Learning Objectives: Chapter 2
The ICF Framework

After reading this chapter, the reader should be able to:

1. Understand ICF's model and structure
2. Appreciate importance of standards to disability statistics
3. Describe ICF's structure and coding for population data collection

“Counting persons with disabilities” Jerome Chatin
WHO Photo Contest “Images of Health and Disability 2004/2005”
2. **THE ICF FRAMEWORK**

2.1 **The ICF model and conceptual framework: Defining features**

2.1.1 Biopsychosocial
2.1.2 Multidimensional
2.1.3 Universal
2.1.4 Continuous
2.1.5 Interactive
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2.3 **ICF terminology and definitions of disability**

2.4 **ICF structure and coding – for population data collections**

2.5 **ICF training and available assistance**

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2.1 **The ICF model and conceptual framework: Defining features**

The WHO's ICF reflects the modern day thinking about disability and embodies a paradigm shift in the way health and disability are understood and measured. ICF is based on a bio-psychosocial model of functioning and disability, in which functioning and disability are multi-dimensional phenomena experienced at the level of the body, the person, and society. In addition, a classification of environmental factors is included that allows users of the ICF to record the positive or negative impact of the environment on a person's functioning.

ICF ‘mainstreams’ the experience of disability by viewing it, not as the mark of a social minority, but as a universal human experience. By placing the capacity aspects of disability on a continuum with health, ICF makes it possible to measure health and disability with the same domains of functioning. Hence, ICF provides a common conceptual platform that links health and disability statistics.

The ICF model and its underlying principles represent a significant development from its predecessor the ICIDH. In the ICIDH, disability was understood as a limitation in the person’s activity that resulted from impairment. Neither disabilities nor handicaps could be assessed in terms of degree of severity. Environmental factors were acknowledged but not classified and no linkages between disability and health status measurement were made. Due to these limitations, ICIDH was generally viewed as flawed and so was ignored by disability data users in general and advocates of the
social model of disability (especially organizations representing persons with disabilities) in particular.

In response to these and other criticisms, the ICF was developed over a seven-year period in an international collaborative process and validated by means of field trials in over 70 countries before officially being endorsed by all WHO Member States in 2001. The key, interlocking features of the ICF model are described in what follows, with particular emphasis on the value they add to disability statistics.

2.1.1 Bio-psychosocial

The literature on the 'models of disability' is extensive. Two major models which have been debated over and over are the “medical model of disability” and “social model of disability.” The former regards disability only as an individual pathological problem, in need of cure, rehabilitation and adaptation to society. The latter model, though not denying medical and rehabilitative needs of persons with disabilities, draws attentions to social, physical, informational and institutional barriers, which contribute disability. For the social model, participation of persons with disabilities is regarded as an important aspect of changing a paradigm on disability.

The ICF adopts a bio-psychosocial model of disability that incorporates what is true and useful in both models, and rejects what is counterproductive and distorted. Disability is a complex phenomenon that includes both a dimension at the level of a person’s body, and a dimension that is a complex and primarily social phenomenon. Medical and rehabilitative interventions are perfectly relevant to the body-level aspects of disability (impairments and limitations in a person’s capacity to perform actions). By the same token, environmental and social interventions are relevant to deal with restrictions in a person's participation in educational, economic, social, cultural and political activities.

For producers and users of disability statistics, the use of the bio-psychosocial model embedded in the ICF broadens the perspective of disability and allows medical, individual, social, and environmental influences on functioning and disability to be examined. Furthermore, advocates of both models can use the ICF as a platform for communication and choosing and comparing interventions.

2.1.2 Multi-dimensional

Structurally, the ICF is based on three levels of functioning (body functions and structures, activities, and participation) with parallel levels of disability (impairments, activity limitations and participation restrictions). These are classified in terms of domains appropriate to each level, and can be seen in Table 2.1 below:
Table 2.1: ICF Levels of Functioning and Disability

<table>
<thead>
<tr>
<th>Dimensions of Functioning</th>
<th>Dimensions of Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Functions and Body Structures</td>
<td>Impairments</td>
</tr>
<tr>
<td>Activities</td>
<td>Activity limitations</td>
</tr>
<tr>
<td>Participation</td>
<td>Participation restrictions</td>
</tr>
</tbody>
</table>

Notice that the term ‘disability’ in the ICF refers to all three dimensions taken together.

