ICF

Introduction

The World Health Organization ICF home page with an interactive
hypertext version of the ICF can be found at http://www3.who.int/icf/

1.   Background

This volume contains the *International Classification of Functioning, Disability and Health,* known as ICF.[1] The overall aim of the ICF classification is to provide a unified and standard language and framework for the description of health and health-related states. It defines components of health and some health-related components of well-being (such as education and labour). The domains contained in ICF can, therefore, be seen as *health domains* and *health-related domains.* These domains are described from the perspective of the body, the individual and society in two basic lists: (1) Body Functions and Structures; and (2) Activities and Participation.[2] As a classification, ICF systematically groups different domains[3] for a person in a given health condition (e.g. what a person with a disease or disorder does do or can do). *Functioning* is an umbrella term encompassing all body functions, activities and participation; similarly, *disability* serves as an umbrella term for impairments, activity limitations or participation restrictions. ICF also lists environmental factors that interact with all these constructs. In this way, it enables the user to record useful profiles of individuals' functioning, disability and health in various domains.

ICF belongs to the "family" of international classifications developed by the World Health Organization (WHO) for application to various aspects of health. The WHO family of international classifications provides a framework to code a wide range of information about health (e.g. diagnosis, functioning and disability, reasons for contact with health services) and uses a standardized common language permitting communication about health and health care across the world in various disciplines and sciences.

In WHO's international classifications, health conditions (diseases, disorders, injuries, etc.) are classified primarily in ICD-10 (shorthand for the International

---

[1] The text represents a revision of the International Classification of Impairments, Disabilities, and Handicaps (ICIDH), which was first published by the World Health Organization for trial purposes in 1980. Developed after systematic field trials and international consultation over the past five years, it was endorsed by the Fifty-fourth World Health Assembly for international use on 22 May 2001 (resolution WHA54.21).

[2] These terms, which replace the formerly used terms "impairment", "disability" and "handicap" , extend the scope of the classification to allow positive experiences to be described. The new terms are further defined in this Introduction and are detailed within the classification. It should be noted that these terms are used with specific meanings that may differ from their everyday usage.

[3] A domain is a practical and meaningful set of related physiological functions, anatomical structures, actions, tasks, or areas of life.

Classification of Diseases, Tenth Revision),[4] which provides an etiological framework. Functioning and disability associated with health conditions are classified in ICF. ICD-10 and ICF are therefore complementary,[5] and users are encouraged to utilize these two members of the WHO family of international classifications together. ICD-10 provides a "diagnosis" of diseases, disorders or other health conditions, and this information is enriched by the additional information given by ICF on functioning.[6] Together, information on diagnosis plus functioning provides a broader and more meaningful picture of the health of people or populations, which can then be used for decision-making purposes.

The WHO family of international classifications provides a valuable tool to describe and compare the health of populations in an international context. The information on mortality (provided by ICD-10) and on health outcomes (provided by ICF) may be combined in summary measures of population health for monitoring the health of populations and its distribution, and also for assessing the contributions of different causes of mortality and morbidity.

ICF has moved away from being a "consequences of disease" classification (1980 version) to become a "components of health" classification. "Components of health" identifies the constituents of health, whereas "consequences" focuses on the impacts of diseases or other health conditions that may follow as a result. Thus, ICF takes a neutral stand with regard to etiology so that researchers can draw causal inferences using appropriate scientific methods. Similarly, this approach is also different from a "determinants of health" or "risk factors" approach. To facilitate the study of determinants or risk factors, ICF includes a list of environmental factors that describe the context in which individuals live.

---

[4] International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Vols. 1-3. Geneva, World Health Organization, 1992-1994.

[5] It is also important to recognize the overlap between ICD-10 and ICF. Both classifications begin with the body systems. Impairments refer to body structures and functions, which are usually parts of the "disease process" and are therefore also used in the ICD-10. Nevertheless, ICD-10 uses impairments (as signs and symptoms) as parts of a constellation that forms a "disease", or sometimes as reasons for contact with health services, whereas the ICF system uses impairments as problems of body functions and structures associated with health conditions.

[6] Two persons with the same disease can have different levels of functioning, and two persons with the same level of functioning do not necessarily have the same health condition. Hence, joint use enhances data quality for medical purposes. Use of ICF should not bypass regular diagnostic procedures. In other uses, ICF may be used alone.

2.   Aims of ICF

ICF is a multipurpose classification designed to serve various disciplines and different sectors. Its specific aims can be summarized as follows:

- to provide a scientific basis for understanding and studying health and health-related states, outcomes and determinants;

- to establish a common language for describing health and health-related states in order to improve communication between different users, such as health care workers, researchers, policy-makers and the public, including people with disabilities;

- to permit comparison of data across countries, health care disciplines, services and time;

- to provide a systematic coding scheme for health information systems.

