

# Barriers Affecting Provision and Use of Mobility Assistive Technology Devices in Low-, Lower-Middle- and Upper-Middle-Income Countries: A Systematic Review

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## Background

- More than 1 billion individuals worldwide experience lifelong disability
- Persons with disabilities (PwD) experience inadequate access to health care, employment, and education
- Use of a **mobility assistive technology device (MATD)** can help PwD regain independence and enable more participation with family, friends and community
- *Only 5-15% of individuals who could benefit from MATD actually possess one in low-, lower-middle-, and upper-middle-income countries (LMIC)*

## Purpose

- Identify** barriers affecting the provision and effective use of low-tech MATD such as wheelchairs, walkers, and prosthetics by PwD in LMIC
- Discuss** current and potential efforts to overcome these barriers to meet the basic human rights of all PwD

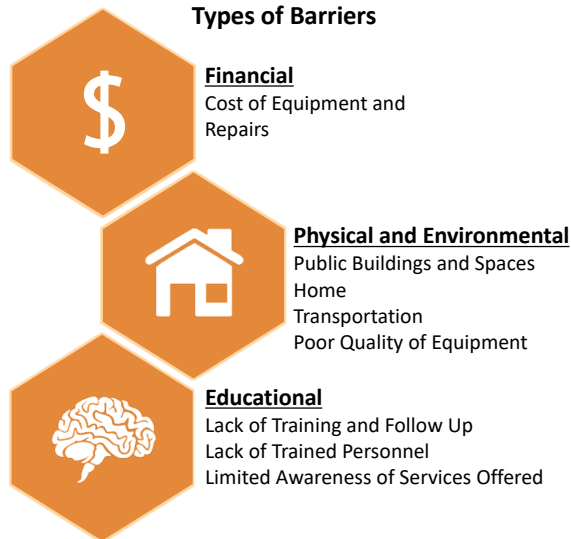
## Methods

Embase<sup>®</sup> PubMed Scopus<sup>®</sup>

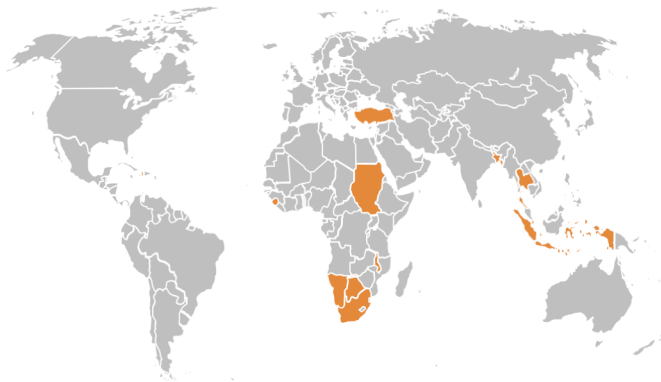
- Inclusion Criteria:
  - conducted in a low-, lower-middle-, and/or upper-middle-income country;
  - pertains primarily to low-tech mobility devices,
  - identifies barrier to provision or use of mobility device; and
  - provides full-text articles published within the past 15 years
- 3 step screening process conducted by 2 individual researchers until consensus
- 12 studies included in final analysis

## Results

### Types of Barriers



### Locations of Included Studies



<b>Latin America and the Caribbean:</b> Haiti	<b>Sub-Saharan Africa:</b> Botswana Malawi Namibia Sierra Leone South Africa Sudan	<b>East Asia and the Pacific:</b> Indonesia Thailand
<b>Europe and Central Asia:</b> Turkey	<b>South Asia:</b> Bangladesh	

## Discussion

### Financial

- In a 2005 survey, 36% of countries had not allocated funds for developing and supplying AT
- The historical mass-distribution model without proper training and fitting has proven to be ineffective
- Recently Published Recommendations:

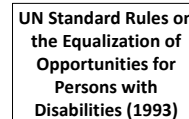


### Physical and Environmental

- Across settings, established accessibility standards appear to be well known
- The core problem is a lack of effective policy-making and enforcement of regulations



legally binding



not legally binding



not legally binding

### Educational

- The majority of training programs in LMIC are administered by non-governmental organizations, which have little oversight for quality and effectiveness
- Self-sustainable programs have proved more effective



*Self-sustaining hearing aid with focus on training local healthcare workers and increasing awareness of services*

## Clinical Relevance

United Nations Convention on the Rights of Persons with Disabilities (2006):

**Access to assistive technology is a human right.**

MATD provides personal mobility and independence, creating meaningful change in the user's life