

Manual wheelchairs and mobility devices

Country of origin | United Kingdom

Health problem addressed

An estimated 20 million people in need of a wheelchair in low-income countries do not have one. Many donated wheelchairs are unsuitable for the local terrain, do not fit properly and do not provide adequate comfort or postural support. These factors can restrict a person's mobility, hinder their health and well-being and even cause life threatening secondary complications such as pressure sores.



Product description

The technology encompasses a range of 3-wheel and 4-wheel wheelchairs, sports wheelchairs, supportive seating and tricycles specifically designed for use in less resourced settings. The products are available in a range of sizes and have many adjustable features. Each product is flat-packed, requires local assembly and must be distributed through a wheelchair service.

Product functionality

Products in the range require assembly by trained local staff. Basic hand tools are required and pictorial assembly instructions for each product are provided. Once assembled to the client's prescription, the client is fitted comfortably and given instructions on how to use the product safely and carry out basic maintenance. The products are manual and easy to maneuver by the client or an attendant.

Developer's claims of product benefits

The complete product range can be uniquely shipped in any volume to service centres around the world and provides a mean to facilitate and expedite the provision of appropriate manual wheelchairs in low-income countries. Providing a range promotes choice for people with disabilities and ensures they receive a product that is most suited to their need and aids their rehabilitation. The products are affordable, high in quality and durable and use locally available components. The adjustable features optimize comfort. The majority of products are supplied with a pressure relieving cushion, a life saving device that is often not provided with other donated wheelchairs. Training is provided to local staff to ensure they have the skills to assemble, fit and adjust the products correctly and competently.

Operating steps

The products are assembled according to the assembly instructions. Once set up the client is fitted with the wheelchair or mobility device. If necessary, adjustments can be made to maximize comfort, for example the footrest, backrest height or seat depth can be altered. Once the client is happy, he or she is then able to self-propel manually or can be assisted by an attendant.

Development stage

The first product commercialized is the wheelchair for rough terrain, on the market since 2005. However, design reviews and upgrades are carried out periodically. Studies were carried out in South Africa to measure the impact the product has had on the quality of life of users. Two international NGOs have performed their own successful trials in Angola and the Philippines over a six and two months period respectively. The product is distributed to over 20 countries. The range includes other commercialized mobility devices and accessories. The product has regulatory approval.

Future work and challenges

Challenges include: Provision of products to the end user (client) is heavily dependent on donated funds; competition from other products on the market that are donated to organizations and end users free of charge; capital to maintain stock of products to enable quicker dispatch from factory.

User and environment

User: Patient, family member, clinician, technician

Training: Training is required to assess the client and assemble the product. Training for the full product range is a minimum of three days. Basic workshop hand tools and clinical equipment such as a therapy bed and foot blocks are required. **Maintenance:** Patient, technician

Environment of use

Requirements: The product must be distributed through a service centre where local staff has been trained to assess wheelchair users and assemble and fit the products. A workshop and clinical assessment are required. The centre will act as a point for clients to return to for follow up and product maintenance or repairs. The products are manual and do not have any special operational requirements. The ease of use of the product can depend on the local infrastructure i.e. often buildings are inaccessible so may prevent the user from independently accessing the building.

Product specifications

Dimensions (mm): approx. 1212 x 740 x 865

Weight (kg): 22

Life time: 5 years

Retail Price (USD): 171

Year of commercialization: 2005

Currently sold in: Argentina, Australia, East Timor, Ethiopia, Ghana, India, Kiribati, Lebanon, Lesotho, Liberia, Malawi, Nepal, Pakistan, Papua New Guinea, Serbia, Sierra Leone, Solomon Islands, South Africa, Sri Lanka, Sudan, Thailand, Uganda, Zimbabwe

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