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Integrating wheelchair service training into university curricula: Learnings from Pakistan

Introduction

This policy brief provides a comprehensive overview of the basic wheelchair service training conducted by Learning, Acting, and Building for Rehabilitation in Health Systems (ReLAB-HS)¹ and advocates for the strategic integration of wheelchair service training (from basic to advanced) into university curricula² to address the global need for skilled wheelchair service providers. The recommendations in this document aim to enhance the quality of and accessibility to wheelchair services, ultimately improving the functioning and quality of life of individuals who rely on wheelchairs for mobility.

Problem statement

With an estimated 75 million people in need of wheelchairs globally, there is a critical shortage of trained rehabilitation professionals equipped to provide appropriate wheelchair services. In Pakistan, provider knowledge and skills are limited, due to a lack of engagement and exposure to wheelchair service delivery and limited available resources, preventing the provision of services and wheelchair prescription. Integrating wheelchair service training into Pakistani university curricula to train rehabilitation and health professionals can bridge this gap and support a consistent, high-quality standard of care.

While training is a fundamental component of expanding the availability of services by strengthening provider knowledge and skills, it should accompany efforts to increase the supply of wheelchairs.

The [rapid Assistive Technology Assessment \(rATA\)](https://relabhs.org/)³ conducted in Pakistan by the World Health Organization, the Ministry of National Health Services, Regulations, and Coordination, and Health Services Academy in 2019 provides valuable insights into the demand for various types of assistive technology (AT), including wheelchairs. It highlights a significant need for assistive products (APs), with approximately 17% of the population requiring such technologies. A notable

Empowering rehabilitation practitioners

Incorporating wheelchair service training into rehabilitation professionals' practice and education curricula will enhance services for individuals with mobility-related rehabilitation needs.

¹ <https://relabhs.org/>

² University curricula are also available to rehabilitation training institutes and centers to support pre-service and in-service education.

³ https://cdn.who.int/media/docs/default-source/assistive-technology-2/base-line-survey-in-pakistans.pdf?sfvrsn=3ed8c9a8_11

12.4% of those surveyed reported difficulties with basic movements, such as sitting and walking. There is a significant gap in AT provision, with 13.1% of needs going unmet, suggesting a lack of access among those who could benefit. Particularly, among those experiencing considerable difficulty in mobility, 70.5% do not have the APs they need, while only 33.2% use APs. The data further indicates that 3.7% of respondents struggle substantially with mobility, and 1.1% are completely unable to perform basic functions (e.g., sitting, walking). Based on the rATA findings, we estimate that 1.3% to 3.6% (roughly 3.1 to 8.7 million people) of the total Pakistani population need wheelchairs. These findings emphasize the urgent need to enhance the availability of wheelchairs and similar aids to improve the lives of individuals with mobility impairments.

Training summary

To address this gap, ReLAB-HS delivered standardized wheelchair trainings in two districts in Pakistan. The trainings aimed to enhance the knowledge and skills of rehabilitation professionals, empowering them to facilitate improved access to appropriate wheelchairs and establish referral pathways for individuals who require wheelchair services.

	Swat	Thatta
Dates	September 19-21, 2023	January 10-12, 2024
Participants	12 rehabilitation professionals (secondary care facilities) <ul style="list-style-type: none"> • Physiotherapists • Occupational therapists • Prosthetists and orthotists 	12 rehabilitation professionals (secondary care facilities) <ul style="list-style-type: none"> • Physiotherapists • Occupational therapists • Prosthetists and orthotists

Training implementation

- ReLAB-HS employed a structured, multi-phased approach, including conducting a needs assessment, stakeholder consultations, and service mapping prior to delivering the training.
- The World Health Organization's (WHO) [Wheelchair Service Training Package - Basic level](#)⁴ was utilized, focusing on Select, Fit, Train, and Follow-up steps.
- Experienced international and national professionals delivered the training, which combined theoretical instruction with hands-on practice.

Training outcomes

- The strengthened capacity of the rehabilitation professionals to deliver effective wheelchair services was demonstrated by an increase in wheelchair prescriptions for clients.⁵
- The number of wheelchair assessments increased, indicating a change in rehabilitation professionals' practice and increased demand by individuals with mobility-related rehabilitation needs.

⁴ <https://www.who.int/publications/i/item/9789241503471>

⁵ ReLAB-HS conducted in-person observations and three- and six-month post-training assessments on the rehabilitation professionals' performance, which captured changes in wheelchair service delivery.

Impact of training

- By building the capacity of rehabilitation professionals, the training addressed a significant gap in wheelchair service delivery within the districts, increasing the number of qualified wheelchair service providers.
- The training improved the knowledge and skills of rehabilitation professionals and equipped them to deliver quality wheelchair services.
- The knowledge and skills of trained rehabilitation professionals can be directly applied to wheelchair service delivery at secondary-level facilities and primary-level facilities where services are available.
- Increased access to and availability of wheelchair services will improve the quality of life for wheelchair users.
- Using implementation research to inform clinical practice and wheelchair service guidelines will support their replication and scale-up.

