A situation assessment of assistive technology in Georgia
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Abstract

This publication summarizes the situation of the assistive technology system in Georgia as of August 2021, and the findings of a household survey on assistive technology conducted in March 2021. It describes the current resources, needs, gaps and opportunities in the area of assistive technology in Georgia, and provides recommendations on how to strengthen the system. The situational analysis was conducted under the leadership of the Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs, with technical support from WHO Regional Office for Europe and WHO Country Office in Georgia. The data was collected through interviews with assistive technology users, providers, professionals and policy makers. The report is divided into 5 chapters addressing different aspects of the assistive technology system: policy, products, provision, personnel and the findings of the household survey on the population needs.

Keywords

1. ASSISTIVE TECHNOLOGY. 2. ASSISTIVE TECHNOLOGY POLICY. 3. ASSISTIVE PRODUCTS. 4. ASSISTIVE TECHNOLOGY – HUMAN RESOURCES. 5. PERSON WITH DISABILITIES – REHABILITATION AND ASSISTIVE PRODUCTS. 6. UNIVERSAL HEALTH COVERAGE. 7. WORLD HEALTH ORGANIZATION.
# Contents

Acknowledgements ......................................................................................................................... v
Contributors ................................................................................................................................. v
Abbreviations .................................................................................................................................. vi

Introduction ......................................................................................................................................... 1
  Methodology ................................................................................................................................. 2
  WHO definitions in assistive technology ....................................................................................... 2

1. Policy ............................................................................................................................................. 3
  1.1 Governance ............................................................................................................................... 4
  1.2 Finance ....................................................................................................................................... 4
  1.3 Coverage ................................................................................................................................... 5
  1.4 Procedure ................................................................................................................................... 7
  1.5 Information system .................................................................................................................... 7
  1.6 Discussion .................................................................................................................................. 7
  1.7 Recommended actions .............................................................................................................. 10

2. Provision ......................................................................................................................................... 11
  2.1 Registration ............................................................................................................................... 12
  2.2 Providers ..................................................................................................................................... 12
    2.2.1 Wheelchair providers ........................................................................................................... 12
    2.2.2 Prosthetics and orthotics providers ....................................................................................... 12
    2.2.3 Hearing aid providers ........................................................................................................... 13
    2.2.4 Other devices ....................................................................................................................... 13
    2.2.5 Other non-registered providers ............................................................................................ 13
  2.3 Services ....................................................................................................................................... 14
    2.3.1 Service standards ................................................................................................................. 14
    2.3.2 Service coverage ................................................................................................................... 14
  2.4 Barriers ......................................................................................................................................... 14
  2.5 Discussion .................................................................................................................................... 16
  2.6 Recommended actions .............................................................................................................. 18

3. Products .......................................................................................................................................... 19
  3.1 Government provision and beneficiaries .................................................................................. 20
  3.2 Population total need .................................................................................................................. 20
  3.3 Production, procurement, quality and variety ............................................................................. 21
  3.4 Discussion ................................................................................................................................... 23
  3.5 Recommended actions .............................................................................................................. 24

4. Personnel .......................................................................................................................................... 25
  4.1 Professional registration and certification ................................................................................... 26
  4.2 Assistive technology workforce and training ............................................................................. 26
  4.3 General health workforce ........................................................................................................... 26
  4.4 Discussion ................................................................................................................................... 26
  4.5 Recommended actions .............................................................................................................. 27
# Table of Contents

5. rATA survey .......................................................................................................................... 28  
   5.1 Findings .......................................................................................................................... 29  
      5.1.1 Functional limitations and self-reported need for assistive products .................. 29  
      5.1.2 Barriers to access ................................................................................................. 33  
      5.1.3 Provider and funding source .................................................................................. 33  
   5.2 Limitations ....................................................................................................................... 35  

6. Conclusions and way forward ............................................................................................. 36  
   6.1 Recommended actions .................................................................................................... 37  
      6.1.1 Policy ...................................................................................................................... 37  
      6.1.2 Provision ................................................................................................................ 37  
      6.1.3 Products .................................................................................................................. 37  
      6.1.4 Personnel ................................................................................................................ 37  

References ........................................................................................................................................ 38
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Michael Allen, USAID; Tomas Zapata, WHO Regional Office for Europe
# Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATA-C</td>
<td>Assistive Technology Assessment Capacity tool</td>
</tr>
<tr>
<td>CLASP</td>
<td>Consolidating Logistics for Assistive Technology Supply and Provision</td>
</tr>
<tr>
<td>CRRC</td>
<td>Caucasus Research Resource Centre</td>
</tr>
<tr>
<td>GEFPOR</td>
<td>Georgian Foundation for Prosthetic Orthopaedic Rehabilitation</td>
</tr>
<tr>
<td>GEL</td>
<td>lari (Georgian currency)</td>
</tr>
<tr>
<td>GReAT</td>
<td>Global report on assistive technology</td>
</tr>
<tr>
<td>GWW</td>
<td>Georgian Wheelchair Workshop Ltd.</td>
</tr>
<tr>
<td>ICF</td>
<td>International Classification of Functioning, Disability and Health</td>
</tr>
<tr>
<td>ICRC</td>
<td>International Committee of the Red Cross</td>
</tr>
<tr>
<td>ISPO</td>
<td>International Society for Prosthetics and Orthotics</td>
</tr>
<tr>
<td>LDSC</td>
<td>Latter-day Saint Charities</td>
</tr>
<tr>
<td>LEPL</td>
<td>legal entity of public law</td>
</tr>
<tr>
<td>MAC</td>
<td>McLain Association for Children</td>
</tr>
<tr>
<td>MoIDPLHSA</td>
<td>Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs</td>
</tr>
<tr>
<td>MSEC</td>
<td>medical social examination commission</td>
</tr>
<tr>
<td>rATA</td>
<td>rapid Assistive Technology Assessment tool</td>
</tr>
<tr>
<td>RCPLA</td>
<td>Rehabilitation Centre for Persons with Limited Abilities</td>
</tr>
<tr>
<td>SFTV</td>
<td>LEPL Agency for State Care and Assistance for the (Statutory) Victims of Human Trafficking</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
</tbody>
</table>
Introduction
Methodology

This situation assessment of assistive technology in Georgia was conducted using two WHO tools: the Assistive Technology Assessment Capacity (ATA-C) tool (1) and the rapid Assistive Technology Assessment (rATA) (2) household survey. Together, the findings of the two surveys give a comprehensive overview of the situation of assistive technology in the country. ATA-C provides an overview of capacity to provide assistive technology (supply side) and rATA provides an overview of the demand for assistive technology among the population (demand side).

The ATA-C survey relies on interviews with key stakeholders (Government, providers, assistive technology professionals and assistive technology users) and desk research to collect information on assistive technology and identify existing gaps in the sector and opportunities to strengthen it. The research focuses on the five interrelated constituent parts of an assistive technology system, known as the “five Ps”: people (i.e. service users), products, provision, personnel and policy. This report has four main sections describing the current situation in Georgia in terms of policy, provision, services (i.e. products) and personnel. A further section provides details of the rATA survey. Finally, the report provides recommendations on ways of strengthening assistive technology services.

WHO definitions in assistive technology

**Assistive products:** any external product (including devices, equipment, instruments or software), especially produced or generally available products, the primary purpose of which is to maintain or improve an individual’s functioning and independence, and thereby promote his/her well-being. Assistive products are also used to prevent impairments and secondary health conditions (3).

**Assistive technology:** the application of organized knowledge and skills related to assistive products, including systems and services. Assistive technology is a subset of health technology (3).

Assistive technology allows children to learn at school; adults to work and enjoy leisure; older people to be mobile and connected to their community. It helps people see and hear better; it can help people with intellectual and cognitive disabilities understand and interact with others more effectively; and it can support people with psychosocial disabilities in managing and working through difficult times. Assistive technology helps people to realize their rights in tangible everyday ways.
1. Policy
1.1 Governance

In Georgia, the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs (MoIDPLHSA) is responsible for the provision of assistive technology. Within the Ministry, the Social Protection Policy Unit leads the provision of assistive technology and is responsible for policies, regulations and supervision of the State programme. Policies are developed in consultation with disabled people’s organizations and registered assistive technology providers.

Other ministries and departments are also involved in financing or provision of assistive technology, notably the Ministry of Education and Science and the Ministry of Defence; however, coordination between these ministries remains an area that could be strengthened.

The Government approves an annual State Programme for Social Rehabilitation and Childcare, of which assistive technology is a subprogramme (see e.g. (4)). The State programme is the main normative act regulating assistive technology. The goal of the subprogramme is to improve the social conditions and increase the level of functional independence of persons with disabilities and other vulnerable groups, such as older people, to promote healthy ageing and inclusion in all aspects of community living.

There is currently no strategic national plan, roadmap or other guiding document to strengthen the sector and improve access to assistive technology in the country. Legislation and regulatory documents on assistive technology include the following.

- Minimum standards for assistive technology services (April 2007) – these describe the minimum service steps that must be observed and sets minimum requirements for the provision of wheelchairs, prostheses and orthoses, and hearing aids (5).
- Law of Georgia on Medical and Social Expertise: On the rules for determining the status of disability (January 2003) – this sets the procedure for determining disability status and defines the conditions that warrant the prescribing of assistive products by specialized physicians (6).
- Rules on the registration of service providers for social rehabilitation and childcare 2021 State programme – these describe the requirements and application procedure to become a registered supplier of services under the State programme (7).

1.2 Finance

Assistive technology is financed in accordance with the budget specified in the State Programme for Social Rehabilitation and Childcare. Procurement of State-funded assistive products follows one of two procedures: State tenders or issuance of a voucher. Products that are financed through the voucher include wheelchairs and prostheses. For such products the voucher can be used with any registered provider and covers the costs of a product within a maximum reimbursement rate. Other products, such as hearing aids or walking aids, are procured by the Government by an annual open tender. For hearing aids, the tender also includes the provision of related services at designated facilities. The SFTV is responsible for purchasing assistive products and other publicly financed social services.

The assistive technology subprogramme has five components for different product categories, each with its own budget, as described in Table 1 below.
Table 1. Budget of assistive technology subprogramme

<table>
<thead>
<tr>
<th>Assistive technology component</th>
<th>Budget Georgian lari (GEL)</th>
<th>Procurement method</th>
<th>Description</th>
</tr>
</thead>
</table>
| Wheelchairs                   | 990 000                   | Voucher            | GEL 378 700 for mechanical wheelchairs  
                                  |                           |                    | GEL 505 300 for electric wheelchairs  
                                  |                           |                    | GEL 106 000 medium- to high-adjustment paediatric wheelchairs |
| Prosthetics and orthotics     | 2 096 100                 | Voucher            | Not specified |
| Digital hearing aids          | 466 220                   | State tender       | 1060 adult hearing aids  
                                  |                           |                    | 100 paediatric hearing aids |
| Smartphones with videocall capability | 15 000 | State tender       | 50 smartphones |
| Crutches, walking frames, white canes | Not specified | State tender | Not specified |

The total budget assigned for assistive technology for 2021 was approximately GEL 3.5 million (US$ 1 million). This was slightly lower than the previous year’s budget of GEL 3 660 000, owing to a significant decrease in the budget allocated for the prosthetics and orthotics component, down from GEL 2 682 000 in 2020 to GEL 2 096 100 in 2021.

