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Wheelchair Service Provision Under the ADIP Scheme: Experiences Challenges and Perspectives of Service Providers

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Abstract: Wheelchairs enhance mobility and self-sufficiency among the users and their caregivers, enabling them to participate actively in day today activities despite limited mobility. Beyond facilitating everyday tasks, wheelchairs play a crucial role in enhancing social engagement and mental well-being. In India, through the Assistance to Persons with Disabilities for Purchase/Fitting of Aids/Appliances (ADIP) scheme, wheelchairs have been distributed to individuals in need since 1981. The study examine the wheelchair delivery process under the ADIP Scheme in the districts of Dindigul and Tenkasi, Tamil Nadu , identify the existing wheelchair delivery process in alignment with WHO guidelines and examine the challenges faced by service providers in the wheelchair delivery process. The study also aims to obtain recommendations from service providers for improving the wheelchair delivery system under the ADIP scheme. Data were collected from service providers through focus group discussions (FGDs) and in-depth interviews. The study's results indicate that implementing the scheme encounters challenges, particularly in areas including insufficient of technical staff, resource allocation, providing training during wheelchair distribution, and ensuring consistent follow-up and maintenance services. The study concluded that establishing assistive device service units Organising district-level training for beneficiaries during product delivery , and fostering a strong network among Wheelchair users can improve their skills in operating wheelchairs, Thus enhancing their overall functionality and independence. This, in turn, contributes to greater social participation, improved mental well-being, and a higher quality of life for wheelchair users.

Keywords: *Disability. Mobility, Service Provider, Assistive Device, ADIP Scheme, Wheelchair Delivery Process, WHO Guidelines.*

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I. INTRODUCTION

The report indicates that nearly one billion people worldwide experience some form of disability, comprising about 15 per cent of people worldwide. This figure is estimated to increase to two billion by 2050. By 2030, exceeding two billion peoples are expected to need, a minimum of one assistive product, with many older adults requiring multiple devices. At present, only around 10% of people in need of assistive technology have access to it. (WHO, UNICEF, 2022).

The global number of persons with disabilities is increasing Influenced by various factors, including the rise in chronic illnesses, population ageing, conflicts, natural disasters, and traffic accidents. This growing trend underscores the requirement for mobility-support devices, including wheelchairs, is substantial. Nevertheless, research conducted in resource-constrained settings indicates that access to essential assistive technologies is limited to only 17–37% of the population, resulting in an estimated 33–65 million individuals being deprived of the wheelchairs they require. (D'Innocenzo et al., 2021).

Enhanced mobility provides wheelchair users with opportunities to access education and employment, participate in community, cultural activities and utilise essential healthcare services. (Visagie et al., 2013). However, to maximise the positive influence of wheelchairs on individuals' quality of life and social inclusion, complementary services must be provided (Williams et al., 2017). In this connection, the World Health Organisation (WHO) emphasises that an appropriate wheelchair should meet the user's specific requirements for size, postural support, and environmental conditions, enabling participation in personal, social, educational, and economic activities. Furthermore, it must ensure an appropriate fit, provide safety and durability, and be locally available, easily maintainable,

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and affordable. (Mendez et al., 2022). In addition to that, many countries struggle to establish effective and Sustainable approach for wheelchair service provision. (Gowran et al., 2021).

The World Health Organization (WHO) has developed guidelines and training materials to support manual wheelchair provision in resource-limited settings through a systematic eight-step service delivery approach. This process includes referral, assessment, fitting, user training, and follow-up services. The Wheelchair Service Training Packages (WSTPs) aim to strengthen service providers' competencies in meeting the postural support requirements of wheelchair users and addressing their environmental needs. (Garcia-Mendez et al., 2023). Ensuring an appropriately fitted wheelchair is vital for maintaining quality of life, as the Wheelchair distribution procedure is complex and requires specialised expertise to select, procure, and provide suitable equipment amid diverse mobility options (Beauregard et al., 2025). Several studies from high-income countries have highlighted the importance of wheelchair accessibility in supporting rehabilitation and facilitating individuals' reintegration into society and employment. (Scherer, 2005; Riapet, 2012).

The Government of India has implemented several initiatives to improve access to assistive devices for persons with disabilities. Recognising mobility as an essential aspect of independent living, the Government introduced the Assistance to Disabled Persons (ADIP) Scheme to facilitate the provision and appropriate fitting of mobility aids and assistive devices. Furthermore, the establishment of the Artificial Limbs Manufacturing Corporation of India (ALIMCO), one of South Asia's leading manufacturers of rehabilitation aids, aims to enhance the availability and affordability of assistive products for persons with disabilities.

