



## Policy brief: Access to assistive technology

### Introduction

Assistive technology is life-changing for people in need. Access to assistive technology is a fundamental human right and the need is increasing fast as populations age globally and the prevalence of noncommunicable diseases rise. However, assistive technology is often disregarded on global health and development agendas, leading to limited and fragmented investment.

In response to this concern the Seventy-first World Health Assembly adopted resolution WHA71.8 in 2018, urging Member States to develop, implement and strengthen policies and programmes to improve access to assistive technology (1). The World Health Organization is working to support Member States to implement the resolution and in turn fulfil their related commitments to the Convention on the Rights of Persons with Disabilities and the Sustainable Development Goals (2, 3).

This brief is for policy-makers in any ministry involved in designing assistive technology policies and programmes (such as ministries of health, finance and social welfare), especially those involved in designing universal health coverage programmes (4). It is also relevant for all stakeholders working in these areas. The brief highlights key challenges in ensuring equitable access to high-quality, affordable assistive technology (Table 1) and suggests actions to improve access within universal health coverage or any other national health/welfare programme.

**Assistive technology** is the application of organized knowledge and skills related to assistive products, including systems and services.

**Assistive products** maintain or improve an individual's functioning and independence, thereby promoting their well-being. Examples of assistive products include hearing aids, wheelchairs, communication aids, spectacles, prostheses, pill organizers and memory aids (5).

## Key points



Everyone can benefit from assistive technology during their lifetime, especially people with disabilities, older people and people living with chronic conditions (5).



The need for assistive technology is rising rapidly. With global ageing and the rise in noncommunicable diseases, it is estimated that two billion people will need assistive technology by 2050 (5).



Access to assistive technology is a fundamental human right, a legal obligation for all countries within the Convention on the Rights of Persons with Disabilities (2, 6) and a prerequisite for the full and equitable achievement of the Sustainable Development Goals (7).



Equitable access to assistive technology remains a significant challenge as more than 90% of those in need of assistive technology do not have access to it (5, 8).



Access to assistive technology is an investment in a more participatory society; it gives people the means to be more independent enabling both users and their caregivers to have better access to education and employment opportunities.



Universal health coverage aims to protect all people so that they can access necessary health products and services of sufficient quality without facing financial hardship (4).



Including assistive technology in universal health coverage is a critical step to ensure protection for those who need it most – often the most vulnerable and neglected.



Its inclusion in universal health coverage is also key to increasing and centralizing assistive technology investments, which are often fragmented and inefficient within existing systems.



Providing assistive technology within universal health coverage, especially at the primary health care level, can reduce health system costs by improving health outcomes, preventing secondary health conditions, and incurring fewer costs related to caregivers and long term care.



The benefits from such investments remain unrealized. This is due to limited demand arising from lack of awareness, fragmented supply, and lack of political and economic support (9).



Improving awareness at all levels, empowering workforces that are fit-for-purpose, ensuring appropriate production and service provision, and safeguarding affordability through universal health coverage, are all key to ensuring equitable access to assistive technology.

## Access to quality assistive technology - the current situation

**Urgent need for political commitment.** Despite commitments to the Convention on the Rights of Persons with Disabilities and the Sustainable Development Goals, universal health coverage in particular, there remains a lack of political leadership towards improving access to assistive technology. Assistive technology remains outside mainstream health and development agendas despite being essential for the health and well-being of over 1 billion people around the world today. Strong political leadership, including support from the highest levels of government, is essential if these commitments are to be turned into concrete actions to ensure that no-one is left behind.

**Rising need as populations age and prevalence of noncommunicable diseases increase.** To date, one billion people need assistive technology to live productive, participatory lives (2). By 2050, this number is estimated to double (2). Globally, unmet need for assistive technology is estimated to be 90% (2). Access to assistive technology varies significantly within and between countries, with unmet need in low-resource settings estimated to be as high as 97% (8). As populations age globally and the prevalence of noncommunicable diseases increase, the need for assistive technology will continue to rise exacerbating the already wide gap in access. It is vital to include assistive technology in universal health coverage policies to ensure they remain relevant to changing global health trends; in this way everyone is protected financially and able to access all health products and services throughout their lives.

