CHAPTER 8

International Classification of Functioning, Disability and Health (ICF), and CBR

Margie Schneider, Sally Hartley

SUMMARY

This chapter describes how the International Classification of Functioning, Disability and Health (ICF) (WHO, 2001) can provide a general framework for understanding and ‘unpacking’ the different aspects that make up the phenomenon of disability. In this respect it can be a useful tool in implementing Community Based Rehabilitation (CBR) programmes. The framework is guided by the definition of disability as being the outcome of an interaction between a person’s health condition and the context in which the person lives. This outcome can be described at three levels - body, person and societal. The ICF can be used in assessing individuals, their communities and environment to determine the factors that are creating the disability and provide structure for appropriate interventions.

ICF AND CBR

The initial section provides a brief review of the main CBR concepts relevant for the discussion on using the ICF. This is followed by a more detailed description of the ICF and the main features that should be clearly understood in applying the framework to CBR implementation. The final section provides a series of examples of how to use the ICF concepts and framework in CBR implementation and concluding remarks.

WHAT IS CBR AND WHAT ASPECTS ARE IMPORTANT FOR USING THE ICF?

The International Labour Organisation (ILO), United Nations Education, Scientific and Cultural Organisation (UNESCO) and the World Health Organisation (WHO) produced their second Joint Position Paper in 2004 entitled "CBR: A Strategy for Rehabilitation, Equalisation of Opportunities, Poverty Reduction and Social Inclusion of People with Disabilities". In this document Community Based Rehabilitation (CBR) is defined as:

"a strategy within general community development for rehabilitation, equalization of opportunities and social inclusion of all people with disabilities. CBR is implemented through the combined efforts of people with disabilities themselves, their families, organizations and communities, and the relevant governmental and non-governmental health, education, vocational, social and other services" (ILO, UNESCO, WHO, 2004, p 2).

The International Disability and Development Consortium (IDDC) also set out what they consider to be the core components of CBR (IDDC website accessed October 2005). These include being community based, using rehabilitation techniques that would aim to improve an individual’s ability to do various activities (e.g. increasing muscle strength, treating psychiatric conditions, etc.), considering cultural compatibility and utilising local resources. Millward et al (2005) cite the 1995 revision of the Uganda constitution and say that in order for them to realise their full mental and
physical potential, disabled people must have access to both individually as well as environmentally focused intervention strategies.

These reviews highlight the need to consider the whole person, their family and friends, as well as the immediate and broad physical, social and policy/legislative environment. An important aim of (and measure of outcome for) CBR programmes is the social inclusion and integration of disabled people in all spheres of life. In order to plan and implement CBR programmes as well as monitor and evaluate their effectiveness, we need a way to assess or measure the relevant factors and determine the extent and direction of change of these overtime.

Thus, CBR programmes must include both individual, as well as environmental and social aspects in planning and implementation. The disabled person requires medical care and rehabilitation to ensure that they are able to undertake activities as independently as possible. At the same time social and environmental interventions are needed to ensure that a maximum level of independence can be achieved and maintained.

This description of CBR fits in well with current definitions of disability and reflects the complex and multidimensional nature of this phenomenon. It is now widely accepted that disability is not merely the problem of an individual nor a static phenomenon. The experience of disability and the associated disadvantage is an outcome of an interaction between a person's health condition and the context in which that person lives. If the individual condition or the context change, the outcome will also change. So, in order to understand an individual's experience of disability and ensure that interventions are targeted appropriately, we need to understand and describe both the health condition and the context, as well as the outcomes. In line with the above, the ICF defines disability as being the outcome of the interaction between a person's health condition and the context in which the person lives.

**Important factors to consider include:**

- The assessment of the individuals' health conditions and impairments to understand their health care and specific impairment needs (e.g. need for glasses, a wheelchair, personal assistance) as well as the prognosis for the health condition
- The impact of impairment on the individuals' ability to carry out daily activities
- The impact of different forms of personal or technological assistance on performance levels
- The availability of these different forms of assistance
- The impact of broader environmental factors on the individual and the family. For example, attitudes of others, accessibility of the environment, availability and accessibility of services, regional and national policies
- The individual and their family's general well-being and quality of life

Effective CBR programmes need to be able to assess these factors if accurate interventions and programme evaluations are to be undertaken. The ICF provides a framework for structuring and undertaking the assessment of the context and outcomes of the interaction.