The budget for assistive technology is insufficient to meet the country’s needs, and most people pay out of pocket for assistive products. The rATA household survey found that only 4.3% of assistive products (excluding spectacles) in use were Government-funded, while more than 75% were paid for by the user or his/her relatives (see Section 5 below). The non-profit sector – charities and nongovernmental organizations – also makes important contributions to assistive technology financing (see Section 3.3 below).

1.3 Coverage

Eligibility: the assistive technology subprogramme (Annex 1.6) of the State Programme for Social Rehabilitation and Childcare aims to improve the level of functional independence of persons with disabilities, older adults and other groups such as veterans and persons with noncommunicable/chronic diseases. Some products, such as electric wheelchairs, white canes and smartphones with videocall capability, are supplied only to persons registered as disabled. Others, such as manual wheelchairs, hearing aids and walking aids, are accessible to other groups with functional impairments. Table 2 shows the eligible groups for each assistive product and the required medical form.

For the various Government-funded products, there is a corresponding list of conditions and diagnoses. For example, a person with a condition such as lower-limb bilateral amputation, severe ataxia or sharp contractures of lower limbs may be entitled to a mechanical wheelchair. For hearing aids, the criteria include congenital deafness or, for older persons, second-or third-degree hearing loss according to the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10: H90.0; H90.3; H90.5; H90.6).

Products: 14 assistive products are provided through the State programme; these are listed in Table 2. All belong in the mobility domain, except for white canes, hearing aids and smartphones with videocall capability. The State covers the full cost of all the products, except for mechanical wheelchairs and prostheses, which are funded up to 90% by the State and 10% by the user (for vulnerable groups, the State covers 100% of the cost even for these products). Also, forms N50 and N100, on the list that is used as the basis to provide products, have to be paid for at a cost of up to GEL 60.

Table 3 shows the financing limit and warranty period for products provided through the State programme. At the end of the warranty period the beneficiary is entitled to a new assistive product. The price margins were calculated by the Ministry in line with market research followed by a competitive offer of bidding by the service providers.
Table 2. Eligibility for assistive products and medical form required

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Disabled person</th>
<th>Disabled child</th>
<th>Non-disabled person</th>
<th>Non-disabled child</th>
<th>Elderly</th>
<th>Priority: people under State care, in penitentiaries, socially vulnerable, veterans</th>
<th>Requested medical forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Manual wheelchairs</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Form N100</td>
</tr>
<tr>
<td>2.</td>
<td>Electrically powered wheelchairs</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td>+</td>
<td>+</td>
<td>Form N50/2</td>
</tr>
<tr>
<td>3.</td>
<td>Paediatric wheelchairs</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td>Form N50/2</td>
</tr>
<tr>
<td>4.</td>
<td>Prostheses, lower-limb</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Form N50/2</td>
</tr>
<tr>
<td>5.</td>
<td>Prostheses, upper-limb</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Form N50/2</td>
</tr>
<tr>
<td>6.</td>
<td>Orthoses, lower-limb</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td>+</td>
<td>Form N100</td>
</tr>
<tr>
<td>7.</td>
<td>Orthoses, spinal</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td>+</td>
<td>Form N100</td>
</tr>
<tr>
<td>8.</td>
<td>Orthoses, upper-limb</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td>+</td>
<td>Form N100</td>
</tr>
<tr>
<td>9.</td>
<td>Hearing aids (digital) and batteries</td>
<td>+</td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Form N50/2</td>
</tr>
<tr>
<td>10.</td>
<td>Smartphones, with videocall capability</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td>Form N50/2</td>
</tr>
<tr>
<td>11.</td>
<td>Canes/sticks</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Form N100</td>
</tr>
<tr>
<td>12.</td>
<td>Crutches, axillary/ elbow</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Form N100</td>
</tr>
<tr>
<td>13.</td>
<td>Walking frames/ walkers</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Form N100</td>
</tr>
<tr>
<td>14.</td>
<td>White canes</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td>+</td>
<td>+</td>
<td>Form N50/2</td>
</tr>
</tbody>
</table>

**Services**: the cost of services such as fitting and user training is also included in the State budget. However, services are not reimbursed separately, and their cost is covered by the maximum reimbursement amount stated for each product. For some products, such as paediatric and electric wheelchairs, the costs also include home delivery of the product. Service standards were developed earlier in 2021 for wheelchairs, prosthetics and orthotics and hearing aids, including assessment, fitting and training (see Section 2).

If a product breaks, the beneficiary is entitled to repairs as part of the warranty service. To obtain the repairs, the beneficiary must contact the supplier. The technicians of the company that provided the product will inspect the device to determine whether the breakage was caused by negligence by the individual. If the individual is not at fault for the damage and the product cannot be repaired within seven days, the State will cover the cost of a replacement product. Post-warranty repair services are not covered by the State.
1.4 Procedure

Fig. 1 below illustrates the patient journey and procedure to obtain a Government-funded assistive product. The procedure for receiving assistive technology will differ by product type and target group. For some products and people, the procedure may be simplified and faster. For others it may take longer (reportedly in some cases over a year) from the time when the need arises until the beneficiary can get the product.

1.5 Information system

The 2014 census showed that there were 100,113 registered persons with disabilities in Georgia (2.69% of the population), while the Social Service Agency had registered 118,651 persons with disabilities who were receiving social assistance as of 1 March 2015.

In addition to collecting information on disability, the 2014 census also collected information on functioning. The number of people with difficulty functioning was 1,301,675 (35% of the population). This figure is slightly lower than the findings of the rATA household survey, in which 43% of the population sampled reported at least some functional difficulty. In 2018, Georgia carried out a multiple indicator cluster survey that identified 28% of adults and children in the entire population (aged 2–49 years) as having difficulty functioning in at least one domain.

According to the 2014 census, 14% of people in Georgia are aged 65 years or older. By 2050, this age group will constitute 25% of the population. WHO is working to refine measures of healthy ageing as part of its 10 Priorities for a Decade of Action on Healthy Ageing (8). The focus now is on older people’s functional ability within their environment, not on their age or the conditions or diseases they have.

1.6 Discussion

**Increase financing**: assistive technology is for everyone, and all people should have access at least to the most essential assistive products. In basic terms, assistive technology allows children to learn at school, adults to work and enjoy leisure and older people to be mobile and connected with their community. It helps people see and hear better; it can help people with intellectual and cognitive disabilities understand and interact more effectively; and it can support people with psychosocial disabilities to cope with and work through difficult times. Assistive technology helps people to realize their rights in tangible everyday ways.

Even though the State subsidizes assistive products for vulnerable groups through an annual programme, the budget allocated to assistive technology is insufficient to achieve universal coverage. The rATA household survey found a prevalence of need for assistive technology of approximately 10% (excluding spectacles); more than half of those in need (6%) do not have at least one assistive product they need. For almost 30% of people with an unmet need, high cost was the barrier to using the product (see Chapter 5 for further analysis of the household survey).

Historically, assistive technology has been viewed as a form of charity targeting persons with disabilities. In reality, everyone who lives long enough will need multiple assistive products over the course of his/her life; with the ageing population and the rise of noncommunicable

### Table 3. Financing limit and warranty period for products provided through the State programme

<table>
<thead>
<tr>
<th>Assistive product</th>
<th>Maximum reimbursement amount (GEL)</th>
<th>Warranty period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheelchairs (manual)</td>
<td>760</td>
<td>24 months</td>
</tr>
<tr>
<td>Electric wheelchairs</td>
<td>5053</td>
<td>12 months (battery)</td>
</tr>
<tr>
<td>Paediatric</td>
<td>2650</td>
<td>12 months</td>
</tr>
<tr>
<td>Lower-limb prostheses</td>
<td>1000–5135</td>
<td>12–18 months</td>
</tr>
<tr>
<td>Upper-limb prostheses</td>
<td>1690–7410</td>
<td>12 months</td>
</tr>
<tr>
<td>Orthoses</td>
<td>182–1287</td>
<td>12 months</td>
</tr>
<tr>
<td>Hearing aids</td>
<td>State tender</td>
<td>12 months</td>
</tr>
<tr>
<td>Paediatric hearing aids</td>
<td>State tender</td>
<td>12 months</td>
</tr>
<tr>
<td>Smartphones with videocall capability</td>
<td>State tender</td>
<td>24 months</td>
</tr>
</tbody>
</table>
Fig. 1. Patient journey and procedure to obtain a Government-funded assistive product

Onset of functional impairment due to injury or other condition

Disability status determination

Assistive product prescribed by a certified physician based on a medical diagnosis

Obtain Form No. IV 50/2

Obtain Form No. IV 100/a

Application submitted to local SFTV with supporting documents (e.g. ID, form 50 or form 100)

Applicant waits for the decision of the commission, which will review compliance with the medical diagnosis

If the request is approved, the commission informs the applicant in writing and provides details of certified providers, as well as a deadline to use the voucher

Applicant returns to the SFTV branch to collect the voucher

Applicant, using the voucher, receives from the service provider assistive technology and relevant services, either on site or at their residence

Some products (walking aids, white canes) are stored at SFTV branches and are supplied directly to beneficiaries by the SFTV employees

Once the product is delivered, it belongs to the beneficiary and the transaction is complete

Once the warranty period expires, the beneficiary is entitled to a new product, going through the same process
diseases, the need for assistive products will only increase. For example, the recent publication of the Global report on assistive technology (GReAT) highlights that over 2.5 billion children and adults need access to one or more assistive products (9). The GReAT report also provides recommendations on scaling up access to assistive products as part of a health and social care system that could benefit Georgia; for example, in creating, enabling and improving the assistive technology system.

Assistive technology is not only a human right, but also a smart investment for governments to undertake. A recent study by ATScale found that every US$ 1 invested in assistive technology has a net return of US$ 9 (10). The return is generated from increase in productivity (employment/educational attainments), lower medical costs (improved health, reduction in hospitalizations), increased autonomy (reducing need for assistance from caregivers). Closing the gap in assistive technology provision could also create thousands of jobs for assistive technology professionals. The high unmet need in Georgia indicates that investment in assistive technology should produce fast results in expanding coverage. For all these reasons, the budget allocated to assistive technology ought to be at least on the same level as that for other social and health programmes affecting a large part of the population, with a similar transformative impact on their lives.

**Extend eligibility criteria to include all persons in need:** State programmes and legislation target different groups of people, including persons with disabilities, older adults and persons with noncommunicable diseases and chronic conditions. Over the last few years, eligibility criteria for State-funded programmes has become more inclusive of other groups with functional limitations beyond disability. However, having disability status (and a form 50) is still a prerequisite for obtaining some products.

Persons are eligible for different products based on a corresponding list of medical conditions. In other words, having a specific condition or medical diagnosis is grounds for receiving a particular product. Basing decisions on a diagnosis may lead to inaccuracies in the selection of assistive technology and, ultimately, may mean that people do not receive the product they need, since there is no linear equivalence between a particular pathology or disease and a corresponding assistive product, and persons affected by the same pathology or disease may have different degrees of functional difficulty 1 and require different assistive products.