In the case of Body Functions, the domains include mental functions, voice and speech functions, and functions of the various organ systems. In the case of Activities and Participation, the domains include learning and applying knowledge, communication, movement, self care, major life areas, and so on.

The ICF is a health classification, in the sense that all aspects of human functioning and disability it classified are presumed to occur in the context of health, and so (typically) in the presence of one or more health conditions – diseases, disorders, injuries, and traumas. As such, the ICF provides the language for health statistics, the data that characterize the health of individuals and populations.

Information can be collected about each dimension of disability for an individual; and it is only when all three kinds of information are collected that we have a complete portrait of the lived experience of disability for a particular person. Information about impairments alone, i.e., problems in body functions or structures, although certainly relevant to the disability experience, provides a very limited perspective on disability.

From a statistical point of view, collecting data on impairments alone, although traditional in population surveys and censuses, tends to under-describe disability, and under-estimates the prevalence rate of disabilities as a whole. Holistic ICF-based disability information gives us the data required for a wide variety of data applications, including needs assessment, and intervention planning, monitoring and evaluation.

Using a traditional list of impairments such as blindness, deafness, mobility problems (as characterised by paralysis or loss of use of a limb) and mental retardation can identify a sub-population with severe disabilities. The population of individuals with intellectual disabilities is very small, and for self-report surveys, people who have seeing or hearing problems, but who are neither blind nor deaf, will not respond in the affirmative. Similarly, a person who has trouble walking, but is relatively mobile, will answer the question negatively. People with communication difficulties, or chronic health conditions, or other impairments will also answer in the negative.
Relying on the impairment approach, in other words, identifies the persons with disabilities as a core minority of severely disabled individuals, ignoring a substantial group of individuals with moderate and mild disabilities. **Diagram 2.1** indicates how disability prevalence can be seriously distorted if one adopts the traditional 'core impairment' approach.

![Diagram 2.1: Core Impairment vs. Impairment Continuum](image)

But it still might be asked:

*Why isn't impairment information enough? Aren't impairment data good proxies for disability?*

There are three interconnected reasons why impairment information, though obviously relevant to disability statistics, is inadequate:

1. **Impairment information is a partial picture of disability**

Public health professionals and epidemiologists have known for decades that the effects of health conditions on people's lives can differ radically depending on the kinds of impairments, the effect of these impairments on a person's capacity to act, and most importantly, personal factors particular to the individual and the overall environmental context including social expectations about 'normality'. These contextual factors can either facilitate or hinder a person's a social and economic participation in society.

Impairment information alone, in short, does not give us a complete picture of the situation of disability, either in an individual or in a population. For an individual, being told that they are blind, deaf, have intellectual or mobility problems does not tell us anything about how these impairments affect the range of capacities the person has to carry out day-to-day activities. And without information about the environment in which the person lives, nothing can be said about what the person actually does in their life -- whether they have a family, go to
school successfully or hold a job. These paint the full picture of disability without which we would have no idea what resources or services the individual may require.

2. **Impairment data are inadequate proxies for disability**

At the population level, though a few severe impairments can serve as proxies for a fairly large proportion of the overall prevalence of disability, without information about how these impairments play out in people’s lives, policy makers would have no idea about the relative seriousness, or cost, of the disability associated with these impairments.

Moreover, we have solid evidence from the Global Burden of Disease Study that, in terms of the top ten most 'burdensome' health conditions in terms of years of life lived with disability (YLD) amongst the 15-44 year old group, five are mental health problems such as depression and schizophrenia. These health conditions affect people’s capacity to perform day-to-day activities and to live, learn, and work independently. The traditional impairments due to blindness, deafness, and certain conditions in intellectual performance and difficulty in mobility fail to identify persons who are significantly disabled from these health conditions.

3. **Impairments are not predictors of the lived experience of disability**

People with the same impairments experience different kinds and degrees of incapacity and vastly different restrictions on what actually happens in their lives. Impairments are not proxies for disability; they give only one particular perspective on disability. Disability is the complete lived experience of non-fatal health outcomes, not merely body level decrements in functioning.

