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National Institute  
for Public Health and  
the Environment

## WHO Family of International Classifications (FIC)

# NEWSLETTER

Volume 3, Number 1, 2005

### Revision of ClaML: a standard for electronic representation of classifications

The CEN/TS 14463 (Classification Markup Language - ClaML) is a standard for representation of classification coding schemes. In a number of papers and presentations at the Cologne and Reykjavik annual meetings of WHO-FIC network, information was given and discussions started on the usability of ClaML for representation of WHO-FIC classifications such as ICD-10 and ICF.

The Dutch centre already has adopted ClaML for electronic management of ICF and ICD-10 in 2001. By using ClaML the centre wants to meet the quest of users for an accessible version of its classifications for **database production**. This seems to be very useful as far the ICF is concerned. ICD-10 can be represented as well. For **database production** only, ClaML proves usable, however for **publication** (in print) of the ICD-10, below the code level, additional technical specifications are needed, because a number of informative and presentation (lay-out) aspects of ICD-10 cannot be handled. Examples of these aspects have been presented in Cologne (WHO/HFS/CAS/C/03.36) at the WHO-FIC meeting. Again these aspects have been addressed by DIMDI, the German WHO-FIC Collaborating Centre, at the Reykjavik meeting in 2004 (WHOFIC/04.039). In cooperation with WHO Geneva, DIMDI started to draft a more elaborate structure for ClaML, as a preparation for an international discussion. WHO-FIC Collaborating Centres with experience in the electronic maintenance of the classifications or in XML have been invited to participate in this process. The project-team of ClaML lead by the health terminology centre at Radboud University Nijmegen had already agreed to take part.

In February 2005, experts of WHO-Geneva, German and Dutch WHO-FIC CC, and the project team of ClaML have discussed the draft proposals for revision of ClaML at a meeting in Cologne. Representation problems below code-level, such as text blocks, indentations, curly braces, remarks, modifiers etc. have been discussed and solutions proposed. It was agreed that for the purpose of publication of classifications, of which the ICD-10 might be the most complex, formatting and lay-out information needs to be included in the standard.

Next steps will be:

- the preparation of the proposal for revision of ClaML via CEN and ISO,
- preparation of an information and discussion paper for the next annual WHO-FIC network meeting in October 2005,
- consultation of the Electronic Tools Committee at that meeting,
- writing a scientific paper on the revision of ClaML

We expect the collaborative work on ClaML will be completed in spring 2006.

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Responsibility for the information given remains with the persons indicated.

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## Editorial

*This is the 2005 spring version of our newsletter. We aim at two newsletters each year, one in spring and one in autumn/winter.*

*The article on the front page is relevant for all classifications. We recommend to read it and to send us your questions and comments. We see a lot of possibilities by using ClaML for electronic management of classifications and related information. ClaML is the future, do you agree?*

*Again we have a lot of contributions about developments and use of ICF, no contributions concerning other classifications. Either it means that the ICF is the most important and used classification or ICF people are more eager to tell the world about their activities. What do you think? Anyway we really would like to get more information on other classifications to share with you. So please send us your information, experiences, research, new developments, interesting thoughts, meetings, etc relating to all members of the Family of International Classifications which you want to share with colleagues elsewhere in the world.*

## International Organizations

### Rehabilitation International

#### A survey on the Use of ICF in Policy

Rehabilitation International (RI) Social Commission (SC) started a working group (WG) on "ICF and Policy/Legislation" in 2002, with the aim to collect and disseminate experiences of use of ICF in national disability policies. Now the WG has 51 members in 30 countries. Actual work begun in 2003 and a survey questionnaire was distributed by e-mail in 2004 to 38 WG members in 21 countries. By June 2004 answers from 12 countries were collected. In this survey we asked the use of not only ICF but also ICIDH, as the latter also

provides valuable information for ICF use. 12 Countries were divided into 3 groups of 4 countries according to the use of ICF/ICIDH in policy.

The "have used" group includes Canada, Australia, Germany and Japan. The second group, i.e., "have a plan" group includes Finland, Hungary, South Africa and Sweden. These countries have a concrete plan or government proposal of the use of ICF in policy areas. The third, "not yet used" group includes Hong Kong SAR, Ireland, Israel and Korea. But even in the third group, countries have been used ICF in a disability survey, in research or an ICF steering committee was established.

We can summarize:

- 1) In most countries responded, the use of ICF in policy has been started, although the use in clinical practice or research is more advanced.
- 2) In most cases of the use in policy, the conceptual framework rather than classifications has been used.
- 3) Most common is the use of ICF in the definition of disability or in the disability assessment schemes for services, benefits or protection of human rights.
- 4) Other types of use include the use in the planning of rehabilitation and care services under the Long Term Care Insurance in Japan. (Although this is the use in clinical practice, the government instructs this way of use and even gives monetary incentives to it.) Also ICIDH was used to introduce new categories of service such as rehabilitation in response to Disability, and social support services in response to Handicap, in addition to old medical treatment in response to Disease / Impairments to the same target group, i.e. persons with psychiatric disability.

Some important points were raised during the survey. In some developed countries, the use of ICF would be difficult to identify, because similar concepts had been already employed in those countries before ICF adoption in 2001. A WG member from Finland says "ICF has not been mentioned explicitly in the national legislation or policies, but many issues addressed in

the ICF are an important content in legislation and policies."

2) One WG member commented on the need for ICF monitoring and ethic framework: The key criticisms (of disability activists and representative organizations) relate to reductionism, potential for non-benign use and the frailty of the ethic framework supporting the classification. It is unacceptable that such a powerful and potentially useful tool for policy making and research but which is equally capable of restricting freedom and invading privacy is not the subject of strict scrutiny at an international level, particularly at its formative stage of deployment. An inappropriate and inconsistent application of the ICF could result in a gradual loss of credibility within the disability sector and amongst professionals.

The WG need more answers from other countries and more detailed information from already involved countries.

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## UN-ESCWA

### Workshop on Disability Statistics in the ESCWA Region, Beirut, 21-23 March 2005

Disability information in ESCWA region is limited, and available data often lack reliability and accuracy due to conceptual and measurement issues, discrepancies in the gathering of data and the preparation of related matters. With no accurate, comprehensive estimates of the number of disabled and the types of disabilities, it would be unlikely to develop national disability plans aimed at mainstreaming disabled persons into society.

In response to this, the United Nations Economic and Social Commission for Western Asia (UN-ESCWA), in collaboration with the United Nations Statistics Division (UNSD) and the World Health Organization (WHO), organized a 3-day workshop on

Disability Statistics, which was held at UN-House in Beirut from 21 to 23 March 2005.

The workshop aimed at the following:

- 1- To introduce participants to the international standards and guidelines used in disability measurement and to promote the use of the International Classification of Functioning, Disability and Health (ICF) as a conceptual framework for collecting and classifying disability data;
- 2- To introduce the participants on the methods to be used in collecting disability data through population censuses, family surveys and registration records;
- 3- To set a plan for the national work to improve disability collection mechanisms and to present the draft of a project proposal entitled "Development of Disability Statistics in the ESCWA Region" in collaboration with different international and regional organizations.