Challenges and Recommendations

ReLAB-HS identified specific challenges and proposes the following recommendations.

	Challenges	Recommendations
1	Knowledge retention Rehabilitation professionals lack full engagement and exposure to wheelchair service delivery, leading to inadequate knowledge retention and application during assessments.	Refresher courses Arrange regular refresher courses with a practical component and provide guidance to support the use of online learning platforms. Facilitate rehabilitation professionals' access to continuing professional development (e.g., via certifications) to foster knowledge retention and continuous practice of wheelchair service delivery.
2	Integration into health systems The presence of trained rehabilitation professionals exposes the absence of wheelchair services, raising concerns among health authorities about the importance of integrating these services into the existing health system.	Stakeholder engagement Organize an orientation seminar for the leading local wheelchair service provider(s), physical rehabilitation institutes, and the health and social welfare departments to educate them on the importance and benefits of integrating basic-level wheelchair service into their existing public and private health facilities. Circulate copies of the WHO's Wheelchair Provision Guidelines (2023) to inform stakeholders about recommendations and implementation guidance.

	Challenges	Recommendations
3	Service delivery initiation The increase in wheelchair assessments indicates that these new services have been initiated, but it also highlights the need for increased awareness among existing wheelchair users and individuals with mobility-related impairments.	Collaborative partnerships Circulate the <i>Wheelchair Provision Guidelines</i> and product specifications of four-wheel, semi-urban, and dual-terrain wheelchairs among local wheelchair service providers to facilitate the procurement of appropriate products and spare parts and support them to establish equipped labs to train wheelchair users.
4	Local supply chain The increased collaboration between service delivery and the supply chain stakeholders is crucial, as there is no industry available to supply appropriate wheelchairs locally.	Facilitate local partnerships among experienced service providers and wheelchair manufacturers to provide technical assistance in establishing wheelchair service labs/workshops in universities/facilities and improve the quality of wheelchair service provision and training.
5	Assessment and application While assessments of wheelchair users enable rehabilitation professionals to apply their knowledge and skills, limited knowledge and exposure to wheelchairs as new technology make it difficult to ensure these assessments are comprehensive and lead to the necessary interventions.	Evidence-informed practice and research Support rehabilitation professionals' engagement with continuing professional development (CPD) that includes evidence-informed practice as a way to use existing research to enhance wheelchair service delivery. Encourage research initiatives by students to continuously update the curriculum and involve students in the latest advancements in service provision and wheelchair and seating technology.
6	Global and local education The lack of wheelchair service delivery competency among rehabilitation professionals and the limited integration of wheelchair training into professional rehabilitation programs is a global concern.	Interdisciplinary approach Establish wheelchair labs, integrate wheelchair service delivery training into rehabilitation curricula, establish certification programs within universities, and leverage online courses. Universities and professional associations should promote CPD of wheelchair professionals.
7	Training opportunities There is a lack of appropriate wheelchairs and training opportunities, limiting workforce development potential and service access for the community.	Advocate with professional health education institutions, such as Health Services Academy ⁶ and other universities, institutes, and training centers that deliver education and training on rehabilitation or public health, to commence a post-graduate diploma in AT. This program should include a wheelchair service module for students/professionals of physical therapy, occupational therapy, prosthetics and orthotics, and non-rehabilitation sciences.

⁶ <https://hsa.edu.pk/>

	Challenges	Recommendations
8	Curriculum development The lack of wheelchair service training in existing curricula limits the number of trained rehabilitation professionals and hinders access to quality wheelchair services across the country, leading to health complications and socio-economic difficulties for wheelchair users.	Supplementing university curricula All universities and institutes delivering education and training on physical therapy, occupational therapy, and prosthetics and orthotics should take measures to supplement university curricula by incorporating a wheelchair service module based on the Wheelchair Education Package⁷ of the International Society of Wheelchair Professionals⁸ , ensuring it covers topics according to the length of the program.
9	Local service challenges The absence of wheelchair personnel and professionals at local health facilities often leads to secondary complications or abandonment of wheelchairs.	Educating the local community Sensitize the district health department to arrange basic level product familiarization and maintenance training for technical staff of local health facilities at the primary care level and for wheelchair users in the community to foster effective wheelchair maintenance and user follow-up, thus preventing secondary complications and abandonment.

Conclusion

The integration of wheelchair service training into university curricula for rehabilitation and health professionals offers the opportunity to institutionalize and sustain efforts to address the global need for qualified service providers. As university curricula are available to rehabilitation training institutes and centers, the wheelchair service training would reach students enrolled in other programs and support the continuing professional development of current practitioners. This initiative, informed by recent training experiences, would have a profound positive impact on the mobility and independence of millions of individuals worldwide.

Appendices

- Global Wheelchair Service Training Development

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⁷ <https://wep.iswp.org/>

⁸ <https://iswp.org/>



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