The converse is also true: people can experience the same restrictions in what they can do in their day-to-day lives even though they have different impairments. At the level of actual performance, the contrast is even greater. Impairments as diverse as missing limbs and anxiety can both attract stigma and discrimination that may limit a person’s participation in work, as illustrated in **Diagram 2.2.**
2.1.3 Universal

Another essential aspect of the ICF model is that human functioning is understood as a **continuum of health states** and every human being exhibits one or another degree of functioning in each domain, at the body, person and society levels.

This means that every human being has some degree of disability in at least one domain —and, more accurately, most people have many domains of functioning that are considerably less than perfect. Disability across the domains of health, in other words, is a matter of less than perfect health, from the very trivial to the very serious. (Disability is therefore a universal human situation, not some special trait of a minority group.)

**ICF applies to all people** irrespective of their health condition, gender, or age. Instead of making disability a distinguishing mark of a discrete minority group, ICF sets out all of the domains of functioning and disability that apply to everyone. This universal approach ensures that ICF presents a comprehensive, inclusive and non-discriminatory framework applicable to all individuals around the globe.

During the development stage of the ICF, enormous care was given to the applicability, both of ICF categories and the conceptual model, across cultures and languages. Specially designed culturally applicable protocols were devised for field testing of several iterations of ICF. These trials took place in 61 countries involving several thousands of participants. Translation of the ICF is regulated by protocols that guarantee the applicability of ICF terms and concepts.

Because ICF follows a universal approach it is not restricted to the traditional diagnostic or impairment categories of persons with disabilities that are
commonly used in surveys and censuses. Not only the deaf, blind, paraplegic wheelchair user, or intellectually disabled individual counts as 'disabled', anyone by virtue of any impairment whose activities are restricted above a threshold set by policy makers is a person with disabilities.

In disability statistics, the importance of adopting a universal perspective of disability has been recognized. Faced with the objections about the underreporting of disability and confronted with the emergence of disabling conditions like HIV/AIDS, obesity, depression, and an increasingly aging population, many countries have come to realize that the time has come to abandon the traditional categories of disability in favour of a more flexible conceptualization. Censuses, surveys, registers, and other data collection tools based on ICF's universal model will make it possible to gather more accurate and more relevant data about the full extent of disability.

2.1.4 Continuous

The universal approach may seem unconventional or difficult to operationalize, because traditionally we think of disability, not as a matter of more or less, but as a matter of 'yes or no': you are either disabled or not. This is because, for administrative and policy purposes, it is common to use the concept of disability for eligibility requirements for benefits programmes and services, and so to think in terms of who qualifies and who does not.

Disability becomes a 'yes or no' matter as soon as we identify a qualitative threshold of disability ('substantial', 'moderate', 'severe') or a more precise, quantitative threshold ('IQ less than 70', 'eyesight of 20/200', 'BMI over 30'). The threshold in each case divides everyone into two classes, those who are disabled (in this domain) and those who are not.

For scientifically-based disability statistics, however, we must remember that the threshold is arbitrary, and the truth of the matter is that disability, like human functioning, is a continuous not a dichotomous phenomenon. This insight is preserved in ICF's model of functioning and disability.

In the ICF model, disability is a decrement in body, personal, or social functioning. As such, the continuum of functioning partially coincides with the continuum of health. That is, impairments and person-level incapacities are health decrements. ICF domains can therefore be used in both health and disability surveys, which could contribute for a more comparable and meaningful population data. The concept of disability as a continuum is illustrated in Diagram 2.3 below, which shows varying levels of vision impairment.
Since disability, like health, lies on a continuum, there is no definitive answer to the question: 'What is the level of functioning, for a specified domain, below which a person can be said to have a disability (or be unhealthy)?'. Of course, at the extremes (total lack of functioning, or complete functioning) the thresholds are logically determined. But, in principle, any line on the continuum could be the threshold one might use to make the cut between 'disability' and 'no disability' (or health and ill-health).

This makes complete sense, since every person (not merely a member of a diagnostically-specific group) either currently has, or will eventually experience some measures of functional decrement. Although, given how the term is generally used, we probably should not say that everyone is or will be a 'person with a disability'. It remains true that functional decrement is a salient fact of life for everyone and the difference between 'persons with disabilities' and people not so-called is entirely a matter of degree, not membership in a minority group.

