

**DEVELOPMENTAL ARTICLES**

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**PRIMARY HEALTH CARE AND COMMUNITY BASED  
REHABILITATION: IMPLICATIONS FOR  
PHYSICAL THERAPY**

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**ABSTRACT**

*The World Confederation for Physical Therapy (WCPT) is committed to the development of Primary Health Care and Community Based Rehabilitation (CBR). The number of disabled people is increasing steadily with only a minority receiving accessible and appropriate rehabilitation services. The terms primary health care and community-based rehabilitation are open to interpretation, although internationally recognised statements/definitions exist. The general concepts and principles involved are generally agreed worldwide but the nature of services referred to by the terms varies internationally. There is a need for a stronger orientation towards rehabilitation in primary health care services, balanced with the current emphasis on health promotion and disease prevention. Health care systems vary worldwide; this requires a flexible, responsive and innovative approach to developing services that are reflective of local needs, environments and available resources. Physical therapy provision is insufficient for the needs of most countries, therefore service delivery models need to be developed that result in the skills and knowledge of physical therapists meeting the needs of a higher proportion of those in need. Additionally, physical therapy professional education needs to equip physical therapists with the appropriate knowledge and skills to work in a variety of settings as well as promoting the value of working in these settings. Physical therapists and others should be aware of the implications of the international review of CBR and ready to take appropriate action.*

**INTRODUCTION**

Health promotion, prevention, rehabilitation and the social integration and equalisation of opportunities for people with disabilities have been accepted policy for the United Nations (UN) and World Health Organisation (WHO) for many years, with an increasing focus on

primary health care and community services. Focusing on rehabilitation and primary health care, community-based rehabilitation (CBR) is one model of service provision, which WHO has advocated for over a decade (1,2,3). The participation of people with disabilities, their carers and communities has long been a guiding principle for health care policy development, planning, implementation, monitoring and evaluation (4,5,6,7,8,9,10,11,3,12,13), even if it is not quite a reality worldwide.

The Alma Ata Declaration on primary health care (13) was enthusiastically received as a means by which “Health for All” by the year 2000 (10) could be realised. However, it was also met with criticism that it was unrealistic and too idealistic (14), especially from those who perhaps wanted quick fixes and tangible early results.

Internationally there have been different interpretations of what primary health care is, often as a result of political intent, with a large number of varying programmes being developed in the name of primary health care. The hope of primary health care was that it would address the economic reality of health care with an increasing shift to primary disease prevention and health promotion and promoting self-reliance. Community-based health care, by and for the community, encompassing traditional health care combined with basic health services, controlled and financed by the government or private institutions, were seen as the integrated systems by which primary health care could be achieved (13).

International groups such as the United Nations Children’s Fund (UNICEF) and WHO, along with international politicians and health planners, have called for greater self-reliance at the community level with increased attention on prevention. However, this could be considered to impose a top-down expectation that may not be matched with local ownership of the concept of self-reliance (14,15). Some consider that self-reliance can appear to equate to people being left to fend for themselves (14), rather than gaining ownership and a sense of control. In addition, the aspirations of many developing countries for a health care system similar to that of developed countries may risk undermining self-reliance, given the criticisms of the medicalisation of health care in western society (14).

Disability incurs both economic and social costs for society, which can be reduced by effective rehabilitation and support programmes (11). Generally, until now, primary health care efforts

have focused on family planning, childhood immunisations, nutrition and AIDS, all of which are important in the prevention of population health problems and disability (14). While for many communities, primary health care initiatives that focus on preventative measures will pay dividends in the long-term, the priority needs of the people are more likely to be associated with treatment and rehabilitation where, if services were available, there is the potential for immediate effect. A balance therefore, needs to be struck between prevention, health promotion, treatment and rehabilitation.

Rehabilitation has historically been seen as a low priority around the world, due to a number of factors (16,17):

- Cost-benefit ratio of providing services to those with disabilities.
- Under-estimation of disabled peoples' potential to achieve.
- Negative societal attitudes towards disability.
- Discriminatory practices.
- Absence of urgency – rehabilitation tends to focus on the chronic, non-communicable diseases or illnesses that do not pose a risk to others.
- Interest of biomedical practitioners focuses on improvement and cure, which is not always feasible or realistic for rehabilitation or the 'Cure or Care' model.
- Public policy is not influenced by those with disabilities as they represent a relatively small marginalised minority.

Access to appropriate rehabilitation remains problematical. Where services do exist, they are frequently centred on urban institutions (11). In addition, care is frequently driven by health care professionals rather than people with disabilities, their carers and communities, and therefore fails to address priorities and needs from their point of view. There are many calls to increase the number of health care professionals available to provide services, including physical therapists, recognising the significant shortfalls worldwide. However, there has been limited progress in maximising the potential of that which is available for the benefit of the majority of people in need.

The recent international review of CBR aimed to contribute to the further development of the CBR concept and its implementation, by identifying the basic elements essential for effective CBR, through a review of current CBR practice and experience in a variety of settings (4).

## DISABILITY IN A CULTURAL CONTEXT

Much has been written that seeks to explore the concept of disability and its meaning for individuals and society. In addition, recent developments including the International Classification of Functioning, Disability and Health, referred to as the ICF (18), are attempting to redress the negative way in which disability has been perceived. Rather than an emphasis on disability, the shift is to focus on the abilities of disabled people. This section gives a brief introduction to the cultural context of disability, the influence of the disability movement and different models that exist in the literature. It also highlights the human rights and equalisation of opportunities issues associated with disability. It is not designed to provide a detailed discussion of the issues, but to stimulate readers to think about them and explore the literature more.

*“...disability is defined by culture, and without an awareness of how disability is perceived in the target culture, a disability programme does not stand much chance of being relevant or sustainable.” (19)*

Disability does not define people, society does. How disability is viewed, often reflects the extent to which society embraces disability and diversity, rather than focusing on how an individual's ability to participate to socially accepted norms might be limited. Therefore what is perceived as a disability in one society or culture may not be viewed as such in another (20). The extent to which the focus is on the rights of the individual, versus the needs of the population or community, will also determine how disability is viewed. While the culture of many developed countries gives predominance to the individual, the same cannot be said for many developing countries (21,14). This is not to say that one is right and the other wrong, but that society has influenced how rights are defined and needs identified and met. How acquired (especially accident-induced) disability is seen in comparison to congenital, disease or illness-induced disability, can be quite marked resulting in inequitable access to services and opportunities, and often financial support (20).

While few can argue with the ethics of equitable health for all, consideration needs to be given to the ways in which disability is perceived in different societies, in response to a

number of cultural variables, along with materialistic and economic issues. For example, different belief systems in some traditional societies give prominence to fate, karma and divine punishment. These suggest that the person with a disability is not in need of intervention, as the disability is a result of the natural order of life that is not within anyone's control (19). There are also the differing responsibilities that the individual assumes, depending on their status in a family or community, and the way in which any decisions are made. This is likely to impact on the extent to which the notion of empowerment (allowing, encouraging and facilitating individuals with disabilities and their families to speak and act for themselves) is appropriate or applicable (22). In many poor communities, disabled people are not seen as a priority for development and investment, an awareness of this and other cultural issues is key to any process designed to integrate disabled people more fully in society (19).