**WHAT IS ICF?**

The ICF does not necessarily present anything new in our understanding of disability, but rather it provides a framework to organise the information in a way that allows us to analyse and understand disability more effectively.

Independence in the context of disability is not limited to the notion of being able to do an activity oneself, but also includes the notion of having a choice in deciding when one does something. For example, a person with quadraplegia might never be able to do activities of self care and mobility without assistance, but they can be independent in deciding when they want to do these activities. This implies that the disabled individual has access to personal assistance when they want it and not as decided by the assistant.
PRINCIPLES OF THE ICF

The ICF has three important principles:

• **universal application**, which highlights that all people experience disability at some point, not only a minority group of people traditionally referred to as disabled

• **an integrative approach**, that acknowledges the impact of both individual features, as well as social factors as important to consider in the understanding of disability; this is called the bio-psychosocial approach to describing functioning and disability

• **an interactive approach**, that recognises the complex and multidimensional phenomenon that is disability. There is no single, or simple way of describing disability. The complexity must be understood and described, and the ICF is a tool that provides a descriptive framework to do this

The principle of universalism highlights the importance of understanding disability as a continuum. We all fall at some point on this continuum, which has full functioning at one end and full disability at the other.

ICF works with a concept of disability that arises from a health condition. A health condition can be acute, chronic, progressive or intermittent, and may need ongoing medical intervention (e.g. being HIV positive), or may not need medical intervention (being blind from birth). This health condition interacts with the person's context. As elements of this interaction change, so the outcome will change. This means that disability is not a static feature of an individual but rather a complex, multidimensional and changing experience for the individual. It is determined only in part by the inherent features of that individual (i.e. health condition and personal factors).

---

2 It does not look at disadvantage arising, for example, from poverty.

SOME ILLUSTRATIVE EXAMPLES

A child with cerebral palsy from a poor family may not be able to access the necessary rehabilitation and educational services that he or she needs. This results in the child having an educational and developmental disadvantage. A child with a similar health condition living in a well resourced community, would have a very different experience as he or she would be able to access the necessary rehabilitation and educational services and experience less disadvantage than the first child.

A wheelchair user faced with an inaccessible physical environment will experience severe disability, whereas the same person in a fully accessible environment will experience little disability.

The ICF comprises 4 classifications:

1. Body Functions
2. Body Structures
3. Activity and Participation
4. Environmental Factors

Further details on each of these classifications can be found at the ICF website [www.who.int/classification/icf](http://www.who.int/classification/icf). The ICF provides a rating scale for describing the extent of the difficulty a person has in any particular domain. This is a 5 point scale and ranges from "no difficulty", through to "unable to do". For example, a person who has quite a lot of difficulty walking would rate themselves, or be rated by someone else, as having a moderate difficulty with walking. The exact definition of what is a mild vs a moderate or moderate vs severe difficulty, remains somewhat vague and requiring further work. Existing assessments can be used to do assessments and the scores "translated" into ICF domains with different scores, providing the definitions for each of the ratings on the ICF domains.

The last classification, i.e. the classification of environmental factors (but not of the personal ones), describes the different elements of the
external environment that interact with a person's health condition and are of importance to functioning and disability. The other three classifications provide a detailed description of the outcome of the interaction between the health condition and the context of the person. These three classifications in fact, describe all the domains of human functioning. The sister classification, the International Classification of Diseases (ICD) provides the means to describe the health condition that gives rise to disability. The health condition is not classified in the ICF.

OUTCOMES AT BODY, PERSON AND SOCIETAL LEVELS

The outcome of the interaction between the person's health condition and the context in which they live, will be at one of more levels of human functioning. These levels are the body level (e.g. individual body parts, organs or body systems), the whole person (e.g. in doing various activities such as walking, communicating, learning), and/or the person within society level or societal level\(^3\) (e.g. whether person does walk, communicate or learn in their individual and usual environment).

