

# Implementing and Managing Physical Rehabilitation Programmes

*to promote full inclusion of persons with disabilities in society*

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## **Standing Committee on Victim Assistance and Socio-Economic Reintegration**

**Geneva, April 2007**

## Introduction

The provision of services for persons in need of orthopaedic devices (prostheses and orthoses) – i.e. *Prosthetics and Orthotics services (or P&O services)* – is a challenging task, particularly in low-income countries. To be able to provide comprehensive and efficient services, a great number of issues need to be considered when planning and implementing P&O programmes and managing day-to-day work.

## Definitions

Rehabilitation (or *habilitation* in the case of persons who are born with disabilities) is the process of removing – or reducing as far as possible – the factors that limit the activity and participation of a person with a disability, in order that he/she can attain and maintain the highest possible level of independence and quality of life; physically, mentally, socially and vocationally. The ultimate aim of rehabilitation is to provide the individual with the best possible opportunity for full and effective *participation and inclusion in society*, with possibilities to study, work, access services, etc. that are equal to those of other citizens. To achieve full inclusion, many different interventions may be needed, which, depending on the individual's type of disability, may include one or several of the following: medical care, physiotherapy, occupational therapy, supply of assistive devices (such as hearing and vision aids, prostheses, orthoses, wheelchairs and walking aids), speech therapy, psychosocial services/counselling, social support, education (inclusive and special), vocational training, job-placement, support for economic self-reliance, etc.

### What is physical rehabilitation?

- ▶ Physical rehabilitation is an important part of the integrated rehabilitation process needed to ensure the full rehabilitation and inclusion in society of persons with disabilities
- ▶ Physical rehabilitation includes the provision of assistive devices such as prostheses, orthoses, walking aids and wheelchairs along with appropriate therapy allowing an optimal use of the device



Even though some persons with disabilities may require only one of the above-mentioned interventions to be able to lead a perfectly normal life, others may need to go through a combination of different interventions. The successful outcome of the full process of rehabilitation and inclusion in society is then dependent on the success of each single intervention and all of them must therefore be considered equally important; medical care is as important as social support, assistance with vocational training is as important as provision of opportunities for employment, the supply of assistive devices is as important as the eradication of physical barriers, etc.

Physical rehabilitation is an important part of the integrated rehabilitation process needed to ensure the full rehabilitation and inclusion in society of persons with disabilities and includes the provision of assistive devices such as prostheses, orthoses, walking aids and wheelchairs along with appropriate therapy allowing an optimal use of the device

## Important facts

Physical rehabilitation is not an objective in itself; it is an essential part of ensuring the full rehabilitation and reintegration into society of people with disabilities. Enabling a person with a disability to walk and move about is in itself a great achievement. But the fact that this may be essential in order for the person to participate in social life, work and education adds another dimension to the work of physical rehabilitation services.

Provision of physical rehabilitation services is a state responsibility and this is highlighted in many documents:

### **Ottawa Convention (Article 6, point 3)**

Each State Party in a position to do so shall provide assistance for the care and rehabilitation, and social and economic reintegration, of mine victims and for mine awareness programs.

### Important facts

- ▶ Physical rehabilitation enables a person with a disability to gain mobility, which is a main condition for the person to participate in social life, work and education
- ▶ Provision of physical rehabilitation services is a state responsibility
- ▶ Access to physical rehabilitation services is a human right issue



### Nairobi Action Plan 2005 – 2009

"the States Parties will enhance the care, rehabilitation and reintegration efforts during the period of 2005 – 2009 by undertaking the following action: Action #30: Increase national physical rehabilitation capacity to ensure effective provision of physical rehabilitation services that are preconditions to full recovery and reintegration of mine victims."

