

WHO Guidelines on the provision of manual wheelchairs in less resourced settings

The purpose of the *Guidelines on the provision of manual wheelchairs in less resourced settings* is to enhance the quality of life of wheelchair users in less resourced settings through improved access to appropriate wheelchairs. The focus is primarily on manual wheelchairs and the needs of permanent wheelchair users.

The recommendations in the guidelines are targeted at people involved in different aspects of wheelchair services ranging from planning, supplying and providing to using. Flexibility is required due to the many different contexts in which they may be applied and implemented.

The guidelines are structured into five chapters:

- 1. Introduction**
- 2. Policy and planning**
- 3. Service provision**
- 4. Design and production**
- 5. Training**

1. Introduction

Chapter 1 introduces the concept of appropriate wheelchairs, the need for, rights to and benefits of wheelchairs, wheelchair users, systems of wheelchair provision, types of wheelchairs, and stakeholders.

Appropriate wheelchairs

A wheelchair is appropriate when it meets the user's needs and environmental conditions; provides proper fit and postural support; is safe and durable; and is available and can be accessed, maintained and sustained in the country at the most economical and affordable price.

Need for, rights to and benefits of wheelchairs

It is estimated that 1% of a population require a wheelchair, i.e. about 65 million people worldwide. In less resourced settings, very few of those in need have access to an appropriate wheelchair. To many a wheelchair is a precondition for exercising human rights and equal participation. The rights to wheelchairs are stated in the UN documents the “Standard Rules on the Equalization of Opportunities for Persons with Disabilities” and in the “Convention on the Rights of Persons with Disabilities”. In addition to providing mobility, an appropriate wheelchair is beneficial for the physical health of the user. Providing wheelchairs that are appropriate for the user and the environment of use is cost effective.

Wheelchair users

Wheelchair users is a diverse group of people representing a wide range of mobility needs. With an appropriate wheelchair, and training in how to use it, many wheelchair users are able to live full and active lives in their communities. However, they often face a number of challenges, including financial and physical barriers as well as inaccessible services, information and wheelchair types.

Wheelchair provision

Wheelchair provision includes design, production and supply of wheelchairs, and wheelchair services. Positive impact on the quality of life depends upon all of the areas of wheelchair provision working well.

Wheelchairs can be produced locally or imported. Different methods of wheelchair distribution are practiced. Irrespective of method, services are needed to ensure that wheelchair users are given assistance in selecting the most appropriate wheelchair, including individual assessment, fitting and training in how to use a wheelchair.

Types of wheelchairs

Due to the diversity in the wheelchair user population, there are different types of wheelchairs. Wheelchair designs vary depending on the physical needs of wheelchair users, the way and the environment in which the wheelchair will be used, and the materials and technology available where the wheelchair is made and used.

Stakeholders

The stakeholders include policy planners and implementers, manufacturers and suppliers, wheelchair services, professional groups, non-government organisations (NGOs), international non-government organisations (INGOs), disabled people's organisations (DPOs), and wheelchair users and their families and caregivers. They have different and overlapping responsibilities. Possible roles of the stakeholders are suggested in the guidelines.

2. Policy and planning

Chapter 2 provides information to support and guide decisions on wheelchair provision. The purpose is to develop and implement policies for cost effective and sustainable wheelchair provision. It presents key activities associated with planning and implementation. And it suggests ways to finance wheelchair provision and to link wheelchair services to other sectors.

Policy

A national policy on wheelchair technology and services can ensure that wheelchair users receive wheelchairs that meet minimum requirements for safety, strength, and durability and that are appropriate for their individual needs.

A national policy can be based on international frameworks, including 'The UN Standard Rules on the Equalization of Opportunities for Persons with Disabilities' and the 'Convention on the Rights of Persons with Disabilities'. Both documents place the primary responsibility for wheelchair provision on the government. It is recommended that a national policy addresses design, production and distribution of wheelchairs, wheelchair services, training and consumer empowerment.

Planning

Key activities in planning and implementation of wheelchair provision are:

- Identification of need for wheelchairs and services
- Planning of wheelchair provision at national level
- Collaboration between government, NGOs and INGOs
- Integration of wheelchair services with existing rehabilitation services
- Adoption of national standards of wheelchair provision
- Creation of an enabling environment

Funding strategies

An important part of setting up national wheelchair provision includes calculating the direct and indirect costs, and establishing sources of funding, in order to ensure

the financial sustainability of the service. Since many individuals who need a wheelchair cannot afford to purchase one, funds will be needed. Different funding mechanisms are described in the guidelines.

Links with other sectors

Wheelchair service stakeholders are encouraged to collaborate with other sectors and institutions. These linkages reduce the cost of establishing and operating a wheelchair service. And they allow the service to grow more rapidly. Collaboration is encouraged in the areas of health, education, livelihood, social and infrastructure.

3. Service provision

Chapter 3 suggests tasks and structure of a system for provision of wheelchairs. The purpose is to improve the way users receive their wheelchairs.

Wheelchair service

In the rehabilitation of a person with difficulties in walking, the provision of an appropriate wheelchair is critical. It is important that the wheelchair fits correctly and meets the wheelchair user's physical, functional and environmental needs. Wheelchair services provide the framework to assess those needs, provide an appropriate wheelchair, instruct and educate wheelchair users and caregivers and provide ongoing support and referral to other services where appropriate.