Body level functioning: body functions and structures and related impairments

Impairments of body function or body structure describe difficulties a person experiences at the body level and are largely features of the individual, and are not generally determined by the external environment. There are exceptions such as night blindness which only manifests in an environment where there is little light. Impairments are very closely linked to the health condition and are the manifestations of the health condition in the form of symptoms. For example, in mental illness, the underlying condition is usually diagnosed on the basis of the symptoms that are impairments of mental functions, such as lack of emotional control, psychotic thought patterns, and so on. Impairments of body structures include aspects such as a loss of a limb, or deformity of a body structure. Many people have one or more impairments that are mild or moderate in severity, but that do not necessarily cause the person to have difficulty in overall functioning, such as:

- a person with a mild or moderate vision problem and who does not do much reading or sewing
- a person with mild hypertension or asthma
- a person who is HIV positive but who does to have any symptoms of illness
- a person with a finger missing and who manages to compensate using the remaining fingers

The environmental factors of significance with impairments of body function and structure, are those of access to health care. The importance of describing a person's impairments (and associated health condition) is to ensure adequate provision of relevant health care. At a community level, the most prevalent health conditions and impairment should be documented to allow for accurate planning of health services. While this might not be the primary focus of a CBR programme, the need to collect this information remains important.

Because of the close link between the health condition and impairments of body function or structure, the two terms are often used interchangeably.

Person level functioning: activity and related activity limitations

The activities a person needs and wants to execute in their daily lives are undertaken in a purposive manner and involve a coming together of a range of body level functions and structures. The level of complexity is higher than for functioning at the body level. However, the person

\(^3\) The societal level refers to the fabric that makes up societal structures, but does not mean that it is functioning with other people necessarily. For example, a person participating in activities of self care would not necessarily do them with others.
level functioning is still a feature of the individual. It describes what the person can do given an environment with no personal or technical assistance available. For example:

someone with a moderate hearing loss would not be able to hear soft warning sounds (e.g. footsteps approaching) without a hearing aid

or a person with a lower limb amputation would not be able to walk without assistance from a person or a prosthesis.

This information is important as an indication of activities that the person is able to do, or those she or he has difficulty doing (activity limitations). Interventions can then be focused appropriately. If a person has difficulty in doing an activity, the intervention can either teach the person to improve their capacity to do that activity, or find ways of compensating for that difficulty. If the person has no or little difficulty but in fact does not do the activity (assuming they want and/or need to do it), then an individual focus of intervention will not change that person's overall functioning. The intervention must then rather focus on the barriers that are hindering the person from doing the required activity.

An example would be a child with cerebral palsy who can communicate, but with some slurring of the sounds. If this child is discouraged from communicating because people do not have the patience to listen to him carefully, he will not engage in the activity of communication. The child has the capacity to communicate, but is being prevented from communicating because of environmental barriers, i.e. people's impatience. At the person level we are only concerned with what the child's capacity is. Rehabilitation interventions at the person level would aim to improve the child's ability to produce clear and fluent speech.

**Societal level functioning: participation and participation restrictions**

While the person level of functioning is a feature of the individual, the societal level of functioning is determined by the impact of different barriers and facilitators in their environment e.g., at work, school, home, local shops, etc. This can happen in a number of different ways.

A person has the capacity to do an activity, but they in fact do not participate in doing that activity because of some barriers in their environment.

**An example**

The negative attitudes of employers when they refuse to employ a person because of their disability, are barriers to a person working.

A person in a wheelchair might have no difficulties in maintaining a job and completing the required tasks. If they are not given the necessary assistive devices and support, they will not work. The focus of intervention in this case is clearly environmental, i.e. to change the attitudes of potential employers.

A person has difficulty in doing an activity (e.g. walking, communicating, following a conversation in a noisy environment, learning) but they do in fact, participate in that activity in their usual environment. This case suggests that the person has a number of facilitators in their environment that assist them in compensating for, or managing the difficulty.

**An example**

Facilitators are typically technological devices such as a walker or walking stick, an augmentative communication device, a hearing aid, or personal assistance and support.

