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Transfer and Dissemination of Appropriate Wheelchair Technology

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Transfer and Dissemination of Appropriate Wheelchair Technology

Since 1996, the Center for International Rehabilitation has been dedicated to providing assistive devices to landmine victims. The CIR, in collaboration with Whirlwind Wheelchair International and the Afghan Ministry of Martyrs and Disabled, designed and distributed a centrally fabricated, locally-fitted wheelchair designed for post-conflict countries and tested it in Afghanistan and Jordan. The following discusses the outcome of that collaboration.

by William K. Smith, Nikola Prvulov and Kathryn Jackson
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According to World Health Organization estimates, 0.5 percent of persons with disabilities in developing nations are in need of a prosthesis or orthotic device, or related rehabilitation services. An additional 20–100 million are potential wheelchair users, 95 percent of whom do not have access to the mobility devices they require. In 2005, the Center for International Rehabilitation collaborated with the Afghan Ministry of Martyrs and Disabled and Whirlwind Wheelchair International to address this problem.

The solution proposed by CIR President Dr. William K. Smith: commission and construct a low-cost, high-quality adult wheelchair appropriate for the rugged landscapes of developing and war-torn areas that combines the economies of scale and quality control of central fabrication with the adjustability and sustainability of local production. The CIR-Whirlwind Wheelchair was developed with consideration given to the needs of the rider, as well as the demands of his or her environment. The CIR-Whirlwind Wheelchair has special features that include an extra-long wheelbase for increased stability, wide, flexible front castor wheels for smooth transitions onto rocky terrain, a folding adjustable X-brace that allows for chair widths between 16 and 18 inches (46 and 46 centimeters), and five axle positions that can be adjusted based on the user’s skill and body type.

Training

The CIR conducted a six-day training workshop in Kabul, Afghanistan, in June 2005 that focused on skills such as wheelchair assembly and repair, fitting and user assessment. The goal of this project was to test a distribution strategy that combined central fabrication with local assembly, fitting and delivery. During the initial phase, wheelchair kits were manufactured by Workshop for Rehabilitation and Training of the Handicapped Trust and delivered to Afghanistan, where they were assembled, distributed and fitted. Project implementation and oversight was carried out by the Al Hussein Society.

The Future

As a follow-up to the Afghanistan study, the CIR collaborated with Whirlwind Wheelchair International and the Rehabilitation Institute of Chicago on a regional distribution project in the Middle East or Afghanistan.

The project demonstrates the feasibility of combining central fabrication of wheelchairs with local fitting and servicing. Since production of the wheelchair is based on standard bicycle parts, the next step will involve setting up large-scale production and distribution within a country or region. The CIR is actively engaging in dialogues with its partners and funders about establishing such a production, training and distribution strategy in one or more post-conflict countries of the Middle East or Afghanistan.

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