December 2002

The Challenge of Prosthetic Services in Developing Countries

Michael Lundquist
Polus Center for Social & Economic Development, Inc.

Follow this and additional works at: https://commons.lib.jmu.edu/cisr-journal

Part of the Defense and Security Studies Commons, Emergency and Disaster Management Commons, Other Public Affairs, Public Policy and Public Administration Commons, and the Peace and Conflict Studies Commons

Recommended Citation
Available at: https://commons.lib.jmu.edu/cisr-journal/vol6/iss3/23

This Article is brought to you for free and open access by the Center for International Stabilization and Recovery at JMU Scholarly Commons. It has been accepted for inclusion in Journal of Conventional Weapons Destruction by an authorized editor of JMU Scholarly Commons. For more information, please contact dc_admin@jmu.edu.
The Challenge of Prosthetic Services in Developing Countries

Providing landmine victims and other disabled persons with the support and services they need to recover can be a challenging process in developing countries. The author describes that a holistic approach to rehabilitation core is necessary and applies this principle to community-based rehabilitation (CBR).

Introduction

It is important for those who develop victim assistance programs in Central America to understand that comprehensive prosthetic and orthotic rehabilitation efforts can be far more significant than simply providing an artificial limb or brace. Furthermore, program developers should be aware of how their own personal values, attitudes and beliefs (regarding people with disabilities and developing countries) affect important program decisions. Their values and attitudes contribute towards a variety of competing interests among program developers, health professionals and service recipients. These interests influence such choices as where to locate a program, what constitutes appropriate technology and training, and whether or not to rely on local or international staff. These decisions will ultimately affect program relevance, quality and sustainability.

Although there are typically several prosthetic program models, a holistic approach to CBR can be very effective toward addressing larger disability issues regarding social and economic inclusion

Disability Stereotypes

Inadequate support for victim assistance in both developed and underdeveloped countries can often be traced to discrimination against the disabled. Throughout history and in many cultures, attitudes toward people with disabilities have been exceedingly negative. The disabled are often viewed as objects of charity or pity; they are seen as sick, dangerous or as a menace to others. They are also sometimes characterized as stereotypes or stigmatized as burdens to the families or the communities that have to care for them. In Central America and the United States, people with disabilities—especially children—are often paraded on stage to raise money for rehabilitation services. While well-intentioned, this kind of activity reinforces innumerable negative stereotypes.

Historically, the disabled have always occupied the bottom rung of the social and economic ladder. Even in developed industrial nations unemployment rates for people with disabilities are more than 10 times that of people without disabilities, even among those having proven capabilities. The human rights of the disabled are routinely ignored, and their social participation is markedly diminished because of societal attitudes. Rehabilitation program developers are often conscious of disability stereotypes and their impact on victims. By providing an optimistic positive image of people with disabilities.

Prosthetic Rehabilitation and Program Models

While enormous challenges because of high cost, specialized training, and questions of appropriate technology and sustainability, the development of CBR victim assistance programs is essential. The lack of or frequent failure of CBR programs and the inability to meet the needs of the disabled in developing countries illustrates the difficulty of creating and sustaining rehabilitation projects.

Start-up costs in Central America are high. Even the most basic machinery is expensive, costing tens of thousands of dollars. Prosthetic and orthotic materials and components vary enormously in price and availability, but even limbs produced with the most basic components cost hundreds of dollars. Moreover, training and technical expertise can be quite hard to obtain.

In general, the philosophy of prosthetic programs falls within a relatively small range of service models. This can be characterized as large-scale production programs, recycling programs, transport programs and local community-based programs. Each service model has distinct advantages and disadvantages. Large, externally funded programs emphasize optimum production and skill development for technicians. They tend to measure success as the number of prostheses produced. This model is by far the most expensive and difficult to sustain, particularly without funding from a developed country. Large programs, at least initially, rely on foreign expertise and seem to function in accordance with funding cycles. Typically, particularly when starting out, this type of program can offer a full range of services and can accommodate a large patient base.

Recycling programs or projects that use prosthetic components from northern countries are often started by individuals who are committed to multiple agendas. Recycling can provide a wide range of components that projects in developing countries typically cannot afford. They are also appealing because of the concept of recycling itself. The tremendous waste of medical materials and supplies, particularly in the United States, drives people crazy. What better way to make one of expensive medical materials and equipment than to ship them off to developing countries for good use? However, in the world of prosthetics, this can be hugely problematic. For example, in order to be useful and cost-effective, prosthetics must be disassembled so that their components are still usable. This process must be done by people with at least minimal training, which is very time consuming. The components are seldom interchangeable. Technicians in developing countries may misuse components, thus ensuring poor-quality prosthetics. What happens when an individual is given a state-of-the-art, recycled artificial limb (e.g., a high-tech titanium knee joint) and for his next prosthesis, he has only the option of a much more basic prosthesis with a wooden or plastic knee? Additionally, recycling can create negative image issues for people with disabilities. In general, the message is that what developed countries throw away is good enough for those in developing countries.