These aims are interrelated, since the need for and uses of ICF require the construction of a meaningful and practical system that can be used by various consumers for health policy, quality assurance and outcome evaluation in different cultures.

2.1   Applications of ICF

Since its publication as a trial version in 1980, ICIDH has been used for various purposes, for example:

- as a statistical tool – in the collection and recording of data (e.g. in population studies and surveys or in management information systems);

- as a research tool – to measure outcomes, quality of life or environmental factors;

- as a clinical tool – in needs assessment, matching treatments with specific conditions, vocational assessment, rehabilitation and outcome evaluation;

- as a social policy tool – in social security planning, compensation systems and policy design and implementation;

- as an educational tool – in curriculum design and to raise awareness and undertake social action.

Since ICF is inherently a health and health-related classification it is also used by sectors such as insurance, social security, labour, education, economics, social policy and general legislation development, and environmental modification. It has been accepted as one of the United Nations social classifications and is referred to in and incorporates *The Standard Rules on the Equalization of*

Opportunities for Persons with Disabilities.[7] Thus ICF provides an appropriate instrument for the implementation of stated international human rights mandates as well as national legislation.

ICF is useful for a broad spectrum of different applications, for example social security, evaluation in managed health care, and population surveys at local, national and international levels. It offers a conceptual framework for information that is applicable to personal health care, including prevention, health promotion, and the improvement of participation by removing or mitigating societal hindrances and encouraging the provision of social supports and facilitators. It is also useful for the study of health care systems, in terms of both evaluation and policy formulation.

---

[7] *The Standard Rules on the Equalization of Opportunities for Persons with Disabilities.* Adopted by the United Nations General Assembly at its 48th session on 20 December 1993 (resolution 48/96). New York, NY, United Nations Department of Public Information, 1994.

3.   Properties of ICF

A classification should be clear about what it classifies: its universe, its scope, its units of classification, its organization, and how these elements are structured in terms of their relation to each other. The following sections explain these basic properties of ICF.

3.1 Universe of ICF

ICF encompasses all aspects of human health and some health-relevant components of well-being and describes them in terms of *health domains* and *health-related domains.*[8] The classification remains in the broad context of health and does not cover circumstances that are not health-related, such as those brought about by socioeconomic factors. For example, because of their race, gender, religion or other socioeconomic characteristics people may be restricted in their execution of a task in their current environment, but these are not health-related restrictions of participation as classified in ICF.

There is a widely held misunderstanding that ICF is only about people with disabilities; in fact, it is about *all people.* The health and health-related states associated with all health conditions can be described using ICF. In other words, ICF has universal application.[9]

3.2 Scope of ICF

ICF provides a description of situations with regard to human functioning and its restrictions and serves as a framework to organize this information. It structures the information in a meaningful, interrelated and easily accessible way.

ICF organizes information in two parts. Part 1 deals with Functioning and Disability, while Part 2 covers Contextual Factors. Each part has two components:

1. Components of Functioning and Disability

The **Body** component comprises two classifications, one for functions of body systems, and one for body structures. The chapters in both classifications are organized according to the body systems.

---

[8] Examples of health domains include seeing, hearing, walking, learning and remembering, while examples of health-related domains include transportation, education and social interactions.

[9] Bickenbach JE, Chatterji S, Badley EM, Üstün TB. Models of disablement, universalism and the ICIDH, *Social Science and Medicine*, 1999, 48:1173-1187.

The **Activities and Participation** component covers the complete range of domains denoting aspects of functioning from both an individual and a societal perspective.

2. Components of Contextual Factors

A list of **Environmental Factors** is the first component of Contextual Factors. Environmental factors have an impact on all components of functioning and disability and are organized in sequence from the individual's most immediate environment to the general environment.

Personal Factors is also a component of Contextual Factors but they are not classified in ICF because of the large social and cultural variance associated with them.

The components of Functioning and Disability in Part 1 of ICF can be expressed in two ways. On the one hand, they can be used to indicate problems (e.g. impairment, activity limitation or participation restriction summarized under the umbrella term *disability*); on the other hand they can indicate nonproblematic (i.e. neutral) aspects of health and health-related states summarized under the umbrella term *functioning).*

These components of functioning and disability are interpreted by means of four separate but related *constructs.* These constructs are operationalized by using *qualifiers.* Body functions and structures can be interpreted by means of changes in physiological systems or in anatomical structures. For the Activities and Participation component, two constructs are available: c*apacity* and *performance* (see section 4.2).