Eligibility and the procedure for selecting assistive technology should include functional assessments. The conceptual framework of the International Classification of Functioning, Disability and Health (ICF) could be considered as determining needs more accurately, since it is based on a comprehensive assessment of impairment, functioning and environmental and personal factors. It is therefore recommended that medical social examination commissions (MSEC) follow the ICF framework for detecting assistive technology needs and selecting appropriate products based on individual needs.

**Maximizing utility of the product:** the warranty period for assistive products is between 12 and 24 months, even though good-quality products should have a longer useful life and could be issued for longer, with appropriate maintenance, repairs and quality assurance mechanisms in place. Unfortunately, repair and maintenance services are provided only during the warranty period, after which beneficiaries may apply for a replacement. This is an inefficient use of resources. Extending an assistive product’s life and value through repair and maintenance beyond the warranty period is quicker and more cost-effective than purchasing new products.

Another way to maximize the utility of assistive products is to reissue used products that are still in good condition to new beneficiaries. Products that are no longer needed by a beneficiary could be returned to the provider. The product could then be refurbished, including general maintenance and replacing of worn-out parts. Products that are in poor condition or that have exceeded their useful life would be dismantled for spare parts. Only after a product is fully refurbished and deemed to be as good as new can it be issued to another beneficiary for the remainder of its useful life. It is not uncommon for beneficiaries to make little use of products and then no longer need them, while the products remain in excellent condition. There are many reasons why a person may no longer use a specific product: a change in body size (e.g. a child outgrowing a product), deterioration in the person’s health condition, or death. The cost of returning, refurbishing and reissuing a product will be lower than the cost of providing a new product. Reissuing these products could result in substantial savings for the Government that could be reinvested in the sector. Savings will be higher for relatively expensive products such as electric wheelchairs or children’s wheelchairs.

Several countries have successfully implemented mechanisms for recycling products and could provide models for Georgia. In Norway, for example, assistive technology centres not only purchase and provide a wide

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1 The term “functional difficulties” is an overarching concept denoting impairments, limitations in carrying out daily activities and restrictions in participation in community life.
range of assistive products, but also repair and refurbish them, and ensure they meet quality standards before reissuing to a new user for safe use. Approximately 30% of products provided by the Government are reissued to other users (II).

Strategic direction: assistive technology should be understood as important in terms of needs and access across the life course. It is a cross-cutting issue from a policy perspective in respect of health, disability inclusion, education and labour inclusion measures. In Georgia, the Social Protection Policy Unit of the Ministry has a leading role in developing assistive technology provision policies and SFTV is responsible for implementing the State programme. However, the Ministry of Defence and Ministry of Education and Science are also involved in the provision of assistive products. For a more efficient use of resources and to avoid duplication of services, a cross-ministerial committee should be established to coordinate assistive technology activities and to ensure that this crucial programme area is part of and supports health system reform. This committee should be responsible for developing and implementing a national roadmap to expand and strengthen the assistive technology sector.

Monitoring and evaluation: monitoring should include direct, regular auditing of service providers to verify their adherence to the standards, rules and regulations of the guiding framework, as well as occasional evaluations of quality and also general assistance in identifying and resolving problems. This helps to ensure that products and services are of consistently high quality and meet national and international standards. Monitoring outcomes is also important. This involves following up with users to assess the impact of assistive technology on their lives. A survey may be developed and used to conduct regular interviews with beneficiaries of the State programme. The information collected from the surveys would be very valuable for improving the quality of services.

1.7 Recommended actions

1. Extend eligibility for all Government-funded assistive products to include all persons in need, regardless of disability status or age.
2. Increase funding for assistive technology.
3. Maximize use of assistive products through regular maintenance and repairs and by reissuing used products that are still in good condition.
4. Establish an interministerial committee with the objective of developing a national roadmap on assistive technology, as part of an integrated health and social care system.
5. Develop an assistive technology monitoring and evaluation framework.

Other ministries involved in assistive technology provision

Ministry of Education and Science – provides assistive products for the inclusive education programme. Children with special needs attending a public school are referred to a special commission for an assessment. The commissions consist of multidisciplinary teams with at least one occupational therapist. They assess children to determine the educational needs that may support them with their education, including assistive technology. The child’s parents then complete a form to request the products and submit it to the Ministry of Education and Science.

The products are purchased and provided ad hoc, as the need arises. In the first nine months of 2021, there were two rounds of procurement for a total of GEL 300,000. The following products were procured: closed-circuit television screens (mobile with magnifier camera) (5); video magnifiers (3); mechanical braillers (20); braille note-takers (5); and tactile rulers (30). When the needs have been identified, a call for tenders is launched – specifications are developed with the support of trusted nongovernmental organizations, following market research. Public School No. 202 for persons with visual impairments supports the process through needs assessment, procurement and distribution of products.

Ministry of Defence – provides funding for assistive technology for soldiers and veterans, especially in respect of prosthetics. The quality of prostheses is typically much higher, since there is no limit to the budget for these items.
2. Provision
2.1 Registration

Any organization, including private companies or nongovernmental organizations, can register as a licensed provider for the assistive technology provision subprogramme. To qualify as an assistive technology provider, each component of the subprogramme has minimum requirements in relation to staffing, infrastructure and equipment. Some of the conditions are listed below.

**Wheelchairs**: the aim of the wheelchair component is not only to provide wheelchairs to beneficiaries, but also to promote employment of persons with disabilities and local production of wheelchairs. To register as a provider of wheelchairs the following conditions must be met:

- supplier must have employees with relevant qualifications and certificates for provision of wheelchair services; and
- wheelchairs must be produced (or assembled) in Georgia, in an establishment where the percentage of employed persons with disabilities is 50% of the total number of employees or, for paediatric wheelchairs, a minimum of 30%.

In addition, the provider should employ at least one wheelchair service specialist who is either an occupational therapist with a degree from Ivane Javakhishvili Tbilisi State University or a person trained and certified in one of two projects funded by the United States Agency for International Development (USAID) that took place in 2010 and 2015. The facility must have accessible customer areas and spaces.

**Prosthetics and orthotics**: accessible building equipped with ramps and rails where necessary. The facility must have a dedicated therapy and exercise room and separate rooms or spaces for different aspects of production: plaster room, machine room, workshop. The standards specify a minimum list of equipment for effective and safe production, including grinding machines, exhaust systems with air filters, ovens for thermoforming and lamination apparatus. The staff should be a multidisciplinary team that includes a doctor (specializing in physical rehabilitation medicine, traumatology or orthopaedics), physiotherapist, occupational therapist, psychologist and prosthetist and orthotist.

**Hearing aids**: according to the service standards, providers must involve the following staff in service provision: ear, nose and throat doctor, nurse, audiometrist, technician. Providers must have access to equipment for audiometry and for production of earmoulds.

2.2 Providers

2.2.1 Wheelchair providers

**Georgian Wheelchair Workshop Ltd. (GWW)** is the only producer and registered provider of manual wheelchairs for adults and the only provider of electric wheelchairs. The workshop was founded in 1997 by the Disability Mobility Centre with technical support from Whirlwind Wheelchair International. It is a member of the Coalition for Independent Living, which is an alliance of 28 nongovernmental and disabled people’s organizations in Georgia whose mission is to create equal opportunities for persons with disabilities. The wheelchair production workshop is located in Tbilisi in a building with a surface area of 500 square metres. It employs 15 technicians, more than half of whom are persons with disabilities. Wheelchairs are provided with services in Tbilisi and through partner organizations in the towns of Batumi, Zugdidi and Telavi, by staff trained according to the WHO wheelchair service training packages. GWW also operates a mobile service unit for delivery of electric wheelchairs, which are provided, with services, at the beneficiary’s place of residence. Repair and maintenance services are available at the workshop in Tbilisi, where approximately 10 wheelchairs a year are repaired. In addition to individual services, GWW also organizes training camps two or three times a year for first-time wheelchair users. These are peer-to-peer training courses that usually last one week and are financed with the profits generated from the wheelchair sales. About 25–30 people a year participate in these courses.

**McLain Association for Children (MAC) Georgia** is the only provider of wheelchairs with postural support for children. It started its operations in January 2021, following the inclusion of paediatric wheelchairs in the list of products funded under the State programme. Wheelchair parts are imported and assembled at a workshop in Zestafoni, about 200 km west of Tbilisi. All the wheelchairs are provided by certified occupational therapists in accordance with WHO's eight key steps in wheelchair service delivery.

2.2.2 Prosthetics and orthotics providers

**Rehabilitation Centre for Persons with Limited Abilities (RCPLA)**: this large prosthetics and orthotics facility, which comes under the jurisdiction of the Ministry of Defence, was founded in 1961. The centre is fully equipped
to produce all types of prostheses and orthoses. There are 20 people working in prosthetic and orthotic production, but none of them is a certified prosthetist/orthotist trained to international standards, i.e. staff working in this area were trained on the job and have completed short courses in Georgia or abroad. A physician and a physiotherapist also work at the facility. RCPLA has satellite centres in Kutaisi and Batumi. These centres provide some services, such as casting, fitting and repairs, but rely on the main centre for manufacturing. RCPLA is also the contractor for the Ministry of Defence and provides prostheses for soldiers and veterans, typically of higher quality since they are reimbursed at a premium.

Georgian Foundation for Prosthetic Orthopaedic Rehabilitation (GEFPOR) is an independent nongovernmental organization founded in 1994 that worked with the International Committee of the Red Cross (ICRC) until 2003. It is housed in a relatively new building in Tbilisi that includes a workshop, gait training area and even a dormitory where clients can stay for the duration of their treatment. The staff includes a certified prosthetist/orthotist trained to International Society for Prosthetics and Orthotics (ISPO) Category II standard in 2001. The staff member concerned has been working for GEFPOR for almost 20 years and is supported by two technicians. A physical rehabilitation doctor and a physiotherapist are also part of the team.

2.2.3 Hearing aid providers

Kind Smena is a company founded in 1994 and active in Georgia for the last 20 years. The company purchases hearing aids from 10 different producers and sells them under its own label. It has been the preferred provider in Government tenders for the last 20 years and is reported to be the only company in Georgia with the resources and capacity to provide services in accordance with the Government tender. In Georgia, the company does not have audiologists among its staff, since there are hardly any of these professionals in the country, but it employs 20 hearing aid “fitting specialists”, five of whom have been trained abroad in the production of earmoulds. This company has three service facilities in the country in Tbilisi, Batumi and Kutaisi.

Aures Foundation is an association of parents of children with hearing difficulties, founded in 2012 and a member of the World Federation of the Deaf. Its mission is to advocate on behalf of deaf and hearing-impaired people and give a voice to young people. In the last months of 2020, the organization established a paediatric hearing centre with support from Kind Smena, located in Tbilisi in one of the wings of the East-West Teaching University. Since February 2021, it has supplied paediatric hearing aids. Five staff are currently working at Aures Foundation, including an ear, nose and throat doctor and three therapists for hearing rehabilitation (auditory-verbal therapy). Aures Foundation is the representative in Georgia of the hearing technology manufacturer Phonak.

