MINISTRY OF HEALTH
Republic of Liberia

National Roadmap to Increase Access to Assistive Technologies

2021 – 2023

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Abbreviations and Acronyms

APL	Assistive Products List
AT	Assistive Technology
ATA-C	Assistive Technology Assessment-Capacity
CAM	Christian Aid Ministries
CAB	Christian Association of the Blind
CBR	Community-Based Rehabilitation
CCA	Country Capacity Assessment
CHA	Community Health Assistants
CHAI	Clinton Health Access Initiative
CHW	Community Health Workers
CRPD	Convention on the Rights of Persons with Disabilities
EIS	Employee Injury Scheme
GATE	Global Cooperation on Assistive Technology
GOL	Government of Liberia
HMIS	Health Management Information System
IE	Inclusive Education
JFKMC	John F. Kennedy Medical Center
LISGIS	Liberia Institute of Statistics and Geo-information Services
LMDC	Liberia Medical and Dental Council
LMHRA	Liberia Medicines and Health Products Regulatory Authority
LMICs	Low and Middle Income Countries
LVPEI	L V Prasad Eye Institute
MGCSP	Ministry Gender, Children and Social Protection
MOE	Ministry of Education
MOH	Ministry of Health
MRC	Monrovia Rehabilitation Center
NAP	National Action Plan for the Inclusion of Persons with Disabilities in Liberia
NASSCORP	National Social Security and Welfare Corporation
NCD	National Commission on Disabilities
NCDI	Non-communicable Diseases and Injuries
NEHP	National Eye Health Program
NGO	Non-Government Organizations
NPS	National Pension Scheme
NUOD	National Union of Organizations of the Disabled
OPWD	Organization of People with Disabilities
P&O	Prosthetics and Orthopedics
PWDs	Persons with Disabilities
SSI	SightSavers International
UHC	Universal Health Coverage
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Foreword

The development of the first-ever strategic roadmap for Assistive Technologies (AT) is a signal to Liberians, and the greater international community, of the Government of Liberia's commitment to launching a strong, coordinated, and multi-sectoral AT program. Government is committed to setting up governance, policies, programs, and systems to support people living with disabilities (PWDs) and people with functional limitations to have access to the assistive products that can increase their empowerment, independence, participation, and ownership in matters of civics, education, community life, and the labor market.

Assistive Technologies are a critical component of health care delivery that has been largely neglected in Liberia. With 28.5% of the national population in need of assistive products, lack of strong delivery systems undermines the essential health package for people living with disabilities and impedes the path towards Universal Health Coverage (UHC). Development of such a relevant and nuanced roadmap that will guide the implementation of AT in Liberia is a huge accomplishment for the health workforce and people living with disabilities.

This roadmap details activities, activity leads and collaborators, and timelines in the following six domains: AT Leadership and Governance, AT Service Delivery, Assistive Products and Procurement, AT Workforce, AT Data and Information Systems, and AT Financing and Sustainability. Together, the activities form a clear, comprehensive implementation plan for increasing access to assistive products, which will ultimately increase community and economic participation of PWDs and people with functional limitations.

This document is also a step towards realizing the Government of Liberia's obligation to increase "access to quality assistive technology at an affordable cost", as enumerated in Article 20 in the UN Convention on the Rights of Persons with Disabilities (CRPD), to which Liberia is a signatory. By outlining a plan to include AT in health and other social services, this roadmap also follows the World Health Assembly's (WHA) guidance in WHA Resolution 71.8: that integration of AT is a step that cannot be overlooked on the path towards UHC.

This document is the product of numerous consultations with organizations of PWDs, government stakeholders, development partners, and public and private service providers. It represents the priorities and will of the people of Liberia and should be treated as such – I thus take this opportunity to urge development partners, donors, and other stakeholders to share this roadmap with your staff, members, and partners, as well as incorporate and prioritize these activities in your strategic planning and funding processes. Together, we can create a more inclusive society where functional limitations are no longer a barrier towards independence and participation in greater Liberian society.

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Minister of Health
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We would also like to express our gratitude to the following government institutions: the Monrovia Rehabilitation Center at the John F Kennedy Hospital (JFK); the Special and Inclusive Education (SIE) Division of the Ministry of Education (MOE); the Ministry of Gender, Children, and Social Protection (MGCSP); and the Liberia Medicines and Health Products Regulatory Authority (LMHRA).

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Finally, I want to recognize the leadership of the Minister of Health, for her support of an inclusive path towards achievement of Universal Health Coverage. I want to also appreciate the efforts of the leadership and staff of the Non-Communicable Diseases and Injuries (NCDI) Division for making this document possible. My sincere thanks as well to the National Eye Health Program, for sharing their technical expertise and support to this critical document.

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Executive Summary

Introduction

Assistive products – such as wheelchairs, hearing aids, and spectacles – are devices, equipment, instruments, and software that are external to the body that help to maintain or improve a person's functioning and independence. The World Health Organization (WHO) defines assistive technologies (AT) as the umbrella term for "systems and services used to deliver assistive products."

For people who need AT – a significant portion of whom are people with disabilities (PWDs) and older people – assistive products and services are critical to enabling participation in education, work, politics, and community activities and to leading more engaging and dignified lives. As such, Article 32 of the United Nations Convention on the Rights of Persons with Disabilities, to which Liberia is a signatory, recognizes access to AT as a fundamental human right and the World Health Assembly recognizes AT access as integral to the achievement of Universal Health Coverage (UHC).

However, the vast majority of people who need AT in Liberia do not have them. A 2009 Needs Assessment conducted by the Government of Liberia (GoL) found that only 16% of 8512 respondents had access to assistive devices and aids.[1] Driven by an ageing population, need for AT in low-income countries like Liberia is only expected to increase in the coming decades. The Government of Liberia (GoL) is committed to launching and growing the AT program as an essential step towards achieving UHC and to meeting its human rights obligations to PWDs and others who need AT.

Background and Situation Analysis

According to the last population census conducted (post-war, 2008), Liberia has a disability prevalence of 3.17%. However, this figure is widely regarded as a significant underestimation of disabilities in Liberia as nearly one-third of the population fought in the civil wars, with countless more impacted.

Access to AT is particularly a challenge in low-income countries, where absence of policies and service delivery guidance, lack of financial and human resources, limited user and provider awareness, and fragmented coordination among stakeholders impede the delivery of sufficient, high-quality, and appropriate AT services. These factors all manifest in Liberia, where the AT sector is neglected, under-resourced, and donor-driven.

Due to the substantial need for AT, in recent years, the GoL has started to lay the foundation for coordinated high-quality AT programming in Liberia. From 2019-2020, with support from AT2030, a country capacity assessment (CCA) was conducted to understand the country's capacity to finance, procure, and deliver quality, appropriate, and affordable AT and services. The resultant CCA recommendations form the basis of this roadmap. Building off the momentum from the CCA, an AT program was established within the Ministry of Health (MoH) under the Non-Communicable Diseases and Injuries (NCDI) Division. In its first year, the AT program will develop key foundational governance documents, including this roadmap, to direct coordinated, prioritized action towards improving AT services in Liberia.

[1] This fact will be replaced before final publication by rATA data on unmet need when survey results are made available

Purpose of the Roadmap

As the first strategic planning document for AT in Liberia, the primary aim of this document is to direct national efforts in AT towards coordinated strategic action that prioritizes that highest-impact foundational interventions. In doing so, this document also provides a clear roadmap with activities to operationalize objectives and commitments identified in other national policies, strategies, and legal human rights agreements. By providing a clear timeline, cost, and responsible party for each activity, this document can provide clarity to line ministries, governmental bodies, and partners on the way forward and guide successful cross-sectoral implementation of AT activities over the next three years. Lastly, by illustrating the activities and costs required to improve AT, this roadmap can support GoL in its advocacy and resource mobilization efforts to development partners, the legislature, and budget-holders.

Strategic Direction

The ultimate vision and mission of this roadmap is to strengthen governance and systems (both health and non-health) to deliver the most-needed AT products in pursuit of a nation where people have a choice of, and access to, high-quality, person-centered AT solutions that enable and enhance their community and economic participation that will improve their Activities of Daily Living (ADL).

This roadmap's focus on strengthening governance and systems is shaped by the existing substantial unmet need and fragmented uncoordinated nature of AT service delivery in Liberia, coupled with a projected surge in need for AT in low-income countries over the next few decades. Before procurement and services can be scaled to increase access to AT to meet both current and future need, there must be guidelines, processes, systems, and coordination mechanisms in place to ensure that additional products imported, workforce trained, and services delivered are coordinated, overseen, guided by best practice, and strategically identified for scale-up.

Strengthening AT governance and systems will be achieved through strategies in six thematic areas:

- **AT Leadership & Governance:** As AT falls in the scope of numerous ministries and agencies within GoL, and most AT programs in the country are financed and implemented by non-governmental partners, there is great need for increased coordination and strengthened governance over AT in Liberia. While some legal instruments have been ratified, there are opportunities to both pass additional legislation to create a robust enabling environment for AT and to improve planning and operationalization of existing legal obligations. Thus, activities under this thematic area focus on strengthening the legal environment; increasing capacity of government stakeholders to lead and implement AT programs; and developing national strategies, clarifying roles of government institutions, and launching coordination mechanisms to guide coordinated action and increase effectiveness of programs and funds.
- **AT Service Delivery:** Provision of AT services in Liberia is generally limited to vision and mobility products at a few public and private facilities, all of which are concentrated in the major cities in the central/northern region of the country. Among existing service delivery points, there is great need to develop formal referral mechanisms to connect patients/users to facilities and connect providers and AT specialists from each other. The quality of AT services can be greatly improved once efforts are implemented to standardize, regulate, and mentor/supervise delivery. Awareness, stigma-busting, and

demand generation for assistive products and associated services – coupled with decentralization of services and improved person-centered design in service delivery – can also increase use and demand of services. Lastly, laying the foundation to include AT in emergency settings can begin to address an oft overlooked yet critical life-or-death need for AT. This roadmap focuses on the above opportunities to increase delivery of the full spectrum of AT services (client assessment, referral, fitting, product provision, user training, user satisfaction follow-up, maintenance, and repairs), at both the facility and community level, across all relevant sectors (health, education, social welfare), in an integrated, standardized, decentralized, and person-centered manner.

- **Assistive Products & Procurement:** Various categories of assistive products are available in Liberia through donations from non-government partners. However, donated products are neither regulated nor aligned with national priorities as existing regulatory mechanisms do not include AT in their scope and there is no national document that states national priorities for AT products (i.e. a national priority assistive products list) for donors to align with. Government does not finance, procure, quantify, direct/coordinate donor procurement, or support local production/repair of any assistive products, due to insufficient prioritization and resources. Completing all activities in this thematic area will lead to an increase in the quantity, quality, variety, and suitability of assistive products in the country, whether imported or manufactured locally, by incrementally transitioning ownership of procurement and financing to government while recognizing the capacity limits of government. To achieve the goal of increasing the availability of products to users, while recognizing the reality of the limited nature of government funding, activities in this area focus on increasing donations of products in the short-term while advocating for public sector funding for AT in the long-term. While it will be important for government to own all procurement functions in the long-term, activities focus on government ownership of regulation, quantification, product prioritization, and TWG coordination of incoming donations as a stepping-stone towards that vision.