### Convention on the Rights of Persons with Disabilities

Article 26:

Habilitation and rehabilitation

1. States Parties shall take effective and appropriate measures, including through peer support, to enable persons with disabilities to attain and maintain maximum independence, full physical, mental, social and vocational ability, and full inclusion and participation in all aspects of life. To that end, States Parties shall organize, strengthen and extend comprehensive habilitation and rehabilitation services and programmes, particularly in the areas of health, employment, education and social services, in such a way that these services and programmes:

a. Begin at the earliest possible stage, and are based on the multidisciplinary assessment of individual needs and strengths;

b. Support participation and inclusion in the community and all aspects of society, are voluntary, and are available to persons with disabilities as close as possible to their own communities, including in rural areas.

2. States Parties shall promote the development of initial and continuing training for professionals and staff working in habilitation and rehabilitation services.

3. States Parties shall promote the availability, knowledge and use of assistive devices and technologies, designed for persons with disabilities, as they relate to habilitation and rehabilitation.

### The Standard Rules on the Equalization of Opportunities for Persons with Disabilities (UN)

States should ensure the provision of rehabilitation services to persons with disabilities in order for them to reach and sustain their optimum level of independence and functioning. (Rule #3)

States should ensure the development and supply of support services, including assistive devices for persons with disabilities, to assist them to increase their level of independence in their daily living and to exercise their rights. (Rule #4)

### Medical, social and rights-based models of disability

The potential of persons with disabilities is commonly underestimated. Many people assume that they cannot take care of themselves, live independently, or earn a living. Responding with pity and an impulse to care for those they consider weak and helpless, they believe that what persons with disabilities need is *charity*. Though a charity approach *can* have a positive effect in some contexts, it is generally negative in this one because it *disempowers* persons with disabilities and makes them dependent on fellow citizens' – often unreliable – willingness to support. Instead, rehabilitation and the full inclusion in society are *human rights issues*. Though not legally binding, the – at the time groundbreaking – *Standard Rules on the Equalization of Opportunities for Persons with Disabilities* were adopted by consensus by the UN General Assembly in 1993. Moreover, there is significant support for the new *International Convention on the Rights of Persons with Disabilities* which guarantees the rights of persons with disabilities to determine the course of their lives and to have the same possibilities as all persons to access physical, social, economic and cultural environments. Being able to move about – for example through the eradication of physical barriers or with the help of an orthopaedic device – is a *right* that can be *claimed*.

### The challenges

The disabled population is increasing as a result of population growth, ageing, chronic conditions, malnutrition, war, landmines, violence, road traffic, domestic and occupational injuries and other causes – often related to poverty. These trends are creating an overwhelming demand for health and rehabilitation services and in most countries; demand is growing faster than service provision. Although no exact figures are available, the World Health Organization (WHO) estimates that people with physical disabilities in developing countries that need physical

#### The challenges

- ▶ There is a large and steadily increasing need
- ▶ PR facilities can be found in all countries, but services very often do not meet the need (quantity and quality)
- ▶ The need for physical rehabilitation is determined by the type of disabilities, not the cause
- ▶ Users of devices need lifelong access to functioning physical rehabilitation services



rehabilitation services (prostheses, orthoses, walking aids, wheelchairs or physiotherapy) represent 0.5% of the population.

Physical rehabilitation services exist in most countries. However, they are frequently inadequate, in either quantity or quality. In the vast majority of low-income countries, facilities are too few in number and/or too centralized and their output is too low to meet the needs of the whole population. Frequently, the technologies used are inappropriate, the quality of the devices is poor and the number and skills of the personnel do not match demand.

Determining the need for physical rehabilitation on the cause of disabilities (war related, mines, car accidents, etc) is, from the perspective of the affected individuals, irrelevant. The needs of a person amputated following a mine casualties or following a car accident, are the same; they need access to appropriate and quality physical rehabilitation services.

One of the particularities of people with physical disabilities is that most cannot be cured; their disability is permanent. Disabled people will therefore need rehabilitation services for the rest of their lives if they are to continue to play their role in society. After receiving a device, the user will need to have it repaired and/or replaced regularly.

A multitude of other priorities mean that the needs of people with disabilities – including physical rehabilitation – are rarely a primary concern for governments of low-income countries. As long as the needs of people with disabilities remain so great and as long as the situation does not improve, there will be a need to raise awareness, both nationally and internationally.

