



Pathways to Possibility: Understanding Assistive Technology Priorities and Access Barriers Through Lived Experience

A report by Cerebral Palsy Alliance and Remarkable
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Executive Summary

Assistive technology (AT) plays a vital role in enabling people with disability to communicate, learn, move, work, participate in their communities, and live independently. From communication devices and mobility aids to educational software and environmental controls, AT can create opportunities for participation across all areas of life.

To better understand priorities for AT research and development, researchers from Cerebral Palsy Alliance's Research Institute, and the Head of Disability Tech Innovation with Remarkable, conducted a survey of people with lived experience of disability, including people with disability and family carers. Remarkable is the disability technology accelerator and innovation arm established by Cerebral Palsy Alliance, supporting startups and innovators to develop technologies that improve accessibility, inclusion, and outcomes for people with disability. Twenty-one participants responded to the call, representing a diverse range of disabilities, ages, life stages and countries.

Participants identified communication, mobility, employment, learning and community participation as important priorities for future innovation. However, the most consistent finding across the survey was that access to AT remains difficult. Participants described challenges in discovering technologies, obtaining funding, accessing specialist advice, identifying appropriate solutions, and maintaining technologies over time.

The findings suggest that while continued investment in innovation is important, improving outcomes for people with disability also requires investment in the systems, services and supports that enable people to access and benefit from technology. These findings align with the 5P model from the Global Cooperation on Assistive Technology (GATE) initiative from the World Health Organization (Figure 1) (1).



“Autonomy and participation are key to our development as humans.”

Background

People with lived experience of disability report that Assistive Technology (AT) can help them “break free” from the constraints of their daily lives and roles (2). Despite the possibilities of AT, a recent qualitative study found that there can be many unmet needs for the users of AT, often relating to device design, reliability, compatibility, and so on (2). A systematic review conducted in 2020 listed barriers to using AT beyond the device design and function, such as service provision, support networks and societal barriers (3). Unsurprisingly considering barriers to use, and unmet needs of technologies, technology abandonment is a significant issue with studies reporting abandonment rates as high as 78% for certain devices like hearing aids (4).

The World Health Organization’s Global Report on Assistive Technology identifies AT as a key enabler of participation, independence and inclusion, yet reports that most people who need AT do not have adequate access to it (5). Importantly, the report highlights that barriers are often not limited to products themselves but include affordability, awareness, service availability, support, maintenance and fragmented access pathways (5). As a result, international attention has increasingly shifted from developing technology alone towards strengthening the broader systems that enable people to access, use and benefit from AT throughout their lives.

Globally, demand for AT continues to increase - around 2.5 billion people globally require at least one piece of AT, which is expected to increase to 3.5 billion people by 2050 (5). At the same time, many people remain unable to access appropriate technologies and the services needed to support their effective use. Internationally, there is growing recognition that improving AT outcomes requires attention not only to products, but also to the broader systems that support access, training, maintenance and ongoing use.

Cerebral Palsy Alliance Research Institute and Remarkable have identified five areas of AT encompassing all areas of life. These include technologies which promote:

- work and physical participation
- connection and communication
- health and wellbeing
- mobility and access
- playing and learning

Within each of these areas there can be many examples of different devices.

For devices to support the people they are intended for, those people need to be able to inform their development, and feedback about any issues relating to implementing them in everyday life. Increasingly, people with disability and their families are recognised as essential partners in identifying priorities for innovation and service improvement. Their experiences provide important insight into both the technologies that matter most and the barriers that continue to limit access.

Considering the vast range of AT available, and issues with accessing them, this research study aimed to better understand the top priorities for AT, by asking people with lived experience of disability, or their support person, to complete a survey about their use of AT, their personal unmet AT needs, their own AT priorities, and their own ideas for technology development.

This survey was undertaken to better understand those experiences and identify priorities for future research, development and investment. We aimed to answer the research question: *What are the three priority areas of assistive technology for people with lived experience of disability?*

About the survey

An online survey was conducted between November 2025 and May 2026. Ethics approval obtained by The University of Sydney's Human Research Ethics Committee and Cerebral Palsy Alliance Governance. Participants were recruited through professional networks, social media, community channels and organisational communications. People with disability, family members and carers were invited to participate.