- **AT Workforce:** The absence of a sufficiently large, fit-for-purpose workforce (across the health, social welfare, education sectors) for the provision of AT and rehabilitation services in Liberia is a major challenge to increasing access to AT products and services in Liberia. Few specialist providers and AT professionals are available across the public and private sector – non-governmental partners organize what little AT training that does happen in-country, but it is not integrated into existing training programs, and there have been limited efforts to explore task-shifting AT provision to existing cadres in the public sector. To increase the quantity, quality, and skill diversity of the AT workforce in the public sector – as is necessary to deliver services to increase availability of AT at public service delivery points – this roadmap focuses on workforce planning activities to project need and develop appropriate policy and planning, and developing training capacity, programs, and structures to train both facility-based and community-based AT workforce.

- **AT Data, Monitoring & Evaluation:** Evidence-based decisions for any program require (1) population-based data to estimate need and demand and (2) disaggregated user-level data on provision, utilization and user-satisfaction. While there are some data on disability prevalence, NCDI prevalence, and AT, all are from surveys from 2008-2010 and are generally incomplete and/or inaccurate. There is great need for both more recent data and routine data collection on AT, health conditions and functional limitations that require AT, and related topics. Achieving activities in this thematic area will lead to strengthened data availability, accuracy, completeness, and use on AT and related topics to support data-driven decision-making, monitor adherence to service standards, and improve patient-centeredness.

- **AT Financing & Sustainability:** In Liberia, public financing for AT is limited to government staff time and office space, and private financing for AT is insufficient, not coordinated, and not sustainable. This leads to barriers in affordability to the user – AT services are neither covered by the Essential Package of Health Services nor any existing public health insurance or social welfare schemes. A lack of financial planning activities, like budgeting and resource mapping, have led to inefficiencies in the ways that AT programming has been delivered. Activities in this thematic area focus on financial planning to improve effectiveness of existing resources, advocacy for more funding from both governmental and nongovernmental sources, and advocacy for inclusion of AT in insurance and/or social welfare schemes to increase access and affordability for users.

Implementation and Monitoring of the National AT Roadmap

The Ministry of Health (MOH) NCDI Unit and National Eye Health Program will lead and coordinate AT service delivery overall; their counterparts at the Ministry of Education and Ministry of Gender, Children, and Social Protection will be responsible for leadership, coordination, and service delivery within their sectors. The National Commission on Disability will lead advocacy and engagement surrounding AT and disability issues. Other institutions involved in implementation – Ministry of Justice, training institutions, service delivery points and AT providers, regulatory and oversight bodies, NGOs (including private providers, implementing partners, and donors), and civil society – will hold the same roles for AT that they've held for other health, disability, and/or social programs.

Monitoring will focus on the strategies in each thematic area that are the highest priority. Once AT is integrated into routine data collection systems as envisioned in this roadmap, the next AT Roadmap will be able to set baselines and targets to monitor success.

Organization of the National AT Roadmap

Chapters 1 and 2 provide technical and situational context for the AT Roadmap, including analyses of local stakeholder and system capacity. Chapter 3 introduces the purpose, development, and strategic direction of the roadmap, and Chapter 4 provides the policy and legislative context that this document is situated in. For each of the six thematic areas summarized above, Chapter 5 details the strategies, interventions, and activities that will be implemented, as well as the accompanying timeline and parties responsible for implementation. Lastly, Chapters 6 and 7 provide an overview of the M&E framework and organizational arrangements for implementation.

1. Background

The World Health Organization (WHO) defines assistive technologies (AT) [also known as assistive devices; assistive products] as the umbrella term for "systems and services used to deliver assistive products that maintain or improve a person's functioning and independence." WHO further refers to assistive products as devices, equipment, instruments, software such as wheelchairs, hearing aids, spectacles, prostheses, etc., that are external to the body, that help to maintain or improve a person's functioning and independence. Populations that commonly require AT include people with disabilities, older people, people with gradual functional decline, people with non-communicable diseases such as diabetes and stroke, and people with mental health conditions including dementia and autism.[i]

Without assistive products, persons with disabilities (PWDs) as an already vulnerable population could further suffer from isolation, marginalization, and poverty. Based on recent research, lack of access to quality assistive products often leads to poorer health outcomes for PWDs, including premature death, deteriorating mental health, and chronic secondary health complications such as postural effects and injuries.[ii,iii,iv] Accelerating access to AT for PWDs, the aging population, and those affected by chronic health conditions also enables them to live healthy, productive, and independent lives where they can fully participate in education, the labour market, and community life. As such, the United Nations Convention on the Rights of Persons with Disabilities (CRPD), Article 32, recognizes access AT as a fundamental human right. In recent years, the World Health General Assembly Resolution (WHA71.8) and various international health strategies and calls for action have also recognized AT access as being integral to the achievement of Universal Health Coverage (UHC).

Globally, approximately one billion people live with varying forms of disabilities, with 80% of them living in developing countries; by 2050, this number is expected to double due to an ageing population and rising burden of non-communicable diseases and injuries (NCDIs).[v,vi] However, 90% of disabled persons do not have access to any AT or services. The World Report on Disability estimated that over 200 million people with low vision do not have access to assistive products such as spectacles, and of the 75 million people in need of wheelchairs worldwide, only 5-15% has access to quality wheelchairs. [vii] The world's population is also aging – the global population aged 60 years or over is expected to double by 2050.[viii] This drives the increase in need for AT – as older people are at higher risk of disabilities due to an accumulation of health issues and injuries, and the development of chronic illnesses, they are thus more likely to require AT to support their independence when compared to younger people. Notably, two-thirds of the world's older persons live in developing countries, and their numbers are expected to grow even faster than in developed countries.[ix] It is estimated that nearly 8 in 10 of the world's older persons will be living in the developing regions by 2050.[x,xi] Currently, access to AT is already a particular challenge in LMICs, due to the general absence of policies and service delivery guidelines, lack of financial & human resources, and barriers for the user – including but not limited to distance, transport, cost, awareness, and stigma. It is thus of critical importance that strong systems and governance for AT in LMICs are strengthened now, before the need for AT becomes even greater.

2. Liberia Situation Analysis

2.1. AT Country Capacity Assessment

Country-specific understanding of the context, structures, and enabling environment for AT and rehabilitation services is essential to identifying gaps and barriers hindering AT access, and to devise tailored and effective solutions that will strengthen a country's healthcare and social systems and facilitate greater and equitable access to AT. With this purpose in mind, with support from AT2030,[2] a country capacity assessment (CCA) was conducted in Liberia between September 2019 and January 2020 to understand the country's capacity to finance, procure, and deliver quality, appropriate, and affordable AT and services. The findings are intended to help raise awareness and increase knowledge of AT among key government, civil society, and development partners, and to identify gaps that would benefit from public and private investments. The assessment will also provide evidence to inform the development of national AT policies, guidelines, and programs by the GOL.

The CCA was led by the Clinton Health Access Initiative (CHAI) in close collaboration with the Ministry of Health, as well as the Ministry of Gender, Children, and Social Protection (MGCSP) and the National Commission on Disabilities (NCD). Data collection for the CCA was guided and contextualized by the AT Assessment-Capacity (ATA-C) Tool developed by the WHO, and generated baseline evidence within the following domains:

Stakeholder	• Identification of government and non-government stakeholders, as well as their roles, responsibilities, and current activities in AT
Policy & Financing	• Identification of existing policies, financing schemes, and programs for AT provision (public and private)
Product & Procurement	• Mapping of available assistive products and devices, as well as their quality assurance, procurement and supply processes
Human Resources	• Mapping of general and AT-related health workforce, other workforce related to AT, and AT training programs
Provision	• Mapping of workforce and public or private facilities that provides/prescribes AT and related services, as well as any existing service standards and guidelines
Population Data	• Identification of information systems that collect AT and disability data, and summarizing the most recent data on AT and health conditions where AT is commonly needed

[2] The AT 2030 program is a partnership with the World Health Organization (WHO) and Global Disability Innovation Hub. The WHO lead development of the tools utilized during the assessment, UK aid from the UK government funds the program, and the Global Disability Innovation Hub leads the program.

A high-level summary of the CCA findings is described below. More detailed findings are available in the full CCA report:[xii]

2.2. Stakeholder Landscape

Key line ministries within the Government of Liberia (GOL) with mandates to support disability and AT-related issues include the Ministry of Health (MOH), Ministry of Gender, Children and Social Protection (MGCSP), and Ministry of Education (MOE). In addition, through the enactment of the National Commission on Disability (NCD) Establishment Act in 2005, the NCD was formed to coordinate, supervise, and monitor CRPD implementation, and to mainstream disability matters in national programs. Thus, programs relating to PWDs and AT are statutorily assigned, at varying degrees, to the abovementioned agencies. Through its various departments and service delivery points, the GOL plays a lead or supporting role in functions such as policymaking, advocacy, regulation, distribution, and service provision in AT. However, since the roles and responsibilities of various government entities substantially overlap in theory, there is some inter-ministerial and inter-sectoral confusion surrounding implementation of AT activities - with no mechanism for coordination, this results in fragmentation. Several dozen non-government and civil society partners conduct AT-related activities, though the issue of coordination and collaboration extends here as well. This is a major issue, as non-government partners run the majority of AT programs in the country and finance the majority of assistive products. Key non-government partners also play lead or supporting roles in policymaking, advocacy, procurement, distribution, service provision, and financing.

2.3. Policy & Financing

Liberia ratified the CRPD in 2012; however, the ratification did not include the Convention's optional protocol. Other than the original Act establishing the NCD, no other national laws have been enacted to facilitate CRPD implementation. No national policy or strategic plan exists for AT. In 2018, the GOL validated the National Action Plan for the Inclusion of Persons with Disabilities (NAP), within which there are two performance indicators for AT; however, the relevant activities outlined do not provide a clear roadmap for increasing AT access.

The GOL administers a number of health and social welfare schemes that aim to increase access to basic health and social services, though none of the current schemes explicitly provide AT coverage, nor is coverage national (i.e. schemes do not cover all Liberians). For example, the National Social Security and Welfare Corporation (NASSCORP) administers the Employee Injury Scheme (EIS) and National Pension Scheme (NPS), both of which do not explicitly cover AT. Furthermore, the EIS and NPS are only available as contributory schemes to those formally employed by an organization registered with NASSCORP.

Within the health sector, the Essential Package of Health Services outlines essential services that should be provided free-of-charge to all patients within the country's health facilities. However, these provisions exclude AT and face consistent challenges in sustainable financing. Other financing schemes that were active include the NCD's quarterly subsidies for Organization of People with Disabilities (OPWDs), and the MGCSP's social cash transfer program to vulnerable populations; however, funding ended in 2017 and discussions are ongoing with donors for their continuation. Financing for AT in Liberia is largely supported by non-government partners and donors, whose funding is used to procure assistive products for mass distribution, or to be provided through public and private sector service delivery points (rehabilitation centers).

2.4. Products & Procurement

Various categories of assistive products are available in Liberia, mainly through donations from non-government partners and are provided through donor-funded rehabilitation centers or organizations. However, existing regulatory mechanisms in the country for health products do not include AT, thus products that enter the country are unregulated in terms of quality standards or suitability. There is no national priority assistive products list. The government's procurement system does not currently include AT due to lack of prioritization and resources; nor does the government play a role in coordinating AT procurement by its donors and rehabilitation centers.