**The challenges**

- ▶ Frequently not seen as a priority by decision-makers
- ▶ Physical rehabilitation services in low-income countries is unsustainable as a commercial enterprise
- ▶ Physical rehabilitation service provision requires long-term commitments

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Providing physical rehabilitation services is a labour-intensive activity that is difficult to rationalize and impossible to sustain on a purely commercial basis. The fact that prostheses and orthoses (P&O) are manufactured according to the measurements and specific anatomic features of each individual makes mass production difficult. Production is hence time-consuming. Even if the most inexpensive materials were used, the services would still be considered expensive in low-income countries. At the same time, it is often impossible to ask users for more than a token payment, which means services, cannot be financially self-sustaining. As a result, physical rehabilitation services often require considerable additional funding.

The complicated nature of physical rehabilitation services and the challenges associated with sustaining them mean that establishing and developing a physical rehabilitation programme is a long-term commitment. Success will depend on the determination and long-term involvement not only of the local agency or organization providing the actual services, but also of supporting organizations and donors.

### The objectives

The activities of P&O programmes should be planned and conducted with the primary aims of:

- improving the accessibility to services for persons with physical disabilities
- improving the quality of services provided and,
- ensuring the long-term functioning of services

### Accessibility to services

Centres should provide the complete range of services linked with physical rehabilitation (prostheses, orthoses, walking aids, wheelchairs and physiotherapy). In addition, centres should have referral systems allowing them to refer individuals to other services (medical, vocational training, etc) which are part of the rehabilitation chain.

P&O centres need to actively promote themselves so that service users (and also potential partners) know

**Accessibility to services**

▶ **Accessibility to services implies:**

- ▶ that the services exist,
- ▶ that the person knows about the existence of the services,
- ▶ that the person can physically go to the centre,
- ▶ that the person can afford the cost of services

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about their existence – where they are and what they can do. Leaflets – with information about who can be assisted, how to get to the centres, opening hours, costs, etc. – can be used for this and be spread through the collaboration network (authorities, NGOs, associations of persons with disabilities, hospitals, etc.) as well as by service users themselves, who should be regarded a great resource here since they can pass this information on to their communities and people in need of similar services. The intended target groups would need to be carefully defined as different versions of the leaflet may need to be produced for different groups (medical staff, service users, etc.), taking into account different levels of education and literacy. Messages can also be integrated in campaigns of other organizations that promote disability issues and information can be disseminated through radio, TV, newspapers, theatre plays, schools, churches and mosques.

P&O services should benefit *all* people who need assistance; whether living in the countryside or in a city, whether rich or poor, whether man or woman, whether child or adult, whether with or without education, whether civilian or ex-combatant, whether informed about the rights to be assisted or not – every person should be given the same opportunity to be fitted with a good prosthesis or orthosis according to that person's individual need. All persons who ask for assistance and for whom the programme has technical capacity to help should therefore be granted access to the services. It must be made sure that social, religious, racial, national, ethnic and other groups that may constitute minorities are given equal opportunities to benefit from the services. In addition, identification of social, religious, ethnic and other groups that may constitute minorities should be done with a special attention to such vulnerable groups as women and children.

Rehabilitation services are frequently only found in the major cities, which may be difficult to reach for people in rural areas; distances may be great, road conditions sometimes very bad, and few have the luxury of public or private transportation. Infrequently operated rural buses or riding in the back of a truck might be options, but more commonly people must simply walk. And even if travelling would be possible, many people cannot leave their families and households for the long time and the many visits that may be needed to ensure a successful result of the P&O intervention. Services must therefore be designed in such a way that they can be easily accessible to rural populations. Sustainable systems for transportation and accommodation of potential service users (and those persons who accompany them) may be needed. This is in fact one of the most challenging issues in the planning of comprehensive and efficient P&O services; *if potential service users cannot reach the centres, the services will never be able to assist more than a small portion of the population.*



Accessibility to services

- Physical rehabilitation programmes should:
  - ensure that all types of services are available
  - ensure that all persons who need services know about the services and have equal access to centres, without discrimination
  - ensure that systems of transportation and accommodation are available
  - ensure that provided services are affordable, without compromising on quality

Few persons with disabilities in low-income countries can afford paying the full price of P&O services. To ensure that all people have real access to P&O services, financial support may be needed from a variety of sources. The possible application of *service fees* must consider a sliding scale of payments since equity demands that poorer households should not be disproportionately burdened with expenses as compared to richer households.