For some standard impairments (visual acuity, hearing, intelligence), the thresholds are well-established and supported by prevalence. In rehabilitation science, the same is true for many simple actions (limb movements) and even for some activities of standard living such as eating and moving around. But, for the most part, for many domains of body functions and structures and most domains of activities and participation, we have no standardized thresholds.
The ICF does not establish, nor presume, a priori thresholds. The user can determine, for specific purposes and on whatever grounds are relevant to those purposes, where the threshold should be placed for each domain of functioning. In particular, this feature of the ICF means that collecting data about functioning and disability at the population level is independent of determining threshold levels, and so prevalence results. Thresholds can be left to the analysis stage, where the purposes of collecting the data can determine where the thresholds should be drawn. The data remains comparable though, and in fact is effectively more comparable across sources, by simply applying the same threshold to multiple population samples.

There are several important advantages for disability statistics to determine where on the continuum of functioning the disability threshold should be drawn:

- Data collection developers are not locked into pre-existing definitions of who counts as disabled, or traditional thresholds for the domains of functioning they are interested in collecting.

- The threshold decision of who should be considered as disabled and who should not be can be explicitly stated by the data collector and that the method of measurement can be tailored to suit the purpose of the data collection activity, thus making the data more flexible.

Diagram 2.4 below provides an example of comparisons of “disability score” continuums across five ESCAP region countries. These scores were computed from the six domains of the World Health Organization Disability Assessment Schedule II (WHO DAS II). Note that the data was collected from questionnaire pilot studies using samples with prototypical representations of the general population and thus is not data that actually represents disability in each country. However, the graph provides an example of how prevalence information can be displayed and compared on a continuum, instead of as a single percentage derived from arbitrary thresholds. If, in providing programme services, a single prevalence rate or identified persons with disability’s population is necessary, a particular composite disability score can be determined that is fit for the specific purpose.
2.1.5 Interactive

The ICF model reflects the dynamic non-linear interaction between different constructs including health conditions, the components of disability as well as the personal and environmental factors. As shown in Diagram 2.5, there is also interaction among components of disability (Body Functions and Structures, Activities, and Participation). At the same time, the dimensions of disability are independent. A person may have impairments of body functions or structures without having activity limitation or participation restriction (e.g., a disfigurement in leprosy may have no effect on a person’s capacity or to walk). A person may have an activity limitation without participation restriction (e.g., an individual with mobility limitations may be provided by society with a wheelchair that makes it possible for them to get around).
One of the main objections to the ICIDH-1980 was that it appeared to offer a unidirectional causal model that directly linked health condition and impairments, and from there, disabilities and handicaps. ICIDH appeared to suggest that a health condition causes impairments, impairments cause disabilities, and disabilities produce a handicap.

As illustrated in Diagram 2.6, ICF rejects this approach in favour of the multidimensional interactive approach in which whatever links there are between dimensions of disability, causal or otherwise, are based on evidence, not theory. In addition, for statistical purposes, the interactive non-linear ICF model facilitates the collection of data on these constructs independently and, subsequently, the analysis of the many linkages between them.

Diagram 2.6: ICF – a combination of different vectors of functioning
2.1.6 Context dependent

ICF conceptualises disability, not solely as a problem that resides in the individual, but as a health experience that occurs in a context. As Diagram 2.5 indicates, in the ICF, disability and functioning are, conceptually speaking, outcomes of interactions between health conditions (diseases, disorders and injuries) and contextual factors.

Contextual factors consist of both environmental factors and personal factors. Environmental factors are all of the physical, social and attitudinal features that together characterize the environment in which a person lives, from climate and terrain to architectural characteristics and legal and social structures. Personal factors include gender, age, coping styles, social background, education, profession, past and current experience, overall behaviour pattern, character, and other factors that influence how disability is experienced by the individual. Personal factors are not currently classified in ICF but users may incorporate them in their applications of the classification.

Distinguishing between environmental factors and components of functioning and disability characterizes issues is of great help to producers and users of disability statistics. This is because the extent to which disability is a function of the person can be clearly distinguished from the extent of environmental impact. Disability policy depends crucially on whether improving outcomes is a matter of investing in changes to the person's capacity levels, by means of medical or rehabilitative interventions, or investing in accessibility, accommodation and other environmental changes.

