights that may be overlooked by administrative personnel who are not directly involved in frontline operations. Additionally, implementing such a system would have the benefit of boosting employee morale by providing them with a sense of being valued, respected, and involved in the process of improvement.

Moreover, society expects more and more of healthcare providers, particularly in primary care (Bodenheimer and Sinsky, 2014). Hence, it is essential to incorporate a comprehensive well-being program into this new model, which specifically caters to the physical and mental health requirements of healthcare professionals (Creese et al., 2021). The implementation of a comprehensive well-being program for healthcare professionals is essential, as Søvold et al. (2021) evidence-based overview emphasizes the detrimental effects on their mental health. The well-being of healthcare workers is recognized as a significant concern in various health systems and disciplines, highlighting the need to address their stressors and psychological needs. The pandemic has underscored the critical importance of these programs. The comprehensive support system for healthcare professionals may encompass counseling sessions, health assessments, stress management workshops, and designated periods of rest (Zaçe et al., 2021), thereby prioritizing the well-being of healthcare providers in conjunction with patient care. Effective crisis management strategies should be integrated into the healthcare system, which should include regular training programs to adequately prepare healthcare professionals for potential future health crises (Shamshiri et al., 2023). However, concerns regarding inefficient decision-making in flatter hierarchical structures due to competing viewpoints should not be dismissed. To combat this, it is necessary to establish clear guidelines and a system of checks and balances to ensure consistent decision-making. The system should possess versatility, enabling seamless transitions between regular operations and crisis management mode, thereby enhancing the organization's overall resilience.

The challenges faced by healthcare workers in China during the COVID-19 pandemic highlight the urgent requirement for reforms in the healthcare system's management model. Implementing reforms such as a flexible hierarchical structure, open communication and feedback, prioritizing worker well-being, and crisis management strategies can significantly improve the efficiency and effectiveness of the system. By implementing these measures, a robust healthcare system can be established that prioritizes the well-being of its workforce, prepares them for future emergencies, and ultimately provides exceptional patient care.

## 5. Fostering a culture of well-being in China's healthcare system

Recognizing the necessity of systemic reform in China's healthcare management model, it is important to bear in mind that this transformation can be intricate and time-consuming. While acknowledging the importance of implementing reforms, it is crucial to address the pressing requirement for practical, short-term strategies to strengthen the healthcare system amidst this transitional phase. Creating workplace environments that prioritize employee well-being is a crucial step in improving the efficiency and humanity of healthcare systems (Ripp et al., 2020). Healthcare workers frequently face the responsibility of adapting to deficient systems that fail to consider the overall well-being of their workforce. This approach is both unsustainable and detrimental to the overall well-being of these crucial professionals. Hence, it is imperative to prioritize the development of systems that prioritize the needs of healthcare workers at an individual level.

An essential aspect of this initiative involves cultivating a culture that emphasizes the significance of self-care and well-being among healthcare professionals (Sanchez-Reilly et al., 2013; Posluns and Gall, 2020). Achieving this goal requires a multifaceted approach. Healthcare workers require education and training in stress management techniques (Alkhaldeh et al., 2020). Individuals should acquire knowledge and engage in activities aimed at reducing work-related stress and safeguarding their psychological and emotional well-being. However, it is important for the system to encourage a balanced work-life relationship. Overworking and burnout pose notable challenges within the healthcare field, particularly in times of crisis, such as the ongoing COVID-19 pandemic. Maintaining an optimal work-life balance is crucial in order to prevent burnout and uphold the standard of patient care (Kotera et al., 2021). To actualize these objectives, the healthcare system requires the implementation of specific measures and policies. One potential measure could involve establishing a work environment that is supportive, positive, and focused on promoting health (Brand et al., 2017). Creating a work environment that prioritizes the well-being of healthcare workers, recognizes self-care as an essential aspect of their professional behavior, and offers resources to support their mental, emotional, and physical health is crucial for preventing burnout and promoting staff wellness (Søvdal et al., 2021).

Ripp et al. (2020) emphasized the importance of addressing healthcare worker wellness and proposed the establishment of a dedicated department within the healthcare system, headed by a Chief Wellness Officer (CWO). This proposal aims to not only address current challenges, but also to fundamentally transform the healthcare culture in order to better support its primary assets, which are the healthcare workers. The CWO and their team are responsible for devising, creating, and executing various initiatives aimed at fostering a culture of well-being (Brower et al., 2021). Their activities include hosting educational workshops and seminars on stress management, promoting self-care practices, and offering resources to individuals dealing with burnout or work-related pressures (Chandawarkar and Chaparro, 2021). CWOs are responsible for navigating the intricate digital environment, promoting flexible work arrangements, and utilizing technology to effectively distribute wellness resources (Strong et al., 2021). The CWO's commitment extends beyond program execution to fostering an empowering environment for healthcare workers to express their concerns (Hamilton et al., 2021). However, it is important to note that the responsibility for these efforts should not be solely placed on the CWOs. Organizational support for wellness initiatives signals to healthcare workers that their well-being is a top priority, leading to increased receptiveness

among the workforce. Brown et al. (2021) argue that the healthcare system can enhance its ability to combat burnout and other mental health issues by acknowledging and promoting resilience factors such as peer support and a positive work environment.

