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Johan Borg & Kylie Shae

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Johan Borg and Kylie Shae

School of Health and Welfare, Dalarna University, Falun, Sweden; Access to Assistive Technology (ATA), Medicines and Health Products, World Health Organization, Geneva, Switzerland

ABSTRACT

Worldwide, one out of every three individuals requires assistive products to enjoy and exercise their human rights. In certain nations, only 3% have access to the assistive products they need. Digital technology, and specifically digital health interventions, stands as a powerful solution to improve access and maximize the benefits for users, their families, service providers, and society. Digital health interventions can enable user engagement, support service planning and monitoring, streamline procurement and stock management, boost service efficiency and coverage, and provide avenues for workforce competency development. By harnessing the potential of digital health, universal access to assistive technology can be accelerated.

IMPLICATIONS FOR REHABILITATION

- Digital technology can accelerate access to assistive technology and contribute to maximizing the benefits for users, their families, service providers, and society.
- Digital health interventions can enable user engagement, support service planning and monitoring, streamline procurement and stock management, boost service efficiency and coverage, and provide avenues for workforce competency development.

The World Health Organization (WHO) uses assistive technology as an umbrella term for assistive products and the related services and systems required to ensure access. Assistive products are defined as any external product intended to maintain or improve an individual’s functioning and independence, and thereby promote their well-being, or used to prevent impairments and secondary health conditions.

Assistive technology plays a crucial role in enhancing the health and quality of life for a diverse range of individuals, including children and adults with disabilities, older individuals, people with communicable and noncommunicable diseases, and people with mental health conditions. Approximately 2.5 billion people needed assistive technology in 2021, a figure that is projected to surpass 3.5 billion by 2050 [1]. The fulfillment of these requirements presents a significant global disparity, with access levels varying markedly from 3% to 90% across countries.

Numerous barriers impede universal access to assistive technology, such as high costs, limited availability, inadequate support, insufficient services, a shortage of adequately trained personnel and policy failures [1]. Digital health is defined by WHO as “the systematic application of information and communications technologies, computer science, and data to support informed decision-making by individuals, the health workforce, and health systems, to strengthen resilience to disease and improve health and wellness” [2]. It has the potential to address many of the barriers, supporting more equitable access to assistive technology and fostering an inclusive society for all.

Recognizing the imperative to enhance access to assistive technology and to harness the potential of digital technologies to support health systems for the realization of the Sustainable Development Goals, the World Health Assembly (WHA) adopted two resolutions: WHA 71.8 on improving access to assistive technology [3] and WHA 71.7 on digital health [4]. To improve access to assistive technology, WHA requests States to develop, implement and strengthen policies and programs to improve access to assistive technology, to ensure that adequate and trained human resources for the provision and maintenance of assistive products are available, to promote or invest in research, development, innovation and product design to make existing assistive products affordable; and to develop a new generation of products. In its resolution on digital health, WHA urges States to develop, implement and utilize digital technologies as a means of promoting equitable, affordable and universal access to health for all, and to build capacity for human resources for digital health, especially through digital means. The combination of these two approaches holds transformative potential, impacting health, education, livelihoods, and social participation.

The WHO-GATE 5P framework of assistive technology includes the components: People, Policy, Products, Provision, and Personnel [1]. As indicated in the WHO “Classification of digital interventions, services and applications in health” [2], there are digital health interventions that can be used within each of the five components, see examples in Box 1.

Alongside broader initiatives by WHO and others towards the development and adoption of appropriate, accessible, affordable, scalable and sustainable person-centric digital health solutions [5], this can be realized, among others, by actions such as:

CONTACT Johan Borg jog@du.se School of Health and Welfare, Dalarna University, Falun SE-79188, Sweden
• Involving assistive technology users and their families in exploring the opportunities,
• Raising awareness of the potential of harnessing digital health interventions across the full assistive technology ecosystem,
• Investing in targeted research and innovation, with a focus on practical solutions for low- and middle-income countries,
• Ensuring the affordability, usability, and effectiveness of digital health interventions,
• Upskilling the assistive technology workforce to optimize the use of digital health interventions, and
• Creating mechanisms for collaboration and provision of technical and economic assistance through international collaboration.

Leveraging digital health stands as a strategic approach to accelerate universal access to assistive technology, ensuring that everyone, everywhere receives the assistive technology they need without financial or other hardships.

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Notes on contributors
Johan Borg is Associate Professor in medical science with a focus on assistive technology at Dalarna University, Sweden. Since 1993, he has worked in different capacities to improve access to assistive technology, including as a consultant to international organizations.

Kylie Shae is Team Lead of Access to Assistive Technology at the World Health Organization. She has worked in the field of disability and international development since 1991 and is passionate about implementing equitable, practical solutions to enable increased access to inclusive health, rehabilitation, and assistive technology for all.

ORCID
Johan Borg http://orcid.org/0000-0003-4432-5256

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Box 1. Examples of digital health interventions for each component of the WHO-GATE 5P assistive technology framework. Text in Box 1:

People: Online platforms can facilitate enhanced service user representation in assistive technology policy and planning, as well as providing information about assistive products, services and providers for individual users and families, facilitating their pathway towards accessing assistive technology.

Policy: Strengthened and efficient electronic health information systems can support the inclusion of assistive technology data in the whole of system planning, monitoring, and evaluation.

Products: Besides assistive products being digital themselves, 3D scanning and printing can improve the design and manufacturing of assistive products. Digital health interventions can also improve stock inventory and distribution, reducing the time between assessment and provision.

Provision: Digital applications can streamline and improve the quality and consistency of service delivery steps, provide service providers with prompts and checklists, and extend the reach of services through the application of telehealth.

Personnel: Open online courses can broaden the knowledge and skills training for personnel and telehealth services can link community and primary health personnel with more specialist service providers when needed.