- *ADIP Scheme*

The Assistance to Disabled Persons (ADIP) Scheme, introduced by the Government of India on 1 January 1981, is implemented under the Department of Empowerment of Persons with Disabilities, Ministry of Social Justice and Empowerment. The scheme aims to provide and appropriately fit assistive aids and appliances for persons with disabilities, thereby promoting their mobility, functional independence, and overall quality of life. Implemented through Organisations such as the Artificial Limbs Manufacturing Corporation of India (ALIMCO) and other authorised bodies, the scheme provides free or subsidized assistive devices, particularly wheelchairs, tricycles, and hearing aids, in addition to supports necessary corrective surgeries. As of 31st March 2026, the ADIP Scheme has continued to significantly improve the physical, social and economic rehabilitation of beneficiaries across India.

Through this ADIP scheme, categories of wheelchair provided depends on the nature and degree of disability. Beneficiaries Persons affected by spinal cord injuries received electrically operated wheelchairs. Subject to availability through the District Differently Abled Welfare Office (DDAWO), while others Experiencing mobility limitations were given manual wheelchairs.

- *Role and Functions of the District Differently Abled Welfare Office in Tamil Nadu*

The District Differently Abled Welfare Office (DDAWO) functions under the control of the Welfare of the Differently Abled Persons Department at the Secretariat level and the State Commissionerate for the Welfare of the Differently Abled at the state level, while executing welfare and rehabilitation programs at the district level under the guidance of the District Collector The office ensures that persons with disabilities receive appropriate welfare support, rehabilitation services, and opportunities for independent living.

Under the ADIP Scheme, the DDAWO is responsible for identifying eligible beneficiaries and verifying the necessary documentation as part of the wheelchair provision process. Its responsibilities also include coordinating assessment and distribution camps and facilitating the provision of appropriate wheelchairs through agencies such as ALIMCO and NGOs. The office also maintains beneficiary records, addresses grievances, and monitors the implementation of the scheme. From the service providers' perspective, wheelchair delivery involves not only distribution but also the assessment of individual needs, environmental suitability, and user guidance. Examining their experiences helps to understand the effectiveness of the delivery process, identify implementation challenges, and explore opportunities to improve assistive technology services and beneficiary outcomes.

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➢ *Organisational Structure of the District Differently Abled Welfare Office*

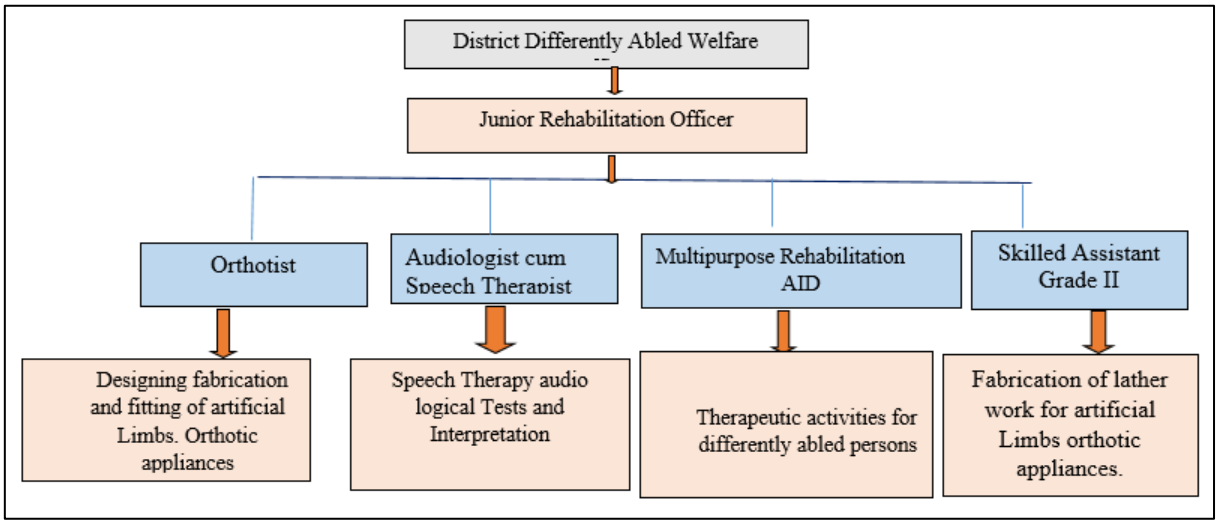


Fig 1 Organisational Structure of the District Differently Abled Welfare Office

The District Differently Abled Welfare Officer serves as the principal administrative authority responsible for overseeing all activities of the District Differently Abled Welfare Office (DDAWO). The Junior Rehabilitation Officers function under the supervision of the District Differently Abled Welfare Officer and assist in the implementation of various rehabilitation activities. Their responsibilities include supporting the day-to-day functioning of the office, conducting disability assessments, identifying the care and rehabilitation requirements of persons with disabilities and coordinating with other professionals including social workers, to ensure appropriate support services. They also provide instructions on the proper use of assistive technology and facilitate life-skills education to promote the independence of persons with disabilities. Other personnel working under this administrative arrangement include the Orthotist, Audiologist-cum-Speech therapist, Multipurpose Rehabilitation Aide and Skilled Assistant Grade II.