Understanding that culture is the sum of political, economic, social and spiritual aspirations over a period of time, is essential to avoid alienation, exclusion and a loss of identity or sense of community. If changing perceptions and thinking about disability is to be stimulated, then it needs to be done without undermining people's own sense of identity (19).

### **THE DISABILITY MOVEMENT**

The disability in need of charity and disability in need of treatment perspectives were challenged by the disability movement (disabled people themselves) with the emergence of three key ideas:

- the social model of disability.
- independent living.
- civil rights movement (23).

With the development of these issues, there has come a greater focus on environmental change for the benefit of a greater number of people, rather than individual based interventions (23). This has posed challenges for health care professionals whose work has been dominated by one-to-one interventions, with Oliver giving the warning in 1983 (24), that professionals must work with disabled people to develop appropriate practice, based on the social model of disability.

Consumers initiated the challenge to professionally controlled rehabilitation in North America and other developed nations, which led to the emergence of the Independent Living (IL)

movement. In this, barriers to access and equality in service provision were principally identified as environmental and attitudinal, with particular concern that the professional-client relationship facilitated dependency-inducing features in the person with a disability. In the USA and Canada, IL centres developed, providing peer counselling, consumer-based research, advocacy and self-help (25). There has perhaps been greater progress with social welfare issues than with rehabilitation, in this approach. This might in part be related to the way in which independent living centres (ILCs) were set up by professionals, as opposed to centres for independent living (CILs) which were set up and staffed by disabled people (23).

The term independence is one that different stakeholders would agree on, but how it is interpreted varies:

- Governments see independence as developing self-reliance and reducing the burden on the state.
- Health care professionals focus on the ability of individuals to undertake a range of activities that enable them to be self-caring.
- For disabled people independence is seen in terms of personal autonomy and the ability to take control of their lives (23).

One of the debates in the disability movement literature seems to be the issue of power and the answers to two key questions:

- Who has the right to determine how disabled people should live their lives; and
- Who has the legitimate right and voice in determining the priorities for the provision of disability services (22)?

Answers to these vary within different cultural and societal contexts.

While the disability movement has been critical of the health care professions, the professions have perhaps listened and begun some fundamental changes. Through empowering people with disabilities to be active participants and decision-makers in health care planning, delivery, individual treatment programmes and service evaluation, they have acknowledged that people with disabilities are not passive recipients of perceived professional wisdom, knowledge and skills. A partnership model is therefore being progressed by all those involved. These are important developments to take heed of, in considering the role of physical therapy in any health services delivery model.

## **MODELS OF DISABILITY**

Another key debate concerning disability is the way in which the medical and social models of health have often been presented in opposition, as summarised by Lang (22).

It would seem that in the context of disability neither model provides a complete approach and that an integrated approach, encompassing elements from both models will best serve to meet the needs of people with disabilities, their carers and communities. This will facilitate participation and contribute to the "... process to change the social parameters of individual existence" (26). This integrated approach does appear to have been recognised by WHO (4,27,12).

### **Human rights**

Health for all and the equalisation of opportunities, along with access to rehabilitation delivered in a culturally and socially sensitive manner, can be seen as basic human rights issues (26,6,8). Cole argues that the essential human right is the right to progress, achieved through "the facility and ability to choose and participate in processes of social change" (26).

Ensuring that those with disabilities enjoy all aspects of human rights, is embedded in international legislation and also widely at a national level. This means that the rights-based approach to disability is subject to law. The approach is designed to "...empower disabled persons, and to ensure their active participation in political, economic, social, and cultural life in a way that is respectful and accommodating of their difference" (28). The extent to which national implementation makes this a practical reality, is variable.

The human rights approach sees the problems of disability stemming from within society, not the individual.

"The existing order of society, and the consequent allocation of scarce resources, necessarily engenders inequality, which reflects the power structure of society. This social status quo is ideologically justified, legitimating privilege. And hence any effective analysis of the social position and human rights of persons with disabilities in particular, and disadvantaged people in general, and the resultant questioning of the allocation of resources, will have to address the inadequacies of the extant institutional order. And hence raise questions about the ideological and cultural basis of social life. "(26)

In the context of international legislation there are a number of United Nations documents setting out international standards on human rights, along with a number of resolutions and declarations.

The majority of this legislation does not specifically mention disabled people, except for the Convention on the Rights of the Child and the Standard Rules. There are however, anti-discrimination clauses in place. While all the relevant human rights treaties have significant potential to improve the situation of disabled people, it appears that they are under-utilised (29,28).

The core values of individual dignity, autonomy or self-determination, equality and the ethic of solidarity are fundamentals of human rights law that concern disability. To achieve this there is an increased focus on the participation and involvement of disabled people and their representatives, including Disabled People's Organisations (DPOs) in the development and implementation of policies and plans (28).

To focus on how services are delivered and by whom, risks failing to integrate the person with a disability in society. It fails to address the barriers to participation, so that while they might receive appropriate equipment and improve their mobility they may, for example, still be refused a job. Whereas, an approach that recognises the rights of disabled people and puts in place comprehensive integrated policies and strategies to address these, is more likely to fulfil these human rights. Providing rehabilitation and equipment would be only one part of this (30).

Specifically in relation to CBR, the revised international position statement on CBR (4) now places CBR within a human rights framework with reference to the International Covenant on Economic, Social and Cultural Rights and the United Nation's Standard Rules.

#### **PRIMARY HEALTH CARE AND CBR**

The Alma Ata definition of primary health care is the one to which governments have pledged their allegiance and it is this which has shaped the development of national policies.

“Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country’s health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process.” (13).

Primary health care focusses on:

- maximum use of local resources, including traditional healers and trained community health workers.
- participation of the individual and the community.
- affordable and accessible care.
- integration of prevention, promotion, treatment and rehabilitation.
- coordination between the health care sector and other aspects of society, such as housing and education (17,13).

Rehabilitation personnel, including physical and occupational therapists and mid-level rehabilitation workers, have been identified as being well-placed to facilitate the prevention of tertiary disability, whereas physicians and nurses are perhaps more familiar with primary and secondary prevention (3). However, physical therapists have a valuable contribution to make across all levels of prevention. To only see their role at the tertiary level poses the risk of increasing the number of individuals with this level of disability requiring this type of care, rather than seeking to prevent them with earlier intervention.

Rehabilitation, in some instances, has been seen as a service delivered by health care professionals, a key domain of therapists. However, as O’Toole stated:

“Rehabilitation can no longer be seen as a product to be dispensed; rather, rehabilitation should be offered as a process in which all participants are actively and closely involved.” (31)

The recent publication of *Innovative Care for Chronic Conditions: Building Blocks for Action* (32), goes some way towards redressing the imbalance in service delivery that has evolved with many primary health care initiatives. This places greater emphasis on the need for health services to meet the needs arising from chronic conditions, much of which could be met in the community. This needs to be balanced with the needs for primary prevention a key driver in primary health care, as described earlier.

