Bangabandhu Sheikh Mujib Medical University Journal 2025;18(4):e85031
ISSN 2074-2908 | eISSN 2224-7750 |

PERSPECTIVE

Integrating bioethics-driven rehabilitation to address non-communicable diseases and disabilities in Bangladesh and other low- and middle-income countries

Taslim Uddin[1] | Shamima Parvin Lasker[2]

[1]Department of Physical Medicine and Rehabilitation, Bangladesh Medical University, Dhaka, Bangladesh
[2]General Secretary, Bangladesh Bioethics Society, Dhaka, Bangladesh

Correspondence
Taslim Uddin
taslimpmr@bsmmu.edu.bd

Publication history
Received: 17 Oct 2025
Accepted: 9 Dec 2025
Published online: 14 Dec 2025

Executive editor
M Mostafa Zaman
0000-0002-1736-1342

Reviewers
A: Palash Chandra Banik
0000-0003-2395-9049
C: Tanzila Rafique
0000-0002-6617-907X

Keywords
bioethics, rehabilitation medicine, noncommunicable diseases, disability inclusion, LMICs

Funding
None

Ethical approval
Not applicable

Trial registration number
Not applicable

Low- and middle-income countries (LMICs) are undergoing an epidemiological transition with noncommunicable diseases (NCDs) such as stroke, diabetes, and cardiovascular diseases rising sharply [1]. These conditions often lead to long-term disability, yet rehabilitation services remain peripheral in most health strategies [2]. Globally, 16% of people live with disabilities, but their needs are consistently marginalised. Rehabilitation, particularly under the leadership of physiatrists, offers a means to uphold justice and dignity in health systems [3]. This article argues for a bioethics-driven framework to guide disability-inclusive NCD management, with Bangladesh providing a case example [4].

Traditional biomedical ethics emphasises autonomy and beneficence, but LMICs require broader principles: distributive justice, solidarity, and the capability approach. Exclusionary practices—such as inaccessible facilities, discriminatory consent processes, and catastrophic out-of-pocket expenses—compound inequities. Stroke survivors, individuals with spinal cord injury, and those with diabetic complications often face functional impairment without adequate rehabilitation or assistive technologies [5]. Neglecting rehabilitation violates justice and undermines human dignity.

Rehabilitation operationalises ethical principles by restoring function, independence, and participation. Physiatrists lead multidisciplinary teams comprising physiotherapists, occupational therapists, speech therapists, psychologists, and social workers, ensuring comprehensive care. In LMICs, where systems are fragmented and resources are scarce, this leadership is essential.

In Bangladesh, the expansion of community clinics and community-based rehabilitation provides a platform for incorporating disability-sensitive NCD care, with union-level health and family welfare centres delivering services close to home [1]. Yet major constraints persist weak infrastructure, limited training, and underfunded services. Recognising rehabilitation as a core element of universal health coverage is therefore an ethical imperative [2].

Despite international commitments such as the United Nations Convention on the Rights of Persons with Disabilities, implementation remains weak. Rehabilitation and non-pharmacological strategies are often excluded from NCD plans, and disability-disaggregated data are scarce [6]. Emerging tools such as digital health and artificial intelligence risk widening inequities unless inclusivity standards are mandated. Social determinants like poverty, stigma, and climate displacement—further entrench exclusion.

A bioethics-driven rehabilitation strategy in LMICs should include:

a) Mainstreaming rehabilitation in NCD policies.
b) Strengthening physical medicine and rehabilitation leadership and expanding multidisciplinary training.
c) Ensuring universal accessibility—physical, digital, and communicative.
d) Establishing social protection schemes to reduce out-of-pocket costs.
e) Enforcing ethical governance of AI and digital health.
f) Creating accountability mechanisms led by organizations of persons with disabilities.

Key messages

Noncommunicable diseases are rapidly increasing in low and middle income countries, deepening disability and inequality. Integrating rehabilitation into NCD care is both an ethical and practical imperative. Guided by justice, solidarity, dignity, and capability, bioethics provides a framework for inclusive health systems. Physiatrists and rehabilitation teams play a vital role in promoting equitable care in Bangladesh and similar contexts.

These measures promote justice, solidarity, and sustainability in health systems.

In conclusion, rehabilitation in LMICs must be reframed as an ethical necessity rather than an optional adjunct. Embedding rehabilitation within NCD pathways secures not only survival but also dignity, participation, and independence for persons with disabilities. For Bangladesh, integrating bioethics into rehabilitation policy and practice offers both a moral obligation and a pragmatic route toward inclusive, resilient health systems.

Acknowledgments

None

Author contributions

Conception and design: TU, SPL. *Manuscript drafting and revising it critically:* TU, SPL. *Approval of the final version of the manuscript:* TU, SPL. *Guarantor of accuracy and integrity of the work:* TU.

Conflict of interest

We do not have any conflict of interest.

Data availability statement

Not applicable

Supplementary file

None

References

1. World Bank. The continuum of care for NCDs in Bangladesh: The time to act is now 2025. Available at: http://documents.worldbank.org/curated/en/846731579019569888 [Accessed on 10 Dec 2025]
2. Uddin T. "Leadership in Rehabilitation Teamwork: Challenges for Developing Countries". Front Rehabil Sci. 2022 Dec 21;3:1070416. doi: https://doi.org/10.3389/fresc.2022.1070416
3. Secretary-General's report on the implementation of the UN Disability Inclusion Strategy. United Nations, 2019. Available at: https://www.un.org/en/disabilitystrategy/sgreport/2019 [Accessed on 10Dec 2025]
4. Kaczmarek A, Żok A, Baum E. Ethical principles across countries: Does 'ethical' mean the same everywhere? Front Public Health. 2025 Jun 11;13:1579778. doi: https://doi.org/10.3389/fpubh.2025.1579778
5. Uddin T, Shakoor MA, Rathore FA, Sakel M. Ethical issues and dilemmas in spinal cord injury rehabilitation in the developing world: A mixed-method study. Spinal Cord. 2022 Oct;60(10):882-887. doi: https://doi.org/10.1038/s41393-022-00808-8
6. Döding R, Braun T, Ehrenbrusthoff K, Elsner B, Kopkow C, Lange T, Lüdtke K, Jung A, Miller C, Owen PJ, Saueressig T, Schäfer A, Schäfer R, Schleimer T, Shala R, Szikszay T, Zebisch J, Belavý DL. Evidence gaps in conservative non-pharmacological interventions and guideline implementation for high-burden non-communicable diseases: Protocol for an overview of reviews. BMJ Open Sport Exerc Med. 2024 Oct 15;10(4):e002032. doi: https://doi.org/10.1136/bmjsem-2024-002032