The major duties of the Orthotist include the preparation, fabrication, and fitting of artificial limbs and orthotic appliances. The Audiologist-cum-Speech Therapist is responsible for assessing hearing and speech-related difficulties, interpreting assessment findings, and providing appropriate therapeutic interventions. The Multipurpose Rehabilitation Aide supports the delivery of rehabilitation services, whereas the Skilled Assistant Grade II performs leatherwork associated with the manufacture of prosthetic and orthotic equipment.

II. MATERIALS AND METHODS

Based on Social Constructivist Theory, reality and knowledge are understood as being socially constructed through interactions, discussions, and shared experiences among individuals. In this research, the experiences and perceptions of service providers involved the wheelchair service delivery process under the ADIP Scheme was examined through Focus Group Discussions (FGDs). The group discussions enabled participants to collectively reflect on their roles, practices, challenges, and experiences in implementing wheelchair services. From a social constructivist perspective, the Focus Group Discussions enabled service providers to collectively share and construct meanings about beneficiary identification, assessment, wheelchair provision, distribution, and follow-up services. Their collective experiences offered valuable insights into the understanding and implementation of wheelchair service delivery under the ADIP Scheme across different service settings.

Focus Group Discussions (FGDs) conducted at the District Differently Abled Welfare Offices located in Dindigul and Tenkasi districts. Multiple field visits were also carried out to collect relevant information by the researchers to gain an in-depth understanding of the service delivery process and the operational aspects of disability welfare programmes. A total of four Focus Group Discussions were systematically organised with officials from both districts. The discussions involved key stakeholders, including the District Differently Abled Welfare Officer, Speech Therapist, and Technical Assistant, who held permanent positions at the DDAWO. The participants also comprised five contract-based staff members, two Non-Governmental Organisation representatives and wheelchair users. The researcher facilitated the discussions as moderator supported by two research scholars from the Department of Home Science, who documented the discussion.

The officials involved were the District's Differently-abled Welfare Officer, Speech therapist, and technical assistant, who were permanent employees at DDAWO. Five other DDAWO staff members working on a contract basis, two representatives from a Non-Governmental Organisation, and wheelchair users also participated in the discussion. The researcher moderated the discussion, and two research scholars from the Department of Home Science documented the discussion.

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The researcher initially outlined the purpose of the FGD and encouraged participants to share their experiences regarding the procedures followed for wheelchair distribution under the ADIP Scheme. These discussions offered meaningful perspectives on the implementation procedures, beneficiary identification, challenges faced during service delivery, and the overall functioning of disability welfare services.

➢ *Data Collection:*

In-depth interviews were used, to collect data from wheelchair service providers in Dindigul and Tenkasi Districts for one month, focusing on their services, experiences and difficulties associated with wheelchair distribution. The delegates' responses were properly documented. To acquire information on the topic, an interview guide was used. The discussion guide was designed to assess adherence to WHO guidelines in wheelchair service delivery and to identify the complaints expressed by beneficiaries regarding the wheelchair delivery process, wheelchair design and maintenance services. Additionally, it sought to understand the challenges experienced by the DDAWO in implementing wheelchair distribution activities.

III. DATA ANALYSIS

➢ *Thematic Analysis of FGD*

- Thematic Analysis: The qualitative data were examined using thematic analysis o recognise repeated patterns patterns and meaningful insights. The analysis was guided by the six-phase framework developed by Virginia Braun and Victoria Clarke (2006), which provides a systematic and flexible method for examining, organising, and interpreting themes within qualitative data. Following this approach, he interview records were systematically examined to generate and refine themes, enabling a detailed insight into understanding of participants' perspectives (Byrne, 2022; Ahmed et al., 2025). The analysis process comprised the following stages:

✓ Familiarisation with the data by repeatedly reviewing the interview transcripts
✓ Generating initial codes by coding important data segments related to wheelchair service delivery.
✓ Searching for themes through the categorisation of similar codes
✓ Reviewing themes to ensure that the themes accurately reflected the data
✓ Defining and naming themes to effectively convey the central idea of each theme and
✓ Producing a final report that described the themes in a clear and organised narrative

This method facilitated the identification of key factors associated with the established wheelchair delivery process in accordance with WHO guidelines. Difficulties encountered by service providers during wheelchair distribution include inadequate personnel, lack of Trained Personnel, Challenges in Wheelchair Fitting and Prescription, insufficient User Training, Inadequate Follow-up and Maintenance Services, and lack of Monitoring and Evaluation. By capturing these interconnected issues through participants' narratives, thematic analysis helped in understanding the real-life difficulties faced by caregivers in a meaningful way.