To ensure affordability, it is also important to *minimize* the costs of the service provision by making sure that economical technologies and rational working methods are used. Without compromising on quality, services need to be efficient and swift, since every visit to the centre and every day spent there can be translated into a cost for the service users.

### Quality of services

The *quality* of P&O services must always be of major concern for a service provider. To determine how successful the services are, counting the *numbers* of orthopaedic devices that are produced is not enough; it also has to be ensured that the devices are *useful*. A quality control system is needed to make sure that the quality of the devices *as well as the treatment process* and the *support system* is at a satisfactory level. Good quality management can ensure that consumer needs are satisfied and materials are not wasted. It can lead to more efficient systems that shorten the stay of service users, fewer renewals of nonconforming products, fewer needs for repairs, etc. All of this can lead to cost savings and improvement of the centre's capacity to serve more people with better quality services.

The quality of the services provided is enhanced with the employment of skilled, competent professionals.

Quality of services

- Quality of services implies:
  - Services are provided by trained-professionals
  - Services should apply a multidisciplinary approach
  - Provision of assistive devices go along with physiotherapy
  - Provision of services go along with follow-up
  - Utilization of appropriate technology

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Though the contribution of such staff is extremely important, they often do not receive enough recognition for their efforts. And though many of them may have strong practical skills, they lack much of the theoretical knowledge needed to develop and improve the services. The provision of training opportunities is therefore of utmost importance, for both new and existing staff. The education of both technical and administrative personnel may give this sector much needed recognition and can help to ensure that the work is carried out in a professional manner.

Most people who require an orthopaedic device do not only need the help of the prosthetic/orthotic professional but often require treatment from other specialists. For the

programme to be effective in the provision of P&O services, the services should apply a *multidisciplinary approach*. This means that, where possible, examination and decisions regarding the treatment of a service user should be done jointly by the P&O professional, a medical doctor, a physiotherapist, an occupational therapist, a social worker and other relevant specialists. Though not all of these professionals always meet face to face at one and the same time, they should be seen as a *team*. The person with disability and his/her family have an important role in this team. They should be positioned at its centre and be given the possibility to influence the decision-making process. Due to limited numbers of certain professionals, the team may sometimes need to be smaller than indicated above. At a minimum it should always have the participation of a prosthetic/orthotic professional, a physiotherapist and the service user.

Of all rehabilitation disciplines, physiotherapy is the one working most closely with the P&O sector. Physiotherapy treatment is in fact an essential part of P&O work and should be an *integrated* element of prosthetics and orthotics services. Physiotherapy interventions can make sure that individuals are physically prepared for the fitting process as well as guided through exercises in the use of the device so that the final result of the fitting process can be optimized.

Quality of services

- Physical rehabilitation programmes should:
  - Ensure that trained professionals in the field of P&O and physiotherapy are available
  - Ensure that physiotherapy services are an integrated part of the P&O provision
  - Ensure that all patients receiving services have access to repairs and maintenance
  - Ensure that the technology used is appropriate for the context

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The responsibility of a P&O programme does not stop with the fitting of prostheses and orthoses, but must include making sure that the devices are useful and that they can be maintained, adjusted, repaired and renewed as needed. Follow-up of service users is key to ensure that the result of the services is appropriate. It includes making appointments with users for regular check-ups, involving resources at community level (such as CBR programmes), organizing proper services for maintenance and repair and implementing procedures for quality control.

