

## Barriers to Hearing Aid Adoption in Low-Resource Settings

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### ABOVE THE STUDY

Hearing loss is a major global health concern, with a disproportionate burden in low-resource settings where access to diagnosis and rehabilitation remains limited. Although hearing aids are an effective intervention for many forms of hearing impairment, their adoption in these regions is strikingly low. This short communication highlights key barriers to hearing aid uptake and suggests potential strategies to address them.

One of the most significant barriers is the high cost of hearing aids relative to average income levels. In many Low- and Middle-Income Countries (LMICs), hearing devices are not subsidized by public health systems, making them unaffordable for large segments of the population [1]. Even when low-cost devices are available, additional expenses such as batteries, maintenance, and follow-up services further increase the financial burden [2]. As a result, individuals often delay or forgo treatment altogether.

Limited access to audiological services is another critical challenge. Many rural and underserved areas lack trained audiologists and appropriate diagnostic facilities [3]. This shortage leads to underdiagnosis of hearing loss and inadequate fitting of hearing aids, which can negatively affect user satisfaction and long-term adherence [4]. Tele-audiology has been proposed as a potential solution, but its implementation is constrained by infrastructure limitations such as poor internet connectivity and lack of digital literacy [5].

Cultural perceptions and stigma surrounding hearing loss and assistive devices also play a substantial role in low adoption rates. In some communities, hearing impairment is associated with aging or disability, leading to social stigma and reluctance to seek help [6]. Hearing aids, being visible devices, may further reinforce these perceptions, discouraging individuals from using them consistently [7]. Public awareness campaigns and community-based education programs are essential to address misconceptions and promote acceptance.

Another important factor is the lack of user-centered device design tailored to the needs of populations in low-resource settings. Many hearing aids are developed with high-income markets in mind, often overlooking environmental and lifestyle

differences such as exposure to dust, humidity, and irregular power supply [8]. Devices that are not durable or adaptable to these conditions are less likely to be used effectively. Furthermore, complex user interfaces may pose challenges for individuals with limited literacy or technological familiarity.

Supply chain and policy-related issues further hinder adoption. Inconsistent availability of devices and replacement parts can disrupt continuity of care [9]. Additionally, the absence of national hearing health policies in many LMICs results in fragmented service delivery and limited prioritization of hearing care within public health agendas [10]. Strengthening policy frameworks and integrating hearing care into primary healthcare systems could improve access and sustainability.

Addressing these barriers requires a multifaceted approach. Reducing costs through local manufacturing, subsidies, or bulk procurement programs can improve affordability. Expanding training programs for community health workers and leveraging mobile health technologies may help bridge the gap in service delivery. Importantly, involving end-users in the design and implementation of hearing care solutions can ensure that interventions are culturally appropriate and contextually relevant.

In conclusion, while hearing aids have the potential to significantly improve quality of life for individuals with hearing loss, their adoption in low-resource settings is limited by economic, infrastructural, cultural, and systemic barriers. Collaborative efforts involving governments, healthcare providers, researchers, and industry stakeholders are essential to overcome these challenges and promote equitable access to hearing care.

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