handicap international humanity &inclusion

2025 REPORT

Rehabilitation for all : essential throughout life and for many health conditions

Humanity & Inclusion

Humanity & Inclusion (also known as Handicap International) is an independent and impartial aid organisation working in situations of poverty and exclusion, conflict and disaster. We work alongside persons with disabilities and vulnerable populations, taking action and bearing witness in order to respond to their essential needs, improve their living conditions and promote respect for their dignity and fundamental rights.

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List of Acronyms

AT	Assistive Technology
CBR	Community-Based Rehabilitation
CHANCE	Child-Centred Holistic Approach to a Nurturing Care Enabling Environment
DALY	Disability-Adjusted Life Year
DGD	Directorate-General for Development Cooperation and Humanitarian Aid
GBD	Global Burden of Disease
HEPR	Health Emergency Preparedness, Readiness, Response, and Resilience
HMIS	Health Management Information System
HI	Handicap International - Humanity & Inclusion
IDEC	Intervention for Disabilities in Early Childhood
LMIC	Low- and Middle-Income Country
NGO	Non-Governmental Organisation
NCD	Non-Communicable Disease
OOP	Out-Of-Pocket
OPD	Organisation of Persons with Disabilities
RHIS	Routine Health Information System
SoHaPh	Haitian Society of Physiotherapists
SDG	Sustainable Development Goal
STARS	Systematic Assessment of Rehabilitation Situation
UHC	Universal Health Coverage
UN	United Nations
UNCRC	United Nations Convention on the Rights of the Child
UNCRPD	United Nations Convention on the Rights of Persons with Disabilities
WHO	World Health Organization
WHA	World Health Assembly
YLD	Years Lived with Disability

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Key Messages

Today, an estimated 2.6 billion people worldwide - or one in every three people - are affected by health conditions that could be improved through rehabilitation. However, these services often remain out of reach for those who need them most. Over 50% of those who need rehabilitation services do not receive them in low- and middle-income countries (LMICs).

Rehabilitation is an essential health service that forms part of the continuum of prevention, promotion, treatment, rehabilitation and palliative care. **Rehabilitation is not only for persons with disabilities; it is a necessary health service for anyone experiencing limitations in daily functioning** due to a broad range of health conditions, such as injuries or trauma resulting from accidents, congenital disorders from a very young age, non-communicable diseases (NCDs), pregnancy and delivery complications, as well as chronic diseases or other health conditions associated with ageing.

Rehabilitation has immense potential to improve the health outcomes and wellbeing of people of all ages.

- During childhood and adolescence, timely rehabilitation and AT can greatly help to optimise children's development and functioning and even prevent the development of secondary impairments, enabling them to reach their full developmental potential.
- During adulthood, rehabilitation supports individuals to lead fulfilling and productive lives by helping them maintain their ability to work, care for their families, and contribute to their communities.
- During older age, rehabilitation is a key strategy for promoting healthy ageing and longevity.

Gendered factors shape rehabilitation needs and barriers. Rehabilitation services must not only address gender-specific health needs but also aim to be gender-transformative by tackling barriers to access and promoting equitable health-seeking behaviours and caregiving responsibilities.

Timely rehabilitation, including early interventions and continued care, significantly improves patient outcomes by preventing complications and optimising functional recovery. However, this requires services to be widely accessible, well-known, and thoroughly integrated at different levels of health service provision, especially at primary healthcare and community levels, as well as in health emergency preparedness and response.

Rehabilitation is crucial to achieving universal health coverage (UHC). Despite this, rehabilitation is often deprioritised in public health budgets and treated as a luxury service for the few, not the many. **At a time of unprecedented cuts to global aid that are significantly impacting the health sector**, combined with a constant low level of investment of domestic financial resources, sustainable financing models for rehabilitation are more important than ever. This requires an increase in public health funding, coordination with external actors, and better monitoring data collection to help prioritise investment.

There is growing recognition of the importance of strengthening rehabilitation across all levels of care to respond to the needs of people with various health conditions, and at all ages. Integrating rehabilitation into primary healthcare helps improve accessibility and continuity of services by bringing them closer to communities in need.

Ongoing critical gaps in the rehabilitation workforce, as well as challenges with regard to the affordability and quality of assistive technology—particularly in LMICs—prevent access to necessary care. Training and accrediting rehabilitation professionals, job recognition, career development, flexible educational pathways, and professional associations can enhance quality and retention. To ensure quality and sustainability, AT provision must be paired with adequate training of rehabilitation professionals to oversee the provision, fitting, adaptation and maintenance of AT.

Ongoing critical gaps in the rehabilitation workforce, as well as challenges with regard to the affordability and quality of assistive technology—particularly in LMICs—prevent access to necessary care. Training and accrediting rehabilitation professionals, job recognition, career development, flexible educational pathways, and professional associations can enhance quality and retention. To ensure quality and sustainability, AT provision must be paired with adequate training of rehabilitation professionals to oversee the provision, fitting, adaptation and maintenance of AT.

Strong, multisectoral partnerships are essential for building effective and sustainable rehabilitation services. Collaboration across sectors - including health, education, social protection and labour - is needed to address the diverse and intersecting needs of individuals requiring rehabilitation and to ensure coordinated service provision.

Introduction

Today, an estimated 2.6 billion people worldwide - or one in every three people - are affected by health conditions that could be improved through rehabilitation,[1] and the needs are continuously growing.

Changing health and demographic trends, including population ageing, are leading to a significant increase in the number of people experiencing declines in functional ability. The World Health Organization (WHO) estimates that the number of people aged 60 and over will increase from 1 billion to 1.4 billion by 2030, a trend that will be felt all around the world.[2] Global populations are living longer than ever before, but they are also experiencing more limitations in functioning.[3] The average number of years people spend living with disabilities (YLDs), such as musculoskeletal disorders, sensory impairments, heart and lung diseases, and mental and neurological conditions, has also increased from 270 million in 2011 to 340 million in 2021.[4]

Rehabilitation is a "set of interventions designed to optimize functioning in individuals with health conditions or impairments in interaction with their environment."[5] Not only is it an essential health service needed to achieve universal health coverage (UHC), but rehabilitation is also a cornerstone of inclusive and sustainable development. Both rehabilitation and assistive technology (AT) help individuals to live healthier, longer, more independent lives, delaying the need for long-term care, and enabling them to reach their fullest potential.

The rising demand for rehabilitation services poses urgent challenges for health and social systems,[6] as these services often remain out of reach for those who need them most. In low- and middle-income countries (LMICs), over 50% of those who need rehabilitation services do not receive them.[3] The integration of rehabilitation within national health systems also remains uneven, underfunded, and is frequently left out of emergency response and preparedness planning.[7] Furthermore, there is a growing shortage of rehabilitation services worldwide, and data on the rehabilitation workforce itself is often limited. The WHO estimates a global shortage of 11 million healthcare workers by 2030, particularly in LMICs, where there are already fewer than 10 skilled rehabilitation practitioners per million people.[8]

This report by Humanity & Inclusion (HI) illustrates how rehabilitation is essential for everyone throughout their lives and for a broad range of health conditions. Drawing on evidence and the experiences of rehabilitation and AT users, service providers and other stakeholders in Benin, Haiti and Uganda, it highlights the challenges and gaps in the sector, as well as successful strategies for integrating rehabilitation into health systems and improving the availability, access and quality of rehabilitation and AT. It concludes with recommendations for better integrating rehabilitation into health systems, over people's lifespans, and the continuum of care.

Methods

This research draws on primary and secondary data collected through interviews with 31 key informants, primarily in Benin, Haiti and Uganda. Key informants were rehabilitation professionals, local and international Organisations of Persons with Disabilities (OPDs), government officials, and United Nations (UN) agencies. In addition, three testimonies were collected from rehabilitation users in Benin, Haiti and Uganda, who shared their experiences of accessing rehabilitation

services. Finally, an extensive review of evidence and literature was conducted to assess rehabilitation services in the focus countries.

Rehabilitation is an essential health service

What are rehabilitation and assistive technology ?