**High costs are a key barrier to access.** When it is available, many people who access assistive technology incur high out-of-pocket payments and are 50% more likely to incur catastrophic health expenditures (10). Consequently, they are at greater risk of being trapped in a cycle of poverty that further increases the risk of disability and need for assistive technology. High costs exacerbate social isolation and financial exclusion, perpetuating inequity. Including assistive technology within universal health coverage is a critical mechanism to protect current and future users from rising health-care costs and financial hardship.

**Gaps in fit-for-purpose products, provision and use.** Of the one in 10 people who do access assistive technology, up to 75% abandon what is provided (11). This often stems from substandard products, inappropriate provision and use. Abandonment and misuse of assistive technology exacerbates the risk of poorer health outcomes and further escalates social isolation and exclusion. To ensure provision of high-quality assistive technology that is appropriate for the user and their environment, it is critical to include comprehensive service provision within universal health coverage policies (assessment and prescription, fitting, user training, maintenance and repair services).



Credit: WHO/Eduardo Martin

**Table 1. Challenges in accessing assistive technology**

Challenge	Specific bottlenecks
<p><b>Demand:</b></p> <p>Lack of awareness at all levels limits demand</p>	<p><b>Stigma.</b> Discriminatory policies and non-inclusive environments disempower individuals from accessing assistive technology.</p> <p><b>Knowledge.</b> Limited knowledge of available assistive technology and its potential benefits stifles demand.</p> <p><b>Data and evidence.</b> Limited research capacity and incomplete information management systems impede understanding of population needs for assistive technology.</p>
<p><b>Supply:</b></p> <p>Limited capacity to produce, procure and provide quality assistive technology in a timely manner hinders appropriate supply</p>	<p><b>Workforce.</b> Shortages in workforces that are fit-for-purpose limits quality service provision.</p> <p><b>Procurement and supply chain.</b> Unreliable product supply and fragmented procurement systems stifle affordable, timely assistive product delivery.</p> <p><b>Production.</b> Substandard, low-quality assistive products risk increased rates of product abandonment and poorer health outcomes.</p> <p><b>Standards.</b> Limited scope of local, national and international standards weakens the quality of assistive technology.</p>
<p><b>Political and economic support:</b></p> <p>Market barriers, trade tariffs and restrictive policies stifle initiatives to improve access</p>	<p><b>Market.</b> Markets for assistive products are disjointed and often focused on high-income settings. Limited competition also leads to prices that are higher than necessary for some assistive products.</p> <p><b>International trade.</b> Assistive products manufactured internationally face trade tariffs when imported, raising prices for those in need.</p> <p><b>National taxes.</b> National taxes, such as value added tax, imposed on assistive products further increase costs for those in need.</p> <p><b>Regulations.</b> Although standards for assistive products and services are essential for ensuring safety and quality, some over regulations restrict access and affordability.</p>

## Actions to improve access to assistive technology

Improving access to assistive technology requires a people-centred, assistive technology ecosystem (Fig. 1). An overarching policy is crucial across all proposed areas supported by comprehensive data collection and effective financing mechanisms. Effective leadership and governance through national assistive technology policies ensures an adequate supply of quality, affordable products and appropriately trained personnel for effective service provision. The following actions are suggested to improve access to assistive technology and are supported with country examples (Boxes 1–5).

**Fig 1. The five interlinked areas of assistive technology (5P) people-centred: policy, products, personnel and provision**



### Box 1. ATscale, the Global Partnership for Assistive Technology

In 2018 the partnership ATscale was launched with the goal of reaching 500 million more people with life-changing assistive technology by 2030. ATscale's mission is to build a cross-sector collaboration that is a catalyst for change, amplifies existing work, and coordinates and mobilizes stakeholders with a unified strategy to increase availability of, and access to, affordable and appropriate assistive technology.