2.2.4 Other devices

Ken Walker International University Medical Rehabilitation Clinic has been fully operational only since 2020. The clinic provides various types of rehabilitation services for children and adults. It is a service led by a multidisciplinary team receiving up to 500 patients daily. As part of the USAID-funded Physical Rehabilitation Program, the clinic staff underwent three years of continuous professional development led by specialists from Emory University in the United States of America. The centre also aims to become a national centre for provision of high-quality assistive products and services. The Ken Walker Clinic has an assistive technology department comprising three units: wheelchairs, orthoses and postural-support systems. Postural-support systems, such as standing frames and postural-support chairs, are custom-produced, mainly using wood, for each individual patient. Wheelchairs are provided mostly for post-stroke patients. Importantly, custom-made postural-support and pressure-relief cushions are also manufactured at the clinic by trained staff. Orthoses are custom-made from thermoplastics, mostly ankle-foot-orthoses for children with cerebral palsy or for adults who have suffered a stroke. The Ken Walker staff consists of several rehabilitation specialists including physiotherapists, occupational therapists, speech and language therapists, psychologists and one orthotist.

Centre for Child Neurology and Neurorehabilitation is a hospital with a department for physical rehabilitation. Most of the patients of the department are children with cerebral palsy or children who have been assessed as being on the autism spectrum. Within the hospital there is a small area consisting of a few rooms for the production of simple assistive products. A limited number of ankle-foot orthoses, standing frames and walking frames are produced bespoke for the patients.

2.2.5 Other non-registered providers

Latter-day Saint Charities (LDSC) donated over 700 basic manual wheelchairs in 2020 and another 700 in 2021. The donations were disbursed to the Women of Georgia group, which provides the wheelchairs through its network of
Government and nongovernmental organizations, using trained staff. In 2019 LDSC conducted basic wheelchair service provision training courses for these staff. LDSC also donates a small number of walkers, crutches and canes.

Many pharmacies across the country also sell wheelchairs, walking aids, orthoses and self-care products. These are typically low-quality push-type wheelchairs and are provided without services.

2.3 Services

2.3.1 Service standards

The national service standards for provision of assistive products (5), developed in April 2021, specify service steps for wheelchairs, hearing aids and prosthetics and orthotics. For each of these categories, the requirements are as follows.

Wheelchairs: services for wheelchairs correspond to the WHO eight steps of service provision (12). The stages include assessment, fitting, user training and follow-up. Importantly, the standards specify that assessment and fitting must be done in person. There is also a requirement to deliver the wheelchair to the user (thereby ensuring equity of geographical access) so that services are provided at the user’s place of residence. Wheelchair model and type should be selected according to individual needs and should be provided with postural-support and pressure-relief cushions when needed. The standards also have a provision with regard to follow-up of users, during which there should be a reassessment of needs and refitting if necessary. The frequency of follow-up depends on individual needs:

- after receiving the wheelchair
- for children, every 3–4 months
- for persons with progressive disease, 2–3 times a year.

Hearing aids: service steps include assessment, prescription, fitting, training, monitoring and repairs. The assessment, audiometric data, fitting and delivery of the product are conducted face-to-face at the service centre or at the place of residence if the person cannot travel. Services also include production of custom-made earmoulds.

Prosthetics and orthotics: service standards for prosthetics and orthotics also outline eight phases of service provision. These include user registration, assessment (in person), selection of an appropriate intervention, assembling or manufacturing the product, delivery to the patient’s home and adjustment, user training, monitoring and repairs.

2.3.2 Service coverage

Despite the development of service standards, many persons still do not have access to assistive technology services, and products are often provided with limited or no services, including lack of access to necessary rehabilitation health services. Service standards were introduced only in 2021; it is therefore too soon to assess their impact in guaranteeing services for all. With respect to service providers, even though the providers have the necessary means to provide services, there are only 2–3 organizations for each product category, with limited resources (staff, equipment and infrastructure) that are currently insufficient to meet the national need. Their facilities are located in the capital or other cities across the country, and there are no service centres outside these urban areas.

As a result, most Government beneficiaries do not get the assistive technology services they need. For instance, a study conducted in 2021 by the Caucasian Research Resource Centre (CRRC) found that, out of 552 wheelchair users who received a wheelchair either with a State voucher or from a Consolidating Logistics for Assistive Technology Supply and Provision (CLASP) project, only 13% had received full services in line with WHO standards (13).

There are several reasons why people do not have access to products and services. Some of the major barriers identified during interviews and focus group discussions are described below.

2.4 Barriers

Unavailability of products: during the focus group discussion with parents of children with disabilities in Zestafoni, participants explained that assistive products were not available in their community and that reaching the nearest service centre was difficult for some. A child with physical or intellectual impairments may need constant attention and additional support along the way, and the journey will require more planning and entail higher costs than a normal journey. During the focus group discussion, a mother described the dilemma she faced in trying to obtain a wheelchair for her daughter: on the one hand, she could not travel to Tbilisi by public transport with the child because she did not have a chair or other device to support her, while on the other hand she could not travel by herself and leave her daughter at home alone. This example illustrates how, for families living in rural or remote areas, the costs and the burden may be too high when weighed
against the perceived benefits of the services. The associated travel costs include:

- transportation – public transport may not be accessible for persons with disabilities, and hiring a private taxi will incur higher costs;
- accommodation – beneficiaries may need to spend one or more nights in the city while services are provided; and
- indirect costs – wheelchair beneficiaries may need to be accompanied by one or more others, who may need to take time off work.

In addition, stigma and negative attitudes will deter disabled people from making the journey, to avoid the risk of stigmatization of which many people with disabilities have lived experience.

To overcome these challenges, registered service providers have begun to provide products and services at the place of residence of the beneficiary. Providers have formed mobile units that deliver electric wheelchairs and children’s postural-support wheelchairs to different parts of the country. Persons receive services related to these products directly at their home. Unfortunately, this is not possible for adult manual wheelchair users, as the value of the voucher does not cover the cost of delivery. Typically, beneficiaries of manual wheelchairs will call GWW and communicate body size measurements over the phone, so that the correct wheelchair size may be selected. Once the wheelchair is ready, a family member will usually travel to the workshop to pick it up. Hearing aids are also delivered to beneficiaries’ homes if they are unable to access the service centre. However, in such cases, only the products are delivered, not services.

**Lack of awareness**: there was agreement among all stakeholders interviewed that lack of awareness of assistive technology and its benefits was a major barrier to access. Potential beneficiaries do not know about assistive products that could help them, and do not have information about where they can obtain products, and how to apply for Government vouchers.

Assistive technology users who participated in the focus group in Tbilisi first found out about assistive technology services by chance, through casual encounters with other users. Some participants had been using products bought in shops or pharmacies, but it was only years later that they received appropriate products with services. Before receiving appropriate products and services, they could not imagine the impact it would have on their confidence and autonomy. In the words of a wheelchair user: "It is often only after you receive the training that you realize their benefits and how it can change your life".

Even among health professionals, awareness of assistive products and its importance in improving functioning is low. The director of a child neurological centre estimated that nine out of 10 professionals working in rehabilitation services do not know about assistive technology providers, such as the prosthetics and orthotics facilities. Some rehabilitation personnel even consider that the use of assistive technology is an admission of failure in treatment, and will only recommend its use as a last resort. MSEC commissions have a gatekeeper role in relation to Government-funded products for persons with disabilities, but reportedly even these physicians will have a limited understanding of different product variations and how to select the best product type for each person.

Nongovernmental and disabled people’s organizations play an important role in spreading awareness and supporting members in applying for disability status. In 2021 MAC Georgia conducted training courses with 70 members of MSEC in assessing needs for children’s postural-support wheelchairs. In the past, other organizations had campaigns to promote awareness. Approximately 10 years ago, GEFPOR even broadcast television advertisements promoting prosthetics and orthotics services.

**Lack of follow-up**: rehabilitation staff who participated in the focus group for professionals in Tbilisi had been trained in provision of assistive technology and appreciated the importance of providing full services with the products. Nevertheless, reportedly, systematic follow-up of patients was not part of the standard procedure in their organizations. Most registered providers assume that if anything goes wrong with the product – if it breaks, needs maintenance, no longer fits – the beneficiary will contact them for assistance. As this is not always the case, and people will not always report problems, they are likely to lose contact with many clients after delivery. Unfortunately, this also precludes the possibility of assessing the outcome or impact of their interventions.

**Discontinuity of care**: there appears to be little collaboration between assistive technology providers and health and rehabilitation services. The exceptions are the Ken Walker Clinic and the Centre for Child Neurology and Neurorehabilitation, where assistive technology services are integrated within health and rehabilitation centres. Other stand-alone providers do not have formal agreements with health facilities, only ad-hoc informal collaboration.

Regional hospitals where amputations are performed do not refer patients to prosthetics/orthotics providers, let alone collaborate with them to ensure a seamless transition of care. Prosthetics/orthotics providers would benefit from information on prospective patients to plan their interventions, and possibly advise patients and guide them...
on how to prepare for prosthetic treatment. According to one of the directors, the SFTV is slow in issuing vouchers, and to maintain confidentiality will not provide any information on the beneficiary while the application is being processed, thus impeding direct communication with the client until he/she shows up to obtain a prosthesis.

One cause for significant concern relates to long waiting times for assistive products; for example, people wait at least six months, and sometimes over a year, for assistive products, and it is also necessary for the individual to fulfil the statutory criteria to receive disability status. Additionally, it has been reported that, following discharge from a hospital, an individual is likely to receive no rehabilitation, which leads to deterioration in his/her functioning and overall health and well-being. As a further secondary impact, by the time an individual reaches or is seen by a provider it is not uncommon for clients to have additional health conditions, such as contractures, muscle atrophy from inactivity, pressure injuries or psychological impacts. This complicates prosthetic and orthotic interventions, making them more costly and time-consuming for providers and compromising patient outcomes. During focus group discussions with assistive technology professionals, one prosthetist gave an example of a woman who had developed such a pronounced hip-contracture that she could not be fitted with a prosthesis. To avoid the long wait, reportedly 40–45% of patients in need of an orthosis at the Ken Walker Clinic chose to pay out of pocket to gain timely access to life-enhancing assistive products as soon as they need them.

2.5 Discussion

The national assistive technology service standards (5) developed in April 2021 define the procedure for provision of wheelchairs, hearing aids and prosthetics and orthotics and identify service steps. The service steps are consistent with WHO recommendations and include assessment, fitting, training and follow-up. These standards are essential to ensure that all assistive products are provided with services. Importantly, the standards implicitly recognize that provision of assistive technology services is an ongoing and cyclical process that begins with assessment and continues until follow-up, when the person’s needs are reassessed.

One limitation of the standards is that they do not clarify the minimum requirements and expected outcomes for each service step, including access to key health services and referral pathways. Without these clarifications or a description of activities, the decision about what is considered an appropriate level of assessment, fitting or training is somewhat arbitrary. Service standards should be framed so that they can be subject to monitoring, auditing and evaluation of separate aspects of service, and they should require and support an approach integrated with key health services.