2.1.7 Inclusive

ICF does not make a distinction between health conditions that are 'physical' and those that are 'mental'. Both mental and physical diseases and disorders can be linked to the same kinds of activity and participation issues. So, from a disability point of view, saying that a person has a mental illness tells us very little about the associated disabilities he or she may experience. ICF subscribes to the parity of mental and physical health.

Similarly, the model of the ICF ignores etiology of health conditions since there is no a priori link between a health condition and disability as it is experienced. Research into the precise determinants of disability is of course of great importance, but unwarranted assumptions about what a person with a certain disease can or cannot do in life are detrimental to good science.

Thus, in the ICF we would record the loss of limb as such, regardless of whether the loss was the result of a landmine, diabetes or a traffic accident. The impairment remains the same. Similarly, we would document the fact that a person was not working regardless of whether the underlying health condition was ‘flu, depression, or back pain.
ICF-based disability statistics therefore provides the measures for assessing the disability burden of all health conditions, and that is a great asset when clarifying and focusing disability data on the true phenomenon of disability.

2.1.8 Neutral (language)

The ICF classification system uses, to the extent possible, neutral language to name its components and categories. For example, you will find in the ICF:

- **Vision functions** instead of **blindness**
- **Intellectual functions, complete impairment** instead of **totally dull**
- **Participation restriction** instead of **handicap**
- **Persons with disabilities** instead of **disabled person**

The use of neutral language is a helpful challenge in the practice of using discriminatory and offensive language sometimes found in questionnaires or other data collection instruments, and which directly affects refusal rates.

2.2 Importance of classifications and standards

As a classification system, ICF offers a number of key benefits for users and producers of disability data which are listed below.

*The ICF taxonomy allows the aggregation and disaggregation of data:* Three or four level ICF codes, mainly relevant to clinical settings, can be aggregated to two or one level codes that are generally more useful for capturing disability information at population level. Similarly, one or two level ICF items often included in census and general population surveys can be expanded to the third and fourth level for detailed follow-up studies.

*The ICF allows integration of disparate data sets:* As a coding system, ICF makes it possible to consider multiple sources of health and disability information at various levels, and to integrate these into a common and coherent information system. This facilitates tracking the change of an individual's or a population's disability profile and service needs over time across different settings. Through analysis we can assess and compare the impact of different kind of interventions along the service and policy spectrum.

*The ICF provides a cross-cultural language which allows communication across countries and sectors:* As a result of the extensive pilot test performed during the development stage, we know that the ICF functioning and disability framework, as well as the classification hierarchy and categories, are cross-culturally applicable. ICF provides a truly common language for describing and measuring health and disability. The need for such common language is strong in
the area of disability statistics, which for decades has been hampered by lack of data uniformity and absence of comparability. Currently, disability survey data shows as much as 40 fold difference compared to a three-fold difference in mortality statistics and a six to eight fold difference in health survey data.

**The ICF is accepted as the international standard for describing and measuring health and disability:** The ICF forms part of the WHO Family of International Classifications (WHO-FIC) and together with the ICD-10 it constitutes the two building blocks of health and disability statistics. The ICD-10 classifies health conditions (diseases, disorders, or injuries) and is used primarily for reporting mortality and morbidity. The ICF has been endorsed by 191 countries as the framework for disability and health data collection around the world. As such, ICF is an international standard of supreme importance for users and producers of disability data.

### 2.3 ICF terminology and definitions of disability

Beyond a common understanding of the ICF concepts, it is also essential that the terminology and definitions that express these concepts be understood, used and translated into other languages. ICF, as a written classification, builds on a pre-existing language (international English), and then introduces new terms and sometimes changes the meaning of commonly used terms. ICF requires, to a certain extent, users to learn a new language. The key term ‘disability’ is a clear example of a notion that means a variety of different things in ordinary language. That variety is the cause of confusion that is reflected in disability statistics worldwide. ICF clarifies and explicitly defines the term, not by taking sides on disputed issues, but leaving behind the controversies caused by people using the same word differently and opening the door to a consensus.

Definitions of some of the key terms used in ICF are given below. The terminology used in data collection vehicles such as survey questionnaires should be aligned to reflect these definitions in order to achieve consistency with ICF.

