

Wake Up Call: While We Sleep, China's Healthcare AI Revolution Quietly Overtakes the World—Leaving Indonesia in the Dark

Prof. Dasaad Mulijono^{123*}

¹Department of Cardiology, Bethsaida Hospital, Tangerang, Indonesia

²Indonesian College of Lifestyle Medicine, Indonesia

³Department of Cardiology, Faculty of Medicine, Prima University, Medan, Indonesia

*Corresponding Author

Dasaad Mulijono, Department of Cardiology, Bethsaida Hospital, Indonesia.

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Abstract

Artificial Intelligence (AI) and robotics are no longer optional enhancements in healthcare—they are seismic forces redefining the future of medicine, reshaping clinical decision-making, surgical precision, patient outcomes, and economic structures. While the United States struggles with entrenched bureaucracy, fractured systems, and policy paralysis, China has launched a strategic, coordinated offensive that is fast elevating it as the new global epicentre of medical technology. With government-backed research and development (R&D), streamlined regulations, and aggressive AI implementation across radiology, surgery, and diagnostics, China is poised to eclipse traditional Western dominance within the next decade.

Meanwhile, countries like Indonesia risk being left behind, paralyzed by infrastructural gaps, outdated medical training, and fierce resistance from entrenched interest groups. Yet within this stagnation, one institution—Bethsaida Hospital, led by Prof. Dasaad Mulijono—offers a powerful counter-narrative. As the first in Indonesia to integrate Drug-Coated Balloon (DCB) therapy with a whole-food plant-based diet (WFPBD), Bethsaida has not only achieved unprecedented clinical outcomes (including restenosis rates below 2%) but now emerges as a credible pioneer for AI and robotic healthcare integration.

With the passage of the 2024 Omnibus Law aimed at reforming medical education, a narrow window of opportunity has opened. The question is whether Indonesia's healthcare community will seize or squander it through inaction and internal discord. This paper issues a call to arms for Indonesian medical professionals and policymakers: the age of AI-powered healthcare is no longer approaching—it is here. Failure to adapt will lead to irrelevance and dependency on more agile, technologically advanced nations. Only by embracing innovation, protecting reform, and scaling models like Bethsaida can Indonesia reclaim agency over its medical future and avoid becoming a passive consumer in the next healthcare revolution.

Keywords: Artificial Intelligence in Healthcare, Healthcare Robotics, China Medical Technology, U.S. Healthcare Challenges, Indonesia Medical Reform, Drug-Coated Balloon, Whole-Food Plant-Based Diet, Bethsaida Hospital, Prof. Dasaad Mulijono, Healthcare Policy and Regulation, Technological Disruption in Medicine, Omnibus Law 2024 Indonesia, Global Healthcare Competition, Medical Education Reform, AI Integration in Emerging Markets, Restenosis Prevention

1. Introduction

The global healthcare industry is experiencing a transformative shift through AI and robotic technologies, promising revolutionary improvements in diagnostics, patient care, surgical precision, and operational efficiency. China rapidly emerges as a global healthcare technology leader driven by targeted investments, aggressive R&D strategies, and supportive regulatory frameworks. In contrast, the

US faces declining dominance due to regulatory complexities, inconsistent healthcare policies, and fragmented infrastructure. Meanwhile, Indonesia remains significantly behind, despite recent attempts at reform, such as the 2024 Omnibus Law aimed at creating a fairer medical education environment. Persistent internal resistance and a lack of technological prioritization pose serious risks to healthcare quality, patient care, and medical professionals'

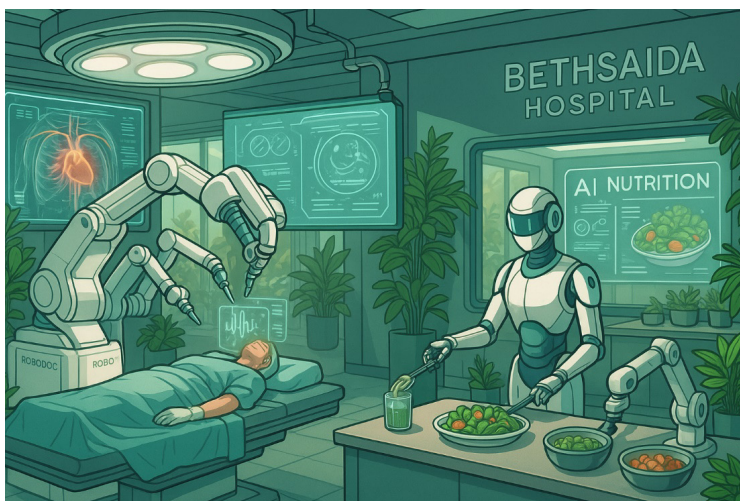
career paths.

