

Embracing The Future: Pakistan's Journey into Digitalized and Personalized Healthcare

*Ali Farhad**^{ID}

Assistant Professor, College of Podiatric Medicine, Faculty of Allied Health Sciences, Ziauddin University, Karachi, Pakistan

Health care is transforming tremendously in the era of digitization, and for Pakistan, it stands right before a medical revolution. Globally, personalized medicine generates significant interest by tailoring each treatment to meet the individual's needs. It has been estimated in various reports of the International Consortium for Personalized Medicine (ICPerMed) that "Health care will become more targeted and effective owing to personalization in the year 2030." With the advancements of digital tools, improving patient care is possible only with health data. This would be possible by collecting and analyzing the data in electronic health records, wearable devices, or genetic testing. Treatment plans can be updated in real-time based on extensive information related to the patient's lifestyle, biological profile, and health patterns. For example, wearable continuous monitoring can alert providers when a patient's condition changes. Further, genomic profiling gives preventive insights into the risk of diseases long before symptoms appear. With information about genetics, epigenomics, and metabolomics integrated with clinical insight, healthcare providers can develop a personalized understanding of each patient's health needs and treat patients accordingly.

The essence of personalized care lies in fostering an active partnership between patients and healthcare providers. When patients have control over their health data and participate in decision-making, they become a health-literate population. Better-informed patients are more likely to follow treatment plans and take proactive steps towards improving their health. Personalized care also helps reduce side effects and unnecessary treatments, decreasing costs and improving health outcomes. Succinctly, interdisciplinary teams of data scientists, clinicians, and other professionals will work together to ensure that the correct treatments are delivered to the suitable patients at the right time.

Digital health in Pakistan is in its infancy, and it is gaining ground with the participation of both the public and private sectors in Health platforms and telemedicine solutions. These essential steps will help close healthcare access gaps, particularly in rural or underserved areas, ease the pressure on urban facilities, bridge the shortages of healthcare professionals, and pave the way for more extensive use of personalized medicine. This trend is clearly shown in scalable and affordable solutions for healthcare with platforms such as Sehat Kahani, which connect patients to doctors. Such steps improve personalized care, telemedicine jobs, mobile health applications, and research in biomarkers.

***Corresponding Author:** Ali Farhad

Email: ali.farhad@zu.edu.pk

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These strategies can be implemented through policies and infrastructures in digital health, allowing Pakistan to move towards a more inclusive, efficient, and compassionate healthcare system. By improving healthcare outcomes and empowering patients, embracing these technologies will lead us to a healthier and more prosperous future.



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