2.5. Human Resources

The absence of a fit-for-purpose workforce (health, social welfare, education) for the provision of AT and rehabilitation services in Liberia is a major challenge. Investments in the general health workforce have not considered how they could be leveraged to provide AT, though some programs have begun to explore task-shifting AT provision to existing cadres (e.g. nurses, physician assistants [PA]). Still, there remains a significant shortage of human resources for AT fitting, provision, repair, and replacement. Few specialist doctors and AT professionals are available across the public and private sector. There is also little to no in-country training of AT-related workforce in Liberia. The development of cadres such as physiotherapists, mobility orientation technicians, P&O technicians, speech therapists, community-based rehabilitation workers continue to be under-funded and deprioritized. The majority of training of the AT workforce have been provided by non-government organizations, with little integration into existing health training programs and institutions. Currently, most health training institutions in Liberia do not have degree/certificate programs or even courses on rehabilitation science or AT provision.

2.6. AT Provision

AT provision occurs in both the public and private sector, with very few facilities currently providing AT. In the public sector, JFK Medical Center's Monrovia Rehabilitation Center and Liberia Eye Center are the key service delivery points; they serve patients from all around the country free-of-charge (or at a low subsidized cost). There are enormous gaps between AT service delivery points and the population that requires AT. Among existing service delivery points, there are no formal referral mechanisms to connect patients/users to facilities, nor to connect providers and AT specialists from each other.

The ATA-C tool used for the country assessment did not consider client awareness, care-seeking behaviors, or stigma and discrimination within the context of AT provision. Additional data are needed to inform interventions to address these issues. Anecdotal evidence notes that stigma and discrimination create substantial barriers to seeking AT services, and some patients seek care for functional limitations from traditional or alternative healers instead of through the formal health and social welfare system. AT provision in emergency settings is also currently not prioritized.

2.7. Data & Information Systems

While there are some data on disability prevalence and AT, data are out-dated and generally incomplete and/or inaccurate. Data that provide information on PWDs and AT access in Liberia have mostly been generated from surveys. The most recent population-based survey with data on these topics was the 2008 population census. Other national surveys with related data include a needs assessment conducted by the MOH in 2009, and the Labour Force Survey conducted by the Ministry of Labour in 2010. Currently, there is no routine data collection

system on PWDs and access to AT in Liberia. The health management information system used by the MOH does not currently collect data on disabilities/functional limitations or AT service volume in health and rehabilitation facilities, and there is also very limited data on NCDIs. In the few facilities that currently provide AT and rehabilitation services), patient records provide data on impairment diagnoses and AT provision. The lack of routine data capture as it relates to disabilities and AT poses a serious barrier to real-time understanding of the needs and demands of potential AT users in Liberia, and an absence of evidence is available to inform AT policymaking and programming.

2.8. After the CCA

Based on the above CCA findings, a consultative workshop was held to build consensus among stakeholders on prioritized recommendations and action points for accelerating AT access in Liberia. Recommendations generated from this participatory process included inputs from representatives from line ministries and government agencies, OPWDs, public and private health or rehabilitation facilities, non-government organization (NGOs) and UN agencies (see Liberia's AT CCA final report for detailed listing of attendees).

This national roadmap document draws upon those recommendations to describe a set of high-impact interventions, guide the implementation of those interventions within the next 3 years, and provide cost implications of the interventions.

3. Introducing the AT Roadmap

3.1. Purpose of the AT Roadmap

The National Roadmap to Increase Access to Assistive Technologies is a three-year plan (2021–2023) that aims to increase AT access in Liberia through formalizes government commitment to AT by operationalizing the country's ratification of the CRPD and validation of the NAP into actionable interventions. The AT Roadmap will summarize details interventions (each accompanied by a timeline and estimated budget) to guide implementation and coordination of AT activities over the next three-year period.); it will also serve as an advocacy, resource allocation, and resource mobilization tool.

3.2. Process of Developing the AT Roadmap

As discussed in Section 2.1, an AT country capacity assessment (CCA) was performed in 2019/2020 to understand the capacity of Liberia's systems to finance, procure, and deliver quality AT services. Stakeholders gathered in January 2020 to validate the CCA findings and develop resultant recommendations.

From March to June 2021, the MOH and AT Technical Working Group (TWG) stakeholders worked off of those recommendations to identify high-impact strategies, interventions, and activities for this roadmap. Most of the activities in this roadmap are taken directly from the CCA stakeholder recommendations; some revisions were made for concision, new findings, and situation analysis, including several topics that were not addressed in the CCA (e.g. demand and stigma, AT in emergency settings). The AT TWG, comprising of representatives from relevant line ministries, OPWDs, and other non-government organizations (see Annex 2), reviewed, revised, and validated the contents of this Roadmap. The implementation costs were identified using a Global AT Costing Tool developed under a grant from ATscale.

The result is a costed roadmap that will guide implementation of high-impact interventions over the next three years, direct donors and partners in coordinated strategic action to address key gaps in the AT landscape and meet Liberia's legal human rights obligations to people with disabilities.

3.3. Strategic Direction

Vision and Mission

The ultimate vision and mission of this roadmap is to strengthen governance and systems (both health and non-health) to deliver the most-needed AT products in pursuit of a nation where people have a choice of, and access to, high-quality, person-centered AT solutions that enable and enhance their community and economic participation that will improve their Activities of Daily Living (ADL).

The projected surge in AT need in LMICs over the next few decades, coupled with existing substantial unmet need and fragmented uncoordinated systems in existing AT service delivery in Liberia, guide this roadmap's focus on strengthening governance and systems. Before procurement and services can be scaled to increase access to AT, there must be guidelines, processes, systems, and coordination mechanisms in place to ensure that additional products imported, workforce trained, and services delivered are coordinated, harmonized, guided by best practice, assessed for quality, and strategically identified for scale-up.

Goals

Implementation of activities outlined in the AT Roadmap will achieve the following broad goals:

- ❑ Strengthen health and non-health governance and systems – including but not limited to coordination, procurement, policies, and trained personnel – to enable delivery of equitably-distributed, high-quality, and person-centered AT services
- ❑ Explore or introduce of sustainable and equitable financing schemes for AT
- ❑ Increase availability, access, and informed choice of the most appropriate AT and rehabilitation services for PWDs and persons with functional limitations, in pursuit of UHC and in recognition of AT access as a human right
- ❑ Increase empowerment, independence, participation, and ownership of PWDs and persons with functional limitations in matters of civics, community, education, and the labor market
- ❑ Increase awareness and reduced stigmatization of AT needs and disability issues

Guiding Principles

In alignment with the CRPD, WHA 71.8, and other leading health and disability frameworks, implementation of activities outlined in the AT Roadmap will be guided by the following principles:

- ❑ Strong multi-sectoral systems (health and non-health needs) at national and subnational levels
- ❑ Comprehensive person-centered delivery of the spectrum of AT services, including client assessment, referral, fitting, product provision, user training, user satisfaction follow-up, maintenance, and repairs
- ❑ Inclusive, active participation and engagement of PWDs throughout the process – because users are not passive recipients of care
- ❑ Sustainable provision of safe, high-quality, and fit-for-purpose assistive products and related services
- ❑ Standardized provision of AT, according to evidence-based best practices adapted to the local context, integrated into the primary health care system and other routine systems
- ❑ Non-judgemental, stigma-free, rights-based, and respectful AT service delivery
- ❑ Equitable access to AT for hard-to-reach, vulnerable, and disadvantaged populations, including but not limited to youth, the elderly, women, and populations in rural and remote areas

4. Linkages to Other Documents

This roadmap was developed in alignment with existing national and international documents that provide policy guidance and strategic direction. The roadmap was not developed in silo; instead, it aims to complement existing documents by meeting key gaps (e.g. detailing an implementation plan for objectives set out in some of those policies). Key documents and their date of ratification, passage, and/or validation are described below:

- **United Nations Convention on the Rights of Persons with Disabilities (CRPD) – 2012:** Liberia is a signatory of the CRPD, which mandates member states to ensure 'access to quality assistive technology at an affordable cost' in Article 20. Since becoming a signatory, Liberia has not enacted any national laws to facilitate its implementation (other than establishment of the NCD). The AT Roadmap aims to provide an implementation plan to meet this legal obligation to realize the human right to AT.
- **National Commission on Disability (NCD) Establishment Act – 2005:** This legislation mandates the NCD to coordinate, supervise, and monitor implementation of the CRPD and ensure inclusion and mainstreaming of disability matters in national programs. The NCD has validated the AT Roadmap, noting that it supports its mandate to ensure inclusion of PWDs in national goals.
- **National Action Plan for the Inclusion of Persons with Disabilities in Liberia (NAP 2018-2022) – 2018**: The NAP is a technical document that seeks to operationalize some of the state obligations in the CRPD. This AT Roadmap complements AT-related activities in the NAP[3] by detailing the full spectrum of activities needed to realize the right to AT and providing a clear implementation plan for those activities.
- **Sustainable Development Goals & World Health General Assembly Resolution 71.8 on Improving Access to Assistive Technology (WHA71.8)** – **2015 & 2018**: WHA 71.8 aims to codify global commitment to the inclusion of AT into health systems as integral to the achievement of Universal Health Coverage (UHC), as well as other SDGs.[4] The resolution also urges member states to develop and implement policies and programs to improve access to AT within UHC and/or social services coverage, as well as ensure sufficient HRH, data, and inclusive barrier-free environments to provide and maintain assistive products at all levels of service delivery. This roadmap includes activities to address all listed mandates.
- **Liberia Inclusive Education (IE) Policy – 2018:** The IE policy, developed by MoE, establishes the Division of Special and Inclusive Education and tasks it with AT-related policy objectives, including elimination of attitudinal, policy, and practice barriers that prevent some students from attending their local school.
- **The Strategic Plan for the National Eye Care Program (NECP) of Liberia – 2006:** This policy document defines the goal, purpose, and objectives of the NECP as the national lead in eye health in Liberia.

This list is not exhaustive – the AT Roadmap aligns with many other documents, including but not limited to other legal instruments (e.g. the Marrakesh Treaty to Facilitate Access to Published Works for the Visually Impaired; the 2013 ACT on the Use of the White Cane to Safeguard the Rights of the Blind to Access Public Facilities in Liberia) and overarching documents that guide the health sector and overall governance of the country (e.g. documents concerning decentralization, inter-ministerial coordination, integration of services, and person-centered care).

[3] The two activities in the NAP that concern AT include: (1) establish a rehabilitation resource center, and (2) establish a fund to allow PWDs to live independently, including both equipment and trained service providers

[4] WHA 71.8 also identifies inclusion of AT into health systems as integral to the achievement of: inclusive and equitable quality education; economic growth; productive employment and decent work for all; social, economic, and political inclusion of all; making cities and human settlements inclusive, safe and sustainable; and providing universal access to safe, inclusive and accessible green and public spaces, particularly for persons with disabilities

5. Strategies, Interventions, and Activities

This section describes the key strategies, interventions, and activities to be implemented over a three-year period, across the following thematic areas:

1) AT Leadership & Governance
2) AT Service Delivery
3) Assistive Products & Procurement
4) AT Workforce
5) AT Data & Information Systems
6) AT Financing & Sustainability

Each strategy is accompanied by a narrative that provides the context and rationale for its interventions and activities. The narrative is followed by a table that describes the interventions (in light green fill) and activities (in white fill), accompanied by the responsible parties, timeline, and annual and total costs for the activity.

