

# The State of Artificial Intelligence and its Prospects in Pakistan's Medical Sector

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## Dear Editor,

Artificial intelligence (AI) has come a long way in the medical field worldwide, but its practical use is still considered unattainable in underdeveloped nations like Pakistan [1, 2]. In the context of Pakistan, this letter gives a broad overview of the present and possible future advances of AI applications in healthcare. This letter demonstrates the various ways AI is changing Pakistan's healthcare system, from diagnostic imaging to illness treatment and prognosis [3].

Pakistan's healthcare system has many obstacles, such as a sizable population, little resources, and regional differences. The goal of integrating AI technologies into medical procedures is to improve accessibility, accuracy, and efficiency in order to tackle these issues [4]. In Pakistan, AI has significantly improved diagnostic imaging. AI algorithms are used by radiologists and other healthcare professionals to interpret medical pictures, resulting in more accurate and timely diagnosis. One possible result of AI integration is the early detection of diseases, especially in rural locations where access to expert medical care is limited. Predictive analytics using machine learning algorithms has become more popular in Pakistani healthcare. AI helps predict the possibility of diseases by evaluating patient data, which enables focused preventive actions and individualized healthcare interventions. AI systems and academics working together have sped up the drug discovery process. The use of AI in pharmaceutical research in Pakistan has the potential to address common health issues in the country by leading to the creation of novel drugs and therapies. Harnessing artificial intelligence for diagnostic imaging, medical consultations, remote monitoring *via* telemedicine, and disease recording by trained health professionals offers significant promise for development in Pakistan. However, enabling the general public to self-diagnose illnesses and prescribe medications using AI poses considerable risks.

Telemedicine is a vital component of healthcare delivery in Pakistan because of the country's diversified topography and inadequate healthcare infrastructure. AI-powered

telemedicine technologies make it easier for people in underserved areas to receive healthcare services by enabling remote consultations and monitoring. The rising integration of AI in Pakistani medicine necessitates the evolution of regulatory frameworks to guarantee patient safety, data privacy, and ethical application of AI technologies. At the time of last check, precise guidelines concerning AI application in Pakistan's healthcare sector may not have been thoroughly outlined or broadly circulated. Nevertheless, within the scope of the Digitalize Pakistan initiative, the draft national Artificial Intelligence policy seeks to enhance public understanding of AI and establish a regulatory framework and ethical standards. It's worth noting that these efforts are not exclusively tailored to healthcare. It is the responsibility of policymakers to create rules that strike a balance between innovation and morality. Even though AI has a lot of potential to enhance Pakistani healthcare, there are still issues that need to be resolved, including data protection, infrastructural constraints, and the shortage of qualified personnel. Overcoming these obstacles may be facilitated by cooperative efforts between governmental organizations, medical facilities, and IT companies. Future developments in artificial intelligence (AI) in Pakistan's medical industry seem promising [5]. The widespread adoption of AI technology can be facilitated by ongoing research, raising awareness, and forming strategic alliances, which will ultimately improve healthcare results nationwide.

The introduction of AI into Pakistani healthcare marks a revolutionary turn toward more effective, easily accessible, and individualized treatment. Bottom line, healthcare providers utilize AI for administrative tasks, data analysis aiding clinical decisions, drug discovery, and virtual assistants for patient engagement, and education, enhancing efficiency and patient care. To fully utilize these technologies for the benefit of Pakistan's people, continued research and cooperative efforts will be essential as the nation negotiates the difficulties related to the application of AI.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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