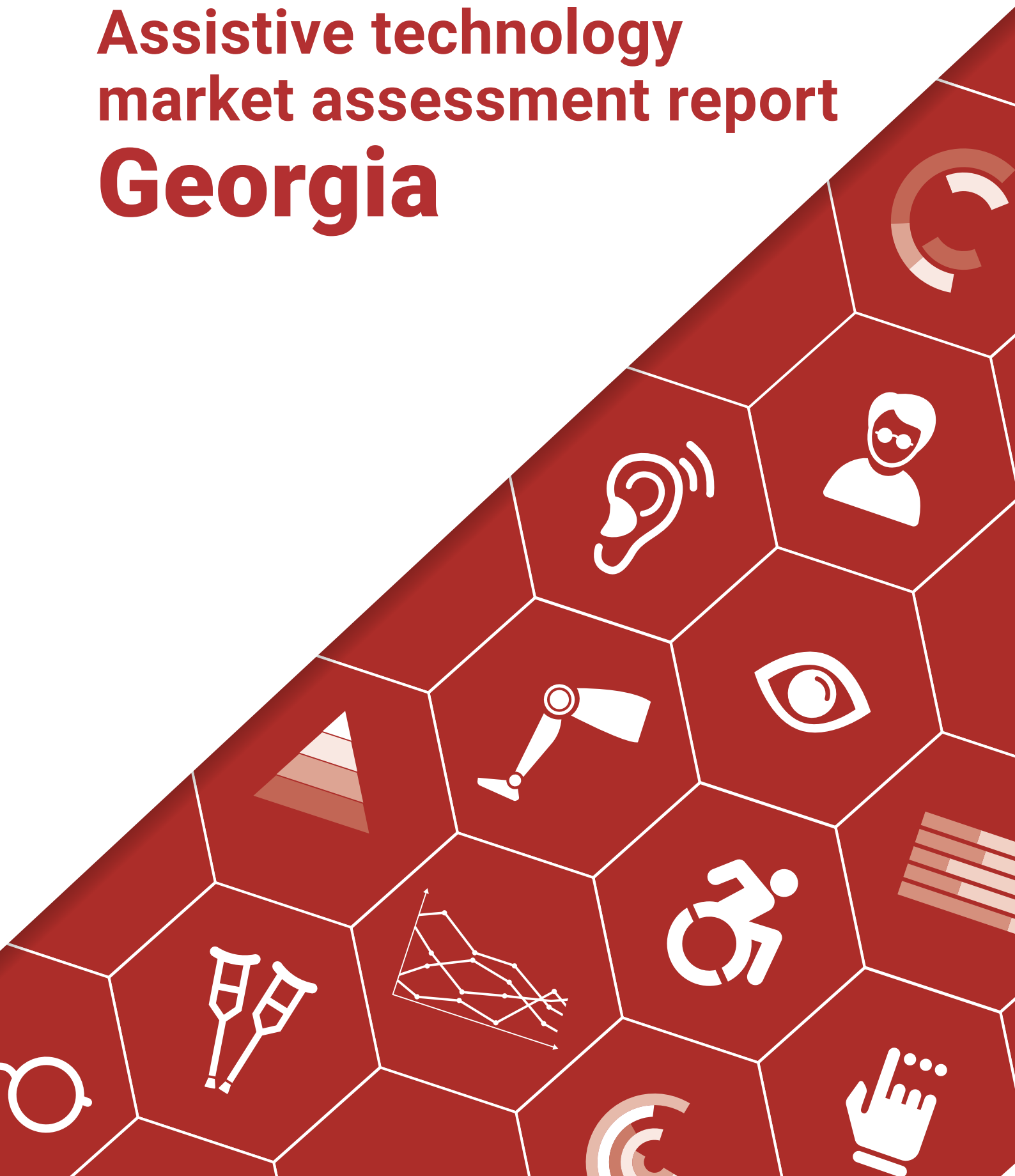
World Health Organization

European Region

Assistive technology market assessment report

Georgia



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Abstract
This report evaluates Georgia's assistive technology market, focusing on wheelchairs, hearing aids and prosthetics/orthotics. It examines key factors such as demand, supply, affordability, quality and regulatory alignment, as well as supporting Government efforts to improve access to assistive technology. Despite strong Government support, Georgia's assistive technology market faces structural challenges. The hybrid health-care system, with a mix of private hospitals and public programmes, influences how assistive technology is funded and delivered. The State Programme for Social Rehabilitation and Childcare allocated 5.5 million Georgian lari (US$ 2 million) in 2023 to assistive technology, prioritizing children, war veterans and vulnerable families. However, gaps remain in meeting the needs of the estimated 250 000 people with disabilities, with significant unmet annual demand for wheelchairs, hearing aids and prosthetics/orthotics. The market is fragmented, with limited ability to achieve economies of scale and most suppliers operating on a made-to-order basis. Key challenges include inconsistent product standards, a shortage of specialized suppliers and the need for regulatory harmonization. Recommendations include improving data tracking, strengthening collaboration, establishing national quality standards, promoting sustainability and reassessing financial mechanisms to improve affordability and market efficiency.

Keywords
ASSISTIVE TECHNOLOGY, ASSISTIVE DEVICES, PERSONS WITH DISABILITIES, EQUIPMENT AND SUPPLIES, QUALITY ASSURANCE, HEALTH-CARE SYSTEMS, GEORGIA

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Abbreviations

EU	European Union
GEFPOR	Georgian Foundation for Prosthetic/Orthopaedic Rehabilitation
GWfLP	Georgian Women for Life and Peace
GWW	Georgian Wheelchair Workshop
ISO	International Organization for Standardization
LDS	Church of Jesus Christ of Latter-Day Saints
MAC Georgia	McLain Association for Children, Georgia
P&O	prosthetics and orthotics

Executive summary

This report presents a comprehensive assessment of Georgia's assistive technology market, with a focus on three key product segments: wheelchairs, hearing aids and prosthetics and orthotics (P&O). The analysis aims to support ongoing Government efforts to enhance access to assistive technology and highlights critical market determinants such as demand, supply, affordability, quality and regulatory alignment.

Context and structural landscape

Despite a strong Government commitment to improving health-care access, Georgia's assistive technology market faces significant structural challenges. Georgia operates a hybrid health-care system, where 86% of hospitals are privately owned and closely linked with insurance providers and pharmaceutical companies. The Government pays for health care directly through targeted public programmes and subsidies, a dynamic that directly influences how assistive technology is delivered and funded.

The Government of Georgia supports assistive technology access primarily through the State Programme of Social Rehabilitation and Childcare, which allocated 5.5 million Georgian lari (US$ 2 million) in 2023 for assistive products. Depending on product or user group, the Programme covers 90–100% of costs, with prioritized coverage for children, war veterans and socially vulnerable families. Georgia's ratification of the Convention on the Rights of People with Disabilities in 2014 and the adoption of related legislation in 2020 have provided a firm legislative framework for inclusion. Georgia's European Union (EU) candidacy status underpins the need for alignment with European market integration, accessibility and regulatory standards.

However, critical gaps remain in terms of full-scale coverage. Although 125 000 people are officially registered with disabilities, actual estimates of those needing care are approaching 250 000, or double the registered number; WHO estimates suggest annual needs of 6660 wheelchairs, 12 580 hearing aids and 5180 P&O devices. However, in the face of this apparently clear demand, the market remains fragmented, with limited economies of scale and most suppliers producing to order. This is largely due to capital constraints and unpredictable demand.

This study draws on desk research, stakeholder interviews and in-country site visits, which have provided a robust evidence base for understanding the market dynamics and identifying gaps and opportunities.

Key highlights

Policy and Government engagement. Government leadership plays a pivotal role in shaping the assistive technology sector. State-supported voucher schemes have significant influence on the wheelchair market segment, while broader reforms, such as enhancing emergency services, rehabilitation integration and hospital accessibility, demonstrate sustained commitment.

Market structure and challenges. The assistive technology market is constrained by fragmented supply chains, inconsistent product standards and a shortage of specialized suppliers. Regulatory harmonization, national reference standards and quality specifications are urgently needed to improve reliability and performance.

Key considerations

Recommendations to strengthen the market include:

1. **collect and map data on imports and demand:** improve tracking of assistive technology imports and user needs to guide planning and procurement;
2. **strengthen collaboration:** improved coordination among service providers and stakeholders would help to reduce market fragmentation and improve data sharing;
3. **establish quality standards and support innovation:** use of national quality standards and expansion of the range of available products would better meet diverse user needs;
4. **conduct systematic monitoring and evaluation:** to cover all aspects of the service including disaggregation by age and gender;
5. **establish a centre of excellence:** a collaborative network or hub would connect stakeholders and provide support to all aspects of the assistive product market;
6. **examine financial measures:** reassess voucher values and explore pooled procurement mechanisms to improve affordability and supplier leverage;and
7. **integrate assistive technology with community-based care:** home-care services and civil society organizations provide important places of access for assistive technology users and also an area where repair, reuse and recycling practices could be promoted in line with EU directives.

1. Introduction

1.1 Background

Georgia's State-funded health-care programme and medical services rely heavily on private facilities. About 86% of Georgian hospitals are privately owned, with ownership shared among insurance companies, banks and individual owners *(1)*. The Government is committed to improving the health system, focusing on emergency services, access, hospitals, referrals and integrating rehabilitation and assistive technology programmes. Efforts are being made to strengthen the primary health-care workforce and improve access to rehabilitation services and assistive technology, particularly in underserved rural areas.

Most providers of primary and secondary health care are private and are vertically integrated with private health insurance providers and pharmaceutical companies, creating a hybrid health-care system. The State controls a few medical facilities for mental illness and infectious diseases, while most hospitals and clinics are private.

Beneficiaries eligible for assistive product support include those in specialized institutions, penitentiary institutions, war veterans, children with disabilities under 18 years and people with disabilities from socially vulnerable families. To receive an assistive device, an application must be accompanied by a medical certificate and a form confirming social verification, depending on the specifics of the assistive device and the user. Under the universal health-care programme, selected medical services for people with disabilities are covered 100% by the programme. For other services, State funding covers 90% of the expenses, which means that under the State Programme for Social Rehabilitation and Childcare the user's copayment for assistive devices does not exceed 10% of the value defined by the programme.