- **Health condition** is an umbrella term for disease (acute or chronic), disorder, injury, or trauma. A health condition may also include other circumstances such as pregnancy, ageing, stress, congenital anomaly, or genetic predisposition. Health conditions are coded using ICD-10.

- **Functioning** is an umbrella term for body functions, body structures, activities, and participation. It denotes the positive aspects of the interaction between an individual (with a health condition) and that of individual's contextual factors (environmental and personal factors).

- **Disability** is an umbrella term for impairments, activity limitations, and participation restrictions. It denotes the negative aspects of the
interaction between an individual (with a health condition) and that of individual's contextual factors (environmental and personal factors).

**Body functions** are the physiological functions of body systems, including psychological functions. “Body” refers to the human organism as a whole, and thus, includes the brain. Hence, mental (or psychological) functions are subsumed under body functions. The standard for these functions is considered to be the statistical norm for humans.

**Body structures** are the structural or anatomical parts of the body such as organs, limbs and their components classified according to body systems. The standard for these structures is considered to be the statistical norm for humans.

**Impairment** is a loss or abnormality in body structure or physiological function (including mental functions). Abnormality here is used strictly to refer to a significant variation from established statistical norms (i.e., as a deviation from a population mean within measured standard norms) and should be used only in this sense.

**Activity** is the execution of a task or action by an individual. It represents the individual’s perspective of functioning.

**Activity limitations** are difficulties an individual may have in executing activities. An activity limitation may range from a slight to a severe deviation in terms of quality or quantity in executing the activity in a manner or to the extent that is expected of people without the health condition.

**Participation** is a person’s involvement in a life situation. It represents the societal perspective of functioning.

**Participation restrictions** are problems an individual may experience in involvement in life situations. The presence of a participation restriction is determined by comparing an individual's participation to that which is expected of an individual without disability in that culture or society.

**Contextual factors** are the factors that together constitute the complete context of an individual’s life, and in particular, the background against which health states are classified in ICF. There are two components of contextual factors: Environmental Factors and Personal Factors.

**Environmental factors** constitute a component of ICF, and refer to all aspects of the external or extrinsic world that form the context of an individual’s life and, as such, have an impact on that person's functioning. Environmental factors include the physical world and its features, the human-made physical world, other people in different
relationships and roles, attitudes and values, social systems and services, and policies, rules and laws.

**Personal factors** are contextual factors that relate to the individual such as age, gender, social status, life experiences, and so on, which are not currently classified in ICF but which users may incorporate in their applications of the classification.

**Facilitators** are factors in a person's environment that, through their absence or presence, improve functioning and reduce disability. These include aspects such as a physical environment that is accessible, the availability of relevant assistive technology, and positive attitudes of people towards disability, as well as services, systems and policies that aim to increase the involvement of all people with a health condition in any area of life. Absence of a factor can also be facilitating, for example, the absence of stigma or negative attitudes. Facilitators can prevent an impairment or activity limitation from becoming a participation restriction.

**Barriers** are factors in a person's environment that, through their absence or presence, limit functioning and create disability. These include aspects such as a physical environment that is inaccessible, lack of relevant assistive technology, and negative attitudes of people towards disability, as well as services, systems and policies that are either non-existent or that hinder the involvement of all people with a health condition in any area of life.

**Capacity** is a construct that indicates, as a qualifier, the highest probable level of functioning that a person may reach in a domain in the Activities and Participation list at a given moment. Capacity is measured in a uniform or standard environment, and thus reflects the environmentally adjusted ability of the individual. The Environmental Factors component can be used to describe the features of this uniform or standard environment.

**Performance** is a construct that describes, as a qualifier, what individuals do in their current environment, and so brings in the aspect of a person's involvement in life situations. The current environment is also described using the Environmental Factors component.

### 2.4 ICF structure and coding – for population data collections

ICF is organized into two parts. Part 1 classifies functioning and disability formulated in two components:

1. **Body functions and structures and**
2. **Activities and participation**

Part 2 comprises the contextual factors which include the following two components:
(1) Environmental factors and
(2) Personal factors (currently not classified).

These components are denoted by prefixes in each code.

- \textbf{b} for Body Functions and
- \textbf{s} for Body Structures
- \textbf{d} for Activities and Participation
- \textbf{e} for Environmental Factors

The letters \( \textbf{b}, \textbf{s}, \textbf{d} \) and \( \textbf{e} \) 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 level (one digit each).