A person's functioning and disability is conceived as a dynamic interaction[10] between health conditions (diseases, disorders, injuries, traumas, etc.) and contextual factors. As indicate above, Contextual Factors include both personal and environmental factors. ICF includes a comprehensive list of environmental factors as an essential component of the classification. Environmental factors interact with all the components of functioning and disability. The basic construct of the Environmental Factors component is the facilitating or hindering impact of features of the physical, social and attitudinal world.

3.3 Unit of classification

ICF classifies health and health-related states. The unit of classification is, therefore, *categories* within health and health-related domains. It is important to note, therefore, that in ICF persons are not the units of classification; that is, ICF does not classify people, but describes the situation of each person within an array of health or health-related domains. Moreover, the description is always made within the context of environmental and personal factors.

---

[10] This interaction can be viewed as a *process* or a *result* depending on the user.

3.4 Presentation of ICF

ICF is presented in two versions in order to meet the needs of different users for varying levels of detail.

The *full version* of ICF, as contained in this volume, provides classification at four levels of detail. These four levels can be aggregated into a higher-level classification system that includes all the domains at the second level. The two-level system is also available as a *short version* of ICF.

4. Overview of ICF components

DEFINITIONS[11]

In the context of health:

Body functions are the physiological functions of body systems (including psychological functions).

Body structures are anatomical parts of the body such as organs, limbs and their components.

Impairments are problems in body function or structure such as a significant deviation or loss.

Activity is the execution of a task or action by an individual.

Participation is involvement in a life situation.

Activity limitations are difficulties an individual may have in executing activities.

Participation restrictions are problems an individual may experience in involvement in life situations.

Environmental factors make up the physical, social and attitudinal environment in which people live and conduct their lives.

An overview of these concepts is given in Table 1; they are explained further in operational terms in section 5.1. As the table indicates:

- ICF has two *parts*, each with two *components:*

    Part 1. Functioning and Disability
    - (a) Body Functions and Structures
    - (b) Activities and Participation

    Part 2. Contextual Factors
    - (c) Environmental Factors
    - (d) Personal Factors

- Each component can be expressed in both *positive* and *negative* terms.

- Each component consists of various domains and, within each domain, categories, which are the units of classification. Health and health-related states of an individual may be recorded by selecting the appropriate category

---

[11] See also Annex 1, Taxonomic and Terminological Issues.

code or codes and then adding *qualifiers,* which are numeric codes that specify the extent or the magnitude of the functioning or disability in that category, or the extent to which an environmental factor is a facilitator or barrier.

Table 1. An overview of ICF

Components	Part 1: Functioning and Disability		Part 2: Contextual Factors	
	Body Functions and Structures	**Activities and Participation**	**Environmental Factors**	**Personal Factors**
Domains	Body functions Body structures	Life areas (tasks, actions)	External influences on functioning and disability	Internal influences on functioning and disability
Constructs	Change in body functions (physiological) Change in body structures (anatomical)	Capacity Executing tasks in a standard environment Performance Executing tasks in the current environment	Facilitating or hindering impact of features of the physical, social, and attitudinal world	Impact of attributes of the person
Positive aspect	Functional and structural integrity	Activities Participation	Facilitators	not applicable
	Functioning			
Negative aspect	Impairment	Activity limitation Participation restriction	Barriers / hindrances	not applicable
	Disability			

4.1 Body Functions and Structures and impairments

Definitions: **Body functions** *are the physiological functions of body systems (including psychological functions).*

Body structures *are anatomical parts of the body such as organs, limbs and their components.*

Impairments *are problems in body function or structure as a significant deviation or loss.*

(1) Body functions and body structures are classified in two different sections. These two classifications are designed for use in parallel. For example, body functions include basic human senses such as "seeing functions" and their structural correlates exist in the form of "eye and related structures".

(2) "Body" refers to the human organism as a whole; hence it includes the brain and its functions, i.e. the mind. Mental (or psychological) functions are therefore subsumed under body functions.

(3) Body functions and structures are classified according to body systems; consequently, body structures are not considered as organs.[12]

(4) Impairments of structure can involve an anomaly, defect, loss or other significant deviation in body structures. Impairments have been conceptualized in congruence with biological knowledge at the level of tissues or cells and at the subcellular or molecular level. For practical reasons, however, these levels are not listed.[13] The biological foundations of impairments have guided the classification and there may be room for expanding the classification at the cellular or molecular levels. For medical users, it should be noted that impairments are not the same as the underlying pathology, but are the manifestations of that pathology.