The WHO defines **rehabilitation** as a "set of interventions designed to optimize functioning of individuals with health conditions or impairments in interaction with their environment and, as such, is an essential health strategy for achieving universal health coverage, increasing health and well-being, improving quality of life, delaying the need for long-term care and empowering persons to achieve their full potential and participate in society."[5]

Rehabilitation often goes hand-in-hand with **assistive technology (AT),** which includes products, systems and services designed to "help maintain or improve an individual's functioning related to cognition, communication, hearing, mobility, self-care and vision." These range from no-tech to high-tech solutions, including physical devices (such as wheelchairs, glasses, prosthetic limbs, canes, and hearing aids) and digital tools (such as speech recognition, screen readers, or closed captioning).[9]

Rehabilitation in international conventions and frameworks

Rehabilitation is a fundamental component of the right to enjoy the highest attainable standard of health and is an enabler for the realisation of other human rights.[10] The right to health is reaffirmed by General Comment No. 14 on the International Covenant on Economic, Social, and Cultural Rights (ICESCR), which states the importance of "equal and timely" access to rehabilitative health services. Under the UN Convention on the Rights of Persons with Disabilities (UNCRPD), Article 26 emphasizes how these services enable persons with disabilities to attain and maintain independence, functional ability, and full inclusion and participation in all aspects of life. It also calls upon Member States to provide and strengthen rehabilitation services and programmes.[11]

Rehabilitation and universal health coverage

Rehabilitation and AT are deeply intertwined with the achievement of the 2030 UN Agenda for Sustainable Development, in particular Sustainable Development Goal (SDG) 3 on ensuring healthy lives and promoting wellbeing for all at all ages, Target 3.8 relating to the achievement of **universal health coverage** (UHC). Under UHC, everyone has access, without discrimination, to quality essential public health services, without exposing users to financial hardship, especially among poorer, vulnerable and marginalised segments of the population.[12] These essential public health services span the **continuum of care** of prevention, health promotion, treatment, rehabilitation and palliative care.[13]

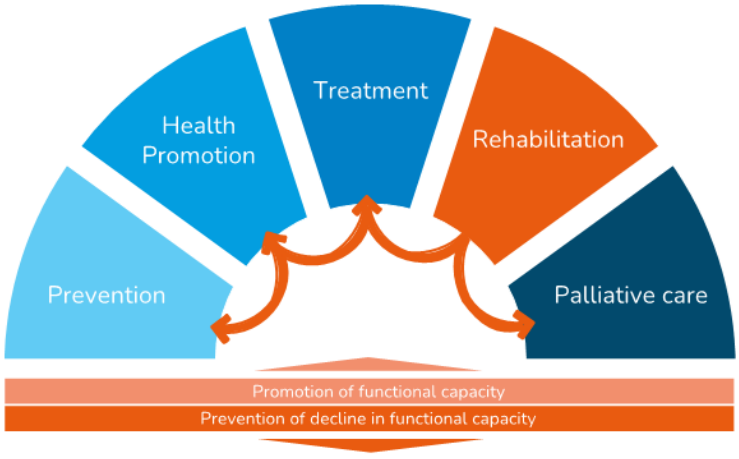
An increasing global focus on rehabilitation

In public health policy, global attention has long centred on reducing mortality and morbidity, rather than on functioning. However, in recent years, rehabilitation has been gaining momentum in global public health agendas. In 2017, the WHO launched its *Rehabilitation 2030: A Call for Action*, which highlights the urgent need to scale up services to meet the growing demand for rehabilitation, particularly in crisis-affected and resource-constrained settings.[13] It notes how greater access to rehabilitation services is needed to achieve SDG Target 3.8 and calls for "coordinated and concerted global action towards strengthening rehabilitation in health systems."[13] It also paved the way for numerous subsequent commitments on rehabilitation, including the adoption of the resolution on Strengthening Rehabilitation in Health Systems by the World Health Assembly (WHA) in 2023.[14]

Rehabilitation is needed along the continuum of care

Rehabilitation is one of the essential health strategies that make up the continuum of care, without which UHC cannot be achieved. WHA Resolution 76.6 (2023) urges Member States to ensure the integrated provision of "high-quality, affordable, accessible, gender-sensitive, appropriate and evidence-based interventions for rehabilitation along the continuum of care."[5] While these services are presented as a continuum, they often overlap in practice.

Figure 1 Rehabilitation along the continuum of care



Graphic adapted from WHO, 2021[15]

Rehabilitation is often misunderstood as a "fallback strategy" when preventive or curative interventions fail.[16] However, rehabilitation is not only a reactive intervention for treating health conditions and regaining function; it can also help to prevent the recurrence of certain injuries or health conditions. Therefore, delivering integrated health services often means combining varying degrees of rehabilitation, prevention, promotion, treatment, and palliation tailored to the individual's needs.[15] The timing and the nature of services needed may depend on the cause, nature, and prognosis of the health condition, its impact on everyday functioning, and a person's individual goals and circumstances.[17,18]

The importance of timely care

Access to rehabilitation services at different stages of the health journey can greatly influence patient outcomes. Existing research on rehabilitation points to the value of **timely care**, including both early interventions (acute medical response) and continued care, to offer rehabilitation users the best outcomes.[17] Timely rehabilitation has proven effective in reducing disability, preventing secondary complications, increasing survival, and speeding up recovery. For instance, research during the COVID-19 pandemic highlighted how early rehabilitation and telerehabilitation for out-patient care helped to reduce hospital stays, improve patients' exercise tolerance, and alleviate shortness of breath.[19]

To undertake timely rehabilitation, these services need to be widely accessible and thoroughly integrated at different levels of health service provision, especially at primary healthcare and community levels. Unfortunately, in many LMICs, challenges to providing early rehabilitation include high patient numbers, limited financial resources, equipment, and trained personnel, and ensuring effective referral and follow-up.

Bridging the gap in emergency response

Higher rehabilitation needs in emergency contexts, yet access is even more complex

Emergency situations, such as conflicts or disasters, tend to increase needs for rehabilitation, as affected groups sustain injuries and trauma, as existing needs are exacerbated, or as their assistive devices are damaged or lost.[7] This surge in demand often occurs in countries already struggling to meet chronic rehabilitation needs. At the same time, health infrastructure may suffer damage and destruction, safe access to rehabilitation facilities is compromised, and the number of rehabilitation-skilled professionals dwindles as some are injured, forced to flee or relocate.[20] For example, in Haiti, it is estimated that 40% of health facilities, including the country's main university hospital, a key rehabilitation provider, closed in 2024 due to gang-related violence and the emigration of healthcare workers.[21]

> *"In many African countries, the integration of rehabilitation is still limited and the perception is generally that, during conflict and disasters, the priority is given to the strictly life-saving medical responses."*
>
> Chiara Retis, WHO, Team Lead, Violence, Injuries and Disability Programme

Rehabilitation services are often overlooked in health emergency preparedness, readiness, response, and resilience (HEPR) planning, and many countries continue to view rehabilitation as necessary only for late response or early recovery phases. This is problematic because early rehabilitation is a key determinant for optimal patient recovery and makes emergency health responses more efficient and effective.[7]

To address this gap, rehabilitation must be better integrated into HEPR plans. The WHO recommends developing mechanisms such as surge staffing, specialist training in trauma care, equipment stockpiling, and integrating rehabilitation personnel into emergency medical teams.[16] Furthermore, communities and practitioners need to be aware of these services to make timely use of them.

Mobile clinics and telerehabilitation - a practice worth expanding

The implementation of mobile rehabilitation units has been found to be highly impactful in providing services in emergency contexts and as a way of extending access to remote and hard-to-access areas. According to a 2023 analysis by HI, mobile clinics made up 46% of all identified rehabilitation institutions in Haiti.[22] Research by HI with telerehabilitation professionals and users in the Cape Haitien and Ouanaminthe areas found the service to be helpful in limiting travel, reducing healthcare costs, and supporting continuity of care for users who may otherwise be unable to access centres.[23]

Financing for rehabilitation must be increased

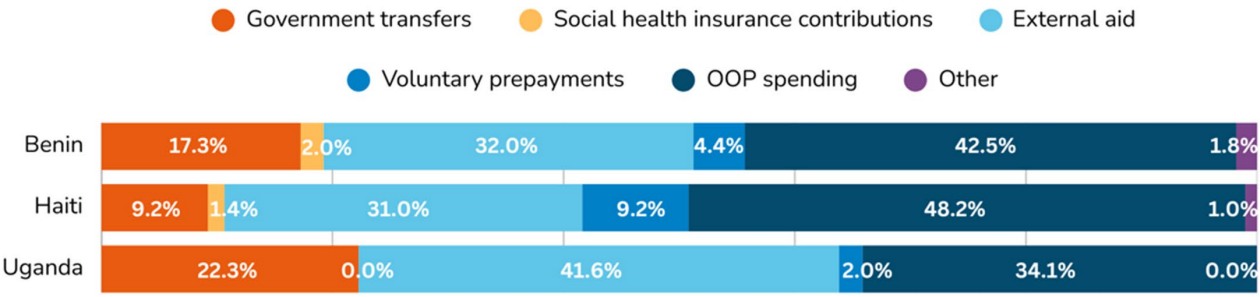
Public health financing must reflect the reality that rehabilitation is an essential health service needed to achieve UHC. However, one of the main reasons why people fail to access rehabilitation is because they cannot afford it.

Financing rehabilitation is a cost-effective investment that reduces long-term healthcare costs while improving quality of life. However, rehabilitation has been historically deprioritised in public health financing. Many countries struggle to allocate sufficient resources to health services, and rehabilitation is among the most neglected. In 2022, government health spending was alarmingly low in many countries, accounting for just 2.6% of total government expenditure in Benin, 4.1% in Haiti, and 4.9% in Uganda.[24] These results fall woefully short of international commitments, such as the Abuja Declaration target of allocating and spending at least 15% of government expenditure on health.[25]

High out-of-pocket expenses for rehabilitation and AT

Global recommendations indicate that out-of-pocket (OOP) payments should not exceed 15-20% of total national health expenditure to ensure they are affordable and accessible to all. Yet, in many low and middle-income countries, OOP expenditure far exceeds this amount and is the primary source of rehabilitation funding. In Haiti, OOP spending made up close to half (48.2%) of all health expenditure in 2022.[24] High OOPs are linked to low government subsidisation, limited social health insurance coverage, the high cost of AT, consultations and care services, and the lack of services in rural and remote areas, which generate higher travel and accommodation costs.[26] In Benin, social protection mechanisms are very limited, covering only 8.4% of the population.[27]

Figure 2 Sources of health financing for Benin, Haiti and Uganda in 2022



Data expressed as a percentage, rounded to the nearest decimal point.