Participants in the workshop were experts and statisticians who are users and producers of disability statistics at national statistical offices, ministries, and non governmental organizations in the UN-ESCWA region involved in the collection of disability data, and in the implementation of disability programs in the region. Resource persons from UNSD, WHO and Washington Group on Disability were also invited to participate in the workshop in order to share their technical expertise.

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## WHO Geneva

### ICD-10 2<sup>nd</sup> edition, 2005

The International Statistical Classification of Diseases and Health Related Problems, 10th Revision, Second Edition is available

- as hard copy (Volumes 1, 2 and 3),
- as CD-ROM (ISBN: 92 4 154540 2),
- and as downloadable version.

One can find the following information on the WHO-website:  
"This new edition of WHO's International Classification of Diseases and Related Health Problems, 10th Revision (ICD-10) has been fully updated. Originally published in the early 1990s, ICD-10 now incorporates all updates and other changes to this core health classification since 1996.

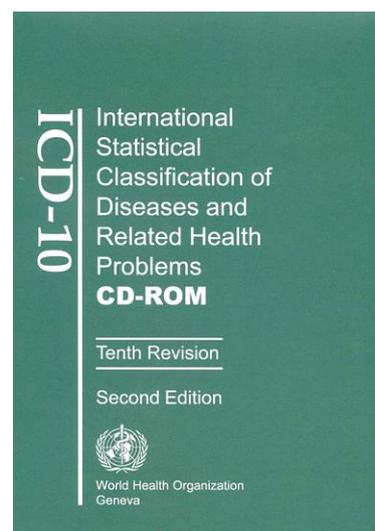
In 2000, WHO formed an international panel to review and collate all adjustments to the ICD-10 proposed by many institutions around the world. Panel members consult several times a year and this definitive second edition of ICD-10 is the result of their work. The new edition has hundreds of updates, and includes new diseases such as SARS, to ensure that the classification is entirely suited to today's needs." (The online available edition of ICD-10 in Dutch contains also these updates).

"Improvements have been made to the rules and guidelines for mortality coding, making them easier to implement and which will result in the improved comparability of international mortality statistics. In addition, there are many additions and changes to the English alphabetical index resulting in some 60 additional pages, making it far more comprehensive than that of the first edition.

The three-volume second edition of ICD-10 follows the same structure as the first edition, with the addition of a chapter XXII (Codes for special purposes) made necessary by the emergence of severe acute respiratory syndrome (SARS) and the need for an interim solution for the coding of this major health problem:

Features of the ICD-10 2nd edition on CD-ROM include:

- . intuitive and easy-to-use interface;
- . all 12,500 codes, descriptions and explanatory text compressed to one-tenth of the original data size - and will remain compressed after installation;
- . simple to navigate - complete with its own browser and hypertext links;
- . fully searchable with every word, number, and alphanumeric indexed;
- . keyword searching and user-defined search facility;
- . versatile format that can be annotated with user's notes;
- . text can be printed and copied into other applications;
- . IBM-Compatible PC under Windows® 95, 98, NT, 2000, XP and Me or later.



The downloadable version of ICD-10 (in press), second edition, providing the same features as the CD-ROM version, is also available from the WHO e-commerce web site at: <http://Bookorders.who.int>."

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## WHO/UNESCAP

### Testing Best Questions for Disability Statistics

As part of the WHO/UNESCAP project on health and disability statistics a group of pilot countries from the Asia Pacific region will field test ICF based disability question sets for use in censuses and surveys.

The testing will involve the implementation of three study protocols.

Study 1 will examine the specificity (ability to pick up true positive cases) and the sensitivity (ability to pick up true negative cases) of disability questions. This information assists in the determination of the best set of disability questions.

Study 2 will assess the reliability of individual questions by a standard test-retest procedure. The aim is to select reliable questions irrespective of the interviewer.

In Study 3 the focus will be on translatability and cognitive testing. Selected questions will be translated and back translated and undergo linguistic evaluation. Furthermore, the respondents' understanding of the question intent will be examined.

In order to prepare countries for the implementation of these studies WHO in collaboration with UNESCAP and the Australian Bureau of Statistics (ABS) has produced an ICF based Disability Training Manual. A training workshop was held in Bangkok on 3 - 4 May 2005.

The field tests are expected to provide a number of important outcomes. The participating countries and the UNESCAP region will obtain a evidence base for the development of a standard question set. Furthermore, the testing could serve as an example for other regions (cf. UN-ESCWA).

Finally, the field test will provide valuable information for the work of the Washington City Group on identifying disability measures at the global level.

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## WHO-FIC Network

### Meeting in Reykjavik, October 2004

The WHO-FIC Network meeting was held from 24 to 30 October 2004 in Reykjavik, Iceland. It was attended by over 100 international participants from 12 WHO Collaborating Centres and representatives from Ministries of Health or National Statistical Bureaus. Papers presented are available at <http://www.nordclass.uu.se/WHOFIC/reykjavik.htm>.

The meeting served to review all elements of the WHO Family of International Classifications and the work of the WHO-FIC Network, including Centres themselves and various committees: Planning Committee, Implementation Committee, Update Reference Committee, Education Committee, Family Development Committee, Electronic Tools Committee. In particular the Business Plan development, the ICD revision process and the WHO FIC website (see <http://who.int/classifications/en/>) received particular attention during the meeting.

### Business Plan

The draft Business Plan was presented by the WHO Secretariat. It outlines what needs to be done to take WHO Classifications and the supporting infrastructure into the 21<sup>st</sup> century and position them in the developing

universe of health information

- from the patient care end to health statistics. Strategic directions, business drivers, required resources, potential partnerships and future actions are spelled out. It informs existing and future stake-holders about portfolio priorities, and it addresses a number of recognized challenges in making classifications useful for current health initiatives.

The Business Plan was generally very well received. Various suggestions were made to the plan which was then going to be

discussed in Geneva, directly after the meeting, and in spring 2005 in Bangkok for preparation of the next meeting.

Suggestions relate for example to

- co-ordination with other institutions, i.e. UN Statistical Division, International Labour Organization, International Organization for Standardization, Eurostat;
- ICD-Revision as a resource intensive effort: This should not hinder the usual activities of implementation and regular updating of ICD-10 and the evaluation of ICD -10 updates should inform the revision process.
- use of ICF: as a common framework for health and disability surveys, ICF could lead to substantial savings and more comparable data; as a health outcome measure, ICF can demonstrate the linkage between health and productivity gains; and ICF can serve as a communication and service provision model.
- development of ICHI: given their public health importance and frequency, international comparison lists of common health interventions should be developed.
- terminology: development and maintenance of classifications hand-in-hand with terminologies should be explored with all interested parties.

### **ICD-revision**

The ICD was approved by the International Conference for the Tenth Revision of the ICD in 1989 and adopted by the 43<sup>rd</sup> World Health Assembly in 1990. In the same resolution, article (3) endorsed the need for the establishment of an updating process within the ten-year revision cycle. The revision process which has almost always occurred within 10 year cycles, beginning in 1900, has nevertheless purposefully been deferred for a 20 year interval to be ready by 2010 or thereafter in order to enable a wider implementation of the ICD.