(5) Impairments represent a deviation from certain generally accepted population standards in the biomedical status of the body and its functions, and definition of their constituents is undertaken primarily by those qualified to judge physical and mental functioning according to these standards.

(6) Impairments can be temporary or permanent; progressive, regressive or static; intermittent or continuous. The deviation from the population norm may be slight or severe and may fluctuate over time. These characteristics are captured in further descriptions, mainly in the codes, by means of qualifiers after the point.

---

[12] Although organ level was mentioned in the 1980 version of ICIDH, the definition of an "organ" is not clear. The eye and ear are traditionally considered as organs; however, it is difficult to identify and define their boundaries, and the same is true of extremities and internal organs. Instead of an approach by "organ", which implies the existence of an entity or unit within the body, ICF replaces this term with "body structure".

[13] Thus impairments coded using the full version of ICF should be detectable or noticeable by others or the person concerned by direct observation or by inference from observation.

(7) Impairments are not contingent on etiology or how they are developed; for example, loss of vision or a limb may arise from a genetic abnormality or an injury. The presence of an impairment necessarily implies a cause; however, the cause may not be sufficient to explain the resulting impairment. Also, when there is an impairment, there is a dysfunction in body functions or structures, but this may be related to any of the various diseases, disorders or physiological states.

(8) Impairments may be part or an expression of a health condition, but do not necessarily indicate that a disease is present or that the individual should be regarded as sick.

(9) Impairments are broader and more inclusive in scope than disorders or diseases; for example, the loss of a leg is an impairment of body structure, but not a disorder or a disease.

(10) Impairments may result in other impairments; for example, a lack of muscle power may impair movement functions, heart functions may relate to deficit in respiratory functions, and impaired perception may relate to thought functions.

(11) Some categories of the Body Functions and Structures component and the ICD-10 categories seem to overlap, particularly with regard to symptoms and signs. However, the purposes of the two classifications are different. ICD-10 classifies symptoms in special chapters to document morbidity or service utilization, whereas ICF shows them as part of the body functions, which may be used for prevention or identifying patients' needs. Most importantly, in ICF the Body Functions and Structures classification is intended to be used along with the Activities and Participation categories.

(12) Impairments are classified in the appropriate categories using defined identification criteria (e.g. as present or absent according to a threshold level). These criteria are the same for body functions and structures. They are: (a) loss or lack; (b) reduction; (c) addition or excess; and (d) deviation. Once an impairment is present, it may be scaled in terms of its severity using the generic qualifier in the ICF.

(13) Environmental factors interact with body functions, as in the interactions between air quality and breathing, light and seeing, sounds and hearing, distracting stimuli and attention, ground texture and balance, and ambient temperature and body temperature regulation.

4.2 Activities and Participation /activity limitations and participation restrictions

Definitions: **Activity** is the execution of a task or action by an individual.

Participation is involvement in a life situation.

Activity limitations are difficulties an individual may have in executing activities.

Participation restrictions are problems an individual may experience in involvement in life situations.

(1)   The domains for the Activities and Participation component are given in a *single list* that covers the full range of life areas (from basic learning or watching to composite areas such as interpersonal interactions or employment). The component can be used to denote activities (a) or participation (p) or both. The domains of this component are qualified by the two qualifiers of *performance* and c*apacity*. Hence the information gathered from the list provides a data matrix that has no overlap or redundancy (see Table 2).

Table 2. Activities and Participation: information matrix

Domains		Qualifiers	
		Performance	Capacity
d1	Learning and applying knowledge		
d2	General tasks and demands		
d3	Communication		
d4	Mobility		
d5	Self-care		
d6	Domestic life		
d7	Interpersonal interactions and relationships		
d8	Major life areas		
d9	Community, social and civic life		

(2)   The *performance* qualifier describes what an individual does in his or her
       current environment. Because the current environment includes a societal
       context, performance can also be understood as "involvement in a life
       situation" or "the lived experience" of people in the actual context in which
       they live.[14] This context includes the environmental factors – all aspects of
       the physical, social and attitudinal world which can be coded using the
       Environmental Factors component.