IV. RESULTS AND DISCUSSION

➢ *Personal Background of the Respondents*

- *Analysis of Focus Group Discussion with a Thematic Approach*

Table 1 Personal Background of the Respondents

S. No	Variables	Number of Participants (N=23)	
		No	%
1	**Gender**		
	Male	13	56.5
	Female	10	43.5
2	**Age (in Years)**		
	<20	2	8.7
	20-30	5	21.7
	30-40	8	34.8
	>40	8	34.8
3	**Educational Qualification**		
	Higher secondary	5	21.7
	Degree/ Diploma	13	56.6
	Master Degree	5	21.7
4	**Marital Status**		
	Married	12	52.2
	Unmarried	11	47.8

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This table depicts the socio-demographic profile of the respondents. The study included 23 respondents; among the participants the gender distribution of the respondents indicated that 56.5 per cent were male, while 43.5 per cent were female. Regarding age, 34.8 per cent of the participants belonged to the 30–40 years age category, and 34.8 per cent were above 40 years of age. Only 8.7 per cent of them were below 20 years old. With regard to education, 56.6 per cent held a degree/ Diploma, 21.7 per cent had completed higher secondary education, and 21.7 per cent had a postgraduate degree. Regarding marital status, 52.2 per cent were married, and 47.8 per cent were unmarried, indicating a nearly equal distribution.

Thus, the table revealed that 70% of participants were aged 30 years and above. The majority of them hold a degree/ diploma, and half of them are married.

➢ *Thematic Analysis*

The study adopted Braun and Clarke's (2006) six-phase thematic analysis framework to systematically identify and interpret themes within the qualitative data. This widely recognised and flexible approach guided the analysis process, and the application of each phase is presented below (Byrne, 2022; Ahmed et al., 2025).

- *Familiarisation with the Data:*

Repeatedly reviewed the FGD transcripts and field notes to examine the experiences of service providers in depth and challenges related to the wheelchair delivery process under the ADIP Scheme.

- *Generating Initial Codes:*

Based on repeated review of the transcripts, key words, recurring ideas, and meaningful statements related to the wheelchair delivery process were identified and coded to capture important features relevant to the study objectives.

- *Searching for Themes:*

Related codes were grouped into broader themes to determine key patterns within the data concerning the implementation of the ADIP Scheme, wheelchair service delivery process, WHO guideline adherence, challenges faced by service providers, beneficiary feedback, and capacity-building needs.

- *Reviewing Themes:*

The identified themes were systematically analysed and refined to ensure that they accurately represented the service providers' perspectives. Each thematic category was examined for internal consistency, logical coherence, meaningfulness, and distinctiveness. This process helped verify that the themes appropriately reflected the participants' views and provided a comprehensive representation of the overall dataset.

- *Defining and Naming Themes:*

Each identified theme was clearly defined, described, and appropriately named to reflect its key findings. The themes highlighted the wheelchair delivery process, user's complaints, challenges faced by service providers, and suggestions for strengthening the ADIP Scheme.

- *Producing a Final Report:*

In the final stage, the researcher presented the themes and subthemes in a logical and coherent manner to present a detailed understanding within the ADIP Scheme's wheelchair service delivery system. The findings were integrated into a meaningful narrative, and a thematic map (Figure 1) was developed to illustrate the central theme, "Wheelchair Delivery Process under the ADIP Scheme: Perspectives of Service Providers," along with its interconnected themes and subthemes.