Given the preparations to issue an ICD-11 WHO has initiated a systematic effort for the ICD Revision process to respond to the needs of member states and users, and keep up with new scientific knowledge. This will be a major evidence-based review process that will address structural changes and new disease entities and end up with a user-friendly and scientific ICD-11 as the final product. The revision process will involve multiple parties and professionals and consider the use of classifications at hospitals, primary care and other health care settings such as rehabilitation and long term care. Once the problems and proposed solutions are obtained from different sources, it is planned to synthesize them in an evidence-based proposal with transparent rules and knowledge sharing tools. The development will be made in a well-defined database using IT technology and Internet. Various expert groups will be consulted and relevant sections of the classification will be field-tested using field trials.

A more detailed plan for the revision of ICD will be developed. This topic will be discussed in more detail in spring 2005 in Bangkok. Several Centres expressed interest in taking part in reviewing the evidence and starting the process in the following areas: Cystic Fibrosis, Diabetes, Lymphomas, External Causes and Mental Health.

### **Other meeting topics**

The Update Reference Committee considered 72 proposals for the updating of ICD-10, 54 were accepted for implementation in 2006, to be posted on the WHO website at the beginning of 2005. There was acceptance of development of a "WHO FIC Primary Care Classification(s)" as the goal of the collaboration between the WHO-FIC Network and the World Organization of Family Doctors (WONCA) International Classification Committee (WICC). Further work within the WHO/WICC group was encouraged, especially to improve alignment between WHO-FIC reference classifications (ICD, ICF, ICHI) and the WONCA International Classification of Primary Care (ICPC), and also to inform the ICD revision process. The Dutch Collaborating Centre agreed to take on the task of investigating the alignment between ICF and ICPC.

The meeting elaborated and recommended four strategic directions for ICF implementation: (i) establish ICF as the official framework for measuring health and disability in the general population (in censuses and surveys) across member states; (ii) institute the ICF as a major health outcome assessment framework at the clinical and service levels in order to quantify health gains of treatment programmes and to understand how health gains translate into productivity gains at the individual and population levels; (iii) streamline ICF in administrative and clinical information systems including electronic health records and clinical terminologies; (iv) implement ICF in the social policy field by focusing on: aligning the disability certification process with the ICF framework; and developing applications in the areas of education, labour market and law. The meeting has agreed to have the next meeting of the WHO-FIC Network from 16-22 October 2005.

**For information:** Dr Willem M. Hirs; this abridged meeting report is derived from the executive summary of the Reykjavik meeting, see also <http://www.nordclass.uu.se/WHOFIC/reykjavik.htm>.

## **FIC around the World**

### **Australia**

AIHW has recently released the following reports relevant to disability:

#### ***Disability Support Services 2002–03: the first six months of data from the Commonwealth State/Territory Agreement National Minimum Data Set***

Please click on the following links to access:

The media release:

[http://www.aihw.gov.au/media/2004/mr041125\\_1.html](http://www.aihw.gov.au/media/2004/mr041125_1.html)

The report, which is available for on-line viewing and free download:

<http://www.aihw.gov.au/publications/index.cfm/title/10072>

#### ***Disability and its relationship to health conditions and other factors***

Click on this link for the media release:

<http://www.aihw.gov.au/media/2004/mr041210.html>

Click here to view the report or download a copy:

<http://www.aihw.gov.au/publications/index.cfm/title/10082>

#### ***Children with disabilities in Australia***

Click on this link for the media release:

[http://www.aihw.gov.au/media/2004/mr041216\\_1.html](http://www.aihw.gov.au/media/2004/mr041216_1.html)

Click here to view the report or download a copy:

<http://www.aihw.gov.au/publications/index.cfm/title/10086>

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## Brazil

### The implementation of the ICF in Brazil

The International Classification of Functioning, Disability, and Health was issued in Brazil in late 2003. Although this is not a completely new idea for certain sectors, its implementation is facing a series of obstacles.

The idea of coming to know the most prevalent disabilities and using this information in order to promote the necessary healthcare measures has been a topic of discussion in Brazil already for a few decades. From the beginning of the 1990's onwards, several population-based studies aimed to identify persons with disabilities have been conducted in small cities around the country<sup>1</sup>. Between 1991 and 2002, studies of the prevalence of disabilities were conducted in 21 cities in the country, resulting in a total sample of 86,206 subjects.

Beginning in 1991, questions regarding disabilities were included in the Population Census, and the 2000 Census showed a 14.5% prevalence of persons with disabilities among the population. This census used a concept of disability compatible with that proposed by the ICF, although it considered disability from a more inclusive standpoint, including disabled persons with permanent mental deficiency, permanent tetraplegia, paraplegia or hemiplegia, or missing limbs. It included also moderate or severe difficulty with seeing, hearing, walking, or climbing stairs<sup>2</sup>.

The Brazilian legislation on disabilities was established only in 1989 when, for the first time, the government attempted to establish the rights of persons with disabilities. In 1999, a decree was elaborated in order to regulate the legislation dealing with the inclusion of persons with disabilities<sup>3</sup>.

#### *The ICF as an instrument*

Prevalence studies carried out in the country were based on the methodology proposed by PAHO, and adopted the concepts of impairment,

disability, and handicap established by ICIDH.

This classification was translated into Portuguese by the National Secretariat of Rehabilitation of the Portuguese Ministry of Employment and Social Security in 1989<sup>4</sup>, and is used in Brazil as a conceptual reference for these studies.

Thus, the publication of the Portuguese version of the ICF<sup>5</sup> in late 2003 came as an answer to the calls of a number of fields interested in the inclusion of persons with disabilities. Among these, the field of Law, which at that time was discussing the legislation regarding social security, and pension systems for disabilities. The ICF arose the interests of rehabilitation professionals especially, and of organizations of persons with disabilities in general, who hope for the establishment of legal measures that favor social inclusion following the adoption of the ICF.

#### *The process of translation for publication*

Following the approval of ICF by the World Health Organization, the Collaborating Center for the Family of International Classifications in Sao Paulo undertook its translation into Portuguese. The translation process was strictly controlled by WHO, and was carried out using a specific software (Translator), made available by WHO. This software allows for a speedy translation of the text by dividing the screen into two windows: one containing the text to be translated, and another in which the translation is entered. The file containing the translation is generated automatically, but cannot be opened by any other word processing software.

The translation was carried out using the simplest and clearest terms available in the Portuguese language. However, departing from the English language, with its greater concision, posed a number of challenges that had to be overcome. Certain terms were proper to certain professional fields, others could not be appropriately translated using a single word; thus we often faced the need to explain to the reader the word of choice and include

the original term in English as a footnote. One of the difficulties we faced during this stage was, for example, the translation of the terms 'attitudinal' and 'current environment.' Although the translation process was carried out under strict control, the translations could not be validated. The translation terms approved by WHO were included in the ICF even though they were not the most adequate or the most used by professionals.

Ideally, we would like to have worked more on this stage, submitting the translation to professionals of each field so that they could make suggestions and adapt the text to the terminology currently in use in the country. This process would require a team of available professionals, greater time, and a more agile system for exchanging information with WHO. The complexity of this classification and the wide range of aspects it addresses hinder the standardization of terminology. This standardization is further prevented by the large size of our country and by the many terms of regional use.