(3)   The *capacity* qualifier describes an individual's ability to execute a task or an
       action. This construct aims to indicate the highest probable level of
       functioning that a person may reach in a given domain at a given moment.
       To assess the full ability of the individual, one would need to have a
       "standardized" environment to neutralize the varying impact of different
       environments on the ability of the individual. This standardized
       environment may be: (a) an actual environment commonly used for capacity
       assessment in test settings; or (b) in cases where this is not possible, an
       assumed environment which can be thought to have a uniform impact. This
       environment can be called a "uniform" or "standard" environment. Thus,
       capacity reflects the environmentally adjusted ability of the individual. This
       adjustment has to be the same for all persons in all countries to allow for
       international comparisons. The features of the uniform or standard
       environment can be coded using the Environmental Factors classification.
       The gap between capacity and performance reflects the difference between
       the impacts of current and uniform environments, and thus provides a
       useful guide as to what can be done to the environment of the individual to
       improve performance.

(4)   Both capacity and performance qualifiers can further be used with and
       without assistive devices or personal assistance. While neither devices nor
       personal assistance eliminate the impairments, they may remove limitations
       on functioning in specific domains. This type of coding is particularly useful
       to identify how much the functioning of the individual would be limited
       without the assistive devices (see coding guidelines in Annex 2)

(5)   Difficulties or problems in these domains can arise when there is a qualitative
       or quantitative alteration in the way in which an individual carries out these
       domain functions. *Limitations* or *restrictions* are assessed against a generally
       accepted population standard. The standard or norm against which an
       individual's capacity and performance is compared is that of an individual
       without a similar health condition (disease, disorder or injury, etc.). The
       limitation or restriction records the discordance between the observed and
       the expected performance. The expected performance is the population
       norm, which represents the experience of people without the specific health

---

[14] The definition of "participation" brings in the concept of involvement. Some proposed definitions
of "involvement" incorporate taking part, being included or engaged in an area of life, being
accepted, or having access to needed resources. Within the information matrix in Table 2 the only
possible indicator of participation is coding through performance. This does not mean that
participation is automatically equated with performance. The concept of involvement should also be
distinguished from the subjective experience of involvement (the sense of "belonging"). Users who
wish to code involvement separately should refer to the coding guidelines in Annex 2.

condition. The same norm is used in the capacity qualifier so that one can infer what can be done to the environment of the individual to enhance performance.

(6)   A problem with performance can result directly from the social environment, even when the individual has no impairment. For example, an individual who is HIV-positive without any symptoms or disease, or someone with a genetic predisposition to a certain disease, may exhibit no impairments or may have sufficient capacity to work, yet may not do so because of the denial of access to services, discrimination or stigma.

(7)   It is difficult to distinguish between "Activities" and "Participation" on the basis of the domains in the Activities and Participation component. Similarly, differentiating between "individual" and "societal" perspectives on the basis of domains has not been possible given international variation and differences in the approaches of professionals and theoretical frameworks. Therefore, ICF provides a single list that can be used, if users so wish, to differentiate activities and participation in their own operational ways. This is further explained in Annex 3. There are four possible ways of doing so:

   (a)   to designate some domains as activities and others as participation, not allowing any overlap;

   (b)   same as (a) above, but allowing partial overlap;

   (c)   to designate all detailed domains as activities and the broad category headings as participation;

   (d)   to use all domains as both activities and participation.

4.3 Contextual Factors

Contextual Factors represent the complete background of an individual's life and living. They include two components: Environmental Factors and Personal Factors – which may have an impact on the individual with a health condition and that individual's health and health-related states.

Environmental factors make up the physical, social and attitudinal environment in which people live and conduct their lives. These factors are external to individuals and can have a positive or negative influence on the individual's performance as a member of society, on the individual's capacity to execute actions or tasks, or on the individual's body function or structure.

(1)   Environmental factors are organized in the classification to focus on two different levels:

   (a)   *Individual* – in the immediate environment of the individual, including settings such as home, workplace and school. Included at this level are the physical and material features of the environment that an individual comes face to face with, as well as direct contact with others such as family, acquaintances, peers and strangers.

        (b) *Societal* – formal and informal social structures, services and overarching approaches or systems in the community or society that have an impact on individuals. This level includes organizations and services related to the work environment, community activities, government agencies, communication and transportation services, and informal social networks as well as laws, regulations, formal and informal rules, attitudes and ideologies.

(2) Environmental factors interact with the components of Body Functions and Structures and Activities and Participation. For each component, the nature and extent of that interaction may be elaborated by future scientific work. Disability is characterized as the outcome or result of a complex relationship between an individual's health condition and personal factors, and of the external factors that represent the circumstances in which the individual lives. Because of this relationship, different environments may have a very different impact on the same individual with a given health condition. An environment with barriers, or without facilitators, will restrict the individual's performance; other environments that are more facilitating may increase that performance. Society may hinder an individual's performance because either it creates barriers (e.g. inaccessible buildings) or it does not provide facilitators (e.g. unavailability of assistive devices).