The survey explored:

- current AT use
- areas of unmet need
- priorities for future innovation
- barriers to accessing technology
- suggestions for future technology development

Twenty-one complete responses were received, including nine responses from people with disability and twelve from carers or family members responding on behalf of a person with disability.

Who participated?

Participants represented a wide range of lived experiences, including people with cerebral palsy (n=11), vision impairment (n=4), hearing impairment (n=3), genetic conditions (n=2), spinal cord injury (n=1), Parkinson's disease (n=1), intellectual disability (n=1), and other neurological conditions (n=2).

Most participants (n=16) were based in Australia, with additional responses from Germany (n=1), Switzerland (n=1) and Egypt (n=1) (two participants did not answer this question). Responses represented people aged from young children (under 5) to older adults (65+), providing perspectives from across the lifespan.

Areas of difficulty

To better understand where AT priorities may lie, we asked participants to share which areas of life they had difficulty with. The most common areas of difficulty were self-care, community life, and mobility (Table 1).

Table 1: Areas of difficulty

Areas of Difficulty	Number of responses (%)
Self-care and domestic life - such as eating or drinking, dressing, toileting, washing yourself, cooking, cleaning, household tasks	16 (18%)
Community life - such as engaging in play, recreation, leisure activities or community social life	15 (17%)
Mobility - walking, moving around, changing body position, using transportation	15 (17%)
Learning, education or employment - such as learning new skills, solving problems, engaging in school or higher education, getting or keeping a job	13 (14%)
Self-management and safety – such as planning and organising, making decisions, living safely at home	11 (12%)
Communication - producing sound and speech, or signs/gestures	9 (10%)
Vision - seeing	4 (4%)
Other - please describe	4 (4%)
Hearing - listening, sensing and understanding sounds	3 (3%)
Total	90 (100%)

Other: 1 – “Balance, executive function, sleep”; 2 – “Self-care: neurogenic bladder and bowel movement-catheterization”; 3 – “Lower back pain, access fatigue, behavioural frustration”; 4 – “Activities such as tying laces, writing, drawing, using knives and scissors are more difficult due to the intention tremor”.

Participants use a variety of technologies

Participants described using a broad range of assistive technologies across everyday life, with several commonly reported in each category (Table 2).

Table 2: Commonly used assistive technologies, by category

Category	Common technologies
Self-care	Adapted eating, bathing and toileting equipment
Community life	Adapted bicycles, recreation equipment, sport wheelchairs
Mobility	Walking sticks, walkers, manual and powered wheelchairs, orthoses
Learning	Educational software, computer access tools, writing supports
Safety & independence	Timers, reminders, smart home systems, ramps
Communication	Speech-to-text apps, communication devices, text-to-speech systems
Vision	Spectacles, speech to text or text to speech
Hearing	Speech to text software or products for live transcription or captioning service

Connection and communication, mobility and access, and work and participation are the highest priorities

We asked participants to rate their highest priority for areas of research and development of new AT from five categories. Participants identified connection and communication, mobility and access, and work and participation as the areas where future innovation could have the greatest impact (Figure 2). Participants connected these priorities to broader life outcomes, with one participant reflecting:

“...her ability to connect and adapt across environment is key towards her independence and contribution.”

Another explained:

“I think that mobility bleeds into all the other areas, though access issues and through the exhaustion/pain that mobility issues can cause which leave you without the energy or motivation to participate in work or the community.”

Employment also emerged as an important concern, with comments including *“If I’m able to work, I feel purposeful”* and *“Employment is the biggest struggle we have.”* These responses highlight the way that AT can support participation, inclusion and quality of life.