- ATscale looks to address the entire AT ecosystem across six interdependent priorities: generating data and evidence; sparking innovation and new solutions; driving affordability and availability; strengthening policies; and galvanizing investment and political support.
- ATscale's initial strategic objectives are to focus on:
  - developing an enabling environment by growing political will, advocating for and informing policy reform, mobilizing investment, and strengthening systems and service delivery at global, regional and country levels;
  - identifying targeted, catalytic market shaping interventions to address both supply and demand barriers to access for priority products and related services.

Source: ATscale Global Partnership for Assistive Technology (12).

## Policy

- Recognize assistive technology as essential health products and services that are an integral component of universal health coverage.
- Identify effective financing mechanisms that adequately address unmet needs and protect assistive technology users from financial hardship.
- Improve knowledge of available assistive technology and methods of access across all levels, from the government to the individual user.
- Establish standards and regulatory mechanisms that ensure production, procurement and provision of quality assistive products while enabling affordable solutions.
- Strengthen data collection and information management systems to ensure accurate estimation of population need and demand, while monitoring assistive technology provision.
- Establish responsive monitoring and evaluation systems that ensure provision of high-quality, affordable products and services that meet population needs appropriately.
- Stimulate regional and international collaboration in research and innovation.

### Box 2. Assistive technology supported by universal health coverage in the Philippines

In 1995 the Government of the Philippines established a health insurance scheme known as PhilHealth, which provides universal health coverage. In pursuit of WHO's vision of Health for All, the government passed an act in 2015 that came into force in 2017 to expand 'the benefits and privileges of persons with disabilities'.

- This act mandates a 20% discount and value added tax exemption for medical devices and assistive products used in and outside hospitals; rehabilitation service costs; and user fees incurred to consult health-care professionals in both the public and private sector.
- Once the 20% discount and value added tax exemption is deducted, the user then claims the remainder from PhilHealth.

Source: Act RA 10754 by the Congress of the Philippines (13).



Credit: Abilia



Credit: WHO/Sebastian Lisse/NOOR

## Products

- Develop standards and technical specifications to guide manufacturing and procurement of assistive products that are fit-for-purpose.
- Increase local manufacturing and assembly capacity where appropriate, while strengthening global and regional procurement mechanisms where suitable.
- Aggregate demand by considering pooled procurement mechanisms to source high-quality assistive products at the most optimal prices.
- Implement a loan or rebate system, including systematic refurbishment and reuse of assistive products.
- Reduce and, if possible, eliminate tariffs and taxes on international and locally produced and procured assistive products.

### Box 3. Romania improves access to quality products

In Romania the government and civil society complement each other to improve access to quality assistive products that are appropriate for local needs.

- Since 2001 people with disabilities have been given vouchers from the government's Health Insurance Agency to buy assistive products. To ensure quality, these must be purchased from a list of certified suppliers who are required to have a quality management system in place and to obtain authorization from the ministry of health that their products meet the European Union's legal requirements.
- The Motivation Romania Foundation assembles and adapts wheelchairs at local level to make sure they meet individual needs.

Source: Motivation Romania Foundation (14).

## Personnel

- Expand the assistive technology workforce at all levels, especially primary care, to cadres such as nurses, pharmacists and community health workers.
- Train more community-level workforce, especially women, on provision of priority assistive products, through WHO's Training in Assistive Products (TAP) online training modules.
- Foster competency-based accreditation of assistive technology service providers as well as career progression and retention incentives.
- Include people who use assistive technology, their family members and organizations as a key resource.
- Embrace technology such as virtual assistance, artificial intelligence and 3D printing.

### Box 4. Norway equips primary healthcare workforce to provide assistive products

In Norway some primary healthcare workforces, including occupational therapists and nurses, are trained by specialists from regional assistive technology centres to provide a range of basic assistive products.