If a person has difficulty in communicating and is provided with a communication board, their ability to be involved in communication will increase because of this facilitator. The focus of intervention in this scenario would be both the individual (e.g. to teach communication strategies), as well as the environment (providing a communication board).
A person has difficulty in doing an activity and does not participate in doing that activity in their usual environment. This suggests that either the person does not have the necessary facilitators in the environment, or, there are no facilitators available.

**An example**

A person has a severe intellectual impairment and lives alone with his mother who cannot go to work, as she must look after her son. The environmental barriers include lack of services to support his mother and provide her with care for her son and the possibility of finding work. A further barrier might be lack of any stimulation for the son to allow him to reach the best level of functioning he can.

The focus of intervention would again be both the individual and the environment.

It is only by understanding both what the person's capacity is for doing the different activities as well as what happens in their usual or current environment, that a holistic picture of a person’s functioning can be obtained. The ICF provides a framework for doing this.

The classification of Activities and Participation is a single one with each domain being assessed and described in terms of the person's capacity to do an activity (activity level) and their performance of that activity, in their usual or current environment (participation level).

**GENERAL POINTS ABOUT THE ICF**

The above description of the ICF provides an introduction to the ICF framework. Once that framework is understood, further details on using the ICF can be obtained relatively easily from the books or the website (www.who.int/classification/icf). However, there are a number of important points that should be noted about the ICF.

**Neutral Language**

The ICF uses neutral language in the naming and definition of every domain included in the classification. For example, the term 'walking' is defined as, "Moving along a surface on foot, step-by-step, so that one foot is always on the ground, such as when strolling, sauntering, walking forwards, backwards, or sideways". This allows the classification to be used to describe both what a person can do, as well as what the person has difficulty doing.

**A Classification and not an Assessment Tool**

The ICF is not an assessment tool as such, but rather a classification that can be used to develop assessment tools. Some such tools have been developed and include a checklist and the WHO Disability Assessment Schedules which can be found on the ICF website.

**ICF Codes and Qualifiers**

Every domain and sub-domain in the ICF has a specific code. These codes are a summary way of recording the domains described. So, for example, instead of recording "moderate difficult in walking but severe difficulty walking in usual environment", one can use the code for walking plus the qualifiers for activity and participation giving M450.32'. Detailed explanations of how to use the codes are available on the website.

While the codes are useful in many contexts, they are not essential to an effective use of the ICF. As stated above, they serve as a summary for the written code and as such do not add any meaning to the ICF.

**USING ICF IN CBR**

The ICF can be used for a range of different purposes within a CBR programme. These are listed below and further described and reviewed within the context of three case examples of disabled individuals.

**Purposes for using the ICF**

- planning individual intervention programmes
- looking at whole community issues
monitoring and evaluation of CBR generally
motivating policies that promote inclusion of disabled people

Example 1: Sipho is an intellectually disabled child

Sipho is an intellectually disabled child with a single mother. His health condition is related to brain damage at birth, that has resulted in the intellectual impairment. The cause of this health problem would be useful to determine, as it can have relevance for improving, for example, antenatal and obstetric services. Sipho's overall functioning at the three ICF levels should be assessed together with an assessment of the environmental factors.

Sipho's intellectual impairments can be described using the classification of body functions with mental functions being the main chapter of relevance. An assessment will look at aspects such as paying attention, perceptual functions, memory, language functions, and so on and can be done using existing assessment instruments and/or an ICF based checklist. The results will provide Sipho's profile in relation to the impairments at body level.

The next level of assessment will determine the difficulties Sipho has in relation to, for example, learning, communicating and socialising and will provide a profile of his activity limitations as well as his abilities. This is the person level.

The third level would assess Sipho's participation or involvement in various activities such as learning, communicating and socialising. This is the societal level and would assess what happens when Sipho is in his usual environment at home and other places where he might go.

The last assessment would entail a detailed review of the different environmental factors that have an impact on Sipho's functioning. This assessment would look at his physical environment, the family structure and support provided to Sipho and his mother, the services and financial support available for his mother.

It would also be important to understand the expectations, aspirations and satisfaction of Sipho's mother concerning his life, as well as hers. This is not part of the ICF, but is an important complement to it.