Table 2.2 shows the hierarchy of ICF domains and its reflection in the coding.

\textbf{Table 2.2: The ICF Domain Hierarchy}

<table>
<thead>
<tr>
<th>Level</th>
<th>Example</th>
<th>Coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter</td>
<td>Chapter 2: Sensory Functions and Pain</td>
<td>b2</td>
</tr>
<tr>
<td>Second level</td>
<td>Seeing Functions</td>
<td>b210</td>
</tr>
<tr>
<td>Third level</td>
<td>Quality of Vision</td>
<td>b2102</td>
</tr>
<tr>
<td>Fourth level</td>
<td>Colour Vision</td>
<td>b21021</td>
</tr>
</tbody>
</table>

In the ICF, a person's health state and disability state may be characterized by means of an array of codes across the domains of the components of the classification, health and non-health.

The maximum number of codes available for each application is 34 at the chapter level (as indicated in Table 2.3), eight Body Functions, eight Body Structures, nine Activity/Participation), and 362 at the second level. At the third and fourth level, there are up to 1424 codes available, which together constitute the full version of the classification. 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 intended for specialist services (e.g., rehabilitation outcomes, geriatrics, or mental health), whereas the two-level classification can be used for surveys/census/administrative data collection and health outcome evaluation.
### Table 2.3: ICF Chapters

<table>
<thead>
<tr>
<th>Function:</th>
<th>Structure:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body</strong></td>
<td></td>
</tr>
<tr>
<td><strong>b1</strong> Mental Functions</td>
<td><strong>s1</strong> Structure of the Nervous System</td>
</tr>
<tr>
<td><strong>b2</strong> Sensory Functions and Pain</td>
<td><strong>s2</strong> The Eye, Ear and Related Structures</td>
</tr>
<tr>
<td><strong>b3</strong> Voice and Speech Functions</td>
<td><strong>s3</strong> Structures Involved in Voice and Speech</td>
</tr>
<tr>
<td><strong>b4</strong> Functions of the Cardiovascular, Haematological, Immunological and Respiratory Systems</td>
<td><strong>s4</strong> Structure of the Cardiovascular, Immunological and Respiratory Systems</td>
</tr>
<tr>
<td><strong>b5</strong> Functions of the Digestive, Metabolic, Endocrine Systems</td>
<td><strong>s5</strong> Structures Related to the Digestive, Metabolic and Endocrine Systems</td>
</tr>
<tr>
<td><strong>b6</strong> Genitourinary and Reproductive Functions</td>
<td><strong>s6</strong> Structure Related to Genitourinary and Reproductive Systems</td>
</tr>
<tr>
<td><strong>b7</strong> Neuromusculoskeletal and Movement-Related Functions</td>
<td><strong>s7</strong> Structure Related to Movement</td>
</tr>
<tr>
<td><strong>b8</strong> Functions of the Skin and Related Structures</td>
<td><strong>s8</strong> Skin and Related Structures</td>
</tr>
<tr>
<td><strong>Structure</strong></td>
<td></td>
</tr>
<tr>
<td><strong>s1</strong> Structure of the Nervous System</td>
<td></td>
</tr>
<tr>
<td><strong>s2</strong> The Eye, Ear and Related Structures</td>
<td></td>
</tr>
<tr>
<td><strong>s3</strong> Structures Involved in Voice and Speech</td>
<td></td>
</tr>
<tr>
<td><strong>s4</strong> Structure of the Cardiovascular, Immunological and Respiratory Systems</td>
<td></td>
</tr>
<tr>
<td><strong>s5</strong> Structures Related to the Digestive, Metabolic and Endocrine Systems</td>
<td></td>
</tr>
<tr>
<td><strong>s6</strong> Structure Related to Genitourinary and Reproductive Systems</td>
<td></td>
</tr>
<tr>
<td><strong>s7</strong> Structure Related to Movement</td>
<td></td>
</tr>
<tr>
<td><strong>s8</strong> Skin and Related Structures</td>
<td></td>
</tr>
</tbody>
</table>

| Activities and Participation       |                                 |
| **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 |                                 |

| Environmental Factors              |                                 |
| **e1** Products and Technology     |                                 |
| **e2** Natural Environment and Human-Made Changes to Environment |                                 |
| **e3** Support and Relationships   |                                 |
| **e4** Attitudes                  |                                 |
| **e5** Services, Systems and Policies |                                 |