To create a solid basis for long-term sustainable services, the prosthetics and orthotics technologies that are used need to be appropriate. *Appropriate technology* is, as defined by the International Society for Prosthetics and Orthotics (ISPO), *a system providing fit and alignment which suits the needs of the individual and can be sustained by the country at the most economical price. Proper fit and alignment should be based on sound biomechanical principles.* In simpler terms, appropriate technology can be defined as the application of the best that can be done with the equipment, staff, materials and finances available. More than one technology might be appropriate for use in a country. In fact, *any* technology that is asked for paid for and does not impede the provision of services for other people could be said to be appropriate. There is much to be gained in creating a P&O system that responds to a variety of service users and that can offer more than one level of technology. Such systems can increase the status of the services as well as of P&O staff. If the price level is set so that more expensive technologies generate a *net income* to services, this profit may be used to develop less expensive technologies and make these devices cheaper and therefore more accessible to poor people. Still, it is important not to have *too* many technologies in use in a country; a certain degree of standardization can facilitate production and make it more cost-effective, it can stimulate collaboration between service providers and improve repair services (since it would allow repairing devices at any centre and make it easier to set up decentralized services for maintenance and repair).

### Long-term functioning of services

Orthopaedic devices need frequent maintenance and repairs, and when worn out – or when they do not fit because they are outgrown or because of user weight change – they need to be replaced. A 10-year old child with a lower-limb amputation, for example, is likely to need 25 prostheses in the course of his/her life. People who have been assisted with their first orthopaedic device should expect that the services will be there whenever repairs and new devices are needed. To match the need, P&O services must be *permanent*.

Long-term functioning of services

▶ **Long-term functioning of services implies:**

- Services are imbedded into a national health care system
- Services are financially, technically and managerially sustainable

Sustainability is the ability of programmes to continue over time to meet the demands of users, providing appropriate technology, of acceptable quality, at affordable cost, in an accessible manner, enabling PWD to assert their rights, while contributing to the strength of the local health system, with minimal external input



A national plan for the development of P&O services is an important tool for any single service provider and for a national government when establishing new programmes or developing existing ones. A comprehensive plan – jointly prepared by national authorities, P&O service providers (which may be governmental, non-governmental and private), the users of the services, representatives of health, medical and related rehabilitation services – may facilitate detailed planning work and make sure that the efforts of individual bodies contribute towards a common aim. By providing a comprehensive picture of current services and planned development, the strategy may also enable donors and supporting organizations to make decisions on how to provide

potential assistance. It is recommended that the government leads the development of a national plan, but in some circumstances, for example in post-war reconstruction, the work could also be synchronized by a national coordination body serving as an umbrella organization that brings needed players (including relevant ministries) together within the framework of government activity and interest. The national plan may be developed separately or as part of broader strategies for the development of the whole physical rehabilitation sector or the disability field as such. It may be placed as a strategy under a governmental policy on disability and serve as a model for the development of similar strategies in other rehabilitation and reintegration fields.

P&O programmes should work in close collaboration with Ministry of Health and other bodies providing medical and health services, including the private sector. Contacts with hospitals are essential; a P&O programme needs to have direct links with doctors who prescribe orthopaedic devices and refer potential service users to the services, and it should have access to such services as surgery, wound dressing and x-ray. Involving surgeons, who carry out amputations and stump revisions, is a vital step in improving amputation surgery and reducing problems of prosthetic fit due to poor residual limbs, and surgery is also commonly needed to improve the result of orthotic fitting. (In many cases, the fitting of orthopaedic devices may even be impossible without first having surgery done.) When providing devices to children, the involvement of paediatricians is important. At a more decentralized level, working with Primary Health Care and community health programmes, who can identify (as early as possible), refer and follow-up service users, is also essential. Close collaboration with the health sector will contribute to making sure that P&O has a firm place in the national health care programme and is recognized as a partner in medical and rehabilitation work. The location of P&O services is critical for achieving this; collaboration can be enhanced by making sure in programme planning that P&O services and medical services are physically close.

Services are financially, technically and managerially sustainable. Sustainability is the ability of programmes to continue over time to meet the demands of users, providing appropriate technology, of acceptable quality, at affordable cost, in an accessible manner, enabling persons with disability to assert their rights, while contributing to the strength of the local health system, with minimal external input