This has major implications for health equity, as rehabilitation and AT represent a **catastrophic health expenditure** (health spending that exceeds 40% of income) for many, especially among the poorest and most underprivileged households**.** For instance, research indicates that women are more likely to have lower socioeconomic status or lack insurance, which can significantly hinder their ability to access rehabilitation services. This challenge is even greater for women with disabilities, as evidence shows a strong link between poverty and disability.[28]

Better coordination between sources of rehabilitation financing is needed

Fragmented rehabilitation financing, as seen in many LMICs, can create gaps and inequities in service coverage, significantly limiting rehabilitation's ability to reach its full potential as a core health service. To achieve UHC, rehabilitation services need to be prioritised in public health financing mechanisms and sufficiently funded to meet the needs of the population. Where funding for rehabilitation occurs through government agencies outside the ministry of health and other funding sources, such as external aid actors, effective coordination (interministerial and external) and data-sharing mechanisms are urgently needed to offset the risk of coverage gaps and inefficiencies.[26]

Amid global aid cuts, complementary financing and public health spending remain a priority

In many LMICs, external aid continues to make up significant portions of rehabilitation funding, including supporting existing health infrastructure, facilitating service referrals, directly providing rehabilitation services and/or funding these services. In Uganda, one-third (27.2%) of all assistive products were obtained from non-governmental organisations (NGOs), while 24.5% were self-made, and 19.4% were sourced from friends and family.[29] According to an analysis in Haiti, NGOs managed 28% of rehabilitation centres, and all the facilities surveyed were dependent on external aid.[30]

Unprecedented cuts to development aid have created an uncertain future for global health. In 2024, several donor countries—including the Netherlands, Germany, France, the United Kingdom, Finland, Switzerland, and Sweden, along with the European Union, announced cuts totalling $17.2 billion over the next five years.[31] In early 2025, the United States also halted over 80% of its

foreign aid.[32] This loss of funding is poised to affect a wide range of core health services and programmes, potentially leading to higher rates of preventable illnesses and chronic conditions, thus increasing the need for rehabilitation.

Rehabilitation has historically remained low on donors' health agendas, accounting for only a small fraction of overall health aid, and this situation is now at risk of further deterioration. The recent funding cuts threaten not only to disrupt health data collection efforts, but also to undermine broader investments in rehabilitation services, governance strengthening, and the progress made by countries to integrate rehabilitation into national health systems.

Ensuring that a high proportion of funding comes from public health revenues, while channelling nongovernmental funding through sector-wide mechanisms,[16] is more important than ever. Without complementary spending by governments, rehabilitation services are extremely vulnerable when donor priorities shift or interventions end, and this risks undoing progress in global health and wellbeing, disability inclusion and UHC.[30]

How can we improve healthcare data on rehabilitation?

systems fail to adequately capture information on rehabilitation needs, services and infrastructure availability, expenditure, and quality of care. The absence of globally accepted standards, benchmarks for financing, and coverage targets has also made rehabilitation service reform a low priority in health system strengthening.[33] Without reliable data, governments struggle to allocate funding where it is most needed and effective.[26]

Governments must invest in the collection of quality, disaggregated rehabilitation data and its integration into national health information systems.[34] This entails effective integration into various data streams, such as programme and facilities reports, audits, resource records, and comprehensive population surveys.[16]

Applying an intersectional lens to identify and address needs

Importantly, disaggregated data (by gender, age, disability, income level, geography, and migration status, among others) is essential when applying an intersectional lens. It helps reveal disparities in access, coverage, and outcomes, ensuring that rehabilitation services are designed and delivered in ways that respond to the diverse needs and barriers faced by different groups. Without such data, entire populations may remain invisible to policymakers and excluded from services.

Consumer-level data (such as household budget and health expenditure surveys) is also needed to understand how people make decisions about accessing care,[26,35] including financial and social constraints that may disproportionately affect marginalised groups.

The WHO has developed the Routine Health Information System (RHIS) to help countries harmonise rehabilitation data within their health information systems. As a case in point, Uganda has made significant strides in integrating rehabilitation data. Historically, the country only had data on the number of rehabilitation workers, but not on the utilisation of rehabilitation and AT

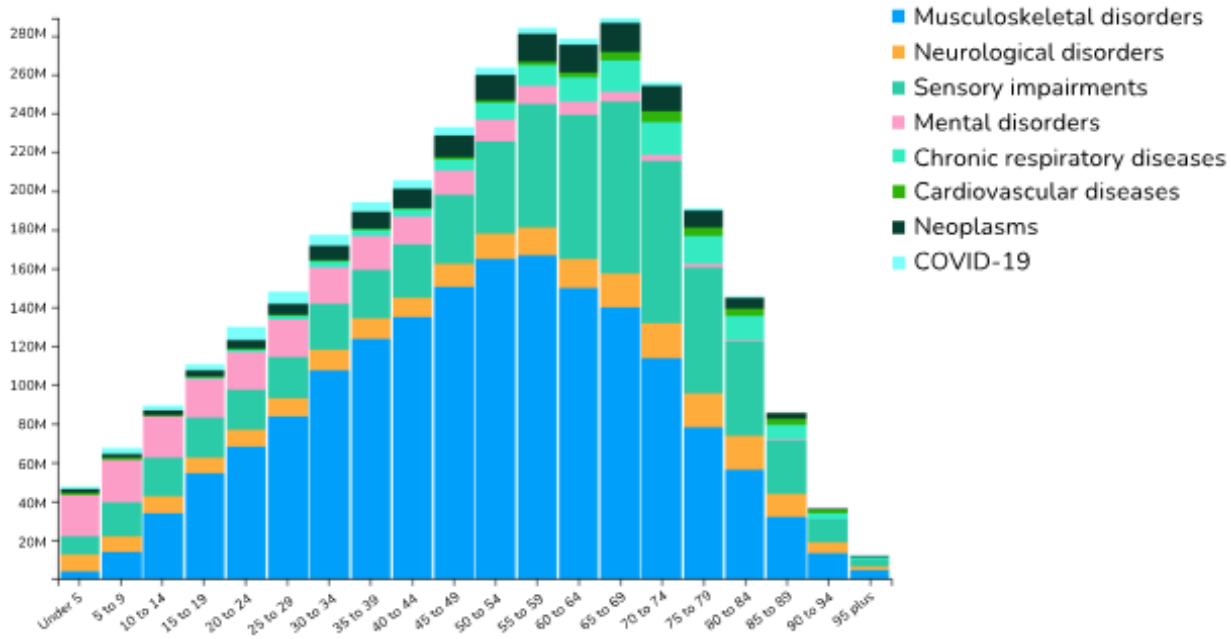
services. However, this situation is quickly evolving: the Ministry of Health, in partnership with the WHO and ReLAB-HS, integrated the RHIS and introduced six core rehabilitation indicators into the Health Management Information System (HMIS) as of September 2024. These efforts were accompanied by new data collection instruments, inpatient and outpatient rehabilitation registers, and targeting training for HMIS to ensure data quality.[36,37] The initiative is expected to greatly enhance data availability, which can be leveraged in strategic planning.

Rehabilitation is for people of all ages and diverse health conditions

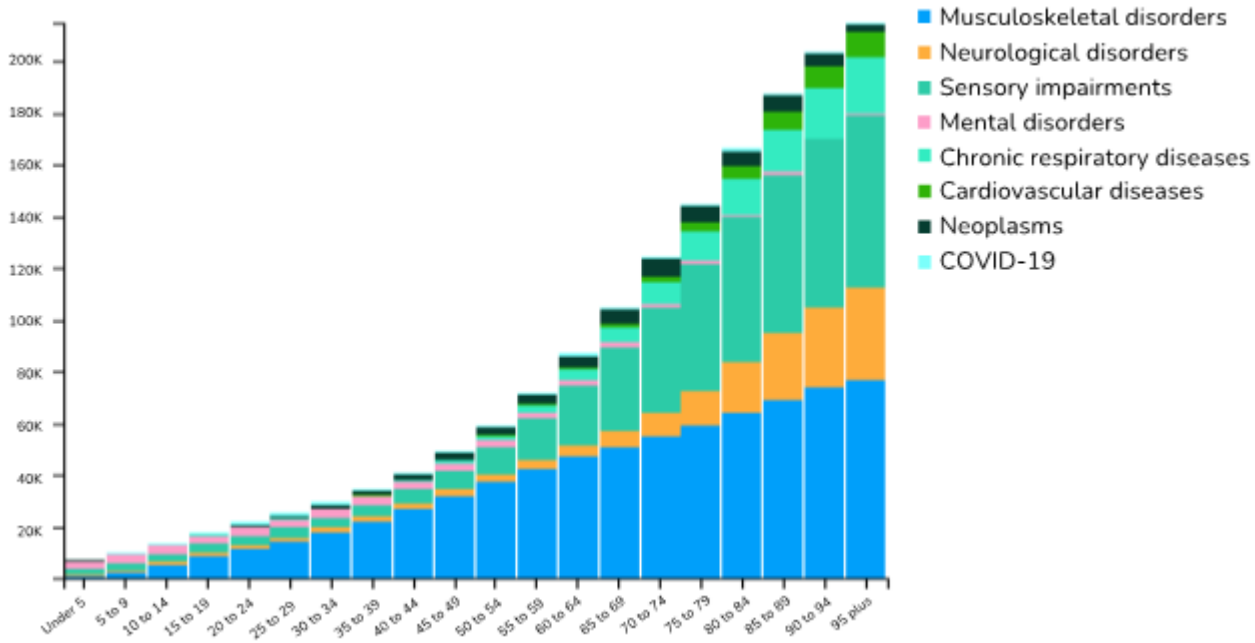
Rehabilitation is relevant at all stages of people's lives and has immense potential to produce benefits for people with diverse health conditions. Anyone may need rehabilitation or AT at some point in life, and these needs tend to evolve and significantly increase with age. This could be linked, for instance, to injuries or trauma caused by an accident, congenital disorders at a very young age, NCDs, pregnancy and delivery complications, as well as chronic diseases or other health conditions associated with ageing, as illustrated in figure 3 below.