The results of these assessments would provide a clear indication of where the intervention needs to focus. If Sipho's environment is supportive, there are enough financial resources, services are available and the mother feels that she has access to assistance when required, then the main focus of the intervention would be on building Sipho's abilities. However, if the environmental factors are creating barriers for Sipho and his mother, (e.g. lack of services, social exclusion of the mother and child, lack of stimulation for the child, poverty), the focus will be on changing these environmental factors, together with individual work with the child.

Relating this to the different purposes

Individual intervention: The individual intervention for Sipho would include both a focus on developing his abilities as well as providing an environment that is supportive to him and his mother, providing the necessary services, as well as financial and other support.

Community level issues: The cause of the health condition and the different environmental factors within the community, provide an indication of what interventions can be implemented to prevent certain health conditions from occurring, as well as ensuring that, if they do occur, the necessary services and support structures are available for both Sipho and his mother. The environmental assessment of Sipho and his mother's situation will provide a good understanding of what can be changed in the community and would benefit children in the future.

Monitoring and evaluation of CBR programme: The full assessment of Sipho's experience of disability, using an ICF framework, will provide clear information on what impact the CBR programme is having. This impact can only be measured or
determined if an initial assessment is undertaken and follow up assessments are done during the course of the intervention programme for the child. The impact would be determined for both the individual child and his mother as well as changes within the overall community. It is important that both the person (activity) and societal levels (participation) are assessed in determining the outcome of the CBR intervention to understand the different impact of individual and environmental interventions.

Motivating for inclusive policy development: the information gathered for Sipho can be put together with information from other children, with similar experiences to provide the necessary evidence for the need for services (e.g. respite care for the care givers, access to educational facilities, better antenatal and obstetric services), or changes in eligibility criteria for access to support, such as social welfare services or free health care. This evidence is strengthened when presented in a holistic manner that clearly demonstrates the effects of the health condition and the environmental factors, on the overall functioning of Sipho and his mother.

Example 2: Maria is an adult with a spinal cord injury

Maria sustained a spinal cord injury after a taxi accident while travelling from her place of work to her home. She lost her job as a cashier at a local supermarket and lives with her teenage children, in a small house on the outskirts of a town.

The assessment of Maria's functioning and overall experience of disability will provide information on her impairments (most likely involving the neuromusculo skeletal domains of body function), her activity limitations (most likely to be in the domain of mobility), and her participation in her home and other environments (most likely involving mobility again, as well as others, such as work and socialising). Lastly, the assessment would provide a detailed assessment of the barriers and facilitators in her environment. These would include aspects such as her use of assistive devices and personal attendants, access to rehabilitation after the accident, the physical accessibility of her home, local shops, and other areas that she goes to, the availability of financial support in the form of employment or social security grants, and generally the attitudes of others in her environment.

The results of her assessment will be mapped onto the ICF framework and the intervention priorities determined according to what the profile highlights. If Maria had and continues to have, access to rehabilitation services and assistive devices services, but lacks the necessary financial support, then the focus will be on ensuring that she has access to some form of support to assist her in meeting hers and her children's needs. This might require an intervention that goes beyond Maria, to one of changing attitudes of employers, making skills development and self employment opportunities available for disabled people, or other such interventions.

Once more, the main benefit of the ICF here, is to provide a clear organisation of the relevant information into a framework that helps clarify what the intervention priority is. In addition, the domains of socialising and taking part in recreation activities, for example, might not be domains covered in a standard assessment for a person with a spinal cord injury. However, using the ICF as a checklist would ensure that these would be assessed in relation to what the person can do (person level activity) and what happens in their usual environment (societal level participation). The difference between these two assessments will provide the information on whether the intervention should prioritise the individual or the environment.

Relating this to the different purposes

Individual intervention: the assessment at the different levels provides a clear set of priorities for intervention for Maria. The individual intervention for Maria would focus on ensuring that she has the necessary rehabilitation and assistive devices, but then focus more on the environmental barriers to ensure that these are minimised.
CBR AS PART OF COMMUNITY DEVELOPMENT

Community level issues: the incidence of spinal cord injury in Maria's community will be information useful for developing prevention measures. This information should be presented together with a full picture of the impact of having a spinal cord injury on a person's overall functioning, within that particular environment. The assessment of Maria's community environment will provide information on what needs to be changed, to accommodate not only Maria's needs but also those of other people with difficulties, in moving around.

