AI divide is hindering healthcare progress in the Global South

While artificial intelligence transforms healthcare in advanced nations, it has yet to make a meaningful impact on health services in less developed countries.

SHARJAH, EMIRATE OF SHARJAH, UNITED ARAB EMIRATES, July 14, 2025 /EINPresswire.com/ -- Artificial intelligence (AI) is revolutionizing healthcare, enhancing diagnostics, streamlining treatment, and improving patient outcomes. However, a recent study published in Digital Health reveals that these advancements remain largely concentrated in the Global North, leaving the Global South at a significant disadvantage. (https://doi.org/10.1177/20552076251348024)

The study, led by University of Sharjah scientists in collaboration with researchers from prestigious U.S. institutions, reveals a stark disparity in access to AI technologies between high-income and low- to middle-income regions. While machine learning and robotics are increasingly used in disease detection, drug administration, and telemedicine in wealthier nations, their adoption in the Global South remains limited.

The study highlights “healthcare disparities” and what appears to be an artificial intelligence divide between the Global North and the Global South, with the path to bridging it currently fraught with considerable challenges.

The research emphasizes that the growing AI divide – particularly between less developed regions such as those in Africa, Asia, and Latin America, collectively known as the Global South, and the wealthier, industrialized nations of the Global North, especially in Europe and North America – remains a major obstacle to achieving equitable access to affordable and effective healthcare.

The authors present their research as “an integrative scoping review… to identify recent studies from 2022 to 2025 describing the contributions and challenges in using AI health applications in the Global South.”

They write that their study “reviews the potential of AI healthcare applications in the Global South, where healthcare challenges like poverty, resource shortages, and disease outbreaks are severe.”

The study stresses the current advantages of AI in disease tracking, expanding access to

healthcare services, supporting telemedicine, and advancing preventive care models. It emphasizes that universal access to AI is a key driver in promoting equity within healthcare systems.

The barriers and challenges, according to the authors, include “poor infrastructure, data biases from Global North-centric AI, and limited local expertise” in the Global South. “Economic constraints, lack of biotech partnerships, and inadequate regulation further hinder progress,” they maintain.

The authors underscore that achieving widespread and equitable AI-driven healthcare in the Global South faces significant challenges. They highlight four key barriers that hinder the effective deployment of AI to improve healthcare for underserved populations: the data divide, inadequate infrastructure and resources, the absence of equitable partnerships, and the pressing need for robust regulatory frameworks.

Lead author Dr. Syed Hussain, from the College of Communication at the University of Sharjah, notes that most existing AI healthcare applications are trained on datasets originating from high-income countries.

“This leads to a significant data bias where these systems may perform poorly or even generate incorrect results when applied to the diverse populations and unique health conditions of the Global South.

“Furthermore, many low-resource countries still rely on paper-based records, creating fragmented data systems and making it difficult to collect and merge the vast amounts of diverse, high-quality data AI needs.”

Less developed regions of the Global South, adds Dr. Hussain, lack reliable internet, consistent electricity, and a skilled workforce to develop, deploy, and maintain AI systems.

“These are often scarce in low-resource settings, imposing additional burdens on already stretched healthcare workers. There are also significant financial constraints, as implementing AI/ML technologies requires substantial investment.”

The study advocates for more equitable partnerships and collaborative efforts between industrialized, high-income nations and their less developed counterparts in the Global South.

The study’s findings, Dr. Hussain goes on, demonstrate “a notable lack of investment from Western AI biotech companies in the Global South. Existing collaborations often involve one-way exchanges without genuine technology or benefit sharing.

“This perpetuates a cycle where emerging economies struggle with gaps in STEM education, a departure of medical talent, and inconsistent government financial support for research.

Dr. Hussain underscores the study’s practical significance, stressing that AI systems developed in high-income countries must be thoughtfully adapted to operate effectively and ethically in the Global South. This requires careful consideration of local disease patterns, infrastructural constraints, and cultural contexts, he says.

“There's a critical need for digitization of health data with a focus on data interoperability, addressing biases, ensuring data security, and training local health workers in data collection.”

“Equitable collaborations are paramount, moving away from one-sided exchanges to genuine partnerships that foster local innovation and capacity building. Further, global regulations and surveillance are essential to ensure transparency, accountability, safety, and equity in AI health applications.”

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