Another challenge in the process of translation was the elaboration of a Classification capable of being used in all countries of Portuguese language, as the Collaborating Center (Brazilian WHO-FIC Center) has attempted to do with the ICD. In the case of the ICF, the translation to Portuguese used in Brazil would hardly be adequate for use in Portugal, unlike the ICD, which contains less text than the ICF. The solution proposed was to concede the translation made in Brazil to the Portuguese Ministry of Health, so that the latter could adapt it for use in Portugal and use it as a basis for the elaboration of a CD-ROM.

Thus, the ICF is available in the Portuguese language in two versions: as a book, translated to the Portuguese language used in Brazil, and as a CD-ROM, adapted for use in Portugal.

#### *The divulgation and adoption of the classification*

The divulgation of the Classification, its contents, and its multiple usage possibilities, as well as the additions made to the previous classification,

became a routine activity in the work of the Center. In order to fulfill the demand, we began to present the ICF in congresses of a wide variety of fields, such as, for instance, ophthalmology.

The professionals showed curiosity towards the classification. There is a visible interest in knowing about its potentials; its adoption, however, is a more complex process.

The Center has been working since the 1970's with the ICD and with health statistics. Notwithstanding, the field of disabilities and rehabilitation is completely new to us, since it is rarely studied in conjunction with mortality or morbidity statistics, the subject matter of the ICD. In order to come to know the professionals working in this area and how they work, we attempted to build a network of potential ICF users. This network is being built using the information and contacts acquired through the participants of meetings in hospitals, rehabilitation services, and NGOs involved with disability care whenever we were invited to present and divulge the ICF.

The ICF has been incorporated into the curriculum of post-graduate courses in a number of universities, and has been the subject of master's and doctoral theses. In a little over a year, since its publishing in Brazil in late 2003, the classification has already been used in both national surveys and in surveys with international partners. The studies developed in Brazil include the core set tests for the following conditions: rheumatoid arthritis, osteoarthritis and low back pain. The Center, as part of the department of Epidemiology of the School of Public Health, has partnerships with the American Universities of Maryland and Wisconsin in the Consortia for Future Leadership in which a project for Human Resource and Leadership for the Social Inclusion of People with Disabilities has been developing. There is interest and potential for developing many further projects, ranging from the continuation of studies of the prevalence of disabilities to the testing and application of the ICF in special population-healthcare

services, such as the Family Health Program.

Brazil is an excellent option for the evaluation of the list of Activities & Participation due to the country's characteristics: in addition to having a culture and climate that favor social interaction and a participative lifestyle, it also possesses the characteristics of a developing country, with little accessibility for persons with disabilities.

Since this is a new field, and due to the novelty of inclusion as a subject, we see numerous possibilities ahead of us, including multi-center projects incorporating other countries within this continent, or even in other continents, as is the case of Portugal.

### **Training**

The Center shall offer training in the use of ICF to professionals interested in coming to know and to use this classification. The training material in preparation is based on several others, and is adapted to our settings. Training courses will last for eight hours.

### **Difficulties to overcome**

Despite the great interest and curiosity towards the ICF shown by professionals, many difficulties remain when dealing with the adoption a new instrument. It is likely that the current resistance to the adoption of the ICF is due mainly to the complexity of this instrument. The many forms of evaluating a patient – scales, tests, and other classifications – that have been in use are factors that must be considered when contacting healthcare professionals. It is possible that these obstacles may be overcome through the exchange of information between users, by the divulgation of the results of studies in the field, and through the efforts and strategies of the WHO FIC network towards the implementation of ICF.

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## **Hungary**

### **ICF news from Hungary**

#### **ICF translation**

On the basis of authorisation by WHO, ICF has been translated into Hungarian and in early 2004 published by Medicina. The Ministry of Health, Social and Family Affairs and the National Healthcare Fund expressed interest and provided funding for the translation and publication. The translation process was helped by the multidisciplinary team of the National Institute for Medical Rehabilitation. The first version of the translation was field tested during practical use, experienced difficulties in the understanding – problems of interpretation – signalled to the translator and the translation refined. By late 2004 the browser in Hungarian has been completed by WHO Geneva. (Interest was shown in a region of Serbia with Hungarian minorities for the Hungarian translation of ICF.)

#### **ICF training**

A compulsory two hours' lecture on ICF theory, structure and possibilities of utilisation is provided to final year's

medical students at the Faculty of Medicine, Semmelweis University, Budapest. (We have no knowledge of similar education for medical students at the other three Hungarian medical faculties yet.) Students of some branches of the Faculty of Special Education, Lorand Eotvos University of Sciences, Budapest also receive similar information on ICF. Additionally short presentations were held on request e.g. for employees of labour authorities or interested members of support services of people with disabilities. These requests show growing multidisciplinary interest. A short, two days' course on ICF has been developed for PRM specialists. This includes an overview of WHO Family of International Classifications, history of ICF development, comparison of ICF with ICIDH, ICF theory and interpretation, ICF dimensions, the use of the classification, possibilities of coding, using the qualifiers, future possible developments like ICF Core Sets and finally the possible use of quality of life assessments as a tool of expressing subjective experiences of the persons assessed. The theoretical part is completed with the possibility of a series of practical assessments in small groups led by an experienced specialist in PRM.

### ***ICF in practice***

The Ministry is interested in the use of a few categories of the classification beside the other data of the minimum basic data set for refining chronic care reimbursement in hospitals. A set of 10-12 categories are used in different major health conditions (e.g. cardiac, mobility, psychiatric) based on selection of the corresponding professional boards. Data collection has been started, no outcome can be reported yet. Possible bias may arise from the fact that no training of the coding personnel has been required prior to data collection only short written instructions were provided. The mentioned authorities supporting the translation and the National Institute of Medical Expertise have developed a plan to change the assessment system of altered working

capacity on the ICF basis. Thus to assess rather functioning instead of losses calculated on the basis of diagnoses – as done so far. A second aim for the future is to provide compensation only after rehabilitation in all cases where appropriate. Simultaneously with the translation of ICF a comprehensive volume entitled 'Guidelines for Assessment of Functioning, Disability and Changed Working Capacity' was published to support the described plan.

- The first part of the book provides an overview of the aims of the guidelines, the new concept of disability, general description of assessment methods and the significance of medical and vocational rehabilitation.
- The detailed second part contains chapters that deal with different organ systems. Each of these describes diagnostic and assessment algorithms of functioning, most frequent disabilities, criteria of evaluation of the loss of working capacity, as well as short reviews or protocols of therapeutic and rehabilitation possibilities and key labour health issues. The main goal is to support equal opportunities in participation.

The two volumes, the Guidelines and ICF have been distributed free of charge to all medical experts and also to rehabilitation medicine hospital units in Hungary. Training of the use of the books by medical experts has been started recently.

### ***Research***

Some Hungarian experts have participated in the ICDF Core Sets development process and a few institutions are participating in the ICF Core Set field trial.