- Each regional assistive technology centre is responsible for training the primary healthcare workforce to provide appropriate assistive products.
- In each community, there is a small workshop/store where users can bring their assistive products for maintenance and repair, or borrow products for short-term use, without any referrals or appointments.
- In 2015 the Norwegian government legally required the integration of occupational therapy within primary healthcare centres across all municipalities by 2020.

Source: Norwegian Department of Assistive Technology (15).



Credit: Ron Brouillette, Tanzania

## Provision

- Increase the range and geographical coverage of assistive technology service provision, especially at the primary health care level so that everyone can benefit and services are available closer to the community.
- Develop and strengthen assistive technology referral networks and mechanisms.
- Ensure availability of assistive products at the point of provision in sufficient quantities to meet demand.
- Develop and implement a plan for ensuring that service facilities are physically, cognitively, socially and culturally appropriate.
- Ensure that provision includes the following key steps: assessment and fitting, user training and follow-up, repairs and maintenance; and that feedback from service users is an integral component

### Box 5. Targeting assistive technology services to seven million people in China

The China Assistive Devices and Technology Centre for Persons with Disabilities (CADTC) was established in 1992 to improve access to assistive technology for people with disabilities and older people in China. Today CADTC has 33 assistive technology centres across China and aims to provide services for seven million people. CADTC is a national leader in the following areas.

- Establishing a national service provision network.
- Training personnel to provide assistive products appropriately using a module system across provincial and municipal service agencies.
- Providing courses, such as adapting hearing-aid service provision to user needs, that emphasize the importance of user satisfaction, follow up and product maintenance.

Source: China Assistive Devices and Technology Centre for Persons with Disabilities (16).

## Summary

Improving access to assistive technology benefits everyone. When those in need are supported in a timely, appropriate and affordable manner they are able to live healthier, more productive and more participatory lives.

Including assistive technology within universal health coverage, and strengthening provision through primary health care, will help to foster healthier populations and future generations that can participate and contribute more fully in education, labour markets and civil society. Investing in access to assistive technology can support health system strengthening by improving outcomes, preventing secondary conditions and reducing caregiver costs.

To improve access to assistive technology, the first step is to bring all related stakeholders together to develop a roadmap with concrete actions across the 5P, a timeline and budget. Importantly, it is essential to involve assistive technology users – **people with disabilities, older people, people with chronic conditions and their families** – in the assistive technology policy-making and implementation process.