The Assistive Devices Distribution Commission meets once a month. A citizen receives a decision regarding funding within a maximum of 1.0–1.5 months, provided that all documents required by the regulation are submitted in full. The production, customization and adjustment of various assistive devices takes some time; however, once the user contacts the service provider organization, the entire process does not exceed 2 months.

If a citizen who has already received an assistive device and its warranty period has not expired then makes a repeated request, the user is notified in writing of the specific date for reissuance of the assistive device.

Assistive devices are available in the country for any person in need, regardless of age or status.

The State covers 100% of the cost of assistive devices, except in two cases: for manual wheelchairs and prosthetic and orthotic (P&O) products, the State covers 90% of the cost and the remaining 10% is paid by the user.

This cofinancing rule does not apply to the following categories of individuals, who receive 100% State funding for electric wheelchairs and P&O devices:

- children under the age of 18 years;
- beneficiaries residing in specialized 24-hour State-funded institutions;
- people defined by the Law of Georgia on "Veterans of War and Defense Forces";
- individuals in penitentiary institutions; and
- members of families registered in the "Unified Database of Socially Vulnerable Families" whose rating score at the time of the voucher issuance decision does not exceed 100 000.

Due to the high cost of P&O devices, the following groups are also eligible for 100% funding:

- elderly individuals (women from age 60, men from age 65)
- people requiring two or more prosthetic or orthopaedic products (excluding orthoses).

Many assistive products do not require registered disability status but are provided based on health conditions. These include manual wheelchairs, ocular P&O, electric wheelchairs for older adults, prosthetic limbs, hearing aids, crutches, cane-crutches and walking frames for individuals of all ages.

Following adoption of the 2007 Convention on the Rights of People with Disabilities and its Optional Protocol, the European Union (EU) drafted new legislation to remove barriers for individuals with disabilities. In 2019 the European Accessibility Act *(2)* placed greater emphasis on both the access to assistive products and the disparities between laws and regulations that Member States were subject to. This new focus addressed the administrative provisions concerning access to products and services for people with disabilities and the barriers to products and services that distort effective competition, particularly for small- and medium-sized enterprises. This allowed these entities to more readily benefit from common rules on accessibility in the EU, thus promoting cost reduction, easier cross-border trading and increased market opportunities. Many assistive products in the EU, such as hearing aids and wheelchairs, are classified as medical devices under Medical Device Regulation (EU) 2017/745. Medical devices in Georgia must comply with the International Organization for Standardization (ISO) set standards (ISO 13485:2016) for quality management systems and regulatory purposes *(3)*.[1]

The Convention was ratified in Georgia in 2014, with the adoption of the Law on the Rights of People with Disabilities in 2020 and the Optional Protocol in 2021. Georgia's more recent EU candidacy status highlights the need to integrate the country's systems with EU regulatory standards. The EU accession criteria (commonly referred to as the Copenhagen criteria) identify the essential conditions that candidate countries must satisfy to become an EU Member State. Alongside related political, administrative and institutional criteria necessary to effectively implement the EU acquis *(4)*, there are also economic criteria related to market integration and functioning market economy. For example, the capacity to cope with competition and market forces as well as the administrative and institutional capacity to effectively implement the acquis and the ability to take on the obligations of membership are essential *(5)*.

The EU defines a functioning market economy through several attributes, including macroeconomic stability, microeconomic fundamentals, market dynamics, institutional framework and integration with the EU market (Table 1) *(6)*.

Table 1. EU definition of a functioning market economy

Feature	Description
Macroeconomic stability	Low and stable inflation rates, sustainable public finances, controlled budget deficits, public debt levels and stable national exchange rates
Microeconomic fundamentals	Includes property rights, a robust banking system with accessible credit and a flexible labour market that adapts to changes and matches supply and demand for labour
Market dynamics	Emphasis on competitive markets with minimal monopolistic practices, market-determined pricing mechanisms and a regulatory environment that supports entrepreneurship and business operations
Institutional framework	Requires a strong legal system for contract enforcement, dispute resolution and protection against corruption, along with effective regulation and transparent public administration
Integration	Integration with the EU market involves an open trade regime with minimal barriers, alignment with EU standards and norms and harmonization of national laws with EU policies, particularly in competition, State aid and environmental standards

Source: European Commission *(6)*.

1 The ISO, established in 1946, sets the international standards to ensure that products and services are safe, reliable and of high quality, and it guides businesses in adopting sustainable and ethical practices.

Georgia's current legislation and regulatory documents on assistive technology include several key components *(7)*. The Minimum Standards for Assistive Technology Services (April 2007) outlines the essential service steps for providing wheelchairs, P&O and hearing aids, while the Law of Georgia on Medical and Social Expertise determines disability status and the conditions under which assistive technology is prescribed. Additionally, the Rules on the Registration of Service Providers for Social Rehabilitation and Childcare under the 2021 State Programme describe the requirements and application procedures for becoming a registered supplier of services within the State Programme.

Regarding assistive technology environmental regulations, the EU's Waste Framework Directive provides comprehensive legislation on waste management, including recycling (Directive 2008/98/EC) *(8)*, which sets recycling targets for Member States. The Directive introduced the concept of Extended Producer Responsibility, making producers responsible for the entire life-cycle of their products – including take-back and recycling – and established the so-called waste hierarchy, which prioritizes prevention, reuse, recycling and other recovery methods.

1.2 Assistive technology market overview

Successful markets require clear data on demand, an enabling environment, fair regulations and market readiness. However, the assistive technology market in Georgia is fragmented and with limited economies of scale, making it difficult to sustain a diverse range of specialized suppliers and service providers. The assistive technology market is broad, encompassing a diverse array of products that meet different needs and require specialized expertise, guidance and supply sources. It is important to distinguish between need and demand, as need does not automatically translate into demand. Demand is the monetized data point that suppliers use to formulate business plans and investment considerations. Often, assistive products do not generate sufficient revenue independently and are offered as complementary products in retail outlets alongside other medical products and services.

Georgia's 2023 State Programme of Social Rehabilitation has a budget of 19.6 million lari (US$ 7.3 million) *(9)*, which includes support of 5.5 million lari (US$ 2 million) for the provision of assistive technology (Table 2). The Government projects to increase this budget over the next 4 years to reach 7.2 million lari (US$ 2.7 million), representing an increase of 30% or equivalent to an 8–10% increase each year.

Table 2. Approved State programme budget for social rehabilitation and childcare, 2023

Budget	2023	2024 projected	2025 projected	2026 projected	2027 projected
Amount (million lari)	5 500 000	5 580 580	8 500 000	6 670 000	7 200 000
Increase (%)		1.44	8.90	9.70	7.90

Source: Government of Georgia *(10)*.

Currently, there are limited existing data and oversight on the real-time needs and demand for assistive technology in Georgia. Consequently, accurate and up-to-date information was obtained through market research mapping, involving consultations with local, regional and global sources. This included discussions with local health-care providers (hospitals, rehabilitation centres and professionals) to better understand current assistive technology demand availability; medical equipment suppliers and stores for details on available assistive technology types, pricing and features; and disability support organizations for insights on needed resources. Additionally, online platforms and social service organizations are a valuable source of information and recommendations on improving access to assistive technology.

The last Government census (2014) showed that there were 100 113 registered people with disabilities in Georgia, while the Social Service Agency had 125 000 people registered with disabilities and receiving social assistance in 2017 *(11)*. The Network of Women with Disabilities – a coalition of 14 organizations across the country – reported that these figures were far lower than the actual approximate total of 250 000, highlighting a need to assist people with disabilities with provision of information and access to funded assistive technology supports and services. WHO estimates in 2021 indicated that there were 33 300 wheelchairs, 62 900 hearing aids and 25 900 P&O currently needed in Georgia *(7)*. Annually, this translates to 6660 wheelchairs (with a 5-year lifespan), 12 580 hearing aids (with a 5-year lifespan) and 5180 P&O (with a 2-year lifespan).

The Government-funded programme is the primary source of data on assistive technology supply, supplemented by sales and provisions from other stakeholders. To accurately estimate supply, coverage, need and demand, a comprehensive view of all imported assistive products and their distribution is necessary.

Most manufacturers produce and sell products to order, due to limited financial capital and resources; stocking items ties up capital and poses a risk. In Georgia, many suppliers do not stock extra products beyond projected annual turnover. Because substantiated demand is unknown, assistive technology procurement costs are high relative to the average household income (1459 lari or US$ 544), and investment capital and liquidity are limited *(12)*.

To fully understand the assistive technology market in Georgia and map the supply reach, data on national imports of assistive products in terms of units, value and country of origin are essential. These data could offer a comprehensive view of market segments, size, scope and key countries of origin, along with transport and logistics insights. The Government could then determine the difference between what is funded and provided through its direct programmes and health system, compared with what is imported privately. These data would also help to calculate the weighted average price of imported products, providing an accurate understanding of the average price paid per product.

In assessing the market, the WHO guide, *Assistive product specifications and how to use them*, was utilized as a reference *(13)*. This document describes the minimum requirements related to technical performance and function that the products should meet for safe and effective use and lists assistive products specifications to guide assistive technology procurement and provision.

Several building blocks, attributes or determinants are used to evaluate the health of a market. By examining each product's attribute, market assessments can identify critical areas with shortcomings or challenges. There are eight market determinants (outlined in Table 3) which summarize the key attributes affecting both the supply and demand sides of the assistive technology market.

Table 3. Assistive technology market determinants

Determinant	Characteristics
Acceptability/utilization	The extent to which available products or services meet the end-user needs, norms, choice and ease of use
Affordability	The extent to which prices are affordable, including for those below the poverty line
Availability	The capacity and reliability of supply to meet demand at points of service delivery
Competition	The level of competition/product choice from suppliers to sustain supply; includes consideration of whether the market is dominated by a single source or group of suppliers that dictate market dynamics and operations
Delivery	Whether the supply chain/distribution system and delivery capacity is cost–effective and efficient; includes the need for specialized services, warehousing and last-mile delivery
Finance	Whether long-term and reliable funding or access to financing is available and sufficiently covers the needs
Quality	Whether products are consistently safe and effective, with reference to standard measures of quality, control and criteria, technical specifications, good manufacturing practices; with recognized national regulatory authority approval
Coverage	The extent to which supply equitably meets the needs

A healthy market framework helps to structure and coordinate discussions with key stakeholders on what a market should (or could) look like, guiding all involved to understand the issues and to plan supply based solutions. For example, the framework considers whether there are rules ensuring product and service quality; if buyers can afford essential products and services; if manufacturers produce quality standard products; whether end-users are able to access and choose products and services; and if buyers can source essential products and services.