Another view of primary health care that emerges from a consultation exercise undertaken by the World Confederation for Physical Therapy (WCPT) with its Member Organisation, is the extent to which it equates to first contact practitioner status. For example, that clients do not need a medical referral to receive care from a physical therapist, but can consult them directly. In this instance, that care can be provided in acute, primary and community settings.

In the context of this paper, primary health care is seen to reflect international policy and therefore services, that are provided in the community.

CBR was designed as a model by which cost-effective community / home-based rehabilitation could be provided in developing countries (1). As defined, it was not seen to equate to all rehabilitation that takes place outside an institutional setting, although it is easy to see how the term can be interpreted as such. CBR, as internationally defined, is very much client-centric as opposed to profession-centric.

In trying to clarify what CBR is and to draw a distinction with any care that takes place in a community environment, there are a few key points. CBR is not:

- An approach that only focuses on the physical or medical needs of a person.
- About delivering care to disabled people as passive recipients.
- Only outreach from a centre.
- Rehabilitation training in isolation.
- An approach which is determined by the needs of an institution or groups of professionals.
- Segregated and separate from services for other people (30).

Conversely CBR involves:

- Partnerships with disabled people, both adults and children, their families and carers.
- Capacity building of disabled people and their families, in the context of their community and culture.

- An holistic approach encompassing physical, social, employment, educational, economic and other needs.
- Promoting the social inclusion of disabled people in existing mainstream services.
- A system based in the community, using district and national level services for referral (30,33).

CBR has been described on the basis of component features such as:

- provision of functional rehabilitation services.
- creating a positive attitude towards people with disabilities.
- the creation of micro and macro income-generation.
- vocational training.
- the prevention of the causes of disabilities (34).

It has also been described on the basis of philosophical or ideological thinking (15).

Helander (35) has identified a number of key principles relating to CBR. They are; equality, social justice, solidarity, integration and dignity. These can be seen to relate to the principles embedded in human rights legislation.

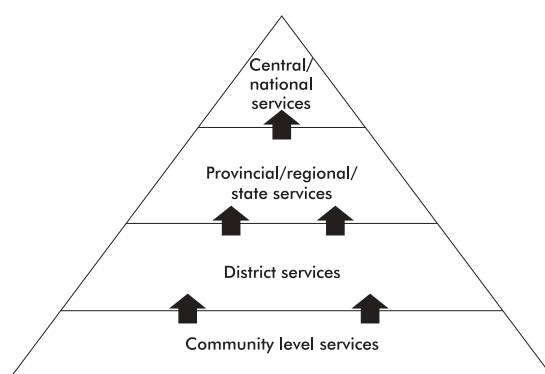
As one aspect of its broad remit, CBR is a means of delivering health services in the primary health care setting and therefore the two are intrinsically linked. CBR is not an approach that only focuses on the physical or mental needs of a person and as such extends beyond the healthcare domain. However, it is also viewed by some nations as encompassing all care that takes place in the community, more analogous with the wider concept of primary health care. CBR is not the only means by which rehabilitation services can be delivered in primary health care settings. Both CBR and primary health care, focus on the needs of individuals and the wider population. It is important though to understand that rehabilitation in the context of CBR extends beyond a purely medical interpretation as discussed.

### **HEALTH SERVICES DELIVERY**

WHO's declaration of 'Health for all by the year 2000' (10) still remains a long way off. In 1995, the World Health Assembly (resolution WHA 48.8) urged WHO and its member states to take coordinated action to reform health care, acknowledging that fundamental change was required in approaches to health care delivery, the use of human resources and their education and training (36).

Differences in health status and health care systems, including rehabilitation, are significant from one country to another. However, they are most marked when comparing the developing countries with those that are developed. While the socio-economic differences are acknowledged, the continually widening economic gap is seen to be the principal influencing factor (17). Even though the economic resources required to provide a level of service that even goes some way to closing the gap between met and unmet need, seems far from reach, as Kay et al said 'Developing nations can ill-afford the expense of the morbidity that a failure to rehabilitate causes.' (37). That said, levels of morbidity tend to be higher in poorer communities and, depending on the local health care system, this means that they end up paying more when they can ill-afford to do so (38).

Within countries there are usually a number of referral levels (figure 1). Starting with community level services, there is then access to district services, where district is defined as the area covered by the first-referral level hospital and also the most peripheral unit of local government and administration, with comprehensive powers and responsibilities. It is seen to exist at the interface between community planning and development and central government planning and development (39,2). There is then a second-referral level to provincial / regional / state services. These services, as well as providing a greater level of expertise, also provide education and supervision of rehabilitation workers at the district level. Some special schools and vocational training centres may also be located in these areas. The third level of referral is referred to as central or national services. Examples include specialty or teaching hospitals in large urban areas (39,2).



**Figure 1: Referral Levels**

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This description of services may be more recognisable in developing countries but all countries have an analogous system of increasing complexity, specialisation and multi-sectoral collaboration.

### **Models of rehabilitation**

Institution-based rehabilitation and outpatient services are models recognisable to most health care professionals and the ones that have historically influenced education provision. These services have been driven and developed by health care professionals. Health care reforms are seeing an increasing emphasis on service user involvement in shaping future models of health service delivery. However, this remains a relatively new concept and one in development itself. In most countries institution-based rehabilitation is urban-based, making it relatively inaccessible and expensive to access, especially in poorer communities.

How disability has been perceived has influenced health care service provision, including rehabilitation. The disability movement and the development of the social model of health have been influential in affecting change in recent years.

With a focus on community settings rather than institution-based centres, CBR is one model of providing rehabilitation, which is explored latter. There are a number of different models of CBR that have been developed in response to local needs and a number of other programmes of interventions which share some common goals, but have fundamental differences. One such programme is that which is referred to as *out-reach*. These programmes are run by health care workers e.g. physical therapists, at a local level to provide complex professional care which directly addresses patients' pathology, impairments, and / or disabilities (37,2). Such services are controlled from an institution and there may be a mismatch between what the people need and what the institution can provide (30).

CBR is not the only model in which community participation is emphasised. The development of the Independent Living (IL) movement, is another. While their origin is different, they both developed as a response to criticisms of the traditional rehabilitation model that was dependent on highly trained health care professionals. The essential difference between CBR and IL is that the CBR model is one of partnership between the community and service providers, whereas control is seen as essentially being with disabled consumers in

the IL model (25). In contrast to the IL movement, it is often health care professionals who speak out in support of CBR and raise its profile, whereas in IL it is principally consumer driven (25). How well this is then translated through implementation, is another matter.

### **Rehabilitation provision**

In 1995 O'Toole suggested that institution-based rehabilitation was helping no more than 2% of those in need (31). There is however an increasing shift away from delivering health services managed from institutional care facilities to primary health services, centred on the needs of the local community and delivered in the community. This is a focus in both developed and developing countries. Institutions are not redundant but are becoming increasingly focused on the provision of specialist services. The way in which it is developing varies from country to country with the differing funding and infrastructure systems, as well as the different social and cultural environments.