Credit: Claire Huijnen/ZUUD



Credit: China Assistive Devices and Technology Center



Credit: WHO/SEARO/Vismila Gupta-Smith

## References

1. Resolution WHA71.8. Improving access to assistive technology. In: Seventy-first World Health Assembly, Geneva, 21–26 May 2018. Resolutions and decisions, annexes. Geneva: World Health Organization; 2018 (WHA71/2018/REC/1; [http://apps.who.int/gb/or/e/e\\_wha71r1.html](http://apps.who.int/gb/or/e/e_wha71r1.html), accessed 7 Aug 2019).
2. Convention on the Rights of Persons with Disabilities. New York: United Nations; 2006 (<https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>, accessed 7 August 2019).
3. Sustainable Development Goals [website]. Geneva: World Health Organization; 2019 (<https://www.who.int/sdg/en/>, accessed 23 October 2019).
4. Universal health coverage [website]. Geneva: World Health Organization; 2019 ([https://www.who.int/healthsystems/universal\\_health\\_coverage/en/](https://www.who.int/healthsystems/universal_health_coverage/en/), accessed 7 August 2019).
5. Assistive technology key facts [website]. Geneva: World Health Organization; 18 May 2018 (<https://www.who.int/news-room/fact-sheets/detail/assistive-technology>, accessed 15 August 2019).
6. Borg J, Larsson S, Ostergren P. The right to assistive technology: for whom, for what, and by whom? *Disability & Society*. 2011;26(2):151–67. doi: 10.1080/09687599.2011.543862.
7. Tebbutt E, Brodmann R, Borg J, MacLachlan M, Khasnabis C, Horvath R. Assistive products and the Sustainable Development Goals (SDGs). *Globalization and Health*. 2016;12(1):79. doi: 10.1186/s12992016D0220D6.
8. Resolution EM/RC63/4. Improving access to assistive technology. In: Sixty-third session of the WHO Regional Committee for the Eastern Mediterranean, Cairo, 3D6 October 2016. Cairo: WHO Regional Office for the Eastern Mediterranean; 2016 ([http://applications.emro.who.int/docs/RC\\_technical\\_papers\\_2016\\_4\\_19025\\_EN.pdf](http://applications.emro.who.int/docs/RC_technical_papers_2016_4_19025_EN.pdf), accessed 22 October 2019).
9. Strategy overview ATscale [website]. Geneva: ATscale Global Partnership for Assistive Technology; 2019 (<https://atscale2030.org/strategy>, accessed 7 August 2019).
10. Resolution EB142.R6. Improving access to assistive technology. In: World Health Organization Executive Board, 142nd session, Geneva, 22–27 January 2018. Resolutions and decisions, annexes. Geneva: World Health Organization; 2018 (EB142/2018/REC/1; [http://apps.who.int/gb/ebwha/pdf\\_files/EB142-REC1/B142\\_REC1-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/EB142-REC1/B142_REC1-en.pdf), accessed 15 April 2019).
11. Document A71/21. Improving access to assistive technology, report by the Director-General. In: Seventy-first World Health Assembly, Geneva, 15 March 2018. Geneva: World Health Organization; 2018 ([http://apps.who.int/gb/ebwha/pdf\\_files/WHA71/A71\\_21-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA71/A71_21-en.pdf), accessed 7 August 2019).
12. Overview ATscale [website]. ATscale Global Partnership for Assistive Technology; 2019 (<https://atscale2030.org/overview>, accessed 15 April 2019).
13. Congress Decision of 27 July 2015 on an act expanding the benefits and privileges of persons with disability (PWD) (2015/RA 10754). Metro Manila: Congress of the Philippines; 2015 (<https://www.ncda.gov.ph/disability-laws/republic-acts/republic-act-no-10754-an-act-expanding-the-benefits-and-privileges-of-persons-with-disability-pwd/>, accessed 15 April 2019).
14. Comănescu GM, Ungureanu C. The Romanian wheelchair sector needs assessment. Bucharest: Motivation Romania Foundation; 2017 ([https://wheelchairnetwork.org/wp-content/uploads/2019/08/MotivationRomania-Needs-Assessment-Report\\_Oct2017.pdf](https://wheelchairnetwork.org/wp-content/uploads/2019/08/MotivationRomania-Needs-Assessment-Report_Oct2017.pdf), accessed 15 April 2019).
15. Assistive technology in Norway – a part of a larger system. Oslo: Norwegian Labour and Welfare Administration, Department of Assistive Technology; 2017 ([https://www.nav.no/en/Home/About+NAV/Publications/\\_attachment/429663?\\_download=true&\\_ts=15a5f9dfd90](https://www.nav.no/en/Home/About+NAV/Publications/_attachment/429663?_download=true&_ts=15a5f9dfd90), accessed 15 April 2019).
16. Nationwide Service Provision Network and CADTC’s Cooperative Partners. Beijing: China Assistive Devices and Technology Centre for Persons with Disabilities; 2018 (<http://www.cjfi.org/templates/english/content.aspx?nodeid=132&page=ContentPage&contentid=4060>, accessed 15 April 2019).

Acknowledgements: Thank you to the Member States for generous support of WHO’s work on assistive technology, especially the US Agency for International Development, UKAID and Norway’s Ministry of Foreign Affairs.

© World Health Organization 2020. Some rights reserved.  
This work is available under the CC BY-NC-SA 3.0 IGO licence.

ISBN 978-92-4-000504-4 (electronic version)  
ISBN 978-92-4-000505-1 (print version)