All providers should provide full services for their clients, including follow-up, and referral pathways with mainstream health services. Follow-up is an important part of the service process, since the needs of users change over time and assistive products may need maintenance or readjustment; also, users may need access to key health rehabilitation interventions, particularly as these services are scaled up in terms of capacity. Moreover, follow-up is an opportunity to monitor outcomes and the impact that assistive technology has on recipients and a chance for registered service providers to collect data that may be used to improve their services.

Costing of services: Government vouchers cover a fixed cost that includes products and services. In other words, services are not costed and reimbursed separately, and providers are required to provide full services with each product for the price specified on the voucher.

However, the labour that is required in providing services is not the same for each beneficiary and will vary depending on product type and condition and whether the beneficiary is a first-time user or not. Providing complex products such as postural-support wheelchairs or lower-limb prostheses for first-time users is a labour-intensive process that must be performed by a skilled professional. In the case of some products, such as white canes for persons with visual impairment, the cost of providing training for the user may exceed the cost of the product itself.

One of the limitations of including reimbursement of services within the cost of the voucher is that it may disincentivize providers from investing in services. Bundling together the cost of products and services devalues the importance of services from the perspective of the providers, since regardless of the quality or quantity of services they are reimbursed at the same rate.

The Government should consider calculating the cost of different service steps and reimbursing them separately. This will enable a more tailored approach, in which persons with more complex needs may obtain a higher level of service. Separate costing of and compensation for services would also ensure that follow-up, repair and maintenance services are paid for. Also, the disaggregated cost of services is necessary for the implementation of a mechanism for returning, refurbishing and reissuing products (discussed in Section 1).
Awareness: in health systems, health-care professionals play a crucial role in screening for diseases and health conditions and referring patients to appropriate specialists as needed. The underlying assumption is that people may not know what their health needs are or where to find specialized services. For assistive technology this is also the case, and people who need an assistive product will also need guidance. It is therefore recommended that assistive technology should be added to the bundle of services provided by primary health care staff. Physicians and nurses should be trained to conduct functional assessments to determine the need for assistive technology, and referral pathways between health facilities and registered providers should be strengthened.

Nongovernmental and disabled people's organizations also play an important role in raising awareness. However, the responsibility of raising awareness and referring persons in need to appropriate services should fall mostly upon health workers given their wide reach and abundant presence in all geographical areas – even more so in Georgia, which has one of the highest numbers of doctors per capita of any country in Europe (Health and care workforce in Europe: time to act. Copenhagen: WHO Regional Office for Europe; 2022. Licence: CC BY-NC-SA 3.0 IGO).

Accessibility: lack of services in rural areas has led some providers to deliver products and services at the place of residence of beneficiaries. However, this is not always cost-effective and, in the long run, as the volume of products delivered increases, it is not a sustainable strategy by itself. Involvement of health workers in the provision of services, especially family doctors and nurses at primary health care level, is also necessary. Even though general health-care workers cannot provide all assistive products, they can be trained for provision of simple products such as walking aids, and for more complex products they could be involved with some aspects or steps of provision, such as follow-up. Since all municipalities have a health facility, this could ensure complete coverage, so that everyone in need will have access to at least some basic assistive technology services in their community.

It is recommended that primary health workers receive training in assistive technology and that simple assistive products are provided on-site in rural areas, and that registered providers support these facilities with products and training through public-private partnerships. The licensed providers have assistive technology specialists who can train primary health workers and continue to mentor them remotely until they reach a higher degree of competence. In addition, the providers could coordinate the provision of products and work collaboratively with primary health centres to provide repairs and maintenance.

The model that is proposed is illustrated in Fig. 2 below. If this model were implemented effectively, all stakeholders would benefit. Users would have access to more assistive

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**Fig. 2. National assistive technology service standards**

- **Specialist AT services**
  - For example: prosthetics and orthotics, intermediate level wheelchairs

- **General AT service delivery**
  - For example: basic level wheelchairs

- **Screening and referral**
  - Simple AT service delivery
    - For example: reading glasses, walking aids, absorbent continence products

AT: assistive technology.
products and services within their communities, and the providers would benefit from a greater influx of clients referred from health centres, thereby increasing overall cost-effectiveness and efficiency.

**Continuum of care**: Long waiting times and a lack of coordination with health services will have detrimental effects on users’ health and make assistive products less effective. Persons often need assistive technology alongside other rehabilitation interventions. For instance, a stroke survivor, an amputee or a child with cerebral palsy may need physiotherapy and occupational therapy as well as assistive products. In these cases, the success of assistive technology is dependent on that of other rehabilitation services, and vice versa – to enjoy full and lasting benefits from an assistive product, other rehabilitation interventions are needed before and after delivery. These interventions should be planned holistically as part of an individual rehabilitation plan involving a multidisciplinary rehabilitation team.

A continuum of care should allow for a seamless transition between rehabilitation and assistive technology services. When rehabilitation is not provided before or after assistive technology is delivered, or if there is too much of a gap between rehabilitation and assistive technology services, the person may develop secondary complications – for example:

- an amputee who goes too long without a prosthesis is at risk of developing contractures and muscle atrophy;
- a person with spinal cord injury is at greater risk of developing pressure injuries the longer he/she has to wait for a wheelchair with a pressure-relief cushion;
- a young child in need of a hearing aid may have delayed speech if he/she cannot obtain a hearing aid when needed; and
- the overall psychological impact on people awaiting an intervention negatively impacts on their well-being, as well as that of family carers.

Separation of assistive technology services from health and rehabilitation prevents a holistic and integrated approach in which the interventions are planned in relation to one another to maximize benefits for the individual.

For this reason, collaboration and referral pathways between rehabilitation and assistive technology providers need to be planned and strengthened. Integrated services, such as the Ken Walker International University clinic, have an advantage, since they can provide physical rehabilitation services and assistive technology at the same location through a multidisciplinary team model of service. It is critical that a plan is developed for all relevant organizations to develop care pathways between existing health and rehabilitation services and to ensure continuity of care.

### 2.6 Recommended actions

1. Provide assistive technology services through health facilities at all levels of health care, including at primary level.
2. Strengthen collaboration and establish public-private partnerships between registered assistive technology providers and designated primary health centres.
3. Conduct a cost analysis of different aspects of service provision and reimburse assistive technology services separately from products.
3. Products
3.1 Government provision and beneficiaries

Wheelchairs: in 2020, a total of 416 State-funded wheelchairs were provided: 341 manual wheelchairs, 68 electric wheelchairs and seven manual wheelchairs with postural support (Table 4). The beneficiaries, by age group, were 60 children (14%), 204 adults of working age (49%) and 152 older adults (37%). Of the beneficiaries, 65 (16%) were not persons with official disability status; most of these were older adults.

Prosthetics and orthotics: 353 lower-limb prostheses were provided by State voucher and 14 upper-limb prostheses (Table 5). Also in 2020, 463 State-funded orthoses were provided. The vast majority of orthoses (94%) were provided for children and only 26 (6%) were provided for adults. Conversely, most prostheses were provided for adults. This makes a total of 730 prostheses and orthoses provided through the State programme in 2020.

Hearing aids: in 2020, 1060 adult hearing aids and 100 hearing aids for children were procured through the Government tender and supplied to beneficiaries.

Walking aids: different walking aids (walkers, crutches, canes) are on the list of Government-funded products, but none were provided in 2020. The main reason for this is that the cost of obtaining form 100, required for these products, exceeds the cost of buying the products from local pharmacies or shops.

White canes: like walking aids, none were provided in 2020.

Smartphones: through the State programme, 35 smartphones were provided by the Deaf Union of Georgia.

3.2 Population total need

While the sample size of the rATA survey is insufficient to determine with absolute accuracy estimates of the need for products in each category, it is possible to draw inferences from the findings for planning and policy purposes. Table 6 below contains calculations on estimated annual need for three product types based on the survey results.

Table 4. Wheelchair beneficiaries by age group and disability status

<table>
<thead>
<tr>
<th>Disability status</th>
<th>0–6 years</th>
<th>6–18 years</th>
<th>18–65 years</th>
<th>65+ years</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual wheelchairs</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>45</td>
<td>53</td>
</tr>
<tr>
<td>Electric wheelchairs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>54</td>
</tr>
<tr>
<td>Postural-support wheelchairs</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL disability status</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>52</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL age group</td>
<td>7</td>
<td>53</td>
<td>204</td>
<td>152</td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Prosthetics and orthotics beneficiaries by age group and disability status

<table>
<thead>
<tr>
<th>Disability status</th>
<th>0–6 years</th>
<th>6–18 years</th>
<th>18–65 years</th>
<th>65+ years</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostheses, lower-limb</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>218</td>
</tr>
<tr>
<td>Prostheses, upper-limb</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Orthoses; lower-limb, upper-limb and spinal</td>
<td>23</td>
<td>195</td>
<td>11</td>
<td>208</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 6. Estimated annual need for three product types

<table>
<thead>
<tr>
<th>Assistive product category</th>
<th>Prevalence of need (%)</th>
<th>Total people in need</th>
<th>Product lifespan (years)</th>
<th>Total annual need*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheelchairs (all types)</td>
<td>0.9</td>
<td>33 300</td>
<td>5</td>
<td>6660</td>
</tr>
<tr>
<td>Orthoses (all types)</td>
<td>0.7</td>
<td>25 900</td>
<td>3</td>
<td>8633</td>
</tr>
<tr>
<td>Hearing aids</td>
<td>1.7</td>
<td>62 900</td>
<td>5</td>
<td>12 580</td>
</tr>
</tbody>
</table>

*Estimates of total annual need are derived from dividing total people in need by the product’s useful life.

It should be noted that the estimates shown above are conservative, considering that many users will need product replacements before the expected lifetime of a product has expired, and old products may not always be reissued. Even so, the current annual provision through the State programme – 416 wheelchairs, 463 orthoses, 1260 hearing aids – meets only 5–10% of the annual need. Even if half the products needed were obtained from other sources (e.g. out-of-pocket payments or donations from charities), Government provision would still need to be 5–10 times higher to achieve universal coverage.

### 3.3 Production, procurement, quality and variety

**Wheelchairs:** GWW currently produces about 1500 Roughrider wheelchairs a year, using approximately 70% of its production capacity. About 900 of the wheelchairs are exported to the United States of America and Turkey.

Roughrider wheelchairs are renowned for their durability and stability. This wheelchair model meets all the criteria for a dual-terrain wheelchair, as per the WHO specifications. Wheelchairs are produced in seven different sizes. GWW does not have ISO 7176 certification because of the high cost of obtaining the certificate, but it observes a strict internal quality control procedure and conducts regular inspections of wheelchairs on the production line. The CRRC study found that only 1% of participants in the study who received a chair through the voucher programme had abandoned the chair at the time of the interview, which is a testament to the quality and durability of these wheelchairs.\(^{(13)}\)

For now, GWW produces only manual Roughrider wheelchairs. It also supplies electric Roughrider wheelchairs, fitted with a motor, power supply and joystick. To extend the product range, GWW plans to start production of two new wheelchair models with different characteristics. Two prototypes have already been developed and trialled with promising results. These models are intended for active users in urban environments.