Monitoring and evaluation of CBR programme: The ICF framework will provide clear information on what impact the CBR programme is having. This impact can only be measured if an initial assessment is undertaken and follow up assessments are done during the course of the intervention programme for Maria, as well as within the community.

Motivating for inclusive policy development: the information gathered for Maria can be added to information from other similar experiences of disability, to motivate for policies that create inclusive employment practices, ensure the implementation of building regulations for accessibility, develop a transport system that is accessible and cost effective, and so on. The presentation of this information within the ICF framework, makes the picture holistic and provides decision makers with a good understanding of the impact of health conditions and the environment, on people's functioning and experiences of disability. Example 3: Ahmed is a young adult with stage 4 AIDS

There is some controversy about whether people who are living with AIDS are in fact disabled or not, with some people including people living with AIDS as being disabled, while others being very against including them as disabled. While the ICF does not concern itself with political issues, it does, however, provide a clear theoretical perspective on the issue. Using the definition of a health condition interacting with the context in which the person lives, we can clearly show that HIV/ AIDS is the health condition and the outcome can then be described using the ICF levels of functioning. In this sense Ahmed is disabled.

The impairments that a person living with AIDS presents, will be varied and differ from person-to-person. Ahmed may well have significant weakness generally in his muscles and this would translate into difficulty with doing a range of activities such as self care, mobility, working and so on. Depending on his access to personal assistance and to medical treatment, his ability to participate in doing many activities will be limited.

The environmental factors of note when considering HIV/AIDS, are access to medical care services (e.g. treatment for opportunistic infections, treatment with antiretroviral medication), and social welfare services (e.g. food parcels, home-based care). Stigma leading to social isolation is also an important barrier.

Relating this to the different purposes

Individual intervention: the assessment at the different levels of functioning for Ahmed, provides a clear set of priorities for intervention. The individual intervention for Ahmed would focus on ensuring that he has the necessary medical care and social welfare support, or support from family and friends, as well as ensuring that stigmatising attitudes do not isolate and exclude him from his family, friend and broader community. The focus, would be both Ahmed individually as well as addressing the external environmental factors.

Community level issues: the prevalence of HIV/AIDS in Ahmed's community will determine the nature of the intervention in relation to HIV/AIDS; whether the focus should be on prevention and education, reduction of stigma, increasing access to relevant medical care, or all three. The description of functioning at all levels of people living with AIDS in Ahmed's community, will provide a good picture of the social, economic and other impacts of the illness on the person holistically.

Monitoring and evaluation of CBR programme: The full assessment of Ahmed's experience of disability, using an ICF
framework will provide clear information on what impact the CBR programme is having. This impact can only be measured or determined, if an initial assessment is undertaken and follow-up assessments are done during the course of the intervention programme for Ahmed and other people living with AIDS, within the community.

**Motivating for inclusive policy development:** the information gathered for Ahmed can be added to information from other similar experiences of people living with AIDS, to motivate for policies that ensure good access to medical care and home-based care services. The presentation of this information within the ICF framework makes the picture holistic and provides decision makers with a good understanding of the impact of health conditions and the environment on people's functioning and experiences of living with AIDS.

**CONCLUSION**

ICF can provide an organised, comprehensive and holistic description of a person's functioning at three levels, as well as describing the environmental factors that play a significant role in determining a person's experience beyond the individual's characteristics.

The ICF does not bring new information to our understanding of disability, but does bring a clear and simple framework for us to gain a clearer understanding of disability. It encourages us to assess the different components, yet retain a holistic picture. This holistic picture is one of the major benefits of using the ICF in CBR.

The ICF is one tool within a range of tools that can be used in CBR. It can provide relevant information for individual interventions, programme planning, community and policy development and monitoring and evaluation.

**REFERENCES**


WORLD HEALTH ORGANIZATION (2001), The International Classification of Functioning, Disability and Health, WHO; Geneva, www.who.int/classification/icf

**OTHER USEFUL RESOURCES**


ICF NEWSLETTER PRODUCED BY THE NETHERLANDS National Institute for Public Health and the Environment, RIVM. www.rivm.nl