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## **Indonesia**

### **ICF in Community Based Health Survey: Indonesian Experience**

Since 1986, Indonesia has carried out community based morbidity and disability study; by applying ICD-10 and ICIDH. With the formal use of ICF in 2001 by WHO to replace ICIDH, Indonesia started using the ICF Classification in Morbidity & Disability Study of the 2001 National Health Survey that covered 6,272 households (28, 224 respondents) as a sub sample of the National Socioeconomic Survey. In the morbidity study, we use ICD-10 that provides an etiological framework and cover background and general information, behavior practices and risk factors for non-communicable diseases, physical examination, anthropometrics and selected blood chemistry examinations (blood glucose, cholesterol). For disability study, we developed instruments based on ICF that provides information on functioning and disability associated with health conditions. ICF survey instruments cover body functions, body structures, activities and participation. For simplicity, environmental factors were not included in the survey. As suggested by WHO, ICD-10 and ICF are complementary one to another, since information on diagnosis plus functioning will provide a broader and more meaningful picture of the health of people or population. A study team (total: 74), consists of one male and one female medical doctor, a laboratory technician and a field coordinator conducted the survey.

The results showed that in general about 38.7 % of respondents had some form of disabilities; in rural area the prevalence was higher than in urban area (35.1 % and 41.3 % respectively). The prevalence among females (42.5 %) was higher than males (35.7 %). Disability prevalence of body functions was 32.2 %, body structures was 12.9 %, activities and participation was 13.9 %. The older the age group, the overall disability prevalence as

well as prevalence of each component also increased. The high disability prevalence of body functions were functions of the digestive, metabolic and endocrine systems (b510-b555), followed by sensory functions and pain (b210-b280); and functions of the cardiovascular, haematological, immunological and respiratory systems (b410-b460). The high disability prevalence of body structures were those involved in voice and speech; the eye, ear and related structures; skin and related structures. The high disability prevalence of activities and participation were learning and applying knowledge; communication; major life areas (education, work and employment, economic life); community, social and civic life. The findings of 2001 Morbidity and Disability Study have been used to estimate the National Burden of Disease 2001 and to calculate the Healthy Life Expectancy (HALE) for Indonesia in 2001. In 2004 National Health Survey, we modify the ICF instruments by following the World Health Survey instruments. The results are still being analyzed.

Further activities have been planned to promote the use of ICF in Indonesia, among others:

- translation of ICF to Indonesian language
- develop the ICF Indonesian User Guide
- socialization of ICF to other stakeholders: Social Welfare Ministry, Labour Ministry, Labour Organizations, Local Associations of Handicaps, health sectors
- inclusion of ICF instruments into Inter-Censal Survey and or National Socioeconomic Survey/special survey.

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## Japan

### Development of ICF Illustration library

#### Summary

We developed an “ICF illustration library”, which is an illustrated web-site version of the World Health Organization’s International Classification of Functioning, Disability and Health (ICF). These illustrations facilitate people to understand the essence of each item of the ICF, and those who wish to obtain the illustrations can download them freely for non-commercial use. The software program for constructing the ICF Illustration library is designed for multi-language use.

#### Background

WHO authorized ICF in 2001 for classifying the functioning, health and disability of people across the world and displayed mainstream ideas on how we understand health and disability. Although the ICF provides a unified and standard language and framework for the description of health and health-related states, the huge volume of the ICF may have prevented us from using it as basic language as we use the International Classification of Diseases (ICD).

Because the ICF has a hierarchical structure, the scrolling function of Internet web browser is a suitable vehicle to show its overall structure. Therefore, the development of the Hypertext, searchable on-line version of the ICF displayed on the WHO homepage is the practical trial for promoting the wide use of ICF. By watching this site, we can recognize the whole structure of the ICF.

In addition to the Hypertext, illustrations corresponding to each ICF item could help practical use of the ICF. The use of illustrations has progressively evolved in medical education and practice<sup>1</sup>. Illustrations are known to be useful in the assessment and they increase the reliability of the instrument<sup>2,3</sup>. The illustrations also enhance communication between people with functional limitation. Visual supports

such as illustrations or photographs are widely utilized especially on web sites for helping people to understand the contents more easily and swiftly. Therefore, we developed the illustrated library of the ICF on the website named “ICF illustration library”.

#### Development

The English version of the illustrated library of the ICF is found at <http://www.tokyo.image-lab.or.jp/icf/ill/english/>, and its Japanese version at <http://www.tokyo.image-lab.or.jp/icf/>

Our intension to build this library was to facilitate the understanding of the ICF and to enhance the communication of health care professionals and people with functional limitation. Before developing the system, authors scrupulously discussed the essential points of each ICF item, which should be emphasized by each illustration. The idea to convert the literal contents of each ICF item to illustration is based on our previous experience on developing the elderly functional assessment instrument with illustrations, which is named “Typology of the Aged with illustrations(TAI)”, for long-term care of elderly persons<sup>3,4</sup>. A professional illustrator (Mr. Kunitoshi Okuda) drew every illustration under supervisions of the authors.

This ICF Illustration library has the same structure of WHO’s website (<http://www3.who.int/icf/onlinebrowser/icf.cfm>). In addition, it has two unique characteristics. First, we added illustrations to most items of the ICF. These illustrations are provided for free from our website for non-commercial use. Every user can obtain all illustrations by downloading them at “ICF illustration library” site. The second characteristic of ICF illustration library is that it can be easily translated into to other languages. The program is designed to generate multiple language versions of the illustration library. There are a few limitations we know of. As we have developed this illustration for use in geriatric care setting, some of illustrations represent only elderly persons function. Although we tried to make every

illustration adaptable to worldwide use, some people may find the illustrations have a Japanese taste.

### **Future development**

We want to provide the illustration library in as many as languages possible. Those who want to construct the ICF Illustration library in their languages for non-commercial purpose, please contact Jiro Okochi via e-mail ([PXU14045@nifty.co.jp](mailto:PXU14045@nifty.co.jp)). As our illustration library is limited to normal elderly functioning, we would also like to develop the illustration library that shows several degree of disability, for children and adults. We sincerely hope that this illustration library will help understanding of people's function, disability and health status.

### **Acknowledgement**

The illustrations are protected under the copyright of Dr. Tai Takahashi. Commercial applications of illustrations in any form are prohibited. We acknowledge that this illustration library is developed with the grant from Laboratories of Image Information Science and Technology (LIST) Japan, and Ministry of Economy, Trade and Industry, Japan.

### **For information:**

Website: <http://www.tokyo.image-lab.or.jp/icf/ill/english/>

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## **An ICF-based Project in a City near Tokyo**

### **Project**

A project named 'Comprehensive Collaborative Functioning-Promoting Initiative' was launched in 2002 in a suburban city (population:52,742) near Tokyo, Japan.

The purpose of the project was:

1. To promote functioning (participation, activity and body function/structure) of the whole population, with an emphasis on older citizens;
2. To prevent the decline of functioning (the primary prevention of disability); and
3. To detect the decline of functioning as early as possible, and immediately implement the programs to heighten the functioning again (the secondary prevention of disability).

The project committee was chaired by the mayor and consisted of most of high-rank officers of the municipal government.

One of the authors (Okawa) was instrumental to the project as an advisor.

The initial plan consisted of:

1. Awareness raising activities on ICF as a "common language" by posters, leaflets and pamphlets (2003-2004);
2. A survey of all the population aged 65 years or more using an ICF-based questionnaire (2003); and
3. Community-centered actions for
  - 1) Prevention of decline of functioning, and
  - 2) Promotion of functioning (2004-2005).