MAC Georgia has provided paediatric postural-support wheelchairs since January 2021. Wheelchairs are provided through partner organization Moirge and are assembled in Moirge’s workshop in Zestafoni. A total 108 postural-support wheelchairs were procured, and 58 were supplied in the first six months of 2021.

MAC Georgia works in collaboration with CLASP, Motivation and Shonaquip. All these suppliers sell wheelchairs that are tested and certified in accordance with ISO 7176, and that comply with WHO technical specifications. Before selecting a supplier, MAC Georgia tested samples of the products with users in Georgia; during the trial, most users expressed a preference for Shonaquip models, so Shonaquip was subsequently selected as the main supplier of postural-support wheelchairs.

MAC Georgia provides five different models of children’s wheelchair in multiple sizes that can accommodate a range of needs for children with different goals and conditions.

**Prosthetics and orthotics:** GEFPOR and RCPLA provide a wide variety of prosthetics and orthotics. Table 7 below summarizes the combined output of the two providers over the last three years.

About 90% of the products provided by GEFPOR are financed through the Government voucher. Most clients of RCPLA are also covered by the voucher scheme, acting as a contractor for the Ministry of Defence. RCPLA also has 45 members of the armed forces among its clients and about 450 veterans, whose treatment is funded by the Ministry of Defence. Ken Walker Clinic also provides orthoses, mostly just ankle-foot orthoses, but over 40% of these are paid for out of pocket.
Table 7. Combined output of GEFPOR and RCPLA, 2019–June 2021

<table>
<thead>
<tr>
<th>Product</th>
<th>Total deliveries</th>
<th>2019</th>
<th>2020</th>
<th>January–June 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostheses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Above-knee prostheses</td>
<td></td>
<td>263</td>
<td>165</td>
<td>135</td>
</tr>
<tr>
<td>Below-knee prostheses</td>
<td></td>
<td>293</td>
<td>193</td>
<td>117</td>
</tr>
<tr>
<td>Upper-limb prostheses</td>
<td></td>
<td>39</td>
<td>21</td>
<td>10</td>
</tr>
<tr>
<td>Total prostheses</td>
<td></td>
<td>595</td>
<td>379</td>
<td>262</td>
</tr>
<tr>
<td>Orthoses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foot orthoses*</td>
<td></td>
<td>848</td>
<td>681</td>
<td>301</td>
</tr>
<tr>
<td>Ankle-foot orthoses</td>
<td></td>
<td>87</td>
<td>83</td>
<td>62</td>
</tr>
<tr>
<td>Knee-ankle-foot orthoses</td>
<td></td>
<td>136</td>
<td>77</td>
<td>84</td>
</tr>
<tr>
<td>Hip-knee-ankle-foot orthoses</td>
<td></td>
<td>24</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Upper-limb orthoses</td>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Spinal orthoses</td>
<td></td>
<td>49</td>
<td>44</td>
<td>23</td>
</tr>
<tr>
<td>Total orthoses</td>
<td></td>
<td>1144</td>
<td>903</td>
<td>490</td>
</tr>
</tbody>
</table>

* Including supinators.

Providers order prosthetic and orthotic components from various suppliers in China, Germany and Turkey. Procurement happens ad hoc, once or twice a month on average. Providers can afford to keep only a small stock of products and material, and often need to place orders for a new set of components for each new client.

Price is the main factor in selecting products and suppliers. Another consideration is whether the supplier can award credit, since providers have limited financial reserves and may not be able to pay for the components until they have received payment in their turn. The providers valued quality products but, for the procurement of products and components, they based their judgement on their previous experience of working with the same suppliers for several years (i.e. not on documented standards or testing).

The variety and type of products that providers can offer to their clients is limited by the maximum prices set by the State programmes (see Section 1). More variety is available for soldiers, for whom the Ministry of Defence does not impose a maximum price limit, or for veterans, who have a limit of US$ 7000.

For some products, the ceiling prices are too low to make them profitable. For example, the price limit for ankle-foot orthoses is GEL 182 (US$ 60), which in some cases barely covers the cost of the materials used. Considering the several person-hours involved in producing custom ankle-foot orthoses, this price is not financially viable for clients who need larger devices that use more materials (i.e. teenagers or adults). Consequently, one of the providers does not accept vouchers as payment for this product.

The price limit may explain why a relatively low number of ankle-foot orthoses and almost no upper-limb orthoses were delivered. Another possible explanation is that orthoses covered by the Government scheme require the disability status form No. IV-50/2 (except for children under 3 years or children with scoliosis) but many persons in need of these products do not necessarily have a disability but may suffer from other conditions or diseases.

**Hearing aids:** hearing aids are procured by the SFTV through an open tender. The procurement process is initiated within a month of the launch of the annual programme; however, it may take several months before a provider is selected and provision of hearing aids may begin. In previous years, the process could take longer than six months, which leaves a short window during which all hearing aids must be provided before the beginning of the new fiscal year.

To guide product selection and safeguard product quality, technical specifications were developed in collaboration with providers and the ear, nose and throat association of
Georgia using the WHO guidelines on hearing aids. These describe technical characteristics of hearing aids, taking into account different levels of hearing loss and the needs of children and adults alike. The hearing aids must comply with ISO standard 13485:2003. Technical specifications also list the services that must be provided with the products. The tender is advertised on the Government procurement website. In 2021, as in previous years, only one supplier, Kind Smena, came close to meeting the requirements of the tender.

Kind Smena buys hearing aids from 10 different manufacturers and sells them under its own label. There are two types of adult hearing aids that are provided under the Government tender. These products cost about GEL 270 per unit including services. Unfortunately, it was reported that these hearing aids are not suitable for the full spectrum of hearing loss, from mild to profound. They are most suitable for older adults with ageing-related hearing loss and for mild-to-moderate hearing loss. On the other hand, the child hearing aids perform better, have more adaptability features and can be used for more complex cases. Child hearing aids cost approximately GEL 770 per unit.

It is also important to note that municipalities and the Government of the Autonomous Republic of Adjara also provide hearing aids. Data on the total number of products were not collected during the assessment.

3.4 Discussion

**Quantity:** the rATA household survey found high unmet need for assistive products in Georgia. Most respondents using assistive products paid out of pocket, or their relatives paid for them. Government-funded products cover only a fraction of the need. To achieve universal coverage, the number of products provided through the State programme should be several times higher than the current provision, and funding should increase. However, the increase in the budget allocated to assistive technology should be gradual, over several years, since it must keep pace with the providers that need to strengthen their provision capacity, including staff, infrastructure and equipment.

No walking aids or white canes were provided through the Government programme in 2020 as no requests (statements) were received; in previous years, only a small number of these products were provided. To obtain the necessary form 50 or form 100, users pay a fee that is approximately equivalent to the cost of the product, so most people prefer to buy these products from a pharmacy or shop, since this is both easier and faster. As the products are relatively inexpensive and most people can afford them, cost is not a significant barrier. Nevertheless, there are other barriers to access besides cost, and the rATA survey found high unmet need, even for walking aids (see Section 5). Moreover, assistive products purchased from shops or pharmacies are usually provided without services, and this increases the risks to the user’s safety and may reduce the efficacy of the products. It is therefore recommended that the Government simplify the process of applying for commonly used, simple assistive products, such as walking aids.

**Quality assurance:** during the survey there were no complaints related to the quality of the products provided through the State programme. Most providers had internal quality monitoring mechanisms relying on different methods: user trials, production-line inspections or user-feedback forms. The Government controls providers but not assistive products themselves and, except for hearing aids procured through tenders, there are no standards or specifications for assistive products.

It is recommended that national standards and specifications be developed and enforced for all suppliers and providers, including nongovernmental organizations and private providers that are not registered under the State programme. Determining whether assistive products adhere to safety and performance standards often requires experts trained in different specialties and enforcement by regulatory agencies. Once standards and specifications are approved and beneficiaries are consulted on the development of such standards, staff should be trained on assessing product compliance and examination protocols should be developed. In developing standards and specifications, it is important to consider the local context and the effects on price and outputs – over-regulation can restrict innovation and affordability.

To prevent duplication of regulatory effort, Georgia could implement reliance pathways in the registration of assistive products, based on recognized verification by other jurisdictions, including the European Union, Japan and the United States. In other words, products that have successfully passed regulatory procedures in these countries should automatically be approved for retail in Georgia, without having to go through a certification process. This would facilitate procurement from a wider range of manufacturers.

**Variety:** all 14 assistive products funded through the State programme come from the mobility domain, except for white canes, hearing aids and smartphones with videocall capability. There should be more products that support people with hearing, vision, self-care, communication and cognitive impairments.
Not only should the list of State-funded assistive products be expanded, but there should be a more diverse range of models and variations for each product category. In this respect, Georgia made significant advances in the last few years. For wheelchairs, for example, since 2019 children’s wheelchairs have been included in the list of products provided under the State voucher, in addition to mechanical and electric wheelchairs that were already provided. Extending the variety of wheelchairs even further would produce more benefits for users. The WHO assistive product specifications include seven subvariations of wheelchairs with different functional requirements (urban wheelchairs, transport wheelchairs, etc.) (14). A more diverse range of wheelchairs will ensure that all beneficiaries have the most appropriate type of wheelchair, based on their capacity and the environment they live in.

The CRRC study found that the group of individuals provided with wheelchairs that were not on the Georgian market reported significant gains (13):

- more time was spent in the wheelchair
- users were less likely to report that the chair caused them health problems
- less need for fitting and assessment
- users were more satisfied with the chair.

Prosthetics and orthotics are not subject to the same restrictions as wheelchairs, and providers can procure them from international suppliers at their discretion. Providers have different suppliers and can offer a range of components to match different needs. However, the providers are restricted by the price margins on the State programme which, for some products, are too low, as is the case for ankle-foot orthoses. The maximum prices should be re-evaluated every year, taking into account inflation and other market factors.

With hearing aids, progress was made in introducing a new model of hearing aids for children. These hearing aids are more expensive than adult ones, but they have more features that make them suitable for children. For adults, two models are offered, but allegedly these products are not suitable for all levels of hearing loss. To meet the hearing needs of all adults, an additional type of hearing aid with greater amplification and more configuration options should be offered to adults with severe-to-profound hearing loss. These may be more expensive, since they are more powerful and more likely to require custom earmoulds (rather than ear inserts), and this should be reflected with differential pricing in the Government tender.

### 3.5 Recommended actions

1. Develop standards and specifications for all priority assistive products that are State-funded.

2. Consult and actively involve disabled people’s organizations and beneficiaries of assistive products in the development of standards and specifications.

3. Extend the range of products provided, including more product variations and models.
4. Personnel
4.1 Professional registration and certification

Within MoIDPLHSA, the State Regulation Agency for Medical Activities is responsible for regulating medical facilities and professionals. Only medical practitioners (physicians) are required to have a certificate, which is valid for life after passing a national examination. No other health professionals have a certification requirement.