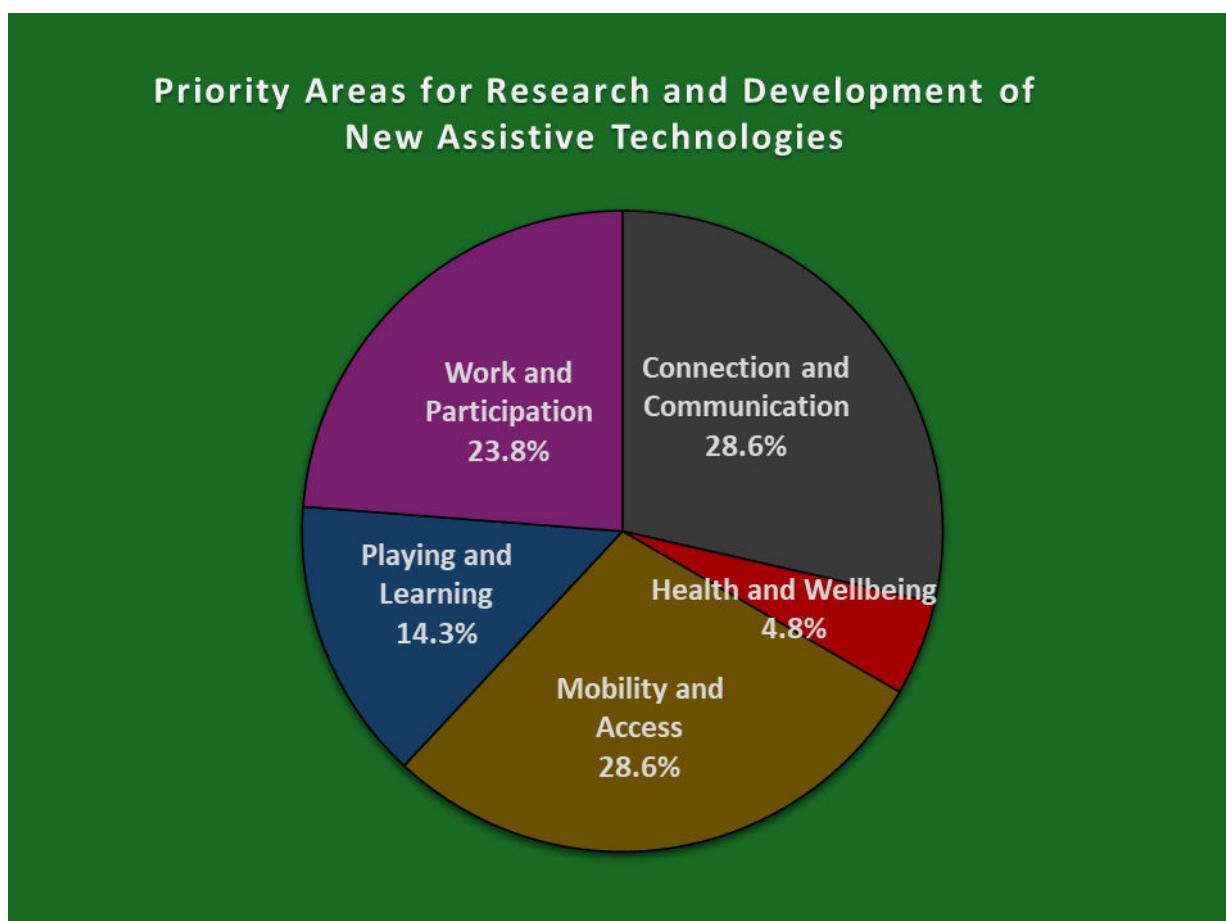


Figure 2: Priority areas for research and development of new assistive technologies

People are looking for solutions to real-world problems

Participants often described technology priorities in terms of practical challenges they were trying to solve, rather than specific devices they wanted developed. Communication, mobility, and employment priorities were frequently linked to broader goals of independence, safety, inclusion and opportunity.

Some of the quotes from respondents powerfully described the importance of AT to these priority areas.

Connection and communication:

- *"She is young and actively seeks connection with others. Building and maintaining meaningful relationships is very important to her wellbeing and quality of life."*
- *"This experience made me realise how important it is for her to have a reliable way to communicate pain, discomfort, or any needs."*
- *"It's very important to me that she can express herself clearly enough so that others can support her appropriately."*

Mobility and access:

- *"Taking away some of that physical stress can open up opportunities in the community, workplace and education."*
- *"Autonomy and participation are key to our development as humans."*

Work and participation:

- *"They need to work, but currently they can't find any opportunity."*
- *"If I'm able to work, I feel purposeful."*

For some participants, communication was closely linked with safety and wellbeing. One parent described the challenge of understanding their child's needs: *"Recently, she cried continuously for about two hours due to stomach pain. Because she is nonverbal, it took us a long time to understand what was wrong."* They continued: *"My biggest concern is reducing the time she has to suffer before we understand what she is trying to express."*

These responses demonstrate that participants were not simply identifying technology needs. They were identifying problems that affect daily life and describing the outcomes that matter most to them. Assistive technology was often viewed as a means of addressing those challenges.