The healthy market framework shown in Fig. 1 reads from the bottom-up and uses a traffic light colour coding system to differentiate between met and unmet needs (green indicating met/good, orange indicating partially met/issues to be improved, and red indicating not met). Fig. 1 shows the broad example of the framework and is not representative of the Georgian market context.

Fig. 1. The healthy market framework

5th tier: addresses longer-term achievements, sustainability and product innovation

4th tier: reflects issues that can be addressed by risk mitigation through quality assurance, standards and other interventions

3rd tier: where users have their basic preferences and affordability ranges met

2nd tier: the foundational building block of a healthy market, where supply can meet the demand regardless of quality standards

1st tier: does the market (supply) meet basic demand regardless of quality standards?

Baseline: demand must be clear and substantiated; it is the foundational pillar and, although hard to articulate, is the first step

1.3 Methodology

This report analyses the assistive technology market in Georgia, focusing on wheelchairs, hearing aids and P&O as indicators for the broader assistive technology market. It aims to support the Government of Georgia in developing strategies to improve access to assistive products at national, subregional and global levels.

The report was created by designing a market-shaping framework, conducting a desk review of existing literature and collecting in-country data through site visits and stakeholder interviews. The findings identified regulatory and financial barriers that hinder market growth and these are linked to broader recommendations intended to help the Government to effectively shape the assistive technology market and ultimately improve access to assistive technology.

The following sections describe the findings of a market assessment of three assistive technology market segments in Georgia: wheelchairs, hearing aids and P&O.

2. The wheelchair market

The growth in the market for the provision of wheelchairs in Georgia since the early 2000s reflects both the efforts and the combined influence of various key stakeholders and actors, such as the United States Agency for International Development, the EU, civil society and philanthropic actors. Users in Georgia can acquire wheelchairs from a wide range of manufacturers and sources, with most imports coming from China or Türkiye. Not all products are of equal quality or suitability, and there are no national standards or regulations for quality, leaving safety and longevity to the discretion of suppliers.

Additionally, a recent study found that 42% of wheelchair recipients had not received individual assessment or fitting, with only 13% of the services provided falling in line with WHO wheelchair provision guidelines. Of those surveyed, only 22% received training when they received their chair, only 16% received follow-up services and 41% received adjustment services, demonstrating an opportunity to combine referenced standards with monitoring and evaluation in the future.[2]

Most wheelchairs in the market come from three sources: the Government, philanthropic engagement or private imports (Table 4). The Governmental wheelchair provision programme has a budget of 1 475 000 lari (US$ 550 000) and operates through an annually indexed voucher system. Vouchers for manual wheelchairs cover the cost of the wheelchair itself, as well as transportation and brief user training. Vouchers for manual wheelchairs with postural support and power wheelchairs cover the product cost, fitting services, training and delivery (based on individual need). Recent changes to the programme allow those who previously received a wheelchair to reapply with a simple statement.

Table 4. Market determinants for wheelchairs

Determinant	Characteristics
Acceptability/utilization	The market offers a range of products that can meet end-user's needs and mostly accommodate their profile
Affordability	There are a wide range of product prices available including low-cost options with different payment models
Availability	There is a limited range of products available to meet demand across points of service delivery
Competition	The market is dominated by select suppliers with full influence over market operations, leading to poor market competition and product choice
Delivery	The supply chain and distribution systems have the capability to deliver products to reach all regions, including for specialized services
Finance	The market is heavily reliant on Government and external philanthropic funding support to cover known substantiated demand
Quality	There are no regulatory reference standards or measures to ensure product safety, quality and technical specifications; these are subject to supplier oversight and judgement
Coverage	Coverage appears to be good overall but not equal across all wheelchair types (i.e. manual vs power); further assessment of equitable needs and coverage is not possible as existing data are not disaggregated

2 Evaluation of wheelchair diversity and service provision in Georgia. Caucasus Research Resource Centre; 2021 unpublished internal report.

The Government's programme and regulations heavily influence the wheelchair market (Fig. 2), with its vouchers representing the largest market share and setting standards for products and services (Table 5). It accounts for up to 60% of the supply through three registered service providers. Among the three registered wheelchair service providers, one supplier provides 90% of wheelchairs under the programme, using 84% of its budget. This supplier provides all Government-supported manual and electric-powered wheelchairs and 15% of manual wheelchairs with postural support. The remaining 12% of manual wheelchairs with postural support are supplied by the other two providers.

Fig. 2. Assessment of the wheelchair market in Georgia using the healthy market framework

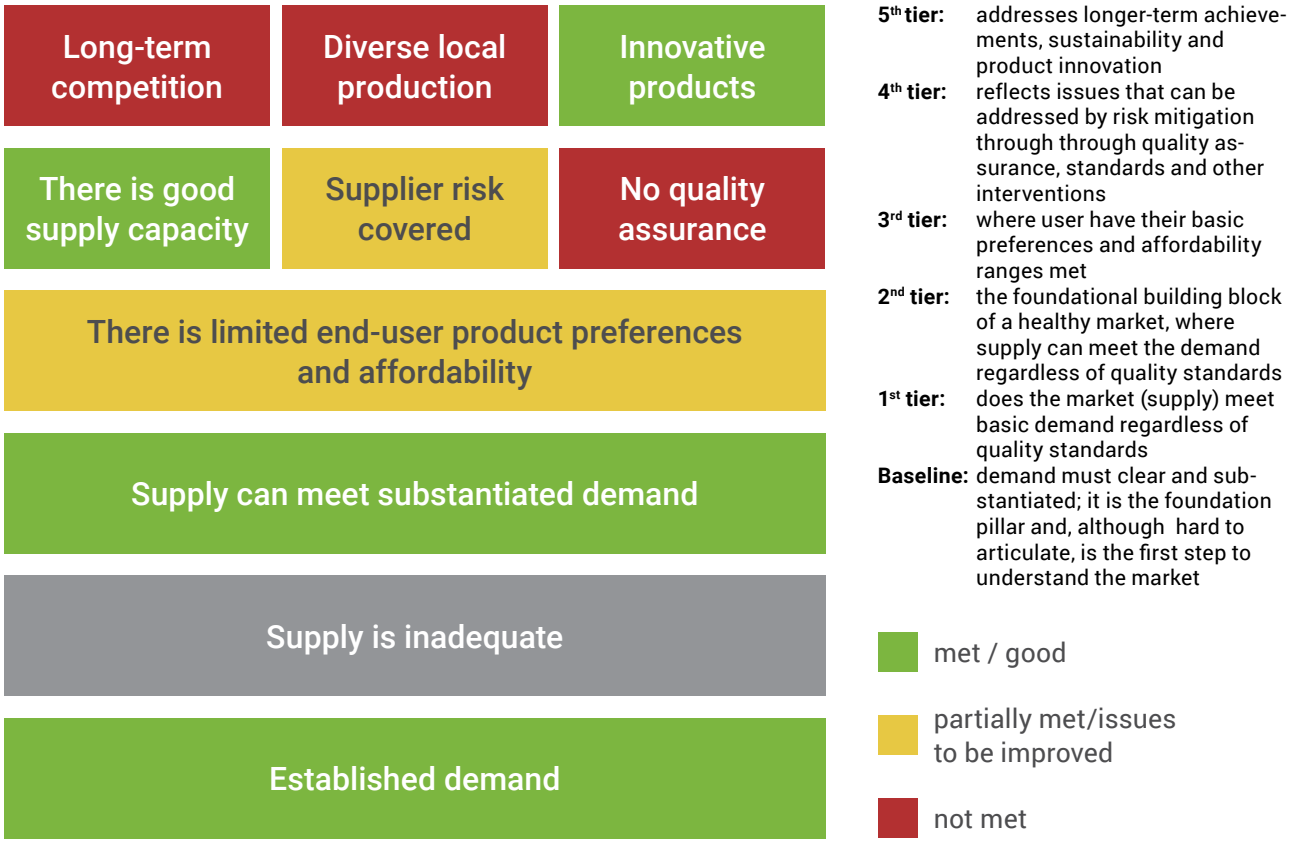

Table 5. Government voucher values for 2023–2024

Wheelchair type	Voucher limit (lari)	Voucher limit (US$)
Manual wheelchairs	760	283
Grab bar	70	26
Manual wheelchairs with postural support	2650	988
Electric-powered wheelchairs	4316	1610
Delivery component	50	18

Source: Government of Georgia *(10)*.

The Government's programme does not separate the costs of assistive products and services, making the system reliant on service providers balancing production or sourcing costs with service expenses. Providers must cover overhead costs within the maximum reimbursement allowance set by the voucher.

Without regulations governing wheelchair types in Georgia, product choice is left to importers or manufacturers. Their decisions are based on their quality standards, specifications and cost thresholds. Nongovernmental organizations and the private sector heavily influence these decisions, with no regulatory reference to ISO or other recognized quality standards, only descriptive aspects of product and service provision.

Additionally, it is not possible to objectively judge the quality of a product versus its cost, effectiveness or efficiency without quality standards. If there is no baseline reference or normative reference comprising an agreed industry standard, there is no consumer protection for users. The absence of quality standards also exposes suppliers to significant risks. These risks include potential disruptions or negative impacts on operations, funding or reputation due to supply chain disruptions, quality issues or failure to meet specifications, all of which can lead to customer dissatisfaction.

In Georgia, wheelchair regulations promote the employment of disabled people. Service providers producing manual wheelchairs must have 50% of their workforce as people with disabilities, while producers of manual wheelchairs with postural support must employ 30%. Providers must have certified employees to assess needs, adjust wheelchairs and conduct training, with proper documentation. They must also have the technical base for services and submit supporting documents.

Government regulations restrict supply diversification, limiting the voucher support programme to a single source for manual and electric wheelchairs, reducing choices for users. While these regulations support local industry and employment, they are tailored to specific products and do not apply to all assistive products.