Figure 3 Global rehabilitation needs, based on the 2021 Global Burden of Disease (GBD) Study

Number of people with rehabilitation needs throughout their lives (in millions), per health condition group



Prevalence of rehabilitation needs across lifespan (per 100,000 people), by health condition group



What health conditions can benefit from rehabilitation?

Rehabilitation is relevant for a broad range of health conditions

Historically, rehabilitation has been mischaracterised as a disability-specific service.[71] In reality, rehabilitation is not only needed to treat persons with disabilities; it is needed for anyone experiencing limitations in everyday physical, mental, and social functioning due to ageing or a health condition, including acute or chronic diseases or disorders, injuries, or trauma.[72,6] It is also relevant to a part of prevention efforts, for individuals who are likely to experience impairment or disability.[73] Because of this, the scope of rehabilitation services is very broad, and applies to a wide variety of health conditions.[72] Figure 4 below lists some of the most common conditions that may benefit from rehabilitation, based on data from the 2021 GBD study.

> *"People tend to think rehabilitation is a disability-specific service, but it is not. It is a health service that is required for everybody."*
>
> Smitha Sadisvan, Senior Advisor, Inclusive Health Policy, Disability Rights India Foundation

These include interventions such as assessment and screening, therapeutic procedures, exercises, and training, assistive products (prescription, fitting, and training), environmental modifications for better accessibility and independence, self-management strategies and medication.[16]

However, the ability for people to access appropriate rehabilitative care for diverse health conditions depends on multiple factors, including workforce availability, quality, acceptability, and accessibility across all levels of care.

Musculoskeletal conditions	Neurological conditions	Cardiopulmonary conditions	Neurodevelopmental disorders
Low back pain Fractures Osteoarthritis Rheumatoid arthritis Amputation	Alzheimer's disease and dementia Stroke Cerebral palsy Traumatic brain injury	Ischemic heart disease Chronic obstructive pulmonary disease	Autism spectrum disorders Developmental intellectual disability

Sensory conditions	Neoplasms	Mental health
Vision impairment Hearing loss	Cancer	Schizophrenia

Figure 4 List of common conditions requiring rehabilitation, based on the 2021 GBD Study16,4

The importance of a person-centered approach to rehabilitation

Person-centred approaches are important for the provision of quality rehabilitation services. In practice, this approach means focusing on the individual, and not just on the illness, emphasising individualised care, patient choice, and patient involvement in decision-making.[38] Indeed, research shows that the failure to meaningfully involve users in their rehabilitation decisions can discourage participation in these services.[45]

Similarly, rehabilitation services should also be designed to be inclusive of diverse subpopulations, by accounting for gender and life-cycle requirements, and through the active consultation of service users when designing rehabilitation services.

The following section considers how rehabilitation and AT respond to evolving needs throughout people's lives, including during childhood and adolescence, adulthood, and older age. It also looks at how intersecting factors such as gender, age, type of disability or health condition, socioeconomic status and geography impact access to timely and quality rehabilitation services.

Gender and rehabilitation

Rehabilitation, like other health strategy, is significantly influenced by gender dynamics. Men and women often have different experiences and needs when seeking rehabilitation. These experiences are further complicated when gender intersects with age, disability, socioeconomic status, and other factors that shape access and barriers.

Differing rehabilitation needs

An analysis using the Global Burden of Disease (GBD) Study data from 2021 indicates that while overall men and women have a similar prevalence of conditions that could benefit from rehabilitation (1.3 billion for women compared with 1.2 billion for men) women accounted for more YLDs (180M) compared with men (160M).[4] Some explanatory factors include longer life expectancies among women, as well as the fact that women face greater hurdles in accessing and using rehabilitation services.[52].

Rehabilitation is an important, if often underestimated, resource for maternal health, including as part of pre-conception, pregnancy, and perinatal and postnatal care. While significant global attention has been paid to reducing maternal mortality, less attention is given to maternal morbidity. Common impairments and activity limitations that can arise during or after pregnancy include obstetric fistula, pelvic floor dysfunction, perinatal depression, and musculoskeletal disorders.[53]

> *"During pregnancy, childbirth, and after delivery, there may be needs that require physiotherapy, for example. However, there are not many physiotherapists here who are trained or specialised in this area."*

Anne-Nathalie Brisard, Technical Officer READ OT, HI, and SoHaPh member, Haiti

Gender norms and familial expectations

Gender norms and familial expectations can lead to men and women approaching rehabilitation differently. For men, gendered social expectations around masculinity, such as the expectation to appear strong and withstand pain, may deter them from seeking rehabilitation.

Women, especially persons with disabilities, are more likely to have lower socioeconomic status or lack insurance, which can significantly hinder their ability to access rehabilitation services.[54,55] Research also indicates that the lack of female rehabilitation service providers is a barrier preventing women from participating in rehabilitation.[28] In households with fewer resources, lower priority may be given to girls with disabilities when spending on healthcare.

> *"We're trying to run an aerobics class for women, especially those who've given birth and suffer from back and pelvic pain, but many can't attend due to domestic responsibilities like picking up children or cooking. They feel pressured to care for others, not themselves."*

Night Atwongire, Senior Physiotherapist, Uganda

Besides, women and girls are more likely to bear the burden of caregiving for family members needing rehabilitation. By improving the individual's functioning and autonomy, rehabilitation can alleviate caregiving needs.

Rehabilitation can help foster gender equality by alleviating this care burden. However, greater advocacy is needed to ensure that all individuals, especially those facing intersecting barriers, receive equal priority in health. Therefore, rehabilitation services must not only address gender-specific health needs but also actively tackle barriers to access and promoting equitable health-seeking behaviours and caregiving responsibilities.

Childhood and adolescence

Children and young people are key users of rehabilitation, often with different needs compared with adults. In many LMICs, children and young people also make up a significant proportion of the overall population. In Uganda, for instance, close to 60% of the population is under 18, and 75% are below the age of 35.[39] Furthermore, despite the fact that the global neonatal and under-five mortality rate has dropped significantly over the last few decades,[40] the overall number of children and young people with health conditions that could benefit from rehabilitation services has increased.[1]

Childhood and adolescence are critical periods for physical, cognitive, social and emotional growth. The experiences and support they receive during this critical phase can greatly influence their life trajectories and opportunities. Having access to timely, quality rehabilitation services and AT can greatly help to optimise children's development and functioning and even prevent secondary impairments among those with disabilities.[41] Paediatric rehabilitation can help address a variety of health conditions, such as neurological, congenital, and intellectual impairments, as well as injuries.[42] Such services can also serve to increase their social integration, participation in education, community and recreational activities.[43]

> *"If you don't start rehabilitation when a child is small, it becomes harder as their bodies develop. Without proper intervention, they risk not growing in the best possible way they can. Assistive technology also needs to be resized as children grow, and since kids love to run and jump, their devices can break or wear out."*
>
> Ellie Cole, Research Fellow, University College London, United Kingdom

Children from vulnerable households, whether due to poverty, rural residence, or even migration status, are at a higher risk of missing out on early childhood care. In refugee and displacement settings, these risks are further heightened because of limited awareness of and access to health services, especially for secondary or tertiary rehabilitation services, which may require travel to another city. The lack of adapted care in the early years of childhood leads many children to develop disabilities and developmental delays with lifelong impacts.

Children suffering from severe acute malnutrition are particularly vulnerable, as undernutrition during critical growth periods can significantly impair brain development, physical functioning, and long-term health. In such cases, rehabilitation should go beyond nutritional support to include **stimulation therapy**, a set of practices aimed at enhancing cognitive and motor development. Integrating stimulation into daily caregiving routines has shown promising results in improving developmental outcomes for malnourished children.