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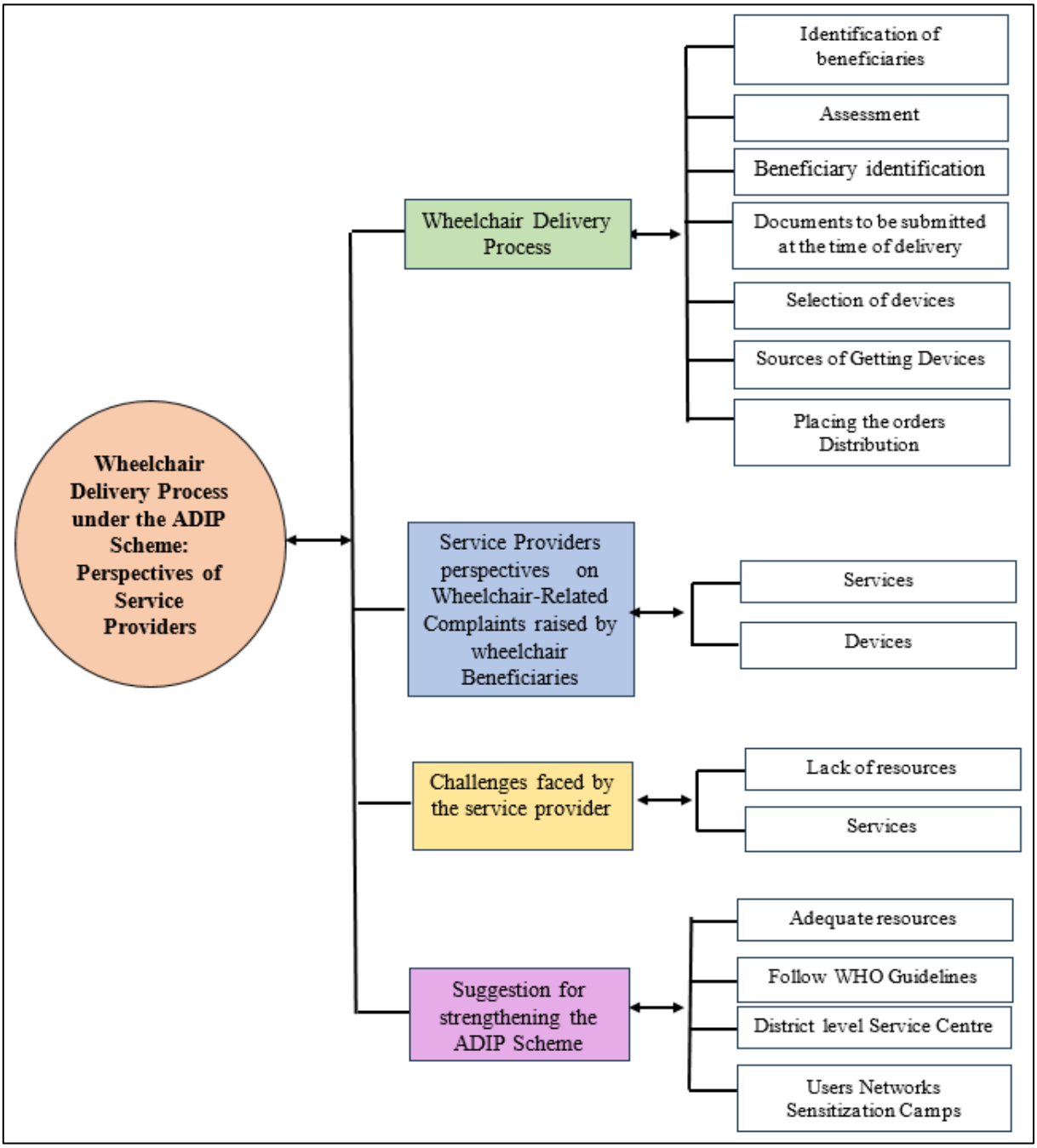


Fig 1 Thematic Map Indicating Wheelchair Delivery Process under the ADIP Scheme: Perspectives of Service Providers

➢ *Theme 1 Wheelchair Service Delivery*

FGD participants reported that beneficiary selection under the ADIP Scheme takes place through several channels, including district-level camps, implementing agency headquarters and regional centres, approved NGOs, the ADIP mobile application, and the MIS/ADIP Web Portal, ensuring beneficiary assessment, registration, and timely distribution of assistive devices. After identifying the selection of beneficiaries is based on specific criteria including being an Indian citizen with a certified disability of 40% or more. Additionally, the eligibility is restricted to applicants whose monthly earnings do not exceed Rs. 30,000, provided they have not benefited from similar assistance for the same purpose over the past three years.

The selection process is fair and transparent based on thorough verification of documents and adherence to established eligible criteria. At the time of wheelchair delivery, the beneficiary must submit essential documents, including Aadhaar card, UDID card, ration card, and Voter ID, to verify identity, disability status, income level, and citizenship, ensuring a transparent and accountable distribution process. The beneficiaries, an assessment and prescription can be considering only the percentage of disabilities and type of disability, not considering the nature of work, housing conditions, clinical evaluation, and mobility requirements. Motorised tricycles are supplied to persons with severe locomotor impairments, including conditions such as stroke, cerebral palsy, and hemiplegia. These devices are generally provided to individuals with 80% or greater

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disability affecting three or four limbs or one side of the body. The selection of a motorised tricycle is determined by the extent of the disability and the individual's requirement for powered mobility, enabling greater independence in movement and enhancing overall quality of life.

Regarding the sources of getting devices: Assistive devices are primarily provided through the ADIP Scheme, NGOs, and donations from individuals or organisations. Their distribution is coordinated by the DDAWO, the Collector's office, and occasionally through MLA meetings to ensure that eligible beneficiaries receive assistive aids efficiently and transparently.

The WHO Guidelines on Manual Wheelchair Provision in Low-Resource Settings informed the development of two Wheelchair Service Training Packages (WSTPs), which are based on eight key service delivery steps referral, assessment, prescription, funding, product preparation, fitting, user training, and follow-up to enhance the quality and effectiveness of wheelchair services and assist providers in delivering wheelchairs that are appropriately suited to each user's postural, functional, and environmental needs (Toro, Eke, & Pearlman, 2016) (Garcia-Mendez et al., 2024).

When the WHO-recommended wheelchair service delivery process was compared with the existing delivery process chart, several limitations and strengths of the current system were identified. This comparison will help to enhance the effectiveness of the wheelchair delivery system in the future.