2.1 Demand

Based on a household survey conducted in 2021, the estimated need for wheelchairs in Georgia was 33 300 wheelchairs (based on a population of 3.7 million) *(7)*. Of people needing wheelchairs, an estimated 75% (or reaching 25 000) needed a manual chair, while 25–35% or around 8400 required manual wheelchairs with postural support or electric-powered models. Per year, this would equate to approximately 6660 wheelchairs (4995 manual and 1665 with postural support and/or electric power).

These numbers are estimates, as there is no verifiable source breaking down the specific needs of people with disabilities in Georgia by product type, model, age group or gender. The numbers are indicative, based on population estimates and not calibrated to yearly needs. Mapping demand based on user profiles (child, adult, elderly, active, sedentary) would help to inform the market about the types of wheelchair models needed, as current estimates are based on service providers and affordability.

Assuming wheelchair provision has been consistent over the past 10–14 years, the current supply trend suggests that around 20 000 wheelchairs have been provided, including replacement chairs. Additionally, several community-based initiatives have offered wheelchair provision services in Georgia since 2006, including Georgian Women for Life and Peace (GWfLP), providing approximately 4200 wheelchairs from 2016 to 2024, and the Georgian Wheelchair Workshop (GWW), providing 8000–10 000 wheelchairs since 1997.

With manual wheelchairs making up almost 80% of supply, there is reduced availability of specialized manual wheelchairs with postural support as well as electric-powered models, indicating potential gaps in demand for specific types of chair (rather than a general need for wheelchairs). For example, demand for manual wheelchairs with postural support and electric wheelchairs is restricted by the need for disability status documentation and a medical-social examination to access a Government-funded wheelchair. Overall, there are no major gaps in demand, but funding limits and regional reach, such as in Adjara, pose challenges. Providers can increase supply, with growth potential in various wheelchair types and promoting awareness and information.

2.2 Supply

From the data acquired, the sources of funding for wheelchairs come mainly from the Government programme, municipalities, international donors, nongovernmental organizations and private individual procurement (Table 6). Wheelchairs provided through the Government programme come from three main sources: the GWW *(14)*, the Ken Walker Clinic *(15)* and McLain Association for Children, Georgia (MAC Georgia) *(16)*.

Another major source of wheelchairs is through the humanitarian work of GWfLP *(17)* in partnership with the Church of Jesus Christ of Latter-Day Saints (LDS) *(18)*. Other wheelchair providers include pharmacies, private buyers, online resellers and social media, such as My Market and Facebook groups, as well as a number of rental companies. Data exclude the wheelchairs procured and used in hospitals and clinics.

Table 6. Source data for wheelchair units, 2023

Type	GWW[a]	Ken Walker[a]	MAC Georgia[a]	Aversi	GWfLP/LDS	Units	Number imported (%)
Manual	700	–	–	25	700	1425	725 (51)
Electric	200	–	–	–	–	200	–
With postural support	20	63	48	–	–	131	111 (85)
Total	**920**	**63**	**48**	**25**	**700**	**1756**	**836 (46)**

[a] Wheelchair data from GWW, Ken Walker and MAC Georgia represent wheelchairs distributed through the Government-supported voucher system.

From the data collected, over 1700 wheelchairs are provided annually, with just over 1000 (60%) supplied through the Government-supported voucher programme via three registered service providers. One provider, GWW, accounts for 90% of this provision. Additionally, 48% of the wheelchairs are imported, mainly from China through GWfLP/LDS (Table 7). Product diversity is limited, with 92% being manual models. Despite a more diversified range now available, including standard urban, all-road, all-terrain and lightweight models, the majority are standard manual models.

Table 7. Source data for wheelchairs by estimated value, 2023

Type	Estimated value (lari)[a]					Total value (lari)	Imported value (%)
	GWW[b]	Ken Walker[b]	MAC Georgia[b]	Aversi[c]	GWfLP/ LDS[d]		
Manual	616 000	–	–	9750	227 500	853 250	237 250 (28)
Electric	863 000	–	–	–	–	863 000	–
With postural support	52 000	163 800	124 800	–	–	340 600	288 600 (85)
Total	**1 531 000**	**163 800**	**124 800**	**9750**	**227 500**	**2 056 850**	**525 850 (26)**

[a] Some cost estimates may need to be adjusted and exclude landed costs.
[b] Wheelchair data from GWW, Ken Walker, MAC represent the number wheelchairs distributed through the Government-supported voucher system multiplied by the voucher value.
[c] Cost estimates for Aversi is based on wheelchairs sold at 390 lari (US$ 145).
[d] Cost estimated for GWfLP/LDS based on an assumption of wheelchairs procured at a value of US$ 113 a unit (325 lari).

The value of market capitalization for wheelchairs is difficult to estimate but based on wheelchairs provided in Georgia from the data collected it reaches approximately 2.1 million lari (US$ 783 000). The Government-supported voucher programme represents 71% of this value, which equates to the Government's allocated budget for wheelchairs and related service provision. As such, the data represent the value of wheelchairs known to have been distributed in 2023, not the entire wheelchair market (as findings did not include the full scale of informal demand or the demand sourced privately outside of the main actors listed in Table 7). However, it can be taken as an indicator of an average year under present market conditions.

2.2.1 Pharmacies

Outside of the Government programme, pharmacies demonstrate viable potential to act as a major private sector wheelchair provider. They represent an innovative way to scale up the supply and access to assistive products broadly – including wheelchairs – given they represent a circular pathway between hospitals, clinics, health insurance and pharmaceutical outlets.

In Georgia, there are three major pharmaceutical chains covering all regions:

- PSP PHARMA is owned by PSP Insurance and New Hospital, which houses Georgia's top orthopaedic centre;
- Aversi operates in various segments, including pharmaceuticals, Alpha Insurance and Aversi Hospitals; and
- GPC/Pharmadepot (JSC Gepha) is owned by the largest investment group in the country (Georgia Capital), which also owns the largest hospital chain (EVEX Hospitals) and several insurance companies.

PSP *(19)* and Pharmadepot *(20)* currently only offer canes, crutches and walkers, making Aversi the only pharmaceutical chain to hold stocks of wheelchairs, which they import from Karadeniz Medical *(21)*. They consider these to be good quality but offer them at a low cost–recovery margin, making wheelchairs a small part of their core business model. Aversi reportedly continues offering wheelchair provision despite this margin as a community service and as part of their corporate social responsibility.

Aversi holds 30% of the pharmaceutical market in Georgia, with 330 stores across the country, including village-level locations. They offer manual wheelchairs and manual wheelchairs with postural support at prices ranging from 390 lari (US$ 145) to 550 lari (US$ 205). This lower price is significant, as it is nearly half the value of the Government's voucher for a manual wheelchair, which is 760 lari (US$ 283).

In 2023 Aversi sold 25 wheelchairs nationwide, highlighting the limited retail demand for wheelchairs outside of the Government-supported programme and coverage provided through GWfLP/LDS. This could also be explained by their low stock of wheelchairs and limited variety of models due to lack of profit from wheelchair sales. Carrying product stock ties up business capital and incurs storage and maintenance costs, with a high risk of little return on investment for pharmacies. It is, therefore, not economically viable for the private sector to invest in a market saturated by other service providers *(22)*.

2.2.2 Informal sources

Other known sources of wheelchairs include private imports or local procurement through social media or online market platforms, representing accessible alternatives to the other suppliers in the wheelchair market. For example, My Market is a website which trades in wheelchairs *(23)*: people can collect, buy new or used, rent and even pay by installments. Additionally, Facebook groups advertise second-hand wheelchairs *(24)*. Users sell varying types of used manual wheelchairs from 290 lari (US$ 100) to 690 lari (US$ 256) and electric-powered chairs start from 900 lari (US$ 334). Such diversity of products and financing options may be very attractive to people who do not qualify for Government support but still live on modest incomes.

The needs of users, including temporary users, are also partially met through the service offerings of short-term rental and leasing outlets, where wheelchair rental options can be obtained for as little as 10 lari (US$ 3.73) per day. Leasing arrangements and payment plans are also available through bank loaning services, offering options which may be better suited for temporary users or private buyers who wish to use high-end wheelchair models that would otherwise not be readily be available in Georgia.

Some service providers have attempted to incorporate wheelchair rental options to expand their product and service offerings, but these attempts have largely failed due to inadequate payment security measures. While rentals or leases are unsuitable for long-term users, there is interest in reviewing this approach if risks can be reduced through approaches such as involving banks, modelling after successful examples from other countries such as the Baltic States. Subject to quality standards, informal product trading is also a worthwhile option to explore: recycling, repairing, reconditioning and reusing wheelchairs can extend product life, reduce waste and increase coverage.

2.2.3 Formal sources

2.2.3.1 GWW

GWW is the only local wheelchair manufacturer in Georgia, producing frames from raw materials and importing fittings and components. GWW can reportedly produce 1200–1500 wheelchairs annually, and it has plans to increase production capacity. The company's range offers standard urban, all-terrain, lightweight and oversize/bariatric manual wheelchairs and is reportedly expanding to include active models.

Government regulations for basic manual wheelchairs require support for seat width, backrest height, foot placement, a pressure-relieving cushion and manual poles if needed. GWW adopted these regulations and provides assessment and fitting services for electric-powered and postural support wheelchairs in person or via phone appointment with rural users.

In 2023 GWW provided 100% of Government-funded manual (700 units) and electric-powered (200 units) wheelchairs and 18% (20 units) of manual wheelchairs with postural support. This accounted for 90% of wheelchairs supplied through the Government programme and 84% of the budget, representing 52% of market supply and 70% of market value. Since inception, GWW has produced 8000–10 000 wheelchairs, meeting 24–30% of national needs. Operating at 60% capacity, they export 120 wheelchairs annually to Armenia, Azerbaijan, Türkiye and the United States of America, with potential for further regional expansion.

GWW is the only provider that currently meets Georgian equitable employment rules, supporting 50% of their staff to initiate and/or maintain employment with a disability. This allows GWW to produce and sell manual wheelchairs through the Government programme, but accounting for such a large proportion of wheelchairs supplied through the programme does limit the variety of supplier choices available to users when selecting manual or electric-powered wheelchairs.