Access requires more than equipment

Successful use of AT depends on more than access to products alone. Participants highlighted the importance of assessment, training, implementation support and ongoing review to ensure technologies were appropriate for their needs and environments. Several respondents described challenges in identifying technologies that matched their goals or adapting technologies as their needs changed over time. One parent explained:

"New ideas around arm and leg splints would be great as we continue to struggle to get a comfortable and useable orthotic that can adjust to his changing needs."

Another described the complexity of making technology decisions:

"Considering a wheelchair, but we are apprehensive about it stopping my son from walking as his preferred method of movement."

Participants also highlighted the importance of skilled support in selecting and implementing technologies.

"Skilled supports, specialist need to be able to work across all environments to promote self-support."

These responses suggest that access to technology alone is insufficient. Participants emphasised the importance of finding the right technology, supported by knowledgeable professionals, and adapted to individual circumstances and goals.

Participants reported that technologies existed but were difficult to discover, obtain, fund or implement. Barriers included affordability, local availability, funding eligibility, lack of specialist support and limited awareness of available options.

One parent described the challenge of trialling AT to support playing and learning: *"Simply learning about the existence of various technologies has been a process."* They added: *"We have navigated the field using word of mouth and trial and error, which is sometimes expensive. The biggest issue had been finding viable alternatives; we have been willing to try anything."*

Participants also reported frustrations when potentially useful technologies were unavailable, unaffordable or difficult to access through existing systems. These responses suggest that improving access may be just as important as developing new technologies.

Participant experiences highlighted barriers across every stage of the AT pathway:

Awareness: People first need to know technologies exist.

Identification: People need help identifying technologies that match their goals, needs and environments.

Acquisition: Funding, availability and procurement processes can create significant barriers.

Implementation: People need support to set technologies up and learn how to use them effectively.

Sustainability: Technologies require maintenance, repair, upgrades and ongoing support.

One respondent summarised this challenge powerfully:

"The greatest issue is most supports are now seen not as a direct disability support... Lack of support to setup, maintain and matching best AT falls short."

These findings suggest that successful technology outcomes depend on the entire access pathway, not simply the availability of products.

People with lived experience are partners in innovation

Participants were not simply consumers of technology. Many demonstrated detailed knowledge of current technologies, emerging innovations and unmet needs. Participants identified opportunities relating to:

- Rehabilitation robotics
- Mobility technologies
- Orthotic design
- Speech-to-text systems
- Educational technologies
- Cognitive and sensory supports

One participant commented: *“We need to put pressure on the profit makers to fund the development for the lead users.”* This reinforces the value of involving people with lived experience throughout research, development and implementation.

Implications for future work

The survey findings suggest four priorities for future action:

Improve awareness and navigation: People need clearer pathways to discover and compare available technologies.

Strengthen support services: Assessment, setup, training, maintenance and follow-up support should be recognised as essential components of access.

Support personalised solutions: Technologies should be adaptable to individual goals, environments and changing needs

Continue to centre lived experience: People with disability and families should remain active partners in innovation, research and service design.

Conclusion

Participants identified connection and communication, mobility and access, and work and participation, as important priorities for future AT innovation. However, access remains a significant challenge.

People described barriers in finding technologies, obtaining funding, accessing specialist support, navigating service systems and maintaining technologies over time. For some participants, the challenge was not whether solutions existed, but whether those solutions could be discovered, accessed and sustained.

These findings suggest that improving outcomes for people with disability requires attention not only to innovation, but also to the broader ecosystem that supports access. Future efforts should focus not only on developing new technologies, but also on strengthening the systems that enable people to discover, access and sustain the technologies they need. Only then can innovation translate into meaningful impact.

By investing in both technologies and the pathways that connect people to them, organisations can help ensure that innovation translates into meaningful real-world impact.

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