- *Comparison of the Existing District-Level Wheelchair Delivery System with World Health Organization WHO Guidelines*

Table 2 Comparison of the Existing District-Level Wheelchair Delivery System with World Health Organization WHO Guidelines

WHO Guidelines	Existing Wheelchair Delivery Process
Referral and appointment: Referral and appointment mechanisms promote fair access to services, enhance operational effectiveness and reduce waiting periods in wheelchair service delivery.	The DDAWO office adheres to the WHO recommendations concerning referral and appointment procedures. Beneficiaries can submit their applications either in person at the DDAWO office or through online platforms.
Assessment: World Health organizations recommends that qualified professionals conduct beneficiary assessments during disability identification camps to determine the most suitable wheelchair for each individual. The selection process should consider several factors, including the person's physical condition, environmental circumstances, lifestyle, age, gender and cultural background.	At the district level, the DDAWO conducts disability identification camps to assess beneficiaries based on their individual disability status and percentage of disability.
Prescription to ensure that each beneficiary receives a wheelchair that best meets their individual requirements. Service providers and wheelchair users are encouraged to participate jointly in determining the final wheelchair model and its essential features. WHO recommendations emphasise the importance of customising wheelchair selection according to the specific needs of each individual.	Beneficiaries were not given the opportunity to choose the wheelchair model and its required features.
Funding and ordering: Beneficiaries should be informed about available financial assistance, while the procurement process should be customised to their individual requirements to ensure the provision of suitable wheelchairs.	The process may not always prioritise personalised ordering.
Product Preparation:. The wheelchair was modified and enhanced to meet ndividual requirements of user, including the distribution of customised or posture-support components when necessary. Also, fitting, safety And preparatory checks should also be conducted.	No customisation of wheelchairs based on personalised needs is considered.
Fitting: Fitting is recommended for beneficiaries after a thorough check of product preparation, including the appropriate assembly of the wheelchair and adjustments to achieve an optimal fit.	Because of insufficient of qualified personnel, fittings are not carried out thoroughly, potentially leading to discomfort or inefficiency in use.
Training: Training on the use of wheelchairs by users and caregivers ensures the safe and successful use of wheelchairs. Also helps in basic repairs and maintenance.	Not either the disabled individuals or the caregivers receive any training from the DDAWOs. Training needs to be included as part of the wheelchair provision process.
Follow-up, maintenance and repair: World Health Organisation highlights the need for periodic follow-up assessments to identify and resolve operational problems, maintain wheelchair functionality and promote their continued use over an extended period.	The DDAWO office does not offer post-distribution follow-up services, wheelchair fitting, maintenance or repair facilities. Therefore, these essential support services require appropriate attention and improvement.

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Even though officials are aware of the WHO guidelines for the eight steps, they were unable to provide training to users, perform repairs and maintenance, and follow-up activities. This situation arises from the shortage of trained staff at the District Differently Abled Welfare Office, resulting from unfilled vacancies and a shortage of repair, maintenance, or training units in DDAWO. The devices are not customised according to the user's physical status, home, school, workplace, and other settings where the wheelchair is used, along with their lifestyle, age, body dimensions, and overall needs. There is a disparity between the number of persons with disabilities, the applications received and the wheelchairs distributed by the government. Therefore, PWDs must wait between six months and one year to receive their wheelchair after submitting the application.

Poor-quality wheelchairs and inadequate service delivery can have a harmful influence on users' health, autonomy, and overall well-being, while further hindering their capacity to participate in society and exercise their basic human rights, including access to healthcare, education, and employment. (Garcia-Mendez, D'Innocenzo, Pearlman, Vásquez-Gabela, Rosen, & Rodriguez-Funes, 2024).

- *Theme 2: Service Providers' Reports on Wheelchair-Related Complaints from Beneficiaries*

Service Providers Reported on Wheelchair-Related Complaints from Beneficiaries Regarding the service delivery process, that individual assessments were not undertaken before provision of wheelchair. As a result the devices were not always suited to their specific needs, leading to discomfort and limited usability. In addition, there was often a long waiting time to receive the wheelchair, which delayed their mobility and independence. Disabled persons were receiving service that it was challenging to attend office assessments or follow-up visits due to physical barriers, a lack of transport or financial constraints. Furthermore after receiving the devices, training regarding the use of wheelchair properly was not provided, leaving many users unsure about how to operate to maintain it. Overall service provider's expression the provision of wheelchairs.

As a result, the devices were not always suited to their specific needs, leading to discomfort and limited usability. In addition, there was often a long waiting time to receive the wheelchair, which delayed their mobility and independence. Disabled persons were receiving service that it was challenging to attend office assessments or follow-up visits due to physical barriers, a lack of transportation or financial constraints. Furthermore, after receiving the devices, training regarding the use of wheelchairs properly was not provided, leaving many users unsure about how to operate or maintain them. Overall, service providers express significant delays and challenges in accessing assistive technology indicating that the service delivery process needs improvement. A more user-friendly and decentralized approach such as doorstep services, timely assessments and proper training, would greatly enhance the efficiency and influence of wheelchair provision.

