



## Challenges of Treating Pain in Low-Income Settings and Strategies for Improvement

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*Pain is a universal health issue and a significant contributor to disability and disease burden worldwide [1]. Despite advancements in medical science, pain management remains inadequate, particularly in low-resource settings. Individuals in lower socio-economic classes not only experience a higher prevalence of pain but also endure more severe pain and greater disability than those in wealthier populations [2].*

*Evidence-based guidelines recommend a multimodal, interdisciplinary approach incorporating pharmacological, psychological, and physical modalities within a biopsychosocial model [3,4]. This paper highlights key challenges in managing pain in low-income settings and proposes solutions to address them.*

### Key Challenges in Pain Management

#### Patient-Related Factors

**Financial Barriers:** In many low-income settings, healthcare expenses are predominantly out-of-pocket, as social welfare services and health insurance are often unavailable. Chronic pain management often requires repeated clinic visits and long-term medication use, which many cannot afford. High costs may lead to self-medication or avoidance of healthcare services.

**Limited Awareness and Cultural Beliefs:** Many individuals lack awareness of pain management options. In some cultures, such as in parts of rural Southeast Nigeria, pain may be attributed

to supernatural causes [5], leading to delays in seeking medical care. Traditional healers, who are more accessible and culturally accepted, are often the first point of contact [5].

**Work Constraints:** Many workers in low-resource settings must continue working despite persistent pain. This urgency leads to expectations for quick fixes, such as medication or surgical interventions.

#### Healthcare Provider-Related Factors

**Inadequate Training:** Pain management requires a multidisciplinary approach, yet healthcare professionals in low-income settings often receive insufficient training. Physicians, nurses, psychologists, physiotherapists, and allied healthcare professionals may lack comprehensive pain management education.

**Workforce Shortage:** There is a critical shortage of pain management specialists. High patient-to-provider ratios, poor referral systems, and resource limitations lead to inadequate follow-up and reliance on outdated or ineffective treatments.

#### Healthcare System-Related Factors

**Infrastructure Deficiencies:** Many healthcare facilities lack essential equipment and medications for pain management. The absence of diagnostic tools, rehabilitation centers, and specialized clinics hinders effective treatment. Additionally, weak

healthcare frameworks and inconsistent guidelines exacerbate the problem.

**Limited Access to Mental Health Services:** Essential mental health services are frequently siloed from primary care and pain management, resulting in patients being unable to access integrated biopsychosocial treatment. Moreover, healthcare policies may not consider psychological pain treatments to be essential health services.

**Substandard Medications:** The presence of counterfeit or substandard drugs is a widespread issue resulting from weak regulatory systems, complex procurement processes, and poor quality control. These medications not only fail to alleviate pain, but also contribute to increased morbidity, mortality, and loss of trust in the healthcare system.

## Strategies to Overcome Pain Management Challenges

### Addressing Patient-Related Barriers

**Financial Support:** Governments should implement social welfare programs, such as subsidized healthcare and insurance coverage, to ease financial burdens. Affordable and reliable transportation should also be prioritized.

**Community Education:** Public awareness campaigns should focus on educating communities about pain management options. Engaging community leaders can help dispel misconceptions and promote evidence-based treatments.

**Telehealth and Self-Management:** Mobile health technologies, such as smartphone-based exercise programs and self-management applications, can extend psychological treatments, physiotherapy, and education to remote areas, reducing costs and improving accessibility<sup>[6]</sup>.

### Enhancing Healthcare Provider Training and Service

**Educational Initiatives:** Integrating pain management training into curricula across healthcare professions, offering workshops, scholarships, and developing mentorship programs can enhance provider competency.

**Biopsychosocial Approach:** Promoting and emphasizing the utilization of evidence-based interdisciplinary approach to pain management<sup>[3]</sup>. A biopsychosocial model that incorporates biological, psychological and social interventions is preferred to the biomedical and biomechanical models employed in many low-income settings<sup>[4]</sup>.

**Task-Shifting:** Training community health workers to deliver basic pain management interventions under specialist supervision can expand access in peripheral regions.

## Strengthening Healthcare Systems

**Investment in Infrastructure:** Establishing basic pain management clinics in primary healthcare centers, equipping facilities with affordable diagnostic and therapeutic tools, and enhancing telemedicine services can significantly improve access to care.

**Increasing Awareness:** Building on the work of “local champions” working with health system decision-makers to promote awareness of chronic pain, its associated problems, and possible practical solutions that would be acceptable in that community.

**Improving Access to Interdisciplinary Treatment:** Governments should streamline regulatory processes, reduce import taxes, and collaborate with non-governmental organizations (NGOs) to maintain a stable medicine supply. Moreover, they should create policies to incorporate psychological care and physiotherapy into current pain treatment protocols.

**Low-Cost Innovations:** Using locally-available physiotherapy materials such as exercise bands and weights can be as effective as commercial equipment and therefore reduce costs. Empowering patient pain self-management is a low cost and effective strategy.

**Public-Private Partnerships:** Partnerships between governments and NGOs can support sustainable healthcare services, reducing costs and improving accessibility.

## Conclusions

Managing pain in low-resource settings presents considerable challenges. However, targeted interventions—such as improving healthcare infrastructure, increasing training opportunities for providers, emphasizing a biopsychosocial model of care, and ensuring equitable access to healthcare services—can significantly enhance pain management and reduce the burden of untreated pain in these regions.

## References

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