2. China's Strategic Rise in Healthcare AI and Robotics

China has strategically prioritized AI and robotics through its national initiatives, including "Made in China 2025" and successive five-year plans. Leading Chinese tech companies like Baidu, Tencent, and Alibaba have invested heavily in medical AI applications, achieving global breakthroughs in radiological

imaging, robotic-assisted surgery, and telemedicine.

The Chinese government's simplified regulatory processes, state-funded R&D, and vast patient data resources provide significant competitive advantages. This coordinated strategy positions China to eclipse the US and establish a new global healthcare technology benchmark.



3. Challenges in Technological Integration in the US Healthcare System: Insights from Bethesda Hospital, Indonesia

Historically recognized as a global leader in healthcare innovation, the US faces substantial structural barriers hindering the rapid integration of AI and robotics into healthcare. These impediments include complex regulatory frameworks, rigorous and often prolonged FDA approval processes, stringent privacy concerns, fragmented healthcare infrastructure, and inconsistent healthcare policy implementations. In contrast to China's streamlined regulatory environment, the decentralized and intricate US regulatory landscape significantly delays technological adoption.

Moreover, inconsistent healthcare policies and varied reimbursement mechanisms further impede the widespread adoption of innovative technologies, potentially eroding the US's technological superiority and leadership position in the global healthcare sector. A clear illustration of such delays is evident in the acceptance of DCB technology, which has been widely utilized in European medical practice for nearly two decades, yet has only recently gained acceptance in the US and other developing regions. In Indonesia, broader adoption of DCB technology has only occurred within the last two years, emphasizing global disparities in technological integration timelines.

Bethsaida Hospital in Indonesia stands as a noteworthy exception, having proactively adopted DCB technology six years ago, becoming the nation's pioneering healthcare institution advocating for this advancement. This foresight has demonstrated significant benefits, underscoring the value of proactive technological integration. Additionally, Bethsaida Hospital has pioneered the

integration of plant-based dietary programs, effectively reversing chronic conditions such as atherosclerosis, hypertension, type 2 diabetes mellitus, obesity, kidney dysfunction, and hyperlipidaemia. Bethesda Hospital is the first globally to combine a WFPBD with DCB technology, achieving remarkable clinical outcomes, notably a restenosis rate of less than 2%. These successes highlight the importance of proactive adoption and integrating innovative healthcare practices.

4. Indonesia's Lagging Integration and Recent Regulatory Developments

Indonesia's healthcare sector notably lags in AI and robotics adoption, burdened by infrastructure inadequacies, insufficient digital policies, limited technological investments, and poor professional awareness. Despite recent reforms, such as the 2024 Omnibus Law aiming to reform and restructure medical education and the health system, substantial internal resistance persists. Medical associations, unions, and organizations oppose these changes, diverting attention from critical technological advancements.

This resistance creates missed opportunities, exacerbating delays in essential technology integration. Indonesian medical professionals thus face a looming skills gap, threatening their future career stability and financial viability.

5. Discussion

China's aggressive advancements in healthcare AI and robotics are reshaping global healthcare dynamics, highlighting severe challenges for the US and even more substantial risks for Indonesia.

Although initially rooted in genuine concerns, the ongoing internal resistance in Indonesia now threatens to overshadow the larger external technological threat posed by China's rapid advancements. Medical associations, unions, and organizations must quickly shift from internal disagreements to addressing the imminent global technological shift.

Bethsaida Hospital's forward-thinking adoption of innovative healthcare technologies such as DCB and plant-based dietary interventions demonstrates the immense benefits of early technology integration. Building on this successful model, Bethsaida is strategically positioned to pioneer AI and robotic integration within Indonesia, setting a critical example for the broader healthcare community. Indonesia must foster collaborative initiatives between public institutions, private healthcare providers, and technology developers to rapidly scale AI and robotics capabilities to avoid future dependence on more technologically advanced countries.

6. Conclusion

China's ascendancy in healthcare AI and robotics represents a transformative global shift, posing significant challenges to traditional leaders like the US and presenting urgent implications for countries lagging in technological integration, such as Indonesia. Persistent internal resistance to necessary reforms exacerbates these vulnerabilities, risking severe long-term impacts on healthcare quality, professional competencies, and economic stability. Indonesian healthcare professionals, policymakers, and institutions must urgently focus on embracing technological innovation. By proactively adopting successful examples like Bethsaida Hospital's pioneering initiatives, Indonesia can mitigate the risk of technological dependence and position itself as a competitive player in the rapidly evolving global healthcare landscape. Immediate strategic adaptation is vital to safeguarding the future of healthcare delivery and professional prosperity.

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