Some programs transport people who have suffered amputations to developed countries for state-of-the-art medical services. In some instances, this can be very helpful. Patients with unusual medical issues requiring specialized surgery may need to travel to a developed country to receive the necessary service. However, careful consideration must be given in identifying individuals for this type of service, particularly with children.

Transporting people away from their friends, family and much-needed social support systems after suffering the trauma of an amputation can be devastating. In Nicaragua, a young man lost both legs after being trapped in the mudslide caused by Hurricane Mitch. He witnessed his family of 13 disappear underneath a wall of mud as he was running away; his entire family was killed. Soon after this tragedy, he was whisked off to the United States to receive brand new artificial limbs. Despite the new "state-of-the-art" prostheses, his post-accident mental and emotional trauma was so severe that he could not walk or even leave his house in a wheelchair.

Local rehabilitation programs emphasize people learning to help themselves and to solve their own problems. The "Walking Unidos" prosthetic program in Nicaragua employs no foreign staff, is governed by a local board and trains people who have themselves suffered amputations to become skilled technicians. Using International Red Cross components and some recycled ones, purchasing only essential equipment and having a small-cost-effective facility are just a few of the reasons why this program can operate for about $78,000 (U.S.) per year. Yet, the project produces over 100 upper and lower extremity limbs per year, does countless repairs on prostheses and has begun to address some orthotic needs. Local programs do not initially yield the kind of production statistics or patient base comparable to the larger-funded programs. However, if small programs can be sustained over time, future comparisons may be especially interesting.

"Walking Unidos" and similar programs ("Transitions" in Guatemala and "PODES" in El Salvador) have many positive aspects and might be viewed as examples of the best practices. However, this service model has some inherent problems as well. The success of local prosthetic programs requires high-level
In order to be cost-effective, prostheses must be disassembled.

issues of training and appropriate technology. If two programs in the same region adopt different technologies, patients will generally opt for the more expensive one. This might be perfectly reasonable and raise the standard quality of limbs unless the program offering superior components cannot be sustained. The result may then be that patients having state-of-the-art prostheses have to adapt to lesser-quality ones. Therefore, technology must be viewed not only from the perspective of quality and most recent technical developments, but also from the perspective of sustainability. Another challenge can arise if a program that external funding produces a perfectly suitable limb at low cost using more basic components, while a program with greater long-term financing using more expensive components produces a superior limb, thus creating an unfair competition resulting in the "low-tech" programs failure. Since well-funded prosthetic workshops are usually dependent on grant cycles, they inevitably cease if the grant is not renewed. When this happens, the result is the absence of purchasing programs. One organization used a high-tech CAD/CAM system in Central America. Frequent power outages, excessive heat, the inability to have parts on hand and lack of access to local repair people force the machine all too often to work above its maximum efficiency. This has had some limited success in Vietnam and in Nicaragua where the Ben Linder Internet Cafe recently generated enough revenue to begin purchasing prostheses. Some recipients have been known to have lost their limbs due to mounting costs. The project is selling to other programs in order to generate revenue for the program. Some programs in central America have wisely developed several funding streams, lessening the dependency on any one particular source.

Holistic Approach to Local Rehabilitation Services

The Polus Center for Social & Economic Development, Inc. is an NGO based in Massachusetts that has been supporting programs that meet the needs of people with disabilities since 1979. The organization promotes social and economic development for people with disabilities, utilizing a unique, holistic approach to rehabilitation. Several demonstration projects (including "Walking Unidos") address disability issues ranging from psychosocial to physical. They work to provide programs that are not only cost-effective, but are also sustainable and long-term. The Polus Center (with the help of volunteers) conducts dozens of team interviews with people who are disabled. Information gathering is an ongoing process that is then processed in a group forum, which results in a program blueprint that is carefully crafted to provide services that are coherent with the needs of people with disabilities. This approach is based on the fundamental premise that the overarching problem for people with disabilities is a societal one. Providing quality mobility devices is only an initial step in helping people help themselves to create a greater advantage and productive lives within their communities. It is essential that rehabilitation programs engage in a more holistic approach to re habilitation. This entails developing a broader range of initiatives that help eradicate physical and social barriers that limit the economic and social status of the disabled. In this sense, raising awareness about discrimination and the importance of including people with disabilities in all aspects of community life is an essential element of CBR services.

Contact Information

Michael Lundquist, Executive Director
Polus Center for Social & Economic Development, Inc.
32 Franklin Street Suite 401
Worcester, MA 01608
Tel: (508) 752-3271
Fax: (508) 752-9357
E-mail: mlundquist@poluscenter.org
Website: www.poluscenter.org

A clinic worker meets with a landmine survivor.