For reporting of health and disability for statistical purposes, however, only a few of the total 1495 codes will be needed. Table 2.4 below lists the WHO recommended ICF item pool for use in health and disability statistics. The items have been identified and used in large scale population based studies (WHO Multi-Country Survey Study, World Health Survey) and are recommended as minimum data sets for surveys and health information systems (See ICF, Annex 9).
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Chapter</th>
<th>Code</th>
<th>Classification block or category</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body Functions and Structures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vision</td>
<td>2</td>
<td>b210–b220</td>
<td>Seeing and related functions</td>
</tr>
<tr>
<td>Hearing</td>
<td>2</td>
<td>b230–b240</td>
<td>Hearing and vestibular functions</td>
</tr>
<tr>
<td>Speech</td>
<td>3</td>
<td>b310–b340</td>
<td>Voice and speech functions</td>
</tr>
<tr>
<td>Digestion</td>
<td>5</td>
<td>b510–b535</td>
<td>Functions of the digestive system</td>
</tr>
<tr>
<td>Bodily excretion</td>
<td>6</td>
<td>b610–b630</td>
<td>Urinary functions</td>
</tr>
<tr>
<td>Fertility</td>
<td>6</td>
<td>b640–b670</td>
<td>Genital and reproductive functions</td>
</tr>
<tr>
<td>Sexual activity</td>
<td>6</td>
<td>b640</td>
<td>Genital and reproductive health</td>
</tr>
<tr>
<td>Skin and disfigurement</td>
<td>8</td>
<td>b810–b830</td>
<td>Skin and related structures</td>
</tr>
<tr>
<td>Breathing</td>
<td>4</td>
<td>b440–b460</td>
<td>Functions of the respiratory system</td>
</tr>
<tr>
<td>Pain *</td>
<td>2</td>
<td>b280</td>
<td>Pain</td>
</tr>
<tr>
<td>Affect *</td>
<td>1</td>
<td>b152–b180</td>
<td>Specific mental functions</td>
</tr>
<tr>
<td>Sleep</td>
<td>1</td>
<td>b134</td>
<td>Global mental functions</td>
</tr>
<tr>
<td>Energy/vitality</td>
<td>1</td>
<td>b130</td>
<td>Global mental functions</td>
</tr>
<tr>
<td>Cognition *</td>
<td>1</td>
<td>b140, b144, b164</td>
<td>Attention, memory and higher–level cognitive functions</td>
</tr>
<tr>
<td><strong>Activities and Participation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>3</td>
<td>d310–d345</td>
<td>Communication receiving – producing</td>
</tr>
<tr>
<td>Mobility *</td>
<td>4</td>
<td>d450–d465</td>
<td>Walking and moving</td>
</tr>
<tr>
<td>Dexterity</td>
<td>4</td>
<td>d430–d445</td>
<td>Carrying, moving and handling objects</td>
</tr>
<tr>
<td>Self-care *</td>
<td>5</td>
<td>d510–d570</td>
<td>Self-care</td>
</tr>
<tr>
<td>Usual activities *</td>
<td>6 and 8</td>
<td>d730–d770</td>
<td>Domestic life; Major life areas</td>
</tr>
<tr>
<td>Interpersonal relations</td>
<td>7</td>
<td>d910–d930</td>
<td>Community social and civic life</td>
</tr>
</tbody>
</table>

* Indicates “Candidate items for a minimal list” according to ICF, Annex 9, and by a High Level WHO Expert Committee in preparation for the WHO surveys mentioned above.

The ICF codes require the use of qualifiers, which record the presence and severity of the functioning problem on a five-point scale (e.g., no difficulty, mild, moderate, severe, and complete). For health and disability statistics, the use of qualifiers is an important issue when deciding on the type of response scale to be used for questions in census and surveys. To ensure compatibility with ICF, a four, or preferably, five-point scale is suggested (refer to **Chapter 4** for a detailed discussion on this topic).
2.5 ICF training and assistance available

ICF training and technical assistance is provided by the WHO in collaboration with its network of WHO Collaborating Centres. Further information can be found on the ICF website: www.who.int/classifications/icf.