Regarding the design of the wheelchair FGD participants expressed their views on wheelchair focusing on critical factors as dimension, comfort, postural support and the requirements for individual modifications. The assistive devices were supplied by the government without being adapted to the specific needs of users. They stressed that wheelchair dimensions much match individual requirements and recognized the need for proper padding and ergonomic seating for continuous use. Many of their concerns could be resolved through effective customization, which they viewed as a vital part of the delivery process. Access to assistive technology (AT) is recognized as a key factor empowering persons with disabilities to fully realize and exercise their human rights (Quiñones-Uriostegui et al., 2023). However, the wheelchairs supplied through the ADIP scheme are often treated as disposable items, typically breaking within three months. They cannot be customized, and users receive only standard models, either an adult or a pediatric wheelchair. The wheelchair's overall weight was another concern, as many users revealed that the devices were too heavy to handle, particularly when navigating daily environments without assistance. This made handling the wheelchair challenging particularly for people with difficult limited strength. Mobility challenges were further compounded by environmental barriers. Another major compliant received by service providers from users difficulties while ascending and descending stairs, as most wheelchairs were not designed to support such movement safely. Additionally, they struggled to overcome obstacles such as curbs, uneven surfaces and door thresholds, especially in public spaces lacking inclusive infrastructure. Overall these issues point to a lack of personalized design, inadequate support services and poor environmental accessibility, which limit the efficacy of wheelchair provision**.**

A comprehensive wheelchair the service provision framework must incorporate proper assessment user-specific lightweight devices regular maintenance and user training to enhance safety, usability and independence. Poor–quality wheelchair and inadequate services can negatively affect user health well- being and participation in education, employment and community life while satisfaction with wheelchair services may also vary by gender (Geilen et al., 2020).

Studies indicate that wheelchairs provided through the ADIP Scheme do not fully meet WHO-recommended design standards, lacking features such as posture-support components and cushioned seating. Service providers reported concerns regarding poor durability, absence of maintenance services and limited suitability for indoor use particularly in rural areas, which restrict users' mobility and community participation. Similar problems have been observed in other studies on wheelchair use in India (Gupta, Meershoek, & De Witte, 2021).

The quality of assistive technology services particularly wheelchair service delivery is significantly influenced by systemic challenges and procedural gaps. One major issue is the lack of individual assessment where wheelchairs are provided without properly evaluating the user's unique needs,

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body dimensions and living environment. This can result in discomfort, poor fit, or even harm.

- *Theme 3: Challenges Faced by the Service Providers*

Service providers delivering assistive devices, especially in low-resource settings, face significant challenges related to training and capacity building. A critical issue is the lack of specialised training, which limits providers' ability to assess, prescribe, and fit assistive devices appropriately. Many personnel involved in service delivery do not follow the WHO guidelines, resulting in inappropriate fitting and limited user satisfaction. The difficulty in customising devices to meet individual user needs is compounded by the lack of assessment tools and insufficient knowledge of device-user matching principles. Moreover, assessment and customization difficulties often stem from inadequate personnel, both in relation to number and expertise, creating difficult to provide personalized solutions.

Under the sub-theme of resource constraints, a major concern identified was the inadequate staffing at the District Differently Abled Welfare Office (DDAWO). In many districts, there is an absence of basic support staff, such as office assistants, which hampers the smooth functioning and timely delivery of services. Moreover, the lack of trained and qualified personnel within the office affects the efficiency of assessments, documentation, and coordination with service providers. This staffing gap frequently results in delays in processing applications and providing follow-up support to beneficiaries. Another critical resource gap is the absence of a dedicated unit for repairing and maintaining assistive devices, especially wheelchairs. Once the devices are distributed, users have limited or no access to technical support for repairs or adjustments, resulting in poor device longevity and increased abandonment. Overall, these deficiencies in human and technical resources highlight the need for systemic strengthening of infrastructure and capacity at the district level to ensure effective and sustainable assistive technology services. The need for timely wheelchair repairs has far-reaching consequences that can severely affect the health, well-being, and social participation of wheelchair users. When wheelchairs break down, users may suffer injuries, miss important medical appointments, lose access to education or employment, or even become stranded. Individuals who face such consequences due to wheelchair malfunction are nearly twice as likely to be re-hospitalised, have a 1.7 times higher risk of developing pressure injuries, and tend to report poorer overall health and increased pain levels (Worobey et al., 2022).