A recent evaluation of the implementation of the UN Standard Rules on the Equalisation of Opportunities for Persons with Disabilities (40) found that almost 30% of countries responding did not provide national rehabilitation programmes. It also found that physical therapists and other allied health professionals are rarely available at a local or district level, being predominantly available at the national level. CBR workers were not reported as being present in developed countries. Physical therapists and other professional health care workers were seen as specialists and often only accessible at national centres, which are impractical and costly to consult. The problems of providing programmes of treatment and rehabilitation, beyond one consultation, are further magnified.

The survey (40) found that primary health care has become the focus of delivering services to villages and poor urban areas. Forty-four countries reported providing community-based rehabilitation in these settings. However, estimates suggest that almost 50% of countries are only providing rehabilitation for 20% or less of the population. Where rehabilitation services are provided, they appear to focus on mobility problems and less so on other needs. Primary health care and CBR were both reported as mechanisms by which rehabilitation is delivered. While there has been progress in involving people with disabilities through CBR or as teachers, instructors and counsellors, they are less likely to be involved in the design, organisation or evaluation of rehabilitation programmes.

The survey (40) also investigated the inclusion of disability issues in the training curriculum of health care professionals. Concern was expressed at the number of countries where this was not provided for doctors, nurses and primary health care workers. On the contrary, physical therapy performs well in this area, with only 7 countries reporting that it is not a component. However, this should still be rectified.

While the survey found that children are generally well provided for, the needs of adults and the elderly are not well catered for despite the significant risks of disability associated with age and socio-economic and political circumstances (40).

Some rehabilitation services focus on a defined client group, such as those with multiple sclerosis, often reflecting financial backing from a Non Governmental Organisation (NGO), or a particular type of functional limitation, such as visual, in isolated settings. What such programmes need to ensure, is that they provide for physical, sensory, mental, spiritual, emotional and social needs, taking a holistic approach.

Access to rehabilitation is often dependent on a medical physician's referral, who may only be based at a national or provincial level, thereby potentially denying those in need of rehabilitation, who do not have access to a physician. It may also be dependent on the extent to which that physician has been given rehabilitation-orientated training (37).

### **Physical therapy provision**

The difficulties in realising a primary care orientated vision are numerous. In terms of physical therapy, many developing countries have insufficient numbers of physical therapists to operate at a local level and they are mainly located in national or provincial centres and, to a lesser extent, district services (3). For example, in developed countries the average physical therapist to population ratio is 1:1400 compared to an estimated average of 1:550,000 in developing countries (41).

### **Assessing local needs and resource analysis**

There is no one model of health services delivery that will suit all circumstances. What is required is a needs-based model developed in response to local circumstances. Some early programmes of CBR were not successful because they did not undertake any research on the self-perceived needs of the target population, or the availability of local resources (42,21).

Before determining what type of primary health care or rehabilitation service is required, it is important to consider the following (37,21,41,3):

- Health needs
  - Types of frequent disabilities eg movement, sight, learning, behavioural
  - Causes of those disabilities eg disease, injury, congenital
  - Differing levels of severity
  - Measures already in place to prevent those disabilities
- Cultural context
  - The situation of the disabled person and their family
  - Extent of participation: exclusion from social activities / participation
  - Factors influencing participation / exclusion – both opportunities and barriers
  - Expectations of disabled peoples, carers and community – priorities
  - Health seeking behaviour / beliefs
- Health service provision
  - Rehabilitation services already in existence
  - Disability prevention and rehabilitation services needed, but not currently provided
  - Government philosophy and health service plans – political, economic and social positions
  - Accessibility of general health services – eg screening, immunisation
  - Availability of existing local resources

It is important to identify and understand the current situation and map services; then to identify with all those concerned as to what gaps exist and what is required. Only then can consideration by all relevant parties, be given to what health service provision is most appropriate. This needs to take account of feasibility, accessibility and acceptability issues. None of this can be done without consideration of resource constraints, financial, facilities / equipment, education, transport, and manpower, including level of skills and competency required to deliver what is necessary.

## **COMMUNITY-BASED REHABILITATION - ORGANISATION, DELIVERY AND EVALUATION**

### **Funding and accountability**

Both Governmental and Non-Governmental Organizations (NGOs) may fund or be in charge of CBR programmes. However, it is the responsibility of the Ministry of Health to provide prevention and medical rehabilitation services (3), with other relevant ministries contributing as appropriate. In addition, while NGOs may fund CBR, states still have a duty to ensure full compliance with human rights laws both in the public and private sectors and to provide equitable treatment for disabled people (28). Most CBR services are provided by NGOs, which are based in urban areas, with little dispersal to rural areas (42).

CBR has developed in response to the need for governments and other non-governmental agencies to use their limited resources to provide better coverage. As such, the way in which CBR has developed, has in part been in response to the agendas of the donors, funders and politicians, as well as the people with disabilities and their carers and communities (43).

### **Organisation**

CBR models appear to be top-down or bottom-up. The former is an extension of the traditional institution-led model of rehabilitation. Leadership and control extends from the government or NGO, through professionally led rehabilitation services seeking the participation of people in the community, with the services pre-determined by the professions (25,34). The bottom-up model reflects more the origins of CBR where services are planned, managed and provided by members of the local community (25,21). This acknowledges that the local communities have their own resources, skills, abilities and understanding of local circumstances, which are significant strengths to be utilised. This can be seen to be more flexible and responsive to local needs, facilitating ownership and acceptance, thereby enabling change.

Many CBR programmes have developed as a result of professional leadership, often through health care personnel working with NGOs, drawing together relevant expertise and financial backing.

Given that CBR should be designed to meet local needs there are many CBR models that exist.

### **CBR personnel**

It has been proposed that there are three levels of service personnel required for CBR (35,44), who need to be overseen by a CBR manager to ensure coordination of services. These are:

- **Level one:** grass roots workers delivering services in a community - CBR workers.
- **Mid-level:** workers who organise and support level one workers: Mid-level rehabilitation workers (MLRW), therapy assistants or supervisors.
- **Level three:** professionals who refer users to the community or to whom referrals can be made from the community, such as physical therapists.

This structure may be used by CBR projects, but not necessarily so. How programmes are structured and who is involved may well be dependent on the individuals, agencies and organisations involved in establishing the programmes.

Community health or development workers may be the main contact for rehabilitation services at a local level, dependent on which, ministry or organisation is responsible (3). They may act as volunteers or be employed. Their training should be provided locally and based on the needs of the project and local people (45).

CBR workers are key in the implementation of CBR. They are usually the main person in contact with the family. They are able to:

- act as local advocates on behalf of people with disabilities and their families with the health services personnel.
- provide liaison and continuity of care in the community on behalf of professionals e.g. continued supervision of home programmes.
- act as directors of community initiatives to remove social and physical barriers that affect exclusion e.g. increased social acceptance (37).
- provide a positive role model for service users if they themselves have a disability.

Concern has been expressed at what volunteer CBR workers can achieve. What is it, that is realistic to expect of them, without reward, recognition and status? What incentive exists for them to attain higher level skills without 'rewards' (15)? However, the non-disabled volunteer can be critical to the implementation of many CBR programmes. One example is

the use of women through the Indonesian Women's Family Welfare Movement (PKK), which has an infrastructure that includes the national and village level. The success of this initiative builds on the philosophy of mutual self-help, that is part of the traditional culture (25).