By implementing these initiatives, we would address current challenges and establish a sustainable healthcare system with strong safeguards. Prioritizing the well-being of healthcare professionals can enhance staff retention, reduce burnout rates, and ultimately improve the quality of patient care. Therefore, it is imperative for healthcare organizations in China and worldwide to prioritize the development of a well-being culture, in order to promote a healthier future for their employees and the community (Conrad and Saeed, 2022).

## **6. A vision for the future: promoting well-being of Chinese healthcare workers**

To effectively address the well-being of healthcare workers in the Chinese healthcare system, it is necessary to implement a comprehensive and multifaceted approach. An integral aspect of this strategy entails addressing the stigma associated with mental health concerns. Stigma hinders healthcare workers from seeking and receiving mental health care, leading to increased stress and burnout (Chen et al., 2020). Given that the global lifetime prevalence of mental disorders stands at 29%, addressing the elevated unemployment rates among individuals facing these health challenges is a pressing and significant public health inequality issue (Brouwers, 2020). Education campaigns aimed at healthcare professionals have the potential to effectively address and eliminate stigmas, thereby fostering an environment that is more inclusive and supportive. Initiatives such as public service announcements, social media campaigns, and workshops can increase awareness of mental health, leading to a decrease in stigma and the promotion of mental well-being. Healthcare organizations should prioritize investing in resources and support systems tailored to their staff, in addition to focusing on education (Maulik et al., 2020). The availability of resources, such as counseling services, support groups, and supervisor training, is crucial for identifying and supporting staff members who are facing mental health challenges. One example is the implementation of training programs designed to equip managers with the necessary skills to identify indicators of stress and burnout in their employees, offer support, and make suitable referrals.

Kwame and Petrucka (2021) suggested that incorporating a patient-centered approach in healthcare delivery could enhance the mental well-being of healthcare workers. Placing patient needs above productivity metrics may help reduce stress among healthcare professionals (Vogus et al., 2020). Prioritizing compassionate care can enhance the work environment, leading to increased job satisfaction and improved mental health resilience among healthcare workers. When considering the impact of the pandemic, it is crucial to recognize the necessity of providing ongoing and culturally sensitive mental health support (Li et al., 2020; Sun et al., 2023). Culturally sensitive interventions can enhance the inclusivity and responsiveness of mental health support systems. Geographical equity in mental health support is a notable factor (Shafi et al., 2021). The mental health needs of rural healthcare workers, which are frequently neglected, should be given due consideration. Implementing strategies to ensure equitable access to resources and support for healthcare workers, regardless of their geographical location, would effectively address this disparity. Policy changes are needed to prioritize the well-being of healthcare workers (S. M. Shah, et al., 2022; Samy et al., 2021). The implementation of policies, such as mandatory rest periods,

limitations on working hours, and the provision of sufficient staffing and resources, can effectively mitigate work-related stressors. These initiatives aim to establish a work environment in the healthcare sector that is characterized by balance, support, and sustainability. In summary, these diverse strategies provide a pathway to promote the mental well-being of healthcare professionals in the Chinese healthcare system. By incorporating these insights, the healthcare system can evolve into a robust framework that acknowledges and gives priority to the mental well-being of its healthcare personnel. This is a vital stride towards enhancing health outcomes for the entire population.

## 7. Conclusion

The COVID-19 pandemic has presented China with an unforeseen chance to reform its healthcare system, potentially fostering development during a crisis. The present circumstances underscore the need to prioritize the well-being of healthcare workers, who have been at the forefront of combating this public health crisis. Healthcare personnel play a vital role in the operation of our healthcare system. Care providers are not solely mechanical components, but rather emotional individuals whose well-being directly affects their capacity to deliver care. To enhance the resilience and effectiveness of China's healthcare system, it is recommended to implement several key measures. The prioritization of healthcare workers' well-being should be central to any reform efforts. Implement holistic well-being programs that address mental and physical health. It is important to recognize that these workers play a crucial role in the functioning of the system, and their well-being has a direct impact on the quality of care delivered to patients. Additionally, implement gradual systemic reforms. The primary objective is to improve the readiness and overall welfare of healthcare practitioners. To prepare individuals for potential health emergencies, it is important to invest in their ongoing training and provide resources to support their mental and physical endurance. It is recommended to adopt a flat organizational structure to empower professionals, granting them a substantial role in patient care and the ability to influence their working conditions. During the transition phase, implementing protective measures is essential. These priorities should focus on promoting self-care, combating mental health stigmas, and advocating for a patient-centric approach in all interactions. Furthermore, it is important to prioritize geographical equity in the provision of mental health support. Ensuring equal access to mental health resources for all healthcare professionals, regardless of their location or rank, is crucial. Finally, we support the expansion of international collaborations. China can enhance its healthcare approach by actively engaging with other nations, gaining insights into their medical management practices, and incorporating best practices and lessons learned from global experiences. In conclusion, by effectively implementing these guidelines, China can develop a healthcare system that addresses current challenges and is well-prepared for the future.

## Author contributions

Conceptualization, LJ and WW; methodology, LJ and WW; software, LJ; validation, LJ and WW; formal analysis, LJ and WW; investigation, LJ and WW; resources, LJ and WW; data curation, LJ and WW; writing — original draft preparation, LJ; writing — review and editing, WW, JCMT, and JKCB; visualization, JL and WW; supervision, WW; project administration, JL. All authors have

read and agreed to the published version of the manuscript.

## **Conflict of interest**

The authors declare no conflict of interest.

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