Stigmatisation of disability: a barrier to timely detection and care

Negative perceptions surrounding disability can further impact the use of rehabilitation services. Previous research from Uganda on access to rehabilitation services for children with disabilities highlights the importance of community-based rehabilitation (CBR) workers being culturally sensitive to the challenges relating to stigmatisation and by considering aspects of social inclusion.[44]

> *"Without enough resources, a child with disabilities is often the last to access health services and other social services that every child is entitled to."*
>
> Dr. Fred Kagwire, Health Specialist, UNICEF, Uganda

Rehabilitation is closely linked to children's right to survival and healthy development. This is enshrined in Article 6 of the United Nations Convention on the Rights of the Child (UNCRC). Under Article 23, State Parties are called upon to provide the service free of charge whenever possible and considering the financial resources of the parents or caregivers to ensure their effective access to healthcare services and rehabilitation.[46] Despite these commitments, rehabilitation services and AT remain out of reach for many families due to the associated costs. Supportive policies, such as the creation of a National Child Disability Benefit, as recently announced in Uganda, are helpful to offset these costs.[47]

Supporting parents and guardians to advocate for their child's right to health

Parents and guardians play a crucial role in ensuring children have access to rehabilitation, which includes benefitting from routine care and stimulation at home. The case study below illustrates how engaging parents in their child's therapy and connecting them with community resources can help foster an environment where rehabilitation is a shared responsibility between professionals and families.

Case Study: Creating a Nurturing Care Environment, Uganda

As of September 2024, Uganda hosted approximately 1.74 million refugees and asylum seekers from South Sudan, the Democratic Republic of the Congo, Somalia, Burundi, Sudan and other nationalities. Children made up 57% of this population, with 40% under the age of 12. Many of these children live in settlements where timely access to healthcare

is difficult.[48] Yet, an estimated 63% of children under five in the country were at risk of not reaching their development potential, with this being indicative of high rehabilitation needs.[49]

Humanity & Inclusion (HI) is implementing the Child-Centred Holistic Approach to a Nurturing Care Enabling Environment (CHANCE) project in Terego District, in the Imvepi and Rhino Camp settlements. Funded by Belgium's Directorate-General for Development Cooperation and Humanitarian Aid (DGD) and running from 2022-2026, project integrates paediatric rehabilitation with responsive caregiving and inclusive education strategies to optimise development among children with disabilities, from infancy to adolescence.

A core component of the CHANCE project is its intensive support for parents of children identified with disabilities or developmental delays. Families receive assistance through home visits and parent groups on care techniques specific to children with disabilities, while social workers offer follow-up support to help families navigate healthcare and rehabilitation services effectively and raise awareness within the community. The project also establishes structured pathways for children to access functional rehabilitation services.

To increase accessibility, four child development and wellbeing centres have been established within host and refugee communities. These centres bring rehabilitation services closer to families, reducing logistical barriers to care. Additionally, 35 village health teams and community-based volunteers have been trained on early identification and rehabilitation. As a result, caregivers are more confident in managing their children's conditions and advocating for their rights. Many families that previously faced stigma and isolation now feel empowered to seek community support.

Temia's experience : a caregiver's journey through rehabilitation, Uganda

Temia Keren is a 32-year-old woman from Uganda living in a refugee settlement in Terego District, Uganda. She is a single mother of two children, Alvin, a 3-year-old with cerebral palsy, and Baker, a 1-year-old with developmental delays and a partial visual impairment..

"CBT has transformed the way I approach caregiving and given me the emotional strength to continue supporting my children. I am more patient, and I communicate better with my children."

Temia and HI Staff during a home visit ©HI

Before receiving support, Temia faced immense challenges. As a single, umemployed mother, the family was struggling financially and emotionally. Alvin had difficulties walking, speaking, and holding up his head, and Baker had difficulty with vision and mobility. With no knowledge of

rehabilitation services and limited support due to the stigmatisation of disability in her community, Temia felt isolated and overwhelmed.

Her journey toward receiving support began when she was introduced to the rehabilitation services under Humanity & Inclusion (HI)'s CHANCE project. The team provided physiotherapy for Alvin, helping him improve his mobility, and occupational therapy for Baker, teaching her how to help him cope with his visual impairment. She also joined a Cognitive Behaviour Therapy (CBT) caregivers' group, which equipped her with tools to better manage the stress of parenting and to support her children's development.

This has had numerous positive impacts on her life. Alvin has started to communicate using gestures and is learning to walk, while Baker has improved his ability to engage with his surroundings. Temia now feels more hopeful and capable, and her bond with her children has strengthened. However, she still faces challenges, including the financial strain of supporting two children with disabilities and the logistical difficulties of accessing services.

> *"The rehabilitation centre was far. I don't always have money for transport. Sometimes, I missed therapy sessions because I couldn't afford to go."*

Temia hopes to see more trained rehabilitation professionals in her local health centre, and for it to be expanded to include play areas to better accommodate families with small children.

Adulthood

Rehabilitation supports wage-earners and households to lead fulfilling and productive lives

Rehabilitation plays an important role during adulthood, a time when individuals are at their most productive, actively contributing to the workforce, supporting their households, and providing care for their families. Injuries, illnesses and impairments can severely disrupt adults' ability to provide for themselves and their dependents, impacting their households as well as their communities.

Common conditions requiring rehabilitation in adults include musculoskeletal disorders (especially low back pain), work-related injuries, maternal health concerns, or mental health conditions affecting employment and daily living. Rehabilitation can also aid those with sensory impairments, like vision or hearing loss, or progressive conditions, such as multiple sclerosis, in maintaining autonomy. Injuries resulting from workplace hazards, violence, and road traffic crashes further contribute to the demand for rehabilitative services.[17] Injuries and violence contribute to approximately 10% of all YLDs, with many survivors sustaining temporary or long-term impairments requiring rehabilitation.[50]

Rehabilitation following workplace accidents

According to the International Labour Organization (ILO), over 395 million workers worldwide sustained non-fatal work injuries in 2019, contributing to 90.22 million disability-adjusted life years (DALYs).[51] Occupational risk factors, including workplace injuries, long working hours, and ergonomic strain from sedentary work, are among the leading contributors to disability. Younger men are more prone to workplace injuries and fatalities, as young workers often struggle to secure decent work and face a higher risk of accidents due to inexperience or unsafe conditions.

Rehabilitation plays a key role in workplace injury recovery, enabling individuals to regain functional capacity and reintegrate into the workforce. Occupational therapy can help individuals adapt their environments or job tasks to accommodate their needs, ensuring that they can continue working safely and effectively.

Challenges to accessing rehabilitation

Access to rehabilitation remains a challenge for many working-age adults. In many countries, rehabilitation funding is fragmented, with different ministries (such as social services, education, and defence) offering limited support for specific groups. Employer-based coverage also generally excludes informal workers, self-employed people, and those in precarious employment. Health insurance coverage often does not fully support rehabilitative services, leaving many individuals to finance care out of pocket. For instance, a 2018 study in Cotonou and Abomey found that only 12.9% of road crash victims had health insurance, and just 1.9% received any insurance coverage for their medical expenses. The majority (85.1%) paid for their care themselves, sometimes relying on donations from social networks.[27]

Unfortunately, many people who acquired impairments and disabilities at an early age but, due to a lack of awareness or access to rehabilitative care, did not seek out or continue care, experience a worsening of their condition or development of comorbidities throughout their adult years.

Jesulène's experience: Recovering after a stroke, Haiti

Jesulène is a 41-year-old woman and stroke survivor living in a poor urban settlement in Haiti. Last year, she suffered a stroke that left her with paralysis on the right side of her body. As a result, she has mobility issues and struggles with walking, climbing steps, bathing, and dressing independently. Since she is right-handed, losing the ability to use her right hand has made it difficult to carry out many daily tasks. Despite these challenges, she remains hopeful that she will one day regain full motor control. Reflecting on the impact of her condition, she says :

> *"I used to be very involved in my church's activities. They came to visit me and invited me to several events they had organised, but I was the one who didn't want to go. I'm waiting to fully recover before participating."*

Jesulène in front of the rehabilitation centre (FONHARE) ©Anne Brisard / HI

Before her stroke, Jesulène worked as a food market vendor and was the family's primary breadwinner. Now, with only her husband working, their financial difficulties have increased. Her parents have moved in to help care for her and the household.

Her family was already familiar with rehabilitation, as her youngest daughter had motor delays and underwent physiotherapy to learn how to walk. She is currently undergoing rehabilitation and occupational therapy at the *Fondation Haïtienne de Réhabilitation* (FONHARE). However, access to the centre can be challenging, especially during the rainy season.

> *"When I had my stroke, we didn't hesitate to seek care, despite our finances not being in the best shape. We managed to organize ourselves and also received a discount from the centre. My husband rides a motorbike, so he takes me to therapy, and fortunately, I don't live too far from the centre."*

Jesulène is determined to regain her independence. She dreams of getting back on her feet and resuming her church activities, including mission trips to other cities, restarting her market business and providing for her family again, and caring for her children as she once did.

She also hopes to see more trained rehabilitation professionals and better services in public hospitals, so that people like her can receive the care they need without financial or logistical barriers.