Several countries have resorted to paying volunteers an allowance and refer to them as CBR workers or teachers (as in Malaysia), discarding the term volunteers. However, the term CBR teachers has been mis-interpreted by some, including the public, to mean that CBR provides academic programmes for children with disabilities, particularly those with learning disabilities (46).

Concerns also exists where the training of CBR workers has focused purely on the concepts of CBR, motivating the community and communication, but not on developing rehabilitation skills (15). This highlights a valid area of contribution for physical therapists and other members of the health care team, to provide comprehensive and inclusive training and ongoing support and case management, including goal setting, defining interventions and evaluation and monitoring for CBR workers.

There appears to be less consensus on the role of mid level workers (45). The extent to which they act as supervisors of CBR workers, project monitors or managers is variable and therefore, they need training that is adaptable to how they are going to work on individual projects.

Professionals involved at the third level of service provision can include, but are not limited to: doctors, nurses, physical therapists, occupational therapists, counsellors, support staff, orthotists / prosthetists, and technicians. As described earlier, they are often found at the provincial or national level, with few at community or district level. They are often seen as resources to refer disabled people and their families to, if the first two levels of workers need additional advice or are unable to meet the needs identified. This provides access to specialist advice and supervision.

Professionals involved in CBR programmes need to be appropriately educated, to work with disabled people and communities in a way that may not have been reflected in their professional education (45).

### **Multi-professional and multi-sectoral collaboration**

Multi-professional, inter-agency and cross-sectoral collaboration are essential in delivering effective services responsive to the needs of local populations. There needs to be an integration of health, education, social care, labour and employment policies at a national and local government level. In terms of multi-professional collaboration it is also necessary between general health service staff and rehabilitation staff (3).

The implications for the roles of physical therapists, arising from any model of health service delivery, will be dependent on the availability of other professions and support staff, as well as the extent of integrated inter-agency and cross-sectoral working relationships. This includes working relationships with Disabled People's Organisations. The availability, or not, of some professions in a given environment and setting could have implications for the potential merging of roles in order to maintain a client-focused attention to needs (37).

Collaboration is not simply about recognised professional groups but also the cooperation between western and traditional health care workers. This concept was promoted early on (13), but the extent to which it has become a reality remains questionable. While the role of the traditional health care worker is seen to have many advantages in taking health care to the local community there is a risk in managing expectations of those who seek to provide a service based on the principles of developed health care systems. The local community may no longer accept the traditional worker and see them as a lower form of provision and a reflection of lack of commitment to improve health care provision (14).

Other facets of collaboration and cooperation are derived from the multi-sectoral working required to meet the needs across all domains that impact on quality of life, not simply health (34). As stated...

“the basic concept inherent in the multi-sectoral approach to CBR is the decentralization of responsibility and resources, both human and financial, to community-level organizations. In this approach governmental and non-governmental institutional and outreach services must support community initiatives and organizations.” (34)

### **Evaluation of CBR**

Evidence for the clinical and cost effectiveness of different models of primary health care and specifically CBR, are limited. This is not limited to the contribution of physical therapy, but to the delivery of these health services in general and the role and contribution of different health care workers. A summary of several CBR programme evaluations can be found in *Prejudice and Dignity* (35). However, this is a selective summary rather than a comprehensive review of different programmes.

A WHO report (11) acknowledged the need to evaluate CBR and yet there has been little progress with this. Where evaluations exist, the focus has primarily been on process-orientated outcomes rather than changes in health or social status for individuals or community improvements. Additionally, WHO's guidance on evaluation (47) was primarily targeted at those participating in CBR programmes, to help them understand more about the dynamics of their own programmes, as opposed to an external objective evaluation. Both approaches have their place in understanding more about the effect of CBR programmes.

There is also a lack of descriptive research describing different CBR programmes in sufficient detail, to understand what actually happens. This covers activities and services provided, as well as experiences from the perspective of disabled people, their families, CBR personnel, health care professionals, those involved with educational, employment or other areas of activity and others in the community (48). This lack of descriptive and observational research therefore, hinders understanding of the effectiveness of CBR programmes and evaluative research. This is further hindered by the lack of widely disseminated and accessible information. While evidence-based practice is driving health services in developed countries, facilitated by the advancement of health informatics and the wealth of information available via the Internet (49), lack of access to information resources is a barrier to information sharing in most developing countries. Research cannot happen without appropriate funding and funding for research in this field is difficult to attract (48).

Stineman (50) has proposed four guiding principles for CBR that should inform future evaluations:

1. Seek the equalisation of opportunities and support for human rights.
2. Ensure relevance of the programme activities to local culture, circumstances, needs and priorities.

3. Achieve a multi-sectoral approach through collaboration among different international groups, governmental agencies, and non-governmental partners including organisations of people with disability, community organisations and groups, and national NGOs.
4. Move toward achieving sustainability, efficiency, and effectiveness.

Further recommendations are made for standardising report writing and the development of standard indicators for planning and evaluation that look at input, process and output (50). Progress with this approach could provide valuable information in the future. In addition, it is important to acknowledge that collaboration alone cannot bring about change and that cooperation is vital to success.

A recent qualitative review of the impact of CBR programmes in three countries (Ghana, Guyana and Nepal) on the quality of life of disabled people, found that they had a positive effect on self-esteem, empowerment and influence, self-reliance and social inclusion. However, they had limited impact on physical well-being, and on confidence and trust in society, regarding human rights fulfilment (51). A concern arising from the research was the extent to which disabled people are still viewed as beneficiaries of the programmes, rather than active participants.

A number of CBR programmes had been experienced by the disabled people / parents interviewed and the researchers found that there were a number of initiatives that were perceived to be most useful:

- Social counselling.
- Training in mobility and daily living skills.
- Providing or facilitating access to loans.
- Community-awareness raising.
- Providing or facilitating vocational training / apprenticeships.
- Facilitating information for local self-help groups, parents' groups and DPOs.
- Facilitating contacts with different authorities.
- Facilitating school enrolment (school fees and contacts with teachers) (51).

Whilst acknowledging the limitations of the research, this list provides a useful reminder of the multi-dimensional nature of CBR encompassing different social, domains and not just health. Evaluating CBR programmes poses challenges for researchers, universities,

governments, programme funders and those involved in delivering the services, as well as the service users. Small pilot projects can provide insights into services, but larger scale evaluations are required, necessitating significant funding.

### **IMPLICATIONS FOR PHYSICAL THERAPY**

This section discusses the implications for physical therapy arising from the literature and in response to the findings of the WCPT consultation on CBR.

#### **Professional autonomy and status**

If physical therapists want to protect their domain of expertise and see themselves as required to be the primary care givers in direct contact with those with disabilities, then they risk mystifying rehabilitation and making it inaccessible to those most in need, especially in developing countries (42). To ignore the view that those with disabilities are the “legitimate and rightful arbiters in deciding what is best for their lives” (22), again does nothing to support consensus building in providing appropriate and accessible health care services. These valid perspectives pose challenges for the profession.