The Ministry of Health does not regulate rehabilitation and assistive technology professionals, and there are no prescribed competencies for assistive technology professionals. The Ministry of Education and Science has classified fields of study for physiotherapy, occupational therapy and speech and language therapy, but not for other rehabilitation professions. Prosthetists/orthotists are not in the national classifier of professions and audiologists are also not recognized as a rehabilitation profession. There is no continuing medical education requirement for health professionals working in the field of rehabilitation in Georgia.

4.2 Assistive technology workforce and training

Physical therapists: nine universities are accredited to offer a bachelor-level degree in physical medicine and rehabilitation; four of them also provide master’s degree programmes. The National Centre for Educational Quality Enhancement estimates that there are around 507 bachelor’s graduates and 75 master’s graduates from these universities.

Occupational therapists: occupational therapy training is offered only at Ivane Javakhishvili Tbilisi State University. There are approximately 25 people with a bachelor’s degree in occupational therapy in Georgia and currently there are 15 students training for the bachelor’s degree.

Speech and language therapists: Ilia State University is the only accredited training institution to provide speech and language therapy training in Georgia. It began offering a two-year master’s degree in 2017. Every year the university can accept 15 students, and more than 20 students have graduated since 2019.

Wheelchair technicians: Since 2010, at least 10 training courses have been held in Georgia using the WHO wheelchair service training packages. LDSC has trained nearly 70 people using a shortened version of the WHO training package. Three people completed the training of trainers WHO advanced-level training and are thus qualified to train others in wheelchair provision.

Prosthetists/orthotists: there are approximately 20 people in Georgia working in a prosthetics/orthotics role or as prosthetics/orthotics assistants, but only one is an ISPO-recognized Category II prosthetics/orthotics technician.

In 1994, an ISPO-accredited three-year training course for Category II prosthetics/orthotics technicians was developed with support from ICRC and ISPO. The training was held at GEFPOR, and five graduates obtained certification. Since then, four have emigrated to other countries and only one is working at GEFPOR. Other people working as prosthetists/orthotists have a mixed level of training and experience.

Currently, there is no recognized training programme in prosthetics/orthotics in Georgia and the prosthetics and orthotics profession is not listed in the national roster of professions.

Audiologist: there are currently no locally trained audiologists in Georgia. The staff of registered providers have had brief training in audiometry and making earmoulds. One staff member is currently training to become a certified audiologist.

Mobility orientation trainers work with children in educational settings, while visually impaired adults typically do not receive training in white-cane use. There are currently seven white-cane orientation trainers working in schools for children with special needs.

4.3 General health workforce

The rate of doctors per 1000 population in Georgia is one of the highest in the region. In 2020, the total number of doctors in Georgia was 22,556 and the total number of nurses 22,126. While most doctors work in Tbilisi (13,223), the majority of nurses work outside the capital. The number of doctors increased significantly over the last eight years. The annual increase in junior doctors was about 25% (Health and care workforce in Europe: time to act. Copenhagen: WHO Regional Office for Europe; 2022. Licence: CC BY-NC-SA 3.0 IGO). Currently, assistive technology is not part of the scope of practice of doctors or nurses, and they do not receive training on assistive technology as part of their education.

4.4 Discussion

The number of assistive technology professionals in Georgia is insufficient to meet the overall need for assistive...
technology in the country. Georgia needs to increase training opportunities and training capacity for assistive technology specialists, such as prosthetists/orthotists, wheelchair technicians, audiologists, etc.

Currently, most rehabilitation and assistive technology specialists work in major towns; very few are employed at primary or community level. The dearth of assistive technology professionals at primary health level is a challenge for beneficiaries, for whom it is difficult to travel to the nearest large urban centre to procure an assistive product. Nevertheless, the provision of many assistive products does not require specialist intervention. The Government should consider task-sharing in assistive technology services at the community level as a provisional measure, until there is sufficient capacity in terms of rehabilitation and assistive technology professionals in the country. This would involve training other health staff (e.g. community based rehabilitation workers or nurses) to provide certain simple assistive products, such as basic wheelchairs, walking aids, magnifiers or pre-programmed hearing aids. Services for some simple assistive products can be provided by staff with a limited amount of training (one week), with remote support from specialists when necessary.

Assistive technology should be provided only by adequately trained staff. To this end, the Government service standards specify the personnel requirements for providers of wheelchairs, hearing aids and prosthetics and orthotics. For these products, personnel should be qualified or, alternatively, have a minimum number of years of experience working in the area concerned. This helps to ensure that assistive products are provided by competent professionals, or at least under the supervision of such professionals. Such requirements are needed, and should be extended to other assistive products. However, it is important to acknowledge that far more assistive technology professionals are needed in Georgia, and the requirements should not be too high and should not restrict the workforce available in providing assistive technology in other ways. For example, for wheelchairs, only occupational therapists graduating from one university or those who participated in USAID-funded wheelchair training can be involved in wheelchair provision. This restricts persons trained elsewhere in providing services and is a barrier to increasing the number of wheelchair technicians.

There are no ISPO certified Category I prosthetists/orthotists in Georgia and no training opportunities in-country. Even though there are only two prosthetics/orthotics facilities in the country, there is a need for more qualified professionals with higher competencies and formal education, especially since some professionals currently working as prosthetists/orthotists are close to retirement age. The Government should explore the possibility for training prosthetists/orthotists to international standards. To make sure that there is a reliable supply of these professionals in the country, one possibility is to start a national educational programme for prosthetists and orthotists in collaboration with ISPO. Another possibility is to sponsor a small number of people to study at foreign universities and qualify as fully certified prosthetists/orthotists.

4.5 Recommended actions

1. Train health-care professionals, including community health workers, on assistive technology.
2. Include assistive technology in education curriculum of all health professionals and align this approach with the development of a national rehabilitation action plan.
3. Address the lack of training opportunities and professional recognition for prosthetists/orthotists and audiologists.
5. rATA survey
5.1 Findings

The findings of the rATA survey are subdivided into three sections:

1. Functional limitations and self-reported need for assistive products
2. Barriers to access and
3. Provider and funding source.

5.1.1 Functional limitations and self-reported need for assistive products

Of the 6865 respondents interviewed, 42.4% reported at least some difficulty in one or more domains (Fig. 3).

Vision was the domain in which it was by far the most common for respondents to report difficulty, followed by mobility. In contrast, only 3.2% of the respondents reported difficulty with communication. Approximately two in five people reported difficulty with vision, but only one in seven reported “a lot of difficulty” or “cannot do at all”. Just under one in seven people reported some difficulty with mobility. About one in 12 had some difficulty with hearing, one in 20 with self-care and one in 10 with cognition.

Reporting difficulties in more than one domain is common (Fig. 4): 23.7% of respondents reported difficulty in one domain, 9.5% reported difficulty in two domains, 4.5% in three domains and 4.7% in more than three domains. Almost half of respondents who reported functional difficulties did so in more than one functional domain.

The vast majority of persons who reported a functional limitation expressed a need for an assistive product. Even among respondents in the category “at least some difficulty in functioning”, 86.2% needed an assistive product (Fig. 5).

Of all 6865 respondents, 37.1% expressed a need for at least one assistive product (Fig. 6). This is the total need, regardless of whether the need is met (the person is using the product) or unmet (the person does not have and/or is not using the product). Spectacles account for more than two thirds of the need, so when this product is excluded, the total need drops to 9.7% (Fig. 7).

The unmet need for assistive products was 16.8% for all products (Fig. 6), and 5.6% when spectacles are excluded (Fig. 7). In the data collection, respondents could report more than one product they use or need. Thus, the total number of cases can be higher than the total number of respondents’ use of or demand for products. As depicted in Fig. 6, 11.2% of respondents were using at least one product (met need) but did not have at least one other product that they needed (unmet need).

![Fig. 3. Distribution of level of difficulty according to the six functional domains of functional limitation (N=6411–6865)](image)
**Fig. 4. Respondents by number of domains of functional limitation, multiple limitations (N=6865)**

<table>
<thead>
<tr>
<th>Percentage (%)</th>
<th>No difficulty</th>
<th>People with difficulty in 1 domain</th>
<th>People with difficulty in 2 domains</th>
<th>People with difficulty in 3 domains</th>
<th>People with difficulty in more than 3 domains</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>57.7</td>
<td>23.7</td>
<td>9.5</td>
<td>4.5</td>
<td>4.7</td>
</tr>
</tbody>
</table>

**Fig. 5. Use of and need for assistive products at different levels of functional difficulty**

<table>
<thead>
<tr>
<th>Percentage (%)</th>
<th>All respondents</th>
<th>At least some difficulty in 1 domain</th>
<th>At least a lot of difficulty in 1 domain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>31.5</td>
<td>73.7</td>
<td>82.1</td>
</tr>
<tr>
<td></td>
<td>37.2</td>
<td>86.2</td>
<td>94.0</td>
</tr>
</tbody>
</table>

Note: all respondents N=6865; at least some difficulty in one domain N=2907; at least a lot of difficulty in one domain N=1454.
AP: assistive product.

**Fig. 6. Use of and need for assistive products for all respondents (N=6865)**

- **20.3%** use at least one assistive product
- **5.6%** need at least one assistive product
- **11.2%**
In Table 8 below, products are ranked from most to least used and needed. By far the most needed product was spectacles. A total of 2888 respondents reported a need for this product. Second in the ranking was canes, with 406 people expressing a need for the product.

Of the top 15 most needed products, eight are needed for mobility, three for self-care, two for vision and two for hearing. The need was met at more than 60% for five of these products, between 40% and 60% for four products, between 20% and 40% for three products and less than 20% for three products.

The unmet need was higher for “complex” assistive products that are relatively costly, require more services by specialists, and are highly customizable. Hearing aids are a good example with 146 respondents (2.1%) reporting a need for hearing aids, and 27 were using them.

Discussion: there is a strong association between functional limitation and self-reported need for assistive technology. Almost nine in 10 people with at least some functional limitation felt they could benefit from an assistive product. Therefore, it is not just persons with a lot of difficulty with functioning, or people who are traditionally viewed as disabled, who need assistive products. In fact, almost 43% the population has some degree of functional limitation and 37% had a self-reported need for assistive technology. The need for assistive products increases exponentially with age. Since functional difficulties are common and a natural part of ageing, interventions that are aimed at compensating for functional loss, such as assistive technology, should be considered mainstream and not targeted only at persons with disabilities. Considering the high prevalence of need for assistive technology among older adults, the State must ensure that older people have equal access to assistive technology regardless of their disability status, and that policies and resource allocation are more inclusive of this population group.

A total of 16.8% of respondents need at least one assistive product that they do not have, which is almost half the total people in need of assistive products (37.2%) (see Fig. 5). Out of the 9.7% of people who needed a product other than spectacles, 5.6% had an unmet need, which is 60% of the total.