Personal factors are the particular background of an individual's life and living, and comprise features of the individual that are not part of a health condition or health states. These factors may include gender, race, age, other health conditions, fitness, lifestyle, habits, upbringing, coping styles, social background, education, profession, past and current experience (past life events and concurrent events), overall behaviour pattern and character style, individual psychological assets and other characteristics, all or any of which may play a role in disability at any level. Personal factors are not classified in ICF. However, they are included in Fig. 1 to show their contribution, which may have an impact on the outcome of various interventions.

5. Model of Functioning and Disability

5.1 Process of functioning and disability

As a classification, ICF does not model the "process" of functioning and disability. It can be used, however, to describe the process by providing the means to map the different constructs and domains. It provides a multi-perspective approach to the classification of functioning and disability as an interactive and evolutionary process. It provides the building blocks for users who wish to create models and study different aspects of this process. In this sense, ICF can be seen as a language: the texts that can be created with it depend on the users, their creativity and their scientific orientation. In order to visualize the current understanding of interaction of various components, the diagram presented in Fig. 1 may be helpful.[15]

Fig. 1. Interactions between the components of ICF

---
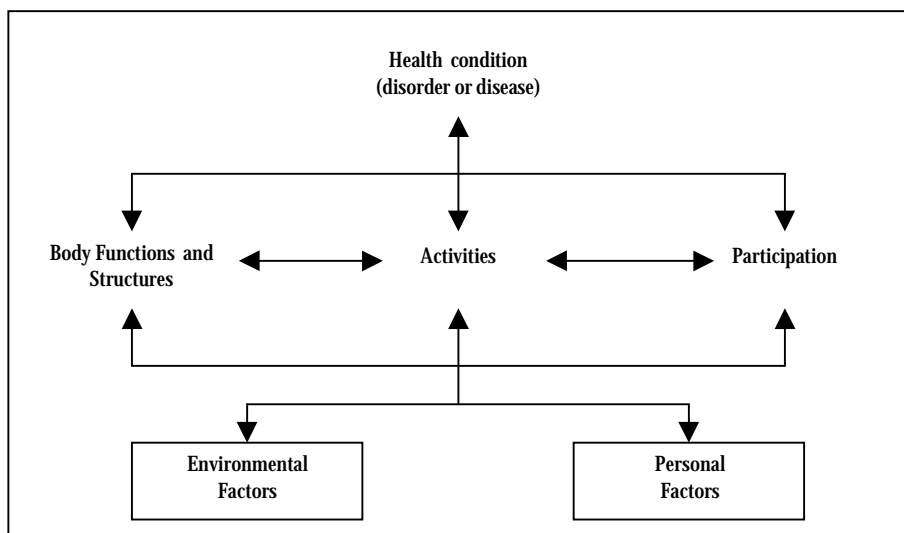
[15] ICF differs substantially from the 1980 version of ICIDH in the depiction of the interrelations between functioning and disability. It should be noted that any diagram is likely to be incomplete and prone to misrepresentation because of the complexity of interactions in a multidimensional model. The model is drawn to illustrate multiple interactions. Other depictions indicating other important foci in the process are certainly possible. Interpretations of interactions between different components and constructs may also vary (for example, the impact of environmental factors on body functions certainly differs from their impact on participation).

In this diagram, an individual's functioning in a specific domain is an interaction or complex relationship between the health condition and contextual factors (i.e. environmental and personal factors). There is a dynamic interaction among these entities: interventions in one entity have the potential to modify one or more of the other entities. These interactions are specific and not always in a predictable one-to-one relationship. The interaction works in two directions; the presence of disability may even modify the health condition itself. To infer a limitation in capacity from one or more impairments, or a restriction of performance from one or more limitations, may often seem reasonable. It is important, however, to collect data on these constructs independently and thereafter explore associations and causal links between them. If the full health experience is to be described, all components are useful. For example, one may:

- have impairments without having capacity limitations (e.g. a disfigurement in leprosy may have no effect on a person's capacity);

- have performance problems and capacity limitations without evident impairments (e.g. reduced performance in daily activities associated with many diseases);

- have performance problems without impairments or capacity limitations (e.g. an HIV-positive individual, or an ex-patient recovered from mental illness, facing stigmatization or discrimination in interpersonal relations or work);

- have capacity limitations without assistance, and no performance problems in the current environment (e.g. an individual with mobility limitations may be provided by society with assistive technology to move around);

- experience a degree of influence in a reverse direction (e.g. lack of use of limbs can cause muscle atrophy; institutionalization may result in loss of social skills).