It would appear that institution or private based physical therapy is the preferred option for the majority of physical therapists, usually associated with higher professional status (25,41). In these circumstances, the emphasis is on professional skills and expertise lying with the professional. This contrasts with the way in which community based physical therapists are conferred with a lower status and a focus on transferring skills to empower other workers and families (41). In addition, emphasis in urban centres is primarily on cure rather than rehabilitation or maintenance, so the health gains and improvements achieved by the health professionals are perceived to be greater (25).

The influence of the disability movement and services such as CBR can be seen to pose threats to the status of the professional if ownership and leadership sit with the person with a disability and the community. This is occurring in parallel as efforts to enhance professional autonomy and the development of the profession in many developing countries and could be seen as a source of tension (25).

Part of being a professional, is being perceived as an expert with a particular domain of knowledge. Historically, this has meant that a professional’s knowledge, skills and judgement

have rarely been questioned. However, a community-orientated approach sees a significant shift of control from the professional to the client / family. While the professional is still seen as having an expert body of knowledge, they are far more a resource for clients and families (41). Whilst the development of evidence-based practice is not without its critics, it has sought to challenge the profession-centric model of practice to one that creates a more balanced relationship between professionals and clients, through promoting shared decision-making (49).

Primary health care may not have been embraced by some health care professionals, who potentially see it as providing negative incentives for them professionally. Especially, if the focus is on prevention, when their skills and main business have been curative, often with the opportunity for additional private income (14). However, physical therapists have always had a focus on prevention and are keen to develop this area of practice further.

All of the above, pose dilemmas for a developing profession. In many countries where the profession is relatively new, or is still emerging, part of furthering its progress has been to ensure academic credibility and standing in the universities where education takes place. To achieve this may have required a strong biomedical focus to the education and research programmes. While developing a more client-centred community-orientated education programme which may be appropriate, this needs to be done with an awareness of the education and practice environments.

### **Physical therapy roles**

Physical therapists undertake, or have the potential to undertake, a number of roles in primary health care and CBR, dependent on local cultural and socio-economic circumstances. These have been identified as (52,53,37,41,34,54,3):

- Preventing disability and deformity.
- Educating / training disabled people to move around.
- Promoting self-care.
- Educating, training and transferring skills to other staff.
- Consultancy, advice, support and supervision to other health care personnel.
- Health promotion and disease prevention.
- Curative and rehabilitation services.

- Instigators of CBR services.
- Team leaders and managers.
- Providers of direct care.
- Advocates for disabled people, local communities as well as the profession.
- Advisers to governments, NGOs and local communities on establishing CBR programmes.

There are a number of significant differences in emphasis of the role between institution-based and community-based physical therapists (41) as outlined in table 1.

**Table 1: Differences in physical therapy roles**

Physical Therapy in Institutions	Physical Therapy in CBR
<ul style="list-style-type: none"><li>● Direct service provision to the client</li><li>● Predominantly 1:1 therapist:client ratio</li><li>● Person receiving services usually addressed as patient</li><li>● Rarely works in groups</li><li>● Allocates therapy time according to individual needs</li><li>● Ideal to care for a few</li><li>● Perceived higher professional status</li><li>● Can focus on a strong biomedical model, although attitudes and approaches are changing</li></ul>	<ul style="list-style-type: none"><li>● Mainly indirect</li><li>● 1 therapist:to a given population</li><li>● Person receiving services addressed as client</li><li>● Often works in groups</li><li>● Allocates time based on the needs of the population</li><li>● Good basic care to all</li><li>● Perceived lower professional status</li><li>● Uses a strong social model</li><li>● Teaches / trains local health workers and families to carry out day-to-day therapy</li><li>● Acts as an expert resource</li></ul>

It seems that flexibility and innovation are required to ensure that physical therapists are adaptable and used to maximum effect in any given situation. Ensuring that physical therapists are competent in transferring their skills and knowledge to others, as well as recognising this as a legitimate professional activity, needs to be incorporated into professional education programmes (55). This is particularly pertinent in the primary health care setting and in those countries with very limited financial investment in health care and specifically physical therapy.

In terms of professional roles and advocacy, O'Toole gave a salient warning in 1995 that:

"If ... the vision and courage to tread new paths are lacking, then the danger is that more conferences will be held, more declarations will be written, more slogans devised, and still 98% of the disabled population will remain totally unaware of the international concern being voiced on their behalf" (31).

This thereby suggests a requirement to challenge the status quo, professional domains, and service models and action to address the deficiencies.

Kay et al (37) suggest that the direct use of physical therapists in CBR would serve to institutionalise the efforts of CBR and negate the cost-effective self-help values of the CBR movement, introducing an approach contrary to the basic philosophy.

Given the variety of roles that physical therapists can take on in CBR, it is important to identify the skills required to fulfil these roles. Some of these may not have been covered in professional education programmes, such as competency in community organisation and development (46). In addition, a change of approach may be required from the physical therapist as expert, to the physical therapist as a resource that provides advice and support when asked by the community, rather than stepping in when they decide that it is required.

In reviewing the role and contribution of physical therapists, it is important to be mindful of the consequences for other health care workers involved, including CBR workers and other professional groups. Also, that the other stakeholders, including DPOs, have a valid contribution to make in assisting the profession, to review its role. Any review needs to consider the needs of individual service users and also be recognised within National Service Frameworks for CBR, where they exist.

### **Pre and post qualifying education of physical therapists**

To date, physical therapy education has tended to focus on institution-based learning environments, which may not necessarily engage students with the potential for working in rural and community settings once qualified (41). This is not universal and there are some qualifying programmes which have a substantial primary care orientation to their curriculum (56,41). Nor is this situation limited to physical therapy (57). Concern also exists over the provision of high quality and relevant continuing professional development opportunities post

qualification (57). With a focus on CBR, O'Toole and McConkey (55) identified the need for qualified professionals to receive appropriate education and training on topics such as handling groups, meeting the needs of adult learners and the preparation of learning resources.

Preparing physical therapists to work in community settings with local communities, disabled people and their families, may also require changes to the curriculum. With a strong emphasis on institution-based learning there is often little exposure to different health care settings beyond the predominantly urban areas where these institutions are located (41).

As highlighted by Twible and Henley (41), preparing physical therapists for community orientated services requires philosophical, organisation, conceptual and structural changes in education provision. Along with the differences between institutional and community based services already identified, they highlighted the differences in resources where CBR models are dominated by low technology, low cost, the use and adaptation of existing resources and the use of local human resources; a stark contrast to institutional settings.

A recent study from South Africa (56), examined students' experiences of working in a disadvantaged local community, to determine gaps in the pre-qualifying curriculum so that changes could be identified and implemented to better prepare students for this practice context. The researchers found that students were insufficiently aware of social, political, economical, cultural and religious differences influencing the communities and how this impacted on the health of disabled people and their carers. Other gaps related to levels of knowledge concerning the national socio-political environment, human rights issues and health behaviours and beliefs. Students did however, rate highly the experience gained. Depending on the local community setting there can also be particular issues concerning the safety of any health worker. Since education changes were implemented in the curriculum, there have been more physical therapists who on qualification chose to work in community and peri-urban areas, often requiring that they worked on their own and in quite isolated areas. Further evaluation of the outcomes resulting from the curriculum changes in this physical therapy programme, is planned.