2.2.3.2 Ken Walker Clinic

The Ken Walker Clinic is a nongovernmental organization and service provider that is dependent on donors for around half of its funding, enabling subsidies for the costs of some wheelchairs. The Clinic employs a business model focused on a wide range of rehabilitation needs and services, training and teaching, as well as providing locally produced and adapted modern assistive technology devices, including manual wheelchairs with postural support and fitting services. Wheelchairs are currently offered at the Tbilisi centre or through collaboration with MAC Georgia for rural provision.

In 2023 the Ken Walker Clinic provided 63 manual wheelchairs with postural support of different models imported from Consolidating Logistics for Assistive Technology Supply and Provision *(25)*; this is project funded by the United States Agency for International Development-and implemented by Momentum Wheels for Humanity, which aims to increase access to a variety of high-quality, affordable mobility aids and promote appropriate provision globally. The Clinic provides a solution to supply-side challenges faced by wheelchair service providers in suboptimal scenarios, such as limited product variety, extensive lead times or logistical issues. These wheelchairs range in cost from US$ 215 to US$ 425, which is approximately 30–60% of the Government voucher value *(25)*. This represents 48% of the Government's share of support for manual wheelchairs with postural support provision, but only 3.5% of the known data on the market and 7.5% of value.

Manual wheelchairs with postural support require comprehensive fitting services by highly trained staff, and the voucher value often does not cover the full service cost, as fitting can require two trained staff for up to 3 hours – or a whole day for more comprehensive customization.

Currently, the Clinic's staff work part-time due to low workload, but could reportedly double their output from 63 to 120 units. This increase aligns with the Clinic's stated goal to become an assistive technology apex centre for teaching, training and research in assistive technology and rehabilitation, potentially expanding to the subregion.

2.2.3.3 MAC Georgia

MAC Georgia is a nongovernmental organization and service provider, with three quarters of its funding issuing from the National Philanthropic Trust. It promotes independent living, vocational skills, functional education and training for occupational therapists and focuses on delivering wheelchairs to rural regions. In 2023 MAC Georgia provided 48 manual wheelchairs with postural support, offering three ISO-certified models imported from South Africa.

Their product pricing is based on a bulk order filling a 20-foot shipping container and ranges from 2222 lari (US$ 831) to 2367 lari (US$ 885) per wheelchair. Shipping a 20- to 40-foot container from Cape Town to Tbilisi costs US$ 4000–6000. MAC Georgia may have different pricing arrangements, but their wheelchair retail prices represent 80–98% of the Government voucher value, a significant cost. The voucher value of 2650 lari (US$ 986) does not cover MAC Georgia's expenses, which averaged 3760 lari (US$ 1400) per wheelchair in 2023, resulting in a 41% shortfall. While the company supplies 36% of manual wheelchairs with postural support under the Government programme, this only represents 5% of the overall Government wheelchair programme: 2.7% of market share volume and 6% of its value.

MAC Georgia reports that it has capacity to increase its wheelchair service provision, including both manual wheelchairs with postural support and potentially electric-powered wheelchairs. The company aims to further develop as an assistive technology hub for skills, training, knowledge and information to build awareness about appropriate wheelchairs. With support from the Norwegian Ministry of Foreign Affairs, an information portal *(26)* has been developed offering information on health support services, education, legal support, recreation, sports, financial assistance and wheelchair guidelines.

2.2.3.4 GWfLP

GWfLP is a charitable organization with a history in activism for child and women's rights and other critical social issues. The organization supports people with disabilities and provides access to assistive products through a network of representatives in every municipality. Partnered with the United States-based LDS, they distribute manual wheelchairs (all-terrain, standard and active user models) across the country.

GWfLP staff members receive an annual training course of 2–3 days on wheelchair assembly and fitting, based on WHO's wheelchair provision guidelines *(27)*. GWfLP/LDS retain ownership of their wheelchairs, mandating users to sign an agreement to return the wheelchair when no longer needed. This sustainable procurement model allows GWfLP to repair, recondition and reallocate their wheelchairs (Box 1).

BOX 1.

Sustainable procurement

Sustainable procurement integrates social, economic and environmental considerations, going beyond "green" procurement. It ensures products and services support local development, minimize environmental impact and offer the best value for money. WHO promotes green manufacturing, quality management and social and economic factors in tender evaluations and aims to build local industry capacity.

United Nations procurement decisions often involve trade-offs between three sustainability pillars (economic, social and environmental), particularly between environmental and social factors, which are harder to quantify. The lack of evidence for informed trade-offs and the challenge of prioritizing one pillar over another require situation-specific solutions based on readiness, market influence and objectives.

GWfLP distributes 700–800 manual wheelchairs annually, imported as components from China and assembled by LDS-trained staff. From 2016 to 2024, GWfLP/LDS distributed around 4200 wheelchairs. This accounts for 40% of known market data and 83% of known import data, despite the national estimated need for 33 300 wheelchairs. Each wheelchair costs approximately 325 lari (US$ 113), excluding landed costs. While these costs are not supported by Government programmes, GWfLP receives municipal support for regional transportation.

2.2.3.5 LDS

LDS has been supplying wheelchairs to Georgia since 2006, initially supporting local production and training packages based on WHO standards. They reportedly focus on wheelchair quality specifications, overseeing production and shipments to Georgia and providing fitting services and training. Since the founding of GWW, LDS has shifted to designing their own wheelchairs, produced in China.

2.3 Cost

The cost of procuring a wheelchair in Georgia ranges from 290 lari (US$ 108) to over 5000 lari (US$ 1811), depending on specifications. The weighted average price is 1228 lari (US$ 440) based on 1756 wheelchairs provided. However, this figure is skewed by the Government-funded voucher programme and excludes informal and private sector data.

Georgia lacks national quality standards for wheelchairs, leading to varied quality across products based on stakeholders' interpretations and budgets. Assessing and analysing the full cost of a wheelchair is challenging due to factors such as product variation, transport, assembly, fitting, training and overhead costs. Comparing landed costs (covering product, transport, shipping and delivery) is, therefore, crucial, as locally procured products may be cheaper overall, despite higher initial prices.

2.4 Quality standards

While some wheelchairs produced in Georgia meet high standards, the lack of national quality management means that not all products and services are of equal quality or availability. Quantifying costs and implementation against reference standards is crucial for several reasons: (i) comparing costs with a standard metric helps to identify discrepancies, allowing corrective actions to control or adjust implementation and expenses; (ii) setting standards serves as benchmarks for budgeting and forecasting, helping stakeholders to predict future expenses and allocate resources more effectively; and (iii) evaluating costs against standards also enables stakeholders to assess efficiency and ensure that products meet quality criteria.

The ISO lists 47 different ISO standards for wheelchairs, covering all aspects of design and dimensions *(28)*. The application of minimum quality standards would likely incur cost increases for some products, including those locally produced. With the European Commission's recommendation to grant candidate status to Georgia in November 2023, Georgia will increasingly need to align with EU directives, including those on medical devices. The EU directive on medical devices (93/42/EEC) covers products such as wheelchairs and mobility scooters, which must meet essential requirements outlined in Annex 1 of the Directive to qualify for retail sale *(29)*.

2.5 Overview of the wheelchair market

2.5.1 Trends in wheelchair provision

Major initiatives promoting wheelchair provision have been active since 2006 in Georgia. From 2010 onwards, approximately 25 000 wheelchairs, including replacements, were distributed in Georgia, covering about 60% of demand. Of these, 20 000 were basic manual models, making up 80% of the supply. From a community provision perspective, GWfLP estimates delivery of around 4200 wheelchairs since 2016, while GWW estimates provision of between 8000 and 10 000 units.

When considering that 25% of demand is for manual wheelchairs with postural support and electric models, totalling 8300, the gap between demand and supply is markedly significant. Current supply rates for these more complex models are much lower, at 4600, representing only 18% of total supply; basic manual wheelchairs make up 81% of the supply. Despite this, there does not appear to be a deficit in wheelchair provision through the Government-funded programme, as there are no waiting lists for any wheelchair product.

2.5.2 Market assessment

Although Georgia has a robust supply of wheelchairs, there is an imbalance in the availability of models provided, particularly for active users. The market assessment indicates a wide range of outlets for sourcing wheelchairs, covering different price ranges, rental options and installment payment plans. While the supply may meet most of the demand, it does not cover all models. Additionally, the current volume of supply and provision is not large enough to benefit from economies of scale, making it difficult to justify another service provider.

2.5.3 Enhancing market equity

To enhance market equity among Government-supported suppliers, Georgia could consider allocating a larger share of the existing budget to manual wheelchairs with postural support and electric-powered wheelchairs. Additionally, the distribution of wheelchair types could be reviewed and balanced according to service provider. Balancing budget expenditure based on each provider's capacity to assess, fit and deliver quality-approved products and technical services is of equal importance.

2.5.4 Quality standards

Although there may be a sufficient quantity of wheelchairs in Georgia to satisfy demand on paper, many of those in need of a chair have difficulties finding a suitable type of chair. There is a lack of understanding about what constitutes an appropriate wheelchair and how to ensure its suitability; even before considering whether it meets relevant or international standards. The diversity of wheelchair users' needs is out of the scope of this market assessment due to limited data, highlighting the difficulty for users unfamiliar with possible options. Stakeholders may emphasize the need for quality wheelchairs, but the absence of national regulatory standards makes it challenging to define and delineate quality.

Stakeholders in Georgia continue to call for the enforcement and standardization of fitting service standards for all wheelchair providers. This would ensure that all wheelchairs, whether manual, electric or manual with postural support, are priced according to established pricing tiers, levels and needs, with the understanding that complex specifications will always require special attention.

Regulations must be fair, unbiased and universally applied. Currently, employment conditions for locally produced wheelchairs are tailored towards manufacturers of basic manual chairs, which differ from manual chairs with postural support. This can skew the balance of producers benefiting from Government contracts towards those producing solely manual wheelchairs. Reassessment of this process to ensure fairness across all local producers can foster incentives for increased local production and ensure compliance with labour laws. Additionally, the Government could collaborate with local organizations to bolster local production, potentially reducing reliance on imports. This could involve cofunding initiatives and developing services for wheelchair return, repair and recycling nationwide.

2.5.5 Awareness

Wheelchair providers view user awareness as a major issue, with a need to help users to understand how to access the equipment they need. Many people buy second-hand wheelchairs or import them privately. Comprehensive data on the importation of wheelchairs, including the number of units, value and country of origin, would provide a better understanding of the total market. These data could also be compared with Government-funded programmes and mapped against known sources of provision.