Regarding services, a key issue identified is that individual assessments were not conducted at the time of receiving applications, resulting in services delivery gaps. Without proper, evaluation of each beneficiary's physical condition, environment and mobility needs the wheelchair provided were often unsuitable or mismatched. Moreover, service providers reported delays in providing wheelchair and were unable to offer proper guidance due to shortage of personnel. Wheelchair were also not distributed in proportion to the number of applications received leaving many beneficiaries waiting for their devices. This suggests that the distribution process is not in accordance with actual user demand. Another constant is that funding and procurement activities are carried out without considering the specific needs of users; resulting in bulk orders of standard devices that may nor serve device or complex requirements. Moreover, users did not receive any training on operating or maintaining their wheelchairs, which reduced the devices' effectiveness, safety, and durability. These shortcomings underscore the need for a user _ centre wheel chair service that involves assessing individual needs, selecting suitable devices, and providing ongoing support, including training and repair services. The absence of continuous education and professional development opportunities means that providers are not kept up to date with evolving best practices.

In addition, the lack of follow-up visits, tracking systems, and mechanisms for measuring outcomes further weakens the overall quality and impact of assistive device provision. Without these crucial components, it becomes nearly impossible to evaluate effectiveness, address post-distribution challenges, or ensure long-term success in offering assistive technology services.

- *Theme 4 - Suggestions for Improving the Distribution System*

Beneficiaries are not given adequate instructions regarding the proper use, upkeep, and repair of manual and powered wheelchairs. In addition, the availability of technical support and repair services remains limited.

FGD participants suggested that strengthening the wheelchair distribution process is crucial to ensure the proper allocation of necessary resources, including financial support, infrastructure, and personnel. Appointing qualified personnel, such as rehabilitation specialists and trained technicians, will enhance the accuracy and improve the standards of user assessment, wheelchair fitting, and training by adhering to the WHO's recommended wheelchair service delivery procedures, which outline eight essential steps from referral to follow-up, will help create a standardised, user-centred system. Establishing district-level wheelchair service centres can decentralise the services, thereby improving their accessibility, especially to rural and underserved populations. These centers can serve as facilities for assessment, device distribution, maintenance, and training. Creating and supporting user networks will promote peer support, community engagement, and user-led advocacy. hese networks may additionally ensure valuable feedback to improve services and foster a sense of empowerment among wheelchair users. A well-structured referral and identification system involving health workers, local bodies, and NGOs is crucial to ensure the inclusion of every qualified individual are identified and supported. Additionally, integrating a feedback and evaluation mechanism will help service providers track the effectiveness of their interventions, improve accountability, and adjust services accordingly to meet user needs. Regular follow-up is necessary to assess wheelchair usage, provide technical support, and make any required modifications. Conducting sensitisation camps will raise awareness about disability-related issues, promote inclusion, and reduce stigma at the community level. Finally,

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awareness sessions and demonstrations of devices will educate users and their caregivers on the proper use, maintenance, and potential of assistive devices, thereby increasing their confidence and independence. Practitioners working under the ADIP scheme generally lack training in wheelchair measurements and fittings, and even when they do have the skills, they cannot apply them because suitable wheelchair options are unavailable. Furthermore, the large number of beneficiaries attending each camp leaves little time for personalised assessment or support.

V. CONCLUSION

This study critically examines the implementation of wheelchair distribution services through the ADIP programme focus group discussions, revealing significant systemic gaps and user concerns. While the scheme plays a vital role in distributing assistive devices, the process often lacks individual assessment, customisation, and proper user training key components recommended by the WHO's eight-step wheelchair service delivery guidelines. Wheelchairs are often provided based solely on disability percentage, ignoring critical personal and environmental factors like mobility needs, housing, and lifestyle. Delays in distribution, inadequate maintenance support and an insufficient number of skilled staff further compromise the utility and sustainability of the devices. Many users reported discomfort, limited mobility, and safety issues due to poorly fitted and low-quality wheelchairs. Environmental inaccessibility and lack of awareness exacerbate the challenges, especially in rural areas. The study also highlights how service providers face constraints due to staff shortages, lack of repair units, and limited wheelchair models. To improve outcomes, a user-centred, decentralized, and responsive model is needed, one that integrates assessments, appropriate device selection, training, follow-up, and repairs. Adherence to WHO guidelines, infrastructure strengthening, appointment of trained professionals, and regular monitoring can significantly enhance user satisfaction, mobility, and participation. Ultimately, wheelchair provision should empower users, enabling them to achieve autonomy, dignity, and full social inclusion.

RECOMMENDATIONS

- Suggest to Adopt WHO Guidelines: Implement the WHO-recommended 8-step wheelchair service delivery system to ensure comprehensive care covering assessment, prescription, fitting, training, and follow-up.
- To Strengthen Human Resources: Appoint qualified personnel like occupational therapists, physiotherapists, and orthotists at each DDAWO to carry out proper assessments and fitting procedures.
- To improve customization based on individual needs.
- To Establish District-Level Wheelchair Service Centres.
- To Provide Training to both service providers and wheelchair users.
- To Create User Networks and Peer Support Groups.
- To Conduct Awareness and Sensitisation Camps:

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