Thematic Area 1. AT Leadership & Governance

Activities under this thematic area focus on increasing government commitment to AT access as evident through relevant legal frameworks, national strategies and coordination mechanisms to guide coordinated action, clarified roles and responsibilities for government institutions, and increased capacity of government stakeholders to lead and implement public AT programs.

Strategy 1.1 Strengthen the legal and enabling environment pertaining to PWDs and access to AT

Liberia has ratified the CRPD, but not the Convention's optional protocol. This protocol would create a mechanism at the UN for CSOs and OPWDs as it relates to the rights covered under the Convention. In 2013, the NCD submitted an amendment to the 2011 NCD Establishment Act to both strengthen the rights of PWDs in accordance with the CRPD and expand its mandate, but at the time of writing, the amended bill has been tabled at the legislature. No other national laws have been enacted to facilitate CRPD implementation.

Advocacy for passage of legislations such as those noted above will be critical components of a strong enabling legal environment that facilitates access to AT. Advocacy for these two legal instruments – and other relevant priority legislation (e.g. accessible infrastructure[5]) – should be done in partnership with civil society and champions from the disabled community, including the Office of the Vice President and the Group of 77, who have exhibited dedication to issues of disability and can mobilize the necessary political will to move critical legislation forward. It is essential to ensure that legislative champions be identified to support advocacy efforts surrounding AT and disability-related laws, policies, and budgetary allocations.

[5] This roadmap does not include activities specifically related to the structure and design of public buildings. However, advocacy and stakeholder engagement should ensure that these topics are discussed with the relevant government agencies, such as the Ministry of Public Works.

Key activity leads of Strategy 1.1: NCD, NUOD, MoH

Key collaborators of Strategy 1.1: MoE, MGCSP, OPWDs, Office of the Vice President, Group of 77

Code	Intervention / Activity	2021	2022	2023	Total Cost
1.1.1	**Advocate for improved legal and enabling environment pertaining to PWDs and access to AT**				
1.1.1.1	Form advocacy group - inclusive of CSOs, OPWDs, and key government partners - to move relevant legislations and initiatives forward	$0			**$0**
1.1.1.2	Disseminate the National Action Plan for Inclusion of PWDs (2018-2022), along with this National AT Roadmap, widely to all relevant stakeholders	$20,400	$35,700		**$56,100**
1.1.1.3	Develop briefing documents and advocacy materials (on the AT landscape in Liberia, the CRPD and its optional protocol, and other relevant legislations and initiatives) for the advocacy group of government champions and OPWDs to use	$315	$315	$315	**$945**
1.1.1.4	Conduct dialogue between OPWDs and government entities to increase awareness and solidify political commitment to fully ratify the CRPD and pass the revised NCD Act and other relevant legislations and initiatives	$2,080	$2,080	$2,080	**$6,240**

Strategy 1.2 Establish a coordinated national effort for increased access to AT and rehabilitation services

As there have been no governance mechanisms to oversee and guide AT activities in the country in the past, AT efforts have historically been characterized by fragmentation, lack of coordination, and their donor-driven nature. Coordinated efforts will reduce fragmentation and duplication of activities, maximize effective use of existing resources, and increase activity alignment with the national strategic direction for AT.

Establishment and regular gatherings of an AT technical working group (TWG) co-led by key line ministries (MoH, NCD, MGCSP) will provide the GoL with increased visibility into ongoing activities and create opportunities to increase coordination among implementers. The AT TWG will also serve as a mechanism to gather stakeholder input into policymaking and priority-setting, and to share lessons learned. Membership of the AT TWG will include representatives from relevant line ministries and agencies, OPWDs, NGOs, donors, and private sector partners.

Development of this National AT Roadmap will enable Liberia to address critical governance gaps by formalizing government commitment to improve AT access and laying out a plan to guide stakeholders in coordinated action that operationalizes government objectives for AT, including those in the NAP (2018-2022) under the domains of 'Health Care' and 'Independent Living and Self-Determination.' The AT Roadmap also clarifies roles, responsibilities, and authority between line ministries and other government agencies over AT, leading to increased ownership and strengthened governance efforts.

Lastly, integration of AT into existing coordination and oversight mechanisms (e.g. Health Sector Coordination Committee [HSCC], MOH Health Services meeting) and national guidelines (e.g. Essential Package of Health Services [EPHS]). will increase visibility, ownership, integration, and sustainability of the program.

Key activity leads of Strategy 1.2: MoH, NCD, MGCSP
Key collaborators of Strategy 1.2: MoE, NUOD and OPWDs, NGOs (e.g. WHO, CHAI, AIFO, Lions Club), donors, private sector partners

Code	Activity	2021	2022	2023	Total Cost
1.2.1	**Establish a cross-sectoral TWG for AT and rehabilitation services to serve as a mechanism for coordination, knowledge-sharing, and implementation oversight**				
1.2.1.1	Develop terms of reference (TORs) to establish the AT and rehabilitation services technical working group (TWG), emphasizing partner coordination and regular reporting	$0			**$0**
1.2.1.2	Hold regular bimonthly AT TWG meetings with all relevant stakeholders from all sectors	$7,260	$7,260	$7,260	**$21,780**
1.2.2	**Develop national AT strategy, with detailed M&E plan and clear delineation of roles and responsibilities of government and non-government entities**				
1.2.2.1	Develop and validate National Roadmap for AT	$30,174			**$30,174**
1.2.3	**Integrate AT into existing national policies, guidelines, and coordination and oversight mechanisms**				
1.2.3.1	Include AT issues and updates as agenda items in routine government and partner meetings	$0	$0	$0	**$0**
1.2.3.2	Integrate AT into existing relevant national policy or strategic documents	$7,840			**$7,840**

Strategy 1.3 Strengthen government's capacity to implement programs for AT

Effective AT governance and coordination will require integration of AT into the scope and mandates of a wide range of system building blocks (e.g. data, workforce) and sectors (e.g. social welfare, transportation). Currently, from procurement to training to provision, partners lead implementation of AT programs in Liberia. In order to ensure government ownership, sustainability, and integration of AT programs and services, there is a need to build the capacity of government stakeholders to lead, coordinate, and implement AT activities – this includes not only capacity-building in technical expertise, but also sensitization to the importance of AT.

There are existing units within line ministries who should be capacitated to lead, coordinate, and conduct technical work in AT implementation, and should be sensitized to the importance of AT delivery. This strengthened government capacity will unlock the leadership needed to achieve the remaining strategies in this roadmap.

Key activity leads of Strategy 1.3: MoH, AT Implementing Partners
Key collaborators of Strategy 1.3: all government ministries and agencies listed below

Code	Activity	2021	2022	2023	Total Cost
1.3.1	**Strengthen the capacity and involvement of existing government departments and units to more effectively lead and/or coordinate implementation of AT activities**				
1.3.1.1	Build capacity of MOH Non-Communicable Diseases and Injuries (NCDI) Unit staff to lead and coordinate AT implementation	$4,000	$4,000		**$8,000**
1.3.1.2	Support relevant departments and units within line ministries and government agencies to identify focal points for AT, and hire new persons if necessary, in order to integrate AT into their respective scopes of work	$1,210	$5,108	$2,000	**$8,318**
1.3.1.3	Conduct sensitization exercise with government staff on AT and disability to increase their buy-in and illustrate the relevance of AT to their existing scope of work	$2,165			**$2,165**

Thematic Area 2. AT Service Delivery

The roadmap aims to expand access to the full spectrum of AT services (client assessment, referral, fitting, product provision, user training, user satisfaction follow-up, maintenance, and repairs), at both the facility and community level, across all relevant sectors (health, education, social welfare). Development and implementation of service standards will ensure that these services are high-quality – signifying that they are safe, person-centered, and discrimination-free, amongst other important qualities. In addition, decentralization of services to increase geographic coverage – and integration of AT provision into routine service delivery – will increase reach and sustainability of services. Coupled with efforts to increase demand and care-seeking, activities in this thematic area will greatly increase access to and impact of the AT program.

Strategy 2.1 Develop guidelines and standards for AT service delivery

Development of national AT service delivery guidelines and service standards that are based on international best practices across all sectors (health, social welfare, and education) will help ensure delivery of consistently high-quality, safe, AT services that are integrated into routine service delivery. These guidelines will detail what constitutes a comprehensive package of services as well as referral mechanisms to ensure linkages when a service delivery point is not equipped to provide a service. Where relevant, service delivery guidelines should also include contents on early detection and/or prevention of disabilities. Guidance on the level of the system and cadres eligible to provide services in each sector will also help guide AT workforce planning and training activities. By addressing stigma and discrimination in the guidelines, GoL can also begin to remove barriers to care-seeking caused by provider discrimination. Utilizing mechanisms common to existing regulatory bodies – like supervision and mentorship – to monitor adherence to service standards will also support and ensure provision of high-quality care.

Key activity leads of Strategy 2.1: MoH, MoE, MGCSP
Key collaborators of Strategy 2.1: NCD, NUOD and OPWDs, WHO, health training institutions and other vocational training schools, professional regulatory boards

Code	Intervention/Activity	2021	2022	2023	Total Cost
2.1.1	**Develop and enforce use of national guidelines and service standards for AT service delivery adapted for the Liberian context**				
2.1.1.1	Develop national service delivery guidelines for AT (for example, national policy for rehabilitation)	$27,660			**$27,660**
2.1.1.2	Conduct routine supervision and mentoring visits to health facilities		$8,892	$8,892	**$17,784**

Strategy 2.2 Increase use and provision of assistive products in public sector facilities

There are numerous challenges to increase provision of AT in Liberia. AT is currently limited to two public hospitals (one in Monrovia, one recently introduced in Buchanan), three private hospitals, school-based eye health programs, and a handful of private facilities. The vast majority of these facilities, whether public or private, are located in the central/northern region of the country and are dedicated centers for provision of AT – siloed from the rest of routine service delivery. There are no clear or formal referral pathways between primary care and these specialized AT services in private or public facilities. Facilities overwhelmingly focus on provision of mobility

and vision products; there are few facilities that provide products that meet the needs of people living with hearing, cognitive, or communication functional impairments. Public facilities in particular face significant challenges in attaining the resources – financial, material, and human – to consistently provide comprehensive, high-quality care.

The activities in this strategy aim to increase the use and provision of AT in public sector facilities through integration into routine service delivery, decentralization of services, demand generation activities, and improved person-centered design in service delivery. Decentralization of AT services to lower-level facilities (accompanied by a formal referral mechanism) and to facilities in rural counties will increase reach to clients whose needs are currently unmet. Activities to build awareness and address stigma – like differentiated outreach to populations that are most likely to need AT, mass sensitization campaigns to address barriers to care-seeking, and development of IEC materials and directories to address information asymmetry – will all serve to increase demand, care-seeking, and referrals and thus increase use of AT. Finally, refer to the AT workforce, products, and financing sections for complementary activities that will increase the material, human, and financial resources required to enable increased provision of AT.