2.6 Wheelchair market key recommended actions

Consider balancing Government-supported supply

- Rules should be fair, balanced and apply to all without prejudice. The current regulations for local wheelchair production are targeted more specifically towards manual wheelchairs or other assistive technology equipment, which can negatively affect overall market health and product accessibility.
- Rebalancing the varieties and quantities of wheelchairs produced among the service providers that produce them, including manual, manual with postural support and electric models, will lead to the improved availability of manual wheelchairs with postural support and electric models. This would also equitably balance budget expenditure to cover a larger variety of products procured from a wider base of suppliers and service providers, and ensure coherence with employment regulations pertaining to service supplier specificity.

Diversify models

- The Government programme can enhance assistive technology access through improving the availability of a more diversified range of wheelchairs, including light weight and active user models. Instead of case-by-case orders, there should be an approved list of models available for various user profiles at the lowest cost per minimum quality standards. This could be achieved by leveraging bulk orders to obtain discounts through a coordinated approach, pooling and visualizing demand for a fiscal year and negotiating terms and conditions.
- Helping users to understand the differences in wheelchairs and which model will meet their support needs, as well as capturing demand data by age and gender, would support the disaggregation different user profiles and categories of need and help to shape a healthier wheelchair market.

Use community engagement

- The Government could consider a collaborative approach to market shaping by engaging community-based organizations with accessible and sustainable wheelchair provision programming. Cooperative strategies, such as cofunding to support local production of wheelchairs instead of importing them, designing a loan model of service provision and developing community repair spaces within the provision process are recommended across the country.

Recover, reuse, repair, recondition and recycle

- Adopting sustainable practices for wheelchair provision, where Government-supported wheelchairs are owned by service providers and loaned to users is one potential strategy to increase access to assistive technology.
- The regular maintenance and repairs of loaned wheelchairs is recommended and could be facilitated by existing community or home-care programmes, while returned wheelchairs no longer needed could be reconditioned, repaired and reloaned to a new user.
- A sustainable service model could be adopted that is aligned with the EU's Waste Framework Directive (Directive 2008 / 98/EC), which prioritizes prevention, reuse, recycling and recovery and introduces Extended Producer Responsibility *(8)*, and with WHO's four-step wheelchair provision guidelines *(27)*.

3. The hearing aid market

There is a wide range of hearing aid service providers offering diverse products and services to meet current user demand in Georgia (Table 8). Supplier capacity is sufficient to meet market needs. However, there is a shortage of skilled health-care professionals in this field, including audiologists. Additionally, there are no national quality standards for hearing aids in Georgia. However, most digital hearing products on the market come from recognized global manufacturers that adhere to several ISO standards, including ISO 2138 *(30)*. These manufacturers are primarily based in economies such as Denmark, Switzerland and the United States. While some products marketed as hearing aids – such as personal sound amplification products (amplifiers) – are available over the counter, their quality is variable.

Table 8. Market determinants for hearing aids in Georgia

Determinant	Characteristics
Acceptability/utilization	The products and services meet the end-user's needs, choice and ease of use
Affordability	There are products and price points that are affordable as well as payment options and modalities
Availability	Supply capacity and reliability can meet the needs and demand at points of service delivery
Competition	There is a good range of suppliers, but supply and service provision are dominated by a single source based on an economy of scale
Delivery	The supply chain/distribution system has the capacity to deliver products cost-effectively; however specialized services are predominantly offered in the capital
Finance	The market is heavily reliant on Government funding support to cover the needs and demand although payment options and modalities exist to enable private users
Quality	There are no national quality standards, but digital and analogue products offered from key leading global manufacturers are safe and effective; the market should regulate the marketing of amplifiers
Coverage	The extent of which supply equitably meets the needs is difficult to determine as data on needs are not disaggregated

Personal amplifiers, hearables and hearing aid applications are alternatives to hearing aids. They are often more affordable and accessible since they do not require specialized workforce and equipment. However, their effectiveness, benefits and limitations need careful investigation *(31)*. For example, improper amplification can cause hearing damage. Therefore, WHO recommends using hearing aids that meet users' amplification needs and comply with quality standards and specifications outlined in the *Preferred profile for hearing-aid technology suitable for low- and middle-income countries (32)*. Comprehensive information sharing among users, providers and medical professionals is crucial to address misunderstandings about hearing loss and provide guidance on who should receive treatment and available assistance.

The Government allocated 835 lari 000 (US$ 299 000) through vouchers to provide at least 2300 unilateral digital hearing aids, including 80 for children under 18 years of age. Vouchers cover the sum of 330 lari (US$ 118) for adults and 950 lari (US$ 341) for children. To access a hearing aid through the State programme, a "form 100" health certificate, issued by a medical facility, is needed for children under 5 years of age and adults aged 65 years and over, while a disability status certificate is required for all other age groups. Children under 18 years and students with severe hearing loss can receive bilateral hearing aids, while adults can receive only one unilateral hearing aid per year. The programme supports moderate to severe hearing loss, excluding milder or unilateral cases (Fig. 3).

Fig. 3. Assessment of the hearing aid market in Georgia using the healthy market framework

5th tier: addresses longer-term achievements, sustainability, and product innovation

4th tier: reflects issues that can be addressed by risk mitigation through quality assurance, standards, and other interventions

3rd tier: where user have their basic preferences and affordability ranges met

2nd tier: the foundational building block of a healthy market, where supply can meet the demand regardless of quality standards

1st tier: does the market (supply) meet basic demand regardless of quality standards

Baseline: demand must clear and substantiated; it is the foundation tier, and although hard to articulate, is the first step to understand the market

met / good

partially met/issues to be improved

not met

Registered suppliers include Kind Smena, the Aures Foundation, Si-ser Hearing Centre, World of Hearing/ Smenis Samkaro and House of Hearing/Smenis Sakhli. Voucher recipients contact suppliers directly. As vouchers lack technical specifications users must rely on service providers for product advice.

3.1 Demand

A nationally representative household survey conducted in Georgia in 2021 *(7)* estimated that approximately 62 900 people identify as needing hearing aids. However, some stakeholders consider this to be a low estimate and suggest the number is closer to 6% of the population or around 222 000 people, as it is common for people with mild hearing loss not to recognize it.

Service provider estimates report that only 10% of people with moderate hearing impairment and 30% with moderately severe impairment seek treatment, while nearly all with severe impairment do so. This suggests that 90% of those with moderate and 70% with moderately severe hearing loss do not access treatment, possibly due to eligibility, cost, accessibility, stigma or lack of information. There is a need for information sharing and awareness campaigns and some hearing aid service providers in Georgia actively raise awareness, such as during World Hearing Day *(33)*.

Meanwhile, Georgia's Newborn Hearing Screening programme drives demand for paediatric hearing aids and 31 058 newborns were assessed in 2022, identifying related health conditions and various degrees of hearing loss. The Georgian National Centre for Disease Control and Public Health reported a congenital or acquired hearing loss incidence rate of 0.12 per 1000 live births.

The 2021 WHO *World report on hearing* indicated that mild hearing impairment affects approximately 14.9% of people, moderate impairment 3.4%, moderately severe 1.3% and severe impairment 0.4%. Globally, 5.5% of the population experiences moderate or severe hearing loss *(31)*. In Georgia, with a population of 3.713 million, this implies that approximately 757 400 people may need hearing aids, highlighting a significant gap between current estimates and actual need. This shows the prevalence of hearing loss and the disparity between need and demand, as well as how current supply addresses only a small fraction of the total need (Table 9).

Table 9. Need estimates for hearing aids[a]

Grade of hearing loss	Percentage with need	No. of people
Mild	14.9	553 237
Moderate	3.4	126 242
Moderately severe	1.3	48 269
Severe	0.4	14 852
Profound	0.2	7 426
Complete	0.2	7 426
Total	**20.4**	**757 452**
Total (moderate loss and above)	**5.5**	**204 215**

[a] Needs need to be divided over 5 years, which equates to 41 000 a year based on the figure of 204 215 and, as such, the current coverage would represent 13% coverage.

It is important to distinguish between need and demand, as need does not always translate into demand or coverage of hearing aids. Current data suggest that the need for hearing aids is higher than 62 900, likely closer to 222 000 people, but only a portion of this need translates into demand due to price barriers.

3.2 Supply

Several centres provide hearing aid services in Georgia, including Kind Smena, the Aures Foundation (subcontracted to Kind Smena), Si-Ser Hearing Centre, World of Hearing/Smenis Samkaro, House of Hearing/Smenis Sakhli, Kind Hearing and Starkey Georgia. Most products are sourced from manufacturers in the Global North, with some also coming from Türkiye. Despite this range of service providers, Kind Smena provides approximately 90% of the hearing aids in Georgia, with their demand split evenly between the Government-supported programme and the private market.

3.2.1 Kind Smena

The Kind Group, with headquarters in Germany, is a global leader in hearing acoustics and optics, with 800 outlets across Europe and Singapore, employing over 3500 people. The corporation develops standards, trains specialists and produces digital hearing aids through its company Audifon.

Kind Smena is the regional offshoot for the Caucasus and has operated in Georgia since 1996, with offices in Armenia and Azerbaijan (where it holds 60–70% of the market) and partnerships in central Asia. Kind Smena operates in various Georgian regions, providing hearing aids and services to about 5000 people annually, split between private clients and those supported by the Government's voucher programme. It meets 40% of the annual demand for hearing aids in Georgia, which is estimated at 12 580 units *(34)*. Kind Smena sources products from several suppliers, including Audifon (Germany), Oticon (William Demant, Denmark), Phonak (Sonova, Switzerland), ReSound (GN Store Nord, Denmark), Signia (WS Audiology, Denmark), Starkey (United States) and Widex (WS Audiology, Denmark) *(35)*.

Because of its market scale, Kind Smena can provide significant price discounts and offer installment payment options for products and services, allowing users to afford higher-priced models. Installments can be spread over a maximum of 24 months through TBC Bank, with loans ranging from 100 lari (US$ 37) to 5000 lari (US$ 1865). The company also provides postal delivery and return services for replacement items and spare parts. Kind Smena can cover the costs of Government-supported hearing aids within the voucher value. Market improvements could involve simplifying the application process, which is challenging for some users, particularly in rural areas.