### **Poster, leaflets and pamphlets**

The first step of the project was an awareness-raising campaign for the general public utilizing posters, leaflets and pamphlets. Their purpose was to raise people's awareness on the importance of 'functioning' as an integral part of 'health'.

The headline of the posters calls out:

*ICF: Let's Look Straight Ahead and Live with Higher Functioning. So that you can "participate" in a fuller life, through higher daily "activities", challenging the impairments of "body functions"*

The explanation on functioning and ICF follows with the ICF model, which begins with a question:

*Are you familiar with the term ICF or functioning?*

Then it concludes with an appeal to act as an independent individual, conscious of his/her own rights and responsibility, which begins with an assertion:

*You are, in fact, a professional of your daily living and whole life.*

The posters were displayed in public buildings (the City Hall, the Public Library, train and bus stations, community centers, schools, hospitals, large shops etc.), leaflets handed to all the citizens aged 65 and more, and pamphlets sent to medical professionals, teachers, welfare workers, administrators, etc. Lectures on ICF were given to general public, medical professionals, middle high school students etc.

### **Survey**

The subjects of the survey were the citizens aged 65 years or more (5,938) who consisted of 3,436 'young old' (65-74 years) and 2,502 'old old' (75+). They were divided into three groups:

- Group 1: Recipients of the National Long-Term Care Insurance (People with disability);
- Group 2: Those on "health promoting" and "disability prevention" programs (Intermediate People); and
- Group 3: Aged people who were living in their home (Healthy People).

A questionnaire was developed based on a modified ICF model (incorporating 'the subjective dimension of functioning and

disability' and 'the third-party disability').

It consisted of 86 items on:

- 1) Activity (28 items);
- 2) Participation (4);
- 3) Body functions/structure (17);
- 4) Environmental factors (15);
- 5) 'Third-party disability' (6); and
- 6) 'Subjective dimension of functioning and disability' (16).

Semi-structured interviews were given to groups 1 and 2, and the questionnaire was either handed or mailed to group 3 and recovered by individual contact or mail.

The recovery rate was very high, i.e.:

- Group 1: 99.9% (718 of 719);  
Group 2: 90.1% (100 of 111); and  
Group 3: 90.9% (4,538 of 5,042).

## Results

The survey gave a number of interesting results, of which only a few highlights on the largest group (Group 3: Healthy People) will be mentioned. Group 3 consisted of 2,164 males (1,420 'young old' and 744 'old old') and 2,343 females (1,359 'young old' and 984 'old old').

### 1. Not all 'healthy' aged people are ADL-independent.

An important fact was found in the first step of the data analysis. Not all 'healthy' aged people were found to be fully independent in their activities of daily living (ADL).

'Not independent' is defined here as not doing at least one ADL independently at home (gait in the home, eating, dressing, grooming, washing and toileting).

There were such 'not independent' people more in 'old old' than 'young old' and more in males than females.

### 2. Not all are going out alone even in people 'independent' in ADL.

Another important fact was that even in the people 'independent' in ADL, there were ones who were not going out alone. The ratio of such a person was higher in the 'old old' (17.2% in males and 31.6% in females) than in the 'young old' (7.3% in males and 13.2% in females).

This tendency was much more remarkable in ADL 'not independent' people (52.7 – 83.5%).

### 3. Satisfaction with activity is much lower than that with participation.

In the questionnaire the over-all satisfaction was asked in the end of each section (activity, participation, body functions/structure, environmental factors and third-party disability). The answers represent subjective assessment of or reaction to the over-all status of each objective component of the expanded ICF model.

The most interesting fact was that dissatisfaction was generally much higher with activity (11.4 - 44.4%) than with participation (2.3 – 12.2%). There were different patterns between ADL 'independent' and 'not independent' groups. In the 'independent', the dissatisfaction with activity as a whole was higher in 'old old' than in 'young old', and higher in females. However, in the 'not independent' where dissatisfaction rate was generally much higher, 'young old' were more dissatisfied than 'old old', with the same tendency of more dissatisfaction in females.

### 4. Self-esteem is only slightly low but self-confidence and trust in other people are very low in 'not independent' people.

The questionnaire included ten questions on the overall subjective state of mind, i.e. self-esteem, self-confidence, happiness, confidence in other people, meaningfulness of the subject for the family and friends, satisfaction with the life as a whole, etc.

The loss of self-esteem, which is usually considered commonly to accompany disability ('not independent') was only slight in our data (4.65 - 13.1%).

Self-confidence, in contrast, was much more affected. It is a striking fact that even in 'independent' people the 'old old' had high degree of lowered self-confidence (30.4 - 35.3%) than 'young old' (9.3 - 14.5%). In 'not independent' group, the rates were generally much higher (36.5 - 54.1%).

## Conclusion

An ICF-based project including a population survey was described. This project is still going on and will be reported in full in future.

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## North America

### 11th Annual NACC Conference on ICF: Mapping the Clinical World to the ICF

The Mayo Clinic will host the 11<sup>th</sup> WHO North American Collaborating Center Conference on the ICF in Rochester, Minnesota, USA, June 22-24. The conference theme is "Mapping the Clinical World to ICF". Clinical applications of the ICF (e.g. mapping various types of clinical data to the ICF, developing clinical assessment tools based on the ICF) will be presented. The science of mapping (sources of error in mapping, computational advances enabling machine processing of clinical data) and uses of "mapped" clinical data for research and policy will receive emphasis in relation to the ICF. Other applications are planned as well. A pre-conference ICF tutorial will be held on Tuesday June 21, 2005.

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## Netherlands

### Renewal of Dutch WHO-FIC website

The WHO website on classifications has been changed radically, see <http://www.who.int/classifications/en/>. Originally two different sites with information on either ICD or ICF were presented in one homepage, showing both classifications as the core of a preliminary family of international classifications (see also Newsletter on the WHO-FIC, August 2002, p 1).

Since the end of 2004, the new WHO site, has 5 main pages on the Family of International Classifications, its Network, ICD, ICF, and ICHI. ICD and ICF are available online and one can link to derived and related classifications on the Family page. This improvement induced the Dutch Centre also to renew its website radically.

The first column of the Dutch site, <http://www.rivm.nl/who-fic>, is the same in English and Dutch.

The English buttons in that column link directly to the corresponding English pages on the WHO website.

The Dutch buttons link to translations of these pages, supplemented with information on the Dutch Family:

- ICF
- ICD-10
- ICD-O-3
- ICPC-2
- ICECI
- ISO9999 (technical aids for persons with disabilities)
- ATC and
- CMSV, the Dutch surgical procedure classification originally based on the ICPM.

Also the Centre's contributions in English to the WHO-FIC network are added to these pages in Dutch.

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WHO Collaborating Centre  
for the FIC  
in The Netherlands

 to Dutch homepage  
WHO-FIC network

Family of classifications

- Classification of functioning, disability and health
- Classification of diseases
- Classification of diseases for oncology
- Classification of primary care
- Classification of external causes of injury
- Classification of technical aids for persons with disabilities
- Classification of therapeutic drugs
- Classification of health interventions

 to English homepage



#### WHO Family of International Classifications (FIC)

### WHO - FIC homepage

Welcome at the bilingual website of the WHO Collaborating Centre for the Family of International Classifications in the Netherlands.