It is interesting to note that the model of education in South Africa had been traditionally modelled on that of the UK, which while developing excellence, was probably not equipping

physical therapists for their local context, raising a potential mismatch between preparation for practice and local needs. Developments in primary health care in South Africa, have now led to the requirement that physical therapists must complete one year of community service, in areas that have historically been under-serviced (58,56). This is of particular note in developing and facilitating the migration of physical therapists internationally, while ensuring fitness for purpose in terms of the needs of national and local health service provision.

Acknowledging the role of physical therapists in skills transference and the education of others, they need to be prepared with the appropriate skills and knowledge of educational approaches to achieve this end effectively (41). Acquisition of appropriate knowledge and values to orientate professional behaviour towards counselling and collaboration with families and communities, promoting the concepts of independent living and full participation, is also required (59).

Earlier, the discussion focussed on the variety of roles that physical therapists can take on in CBR and in doing so also provided pointers for educational programmes in terms of skill acquisition and competencies.

There are a number of primary health care and community orientated service delivery models and physical therapists need to have an understanding of these and their relative strengths and weaknesses for a given context. What appears to be important for success, is the knowledge and understanding they have of their local environments and the socio-political, economic and cultural factors that influence them.

Recognising the need to better orientate the physical therapy curriculum to primary health care and the different models of health services delivery that operate worldwide revisions have been made to the Declaration of Principle on Education produced by WCPT (accessible from [www.wcpt.org](http://www.wcpt.org)).

## **CONCLUSION**

This paper has set out the context of practice for physical therapists, as it relates to primary health care and CBR, with an emphasis on CBR. The literature reviewed does not include all published work, as it is not a systematic review, but it is hoped that its breadth will assist physical therapists in developing primary health care and specifically CBR services. CBR was

developed as a particular model for meeting the rehabilitation needs of developing countries. Its application in developed nations therefore needs careful consideration of its applicability to the social and cultural environment that predominates (25).

As identified, there is a dilemma for the profession in striving to balance the need for enhanced professional status and recognition, while achieving a more client or community-orientated focus. This poses challenges for practice and education.

Experiences of health sector reform again vary worldwide, and it is clear that there is no one template or model to follow, due to the diverse circumstances in different countries. However, there should be an ethos of sharing experiences and learning from others. How health services are financed and the extent to which they provide quality cost-effective services are key components of reform. One of the elements of any reform or evaluation should be a review of how the human resources are used efficiently and effectively. This requires consideration of the education, training and scope of practice of different recognised professions, as well as consideration of new models and roles (57).

Recognising the developments in primary health care and CBR and the need to support these, while also supporting the development of the profession, WCPT has developed a Declaration of Principle on Primary Health Care and a Position Statement on CBR. Both of these were approved at the 15<sup>th</sup> General Meeting of WCPT in 2003. In addition, amendments were approved to the existing Declaration of Principle on Education, to better prepare physical therapists for the changing context of practice.

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### **Acknowledgement**

The author is grateful to Liz Carrington for early discussions in developing the paper and for comments on the draft version. In addition, the following people are also thanked for comments on the draft: Mary Martin, Gubela Mji, Ranjit Kaur, and Inger Brøndsted, which have been used in developing the final paper. Any errors that remain are purely the responsibility of the author.

## REFERENCES

1. Helander E, Mendes P, Nelson G, Goerd A. *Training in the Community for People with Disabilities*. Geneva, Switzerland: World Health Organization. 1989.
2. World Health Organization. *Community-Based Rehabilitation and the Health Care Referral Services. A guide for programme managers*. Geneva, Switzerland: World Health Organization. 1994.
3. World Health Organization. *Disability prevention and rehabilitation in primary health care. A guide for district health and rehabilitation managers*. Geneva, Switzerland: World Health Organization. 1995a.
4. International Labour Organization, United Nations Educational Scientific and Cultural Organization, World Health Organization. *CBR: a strategy for rehabilitation, Equalization of Opportunities Poverty Reduction and Social Inclusion of People with Disabilities*. Joint Position Paper. Geneva, Switzerland. World Health Organization. 2004.
5. International Labour Organization, United Nations Educational Scientific and Cultural Organization, World Health Organization. *Community-Based Rehabilitation for and with people with disabilities. Joint Position Paper*. 1994, Geneva, Switzerland.
6. United Nations. *World Programme of Action Concerning Disabled Persons. United Nations Decade of Disabled Persons, 1983-1992*. New York: United Nations. 1983.
7. United Nations. *International Meeting on Human Resources in the Field of Disability*. International Meeting on Human Resources in the Field of Disability, Tallinn, Estonian Soviet Socialist Republic, USSR: Muscular Dystrophy Association of Slovenia. 1989b.
8. United Nations. *The Standard Rules on the Equalization of Opportunities for Persons with Disabilities*. New York: United Nations. 1994.
9. World Health Organization. *Resolution on Disability Prevention and Rehabilitation*. Geneva, Switzerland: World Health Organization. 1976.
10. World Health Organization. *Formulating strategies for Health for All by the year 2000. (Health for All Series, No.2)*. Geneva, Switzerland: World Health Organization. 1977.
11. World Health Organization. *Disability prevention and rehabilitation. Report of the WHO Expert Committee on Disability Prevention and Rehabilitation*. Geneva, Switzerland: World Health Organization. 1981.
12. World Health Organization. *Rethinking Care From the Perspective of Disabled People. Conference Report and Recommendations*. Geneva, Switzerland: World Health Organization, Disability and Rehabilitation Team. 2001c.
13. World Health Organization, UNICEF. *Report of the International Conference on Primary Health Care, Alma-Ata USSR, 6-12 September 1978. Jointly sponsored by the World Health Organization and the United Nations Children's Fund*. Geneva: World Health Organization. 1978.