3.3 Cost

The Government's voucher programme covers hearing aid products and fitting services up to 330 lari (US$ 118) for adults and 950 lari (US$ 341) for children. Comparatively, without the voucher, analogue devices start at 100 lari (US$ 37), while digital hearing aids range from 400 lari (US$ 150) to 2500 lari (US$ 932). For children, hearing aids start at 900 lari (US$ 335). The average cost for a hearing aid, including the ear mould, fitting and services, is 1000 lari (US$ 373).

Smaller suppliers face challenges competing within the market, resulting in higher prices for hearing aids, with prices starting at 647 lari (US$ 241) for adults and with a range of 2700 lari (US$ 1000) to 3900 lari (US$ 1455) for paediatric aids. In contrast, quality-approved hearing aids listed in the supply catalogue of the United Nations Children's Fund *(36)* are available at significantly lower prices, ranging from 175 lari (US$ 65) to 490 lari (US$ 183), including accessories and a 3-month battery supply.

3.4 Quality standards

In Georgia, there are no national hearing aid standards or specifications and quality criteria are set by service providers. Many hearing aids from global manufacturers already adhere to international standards such as ISO 21388, so quality has not been reported as an issue. However, regulatory oversight is needed, as relying solely on European or Western products is not sufficient.

It is unclear if users acquiring hearing aids privately outside Government-registered providers obtain high-quality products. The market also includes inappropriate products, such as hearing devices that cannot be adjusted to individual hearing loss or that are uncomfortable. Amplifiers are often sold as hearing aids in pharmacies and are less expensive than digital and analogue hearing aids but can harm hearing due to overamplification. Georgia lacks national regulations for hearing aids and amplifiers, and raising awareness about these products and their proper use is essential to ensure that users get the right hearing aids. WHO provides guidance on preferred hearing aid technology profiles for low- middle-income countries, summarizing features that offer the most benefit in resource-limited settings. Key considerations include design, distribution, hearing aid type, acoustic performance, user controls, ear moulds and battery requirements *(32)*.

3.5 Hearing aid market recommended actions

Improve knowledge and training

- A major sector limitation is the lack of training courses combining hearing with speech therapy and acoustics to enhance audiology skills. Training on hearing impairment should be extended to staff in primary health care to improve understanding, awareness and referrals.
- WHO's primary ear and hearing care training manual is a starting guide, offering a practical guide on preventing, identifying and managing hearing loss and common ear diseases *(37)*.

Consider private–public partnerships

- The Government could consider engaging in dialogue with service providers on collaborative strategies to expand coverage, address information and awareness issues and strengthen the hearing workforce to enhance overall access to hearing aids. This requires budget considerations, service capacity and awareness campaigns, including expanding coverage for a wider range of hearing devices.

Expand coverage

- The Government could consider expanding the coverage and availability of hearing devices, such as through subsidies for bilateral hearing aids for adults and batteries.
- A monitoring and evaluation system for Government-funded hearing aids should be established, with related data collected to establish user need and demand data.
- It is important to note that users receive a list of all service providers in their region upon receiving a Government assistive technology voucher and can choose freely which one to use.
- Expanding coverage could also serve as an incentive for service providers to expand their stock to a wider selection of hearing products in parallel with changes in the voucher programme.

Quality standards

- The Government could set minimum quality standards and encourage suppliers to offer affordable, older models that still meet quality standards but at lower costs. This would enlarge the demand base, allowing users to upgrade devices over time and fostering customer relationships.
- Reducing out-of-pocket expenses for users would lower market entry costs, benefiting from economies of scale and reducing untreated hearing loss.

4. The P&O market

The P&O grouping of assistive technology equipment is one of the most fragmented market segments, with a broad, detailed and technically specialized list of products and components, all tailored to the user. It involves a wide range of manufacturers and suppliers for specialized products, components and materials, requiring highly specialized expertise. It also has the smallest number of people in need per P&O product, representing different market segments (Table 10).

Table 10. Market determinants for P&O in Georgia

Determinant	Characteristics
Acceptability/utilization	Products and services offered do not always meet end-users' preferences, but do meet end-user needs, cultural norms and ease of use
Affordability	Market dominated by low-end products due to high costs of technologically more desired models
Availability	The capacity and reliability of supply to meet demand is restricted by funding thresholds and small-scale procurement at points of service delivery
Competition	There is adequate choice of service providers with no single service provider dominating the market
Delivery	End-users from rural areas face difficulty in accessing service points of delivery, with a dominant presence in the capital including for specialized services
Finance	Liquidity is very tight and highly dependent on limited thresholds of Government funding; service providers have limited capital available for planning, skill training, product investment or procurement
Quality	There are no national quality reference standards, but quality of products offered are considered high, safe and effective by highly skilled technical staff
Coverage	The extent to which supply equitably meets the needs is difficult to determine as data on needs are limited and disaggregation not easily discernible

From a market assessment perspective, the P&O market is highly complex, with the lowest return on investment and limited economies of scale due to modest turnover and small volumes (Fig. 4).

Fig. 4. Assessment of the P&O market in Georgia using the healthy market framework

5th tier: addresses longer-term achievements, sustainability and product innovation

4th tier: reflects issues that can be addressed by risk mitigation through quality assurance, standards, and other interventions

3rd tier: where users have their basic preferences and affordability ranges met

2nd tier: the foundational building block of a healthy market where supply can meet the demand regardless of quality standards

1st tier: does the market (supply) meet basic demand regardless of quality standards

Baseline: demand must clear and substantiated. it is the foundational pillar and, although hard to articulate, is the first step to understand the market

met / good

partially met/issues to be improved

not met

Currently, P&O needs are not covered by health insurance. In addition to the use of P&O, users often benefit from other assistive technologies such as wheelchairs or walking aids, whether on a short- or longer-term basis *(38)*. The Government does provide coverage for people with disabilities needing P&O products. The budget for the provision of P&O is almost 3.1 million lari (US$ 1.1 million), broken down into a list of 33 different vouchers, ranging from 130 lari (US$ 46) for a lower elbow orthosis, to 7410 lari (US$ 2661) for an elbow upper modular prosthesis *(10)*.

This market assessment found that the National Centre for Rehabilitation/Adaptation, the Georgian Foundation for Prosthetic/Orthopaedic Rehabilitation (GEFPOR) *(39)* and the Ken Walker Clinic operated independently, without collaborating closely. This could indicate a general lack of awareness of each other's work and suggests an opportunity for the formation of stronger links in the future.

4.1 Demand

WHO estimates that up to 25 900 people in Georgia needed P&O in 2021 *(7)*. According to unofficial data from GEFPOR, there are over 130 000 physically disabled people in Georgia, with about 10% (13 000) having limited mobility. The National Centre for Rehabilitation/Adaptation, referencing a study from 2010, estimated that 12 000 people need prostheses, equating to half of the 25 900 total people in need of P&O. This is in line with GEFPOR figures, which reported the registration of over 12 000 individuals and serving more than 10 000 since 2002 *(40)*.

Accurately articulating the needs and demand for P&O is challenging due to limited authoritative data. An estimated 3000 amputations are conducted annually in hospitals, but many patients die before using any prosthesis, with postamputation mortality of 13–40% in 1 year, 35–65% in 3 years and 39–80% in 5 years.

The two largest P&O service providers in Georgia are the National Centre for Rehabilitation/Adaptation in Tbilisi, treating approximately 620 people annually, and GEFPOR, treating around 300 users annually. Data from these providers indicate that fewer than 920 people receive P&O annually, including return visits for replacements and adjustments. This suggests that not all individuals needing P&O are accounted for in the system or access services through these service providers.

In regard to product volumes, GEFPOR reportedly serves approximately 1000 orthoses users annually, including replacements, while the Ken Walker Clinic cites providing approximately 300 ankle foot orthoses annually. The discrepancy between these figures suggests a need for detailed user need and demand mapping to understand the full scope and scale of the P&O market segment.

Consultations with user associations identified low P&O standards and challenges for access, both administratively and geographically, which combined with budget limitations results in waiting lists. Some desired P&O products are too expensive for the Government-supported voucher programme, leading many to seek support elsewhere or cope without necessary products and support services. There is no coordination between hospitals concerning amputations and P&O services, and surgical staff are often unaware of detailed amputee support needs. Closer links and creation of a linked system are needed, along with awareness promotion throughout the health sector. This includes educating hospitals and users on proper services, such as limb amputation considerations for P&O and how to access support services.

4.2 Supply

There are several centres offering P&O services in Georgia. Among these, three are currently registered with the Government's voucher system: the National Centre for Rehabilitation/Adaptation, GEFPOR and the Ken Walker Clinic. Other centres providing P&O services include Furtuna, the Ghudushauri Medical Centre, the Irma Khvichia Rehabilitation Centre and the Rehabilitation Centre for People with Limited Abilities.

The market has a modest user turnover, with about 1000 P&O users treated annually, equating to four per day. According to WHO standards for P&O, a clinician with two technicians can serve 300–600 users per year *(41)*. The capacity to treat P&O users in Georgia is limited by the lack of skilled staff and budget constraints, leading to waiting lists of 6–12 months to access P&O (and subsequent poor health outcomes for those forced to wait for service provision).

Additionally, service providers often struggle to meet user needs through the Government's voucher system, which may not cover the full costs of all products and services. Imported and specialized components face inflation, cost increases, global demand competition and foreign exchange fluctuations, making it difficult to offer affordable options within voucher limits. To meet the cost thresholds set by the Government's voucher system, most service providers source low-cost P&O components and materials from China or Türkiye. Germany is the leading producer of high-quality P&O products and parts, but products from Germany are also the most expensive. While some imported components are exempt from taxes, items such as thermoplastics or resins for sockets or moulds are not and will incur taxes on importation.

Suppliers often lack the capital reserves to order high volumes and plan for advance procurements, leading to ad hoc or case-by-case orders based on user consultations. This limits service providers' ability to plan, resulting in limited stock and frequent small-volume import orders. Consequently, suppliers cannot negotiate volume discounts and must accept what manufacturers offer. While Georgia does not have any national reference quality standards, all source manufacturers do comply with ISO 13485:2016 (medical devices, quality management systems and requirements for regulatory purposes) *(3)*.