Key activity leads of Strategy 2.2: MoH, MoE, MGCSP, NCD, health facilities
Key collaborators of Strategy 2.2: NUOD and OPWDs, WHO, faith-based umbrella organizations, senior citizen organizations/institutions, the Liberia Chamber of Commerce, health training institutions and other vocational training schools

Code	Intervention/Activity	2021	2022	2023	Total Cost
2.2.1	**Develop an integrated, well-connected, and coordinated AT provision system, inclusive of a formal referral mechanism**				
2.2.1.1	Develop, monitor and guide use of appropriate referral and follow-up documentation for AT provider use		$5,430	$0	**$5,430**
2.2.1.2	Develop complementary patient care-seeking pathway maps			$4,800	**$4,800**
2.2.1.3	Develop directory of providers for AT and rehabilitation services – both public and private – across all sectors and disseminate directory to patients/clients and providers for their use		$2,140		**$2,140**
2.2.2	**Increase demand and care-seeking for AT services**				
2.2.2.1	Develop IEC materials on AT products and availability of services for distribution in campaigns, communities, and facilities		$14,810		**$14,810**
2.2.2.2	Engage in mass sensitization radio and billboard campaigns to reduce stigma and increase awareness for AT services			$34,400	**$34,400**
2.2.2.3	Engage umbrella faith-based organizations (e.g. Liberia Council of Churches; National Muslim Council of Liberia), and traditional leaders (e.g. village chiefs) to address stigma against PWDs in their communities			$4,360	**$4,360**

Code	Intervention/Activity	2021	2022	2023	Total Cost
2.2.2.4	Engage NUOD, senior citizen organizations/institutions, the Liberia Chamber of Commerce to distribute IEC materials and the AT provider directory to their members			$1,075	**$1,075**
2.2.2.5	Disseminate IEC materials on AT in health facilities and through community health workers			$0	**$0**
2.2.2.6	Work with MoH Division of Complementary Medicine Unit to engage with complementary and traditional healers to introduce referrals to AT, and distribute IEC materials and the AT provider directory, to their clientele			$3,470	**$3,470**
2.2.3	**Initiate decentralization of AT services in public facilities to ensure greater coverage of the population**				
2.2.3.1	Identify public health facilities prioritized for introduction of AT services	$1,210			**$1,210**
2.2.3.2	Allocate human and financial resources – considering unmet need and geographic distribution of services – to increase the number of service delivery points over time, across all sectors (health, social welfare, education)		$0	$0	**$0**
2.2.4	**Establish programs for peer-to-peer training and support (e.g. for AT user training, repairs) between AT users**				
2.2.4.1	Conduct landscape review of existing peer-to-peer support networks and models in Liberia		$4,850		**$4,850**
2.2.4.2	Develop a plan to strengthen, formalize, and scale peer-to-peer training and support networks for AT users in Liberia			$1,210	**$1,210**

Strategy 2.3 Lay foundation for inclusion of PWDs and AT in emergency settings

The needs of people with functional limitations and people with disabilities are often overlooked in emergency alerts and emergency response. WHA Resolution 78.1 urges member states to "*promote the inclusion of priority assistive products within emergency preparedness and response programmes*." The two activities below are first steps to opening a wider conversation and establishing broader efforts to ensure that PWDs and AT are considered in emergency settings.

Key activity leads of Strategy 2.3: MoH, National Disaster Management Agency (NDMA)
Key collaborators of Strategy 2.3: NCD, NUOD and OPWDs, MoE, MGCSP

Code	Intervention/Activity	2021	2022	2023	Total Cost
2.3.1	**Ensure considerations of accessibility and assistive products are addressed in emergency settings**				
2.3.1.1	Work to ensure that all emergency alarm signalers in public buildings have flashing lights and sounds		$1,880	$0	**$1,880**

Code	Intervention/Activity	2021	2022	2023	Total Cost
2.3.1.2	Advocate for provision of suitable AT by government agencies and non-government organizations during disaster and emergency responses		$940	$1,960	**$2,900**

Thematic Area 3. Assistive Products & Procurement

Activities under this thematic area focus on increasing the quantity, quality, variety, and suitability of assistive products in the country, whether imported or manufactured locally. To achieve the goal of increasing the availability of products to users, while recognizing the reality of the limited nature of government funding, this roadmap focuses on increasing and coordinating donations of products in the short-term while advocating for public sector funding for AT in the long-term (refer to the financing section for more details). Partners also currently manage their own procurement and supply chain processes. While it will be important for government to own these functions in the long-term, this roadmap focuses on government ownership of demand aggregation and TWG coordination of incoming donations as a stepping-stone towards that vision. Additional regulation and oversight of donated products by LMHRA will also help ensure that donations are aligned with the country's AT needs. Lastly, this roadmap aims to increase capacity for local production and repair as a vehicle to increase product sustainability. Activities under this thematic area will generally consider products listed on the National Priority Assistive Products (APL)[6].

Strategy 3.1 Strengthen mechanisms for regulation and oversight of assistive products

Donations of assistive products are currently ad-hoc, guided by donor interests, and of varying quality. As Liberia aims to increase the availability of products, strong products governance is required to guide donations of assistive products to ensure that they align with national priorities. Development of a National Priority APL and technical specifications – coupled with data on AT need (see strategy 5.1) and demand quantification outputs (see strategy 3.3) – will better inform procurements and donations. It will also be important to have systems in place to monitor the quality and safety of donated products. To this end, MoH will work with the LMHRA to incorporate oversight of AT products into their existing forms, policies, processes, and systems – including donation guidelines, post-market surveillance systems, and local registries of qualified manufacturers and supplies.

Key activity leads of Strategy 3.1: MoH, LMHRA
Key collaborators of Strategy 3.1: NCD, MoE, MGSCP, NUOD and OPWDs

[6] The WHO APL includes 50 priority assistive products, selected on the basis of widespread need and impact on a person's life. The WHO list is not restrictive; it aims instead to provide Member States with a model from which to develop a national priority assistive products list according to national need and available resources. Like the WHO Model List of Essential Medicines, the APL can also be used to guide product development, production, service delivery, market shaping, procurement, and reimbursement policies (including insurance coverage).

Code	Intervention/Activity	2021	2022	2023	Total Cost
3.1.1	**Develop national assistive product prioritization and specification documents to guide oversight, prioritization, and coordination of assistive products**				
3.1.1.1	Develop, review, and revise a national APL every two years – based on the WHO APL and adapted to Liberia's context, environment, demand and need – ensuring there is inclusion of a wide range of product types to cover various functional impairments	$4,100		$4,100	**$8,200**
3.1.1.2	Develop technical specifications – adapted from the WHO Assistive Product Specifications (APS) to suit the Liberia context – for manufacturing, importing, and procurement of assistive products on the national APL	$6,800	$8,500		**$15,300**
3.1.2	**Incorporate AT into existing guidelines, standards and regulatory/coordination mechanisms to ensure that donated products meet product quality and safety standards**				
3.1.2.1	Incorporate AT into revision/update of the Guidelines for the Donation of Medicines and Medical Supplies for Liberia	$5,760			**$5,760**
3.1.2.2	Integrate AT into post-market surveillance systems to monitor quality, safety, and efficacy of assistive products and adherence to regulatory standards		$5,760		**$5,760**
3.1.2.3	Review, revise or update guidelines/standards regarding product manufacturing and importing, product registration, and product quality & safety, to include assistive products		$0		**$0**
3.1.2.4	Establish registry of national and international AT manufacturers and suppliers		$3,075	$1,075	**$4,150**
3.1.2.5	Support adherence to the LMRHA donation guidelines		$0	$0	**$0**
3.1.2.6	Advocate for inclusion of AT production and repair equipment into the Essential Medicines List (EML) with potential to expand into a National Essential Equipment List	$1,080			**$1,080**

Strategy 3.2 Increase availability of AT by advocating for increased support from non-government organizations

One of the primary objectives of this roadmap is to increase the availability of products to users. With a limited national budget, it is improbable that public financing for AT will be available in the short term. It is essential that users continue to receive products, especially those that are prioritized on the APL – so while activities are carried out to increase public financing for AT (refer to the financing section for more details), donor-funded procurement of assistive products are still needed.

Increased availability of products to users through non-governmental avenues will be achieved through activities to increase donor procurement of AT and maximize impact of existing resources (e.g. exploration of pooled procurement to reduce cost per product). Partnerships with private sector procurement, shipping, and

distribution organizations will also be explored, in order to increase affordability, effectiveness, and reach of current supply chain processes.

Key activity leads of Strategy 3.2: MoH, WHO
Key collaborators of Strategy 3.2: NCD, MFDP, private sector partners, MoE, MGCSP

Code	Intervention/Activity	2021	2022	2023	Total Cost
3.2.1	**Guided by government planning and donation guidelines, increase the quantity of products procured by donors and NGO partners**				
3.2.1.1	Mobilize resources for AT procurement from donors		$0	$0	**$0**
3.2.1.2	Work with non-government partners and donors to negotiate for reduced or subsidized prices of priority assistive products		$1,080	$1,080	**$2,160**
3.2.1.3	Explore private-public-partnership, service-level-agreement, and/or corporate social responsibility agreements with procurement, shipping, warehousing, and distribution organizations		$1,080		**$1,080**

Strategy 3.3 Incorporate AT procurement considerations into existing government processes

The ultimate vision for products and procurement of AT is government-directed and integrated into existing supply chain and procurement systems and processes. As with all other interventions, products on the National Priority APL will be the focus.

The AT TWG will be leveraged to coordinate and track incoming products from donors and partners, and the National Quantification Technical Committee will be leveraged to lead AT quantification. Tools will be developed to support these functions and to collect data to inform and improve monitoring and future decision-making. For example, quantification tools will be developed to forecast demand, and the outputs of quantification will be used to inform quantities that donors procure and to inform the allocation of where products are distributed at the regional, county, and facility level.

Key activity leads of Strategy 3.3: MoH
Key collaborators of Strategy 3.3: TWG members

Code	Intervention/Activity	2021	2022	2023	Total Cost
3.3.1	**Leverage existing government units and platforms to lead and coordinate AT quantification and distribution**				
3.3.1.1	Leverage AT TWG for coordination and tracking of incoming donations and procurements, and develop the necessary tools to support these functions	$3,400	$0	$0	**$3,400**
3.3.1.2	Develop or adapt AT quantification tool to forecast demand		$8,000		**$8,000**

Code	Intervention/Activity	2021	2022	2023	Total Cost
3.3.1.3	Conduct annual quantification and forecasting exercise for select products on the national APL based on available data (e.g. r-ATA, facility service volume)			$3,990	**$3,990**
3.3.1.4	Use quantification outputs and population data to inform allocation of incoming donations			$270	**$270**
3.3.1.5	Advocate for inclusion of AT into LMIS reporting where possible		$1,440	$1,440	**$2,880**

Strategy 3.4 Improve quality of local AT production, assembly, maintenance, and repair

By reducing lead times, revitalizing local production or assembly (parts or whole), maintenance, and repair of assistive products prioritized on the APL is an AT priority, as local services enable the system to meet the needs of the user faster. Local services also increase product sustainability by enabling more regular maintenance and increase opportunities for local employment for PWDs.

