

Projected shortfall of 10 million healthcare workers by 2030: implications for low- and middle-income countries and the way forward

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Dear Editor,

The global healthcare landscape is facing an impending crisis, with a projected shortfall of 10 million healthcare workers by 2030 worldwide.¹ This alarming forecast, declared by the World Health Organization (WHO)'s Director-General during the 5th Global Forum on Human Resources for Health on 3 April 2023,¹ poses a significant challenge to low- and middle-income countries (LMICs), where the impact of this deficit is expected to be disproportionately severe. Notably, this projection represents an increase compared to the WHO's estimate of a 7 million deficit made a exactly decade earlier,² further underscoring the urgency and magnitude of the issue at hand.

According to a study conducted by Naicker *et al.*² in 2016, the degree of shortage of medical personnel in 47 sub-Saharan African countries, for example, is striking with the shortfall of doctors and nurses amounting to 2.4 million. Similarly, in a recent study, Ikurionan *et al.*³ reported that with a deficit of 6.9 million and 4.2 million, respectively, South-East Asia and Africa have the largest shortfall of healthcare workers. This situation is particularly dire in remote communities where some villages have no access to trained healthcare professionals. The shortage is driven by a complex interplay of factors, including rapid population growth, ageing societies, insufficient investment in health workforce development, inadequate working conditions, and the migration of skilled health professionals to high-income countries.²⁻⁴

The increasing shortage of healthcare workers LMICs is poised to have profound and far-reaching consequences. One such implication is the increased burden on existing healthcare professionals.^{3,5} As the number of available healthcare workers dwindles, the workload and pressure on those remaining in the field will escalate, poten-

tially leading to burnout and a consequent decline in the quality of care provided.⁶ Furthermore, the shortages are likely to disproportionately impact rural and remote regions, exacerbating existing inequalities in access to healthcare services and further widening the gap between urban and rural areas.^{3,6} The ripple effects of this crisis extend beyond the immediate healthcare sector, with significant implications for health outcomes and economic development. A reduced capacity to deliver healthcare services due to workforce shortages may contribute to increased morbidity and mortality rates in LMICs, as patients experience delays or gaps in treatment.^{3,6} Additionally, the shortage of healthcare workers could have severe economic consequences, as a healthy workforce is indispensable for sustainable growth and prosperity. In light of these challenges, it is crucial to address the healthcare worker crisis through comprehensive, collaborative strategies that emphasize innovation, technological advancements, and global cooperation. The convergence of emerging technologies and scientific advancements presents a promising array of solutions to address the healthcare worker shortage in LMICs. Telemedicine and remote monitoring solutions, such as video consultations and remote diagnostic tools, can bridge the gap in healthcare accessibility, particularly in rural and remote areas.⁷

Stakeholders can help develop cutting-edge healthcare technologies and approaches that address the particular problems encountered by LMICs by implementing these techniques, ensuring that new solutions are usable, affordable, and scalable. Artificial intelligence and machine learning applications in healthcare can enhance the efficiency of healthcare delivery and alleviate the workload of healthcare professionals. Furthermore, digital health training and education can expand the reach and accessibility of healthcare education, providing opportunities for individuals in LMICs to enter the profession and address workforce shortages. Similarly, to effectively tackle the healthcare worker shortage, a comprehensive, global approach is essential. This approach should encompass strengthening public-private partnerships, promoting international collaboration, integrating technology into health systems, fostering a culture of innovation, and monitoring and evaluating implemented solutions. With this multifaceted strategy, it is possible to stimulate the creation of creative answers to the workforce crisis, thereby enhancing healthcare delivery and results in LMICs.

In conclusion, the projected healthcare worker shortage for 2030 poses a

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formidable challenge, especially for LMICs where the effects are expected to be the worst. A comprehensive, internationally coordinated strategy that makes use of new technology, encourages innovation, and develops cooperation between the public and private sectors as well as international organizations is needed to address this challenge. Stakeholders may improve health outcomes and promote sustainable development in LMICs by embracing these ideas and working together to create resilient health systems and guarantee equitable access to healthcare.

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