The Centre was instituted by WHO in 1989, and came under the RIVM Department of Public Health Forecasting in 1998.

The Centre's [terms of reference](#) relate on the one hand to the implementation and use of the FIC and related classifications in the Netherlands and on the other hand to their international update and revision, resulting from their use.

This website is partly bilingual, partly monolingual, either English or Dutch depending on intended user groups and availability of information in either one language or both languages. The website is complementary to the classifications website of WHO: [www.who.int/classifications/en](http://www.who.int/classifications/en).

The Centre issues an international newsletter: [Newsletter on the WHO-FIC](#) and it likes to fulfil a co-ordinative and facilitating role for international classifications. Among other activities conferences are organized to fill in that role.

The **team** of the Centre consists of

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#### Annual meetings of the WHO-FIC Network

The meeting in 2003 was organized by the Centres in Germany and the Netherlands

#### Annual reports, papers, presentations of the Centre in annual meetings

Latest Newsletter:  
[May 2005](#)

[Conferences 2003-2004](#)  
[in Dutch]

## The Dutch Cliq-project

The start of the Cliq-project (Classification implements quality) must be seen in relation to activities of different organizations in the Netherlands with respect to assistive products. The development of models and guidelines for the prescription of assistive products (technical aids), including the matching of the medical and functional problems of patients to the most appropriate assistive product, and the visualization of the flow of money involved in the use of assistive products in the Netherlands, are examples of these activities. In these developments a uniform coding system for assistive products is a prerequisite. The ISO 9999, assistive products for persons with a disability - classification and terminology, is too global for these purposes. The aim of the Cliq-project is to develop a Dutch extension of the ISO 9999 based on the principle "product related intended use" in particular the functionality of the assistive product as seen by the patient and the professional. The Dutch translation of the ICF is used together with other relevant (inter)national standards. The kick-off phase of the project has been discussed in 2003 in this Newsletter.<sup>1</sup> During the first phase of the project a method has been developed to extend the ISO 9999 form a 6-digit code to a 12-digit code. Two groups of assistive products served as a pilot: orthoses and prostheses and products for incontinence care. In phase 2 an extension of the ISO 9999 will be made for thirteen other groups of assistive products based on the method developed in phase 1. Examples are: mobility aids, communication products for people with visual impairments, people with hearing impairments and people with limitations in mobility, products for stoma care and wound care, assistive products for people with diabetes and assistive products for respiration.

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<sup>1</sup> Bougie Th.H.M. Interrelations between ICF and ISO 9999 regarding the intended use of assistive technology. WHO Family of International Classifications. Newsletter on the WHO-FIC, Volume 1, Number 2, 2003, page 3.

## Thailand

### ICF Workshop in Bangkok 2-3 May 2005

By the end of April 2005 the WHO-FIC Family Development Committee and the WHO-FIC Planning Committee met in Bangkok, Thailand. After three days of fruitful meetings with the WHO-FIC Network representatives the host of the meeting, Dr. Pattariya Jarutat of the Sirindhorn National Medical Rehabilitation Centre, organized an ICF workshop for interested Thai participants 2-3 May 2005 in Bangkok. About 80 persons from all over the country, representing disability organizations, allied health and medical professionals, policy makers, statisticians and research people, attended the workshop. Aim of the workshop was to show how the ICF can be used in different areas and to draft a first outline of a work plan for the implementation of the ICF in Thailand.

Dr. Pattariya Jarutat



(picture by Bedirhan Üstün)

The draft translation of the ICF into Thai language was distributed to the participants. The book showed to be a very good communication tool by offering the same text in English and Thai language at the opposite page.

The program consisted of several presentations followed by coding exercises and discussions in small groups.

**Presentations:**

- ICF related activities in Thailand by the host,
- WHO-FIC and the added value of ICF by WHO,
- ICF experiences in several countries by representatives of collaborating centres from Australia, North America, The Netherlands.

**Discussions and exercises:**

- case coding in small groups and
- discussion on work plan for ICF implementation in different application areas in small groups.

As a result a first outline of a work plan has been developed for the four priority areas identified by the WHO-FIC Implementation Committee, being:

- 1 censuses and surveys
- 2 health outcomes at clinical and service level
- 3 administrative and clinical information (records)
- 4 social policy including disability certification, education, labor market, legislation.

The WHO-FIC Education Committee and the WHO-FIC Implementation Committee planned to evaluate the workshop in order to find out whether a kind of ICF training tool can be derived from this experience which can be offered to other interested countries.

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Marijke de Kleijn pointing to a Dutch signboard for delicious fresh coffee in Bangkok



(picture by Bedirhan Üstün)

## Turkey

### Disability statistics in Turkey

Data on disability in Turkey are collected from two different sources: Population Census and Household Survey. In the 2000 Population Census, information on disability status and types of disability (which are mental, hearing, seeing, speaking and physical disability) was collected. The 2002 Turkey Disability Survey was carried out in December 2002 by The State Institute of Statistics in cooperation with The Presidency of Administration on Disabled People.

### Disability survey

This survey was based on a nation wide sample of 97,433 households and was conducted with face to face interviews. The aim of this survey is to collect data on: number of disabled people, proportion of disability, type of disability (mental, hearing, seeing,

speaking and physical disability), cause of disability, socio-economic characteristics of disabled people, family and social life status of disabled people, problems of disabled people in their working lives and daily lives, their expectations from government and the population having chronic illnesses.

Two separate questionnaires were prepared: a Household Questionnaire and a Disability Questionnaire. The household questionnaire was applied to all individuals in the households, whereas the Disability questionnaire was applied to those who indicated having a mental, hearing, seeing, speaking and/or physical disability.

### Questionnaires

With the household questionnaire all individuals' socio-economic characteristics were collected and individuals having chronic illnesses and/or physical, seeing, hearing, speaking and mental disability were identified. If a person has any disability (physical, seeing, hearing, speaking and mental), the disability questionnaire was used. Otherwise, the interview was ended for this person. With the disability questionnaire information on all disabled individuals determined in the household questionnaire was obtained such as: individuals characteristics, institutions serving them, their expectations from Institutions and detailed information for each type of disability e.g. the time of disability first appearance, age of being disabled, cause of disability, type/degree of disability, status of being treated, status of using apparatus, problems affecting their daily lives.

### *Survey results based on 7 geographical regions and urban-rural areas*

According to the results of the survey, the proportion of disabled people including those with chronic illnesses was 12.29 % in 2002. This proportion was 9.70 % for the population having chronic illnesses and 2.58 % for other disabled people having physical, seeing, hearing, speaking, and mental disability. See for details in tables on page 15.