Case examples in Annex 4 further illustrate possibilities of interactions between the constructs.

The scheme shown in Fig. 1 demonstrates the role that contextual factors (i.e. environmental and personal factors) play in the process. These factors interact with the individual with a health condition and determine the level and extent of the individual's functioning. Environmental factors are extrinsic to the individual (e.g. the attitudes of the society, architectural characteristics, the legal system) and are classified in the Environmental Factors classification. Personal Factors, on the other hand, are not classified in the current version of ICF. They include gender, race, age, fitness, lifestyle, habits, coping styles and other such factors. Their assessment is left to the user, if needed.

5.2 Medical and social models

A variety of conceptual models[16] has been proposed to understand and explain disability and functioning. These may be expressed in a dialectic of "medical model" versus "social model". The *medical model* views disability as a problem of the person, directly caused by disease, trauma or other health condition, which requires medical care provided in the form of individual treatment by professionals. Management of the disability is aimed at cure or the individual's adjustment and behaviour change. Medical care is viewed as the main issue, and at the political level the principal response is that of modifying or reforming health care policy. The *social model* of disability, on the other hand, sees the issue mainly as a socially created problem, and basically as a matter of the full integration of individuals into society. Disability is not an attribute of an individual, but rather a complex collection of conditions, many of which are created by the social environment. Hence the management of the problem requires social action, and it is the collective responsibility of society at large to make the environmental modifications necessary for the full participation of people with disabilities in all areas of social life. The issue is therefore an attitudinal or ideological one requiring social change, which at the political level becomes a question of human rights. For this model disability is a political issue.

ICF is based on an integration of these two opposing models. In order to capture the integration of the various perspectives of functioning, a "biopsychosocial" approach is used. Thus, ICF attempts to achieve a synthesis, in order to provide a coherent view of different perspectives of health from a biological, individual and social perspective.[17]

---

[16] The term "model" here means construct or paradigm, which differs from the use of the term in the previous section.

[17] See also Annex 5 - "ICF and people with disabilities".

6. Use of ICF

ICF is a classification of human functioning and disability. It systematically groups health and health-related domains. Within each component, domains are further grouped according to their common characteristics (such as their origin, type, or similarity) and ordered in a meaningful way. The classification is organized according to a set of principles (see Annex 1). These principles refer to the interrelatedness of the levels and the hierarchy of the classification (sets of levels). However, some categories in ICF are arranged in a non-hierarchical manner, with no ordering but as equal members of a branch.

The following are structural features of the classification that have a bearing on its use.

(1) ICF gives standard operational definitions of the health and health-related domains as opposed to "vernacular" definitions of health. These definitions describe the essential attributes of each domain (e.g. qualities, properties, and relationships) and contain information as to what is included and excluded in each domain. The definitions contain commonly used anchor points for assessment so that they can be translated into questionnaires. Conversely, results from existing assessment instruments can be coded in ICF terms. For example, "seeing functions" are defined in terms of functions of sensing form and contour, from varying distances, using one or both eyes, so that the severity of difficulties of vision can be coded at mild, moderate, severe or total levels in relation to these parameters.

(2) ICF uses an alphanumeric system in which the letters b, s, d and e are used to denote Body Functions, Body Structures, Activities and Participation, and Environmental Factors. These letters are followed by a numeric code that starts with the chapter number (one digit), followed by the second level (two digits), and the third and fourth levels (one digit each).

(3) ICF categories are "nested" so that broader categories are defined to include more detailed subcategories of the parent category. (For example, Chapter 4 in the Activities and Participation component, on Mobility, includes separate categories on standing, sitting, walking, carrying items, and so on). The short (concise) version covers two levels, whereas the full (detailed) version extends to four levels. The short version and full version codes are in correspondence, and the short version can be aggregated from the full version.

(4) Any individual may have a range of codes at each level. These may be independent or interrelated.

(5) The ICF codes are only complete with the presence of a *qualifier*, which denotes a magnitude of the level of health (e.g. severity of the problem). Qualifiers are coded as one, two or more numbers after a point (or *separator*). Use of any code should be accompanied by at least one qualifier. Without qualifiers, codes have no inherent meaning.

(6)   The first qualifier for Body Functions and Structures, the performance and capacity qualifiers for Activities and Participation, and the first qualifier for Environmental Factors all describe the extent of problems in the respective component.