First, to revitalize local production and repair of AT, it will be necessary to assess the landscape and identify critical gaps. While some gaps can be met by complements elsewhere in the landscape (e.g. connecting facilities with raw materials and equipment available with those that have workforce skills for production), additional resources will be required to procure the raw materials, parts, and equipment needed to revitalize AT production, maintenance, and repair. Public-private partnerships, corporate social responsibility programs, other investment opportunities (e.g. identified with the National Investment Commission), and traditional donor funding will can be explored to fill this gap. Lastly, human resources will need to be upgraded to create a robust AT production and repair ecosystem – small business incentives, training programs, etc. will be explored to meet this need.

Key activity leads of Strategy 3.4: MoH
Key collaborators of Strategy 3.4: Health training institutions and other vocational training schools, private sector partners

Code	Intervention/Activity	2021	2022	2023	Total Cost
3.4.1	**Identify and fill resource gaps to revitalize high-quality local production or assembly, maintenance, and repair of assistive products**				
3.4.1.1	Conduct a needs assessment of local manufacturers and workshops to determine what is required to revitalize existing capacity for local production, maintenance, and repair	$2,083			**$2,083**
3.4.1.2	Procure raw materials, parts, equipment, and/or other resources identified as high-impact in the needs assessment		$100,000		**$100,000**
3.4.1.3	Link complementary resources for AT production, maintenance, and repair currently in country		$0		**$0**

Code	Intervention/Activity	2021	2022	2023	Total Cost
3.4.2	**Increase local capacity for high-quality local production/assembly, maintenance, and repair of assistive products**				
3.4.2.1	Develop capacity for local AT production, maintenance, and repair through approaches such as small business incentives, training programs for local manufacturers, and capacity building of peer-to-peer networks in repair and production skills		$1,960		**$1,960**
3.4.2.2	Explore public-private partnerships and corporate social responsibility programs to catalyze investment in the local AT market and expand local production capacities			$9,000	**$9,000**
3.4.2.3	Initiate training programs in health training institutions or other vocational training schools on AT production; conduct skills upgrade of workforce involved in existing AT production in the country			$2,155	**$2,155**

Thematic Area 4. AT Workforce

Activities under this thematic area focus on training the workforce necessary to deliver services to increase availability of AT in public service delivery points. With minimal specialized AT workforce in the public sector, it will require substantial additional trained providers to deliver on the country's vision of increased accessibility and decentralization of AT services. Strategies in this section include strengthening workforce governance, developing capacity to train an AT workforce, and delivery of trainings to cadres identified and prioritized for task-shifting within the health, education, and social welfare sectors.

Strategy 4.1 Strengthen AT workforce planning and policies to increase the quantity, quality, and skill diversity in the public sector

Accurate AT workforce planning – such as projecting workforce needs and gaps, identifying the suitable cadres for task-shifting – will need to be based on existing data and guidelines. It will then be important to incorporate that AT workforce planning into existing HR plans, policies, and processes on workforce development and management. Lastly, it will be important to incorporate AT into the scope of existing workforce oversight bodies to ensure that staff are adequately trained, licensed, and recognized.

Key activity leads of Strategy 4.1: MoH, MoE, MGCSP, professional regulatory boards
Key collaborators of Strategy 4.1: NCD, NUOD and OPWDs, WHO

Code	Intervention/Activity	2021	2022	2023	Total Cost
4.1.1	**Conduct AT workforce planning**				
4.1.1.1	Obtain updated data on AT workforce, conduct gap analysis to determine workforce needs		$6,920	$2,820	**$9,740**
4.1.1.2	Incorporate AT workforce development into existing national human resource plans and policies	$7,520	$13,520		**$21,040**
4.1.1.3	Develop AT service delivery guidelines that identify eligible cadres for AT task-shifting (see activity and costing under activity 2.1.1.1 under Service Delivery)	$0			**$0**
4.1.1.4	Integrate AT into the scope of existing professional associations for examination and licensing, accreditations, registration, etc.		$8,500		**$8,500**

Strategy 4.2 Establish and strengthen structures and capacity of the country to train AT workforce

Increasing the availability, accessibility, diversity, and decentralization of AT service delivery in public facilities will require additional service providers to be trained in AT service provision. For this to happen, it will be necessary to establish and strengthen pre- and in-service training programs and capacity. It will also be necessary to increase access to training so that providers can participate in the trainings.

Training materials should be based on international best standards adapted to the local context and be differentiated based on the cadre – whether community-based or facility-based, and whether in the health, education, or social welfare sector. Materials should also align with the service delivery guidelines developed in

activity 2.1.1.1; thus, contents should similarly reflect safe, person-centered, and discrimination-free approaches in order to remove obstacles to care-seeking.

Then, it will be necessary to train the public workforce identified for potential AT task-shifting in order to increase the quantity, quality, and skills diversity of the AT workforce. A ToT model will be used to leverage available resources (local expertise, time, financial resources). Institutional capacity will also need to be built to deliver the proper training. The existing specialized AT workforce and local expertise in the country will be trained to serve as master trainers and mentors at a center of excellence to guide and support newly trained staff. Initial trainings will be accompanied by rigorous evaluation of acceptability, effectiveness, and feasibility of materials – as well as suitability of that cadre for task-shifting – to inform and improve future trainings.

Key activity leads of Strategy 4.2: health training institutions and other vocational training schools, MoH, MoE, MGCSP
Key collaborators of Strategy 4.2: NCD, WHO, professional regulatory boards

Code	Intervention/Activity	2021	2022	2023	Total Cost
4.2.1	**Develop training materials and programs to train the eligible workforce - across health, social welfare, education; both within institutions and in the community - in AT and rehabilitation services**				
4.2.1.1	Develop pre-service, in-service, and community-based rehabilitation curricula and training materials for AT and rehabilitation services	$33,800	$23,400		**$57,200**
4.2.1.2	Incorporate values clarification and attitude transformation (VCAT) contents into AT training packages for service providers, inclusive of a module on how providers can educate family members of AT users on disability-positive frameworks (costs included in the above activity, 4.2.1.1)	$0	$0		**$0**
4.2.1.3	Introduce and integrate courses, certificate, diploma, and/or degree programs related to AT and rehabilitation services within existing training institutions using the newly-created curricula developed in activity 4.2.1.1.		$21,880	$0	**$21,880**
4.2.2	**Build capacity of education institutions to train AT specialists and to deliver the pre-service and in-service training materials**				
4.2.2.1	Name a center of excellence to provide training of a local AT workforce			$2,880	**$2,880**
4.2.2.2	Conduct training-of-trainers for select providers at existing service delivery points to establish a pool of master trainers and mentors for AT	$1,780			**$1,780**
4.2.2.3	Establish or expand scholarships (both government and non-government) for students to pursue pre-service or in-service training in AT abroad		$53,110	$540	**$53,650**

Code	Intervention/Activity	2021	2022	2023	Total Cost
4.2.3	**Build capacity of existing public sector workforce to deliver AT**				
4.2.3.1	Conduct in-service training of existing cadres identified for potential AT task-shifting, in facilities identified for expansion into AT services		$390,600	$339,150	**$729,750**
4.2.3.2	Train CBR workers to deliver community-based AT and rehabilitation services, leveraging existing community health cadres where possible		$29,250	$58,500	**$87,750**

Thematic Area 5. AT Data, Monitoring & Evaluation

Activities under this thematic area focus on strengthening data availability, accuracy, completeness, and use on AT and related topics, including health conditions and functional limitations that require AT. Improved availability and quality of data, including that on user-experience and user-satisfaction, will support informed decision-making and increased person-centeredness by the government and its partners in AT programming.

Strategy 5.1 Improve data collection on AT and related topics to measure, monitor, and inform progress on AT initiatives

Evidence-based decisions for any program require (1) population-based data to estimate need and demand and (2) disaggregated user-level data on provision, utilization, and user-satisfaction. This roadmap aims to have strong AT data systems to support data-driven decision-making and monitor adherence to service standards. AT data should be disaggregated by age, gender, geography, and type of functional impairment.

Once indicators are identified for disabilities and AT, it will be important to incorporate those data elements into existing routine data systems. HMIS can begin capturing AT data elements in health facilities by piloting new facility-based ledgers to understand the feasibility of data capture, and train facility-based providers on routine data collection. Where needed, tools should also be developed to harmonize this data with AT data from other sectors (e.g. education, social welfare).

Additionally, the public health system in Liberia does not have a system to collect feedback on user satisfaction or user experience, on AT or any other service. Person-centered approaches posit that the perspectives and experiences of the patient/user/client are critical to improving outcomes and access to care. Gathering routine user experience data to feedback to service providers will be critical to improving service provision.

Lastly, the government will also encourage and collaborate with research institutions and other partners to conduct additional research to inform effective AT programming. Potential research topics may include effectiveness evaluations, product abandonment, causes of disability, and prevention of disabilities.

Key activity leads of Strategy 5.1: MoH, MoE, MGCSP, LISGIS, NCD, WHO
Key collaborators of Strategy 5.1: NUOD and OPWDs, health facilities and other service delivery points, research institutions

Code	Intervention/Activity	2021	2022	2023	Total Cost
5.1.1	**Collect population-based data on AT and related topics**				
5.1.1.1	Conduct nation-wide survey (the WHO rapid Assistive Technologies Assessment, or r-ATA) on prevalence of disabilities and functional limitations, and AT use	$45,696			**$45,696**
5.1.1.2	Advocate for inclusion of disability & AT use data into upcoming census	$1,040	$1,040		**$2,080**
5.1.2	**Incorporate new AT data elements into existing health information systems for routine monitoring**				
5.1.2.1	Develop AT indicators related to service volume, disabilities types, functional limitations, and non-communicable diseases & injuries (NCDIs)	$3,470			**$3,470**

Code	Intervention/Activity	2021	2022	2023	Total Cost
5.1.2.2	Conduct training for facility-based providers and county and central ministry HMIS staff on the recording, aggregation, analysis, and use of key disability, AT, and NCDI indicators		$88,730		**$88,730**
5.1.2.3	Disseminate disability and AT data across all relevant government agencies to promote utilization of data for evidence-based AT programming			$3,470	**$3,470**
5.1.3	**Identify and fill research gaps to inform AT program design and monitor effectiveness of interventions**				
5.1.3.1	Identify priority research questions and encourage research institutions to fill data gaps and disseminate findings		$3,260		**$3,260**
5.1.4	**Develop systems to routinely collect and feedback user satisfaction and impact information to providers**				
5.1.4.1	Develop tools to collect information on AT user satisfaction		$3,400		**$3,400**
5.1.4.2	Disseminate data and findings from data systems and operational research back to service providers to improve service delivery		$23,400		**$23,400**

Thematic Area 6. AT Financing & Sustainability

Activities under this thematic area focus on strengthening financing for AT. Strategies encompass financial planning to improve effectiveness of existing resources, advocacy for more funding from both governmental and nongovernmental sources, and advocacy for inclusion of AT in insurance and/or social welfare schemes to increase access and affordability for users.