Older age

Older people have the greatest rehabilitation needs

As global populations age, the demand for rehabilitation is increasing. Older individuals have the highest needs for rehabilitation, yet they face the greatest challenges in accessing it. By 2030, the global population aged 60 and older is expected to rise by 56%, reaching 1.4 billion, or approximately one in six people.[56] The most significant demographic shifts will occur in LMICs, where two-thirds of the world's older population will reside by 2050.[17]

Ageing is accompanied by natural declines in functioning, including declines in physical and cognitive functioning, reduced musculoskeletal strength, and a higher vulnerability to injury and experiencing multiple health conditions at once (comorbidity).[57] Widely available rehabilitation services are therefore critical to enable health systems to effectively respond to older populations' health needs.[17]

Chronic, non-communicable diseases (NCDs) are on the rise, with implications for healthy ageing

The global rise in non-communicable diseases (NCDs) is reshaping health priorities, particularly for older populations. Alongside demographic shifts, an **epidemiological transition** is occurring, with NCDs, including cardiovascular diseases, cancer, stroke, chronic respiratory diseases, diabetes, and neurological conditions, such as dementia, becoming the predominant health concerns in all countries.[58]

While increasing life expectancy is a major human development achievement, rising from 66.8 years in 2000 to 73.1 years in 2019, there is a widening gap between life expectancy and healthy life expectancy, particularly among women.[58,59] Many individuals now spend a significant portion of their later years experiencing illness or disability. In 2021, NCDs accounted for nearly **60% of all YLDs** among those aged 55 and older. The most common causes included cardiovascular disease, cancer, musculoskeletal disorders, mental and neurological conditions, diabetes, kidney disease, and chronic respiratory diseases.[60] Although men are likely to die earlier from an NCD, women experience more years in ill health and disability compared with men, due to longer life expectancies.[58]

Rehabilitation is essential for managing NCD-related disability by improving function, reducing pain, and preventing further deterioration. For example, physical rehabilitation supports recovery after strokes or cardiovascular events. For individuals with neurological conditions such as dementia or Parkinson's disease, rehabilitation may involve assistive devices along with occupational, physical, or speech therapy, depending on the specific impairments. Given that NCDs become more prevalent with age, and that older people are also more likely to experience **comorbidity**, this further underscores the need for **integrated rehabilitation services.**

Significant barriers to rehabilitation access remain for older people

Despite being the age group with the greatest need for rehabilitation and AT, older individuals face significant **barriers** that prevent them from accessing these services.

Financial barriers

While NCDs are likely to generate high OOPs for all age groups, households containing elderly members are more likely to face catastrophic and impoverishing health payments. This burden is particularly severe for lower-income populations, where the financial strain of medical costs is more significant.[61,62] In some cases, coverage for rehabilitation is tied to employment-based insurance, which many older people no longer have. Similarly, weak public pension systems may also contribute to financial vulnerability.[63] Women face even greater financial risks in old age due to lifelong disparities in earnings, unpaid caregiving roles, and persistent gender pay gaps.

> *"For an elderly person, the stigma of having a disability further complicates their situation. It affects their ability to participate in daily activities and social interactions, preventing them from connecting with their peers. They become more dependent on their children for support as a result."*

Esther Kyozira, Chief Executive Officer, National Union of Disabled Persons of Uganda, Uganda

Structural barriers

Older individuals are often excluded from targeted health interventions. Many health programmes, including for rehabilitation and AT, prioritise maternal, child, and working-age populations, leaving older adults overlooked in resource allocation and policy planning. A 2024 scoping review found that rehabilitation for those aged 50+ mainly focuses on functional assessment, exercise, psychological support, and self-management. However, essential elements like environmental adaptations and assistive technologies, which are key for older people's independence and comfort, were more frequently overlooked.[64] Additionally, the lack of age-disaggregated data in many health datasets results in gaps in understanding and addressing the specific rehabilitation needs of older people.[58]

Social norms and negative perceptions of older adults

There is no age limit to benefiting from rehabilitation. Rehabilitation at any stage of life can enhance quality of life and help prevent further decline. There is considerable evidence demonstrating the benefit of rehabilitation in enhancing the independence of older people, while decreasing the need for hospitalisation.[17,65,66,67]

Negative perceptions and underlying assumptions about older individuals continue to pose significant obstacles to effective care.[68] Ageism in healthcare settings can result in older individuals being less likely to be referred for rehabilitation due to assumptions about their ability

to recover. Misconceptions that rehabilitation is less effective for older people, or that functional decline is an inevitable part of ageing, can prevent timely interventions.[2,69]

Rehabilitation is a key strategy for promoting healthy ageing and longevity, and the UN Decade of Healthy Ageing

The **UN Decade of Healthy Ageing** emphasizes the need for stronger policies and investment in rehabilitation to support ageing populations worldwide. Ensuring that rehabilitation remains a central component of health systems will be vital for promoting **healthy ageing**, reducing long-term healthcare costs, and enabling older individuals to lead fulfilling and independent lives. Looking ahead to the **Fourth High-Level Meeting on NCDs in September 2025**, it is also critical to consider the intersection of ageing, NCDs, and rehabilitation in both public health policy and interventions, including as part of humanitarian response and assisted living and long-term care systems.[70]

Souleyman's experience: Regaining mobility through a prosthesis and physical therapy, Benin

Souleyman, a 60-year-old man and road crash survivor from Cotonou, Benin, faced significant challenges before receiving support. His injury severely affected his mobility, making walking, climbing stairs, and dressing difficult. These limitations significantly impacted his employment situation :

"It is because of my disability that I can no longer work as an auto painter. Reskilling is difficult, and I also struggled to access financial aid."

Souleyman (right) with an HI staff member © HI

Souleyman faced long delays in accessing his leg prosthesis, waiting over six months due to rehabilitation service backlogs. However, after receiving a prosthetic limb through Humanity & Inclusion (HI) and undergoing physiotherapy, which helped him adjust to the new device, he experienced significant improvements in his mobility. He remarked that the full coverage of costs made this support accessible to him, as he would not have been able to afford it on his own.

"They provided me with psychological support and guided me in assembling the necessary documents to access aid from the government and its partners, such as HI. This allowed me to receive a prosthesis and physiotherapy follow-up to learn how to use it properly."

Reflecting on the support he received, Souleyman is particularly grateful to the community-based rehabilitation centre at the One-Stop Social Protection Desk (*Guichet Unique de Protection Sociale*) in Wologuèdé.

Despite initial frustration with having to do rehabilitation sessions before he could fully use the prosthesis, Souleyman now understands the importance of this process for proper use and maintenance of the prosthesis. He also feels more comfortable moving around, and people no longer stare at him with curiosity, which has greatly improved his self-esteem.

> *"Having a leg prosthesis is a luxury in Benin, while many poor people need one. I urge the government to subsidize the production of prostheses and to build more rehabilitation centres."*

Souleyman is currently seeking government financial assistance to start a small business selling frozen products. He advocates for increased access to prostheses for others.

Pathways for improving access to quality rehabilitation and AT across the health system

Understanding that rehabilitation is essential for individuals across their lifespan and with a wide range of health conditions underscores its fundamental role within a responsive and inclusive health system. This recognition sets the stage for exploring how access to quality rehabilitation and assistive technology (AT) can be strengthened across all levels of care. The following chapter examines the pathways and strategies needed to integrate rehabilitation and AT into health systems more effectively, ensuring that these services and products are available, accessible, and aligned with the diverse needs of populations worldwide.

Integrating rehabilitation into health systems: a priority at all levels of healthcare

There is growing recognition of the importance of strengthening rehabilitation across all levels of care to respond to the needs of people with various health conditions, and at all ages. The Declaration of Astana (2018) acknowledges the link between rehabilitation and a continuum of care, particularly in the provision of primary healthcare.[74] The **WHO's Rehabilitation 2030 initiative** and WHA Resolution 76.6 (2023) underscore the importance of scaling up rehabilitation services across all levels of healthcare, from primary to tertiary.[13] The WHO has developed a framework to illustrate the types of rehabilitation and care settings.[75]

Informal and Self-Directed Care Non-professional care provided without health personnel, often in everyday environments like homes, schools, parks, and community centres.

Community-Delivered Rehabilitation Secondary-level care provided in community settings during sub-acute and long-term phases, including homes, schools, and workplaces.

Primary Healthcare Rehabilitation Rehabilitation integrated into primary care, serving as the first point of contact within the health system, delivered in primary health centres and some community settings.

Secondary/Tertiary Care Rehabilitation Integrated into medical specialties, this supports less complex needs during acute and sub-acute phases, typically in hospitals or clinics.

Specialized, High-Intensity Rehabilitation Tertiary-level care for individuals with complex needs, often delivered in long-term rehabilitation centres during acute or sub-acute phases.