(7)   All three components classified in ICF (Body Functions and Structures, Activities and Participation, and Environmental Factors) are quantified using the same generic scale. Having a problem may mean an impairment, limitation, restriction or barrier depending on the construct. Appropriate qualifying words as shown in brackets below should be chosen according to the relevant classification domain (where xxx stands for the second-level domain number). For this quantification to be used in a universal manner, assessment procedures need to be developed through research. Broad ranges of percentages are provided for those cases in which calibrated assessment instruments or other standards are available to quantify the impairment, capacity limitation, performance problem or barrier. For example, when "no problem" or "complete problem" is specified the coding has a margin of error of up to 5%. "Moderate problem" is defined as up to half of the time or half the scale of total difficulty. The percentages are to be calibrated in different domains with reference to relevant population standards as percentiles.

xxx.0 NO problem	(none, absent, negligible,…)	0-4 %
xxx.1 MILD problem	(slight, low,…)	5-24 %
xxx.2 MODERATE problem	(medium, fair,...)	25-49 %
xxx.3 SEVERE problem	(high, extreme, …)	50-95 %
xxx.4 COMPLETE problem	(total,…)	96-100 %
xxx.8 not specified		
xxx.9 not applicable		

(8)   In the case of environmental factors, this first qualifier can be used to denote either the extent of positive effects of the environment, i.e. facilitators, or the extent of negative effects, i.e. barriers. Both use the same 0-4 scale, but to denote facilitators the point is replaced by a plus sign: for example e110+2. Environmental Factors can be coded (a) in relation to each construct individually, or (b) overall, without reference to any individual construct. The first option is preferable, since it identifies the impact and attribution more clearly.

(9)   For different users, it might be appropriate and helpful to add other kinds of information to the coding of each item. There are a variety of additional qualifiers that could be useful. Table 3 sets out the details of the qualifiers for each component as well as suggested additional qualifiers to be developed.

(10) The descriptions of health and health-related domains refer to their use at a given moment (i.e. as a snapshot). However, use at multiple time points is possible to describe a trajectory over time and process.

(11) In ICF, a person's health and health-related states are given an array of codes that encompass the two parts of the classification. Thus the maximum

number of codes per person can be 34 at the one-digit level (8 body
functions, 8 body structures, 9 performance and 9 capacity codes). Similarly,
for the two-level items the total number of codes is 362. At more detailed
levels, these codes number up to 1424 items. In real-life applications of ICF,
a set of 3 to 18 codes may be adequate to describe a case with two-level
(three-digit) precision. Generally the more detailed four-level version is used
for specialist services (e.g. rehabilitation outcomes, geriatrics), whereas the
two-level classification can be used for surveys and clinical outcome
evaluation.

Further coding guidelines are presented in Annex 2. Users are strongly
recommended to obtain training in the use of the classification through WHO
and its network of collaborating centres.

Table 3. Qualifiers

Components	First qualifier	Second qualifier
Body Functions (b)	Generic qualifier with the negative scale used to indicate the extent or magnitude of an impairment Example: b167.3 to indicate a severe impairment in specific mental functions of language	None
Body Structures (s)	Generic qualifier with the negative scale used to indicate the extent or magnitude of an impairment Example: s730.3 to indicate a severe impairment of the upper extremity	Used to indicate the nature of the change in the respective body structure: 0 no change in structure 1 total absence 2 partial absence 3 additional part 4 aberrant dimensions 5 discontinuity 6 deviating position 7 qualitative changes in structure, including accumulation of fluid 8 not specified 9 not applicable Example: s730.32 to indicate the partial absence of the upper extremity
Activities and Participation (d)	Performance Generic qualifier Problem in the person's current environment Example: d5101.1_ to indicate mild difficulty with bathing the whole body with the use of assistive devices that are available to the person in his or her current environment	Capacity Generic qualifier Limitation without assistance Example: d5101._2 to indicate moderate difficulty with bathing the whole body; implies that there is moderate difficulty without the use of assistive devices or personal help
Environmental Factors (e)	Generic qualifier, with negative and positive scale, to denote extent of barriers and facilitators respectively Example: e130.2 to indicate that products for education are a moderate barrier. Conversely, e130+2 would indicate that products for education are a moderate facilitator	None

54ᵗʰ World Health Assembly endorsement of ICF for international use

The resolution WHA54.21 reads as follows:

The Fifty-fourth World Health Assembly,

1.   ENDORSES the second edition of the International Classification of Impairments, Disabilities and Handicaps (ICIDH), with the title International Classification of Functioning, Disability and Health, henceforth referred to in short as ICF;

2.   URGES Member States to use ICF in their research, surveillance and reporting as appropriate, taking into account specific situations in Member States and, in particular, in view of possible future revisions;

3.   REQUESTS the Director-General to provide support to Member States, at their request, in making use of ICF.