Strategy 6.1 Conduct financial analysis to guide and advocate for increased availability of AT

Partners currently provide the vast majority of resources[7] for AT in the country. Due to a limited national budget, there is no dedicated public financing for AT. Some public facilities provide free or subsidized AT – with government covering the costs of salaries, utilities, and space – but do so with donated products.

To start, the development of a detailed budget for the National AT Roadmap and a resource mobilization strategy will establish a clear vision for AT in Liberia. Improved oversight over resources via the AT TWG and resource mapping will then help clarify the resource landscape, thus enabling government and partners to maximize available resources and support advocacy. Resource mapping should be conducted through existing processes and tools (for example, the MOH annual mapping exercises conducted by the Health Financing Unit).

As one of the key goals of this roadmap is to increase access and availability of AT, additional resources will be required to finance, provide, and maintain the products. It will take time to dedicate enough of the national budget to cover all AT costs – so in the short-term, increased availability of AT will necessitate increased funding from non-governmental partners and donors and exploration of private sector funding models for financing and provision. In the medium and long-term, introduction of government funding will require financial analysis and advocacy for a dedicated line in the national budget for AT.

Key activity leads of Strategy 6.1: MoH, NCD
Key collaborators of Strategy 6.1: MGCSP, MOE, MFDP, health financing technical assistance partners, private sector partners (both companies and private facilities), implementing partners, NUOD and OPWDs, Group of 77, Office of the Vice President

Code	Intervention/Activity	2021	2022	2023	Total Cost
6.1.1	**Conduct financial planning activities for AT to understand technical and financial resource coverage across different facilities, counties, disabilities and AT types, and to support advocacy for increased resources for AT**				
6.1.1.1	Conduct detailed resource mapping among partners		$1,630		**$1,630**
6.1.1.2	Use resource mapping to link complementary resources for AT where possible (cost included in above activity)		$0		**$0**
6.1.1.3	Based on National AT Roadmap, develop detailed budget for activity implementation (cost included in AT Roadmap activity)	$0			**$0**
6.1.1.4	Develop resource mobilization strategy for AT based on budget for AT roadmap implementation		$3,470		**$3,470**

[7] As used in this thematic area, the term "resources" will encompass financial resources (funds for programs), technical and human resources (staff and expertise), and material resources (products, parts, and raw materials)

Code	Intervention/Activity	2021	2022	2023	Total Cost
6.1.2	**Advocate for governmental and non-governmental resources to support AT**				
6.1.2.1	Utilize government fiscal space analyses to identify opportunities to widen fiscal space for AT and rehabilitation services		$940		**$940**
6.1.2.2	Advocate for inclusion of ear-marked AT funding in national budget			$540	**$540**
6.1.2.3	Explore private-public-partnerships, service-level-agreements, and corporate social responsibility programs with local partners to expand coverage and financing for AT services		$3,760		**$3,760**

Strategy 6.2 Advocate for AT inclusion in universal health coverage (UHC) and social welfare frameworks

At the few public and private facilities that provide AT in Liberia, assistive products are provided free or on a sliding-scale based on ability to pay. However, as services are introduced in additional facilities, it will be necessary to include AT into existing and planned coverage mechanisms to increase the sustainability of financing for AT service delivery.

Within the health sector, the EPHS will undergo a review in the first year of the roadmap period. There is an opportunity to leverage the upcoming revision to ensure that AT and rehabilitation services are included, and that these services are integrated into each level of the health system. However, implementation of the current EPHS has been difficult due to limited fiscal space. There is a need to advocate for inclusion of AT and rehabilitation services into future national health insurance mechanisms (e.g. Health Equity Fund, Revolving Drug Fund) to move the country towards UHC. Outside of the health sector, it is also necessary to advocate for AT coverage within social welfare schemes such as NASSCORP and National Pension Scheme – as with all multisectoral endeavors, key focal persons should be identified within these organizations to lead this work.

Key activity leads of Strategy 6.2: MoH, NCD, NASSCORP, OPWDs
Key collaborators of Strategy 6.2: MFDP, NUOD and OPWDs, MoE, MGCSP

Code	Intervention / Activity	2021	2022	2023	Total Cost
6.2.1	**Advocate for AT and rehabilitation services to be included into health and social welfare schemes**				
6.2.1.1	Leverage discussions on UHC and national health insurance mechanism to ensure AT and rehabilitation services are covered	$810	$810	$810	**$2,430**
6.2.1.2	Advocate for inclusion of AT and rehabilitation services into social welfare schemes (cost included in above meetings)	$0	$0	$0	**$0**
6.2.1.3	Work with national and international suppliers for assistive products and with in-country AT providers to advocate for reduced or subsidized pricing of AT		$230		**$230**

6. Monitoring and Evaluation

To monitor progress of implementation, indicators below were developed for the strategies that are the highest priority.

Thematic Area	Proposed Indicator	Data Source
AT Leadership & Governance	# of AT TWGs held per year	Meeting minutes
	AT Roadmap Developed	Completed document
	AT Services are integrated into the Revised EPHS	Integrated document
AT Service Delivery	% of need for AT that is met	Population-based survey
	# of AT Users reached by AT services in any facility, public or private	HMIS ledgers
	# of public facilities where AT services are regularly provided[8]	HMIS ledgers
Assistive Products & Procurement	# of AT Products Procured	TWG trackers
	# of AT Products Distributed	LMIS or facility records
	National APL is developed	Completed document
	National APS is developed	Completed document
AT Workforce	# of providers trained in AT service delivery	At training database
	Pre-service and in-service curricula and training materials for AT are developed	Completed materials
	AT service delivery guidelines are developed	Completed document
AT Data & Information Systems	Population-based AT data available	Completed r-ATA dataset and report
	Data elements on AT are incorporated into existing routine data mechanisms	HMIS ledgers
	% of public facilities that provide AT that regularly report data (8 out of 12 months) on provision of AT services	HMIS ledgers
AT Financing & Sustainability	Amount of funding ($USD) provided by donors for AT	Resource mapping results

[8] Regularly provided is defined as at least five users/month. A service can include assessment, referral, fitting, product provision, user training, user satisfaction follow-up, maintenance, and/or repairs

7. Implementation Arrangements

Effective implementation of the AT Roadmap will require clear delineation of roles, responsibilities, and scope amongst the various line ministries and government agencies. Detailed roles for implementation of AT activities are as follows:

Ministry / Agency	Subdivision	Primary Role in relation to AT
Ministry of Health	NCDI Unit; National Eye Health Program	• Lead and coordinate AT service delivery • Provide product-specific technical expertise
Ministry of Health	Other units (Supply Chain, HRH Unit, HMER, HTMU, etc.)	• Lead and coordinate AT in their respective health systems scope
Ministry of Education	Special & Inclusive Education Division	• Lead and coordinate their workforce (e.g. teachers) to identify and refer or provide AT services to students, as identified in the AT Service Delivery Guidelines • Provide input, lessons, and expertise through the AT TWG
Ministry of Education	Workforce, M&E units	• Train teachers in the above • Collect and share data on the above
Ministry of Gender, Children and Social Protection		• Lead and coordinate their workforce (social workers) to identify and refer or provide AT services to beneficiaries, as identified in the AT Service Delivery Guidelines • Train social workers in the above • Collect and share data on the above • Co-chair the AT TWG
National Commission on Disabilities		• Lead advocacy surrounding AT and disability issues • Coordinate PWD engagement overall • Co-chair the AT TWG
Ministry of Justice		• Report on the CRPD • Educate line ministries on obligations to fulfill the ratified CRPD
Training Institutions		• Support development of training curriculum, materials, and programs for AT workforce • Train AT workforce, in collaboration with relevant line ministries
Service delivery points and AT providers		• Provide assistive products and rehabilitation services according to national guidelines and best practices
Regulatory and oversight bodies (e.g. LMHRA, LBNM, LMDC,)		• Oversee and regulate AT products • Oversee and regulate AT workforce
NGOs (including private providers, implementing partners, and donors)		• Attend and report activities to the AT TWG on a regular basis • Report and coordinate donations and procurement through the AT TWG • Align activities with the AT Roadmap and other key governance documents (e.g. National APL, APS, Service Delivery Guidelines, donation guidelines, etc.)
OPWDs		• Attend and contribute to the AT TWG • Share user perspectives to guide policymaking • Advocate for the priorities of PWDs

8. Implementation Costs

8.1. Process of Costing the AT Roadmap

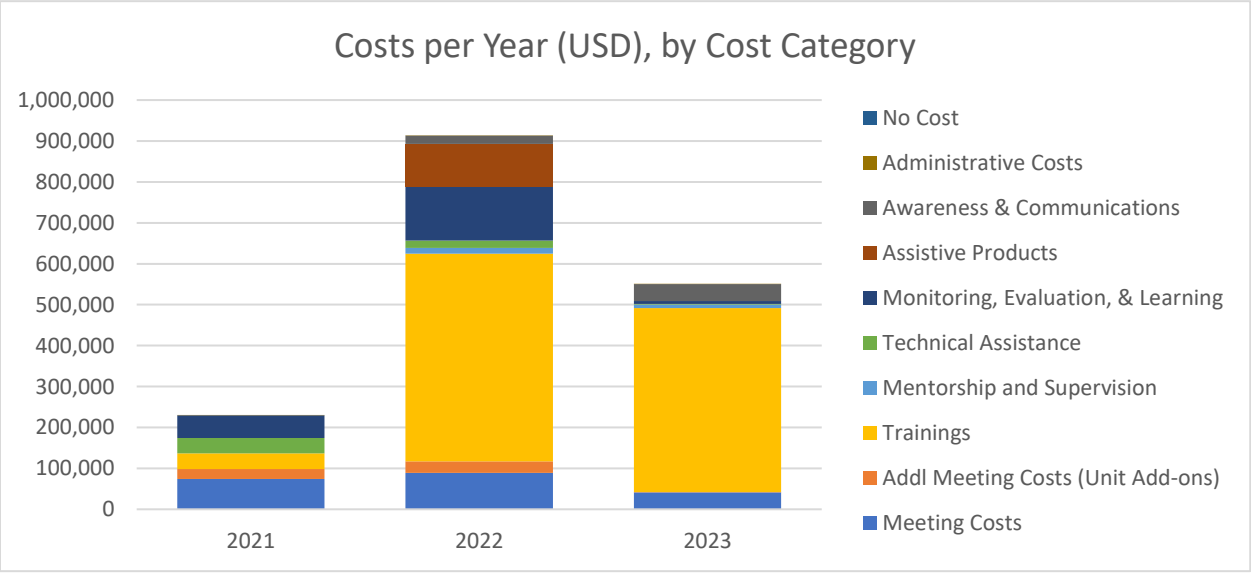
A detailed costing methodology, activity-based costing, was used to estimate the resources required to implement the 2021-2023 Liberia AT Roadmap. Assumptions were developed at the activity level (and sub-activity level, if necessary,) for each activity and unit costs were collected from MOH and NGO sources. Costing was performed in USD with an Excel-based tool developed by the Clinton Health Access Initiative (CHAI) Health Financing Global Team, developed with support provided under the AT2030 program's Country Investment Fund, which is funded by UK Aid from the UK government and led by the Global Disability Innovation Hub.

