

## **The international classification of impairments, disabilities and handicaps in leprosy-control projects**

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*Summary* The use of a uniform language, which includes definitions of terms, is very important in the field of health care. It is important to have a common language for educational, research and communication purposes. Classifications can play a major role in the development of uniform reporting and registration systems. The purpose of this article is to familiarize leprosy workers with two classifications that are in common use in health care, a classification of diseases and a classification used to describe the overall health status of a person, and to relate the 3 terms that are used in the latter classification, impairments, disabilities and handicaps, to leprosy.

### **The importance of uniform language and the use of classifications within health care**

The quality of communication depends largely on the quality of the message. The message must be clear, understandable and uniform. Communication fails when the message, verbal or non-verbal, is misinterpreted or misunderstood by the receiver. Within health care much effort is spent to realize a uniform language which is necessary to manage the rapidly increasing growth and flow of data.

This has resulted in the development of uniform terminology/nomenclature and classifications to handle different types of data, e.g. personal data, causes of diseases, pathology of diseases, consequences of diseases and characteristics of treatment modalities.

A classification can be generally described as a systematic arrangement of similar entities on the basis of certain different characteristics.<sup>1</sup> The Dutch Classification and Terminology Committee (WCC) for Health of the National Council for Public Health (NRV) gives the following definition: 'a system of terms connected by generic relationships'.<sup>2</sup>

The use of a uniform language facilitates recent developments, e.g. quality care, quality assessment and the compilation of reliable epidemiological data. It will promote research of, and insight into the effects of treatment for categories of patients. In this way the use of a uniform language will enhance the quality of health care as a whole.

## **The International Classification of Diseases (ICD) and the International Classification of Impairments, Disabilities and Handicaps (ICIDH)**

In 1980 the International Classification of Impairments, Disabilities and Handicaps (ICIDH) was published by the World Health Organization (WHO) for trial purposes as a classification of the consequences of disease.<sup>3</sup>

The classification was primarily developed as a complementary classification to the International Classification of Diseases (ICD). The ICD is the oldest of all medical classification systems in current use and now is undergoing its 10th revision which will be introduced in 1993. Whereas the ICD is the classification used to classify diseases, the ICIDH is the classification used to classify manifestations and sequelae of diseases and disorders, be they transient or permanent. With the 10th edition of the ICD it has become possible to classify all clinical types of leprosy: indeterminate, tubercuoid, borderline and lepromatous.<sup>4</sup> All sequelae, however, that can occur as a result of leprosy and leprosy neuropathy will have the same ICD code. To differentiate between these sequelae the ICIDH could be used.

The ICIDH consists of 3 separate classifications: a classification of impairments, a classification of disabilities and a classification of handicaps.

In the ICIDH these terms are defined as follows:<sup>3</sup>

**Impairment:** an impairment is any loss or abnormality of psychological, physiological or anatomical structure or function.

**Disability:** a disability is any restriction or lack of ability (resulting from an impairment) to perform an activity in the manner or within the range considered normal for a human being.

**Handicap:** a handicap is a disadvantage for a given individual, resulting from an impairment or a disability, that limits or prevents the fulfilment of a role that is normal (depending on age, sex, and social and cultural factors) for that individual.

Impairments occur at the organ level (function or structure). Loss of protective sensation, hoarseness of voice, loss of eyebrows, clawhand, amputation, and absorption of digits are all examples of impairments which can occur in leprosy patients secondary to peripheral nerve damage or as a late result of advanced lepromatous leprosy.

Impairments may result in disabilities and information on the latter tells us what the patient is not able to do. Dis-ability leads to the meaning 'not being able to' (compare: dis-ease, not being at ease). Disabilities represent 'objectifications' of an impairment, and as such they reflect disturbances at the level of the person (functioning as a person; self-care and interaction with the environment). The current chapter divisions for both the classification of impairments and the classification of disabilities in the present ICIDH are given in Table 1.

