

Innovative approaches to strengthening health systems in LMIC's

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Strengthening of health systems in low- and middle-income countries (LMICs) is a global challenge, as the implications of healthcare issues within these countries, such as infectious disease outbreaks, have far-reaching consequences. The COVID-19 pandemic has further underscored the necessity of addressing the vulnerabilities within the health systems and the need for context-specific innovative solutions.

This special issue, "Innovative approaches to strengthening health systems in low- and middle-income countries: Current models, developments, and challenges", aims to spotlight approaches to strengthening health systems in LMICs. The submissions in this special issue highlight a range of challenges faced by LMICs in strengthening their health systems, including:

- Education/training particularly for increased awareness of the use of technologies for supporting healthcare services and addressing inadequate coordination among stakeholders for service delivery;
- Cultural barriers in the acceptance of more innovative approaches, and inequitable access to healthcare due to socioeconomic factors;
- Policies and regulatory practices to support enhancements in health delivery systems; and
- Resource constraints including access to healthcare personnel, and weakness in the underlying technical infrastructure to support and sustain new approaches to healthcare;

In: "A cross-sectional study regarding the knowledge, attitude and awareness about self-medication among Bangladeshi people" [1], the author discusses the use of self-medication and traditional healthcare practices by citizens in Bangladesh. There are few policies or regulations to ensure effective control over the sale and distribution of medications, enabling anyone to purchase medication without a prescription. This situation is exacerbated by limited access to healthcare, unequal and inaccurate distribution of drugs, costs due to distance of healthcare facilities, and expensive consultation fees, thereby contributing to a high incidence of self-medication in countries like Bangladesh. Self-medication is a serious

public health concern in LMICs driven by a complex interplay for factors including socioeconomic factors, limited access to healthcare service delivery and lack of effective public education. Addressing these gaps in healthcare requires robust policy frameworks to strengthen drug regulation, increase public awareness and empower healthcare professionals.

In "Adoption of Contact Tracing App during Pandemic: Users' Resistance Behavior" [2], the authors address the use of smartphone technologies by citizens in India, specifically for tracking COVID-19 infections. The study highlights the challenges in the adoption of technologies within LMICs, including security and privacy concerns of users, particularly around possible unethical use of personal health data. The results point to the need to raise user awareness of the value of the innovation through relevant user training to increase user trust and usage of the mobile application. The solution also points to the wider need for the cultural context to be considered in the design and adoption of technologies for use within LMICs.

The article titled "E-Prescription: A Practical Application of Information and Communications Technology in Perspective of Bangladesh" [3] similarly sheds light on some of the issues faced in the implementation of an electronic prescription management system within the health system that was developed and tested within a patient setting. The e-prescription management system allows patients to confirm an appointment, consult with a healthcare professional and initiate an online e-prescription, yet challenges such as user trust and awareness, as well as requisite policy frameworks, create a barrier to the effective usage and integration of technologies within the sector. The paper therefore also points to the need for addressing user perception of technology use in healthcare (through effective training) and the development of policies (including that surrounding the privacy and protection of user data) to support the integration of technologies such as the e-prescription system.

The final article, "Digital Health Inclusion Towards Achieving Universal Health Coverage for Bangladesh Utilizing General Practitioner Model" [4],

also explores barriers such as lack of adequate healthcare facilities and other resource constraints within the context of rural Bangladeshi communities. The authors introduce a digital General Practitioner (GP) model for addressing health screenings of residents within the context of marginalised communities with respect to healthcare access. One of the common challenges within LMICs is the use of paper-based solutions for patient healthcare management, which leads to issues of poor data quality and lack of timely resolution of key issues. In designing a digital model that addresses data quality issues, more effective decision-making processes with regard to healthcare policies can be implemented. One underlying point here, and a common thread from all the studies, is the need for government intervention in ensuring these solutions at the rural level can be scaled and adopted at a wider level through the necessary support including the design and implementation of effective policies.

The manuscripts span several themes including the design of digital health solutions particularly for rural communities, the need for policy and effective governance, and innovative approaches to financing (to include health insurance) for integrated healthcare. The insights from this special issue therefore have implications for both researchers and healthcare practitioners in the development of systems to support evidence-based decision-making processes, and a coordinated and collaborative sectoral approach to the design and implementation of digital solutions.

We would like to express our gratitude to the authors and reviewers who made this special issue possible, as we look towards support a more sustainable and equitable approach to healthcare solutions in LMICs.

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