The provision of wheelchair services in less resourced settings requires careful planning and management of resources. Some strategies which can be employed to initiate or further develop wheelchair provision are:

- Utilising existing personnel**
- Integrating wheelchair services with existing health or rehabilitation services**
- Meeting the needs of wheelchair users at community level where possible**

Eight key steps in providing a wheelchair are:

- 1. Referral and appointment**
- 2. Assessment**
- 3. Prescription**
- 4. Funding and ordering**
- 5. Product preparation**
- 6. Fitting**
- 7. Wheelchair user instruction**
- 8. Follow up, maintenance and repairs**

The guidelines provide recommendations for good practice in wheelchair services in general and for each of the eight steps above.

Involved personnel

The roles of personnel involved in wheelchair service provision, including manufacturers of wheelchairs, referral networks and wheelchair service personnel, are described in the guidelines. The core roles fulfilled by wheelchair service personnel include management, clinical, technical, and training.

Monitoring

Monitoring and evaluation of a wheelchair service can help identify successful as well as improvable areas. In the guidelines recommendations are given on regular monitoring, feedback from wheelchair users, evaluations and analysis.

4. Design and production

Chapter 4 provides guidelines on how to design or select a wheelchair and how to produce and supply wheelchairs. It also describes different wheelchair designs and how to evaluate different designs. The purpose is to increase the quality and range of manual wheelchairs available in less resourced settings.

Minimum guidelines and corresponding evaluation methods are given in the areas of functional performance, seating and postural support elements, and strength and durability.

Designing or selecting wheelchairs

Wheelchairs should be designed to enable their users to participate in as many activities as possible. At minimum a wheelchair should enable the user to have a more active life without negatively impacting their health or safety.

Creating a design brief and using workshop testing, field trials and long-term follow-ups is encouraged when designing a new wheelchair or selecting a pre-existing design for production or purchase.

Wheelchair users are strongly encouraged to be involved in the design process. They are the most knowledgeable about their own needs.

Production

Wheelchairs may be produced locally or imported. In order to provide a range of wheelchairs, some countries may choose to support both local production and importation of wheelchairs. Each supply method has an appropriate application. With many different needs within a region, a variety of supply methods may be suitable with the ultimate goal of a long term sustainable solution.

The main factors that need to be considered in wheelchair supply include:

- Strength, durability and performance of the wheelchair
- Range of wheelchairs available
- Possibility to repair the wheelchair locally
- Economic development
- Responsiveness of the producer to the needs of wheelchair users
- Coordination of supply with an overall plan for wheelchair provision

Functional performance

The functional performance of a wheelchair is determined by its design and features. Performance features include stability, manoeuvrability, pushing efficiency, transferring, transport, and reliability. A wheelchair should be evaluated based on functional performance measures and the results made available with the wheelchair for providers. A wheelchair should meet – or be selected based on – the functional performance requirements of the user in the environment of use.

Seating and postural support elements

The seating and postural support elements of a wheelchair are the seat, cushion, backrest, footrests and arm-rest. These parts of the wheelchair help the wheelchair user to maintain a comfortable and functional posture, and to provide pressure relief. Wheelchairs should always be provided together with a suitable cushion.

Strength, durability and safety

Wheelchairs should be safe and effective for their users. When a wheelchair fails, the user is not only at risk of injury, but he or she may not be able to go anywhere or do anything until the wheelchair is fixed or replaced.

Tests should be performed on each wheelchair design. All wheelchairs should meet the strength, durability and safety requirements of the users in their environment. As a minimum it is recommended to adopt ISO 7176 standards to ensure a minimum quality of wheelchair. It is recommended that standards more demanding than ISO 7176 be developed to represent the conditions in developing

countries. All wheelchairs should be evaluated based on the strength, durability and safety requirements of the country and the results made available for users and purchasers.

User trials and follow-up

Before being supplied to services or users, wheelchairs should be trialled by wheelchair users in the context they will be distributed in. Long-term follow-up studies should be used to ensure the wheelchair is safe and effective over longer periods of use.

5. Training

Chapter 5 is a tool for the design, development and implementation of training opportunities for personnel involved in provision of wheelchair services. The purpose of this chapter is to develop skills and knowledge of personnel involved in wheelchair provision. A summary of the roles of personnel involved in wheelchair service provision is given, and training requirements and course contents are recommended.

Strategies to assist in developing training opportunities include:

- Identifying candidates for training
- Exploring possibilities to link with existing training programmes and schools
- Developing training packages in discrete modules
- Exploring ways to ensure training is officially recognised

Training requirements

The guidelines recommends training requirements for referral networks, managers of wheelchair services, clinical and technical personnel. For clinical and technical roles, requirements are suggested at three levels of wheelchair provision; basic, intermediate and advanced.

Course contents

To meet the training requirements at basic and intermediate levels, course contents to fulfil referral, management, clinical, technical, and training roles are recommended. A modular training is suggested. The training modules include subjects related to wheelchair users, wheelchairs, wheelchair cushions, wheelchair services, wheelchair provision, training, workshop skills, etc.

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