The need to scale up rehabilitation, including at the primary and community healthcare levels

Integrating rehabilitation into primary healthcare helps improve accessibility and continuity of services for people of all ages and with diverse health conditions, by bringing them closer to communities in need. Primary healthcare workers, such as nurses, general practitioners and community workers, are often the first point of contact for diagnosing most health conditions, identifying functional limitations, and referring individuals to more specialised care. They are also well-positioned to address common conditions like back pain or postpartum complications and to monitor and adjust care plans for ongoing recovery.[34]

> *"When we talk about primary health care, we're meaning services at the local level. That's where people live, work, spend time and seek healthcare. We urgently need providers delivering rehabilitation in primary care and within community settings, —and having the competencies to do it effectively."*
>
> Technical Advisor, Rehabilitation Programme, WHO

Although some rehabilitation needs can be met at the primary healthcare and community levels, rehabilitation is currently highly concentrated within secondary, tertiary, and specialised services, rather than being fully integrated into health systems, particularly in LMICs.[34,76] Access to AT is also frequently absent in primary healthcare settings and care packages. Where it does exist, affordability and quality are often a challenge.[34] In Uganda, for instance, only 4.5% of people in need have access to an assistive product, with access disparities particularly affecting women and rural communities.[29] In some low-income countries, access to AT is as low as 3%.[77]

In many low-income countries, specialists at the secondary and tertiary levels of care are present but often in limited numbers, primarily based in urban centres. In Haiti, insecurity and conflict have also led to the closure of health institutions and the departure of healthcare professionals. According to a mapping conducted by HI in 2023, 93 of Haiti's 141 communes (local districts) had no rehabilitation institutions, consequently restricting access to services, particularly for poor and rural populations.[22]

> *"Not all existing services are operational due to a shortage of rehabilitation professionals. They are sometimes overwhelmed, forcing them to postpone appointments for several patients. This discourages patients, some of whom choose not to return."*
>
> Joseph Martial Capo-Chichi, Rehabilitation Promotion and Development Division, Ministry of Health, Benin

To address this issue, the WHO recommends a step-wise process beginning by setting up rehabilitation services in major primary healthcare settings or lower-level secondary centres, followed by the training of primary healthcare workers (including doctors, nurses and community health workers) to identify and assess their patients' rehabilitation needs. and either provide rehabilitation themselves or refer them to the appropriate specialist.[16] To that effect, the **WHO's Basic Rehabilitation Package** outlines a set of low-cost, high-impact, interventions for rehabilitation to prioritise in primary healthcare, particularly in low-income contexts.[78]

Toward more integrated models of care

To provide holistic care that addresses a person's physical, social, emotional, environmental and functional needs, rehabilitation interventions often require multiple interacting components and diverse professionals. For instance, interventions may target physical aspects such as mobility and strength, while also addressing the social and emotional wellbeing of the individual and the caregiver, and adapting the living environment.[79]

However, the fragmentation of rehabilitation service provision in many LMICs, due to fragmented governance, reliance on non-state actors, combined with inadequate coordination across institutions, service levels and care types,[80] and gaps in referral systems, greatly impedes the effective delivery of care.[76]

The value of interdisciplinary teams

Interdisciplinary teams, which may combine physiotherapists, occupational therapists, nurses, community healthcare workers and other allied health providers, are a critical component of integrated rehabilitation service models. Depending on the individual health conditions, allied health providers may be paediatricians, neurologists, geriatrists, gynaecologists, etc. These teams improve patient outcomes by tailoring person-centred, interdisciplinary care plans that address the unique needs of individuals across a range of health conditions and ages, as illustrated in the case study from Benin below.

Furthermore, research on interdisciplinary care teams has shown their relevance for increasing access to secondary and tertiary level rehabilitation, particularly in LMICs.[81] Such interdisciplinary service models have the potential to be further strengthened using agreements on interdisciplinary collaboration agreements and governance mechanisms, including guidelines and protocols (particularly to strengthen referral pathways), as well as interprofessional education.[81]

Case Study: Enhancing person-centred care through interdisciplinary rehabilitation, Benin

Road crashes are responsible for a high number of injuries and impairments in Benin, yet access to rehabilitation remains limited due to an uneven distribution of services, financial barriers, and a shortage of trained professionals. In 2019, it was estimated that 80% of road crash victims

developed a motor impairment.[83] Without timely and appropriate rehabilitation, many survivors face long-term functional impairments that reduce their independence and quality of life.

Responding to these challenges, Humanity & Inclusion (HI) launched the "Integrated Readaptation" Project. Running from (2022 to 2026) in Cotonou, Ouidah, and Abomey-Calavi, this initiative aimed to strengthen rehabilitation services for road traffic victims through a person-centred approach and interdisciplinary care.

Effective rehabilitation goes beyond physical healing; it requires coordination across multiple disciplines to address the full spectrum of a patient's recovery. This project brought together specialists in physical and rehabilitation medicine, physiotherapists, prosthetists, mental health professionals, and social workers, to define a therapeutic plan for each beneficiary. Reflecting on the person-centred approach, Maurille Tognon, Project Manager for HI Benin, writes :

> *"For one of our beneficiaries, who is a double limb amputee, the multidisciplinary team initially suggested purchasing a wheelchair, but then opted to create two prostheses after speaking with the patient and seeking their opinion on the available options."*

In total, 65 healthcare providers were trained in interdisciplinary rehabilitation approaches. Additionally, 12 community-based rehabilitation (CBR) workers received specialised training in psychosocial support. 192 patients, identified by the One-Stop Social Protection Desks and the Federation of Disabled People of Benin, benefited from interdisciplinary rehabilitation assessments, and 80 individuals engaged in structured rehabilitation programmes.

By scaling up the capacity of interdisciplinary rehabilitation teams and addressing the physical, emotional, and social dimensions of rehabilitation, survivors regained greater independence and participation in daily life. However, ensuring the sustainability and scalability of these efforts requires ongoing investment and policy integration.

Increasing the availability of quality and affordable rehabilitation and AT

Addressing gaps in the rehabilitation workforce

The WHO recommends at least five prosthetics and orthotics professionals per million people, but even high-income countries fall short, while LMICs have fewer than 10% of the required professionals. While there is no agreed minimum for physiotherapists, rehabilitation doctors or speech therapists, shortages are particularly acute in LMICs. For example, some African countries have no speech and language therapists, while high-income nations have over 300 per million.[84]

Addressing workforce shortages is not only essential for expanding coverage but also represents a relatively **low-cost, high-impact investment.** In Haiti, for instance, the funding required to train

enough prosthetist-orthotists was estimated at just 0.54% of the health ministry's budget.[30] To help address geographic imbalances, it is crucial to strengthen decentralised models of care, such as building the capacity of primary healthcare and community health workers, along with providing incentives for rehabilitation workers to practice in rural and remote areas.[34]

Figure 5 Rehabilitation workforce numbers in Benin, Haiti, and Uganda

Haiti

In 2023, there were a total of 677 dedicated rehabilitation professionals, with most situated in the North and West departments. Less than 10% are involved in the making and repair of protheses and orthoses.[22]

Uganda

In 2022, the existing rehabilitation workforce was estimated at 344. Of these, more than half (56%) were orthopaedic practitioners and technologists, with very low numbers in other professions, and no rehabilitation physicians and nurses.[85]

Benin

In 2023, Benin had an estimated 274 rehabilitation professionals, including just five physicians specialising in physical and rehabilitation medicine, 10 speech therapists, nine ortho-prosthetists, and over 250 physiotherapists.[83]

Promoting quality rehabilitation through education and training, upskilling and professional recognition

The lack of formal recognition for rehabilitation professionals raises concerns about quality of care. In Benin, in 2021 it was estimated that the country had approximately 274 rehabilitation professionals, or 19 per 1 million inhabitants, and fewer than half worked in the formal health system.[87,27,83] Similarly, Uganda's 2022 STARS report notes a large discrepancy between the number of working rehabilitation professionals and those officially accredited by the Uganda Allied Health Professions Council.[85] Reflecting on this issue in Haiti, one respondent commented:

> *"Physiotherapy is not included in the government's jobs and skills framework, leading to uncertainty about the roles and salaries of these professionals, as their duties are not clearly defined. Accreditation and recognition of their qualifications is needed to ensure the quality of services."*
>
> *Anonymous, Haïti*

Shortcomings in pre-service and in-service training are another recognised challenge in this sector. In Benin, the *École Supérieure de Kinésithérapie* in Cotonou is currently the only university-level physiotherapy qualification provider (bachelor and master's level) in all of Francophone Africa. More training is urgently needed for other rehabilitation disciplines, for instance for occupational and speech therapy.[88]

Promoting skills development for rehabilitation and AT professionals is a key strategy to improve retention and optimise the quality of their work.[30] For those who are already working in the rehabilitation field, the creation of professional associations, degree and credentialing programmes, offering flexible arrangements including part-time study options, can help incentivise educational laddering-up, leading to increased service quality.

Creating a supportive policy environment for rehabilitation

The implementation of comprehensive rehabilitation policies and strategies, under the leadership of ministries of health, is a crucial first step towards strengthening service provision. For instance, Benin has several policies explicitly relating to rehabilitation, notably the Five-Year Rehabilitation Plan (2023-2027) and the 2020–2024 Strategic Plan for Community-Based Rehabilitation.[83] Similarly, in Uganda, the 2020-2025 National Comprehensive Action Plan on the Rights of Persons with Disabilities contains provisions for promoting the availability of rehabilitation services and AT, as well as initial and continued training for rehabilitation professionals.[85]

Of course, for effective implementation, this also requires long-term government commitment, clear responsibilities both within government and other actors, resource mobilisation, the creation of job opportunities for rehabilitation professionals, and prioritisation of rehabilitation through earmarked funds in healthcare budgets. Additionally, robust data collection and analysis are essential to inform decision-making and ensure effective policy implementation.