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*PS of the editor: in terms of the ICF in this survey "disability" has been operationalized as impairment, so the "disabled" population is the population with the "disabilities = impairments" mentioned. For this population and the population with chronic conditions data on "participation" such as labor force participation, literacy, access to social security have been collected and given in the tables.*

**1. The proportion of disability by sex (%)**

|        | Total disabled population | Orthopedically, seeing, hearing, speaking and mentally disabled population | Population having chronic illnesses |
|--------|---------------------------|--|-------------------------------------|
| Total  | 12.29                     | 2.58   | 9.70                                |
| Male   | 11.10                     | 3.05   | 8.05                                |
| Female | 13.45                     | 2.12   | 11.33                               |

**2. The proportion of disability by urban-rural (%)**

|       | Total disabled population | Orthopedically, seeing, hearing, speaking and mentally disabled population | Population having chronic illnesses |
|-------|---------------------------|--|-------------------------------------|
| Total | 12.29                     | 2.58   | 9.70                                |
| Urban | 12.70                     | 2.20   | 10.49                               |
| Rural | 11.67                     | 3.16   | 8.50                                |

**3. The proportion of disability by age group (%)**

| Age group | Total disabled population | Orthopedically, seeing, hearing, speaking and mentally disabled population | Population having chronic illnesses |
|-----------|---------------------------|--|-------------------------------------|
| 0-9       | 4.15                      | 1.54   | 2.60                                |
| 10-19     | 4.63                      | 1.96   | 2.67                                |
| 20-29     | 7.30                      | 2.50   | 4.80                                |
| 30-39     | 11.44                     | 2.56   | 8.89                                |
| 40-49     | 18.07                     | 2.65   | 15.43                               |
| 50-59     | 27.67                     | 3.23   | 24.44                               |
| 60-69     | 36.96                     | 5.14   | 31.82                               |
| 70+       | 43.99                     | 7.89   | 36.10                               |

**4. The literacy ratio of disabled population (%)**

|        | Orthopedically, seeing, hearing, speaking and mentally disabled population | Population having chronic illnesses |
|--------|--|-------------------------------------|
| Turkey | 63.67  | 75.19                               |
| Urban  | 70.42  | 79.51                               |
| Rural  | 56.56  | 67.15                               |
| Male   | 71.86  | 90.22                               |
| Female | 51.99  | 64.96                               |

**5. Labor force participation rate of disabled population**

|        | Orthopedically, seeing, hearing, speaking and mentally disabled population | Population having chronic illnesses |
|--------|--|-------------------------------------|
| Turkey | 21.71  | 22.87                               |
| Urban  | 25.61  | 23.08                               |
| Rural  | 17.76  | 22.48                               |
| Male   | 32.22  | 46.58                               |
| Female | 6.71   | 7.21                                |

**6. Unemployment rate of disabled population (%)**

|        | Orthopedically, seeing, hearing, speaking and mentally disabled population | Population having chronic illnesses |
|--------|--|-------------------------------------|
| Turkey | 15.46  | 10.77                               |
| Urban  | 17.43  | 12.72                               |
| Rural  | 12.58  | 7.08                                |
| Male   | 14.57  | 10.28                               |
| Female | 21.54  | 12.84                               |

**7. The proportion of disabled population having social security (%)**

|        | Orthopedically, seeing, hearing, speaking and mentally disabled population | Population having chronic illnesses |
|--------|--|-------------------------------------|
| Turkey | 47.55  | 63.67                               |
| Urban  | 59.27  | 70.80                               |
| Rural  | 35.15  | 50.28                               |
| Male   | 44.84  | 62.40                               |
| Female | 51.41  | 64.56                               |

**8. The proportion of disabled population by type of disability (%)**

|        | Orthop. disabil. | Seeing disabil. | Hearing disabil. | Speaking disabil. | Ment. disabil. |
|--------|------------------|-----------------|------------------|-------------------|----------------|
| Turkey | 1.25             | 0.60            | 0.37             | 0.38              | 0.48           |
| Urban  | 1.09             | 0.52            | 0.32             | 0.33              | 0.38           |
| Rural  | 1.49             | 0.73            | 0.45             | 0.46              | 0.64           |
| Male   | 1.48             | 0.70            | 0.41             | 0.48              | 0.58           |
| Female | 1.02             | 0.50            | 0.33             | 0.28              | 0.38           |

**9. The proportion of disabled population by type of disability and the appearance time of disability (%)**

| Type of disability      | Congenital | Subsequent | Unknown |
|-------------------------|------------|------------|---------|
| Orthopedical disability | 23.91      | 73.30      | 2.79    |
| Seeing disability       | 20.41      | 76.32      | 3.27    |
| Hearing disability      | 29.49      | 67.10      | 3.41    |
| Speaking disability     | 46.63      | 50.16      | 3.21    |
| Mental disability       | 47.92      | 49.89      | 2.19    |

**10. The proportion of disabled population by type of disability and cause of subsequent disability (%)**

| Type of disability      | Accident | Illnesses | Other |
|-------------------------|----------|-----------|-------|
| Orthopedical disability | 41.17    | 41.20     | 17.63 |
| Seeing disability       | 25.45    | 47.38     | 27.17 |
| Hearing disability      | 11.03    | 58.44     | 30.53 |
| Speaking disability     | 3.90     | 23.88     | 72.22 |
| Mental disability       | 9.33     | 54.98     | 35.69 |

## USA

### Notes on qualifiers of activity/participation

Currently there are two qualifiers. Performance describes what an individual does in his or her current environment (1, p.214). It is scored from no difficulty to complete difficulty in performing that particular activity. Capacity describes “an individual’s ability to execute a task or action. To score it one assumes a “standardized environment” to neutralize the impact of varying environments” (1, p. 214). It is also scored from no difficulty to complete difficulty. There is some uncertainty with regard to each qualifier. For instance, an individual may have several different environments that are associated with differing performance. Furthermore, the concept of “standardized environment” is still vague and subject to differing interpretations.

However these problems are minor with respect to a much more fundamental one. In their present state, the qualifiers do not deal with the universe of choices open to a person. A closer approximation to that universe might require four qualifiers, as follows:

- 1 The first qualifier, performance in the current time and environment, would be conserved.
- 2 A second qualifier would be “capacity in the current environment”. This refers to ability that a person might develop without a change in environment, following training or rehabilitation or by developing a different way of accomplishing a task.
- 3 A third qualifier would be “capacity in an environment free of specific barriers to the person’s impairments and/or otherwise free of discrimination. This is a much more focused concept than that of “standardized environment”, and it represents a more specific guide to environmental changes that might be done to facilitate activity/participation.

The first three qualifiers would be scored as before from no problem to complete problem.

- 4 The fourth qualifier would be the “desire of the person to engage or continue in the specific activity/participation”. Some activities/participations are very important or even essential, while others are less so, or even non-desirable. For instance, a person who is mute and/or deaf might score “non-desirable” on speech, d-330 (1, p.132) if that person is perfectly satisfied with communication in surroundings where sign language is used.

These four qualifiers would provide a more complete and precise and, possibly, more objective assessment of the activity/participation component than the current two qualifiers.

The ICF manual considers adding qualifiers “with and without assistance” (1, p.215).. Such qualifiers might be added as well to the proposed four-fold model. However, one might note that such qualifiers are already provided in the Chapter on “Environment”: Instrumental assistance is included in codes e-100s, and personal assistance is included in code e-340 (1, p. 220). It may be worth considering what may be gained by having these qualifiers in two different chapters.

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