8.2. Cost Summary

The total cost to implement the 2021-2023 Liberia AT Roadmap is $1,695,865. Costs by thematic area are:

Thematic Area	2021	2022	2023	Total
AT Leadership & Governance	$84,084	$63,103	$20,295	$167,482
AT Service Delivery	$28,870	$42,412	$56,697	$127,979
Assistive Products & Procurement	$23,223	$130,895	$65,610	$219,728
AT Workforce	$43,100	$547,180	$403,890	$994,170
AT Data, Monitoring & Evaluation	$50,206	$119,830	$3,470	$173,506
AT Financing & Sustainability	$810	$10,840	$1,350	$13,000
Total	**$230,293**	**$914,260**	**$551,312**	**$1,695,865**

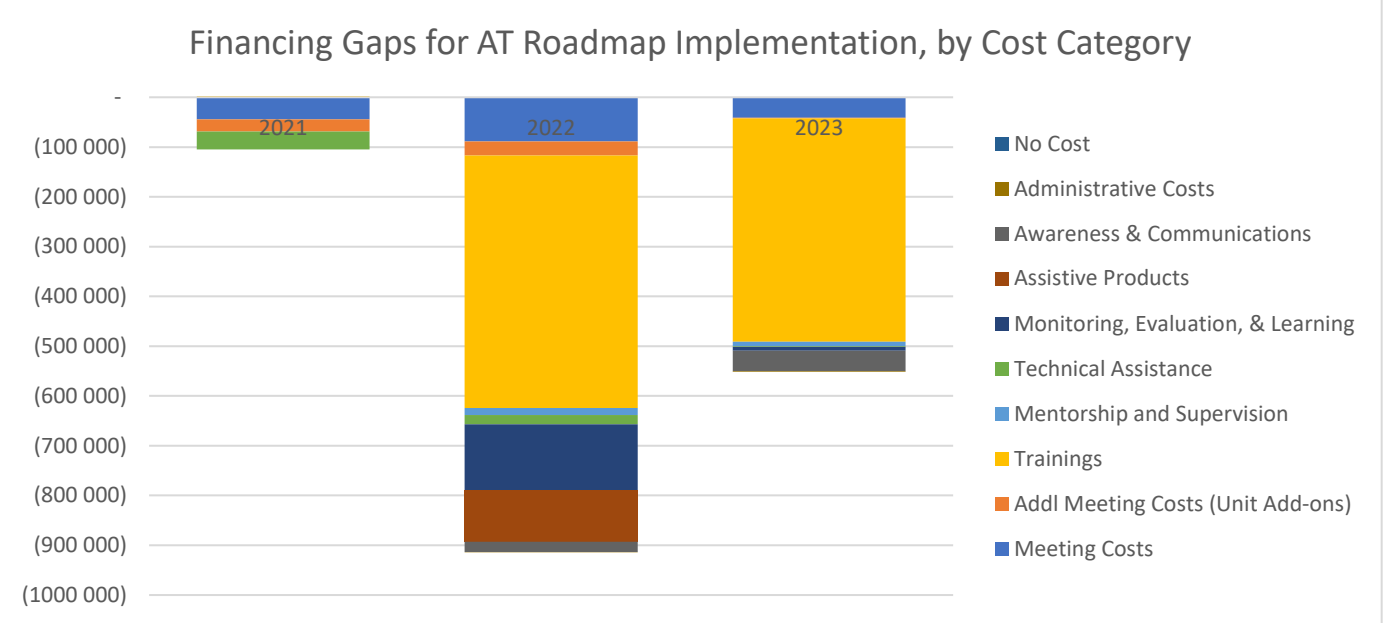
Costs in the Assistive Products category are primarily driven by procurement of raw materials, parts, equipment, etc. required to revitalize existing capacity for local production, maintenance, and repair of assistive products. Costs in the AT Workforce category are primarily driven by in-service training of existing cadres identified for AT task-shifting, in facilities identified for expansion into AT services. Costs per year, by cost category, were as follows:



As above, in-service training of providers is major proportion of costs. Meetings to develop various governance documents to guide future scale-up of AT service provision, as well as monitoring, evaluation, and learning activities to better understand the landscape and develop strong systems for monitoring progress in the future, also form measurable fractions of annual costs.

8.3. Financing

Accounting for funding secured for activities in 2021 from ATScale, the GDI Hub via FCDO, and WHO, there are still major funding gaps to implement the activities in this roadmap.



Undertaking activities in the AT Financing thematic area – like advocating for ear-marked AT funding in the national budget; exploring partnerships with the private sector; and conducting financial planning activities – will all be instrumental to ensuring the financing to achieve the objectives of the National AT Roadmap.

Further details about costing assumptions for every activity/subactivity, unit costs, and secured financing are available in the final budget tool, available with MOH.

Annex 1. Stakeholders who Participated in Development of the AT Roadmap

Below is a list of stakeholders who participated in development of the AT Roadmap, categorized by organization type, listed alphabetically by organization name and then surname. This list includes attendees of the CCA consultative workshop (the activities in this roadmap are based on the recommendations that stakeholders developed in that workshop); TWG members who provided feedback on the process, purpose, and strategic direction of the AT Roadmap; attendees of the validation workshop; and stakeholders who provided feedback on the AT Roadmap through other avenues (email feedback, phone calls, etc.)

Org Type	Organization	Name	Position
GoL/MoH - Lead Unit	Ministry of Health (MOH)	Dr. Wilhelmina Jallah	Minister of Health
	MOH National Eye Health Program	Hiaka Hinneh	National Coordinator
		Dr. Joseph L. Kerkula	Program Manager
		Carlton G. Kpahn	Senior Planning Officer
	MOH Non-Communicable Diseases and Injuries (NCDI) Unit	Zoe Taylor Doe	Deputy Program Director
		Dr. Anthony Tucker	Director
		Dennis A. Kamba	Coordinator
		Nancy Kanneh Saydee	Coordinator
		Dr. Wahdae-Mai Harmon-Grey	Public Health Specialist
GoL/MoH - Support Unit	MOH Health Information Systems, Monitoring, Evaluation, and Research (HMER) Unit	Luke Bawo	National Data Coordinator
	MOH Health Technology Management Unit (HTMU) Biomedical	Wymaa S. Youyoubon	Director
	MOH Nursing Division	Diana T. Sarteh	Deputy Director
GoL - Tertiary Hospital (Public AT Provider)	JFK-Liberia Eye Center	Edward B. Guizie	Head
	JFK-Monrovia Rehabilitation Center (MRC)	Dorbor M. Akoi, Sr.	Project Manager
		Forkpa L. Flomo	Orthopedic Technician
		Morris B. Freeman	Mobility Aid Technician
		Samuel S. Hennings	Physiotherapist
	Liberia Government Hospital Buchanan - Eye Center	Youngor Zayzay	Cataract Surgeon
GoL - Partner Body	Liberia Medicines and Health Products Regulatory Authority (LMHRA)	James D.K. Goteh	Director of Pharmacovigilance
	Ministry of Education (MOE) - Special & Inclusive Education Division	Theresa W. Garwo	Director
		Alexander M. Nakamu Jr.	Program Officer
	Ministry of Gender, Children and Social Protection (MGCSP)	James W. Karwah	Supervisor
	National Commission on Disabilities (NCD)	Rev. Fallah S. Boima	DDA
		Rose B. Daigbeh	Executive Secretary
		Ricardia B. Dennis	Executive Director (outgoing)
		Pay-bayee Daintowon Domah	Executive Director (incoming)
		Edwin T. Korsor	SA
		Archibald Masaley	Aid

Org Type	Organization	Name	Position
		D. Charles Saypahn	Planning & Research
OPWD	Christian Association of the Blind (CAB)	Rally F. Fallah	EAM
		Beyan Kota	Member
		Bokai Molley	Member
		Kennedy V Vangar	Lead Teacher
	Florence A. Tolbert and the Disabled Advocates (FATDA)	Samuel Dean	Executive Director
		Lettecia T. Morais	Member
	Group of 77	Isaacfor P. Dennis	Senior Program Specialist
	Hope in God Association of the Disabled (HIGAB)	Jochebad Morweh	Member / Secretary
	Liberia School for the Deaf	Andrew Tuqbek	Principal / Dean / Interpreter
	MSD	Joshua CV Birr	Sign Language Interpreter
		Kallah Kombbah	B. Manager
	National Union of Organizations of the Disabled (NUOD)	Daniel Dagbe	VP
		Naomi B. Harris	President
Private AT Provider	DSA Eye Clinic	Korsay R. Berrian	OPN
	Ganta Hospital	Lango W. Toe	Director of Health
	New Sight Eye Center	Robert F. Dolo	Executive Director
NGO	AIFO	Luther S. Wendi	Program Officer
	Clinton Health Access Initiative (CHAI)	Vekeh L. Donzo	M&E Associate
		Mia Lei	Assistive Technologies Associate
		Lily Lu	Program Manager
		Dr. Moses Massaquoi	Country Director
		Wenzile Mthimkhulu	Supply Chain Associate
		Julie Nicholson	Deputy Country Director (Outgoing)
		Matthew Nviiri	Deputy Country Director (Incoming)
	Lions Clubs of Liberia	Cllr. Dickson N. Doe	Lions Commissioner
		Mildred Dean	Zone Chair
	OneSight	C. Allison Paygar	Program Manager
	SightSavers	A. Emmanuel Kanneh	Field Project Coordinator
	World Health Organization (WHO)	Barkon Dwah	NCD Focal Point
		Moses Kerkula Jeuronlon	Technical Lead

References

[i] World Health Organization. (2018). Fact sheet: Assistive technology. Geneva: World Health Organization. Retrieved from https://www.who.int/news-room/fact-sheets/detail/assistive-technology

[ii] Liberia NCDI Poverty Commission. (2018). The Liberia Noncommunicable Diseases & Injuries (NCDI) Poverty Commission Report. Liberia: NCDI Poverty Commission.

[iii] World Health Organization & The World Bank. (2011). World report on disability. Geneva: World Health Organization. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/44575/9789240685215_eng.pdf

[iv] UN Department of Economic and Social Affairs [UNDESA]. (2019). Disability and development report 2018. Geneva: UN Department of Economic and Social Affairs. Retrieved from https://social.un.org/publications/UN-Flagship-Report-Disability-Final.pdf

[v] Ibid.

[vi] World Health Organization. (2017). *Noncommunicable Diseases Progress Monitor.* Geneva: World Health Organization. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/258940/9789241513029-eng.pdf

[vii] World Health Organization & The World Bank. (2011). World report on disability. Geneva: World Health Organization. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/44575/9789240685215_eng.pdf

[viii] UN Department of Economic and Social Affairs [UNDESA]. (2019). Disability and development report 2018. Geneva: UN Department of Economic and Social Affairs. Retrieved from https://social.un.org/publications/UN-Flagship-Report-Disability-Final.pdf

[ix] Ibid.

[x] Ibid.

[xi] World Health Organization & The World Bank. (2011). World report on disability. Geneva: World Health Organization. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/44575/9789240685215_eng.pdf

[xii] Ministry of Health, Ministry of Gender, Children, and Social Protection, & National Commission on Disabilities, with Clinton Health Access Initiative. (2020). Assistive Technology Country Capacity Assessment: Liberia's AT Capacity Report. Monrovia, Liberia: MOH, MGCSP, NCD.