Impairments and disabilities in turn may lead to handicaps. A handicap represents the effect of the consequences of disease at the level of the society for that individual in cultural, social, economical and environmental dimensions. A handicap is a disadvantage for a given individual that limits or prevents the fulfilment of a role that is normal (depending on age, sex, and social and cultural factors) for that individual.<sup>3</sup> It should be mentioned that the diagnosis of leprosy alone, without the obvious impairments/disabilities, in many countries may lead to a handicap if the diagnosis is known to the society (stigma).

**Table 1.** Chapter division impairment and disability classification in the present ICIDH

Impairments	Disabilities
1 Intellectual	1 Behaviour
2 Other psychological	2 Communication
3 Language	3 Personal care*
4 Aural	4 Locomotor*
5 Ocular*	5 Body disposition
6 Visceral*	6 Dexterity*
7 Skeletal*	7 Social integration*
8 Disfiguring*	8 Economic self-sufficiency*
9 Generalized, sensory, and other*	9 Other

\* Chapters containing impairments, disabilities commonly encountered in leprosy patients.

A leprosy patient who cannot work because of his/her impairments, disabilities or even the stigma of the disease has a handicap in occupation. Similarly a patient who is housebound because of the impairments/disabilities has a handicap in mobility. A patient that is partially or totally dependent on others for his/her existence has a handicap in the dimension of physical dependency.

The 'handicap classification' in its present form is not a true classification. It is more a severity scale that can be used to grade the patients in the different dimensions of his/her (non)functioning in society.

### **'Disability' grading and 'disability' prevention in leprosy**

In light of the above-mentioned definition of disability, the commonly used terms 'disability grading' and 'disability prevention' by leprosy workers, will have to be used with caution.

The grading of disabilities has been practised for a long time in leprosy. The WHO has suggested and advocated the use of a disability grading in official publications.<sup>5,6</sup> In many publications suggestions have been made to modify the disability grading as suggested by the WHO in 1980.<sup>7-9</sup> When 'disability' grading is performed regularly and conscientiously it is for example possible to assess whether patients do develop 'disabilities' while on treatment, how many new patients are reporting with 'disabilities' and whether certain types of leprosy are more prone to develop 'disabilities'.<sup>10-17</sup> However, what is actually graded with the suggested scales are impairments, impairments that may or may not result in disabilities. For the eye it could be argued that even diseases are graded that can be classified with the ICD, e.g. iritis and keratitis. Disabilities as defined above are not listed on the various disability grading scales including the official WHO disability grading scales (Tables 2, 3).

It should be emphasized that the grading of disabilities is a means to gather epidemiological data and to evaluate an individuals health status over time. It is not to be used to monitor the nerve function status of patients.

Table 2 lists the 'disabilities' from the 1980 leprosy disability grading form which is

**Table 2.** Leprosy 'disability' grading 1980

Impairment	Code	Description
Absorbtion	86·8	Other structural disfigurement
Blindness	51·9	Both eyes
	54·9	One eye
Clawhand	73·2	Other paralysis of upper limb
Conjunctivitis		
Dropfoot	73·4	Other paralysis of lower limb
Injury	??	
Insensitivity	58·2	Anaesthetic eye
	97·0	Sensory impairment upper limb
	98·0	Other sensory impairment
Iritis		
Keratitis		
Lagophthalmos	70·2	Facial palsy
Stiff joints	71·4	Mechanical impairment of finger
	71·7	Mechanical impairment of ankle and foot
Ulcer	??	
Wristdrop	73·2	Other paralysis of upper limb

The first number of the impairment code refers to the chapter in the classification of impairments. As can be seen from the table with the present ICIDH, the impairments commonly seen in leprosy patients can often only be classified under broad headings (class: other . . .); others cannot be classified. No disabilities are listed.