Almost half of the 42.4% of people with functional limitations had limitations in two or more domains. This suggests that many people would benefit from integrated services that can provide a range of assistive technologies in a one-stop-shop approach. For persons who need multiple products across different domains, it can be taxing to engage with different providers for each product and attend multiple appointments at different locations. Establishing assistive technology centres with the capacity to provide products for all functional limitations would cater for people with multiple limitations, since in these centres they could be assessed for and fitted with all types of product during the same visit.

For several assistive products, the unmet need is very high. For six of the top 15 most needed products, the met need is lower than 40%. Despite these products being in high demand, fewer than two in five people who needed these products had one they could use.

Government interventions to promote access to assistive technology will have a greater impact if they target products for which there is a higher total and unmet need. The data on total and unmet need can thus be used to develop a list of priority assistive products, which would enable the Government to focus its resources in areas where the need is higher and aim towards full coverage for at least the most essential products.
### Table 8. Products used and needed

<table>
<thead>
<tr>
<th>No.</th>
<th>Assistive products used</th>
<th>Number of respondents</th>
<th>Assistive products needed</th>
<th>Number of respondents</th>
<th>Total (assistive products used + assistive products needed)</th>
<th>% of needs met</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Spectacles</td>
<td>1995</td>
<td>Spectacles</td>
<td>893</td>
<td>2888</td>
<td>69%</td>
</tr>
<tr>
<td>2</td>
<td>Canes/sticks, tripod, quadripod</td>
<td>299</td>
<td>Hearing aids (digital), batteries</td>
<td>119</td>
<td>406</td>
<td>74%</td>
</tr>
<tr>
<td>3</td>
<td>Chairs for shower, bath, toilet</td>
<td>65</td>
<td>Cane/sticks, tripod, quadripod</td>
<td>107</td>
<td>146</td>
<td>19%</td>
</tr>
<tr>
<td>4</td>
<td>Axillary/ elbow crutches</td>
<td>50</td>
<td>Axillary/ elbow crutches</td>
<td>41</td>
<td>97</td>
<td>67%</td>
</tr>
<tr>
<td>5</td>
<td>Incontinence products, absorbent</td>
<td>34</td>
<td>Chairs for shower, bath, toilet</td>
<td>32</td>
<td>91</td>
<td>55%</td>
</tr>
<tr>
<td>6</td>
<td>Hearing aids (digital), batteries</td>
<td>27</td>
<td>Wheelchairs, electrically powered</td>
<td>22</td>
<td>52</td>
<td>65%</td>
</tr>
<tr>
<td>7</td>
<td>Manual wheelchairs – push-type</td>
<td>18</td>
<td>Incontinence products, absorbent</td>
<td>18</td>
<td>33</td>
<td>55%</td>
</tr>
<tr>
<td>8</td>
<td>Grab-bars/ handrails</td>
<td>11</td>
<td>Orthoses (spinal)</td>
<td>15</td>
<td>27</td>
<td>19%</td>
</tr>
<tr>
<td>9</td>
<td>Pressure-relief mattresses</td>
<td>10</td>
<td>Manual wheelchairs – push-type</td>
<td>15</td>
<td>22</td>
<td>32%</td>
</tr>
<tr>
<td>10</td>
<td>Magnifiers, optical</td>
<td>10</td>
<td>Therapeutic footwear</td>
<td>13</td>
<td>21</td>
<td>38%</td>
</tr>
<tr>
<td>11</td>
<td>Therapeutic footwear</td>
<td>8</td>
<td>Club foot braces</td>
<td>12</td>
<td>18</td>
<td>33%</td>
</tr>
<tr>
<td>12</td>
<td>Orthoses (spinal)</td>
<td>7</td>
<td>Other products not listed</td>
<td>10</td>
<td>18</td>
<td>56%</td>
</tr>
<tr>
<td>13</td>
<td>Orthoses (lower-limb)</td>
<td>7</td>
<td>Smart phones/ tablets/PDA</td>
<td>10</td>
<td>17</td>
<td>59%</td>
</tr>
<tr>
<td>14</td>
<td>Standing frames, adjustable</td>
<td>7</td>
<td>Magnifiers, optical</td>
<td>8</td>
<td>16</td>
<td>13%</td>
</tr>
<tr>
<td>15</td>
<td>Club foot braces</td>
<td>6</td>
<td>Pressure-relief mattresses</td>
<td>7</td>
<td>15</td>
<td>73%</td>
</tr>
</tbody>
</table>
5.1.2 Barriers to access

Persons with an unmet need for a product were asked what prevented them from using the product. Respondents could report more than one reason for not using the product, and the answers are shown in Fig. 8 below.

For respondents with an unmet need, the most common reason for not using a product is cost. A total of 28.8% of them identified cost as a barrier. Other common reasons for not having a product include: “lack of time”, “lack of support”, “too far” and “no availability”. These four barriers are related to the availability and accessibility of services and together they correspond to 20.2% of all responses.

Discussion: cost was by far the most common obstacle to accessing assistive technology. Addressing this barrier is therefore crucial to achieving universal coverage of assistive technology. In Georgia, many products with high unmet need are subsidized by the Government, so presumably most respondents who identified cost as a barrier were either not eligible for State-funded products or were not aware of Government schemes to reimburse the cost of assistive products. The State should take action to ensure that all people who need assistive products are covered by programme provision (see recommendations under Provision in Section 6) and promote awareness of these schemes.

Fewer cases of other barriers were reported. However, most of these barriers such as “lack of time”, “lack of support”, “too far” and “no availability” are interlinked. For example, the amount of time it takes to obtain a product is influenced by the product being available in the community, the available means of transport to the nearest provision point or the amount of support the person can rely on to obtain products. Combined, these constitute obstacles for a substantial number of people, since more than one in four respondents with an unmet need identified at least one of them as a barrier. Increasing the availability of a range of assistive products and services at the community level would significantly reduce these barriers (see recommendations under Products in Section 6).

5.1.3 Provider and funding source

Excluding spectacles, most respondents obtained products from the private sector (37.8%) (Fig. 9). The funding source for more than three out of four people was either family/friends or out-of-pocket expenditure (Fig. 10) while the State paid for 4.3% of products in use.

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Fig. 8. Barriers to accessing assistive products, including spectacles

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can’t afford</td>
<td>28.8</td>
</tr>
<tr>
<td>Not available</td>
<td>8.6</td>
</tr>
<tr>
<td>No time</td>
<td>7.7</td>
</tr>
<tr>
<td>Not suitable</td>
<td>3.6</td>
</tr>
<tr>
<td>Other</td>
<td>3.4</td>
</tr>
<tr>
<td>No support</td>
<td>2.1</td>
</tr>
<tr>
<td>Too far</td>
<td>1.8</td>
</tr>
<tr>
<td>Stigma</td>
<td>0.6</td>
</tr>
<tr>
<td>Do not know</td>
<td>0.2</td>
</tr>
</tbody>
</table>
Respondents were asked how far they travelled to access their assistive product. Respondents who had more than one assistive product were asked to consider their most important product. Excluding spectacles, 38.6% of people travelled less than 5 km to access their assistive product (Fig. 11).

Discussion: The Government paid for only 4.3% of products and nongovernmental organizations/charities for 0.7%. Again, this could be due to lack of awareness of the procedure for obtaining Government-funded products and/or ineligibility of survey respondents for Government-funded products. Many people who are entitled to Government funding may decide to buy the product from the private sector anyway, if they can afford it. This is plausible, particularly for relatively inexpensive products, since the process of applying for a Government-funded product is time-consuming.
5.2 Limitations

One known limitation of the rATA survey tool is that it measures self-reported difficulty, according to the six functional domains, as well as self-reported need for assistive products. A self-assessment of these constructs may be different from a clinical assessment completed by a trained professional. It is expected that the general population will have a limited and unequal knowledge of assistive products. For example, people may be more familiar with assistive products that are visible and commonly used outside the home, such as spectacles (eyeglasses), canes and wheelchairs and their benefits. They may be less familiar with assistive products that are less visible or less commonly used outside the home. This may partly explain why reported unmet needs for assistive products supporting communication and cognition were relatively low. The survey relies on some knowledge of the assistive products and their benefits, and this knowledge may be limited or nonexistent for some of the 50 assistive products included in the rATA survey tool. The tool asks about functional difficulty and assistive product use and need separately, and some respondents reported difficulty in functional domains without reporting use or need for assistive products to address their difficulty. In these cases, it is impossible to determine whether the respondent estimates that the difficulty does not warrant the use of an assistive product, or whether the respondent is unaware how well an assistive product would address the reported difficulty.
6. Conclusions and way forward
In the last few years Georgia has made considerable progress towards improving access to assistive technology. Some notable achievements are:

- inclusion of postural-support wheelchairs and hearing aids for children in the list of the Government-funded products;
- extension of eligibility for some State-funded assistive products beyond disabled people to other groups, such as older adults; and
- development of services standards for wheelchair, prosthetics and orthotics and hearing aids.

These changes are important steps towards universal access to assistive technology. The Government should persevere in this direction by expanding the variety of products provided, strengthening assistive technology services and reducing remaining barriers towards obtaining Government-funded products.

Despite this progress, the unmet need for assistive technology remains high, and national resources and capacity to provide products are insufficient to achieve universal coverage. There are only a few registered providers, with limited production/provision capacity, insufficient assistive technology professionals and limited funding allocated to assistive technology. The recommendations contained in this report can be used to inform the development of a national roadmap for strengthening the assistive technology sector and scaling provision capacity. The roadmap should aim towards further integration of assistive technology, rehabilitation and other health services. This is not only essential for continuity of care, but also for the sustainability of the programme, to ensure that interventions have lasting effects on the system. It is only through alignment with the broader health system and by using health sector structures and resources that Georgia can overcome the barriers to access assistive technology, such as lack of awareness and availability of products at the community level.

### 6.1 Recommended actions

#### 6.1.1 Policy

1. Extend eligibility for all Government-funded assistive products to include all persons in need, regardless of disability status or age.
2. Increase funding for assistive technology.
3. Maximize use of assistive products through regular maintenance and repairs and by reissuing used products that are still in good condition.
4. Establish an interministerial committee with the objective of developing a national roadmap on assistive technology, as part of an integrated health and social care system.
5. Develop an assistive technology monitoring and evaluation framework.

#### 6.1.2 Provision

1. Provide assistive technology services through health facilities at all levels of health care, including at primary level.
2. Strengthen collaboration and establish public-private partnerships between registered assistive technology providers and designated primary health centres.
3. Conduct a cost analysis of different aspects of service provision and reimburse assistive technology services separately from products.

#### 6.1.3 Products

1. Develop standards and specifications for all priority assistive products that are State-funded.
2. Consult and actively involve disabled people’s organizations and beneficiaries of assistive products in the development of standards and specifications.
3. Extend the range of products provided, including more product variations and models.

#### 6.1.4 Personnel

1. Train health-care professionals, including community health workers, in assistive technology.
2. Include assistive technology in the education curriculum of all health professionals and align this approach with the development of a national rehabilitation action plan.
3. Address the lack of training opportunities and professional recognition for prosthetists/orthotists and audiologists.
4. Train health-care professionals, including community health workers, in assistive technology.


5. Approval of minimum standards for assistive technology services. Tbilisi: Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia; 2021.


The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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