14. van der Geest S, Speckmann J, Streefland P. Primary health care in a multi-level perspective: towards a research agenda. *Soc Sci & Med* 1990; 30(9): 1025-1034.
15. Vanneste G. CBR in Africa: a critical review of the emerging scene. *Asia Pacific Disability Rehabilitation Journal* 1997; 8(2): 34-37.
16. Coleridge P. *Disability, Liberation and Development*. Oxford, UK: Oxfam. 1993.
17. Leavitt R. The Development of Rehabilitation Services and Suggestions for Public Policy in Developing Nations. *Pediatric Physical Therapy* 1995; 7: 112-118.
18. World Health Organization. *The International Classification of Functioning, Disability and Health – ICF*. Geneva, Switzerland: World Health Organization. 2001b.
19. Coleridge P. Disability and culture. *Asia Pacific Disability Rehabilitation Journal: Selected Readings in CBR Series 1: CBR in Transition*: 2000; 21-38.
20. Gregory R. Disability and rehabilitation in cross-cultural perspective: a view from New Zealand. *Int J Rehabil Res* 1994; 17: 189-200.
21. Thomas M, Thomas M.J. Editorial: Influence of cultural factors on disability and rehabilitation in developing countries. *Asia Pacific Disability Rehabilitation Journal* 1999; 10(2): 44-46.
22. Lang R. *Guest Editorial: a critique of the disability movement*. Asia Pacific Disability Rehabilitation Journal 1998; 9(1): 4-8.
23. Oliver M. The disability movement and the professions. *British Journal of Therapy and Rehabilitation* 1999; 6(8): 377-379.
24. Oliver M. *Social Work with Disabled People*. Basingstoke: MacMillan. 1983.
25. Lysack C, Kaufert J. Comparing the origins and ideologies of the independent living movement and community based rehabilitation. *Int J Rehabil Res* 1994; 17: 231-240
26. Cole K. *Human rights, development, disability, community-based rehabilitation*. [Paper commissioned by the Department for International Development as part of a consultation on Disability and Development]. Norwich, England: School of Development Studies, University of East Anglia. 1999.
27. World Health Organization. *Towards a common language for functioning and disablement*. Geneva: World Health Organization. 1998.
28. Office of the High Commissioner for Human Rights. *The Human Rights Dimension of Disability. Paper prepared for the International Review of Community Based Rehabilitation. 25-28 May 2003, Helsinki, Finland*.
29. Quinn G, Degener T. *Human Rights and Disability: the Current Use and Future Potential of United Nations Human Rights Instruments in the Context of Disability*. New York and Geneva: United Nations. 2002.
30. Stubbs S. *Community Based Rehabilitation*. International Disability and Development Consortium., 2002. [http://www.iddc.org/dis\\_dev/cbr.pdf](http://www.iddc.org/dis_dev/cbr.pdf) [Accessed 16/7/2].

31. O'Toole B. Community-Based Rehabilitation Programmes. *Prospects* XXV 1995; (2): 311-324.
32. World Health Organization. *Innovative Care for Chronic Conditions: Building Blocks for Action*. Geneva, Switzerland: World Health Organization. 2002.
33. Vanneste G. Editorial: Community Based Rehabilitation: What is it? *Disability World [bimonthly web-zine of international disability news and views]* 2001, (6): Accessed 27/28/2002 [http://www.disabilityworld.org/2001-2002\\_2001/news/cbeditorial.htm](http://www.disabilityworld.org/2001-2002_2001/news/cbeditorial.htm)
34. United Nations Economic and Social Commission for Asia and the Pacific. *Understanding Community-Based Rehabilitation*. 1997, UNESCAP, [www.unescap.org/decade/cbr.htm](http://www.unescap.org/decade/cbr.htm) [Accessed 16/7/2].
35. Helander E. *Prejudice and Dignity - An Introduction to Community-Based Rehabilitation*. New York: UNDP. 1999.
36. World Health Organization. *Reorientating medical education and medical practice for health for all. (Resolution WHA 48.8)*. Geneva, Switzerland: World Health Organization. 1995b.
37. Kay E, Kilonzo C, Harris M. *Improving Rehabilitation Services in Developing Nations: The proposed role of physiotherapists*. *Physiotherapy* 1994; 80(2): 77-82.
38. Werner D. The life and death of primary health care: the 'McDonalization' of Alma Ata, Russia. *Pacific Health Dialog* 1996; 3(1): 68-73.
39. World Health Organization. *Manual of epidemiology for District Health Management*. Geneva, Switzerland: World Health Organization. 1989.
40. World Health Organization. *The UN Standard Rules on the Equalization of Opportunities for Persons with Disabilities: government responses to the implementation of the Rules on medical care, rehabilitation, support services and personnel training. I. Summary*. Geneva, Switzerland: World Health Organization. 2001d.
41. Twible R, Henley E. Preparing occupational therapists and physiotherapists for community based rehabilitation. *Asia Pacific Disability Rehabilitation Journal: Selected Readings in CBR Series 1: CBR in Transition*: 2000;109-126.
42. Helander E. Guest Editorial: 25 Years of Community-Based Rehabilitation. *Asia Pacific Disability Rehabilitation Journal* 2000; 11(1): 4-9.
43. Thomas M, Thomas M.J. Controversies on some conceptual issues in community based rehabilitation. *Asia Pacific Disability Rehabilitation Journal* 1998; 9(1): 12-14.
44. Thomas M, Thomas M.J. Community Based Rehabilitation Training of Personnel for CBR. *Asia Pacific Disability Rehabilitation Journal Manual for CBR Planners*: 2003a; 71-79.
45. Wirz S. Training of CBR personnel. *Asia Pacific Disability Rehabilitation Journal Selected Readings Series 1: CBR in Transition*: 2000, 96-108.
46. Kaur R. *The Physiotherapist in the Community*. The 8th General Assembly of Asian Confederation for Physical Therapy, Bangkok, Thailand. 2002.

47. World Health Organization, International Disability Consortium. *Guidelines for Conducting, Monitoring and Self-Assessment of Community-Based Rehabilitation Programmes: Using Evaluation Information to Improve Programmes*. Geneva, Switzerland: World Health Organization. 1996.
48. Miles M. CBR works best the way local people see it and build it. *Asia Pacific Disability Rehabilitation Journal* 2003; 14(1): 86-98.
49. Bury T. Evidence-based healthcare explained. In: Mead J (Eds). *Evidence-Based Healthcare: A practical guide for therapists*. Oxford: Butterworth Heinemann; p. 3-25. 1998.
50. Stineman M. *Guiding Principles for Evaluating and Reporting on Worldwide Community-Based Rehabilitation Programs. 2002. Paper prepared for the International Review of Community Based Rehabilitation. 25-28 May 2003, Helsinki, Finland*.
51. World Health Organization, Swedish Organizations of Disabled Persons International Aid Association. *Community-Based Rehabilitation as we have experienced it..... voices of persons with disabilities*. Geneva, Switzerland: World Health Organization. 2002.
52. Bury T. *Community Based Rehabilitation and Primary Health Care: Implications for Physical Therapy*. World Confederation for Physical Therapy 14th International Congress, Barcelona, Spain: World Confederation for Physical Therapy. 2003.
53. Henley E, Twible R. The value of physiotherapy and occupational therapy in community based rehabilitation. *Friday Meeting Transactions: Associate publication of Asia Pacific Disability Rehabilitation Journal* 1999; 1(1).
54. World Confederation for Physical Therapy. *Primary Health Care and Community Based Rehabilitation. An overview of WCPT's work and plan of action. 15th General Meeting Papers, Agenda Item 10.5*. London: World Confederation for Physical Therapy. 2003.
55. O'Toole B, McConkey R. A training strategy for personnel working in developing countries. *International Journal of Rehabilitation Research* 1998; 21: 311-321.
56. Futter M. *Developing a Curriculum Module to Prepare Students for Community-Based Physiotherapy Rehabilitation in South Africa*. *Physiotherapy* 2003; 89(1): 13-24
57. Alwan A, Hornby P. The implications of health sector reform for human resources development. *Bulletin of the World Health Organization* 2002; 80(1): 56-60.
58. Government Gazette. *no 23047, notice no 69, regulation no 7260.*: Government Publishers. 2002.
59. World Health Organization. *Future Trends and Challenges in Rehabilitation*. Geneva, Switzerland: World Health Organization. 2001a.