Editorial

Digital Health: Opportunity or Overload for Young Doctors

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Digital health - telemedicine, electronic health records, mobile applications, wearable devices, and artificial intelligence diagnostics - is increasingly changing health systems globally. For young doctors in low- and middle-income countries (LMICs) such as Pakistan, the potential use of tools in digital health could bridge distance, support knowledge acquisition, and ease clinical workload. However, digital health can be a source of stress for young doctors if technology is introduced into the system without the proper infrastructure, training, or governance frameworks in place.

Given that the physician-to-population ratio is far below the WHO's recommendation, telemedicine has a clear appeal in Pakistan. From connecting female physicians working remotely to rural clinics to reducing travel time for patients in remote areas, digital platforms are already helping close these longstanding service gaps.[1] Some organizations have been effective in expanding access to care for women and underserved communities, with specialist input unavailable previously.

Education, in addition to patient care, conceptually has huge potential with the incorporation of digital health. Junior doctors could have access to updated training from mobile learning applications, virtual case discussions, and online continuing medical education platforms. A recent qualitative study of Continuing Medical Education (CME) in Pakistan noted that despite the current lack of infrastructure and regulation, technology can address the urban bias with continued postgraduate medical education from community-based locations if it is strategically used.[2]

Artificial intelligence introduces a new dimension to this change. AI-enabled point-of-care tools can now interpret ultrasound images taken by inexperienced operators, which may change the obstetric diagnostic landscape in low-resource settings.[3] More broadly, AI has the potential to democratize access to expertise in LMICs, such as in screening for tuberculosis or diabetic retinopathy, given attention to issues of data governance, ethical oversight, trauma, and local adaptation.[4,5]

Yet, the realities in Pakistan illustrate the limits of this potential. Many rural health facilities are still unable to guarantee reliable access to internet, electricity, and affordable

devices, and thus, sites of digital service delivery remain tenuous at best.[6] Many young doctors enter the workforce without formal education regarding digital health, only having little experience and blind luck by their side to help them become a part of a new system. Studies with medical students and clinical practitioners in Pakistan have demonstrated strong interest in AI and telehealth, but there is clear frustration surrounding curriculum integration, inadequate skills acquisition by students, and little institutional support.[7,8]

Even within high-income environments, poorly designed digital systems can obstruct workflows, increasing documentation time and decreasing face-to-face time with patients. In any uncertain workflow environment, with little thought put into the integration of these tools and systems, LMICS can replicate the same inefficiencies as we are beginning to adapt to the new normal. The absence of legal and ethical protections compounds the uncertainty and actual known risks of reliance on technology. A scoping review of telemedicine policy for Pakistan identified several gaps and revealed the lack of a coherent and comprehensive framework for telemedicine, as well as a lack of strict protection of patient data that puts both clinicians and patients at risk.[6] There are also concerns about equity. If access to digital health services is limited to urban, digital-savvy populations, vulnerable populations, especially women in conservative rural areas, will continue to be excluded.

For the newest generation of doctors in Pakistan, digital health is a balance of opportunity and challenge. It can provide an entry point to expose their understaffed ward to specialist care, allow them and their colleagues to learn in real-time across distances, and support clinical decision making in already burdened settings. With the absence of supportive infrastructure, clinician-focused design, appropriate training, and formal regulations or guidelines, these tools could simply be another burden.

The way forward requires embedding digital health literacy into undergraduate and post-graduate curricula, integrating clinicians in the designing of culturally and operationally appropriate tools, improving broadband connectivity to rural health facilities, and national policy frameworks that recognize the need to balance innovation with patient safety and privacy. Most importantly, equity must be central to any intervention and ensure that the benefits of digital health reach those who need it the most.

The potential benefits of digital health in low to middle-income countries (LMICs) like Pakistan are apparent, as is the danger. As young doctors traverse their new digitally dominant health landscape, their responsibility is not just to adapt but to shape these innovations to enhance rather than compromise humane, effective, and equitable care. If done with foresight, digital health may present a meaningful opportunity; if not, it may simply become another weight to bear for an already overburdened workforce.

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