**Table 3.** Leprosy 'disability' grading 1988

Hands and feet:
Grade
0: no anaesthesia or visible deformity or damage.
1: anaesthesia, but no visible deformity or damage.
2: visible deformity or damage.
Eyes
Grade
0: no eye problems due to leprosy; no evidence of visual loss.
1: eye problems due to leprosy present, but vision not severely affected.
2: severe visual impairment.
Comment: anaesthesia and visible deformities or damages are impairments.
Eye problems due to leprosy are corneal anaesthesia, lagophthalmos and iridocyclitis; corneal anaesthesia and lagophthalmos are also impairments.

still in use in some control projects.<sup>5</sup> Table 3 lists the 'disabilities' from the suggested disability grading form as revised in 1988.<sup>6</sup>

It would be possible to talk about prevention of disabilities in leprosy only indirectly. Loss of protective sensation and paralysis (impairments) are not likely to occur when patients are diagnosed early, nerve function loss is detected in time and when patients comply with the drug treatment. Impairments due to nerve involvement will then not occur and therefore the patients will not develop disabilities.

Without nerve function loss in the hand, disabilities, e.g. in eating and selfcare, will not develop. The ultimate goal of patient education (health education) is that patients will not develop ulcers, injuries and burns (impairments) that may result in disabilities.

A surgeon who corrects a clawhand deformity or a footdrop corrects impairments and thereby restores the ability to turn a key or eat properly with the hand or enables a patient to walk properly again (these are classified as disabilities when this is not possible).

### Updating/revision of the ICIDH

The conceptual framework of the ICIDH is becoming more and more well known and accepted especially in the fields of rehabilitation and social medicine. The number of publications in which the concept of impairment, disability and handicap is used either descriptively or in epidemiological studies is vastly increasing.<sup>18</sup> Many authors have also criticized parts of the ICIDH, especially the handicap classification.

Based on the comments given by a great number of ICIDH-users the WHO started a revision procedure for the ICIDH in 1990. There are two WHO collaborating centres for the ICIDH and each of the centres has been asked to co-ordinate work for one of the classifications of the ICIDH. The collaborating Centre in France will co-ordinate the suggestions and/or comments for the impairment classification, and the Netherlands (WCC) for the disability classification. The United Nations Statistical Office and the Canadian Society for the ICIDH are jointly entrusted with the handicap 'classification' and the role of environmental and social factors that determine disability and handicap. At the last international meeting about the ICIDH with the collaborating centres in March 1992 it was decided to first publish an update of the current ICIDH.<sup>19</sup> There will only be a few minor changes. With the update, the ICIDH will no longer have the status of classification for trial purposes and a formal revision procedure for the classification can be initiated.

As already stated the ICIDH is a very important classification for health professionals, including paramedical professionals. As the present ICIDH does not meet the need for paramedical professionals the Dutch Institute for Research and Postgraduate Education in Physical Therapy (SWSF) started a project to formulate proposals for improvements in the ICIDH, both for the classification of impairments and the classification of disabilities, in co-operation with representatives of 5 paramedical professions: physiotherapy, occupational therapy, chiropody, and exercise therapists

**Table 4.** Proposed chapter division of impairments

Impairment classification	Examples in leprosy
1 Intellectual and other mental impairments	
2 Voice, speech and language impairments	Hoarseness
3 Ear, hearing and balance impairments	
4 Eye and visual impairments	Loss of eyebrows, lagophthalmos, loss of vision
5 Internal impairments	Gynaecomastia
6 Impairments of the locomotor system	Absorbtion, clawhand
7 Skin and sensibility impairments	Ulcus, scar, anaesthesia
8 Pain	Nerve pain
9 Generalized, other sensory and other impairments	

according to the systems of Mensendieck and Cesar.<sup>20</sup> The project is subsidised by the Ministry of Welfare, Public Health and Cultural Affairs. The final report has been submitted to the Dutch Collaborating Centre for the ICIDH, the WCC and through seminars and publications the proposals are made known to generate interest in the ICIDH and invite reactions.<sup>21,22</sup>

Tables 4 and 5 list the proposed chapters for a revised ICIDH with examples of impairments and disabilities commonly seen in leprosy patients. New, suggested definitions for impairment and disability are given in Table 6.

