

#### EQUIPPING, ENABLING AND EMPOWERING

## Global priority research agenda for improving access to high-quality affordable assistive technology



## The GATE Initiative



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# **Executive summary**

The World Health Organization (WHO) estimates that more than one billion people are in need of one or more assistive products. The majority of these are older people and people with disabilities. With populations ageing and a rise in noncommunicable diseases, the number of people needing assistive products is projected to increase to beyond two billion by 2050.

However, only one in ten people in need currently have access to assistive technology. Without access, people are often excluded and may be locked into poverty and isolation; increasing the impact of disease and disability on the person, their family and on society as a whole. To address the substantial gap between the need for and provision of assistive technology, WHO established the Global Cooperation on Assistive Health Technology (GATE). The GATE initiative has prioritized research and innovation as a key focus area.

To promote research and innovation, WHO established a core group to identify strategic research priorities for the GATE initiative and called for a GATE Research Group meeting in Budapest in September 2015. The core group members are experts from the Association for the Advancement of Assistive Technology in Europe (AAATE), the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA), Zuyd University of Applied Science, and Trinity College Dublin.

Core group members consulted 50 experts from 25 countries to invite contributions to the priority research agenda for the Budapest meeting. Following this, 64 experts from 25 countries took part in a GATE Research Group consensus meeting and identified five global priority research thematic areas as essential to improving access to high-quality affordable assistive technology:

- 1. Effects, costs and economic impact of assistive technology.
- 2. Assistive technology policies, systems, service provision models and best practices.
- 3. High-quality and affordable assistive technology.
- 4. Human resources for the assistive technology sector.
- 5. Standards and methodologies for the assessment of assistive technology need and unmet need.

Meeting participants also arrived at a consensus on two guiding principles for any assistive technology-related research activities:

- 1. User involvement in all aspects of research, especially on policy and service provision.
- 2. Work from a social and environmental model of disability and participation.

The main purpose of the current report is to share the resulting global priority research agenda and to invite researchers, states, donor agencies, user groups, civil societies and other stakeholders to initiate/support research activities that contribute to closing the gap between global assistive technology need and unmet need.



# Why a global priority research agenda?

Assistive technology refers to assistive products and related systems and services developed for people to maintain or improve functioning and thereby to promote well-being. It enables people with difficulties in functioning to live healthy, productive, independent and dignified lives, participating in education, the labour market and social life. Assistive products are essential tools: to compensate for an impairment or loss of intrinsic capacity; to reduce the consequences of gradual functional decline; to reduce the need for carers, for primary and secondary prevention; and to help rationalize health and welfare costs. Without access to assistive products, people in need are often excluded and may be locked into poverty and isolation (1).

The World Health Organization (WHO) estimates that there are currently more than a billion people who could benefit from access to one or more assistive products. With populations ageing rapidly and as the prevalence of noncommunicable diseases rises across the world, estimated needs are expected to rise above 2 billion by 2050, with many older people needing two or more products as they age (2,3). Ageing is typically associated with a gradual decrease in physical and mental capacity, as well as a growing risk of disease. However, these changes are neither linear nor consistent, and are only loosely associated with a person's age in years (4). This presents both challenges and opportunities for supporting people with assistive technology in order to sustain independent, productive and healthy lives.

Those who most need assistive technology include, among others: people with disability, older people, people with noncommunicable diseases, people with mental health conditions including dementia and autism, and people with gradual functional decline. WHO also estimates that only 1 in 10 people in need currently have access to assistive technology, owing to a lack of financing, availability, awareness, trained personnel and high costs (5). For example, 70 million people are estimated to need wheelchairs, but only between 5% and 15% have access to one. Hearing aid production is thought to meet only 10% of global need and 3% of the need in low-income countries (6).

Increasing access to assistive technology – and closing the gap between need and unmet need – is an urgent global necessity. If we do not substantially change the current situation this gap will increase, further marginalising those without access to quality assistive technology and undermining their ability to be productive and enjoy fundamental human rights (7).

The United Nations (UN) has recognized and acknowledged poor access to assistive technology as a critical problem to address. *The Convention on the Rights of Persons with Disabilities* entitles all people to available and affordable assistive technology, and stipulates that states should take effective measures to enable access to such technology (*7*). Increasing access to high-quality and affordable medical products, which includes assistive products, is also one of the six leadership priorities of WHO.

It was in this light that WHO launched the Global Cooperation on Assistive Technology (GATE) in 2014. GATE is an assistive technology stakeholder platform, which aims to improve access to high-quality affordable assistive products as an integral part of responding to the call for access to essential, high-quality, safe, effective and affordable medical products (8). To promote research that contributes to achieving this aim, GATE has developed a global priority research agenda through a global consultation and consensus process.

# How was the global priority research agenda developed?

This research agenda was developed through the following six steps:

- I. Online questionnaire.
- II. GATE Research Group consensus meeting, in partnership with other key stakeholders.
- III. Follow-up meeting.
- IV. Drafting of an initial priority research agenda.
- V. Peer review and feedback.
- VI. Finalization of priority research agenda.

Experts from all WHO regions participated in the process, as summarized in Appendix 1.

### I. Online questionnaire

An online questionnaire with 12 items was developed to identify possible global research priorities within the field of assistive technology (Appendix 2). An invitation to complete the questionnaire was sent to 79 experts who were identified through purposive sampling within relevant WHO and author networks, and through referral (or 'snowball') sampling.

Fifty responses were received, of which 35 comprised personal opinion and 15 were submitted on behalf of one or more organizations (Appendix 3). Forty-four responses were received from countries classified by the World Bank (9) as high-income, four were from middle income countries and two were received from low income countries.

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