4.2.1 National Centre for Rehabilitation/Adaptation

The National Centre for Rehabilitation/Adaptation treated approximately 620 users in 2023, including 540 for P&O provisions, 15 for prosthetic repairs, 25 for orthotic repairs, 32 soldiers and eight war veterans. Of these users, 75% were supported by the Government programme, with the others using private routes. Vouchers must be tailored to individuals, covering delivery, fitting, exercises, fees and travel and accommodation costs for those outside Tbilisi. Budget constraints make it difficult to balance quality support to meet the diverse needs of all users.

A high-quality above-knee prosthetic prescribed through the Centre is approximately 67 000 lari (US$ 25 000), which is high in comparison with some products procured directly from Europe at around 8000 lari (US$ 3000). The Centre does procure products from China, Germany, Türkiye or the United States but faces challenges such as stock shortages (placing 15–25 orders annually), staff retention and quality training of specialists (which can cost up to €50 000).

4.2.2 GEFPOR

GEFPOR has treated over 10 000 people since 2003, with Government-supported vouchers accounting for approximately 90% of its revenue. It provides around 250 prostheses and 1000 orthoses annually, with replacements needed every 2 years. Vouchers often cover only basic devices, making it difficult for users to afford alternatives. GEFPOR imports low-cost components from China and Türkiye, but some items such as sockets and moulds are not tax exempt, adding to costs as the vouchers do not cover all rehabilitation needs.

GEFPOR and other providers commonly experience challenges buying stock in bulk due to insufficient capital and relying on voucher payments for orders. Rising costs of imported components, inflation, competition and currency fluctuations all lead to the use of less-expensive imports, which are not always acceptable to the user. Additionally, limited budgets for skills training reportedly make it hard to retain skilled staff, a common issue in the assistive technology sector.

4.2.3 Ken Walker Clinic

The Ken Walker Clinic offers a wide range of rehabilitation support services, including orthoses and mobility devices. Approximately 40% of their products are paid for out of pocket. In 2023 the Clinic reportedly produced approximately 300 ankle and foot orthoses, primarily leveraging the Government voucher scheme for their production.

The Ken Walker Clinic, in the same way as other service providers, typically maintains a 1-month supply of products in stock and reorders as needed, making multiple orders annually. The Clinic primarily procures materials rather than components and has sourced many supplies directly from the same sources as suppliers, achieving cost savings.

4.3 Cost

With limited operators in Georgia and abroad specific to the technical range of P&O components, analysing cost is challenging due to the need for specialized knowledge. Costs vary widely based on the type, complexity, materials, customization, functionality, brand and geographical location. For example, an above-knee prosthesis can range from US$ 3000 for a basic model to US$ 120 000 for advanced features. In Georgia, preliminary estimates suggest product investment costs range from 25% to 32%, rehabilitation and support services from 29% to 50% and accessories, transport, administration and overheads from 19% to 39%. However, the market must consider individual needs in consultation with occupational therapists, health-care providers and health insurance providers to understand all available options and associated costs.

4.4 Quality standards

In Georgia there are no national minimum regulatory requirements for P&O, which are decided upon by the service providers. However, all source manufacturers comply with ISO 13485:2016 (medical devices, quality management systems and requirements for regulatory purposes). Any compliance with regulatory requirements would add complexity and costs to the development, manufacturing and distribution of P&O devices.

4.5 Overview of the P&O market

Of the three assessed categories of assistive technology equipment outlined in this report, P&O represents the most fragmented market segment. With one of the broadest, most detailed and technically specialized lists of products, components, materials and sources of supply and manufacturers, this market requires the most highly specialized level of skills and expertise in its stakeholders. It also serves the smallest caseload of end-users and, therefore, has correspondingly lower estimates of coverage.

Rapid technological advancements in materials science, mechanics and robotics require continuous investment within this field, posing additional challenges for manufacturers and assistive technology service providers. The high degree of customization and personalization of P&O to appropriately meet user needs add further complexity to the design and manufacturing of products within this market segment.

Global market dynamics involve various regulatory environments, health-care systems and cultural norms, complicating supply chains and distribution networks. The modest caseload and limited demand due to high costs of specialized components, compounded by increasing import costs and limited budgets, hinder economies of scale. Due to the high cost of products, service providers tend to source components from the same manufacturers, placing multiple, small orders over a year rather than placing bulk orders.

4.6 P&O market key recommended actions

Pool data on substantiated demand across product segments

- Given the fragmented market, it would be helpful to articulate and pool the full scope of P&O products, materials and components procured from the different service providers to visualize the current demand at regional and subregional levels.
- Service providers could collaborate by sharing their anonymized data from the past 3–4 years on product types, volumes, values origins. These data could be aggregated, categorized and catalogued to identify near-term trends. This would help to assess current demand, enhancing the industry's understanding of national demand in volume and value over a typical year and identify supply gaps and potential economies of scale.
- The analysed data could be shared with stakeholders for observations and discussions. The information could be communicated to product suppliers to provide insights into procurement history, trends, potential volumes and values, aligning with programme objectives.
- The Government could facilitate discussions with the industry to explore leverage, price discounts and corporate social responsibility engagement.

Use substantiated volume demand to lower product prices

- Components face cost increases due to inflation, demand and limited suppliers, along with international shipping costs. With budget limitations in mind, lowering product prices is an alternative to increasing the overall budget. Service providers currently procure on a short-term, case-by-case basis, often from the same suppliers. Leveraging volume for price discounts can be achieved through data analysis and negotiation, and identifying where products are sourced can help to leverage greater price discounts from key suppliers while fostering long-term partnerships.
- Analysing past procurement and establishing a baseline could make pooled volumes per country and subregion attractive for pricing discounts and procurement arrangements.

Support information-sharing initiatives

- Information sharing and awareness-raising are needed, along with training for surgeons on limb severance for prostheses fitting.
- Stakeholders reported the need for information sharing on data and industry issues, such as health staff and users not being fully informed about documentation requirements and what to request
- These issues support suggestions of creation of a centre or forum. This would facilitate integrated referral pathways, coordination and collaboration among assistive technology stakeholders and regular exchanges among service providers, users and suppliers to track users and follow-up.

Consider lobbying for insurance cover

- Collaborative dialogue with prominent health insurance companies regarding the possibility of insurance coverage of P&O and related services is a further suggested avenue to explore to improve affordability and, in turn, improve access to assistive technology within this market segment in Georgia.

5. Overall assistive technology market recommended actions

From this market assessment, recommended actions relevant to the overall assistive technology market are outlined in the section below for consideration and can be taken up by stakeholders within the Georgia assistive technology context.

Map import data

- Data on the importation of assistive technology in Georgia, including units, value and origin, would offer a comprehensive view of the market segments. This can be compared with Government-funded programmes and mapped against known sources of service provision.

Map demand

- Georgia could consider a more accurate mapping of assistive technology demand through strategic data collection and/or pooling of existing data. Rather than relying on disability incidence and prevalence figures (which are often not disaggregated by age, gender or activity scope) to shape understandings of assistive technology need, there is a need to capture all user data (inclusive of assistive technology users without disability status). More comprehensive national data can offer predictive information on potential need and proven demand, ultimately expanding market opportunities and enhancing assistive technology access.

Foster closer cooperation between service providers

- Georgia could foster collaboration among stakeholders in attempts to reduce any fragmentation within the current assistive technology market and health system. For example, some service providers lack a clear understanding of user needs, demand and coverage and why these aspects matter in the bigger picture of the assistive technology market and its influence on assistive technology access.
- One mode of collaboration among stakeholders, which would assist in the points on data mapping, is by regularly pooling and sharing baseline programme information to ensure everyone has access to updated data. Additionally, if the Government collects national data, it could be important to ensure that all stakeholders within the market also have access to those data, such as via an online portal, to facilitate information and knowledge sharing.

Establish quality standards

- Developing national reference standards and specifications for priority assistive technology products in Georgia is essential to more accurately assess cost–effectiveness. Comparing costs against national standards enables discrepancies and variances to be identified and for any oversights to be corrected in a timely manner.
- Standards serve as benchmarks for budgeting and forecasting, enabling stakeholders to predict expenses and allocate resources more effectively. Evaluating costs against standards also helps to assess efficiency, performance and quality criteria.

Conduct systematic monitoring and evaluation

- A monitoring and evaluation system could be developed that incorporates user feedback and ensures minimum service standards and product quality, as well as user acceptability, safety and overall satisfaction. All data should be disaggregated by age and gender to verify needs across categories.
- This system could also interlink with broader data collection mapping demand, offering a framework to track the operational data of service provision programmes (and their corresponding reach) at regional and national levels across different sectors. Information could then feed into a broader programme management system to improve understanding of needs, demand, coverage, location and access for service providers, users and health-care workers.

Establish a centre of excellence

- The establishment of an assistive technology hub or collaborative network, such as a centre of excellence, would connect stakeholders and centralize technical support, research, training, product information, services, advocacy and data collection.
- Building regional support to position Georgia as a hub for rehabilitation and assistive technology solutions could showcase the nation's existing advancements in its health sector.

Evaluate voucher payments

- When evaluating cost, separating service costs from the actual product costs allows for accurate adjustments for inflation. Modifying the Government voucher system to function as a cofinancing mechanism could allow users to top-up its value for higher-quality products that might be better suited to their individual needs than the basic options presently covered.

Integrate with community-based care

- Community-based care, such as home-care services with allied health teams, is an important point of access for many assistive technology users *(42)*. Additionally, many community-based programmes run by nongovernmental organizations and charities also provide support and services to assistive technology users, such as through wheelchair loans or repairs.
- Better integration of relevant community rehabilitation programmes and services which provide assistive technology into the broader assistive technology strategy could support building a network or centre of excellence through collection of relevant data and user feedback on assistive technology and expansion of knowledge and skills within the assistive technology sector.

6. Conclusions

This report outlines the findings from an assessment of the assistive technology market in Georgia, which aimed to understand the specific market segments for wheelchairs, hearing aids and P&O. A broad summary was given of the overall assistive technology network and stakeholders in Georgia, as well as estimates of assistive technology use based on existing data and the current funding models for assistive products. Market assessment fundamentals, including market attributes and a healthy market framework, were outlined and support descriptions of market demand, supply, quality and costs. The broad recommendations and implications of this study suggest a number of ways in which the assistive technology market in Georgia could be strengthened to improve access to essential assistive products for citizens, particularly for wheelchairs, hearing aids and P&O.

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