Strengthening supply and stimulating demand for AT

Additionally, WHA resolution 71.8 on improving access to technology urges Member States to take comprehensive action to ensure access to quality AT at an affordable cost.[89] Strategic investment in the AT market is needed to bridge access and affordability gaps. Research has shown that market shaping strategies, aimed at balancing both supply and demand, can help bolster access in LMICs.[90] On the demand side, increasing public awareness and combatting stigma about AT, and building the capacity of health workers to screen and prescribe assistive products, are important for driving demand for AT. [77]

On the supply side, interventions such as bulk purchasing, price benchmarking, and improved market information can help reduce costs and increase efficiency.[77,90] Duty exemptions on imported products and trade agreements may be particularly effective in LMICs, where local production remains limited, but require close monitoring to ensure their intended cost-lowering effect.[91] To support procurement, WHO has developed a model list of priority assistive products that are affordable and aligned with minimum quality and safety standards, which countries can adapt to their national context.[92]

Strategies such as 3D printing (implemented by HI in Uganda through the PETRA project) have also proven effective in reducing costs. The project employs 3D-printing technology to produce custom-made orthoses and prostheses for refugees, while trained physiotherapists deliver essential rehabilitation services.[94] Indeed, to ensure quality and sustainability, AT provision must be paired with adequate training of rehabilitation professionals to oversee the provision, fitting, adaptation, and maintenance of AT.

Sustaining progress through multilevel, cross-sectoral partnerships

Strong, multisectoral partnerships are essential for building effective and sustainable rehabilitation services. Collaboration across sectors, including health, education, social protection, and labour, is needed to address the diverse and intersecting needs of individuals requiring rehabilitation and to ensure coordinated service provision.

> *"Working on the demand for assistive products is key. So, we need to prioritise raising awareness, developing screening mechanisms, and training health professionals to prescribe appropriate products."*
>
> Henri Bonnin, Senior programme manager, ATscale, Geneva – Switzerland

These partnerships must connect national, regional, and community actors: for instance, the Uganda Society for Disabled Children has established partnerships connecting community-based rehabilitation with health-related services, enabling coordinated service provision across multiple districts in the country.[76,82]

Strong partnerships with government and local stakeholders are also essential to ensure the sustainability of capacity-building initiatives for the rehabilitation workforce. While development actors have often set in motion such efforts, yielding positive impacts (see case study below), long-term progress depends on national ownership and coordination to embed these efforts within existing systems.[16]

Case Study: Strengthening partnerships for timely and quality rehabilitation, Haiti

Over the last decade, significant strides were made to develop rehabilitation services across Haiti, including the establishment of several dedicated centres. However, since 2020, the country has faced a deteriorating security situation that has triggered the migration of health professionals, the closure of training institutions, and a declining prioritisation of rehabilitation within national health planning. The earthquake in Haiti in August 2021 injured 12,700 people and damaged around 90 health centres, considerably increasing the need for rehabilitation.[93]

Against this challenging backdrop, Humanity & Inclusion (HI) has been implementing the "Early, Multidisciplinary, High-Quality, and Accessible Rehabilitation for All in Haiti" Project from 2022 to 2026. HI has adopted a multifaceted strategy to strengthen the sector by building local capacity and forging strategic partnerships. Through collaboration with key local actors, including

Fondation Tous Ensemble (FONTEN), the *Fondation Haïtienne de Réhabilitation* (FONHARE), St Michel de Jacmel Hospital, and *Douleurs Sans Frontières*, HI has supported the technical and operational development of rehabilitation services across five departments. Institutional stakeholders at the ministry level, such as the Ministry of Public Health and Population (MSPP) and the Ministry of National Education and Vocational Training (MENFP), and training institutions, have also been engaged.

A key coordination platform, the *Comité Technique National de Réadaptation* (CTNR), now brings together state and non-state actors to advance common goals for the rehabilitation sector. In addition to its coordination and technical support functions, the CTNR has also begun playing a role in revitalising the Haitian Society of Physiotherapists (SoHaPh).

At the project's midpoint, access to localised, patient-centred rehabilitation services has improved, even as demand remains high. The project has trained 17 rehabilitation professionals and 23 general community health workers. It has also laid the groundwork for institutionalising rehabilitation by mapping 50% of existing services in preparation for their integration into Haiti's national health information system. Through its role in the CTNR, HI has contributed to national advocacy efforts for the recognition of rehabilitation professions, accreditation of training programmes, and the development of job profiles.

While the initiative has delivered important gains, several barriers persist, with these including ongoing security concerns, health worker migration, and delays linked to socio-political instability. These challenges have highlighted the need for strong national ownership and sustained policy engagement. Continued collaboration through the CTNR and with training institutions will be essential if these policy commitments are to be transformed into meaningful, lasting change.

Recommendations

The following recommendations are presented for strengthening the integration of rehabilitation into health systems, addressing needs throughout people's lifetimes, and for diverse health conditions. They include specific actions for governments as well as broader recommendations for all relevant stakeholders, including international donors, NGOs and other civil society organisations.

Recognise rehabilitation as an essential health service

Governments should:

- **Allocate** and spend a minimum of 15% of national budgets on the health sector, as they committed in the Abuja Declaration, and ensure sufficient, ring-fenced funding for inclusive rehabilitation services.
- **Formally include** rehabilitation and AT in essential healthcare packages and policies, allocating dedicated and sustained public funding.
- **Progressively expand** health insurance coverage and social protection benefits, such as household and employment-related social insurance, child benefits, and old age pensions, to reduce OOP expenditure.[91]
- **Develop** a national list of priority AT products that are safe, affordable and meet minimum quality standardsé.

All relevant stakeholders should :

- **Advocate** for increased political and financial commitment to rehabilitation, including through the development of global benchmarks for the financing of rehabilitation in health budgets and coverage targets.
- **Provide** technical support, including for the development of rehabilitation plans and data-driven investment recommendations.
- **Coordinate** resource mobilisation efforts for rehabilitation infrastructure and services and ensure data is shared to prevent duplication and address coverage gaps.
- **Systematically use** disaggregated data and rehabilitation indicators in health monitoring to identify needs, users, and available services.

Provide rehabilitation in a timely manner

Governments should :

- **Ensure** early identification and referral systems for rehabilitation needs by training healthcare providers at all levels care.
- **Embed** rehabilitation in HEPR frameworks through service mapping and integrating rehabilitation personnel into emergency medical teams.

All relevant stakeholders should:

- **Raise awareness** of the importance of timely rehabilitation and AT among communities.
- **Support** governments to create a pool of qualified rehabilitation professionals to prepare and respond to emergencies and create a contingency stock of AT.
- **Support** the development of digital rehabilitation methods, mobile teams, and CBR strategies.

Improve access to quality rehabilitation and AT across the health system

Governments should:

- **Ensure** the availability and integration of rehabilitation services at all levels of care, including in primary healthcare as the foundation of UHC.
- **Invest** in rehabilitation at all levels of care, via decentralised service delivery models, to help reach remote and underserved populations.
- **Invest in education and training** for rehabilitation professionals across disciplines, and expand curricula to enable task shifting towards primary healthcare workers, where feasible.
- **Foster recognition and retention** of rehabilitation-skilled professionals, via accreditation, adequate working conditions and incentives to practice in rural and remote areas.
- **Strengthen the governance and coordination** of rehabilitation services by establishing integrated national frameworks that ensure continuity of care across service levels and types, and close gaps in referral systems to enhance the effectiveness and efficiency of service delivery.

All relevant stakeholders should:

- **Continue providing** pre-service and continuous professional development training through strong local and national partnerships that encourage sustainability.
- **Advocate** for the recognition, upskilling, and increase of rehabilitation professionals and CBR workers.
- **Strengthen** the use of interdisciplinary teams and build capacity of primary healthcare workers to identify, treat, and refer rehabilitation needs.
- **Improve access and affordability of AT** by building health workforce capacity to assess and prescribe AT, increasing public awareness, and addressing stigma to drive demand, while supporting sustainable and inclusive supply chains.
- **Foster multisectoral partnerships** that connect national, regional, and community-level actors to ensure coordinated service delivery and local/ national ownership.

Ensure rehabilitation services meet gender, disability, and life cycle requirements

Governments should:

- **Collect, analyse and use** gender-, age-, and disability-disaggregated data in the development of national rehabilitation policies and programmes.
- **Collaborate and share** data across relevant ministries (e.g. health, gender, social protection, education, youth, and ageing) and with external actors to monitor whether services meet the needs of all groups.
- **Design services and interventions** that are gender-responsive, age-appropriate and fully accessible.

All relevant stakeholders should:

- **Ensure** rehabilitation programmes are accessible and acceptable to all population groups and tailored to address the needs of populations across all life stages.
- **Train health professionals i**n inclusive practices, including gender responsiveness, disability rights, and cultural competence.
- **Promote** inclusive rehabilitation service design, including through the participation of rehabilitation users and persons with disabilities, ensuring no one is left behind.

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Cover Photo: In Haiti, HI physiotherapist supports a patient, who suffered a stroke, in the realisation of rehabilitation exercises. © C. Alzamora / HI.