### Conclusions and recommendations

In leprosy there is a long tradition of classifying the disease and grading the consequences of the disease. To enhance the quality of communication with other workers within the health care system, nationally and internationally, it is important that leprosy workers are familiar with the classifications that are used by workers in related fields, e.g. rehabilitation medicine. If possible they must adapt their own terminology to these internationally used standards. The use of a common language will not only facilitate communication but will also enhance the quality of research and eventually the quality of care to the patients. For record keeping and for reporting purposes it is mandatory that a common language/terminology is used. This terminology should be in accordance with suggested terminology.

Because the ICIDH terminology is becoming more and more popular when describing a patient's 'health status', it is important that leprosy workers become familiar with the ICIDH and the 3 classifications contained therein. This will enable them to describe a patients' health status on 3 levels of functioning: organ, person, society.

**Table 5.** Proposed chapter division of disabilities

Disabilities in	Examples relevant for leprosy patients
1 Basic sensory motor skills	Grasping, carrying
2 Psycho-social skills	
3 Communication skills	Writing
4 Locomotion and transfers	Walking
5 Personal care	Bathing, dressing, eating
6 Domestic activities	Cleaning, preparing meals, washing cloths
7 Work	Handling working conditions, work output
8 Recreation	Visiting friends/relatives, playing musical instrument
9 Other	

**Table 6.** Suggested definitions

**Impairment:** In the context of health experience, an impairment can be defined as the loss or abnormality of an anatomical structure or physiological or psychological function.

**Disability:** In the context of health experience a disability can be defined as the reduction or absence of the ability of a person to perform activities or to show behaviour in accordance with normally expected activities/skills/behaviour both in a quantitative and a qualitative sense.

For practical purposes and field use we would like to recommend the use of the 1988 WHO 'disability' grading which makes it possible to score the impairments of the patient. The 1988 grading scale could be expanded, where practical, with a few items to indicate/assess the presence of disabilities that are common in leprosy patients, e.g. in selfcare, eating; and in locomotion, walking. Depending on the purpose for which impairments and/or disabilities are graded it may at times be more important to know what the patient is unable to do (disability) rather than what the patient has (impairment).

### Invitation

The authors are extremely interested to receive comments and suggestions regarding the use of classifications in leprosy control work and the proposed definitions and chapter divisions.

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## **La classification internationale des deficiences, incapacités et handicaps dans les projets de contrôle de la lèpre**

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*Résumé* L'usage d'un langage uniforme, comprenant des définitions de termes, est très important dans le domaine des services de santé. Il est important d'avoir un langage commun à des fins d'éducation, de recherche et de communication. Les classifications peuvent jouer un rôle majeur dans l'établissement de systèmes uniformes de reportage et d'enregistrement. Le but de cet article est de familiariser ceux qui travaillent sur la lèpre avec deux classifications utilisées couramment dans les services de santé, une classification des maladies et une classification utilisée pour décrire l'état de santé générale d'une personne. Le second but est d'appliquer à la les 3 termes qui sont utilisés dans cette dernière classification: détériorations, invalidités et handicaps.

## **La clasificación internacional de deterioro, incapacitación y minusvalidez, en los proyectos del control de la lepra**

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*Resumen* El uso de un lenguaje uniforme que incluye la definición de vocablos, es de suma importancia en el campo de la asistencia sanitaria. También es importante tener un lenguaje común para propósitos educacionales, de investigación y de comunicación. Las clasificaciones juegan un papel principal en el desarrollo del reportaje y de los sistemas de registración uniformes. La intención de este artículo es familiarizar los trabajadores en el campo de la lepra con las dos clasificaciones que se usan comunmente en la asistencia sanitaria, una clasificación de enfermedades y una clasificación que se utiliza para describir el estado general de salud de la persona, y relacionar los 3 vocablos, deterioro, incapacitación y minusvalidez, que se utilizan en ésta, a la lepra.